

The Effect of Investment Opportunity Set (IOS) on Firm Value with Profitability and Capital Structure as Moderating Variables

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Abstrak

Penelitian ini menyelidiki pengaruh Investment Opportunity Set (IOS) terhadap nilai perusahaan, dengan profitabilitas dan struktur modal sebagai variabel moderasi. Studi ini berfokus pada perusahaan makanan dan minuman yang terdaftar di Bursa Efek Indonesia antara tahun 2019 dan 2023, menggunakan 210 observasi tahunan. IOS diproksikan oleh CAPBVA, nilai perusahaan oleh PBV, profitabilitas oleh ROA, dan struktur modal oleh DER. Analisis ini menggunakan regresi linier berganda dan analisis regresi termoderasi (MRA). Temuan ini mengungkapkan bahwa IOS memiliki efek positif dan signifikan terhadap nilai perusahaan, dan hubungan ini diperkuat oleh profitabilitas dan struktur modal. Hasil ini selaras dengan teori sinyal dan trade-off, yang menunjukkan bahwa peluang investasi mendapatkan respons pasar yang lebih kuat ketika disertai dengan profitabilitas yang tinggi dan struktur modal yang optimal. Studi ini memperkaya literatur keuangan dan menawarkan implikasi praktis bagi manajer dan investor.

Kata Kunci: Investment Opportunity Set, Nilai Perusahaan, Profitabilitas, Struktur Modal

Abstract

This research investigates the influence of the Investment Opportunity Set (IOS) on firm value, with profitability and capital structure serving as moderating variables. The study focuses on food and beverage companies listed on the Indonesia Stock Exchange between 2019 and 2023, utilizing 210 annual observations. IOS is proxied by CAPBVA, firm value by PBV, profitability by ROA, and capital structure by DER. The analysis employs multiple linear regression and moderated regression analysis (MRA). The findings reveal that IOS has a positive and significant effect on firm value, and this relationship is strengthened by profitability and capital structure. These results align with signaling and trade-off theories, indicating that investment opportunities gain stronger market responses when accompanied by high profitability and an optimal capital structure. The study enriches the financial literature and offers practical implications for managers and investors.

Keywords: Investment Opportunity Set, Firm Value, Profitability, Capital Structure

A. INTRODUCTION

In Indonesia, the government prioritizes the food and beverage industry as a strategic subsector to promote the growth of the country's industry. According to the Ministry of Industry (2023), this industry has shown remarkable endurance during the Covid-19 epidemic and makes a substantial contribution to the GDP of the non-oil and gas industrial sector. Additionally, it plays a crucial role in generating employment, attracting investment, and enhancing exports (BPS, 2024). This combination of resilience and growth potential makes the sector an attractive target for both domestic and international investors.

Despite its importance, stock prices in this sector still remain volatile, reflecting varying market perceptions of firm value. To explain these fluctuations, it is important to examine internal determinants, such as the Investment Opportunity Set (IOS), which indicates a firm's potential for future value creation (Aneira et al., 2025). IOS represents strategic decisions related to capital expenditure and business expansion (Andrianto & Amin, 2023), and firms with higher IOS trend to enjoy greater market value due to stronger growth prospects (Wahasusmiah & Arshinta, 2022).

Empirical result on the IOS and firm value relationship are mixed. Some studies (Aneira et al., 2025; Try Venabia, 2023; Wahasusmiah & Arshinta, 2022) report a significant positive effect, suggesting that firms with high IOS are perceived as proactive in pursuing growth opportunities, boosting investor confidence. Conversely, other research (Rengganis et al., 2023; Berliana & Martini, 2024) finds no significant impact, potentially due to management's inefficiency in translating opportunities into profits or investors skepticism toward long-term strategies. These discrepancies highlight the need to explore moderating factors.

Profitability can moderate this relationship by reflecting a firm's ability to generate earnings. Higher profitability increases financial flexibility, allowing firms to optimize investment opportunities and manage risks (Pramudita et al., 2023), while signaling strength to the market and reinforcing IOS effects on firm value (Rosa & Hermanto, 2024; Widiarta & Dermawan, 2023). Capital structure, representing the balance between debt and equity, also plays a key role. An optimal capital structure can lower capital costs and enhance firm value (Handini & Susilo, 2025),

whereas excessive debt increases risks and depresses market valuation (Marsaulina & Hasyim, 2024).

