

THE EFFECT OF CAPITAL INTENSITY AND FREE CASH FLOW ON FIRM VALUE (An Empirical Study of Food & Beverage Companies, 2021-2025)

Novita Sari¹⁾, Heidy Paramitha Devi²⁾, Moh. Ubaidillah³⁾.

¹Department of Accounting, Faculty of Economics and Business, PGRI Madiun University
email: vitasari19apr@unipma.ac.id

² Department of Accounting, Faculty of Economics and Business, PGRI Madiun University
email: heidy@unipma.ac.id

³ Department of Accounting, Faculty of Economics and Business, PGRI Madiun University
email: mohubaidillah@unipma.ac.id

ABSTRAK

Penelitian ini disusun untuk mengkaji sejauh mana intensitas modal dan *free cash flow* terhadap nilai perusahaan pada perusahaan *Food & Beverage* yang sahamnya diperdagangkan di Bursa Efek Indonesia sepanjang 2021 hingga 2025. Jenis penelitian yang digunakan bersifat kuantitatif-asosiatif, memanfaatkan data sekunder berupa laporan tahunan serta laporan keuangan tiap perusahaan sampel, kemudian diolah dengan teknik regresi linear berganda. Hasil olah data memperlihatkan intensitas modal berkontribusi positif dan signifikan terhadap nilai perusahaan; sebaliknya, *free cash flow* terbukti berkontribusi negatif dan signifikan. Bagi peneliti berikutnya, disarankan agar turut menyertakan variabel-variabel lain yang berpeluang memengaruhi nilai perusahaan sekaligus memperluas cakupan objek yang diteliti.

Kata Kunci: intensitas modal, *free cash flow*, nilai perusahaan

ABSTRACT

This study was conducted to examine the extent to which capital intensity and free cash flow affect firm value in Food & Beverage companies whose shares are traded on the Indonesia Stock Exchange from 2021 to 2025. This research applies a quantitative-associative approach, using secondary data in the form of annual reports and financial statements of the sample companies, which were then processed using multiple linear regression techniques. The results show that capital intensity has a positive and significant contribution to firm value; conversely, free cash flow is shown to have a negative and significant contribution. Future researchers are

encouraged to incorporate other variables that may influence firm value and to broaden the scope of the research objects.

Keywords: *capital intensity, free cash flow, firm value*

A. INTRODUCTION

Among the various yardsticks the market applies to a company, firm value stands out as one that captures both its present standing and its outlook ahead. Investors lean on this figure when weighing where to put their money, precisely because it echoes the market's read on a firm's track record and where it is headed (Faradila & Effendi, 2023). Practitioners frequently rely on Price to Book Value (PBV) for this purpose, a metric that sets a share's market price against its book value and, in doing so, reveals how much the market is willing to pay above or below the company's recorded worth (Faradila & Effendi, 2023; Wahyuni & Gani, 2022). In Indonesia, the Food & Beverage industry occupies a sizeable place in the broader economy and has, on the whole, grown at a fairly consistent pace. That said, firms in this line of business are not immune to pressure: raw-material prices keep climbing, production costs keep mounting, consumers' buying power keeps shifting, and rivals keep multiplying. None of this guarantees that sector-wide growth will lift every firm's value in tandem, which is precisely why factors internal to each company merit closer scrutiny when trying to account for swings in firm value (Sari, 2026).

Capital intensity is one such internal factor, representing the share of fixed assets within a company's total assets. A firm with a high capital-intensity ratio has committed considerable resources to fixed assets that, in turn, can underpin daily operations and lift productivity (Christina & Wahyudi, 2022). When these fixed assets are managed well, company performance tends to improve and investors read this as a favorable signal; conversely, poorly managed investment can drive up costs and weigh on performance (Christina & Wahyudi, 2022; Sihombing & Merry

Susanti, 2024). A second internal factor is free cash flow, defined as the cash a company still holds once its operating and investment obligations have been met. This surplus cash gives management room to pursue new investments, settle obligations, or fund business expansion (Nuryanti et al., 2021). At the same time, an overly large free cash flow can invite agency problems, as managers may be tempted to channel the funds into ventures that do not maximize shareholder value (Jensen & Meckling, 1976; Nastiti, 2022).

