

The Effects of Corporate Social Responsibility and Good Corporate Governance on Firm Value, with Profitability as a Moderating Variable

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ABSTRACT

This study examines the effect of corporate social responsibility (CSR) disclosure, managerial ownership, and institutional ownership on firm value, with profitability (ROA) as a moderating variable, in food and beverage companies listed on the Indonesia Stock Exchange during 2020–2024. Using a purposive sample of 16 firms (80 firm-year observations) and panel data regression with the Fixed Effects Model, the results show that CSR disclosure has a significant negative effect on firm value ($\beta = -0.416802$, $p = 0.0095$), managerial ownership has a significant positive effect ($\beta = 0.155062$, $p = 0.0026$), while institutional ownership shows no significant effect ($\beta = -2.035018$, $p = 0.2957$). CSR, managerial ownership, and institutional ownership jointly affect firm value ($F = 10.99921$, $p = 0.000000$, adjusted $R^2 = 0.706303$). Profitability significantly moderates the CSR–firm value relationship ($\beta = 0.015940$, $p = 0.0358$): because the CSR main effect is negative ($\beta = -0.416802$), this positive interaction indicates that profitability offsets part of the negative CSR effect rather than reversing it. Profitability does not significantly moderate the effect of managerial or institutional ownership on firm value. This study contributes to the CSR–firm value literature by distinguishing an offsetting moderation pattern from a reinforcing one, within a single sector (food and beverage) and post-pandemic period (2020–2024) not extensively covered in prior moderation studies.

Kata Kunci

Corporate Social Responsibility;
Kepemilikan Manajerial;
Kepemilikan Institusional; Nilai
Perusahaan; Profitabilitas.

ABSTRAK

Penelitian ini menguji pengaruh pengungkapan corporate social responsibility (CSR), kepemilikan manajerial, dan kepemilikan institusional terhadap nilai perusahaan, dengan profitabilitas (ROA) sebagai variabel moderasi, pada perusahaan makanan dan minuman yang terdaftar di Bursa Efek Indonesia periode 2020–2024. Dengan menggunakan sampel purposive sebanyak 16 perusahaan (80 observasi firm-year) dan regresi data panel dengan Fixed Effects Model, hasil penelitian menunjukkan bahwa pengungkapan CSR berpengaruh negatif signifikan terhadap nilai perusahaan ($\beta = -0,416802$, $p = 0,0095$), kepemilikan manajerial berpengaruh positif signifikan ($\beta = 0,155062$, $p = 0,0026$), sedangkan kepemilikan institusional tidak menunjukkan pengaruh signifikan ($\beta = -2,035018$, $p = 0,2957$). CSR, kepemilikan manajerial, dan kepemilikan institusional secara bersama-sama memengaruhi nilai perusahaan ($F = 10,99921$, $p = 0,000000$, adjusted $R^2 = 0,706303$). Profitabilitas secara signifikan memoderasi hubungan CSR–nilai perusahaan ($\beta = 0,015940$, $p = 0,0358$): karena pengaruh utama CSR bernilai negatif ($\beta = -0,416802$), interaksi positif ini menunjukkan bahwa profitabilitas mengimbangi sebagian pengaruh negatif CSR tersebut, bukan membalik arahnya. Profitabilitas tidak secara signifikan memoderasi pengaruh kepemilikan manajerial maupun kepemilikan institusional terhadap nilai perusahaan. Penelitian ini memberikan kontribusi pada literatur CSR–nilai perusahaan dengan membedakan pola moderasi yang bersifat mengimbangi (offsetting) dari yang memperkuat (reinforcing), dalam konteks satu sektor (makanan dan minuman) dan periode pasca-pandemi (2020–2024) yang belum banyak dikaji dalam studi moderasi sebelumnya.

1. Introduction

Few sectors hold as much significance in Indonesia's economy as food and beverage manufacturing. Government data indicates that its contribution to non-oil-and-gas manufacturing GDP is nearly 40% as of early 2024 (Kementerian Perindustrian Republik Indonesia, 2024), a scale reflected in the increasing number of F&B firms listed on the exchange. However, this growth trajectory has not been smooth; the years following the pandemic have brought a combination of unresolved supply pressures and geopolitical shocks that have driven up input costs and compressed margins across the subsector. The resulting financial strain has impacted how investors value these companies, contributing to noticeably unstable valuations over the past several years. These ongoing pressures mean that F&B companies on the exchange cannot rely solely on operational efficiency; they must also actively manage how investors perceive them, as share price movements often reflect market expectations about the company's staying power rather than just short-term earnings (Widyakto *et al.*, 2025). Firm value is interpreted differently depending on perspective: investors use it to assess whether an investment decision was sound, while for management, a rising valuation serves as external validation of the company's performance (Imanullah Wahyu & Syaichu Muhamad, 2023).

Consequently, the pursuit of higher firm value has expanded beyond mere financial metrics; companies are increasingly expected to demonstrate accountability regarding social and environmental issues, most visibly through Corporate Social Responsibility (CSR) programs. A consistent track record of CSR activity can shape public and investor perceptions of a company—reinforcing trust, projecting a more favorable image, and suggesting that the firm takes its environmental footprint seriously—factors widely believed to contribute to stronger valuations over time (Susanto, 2022). Empirical findings regarding the link between CSR and firm value remain inconclusive. For instance, (Santoso, 2021) found a significant positive effect, arguing that the disclosure of social initiatives sends a favorable signal to stakeholders. Conversely, (Rasyid *et al.*, 2022) reached the opposite conclusion, reporting no measurable effect and suggesting that investors in their sample may not yet view CSR disclosure as a meaningful input when pricing a company. Firm value, of course, is influenced by more than just external signals like CSR; internal governance arrangements, commonly categorized under Good Corporate Governance (GCG), also play a role (Indrawati *et al.*, 2023). This study captures GCG through two ownership-based proxies: managerial and institutional ownership, both theorized