Although profitability and capital structure have been widely examined separately, their joint moderating role in the IOS and firm value relationship, particularly in Indonesia's food and beverage sector, remains underexplored. This study addresses this gap by testing signaling theory and trade-off theory while providing practical recommendations for firms operating in a competitive market.

The Investment Opportunity Set (IOS), along with the moderating effects of capital structure and profitability, will affect the business value of food and beverage companies listed on the Indonesian Stock Exchange between 2019 and 2023. By elucidating the relationship between IOS, profitability, and capital structure and business value, the study contributes to theory. Additionally, it contributes practically by assisting investors in making informed choices and counseling managers on finance and investing choices.

Theoretical and Hypothetical Study

Signaling Theory

Signaling theory, introduced by Spence (1973), explains that information conveyed by management to external parties can act as signals that influence investor perceptions. Information regarding investment plans, profitability, and financing decisions can indicate a firm's future prospects. In this study, the Investment Opportunity Set (IOS) is considered a positive signal, reflecting strong growth potential, attracting investor interest, and ultimately increasing firm value.

Trade-off Theory

Trade-off theory, developed by Kraus and Litzenberger (1973), highlights that firms must balance the benefits of debt financing, such as tax benefits, against the potential costs associated with financial distress or bankruptcy. Firms that manage this balance well can optimize their capital costs and enhance firm value. This theory underlines that financial decisions, especially those related to debt, influence a firm's capacity to seize investment opportunities while maintaining financial stability.

Investment Opportunity Set (IOS)

The variety of possible investment possibilities that a company can take advantage of to increase its future worth is known as the Investment Opportunity Set (IOS) (Myers, 1977). IOS is commonly measured using proxies such as the Capital Expenditure to Book Value of Assets (CAPBVA) ratio, which displays the proportion of capital expenditures to total net assets. Companies with high IOS tend to have aggressive growth strategies and strong expansion prospects. The following theory is developed as a result of this discussion:

H1: IOS positively influences firm value.

Profitability

Return on Assets (ROA), a typical metric for assessing profitability, demonstrates a company's capacity to generate revenue from its assets. High profitability enables businesses to pursue investments without substantially relying on debt and shows investors that they are financially stable. Businesses that are more profitable are better able to take advantage of investment possibilities to raise their firm value. This conversation leads to the formulation of the following hypothesis

H2: Profitability moderates and strengthens the effect of IOS on firm value.

Capital Structure

The combination of debt and equity that a business uses to fund its operations is referred to as its capital structure, and it is commonly shown by the Debt to Equity Ratio (DER). Businesses can reduce their cost of capital, improve their financial flexibility, and take advantage of investment opportunities while avoiding excessive financial risk when they have a well-structured debt-to-equity ratio. The following theory is put out in light of this reasoning: The Debt to Equity Ratio (DER), which measures capital structure, shows how much debt and equity a company uses to finance its operations. Businesses can take advantage of investment opportunities without taking on undue financial risk when they have a well-balanced capital structure, which also improves financial flexibility and lowers the cost of capital. This conversation leads to the formulation of the following hypothesis:

H3: Capital structure strengthens the effect of IOS on firm value.

Firm Value

The Price to Book Value (PBV) ratio is frequently used to calculate firm value, which is a reflection of how the market assesses a company's current performance as well as its anticipated future growth. A greater PBV indicates that investors see promising development possibilities, which can be influenced by a number of variables, including capital structure, profitability, and the Investment Opportunity Set (IOS).

B. METHOD

This study uses a quantitative methodology and a causal-comparative design to investigate the moderating effects of profitability and capital structure in addition to the impact of the Investment Opportunity Set (IOS) on firm value. Accessible on the official IDX website at www.idx.co.id, the data came from the annual financial reports of food and beverage (F&B) companies listed on the Indonesia Stock Exchange for the 2019–2023 period.