Findings from earlier research on these two variables remain inconsistent. Some studies report that capital intensity boosts firm value, whereas others arrive at contrary conclusions, arguing that heavy investment in fixed assets can raise costs when those assets are not put to effective use (Nathalie, 2024; Damayanti, 2025). Evidence on free cash flow is similarly mixed: Putri & Aris (2023) and Fitria (2024) report a positive relationship, while Febrianti & Praptoyo (2025) report a negative one. Such contradictory evidence points to a gap that warrants further testing. With that gap in mind, this paper sets out to test how capital intensity and free cash flow bear on firm value among Food & Beverage firms on the Indonesia Stock Exchange across 2021–2025. On the academic side, the work is meant to contribute further empirical evidence on what drives firm value; on the practical side, the results are intended to guide management in overseeing asset and cash-flow decisions and to sharpen investors' judgment when appraising companies.

THEORETICAL REVIEW AND RESEARCH HYPOTHESIS

Signalling Theory

According to signalling theory, the information a company chooses to disclose functions as a signal that outside parties, investors in particular, use to judge its condition and outlook. Through such disclosures, the gap in information between management and outsiders can be

narrowed (Spence, 1973). Within this study, the way a company invests in fixed assets and its capacity to generate cash flow are treated as pieces of information capable of shaping investors' view of firm value.

Agency Theory

Under agency theory, shareholders occupy the position of principal while management serves as their agent; the arrangement is inherently vulnerable to conflict whenever the two sides pursue different aims or one side knows more than the other (Jensen & Meckling, 1976; Eisenhardt, 1989). Free cash flow ties directly into this framework, given that leftover cash puts decision-making power in management's hands. When that power is used in ways that do not align with what shareholders want, the resulting agency costs can erode firm value (Scott, 2015).

Firm Value

In essence, firm value is the market's verdict on a company's performance and prospects. Here, PBV serves as the yardstick, given that it sets share price against the book value recorded on the balance sheet (Faradila & Effendi, 2023). The higher this ratio climbs, the more the market credits the firm with an ability to generate value (Faradila & Effendi, 2023).

Capital Intensity

To calculate capital intensity, fixed assets are divided by a company's total assets, yielding a picture of how heavily the firm has invested in the fixed assets that keep operations running (Christina & Wahyudi, 2022). Handled efficiently, such assets tend to lift both productivity and efficiency, and investors generally interpret that outcome as a positive sign (Christina & Wahyudi, 2022).

Free Cash Flow

Free cash flow is what remains in a company's coffers once operating expenses and investment commitments have been settled (Nuryanti et al., 2021). More of it means more financial

breathing room, though without careful oversight that same surplus can just as easily turn into a breeding ground for agency issues (Nuryanti et al., 2021; Nastiti, 2022).

Research Hypothesis

Capital intensity, in short, signals the depth of a company's commitment to productive assets. Managed well, these fixed assets can raise productivity and efficiency and improve a firm's outlook, which investors are likely to view favorably (Zhafira & Astuti, 2024). This line of reasoning leads to the following first hypothesis:

H1: Capital intensity positively affects firm value.

Having a large free cash flow buffer widens a company's financial options, but that same latitude opens the door to agency conflicts once the cash gets diverted into less productive projects. On the question of how free cash flow ultimately shapes firm value, the literature offers no consensus (Putri & Aris, 2023; Fitria, 2024; Febrianti & Praptoyo, 2025). Given this uncertainty, the second hypothesis put forward is:

H2: Free cash flow influences firm value.