The study applied a total sampling (census) approach, incorporating all companies that fulfilled the predetermined criteria. The criteria used for selecting the sample include:

Tabel 1. Research Sampling Criteria

No	Criteria	
1.	F&B companies publicly traded on IDX between 2019–2023	99
2.	F&B companies not continuously listed during 2019–2023	(43)
3.	F&B companies that failed to publish complete annual reports for the 2019–2023 period	(13)
4.	F&B companies whose financial statements were not presented Indonesian Rupiah	(1)
Total Sample		42
Number of observation data (42 × 5 years)		210

According to the following data, 99 F&B enterprises listed on IDX between 2019 and 2023 make up the study population. 42 businesses were selected from the population as a sample, and during the course of five years of observation, 210 data points were generated.

C. RESULTS AND DISCUSSIONS

Descriptive Statistics

Using metrics like the mean, standard deviation, maximum, and minimum values, descriptive statistics provide an overview of the data distribution for every variable in the research. company

value (Y) is the dependent variable, investment opportunity set (X) is the independent variable, capital structure (M2) and profitability (M1) are the moderating variables, and company size (C1) is the control variable.

Tabel 2. Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Firm Value	175	0,00	5,78	2,0239	1,43383
IOS	175	0,00	0,34	0,0511	0,04678
Profitability	175	0,15	0,22	0,0592	0,06651
Capital Structure	175	0,10	3,32	0,9333	0,69268
Firm Size	175	25,25	32,41	29,0518	1,50759
Valid N (listwise)	175				

Source: Processed data, 2025

Normality Test

A normality test was conducted to verify whether the residuals of the regression model follow a normal distribution. The data are deemed to be normally distributed when the significance value exceeds the 0.05 threshold. In this study, the Kolmogorov-Smirnov test available in SPSS was utilized to assess the normality of the residuals.

Tabel 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		175
Normal Parameters ^{a,b}	Mean	0,0000000
	Std. Deviation	0,62623001
Most Extreme Differences	Absolute	0,063
	Positive	0,044
	Negative	-0,063

Test Statistic	0,063
Asymp. Sig. (2-tailed)	0,200 ^{cd}

Source: Processed data, 2025

The unstandardized residuals have a mean of 0.0000 and a standard deviation of 0.6262, according to the findings of the normalcy test. With a significance level of 0.200, the Kolmogorov-Smirnov statistic is 0.063, above the 0.05 threshold. This demonstrates that the residuals are regularly distributed, fulfilling the regression analysis's normality requirement.

F Test

The F-test was applied to examine whether the independent variables collectively influence the dependent variable and to assess the overall validity of the regression model. In this study, profitability, capital structure, firm size, and the Investment Opportunity Set (IOS) serve as the independent variables, while firm value functions as the dependent variable.

Tabel 4. F Test Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24,067	4	6,017	14,867	0,000 ^b
	Residual	53,018	170	0,405		
	Total	77,085	174			
a. Dependent Variable: Firm Value						
b. Predictors: (Constant), Capital Structure, Firm Size, IOS, Profitability						

Source: Processed data, 2025

The results of the F-test indicate that the regression model, with a total sum of squares of 77.085 (24.067 attributed to regression and 53.018 to residual), yields an F value of 14.867 and a significance level of 0.000, which is well below the 0.05 threshold. These findings demonstrate that the independent variables capital structure, firm size, IOS, and profitability when considered simultaneously, exert a significant influence on firm value.

Coefficient of Determination Test

The coefficient of determination (R^2) in regression analysis is used to assess how effectively the independent variables account for variations in the dependent variable (Ghozali, 2021). It shows the percentage of the dependent variable's variance that can be accounted for by the predictors' combined influence. While a lower R^2 number means that the variation may be explained by factors other than the model, a higher value says that the model has more explanatory power. As a result, R^2 is a crucial indicator of a regression model's overall fit and utility.