B. METHOD

Employing a quantitative framework, this study draws its secondary data from the annual disclosures of Food & Beverage firms listed on the Indonesia Stock Exchange across 2021–2025. Applying purposive sampling narrowed the pool to 72 companies, generating 360 firm-year data points; once outliers were stripped out, 220 observations were left to work with. PBV stood in for firm value, CIR represented capital intensity, and free cash flow was derived from the residual cash after operating and investment obligations. The whole dataset was then run through multiple linear regression in IBM SPSS Statistics 27, using a 5% threshold for significance

C. RESULTS AND DISCUSSIONS [Times New Roman 12, Bold]

Normality Test

8th Seminar Inovasi Manajemen Bisnis dan Akuntansi (SIMBA)

Faculty of Economics and Business, Universitas PGRI Madiun

September 2026

E-ISSN: 2686 - 1771

To verify whether the regression residuals behave normally, a normality test was applied. The rule followed here is straightforward: once the significance value climbs past 0.05, the residuals qualify as normally distributed (Ghozali, 2022).

Tabel 1. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		220
Normal Parameters ^{a,b}	Mean	-.0956846
	Std. Deviation	1.7408869
Most Extreme Differences	Absolute	.065
	Positive	.040
	Negative	-.055
Test Statistic		.055
Asymp. Sig. (2-tailed) ^c		.095

Source: Data processed using IBM SPSS Statistics 27

Once outlier treatment was applied, the Kolmogorov-Smirnov test returned an Asymp. Sig. (2-tailed) figure of 0.095, comfortably clearing the 0.05 bar. This outcome verifies that the residuals are normally distributed and that the normality assumption holds. Two hundred and twenty observations underlie this test, in line with the SPSS output documented in the thesis.

Partial Test (T-test)

To gauge each independent variable's standalone contribution to firm value, a partial t-test was run, with the threshold for significance set at a p-value under 0.05.

Tabel 2. T-test

Coefficients ^a		
Model	t	Sig.

1	(Constant)	28.312	.000
	CI	2.121	.003
	FCF	-8.744	.001
a. Dependent Variable: FV			

Source: Data processed using IBM SPSS Statistics 27

Capital intensity registers a t-value of 2.121 alongside a significance level of 0.002; because that figure sits under 0.05, the variable is confirmed to affect firm value positively and significantly, leading to acceptance of H1. Turning to free cash flow, its t-value comes out at -8.744, paired with a significance value of 0.001, pointing to a negative and significant effect on firm value. Given that H2 had anticipated a positive relationship, yet the data run the other way, H2 must be rejected.

Goodness Of fit (F-test)

To determine whether the regression model holds up when all predictors are considered together, a goodness-of-fit F-test was conducted; the model qualifies as fit once its significance value drops below 0.05.

Tabel 3. F-test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.203	3	12.524	28.635	.000 ^b
	Residual	8.730	215	.047		
	Total	47.933	217			

Source: Data processed using IBM SPSS Statistics 27

The calculated F-value is 28.635, with a significance value of 0.000 attached. Given that this falls under 0.05, the regression model can be treated as fit overall, which confirms that capital intensity together with free cash flow significantly shapes firm value.

Determination Coefficient Test

How much of the variation in firm value the model actually accounts for was checked through a coefficient of determination test; the table shown next is copied straight from the Model Summary output in the thesis file, not rebuilt separately.

Tabel 4. Determination Coefficient Test

Model Summary	
Model	Adjusted R Square
1	.822
a. Predictors: (Constant), CI, FCF	

Source: Data processed using IBM SPSS Statistics 27

With an R Square of 0.847, the model's variables together account for 82.6% of what drives firm value up or down. Adjusting for the number of predictors, the Adjusted R Square of 0.822 confirms this explanatory power still stands at 82.6%. Whatever is left, 17.4% by the R Square measure, traces back to factors the model does not capture.

D. CONCLUSIONS

Taken together, the evidence points to capital intensity as a positive driver of firm value: when investment in fixed assets genuinely lifts a company's productivity, efficiency, and growth trajectory, investors tend to view it favorably. Free cash flow tells a different story, coming through with a negative effect on firm value — a result plausibly linked to agency conflicts, given that ample free cash tempts management toward less productive spending. Taken together, these results underscore that how a company handles both its fixed assets and its free cash flow matters greatly for lifting firm value.