Tabel 5. F Test of Determination Coefficient

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,620 ^a	0,384	0,380	0,49266556
a. Predictors: (Constant), Capital Structure, Firm Size, IOS, Profitability				

Source: Processed data, 2025

The regression model's standard error is 0.4927, its R value is 0.620, its R Square is 0.384, and its R Square is 0.380, as per the model description. Together, the independent variables of capital structure, business size, Investment Opportunity Set (IOS), and profitability can for about 38.0% of the variation in firm value. This implies that even while these variables contribute significantly to the explanation of the variation, 62% of the variance is explained by other factors that are not part of the model.

Multiple Regression Analysis (MRA)

Moderate Regression Analysis (MRA) differs from subgroup analysis in that it preserves the full sample for analysis. This method enables researchers to directly evaluate whether the moderating variables enhance or diminish the relationship between independent dependent variable.

Tabel 6. Multiple Regression Analysis Result

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,763	3,283		2,669	0,008
	IOS	15,597	4,336	0,932	3,597	0,000
	Profitability	10,719	1,617	0,912	6,629	0,000
	Capital Structure	0,751	0,165	0,666	4,544	0,000
	IOS*P	58,562	27,547	0,375	2,126	0,035
	IOS*CS	8,661	2,912	0,642	2,974	0,003
	Firm Size	2,927	0,975	0,195	3,001	0,003
a. Dependent Variable: Firm Value						

Source: Processed data, 2025

The table displays the findings of the multiple regression analysis. With firm size included as a control variable, this model looks at how the Set (IOS), , and capital, as well as how they interact (IOS*Profitability and IOS*Capital Structure), affect company value. The regression constant is 8.763 with a significance of 0.008, meaning that firm value would be 8.763 when all independent variables are zero.

With a coefficient of 15.597 ($t = 3.597$, $p = 0.000$), IOS significantly increases company value, indicating that companies with more investment possibilities typically make more money. With a coefficient of 10.719 ($t = 6.629$, $p = 0.000$), profitability also has a positive and impact on firm, as does capital (coefficient = 0.751, $t = 4.544$, $p = 0.000$), suggesting that effective debt-to-equity management raises firm value.

The interaction between IOS and Profitability (IOS*P) is significant (coefficient = 58.562, $t = 2.126$, $p = 0.035$), showing that profitability strengthens the effect of IOS on. Similarly, the interaction between IOS and Capital Structure (IOS*CS) is significant (coefficient = 8.661, $t = 2.974$, $p = 0.003$), indicating that capital structure reinforces the positive influence of IOS.

Firm size as a control variable, also has a significant positive effect (coefficient = 2.927, $t = 3.001$, $p = 0.003$), suggesting that larger companies generally achieve higher firm value.

D. CONCLUSIONS

With profitability and capital structure serving as moderating variables, the study focused on food and beverage listed on the Stock Exchange (IDX) during 2019–2023 draws its conclusions from hypothesis testing on the relationship between the Opportunity Set (IOS) and firm value. The analysis revealed several important findings:

1. Investment Opportunity Set (IOS) positively and significantly affects value

These findings imply that businesses with more investment prospects or a higher IOS typically have higher company values. Investors view companies with more investment opportunities as having better growth potential, which raises the market value. This is consistent with signaling theory, which contends that investment possibilities convey favorable information about a prospects for the future to outside parties.

2. Profitability strengthens the between IOS and value

This that increased profitability strengthens IOS's beneficial impact on company value. To put it another way, businesses that are more profitable are in a better position to take advantage of investment opportunities and raise their market value. This outcome is in line theory and earlier studies, which show that successful businesses can effectively use internal resources to finance investments, lessen their dependency on outside funding, and boost investor confidence.

3. Capital structure strengthens the between IOS and value

Suggests that beneficial impact of IOS on company value is amplified by an ideal capital structure. To put it another way, companies that successfully manage their debt-to-equity ratio are better equipped to take advantage of investment opportunities and raise their market value. This result is consistent with trade-off theory and earlier research that shows a well managed capital structure can boost investor confidence, lower financial risk, and enhance business performance.

E. SUGGESTIONS

Future studies are recommended to broaden the scope of corporate sectors to achieve more representative results, apply data transformation techniques or robust regression to manage outliers without reducing data variability, and include additional variables such as governance mechanisms, dividend policy, or ownership structure as moderators to develop a more comprehensive and predictive model.

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