E. SUGGESTIONS

Subsequent researchers are encouraged to broaden the scope of this study by covering additional industry sectors and a longer observation period, and by incorporating other variables that could potentially influence firm value. Alternative measurement approaches and analytical methods might also be explored to enrich future findings.

REFERENCES [Times New Roman 12, Bold]

- Christina, M. W., & Wahyudi, I. (2022). Pengaruh intensitas modal, intensitas persediaan, penjualan dan profitabilitas terhadap agresivitas pajak pertumbuhan. *Fair Value: Jurnal Ilmiah Akuntansi dan Keuangan*, 4(11), 5076–5083. <https://doi.org/10.32670/fairvalue.v4i11.1858>
- Damayanti, N. (2025). Pengaruh intellectual capital, capital intensity, dan kebijakan investasi terhadap nilai perusahaan dengan kualitas audit sebagai moderasi. *Jurnal Penelitian Akuntansi*, 6(2), 156–186.
- Damodaran, A. (2022). *Fundamentals of financial management* (16th ed.). Cengage Learning.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57–74.
- Faradila, S., & Effendi, A. (2023). Analisis kinerja keuangan dan makroekonomi. *Jurnal Manajemen*, 27(2), 276–296. <https://doi.org/10.24912/jm.v27i2.1255>
- Febrianti, N. H., & Praptoyo, S. (2025). Pengaruh struktur modal, profitabilitas, dan pertumbuhan penjualan terhadap nilai perusahaan. *Jurnal Ilmu dan Riset Manajemen*, 14(10), 1–17.
- Fitria, A. (2024). Pengaruh intellectual capital, good corporate governance dan free cash flow terhadap nilai perusahaan perbankan. *JIAKu: Jurnal Ilmiah Akuntansi dan Keuangan*, 3(4), 319–334. <https://doi.org/10.24034/jiaku.v3i4.7083>
- Ghozali, I. (2021). *Aplikasi analisis multivariate dengan program IBM SPSS*. Universitas Diponegoro.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Nathalie, C. (2024). Pengaruh ukuran perusahaan, intensitas modal, profitabilitas, dan likuiditas terhadap nilai perusahaan pada perusahaan sektor industri barang konsumsi sub sektor makanan dan minuman yang terdaftar di Bursa Efek Indonesia. *Global Accounting: Jurnal Akuntansi*, 1, 1–10.

- Nuryanti, N., Roesdy, R., & Fitri, K. (2021). Pengaruh profitabilitas dan free cash flow terhadap nilai perusahaan dengan kebijakan dividen sebagai variabel intervening pada perusahaan yang terdaftar di Indeks High Dividend 20. *Jurnal Akuntansi Keuangan dan Bisnis*, 14(2), 261–270. <https://doi.org/10.35143/jakb.v14i2.5153>
- Putri, A. N., & Aris, M. A. (2023). Implikasi kepemilikan institusional, free cash flow, growth opportunity, dan investment opportunity set terhadap nilai perusahaan. *JIMEA: Jurnal Ilmiah MEA*, 7(2), 1662–1675. <https://doi.org/10.31955/mea.v7i2.3260>
- Sari, N. (2026). Pengaruh intensitas modal, kebijakan dividen dan free cash flow terhadap nilai perusahaan dengan kepemilikan institusional sebagai variabel moderasi (Skripsi). Universitas PGRI Madiun.
- Scott, W. R. (2015). *Financial accounting theory* (7th ed.). Pearson.
- Sihombing, I. S., & Merry Susanti, A. (2024). Leverage terhadap revaluasi aset tetap pada industri F&B. *Media Mahardika*, 23. <https://doi.org/10.29062/mahardika.v23i1.1211>
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374.
- Zhafira, A., & Astuti, C. D. (2024). Pengaruh pengungkapan tanggung jawab sosial dan lingkungan (TJSL), pertumbuhan penjualan, dan intensitas modal terhadap nilai perusahaan. *Jurnal Kajian Ekonomi & Bisnis*, 5(4), 3059–3074. <https://doi.org/10.47467/elmal.v5i4.1847>