to help align the interests of shareholders and management, thereby limiting agency conflicts (Nurfauziah & Utami, 2021). Executive equity holding is expected to drive managerial motivation toward enhancing corporate performance, whereas institutional shareholders provide a stricter regulatory check on leadership strategies (Fitriani & Komala, 2024). Nevertheless, empirical explorations into the effectiveness of these GCG frameworks on firm valuation continue to reveal critical scholarly contradictions. For example, research by (Utami & Margie, 2025) demonstrates that sound corporate governance significantly elevates market valuation. In contrast, (Sunardi, 2019) argues that executive ownership shares yield negligible effects on corporate worth. Divergent empirical evidence also persists regarding institutional equity structures; while (Yusuf, 2020) confirms its direct positive role in driving enterprise value, subsequent analysis by (Ariani *et al.*, 2024) shows that institutional blockholders exert no influence over final market appraisal. Such fragmented findings across existing literature strongly underscore the necessity of integrating conditional parameters, particularly net profitability profiles (Return on Assets), as a potential interaction attribute capable of amplifying or stabilizing the connection between social commitment, governance architectures, and financial worth (Kasmir, 2019).

Scholarly investigations into the interacting function of corporate earnings have likewise produced fragmented conclusions. Empirical evidence from (Tenriwaru & Fadliah, 2020) suggests that superior profitability amplifies the favorable outcomes of sustainability disclosures on market appraisal. Conversely, (Dzikir *et al.*, 2020) present a conflicting perspective, demonstrating that financial return metrics do not modify this specific linkage. Motivated by these persistent empirical inconsistencies, this investigation is structured to evaluate the independent and combined consequences of CSR and GCG represented through managerial and institutional equity holding architectures on overall firm valuation. Additionally, this research scrutinizes the capacity of profitability (ROA) to moderate the operational pathways connecting these variables within food and beverage enterprises registered on the IDX from 2020 to 2024. Unlike prior studies that examine CSR firm value moderation primarily in manufacturing, mining, or energy sectors, this study focuses specifically on Indonesia's food and beverage sector during the 2020–2024 post-pandemic period—a context in which the joint and moderated effects of CSR, managerial ownership, and institutional ownership on firm value remain underexplored. This study further distinguishes between an offsetting and a reinforcing moderation pattern, a distinction not clearly separated in earlier CSR–profitability interaction research.

Signaling theory is based on the premise that there exists a persistent information gap between those who manage a company and its investors (Spence, 1973, as cited in Widhiatmoko & Sucipto, 2025). Since outsiders cannot directly observe a firm's internal conditions, management employs observable actions and disclosures to communicate their knowledge, thereby narrowing this gap. In this study, Corporate Social Responsibility (CSR) disclosure and strong profitability performance are treated as two critical signals. When a company voluntarily reports its social initiatives alongside solid financial results, the market tends to interpret this combination as reassurance regarding the firm's future direction. This interpretation can translate into greater investor confidence and a higher valuation. Agency theory, rooted in the work of Jensen and Meckling (1976, as cited in Rukmana & Mildawati, 2015), examines the implications of the separation between ownership and control within a company. While shareholders own the business, the day-to-day decisions are made by hired managers who may not always act in the best interests of the owners. This separation can lead to what is known as an agency problem, where the goals of the two parties diverge. One common solution is to adjust the ownership structure itself; by providing managers with a personal equity stake, their financial outcomes become tied to the firm's performance, nudging their behavior closer to what shareholders desire (Indrawati *et al.*, 2023). Institutional investors address this issue from a different angle. Rather than aligning incentives through ownership, their substantial stakes and monitoring capabilities allow them to oversee management more closely, which tends to mitigate self-interested behavior and support the firm's value over the long term. The conceptual framework of this study revolves around Corporate Social Responsibility (CSR), measured using the 2021 GRI Index, and Good Corporate Governance (GCG), proxied by managerial and institutional ownership as independent variables. Company value is represented by Price to Book Value (PBV) as the dependent variable, while profitability is proxied by Return on Assets (ROA) as a moderating variable. This framework illustrates the interconnections between these variables and their impact on firm valuation.

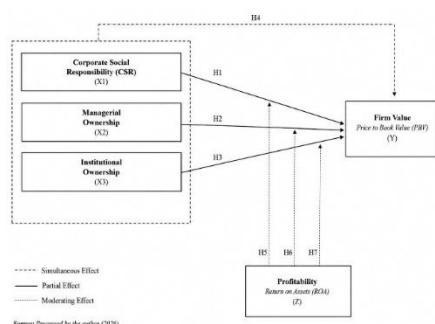


Figure 1. Research framework

H1 = It is suspected that Corporate Social Responsibility (CSR) has a significant effect on Company Value.

H2 = It is suspected that Managerial Ownership has a significant effect on Company Value.

H3 = It is suspected that Institutional Ownership has a significant effect on Company Value.

H4 = It is suspected that CSR, managerial (Rukmana & Mildawati, 2015) ownership, and institutional ownership together have a significant effect on company value.

H5 = It is suspected that Profitability moderates the effect of Corporate Social Responsibility (CSR) on Company Value.

H6 = It is suspected that Profitability moderates the effect of Managerial Ownership on Company Value.

H7 = It is suspected that Profitability moderates the effect of Institutional Ownership on Company Value.

The moderating role of profitability in H5–H7 can be explained through Signaling Theory and Agency Theory. Signaling Theory suggests that CSR disclosure functions as a signal of a firm's quality and future prospects; when a firm is also highly profitable, that signal becomes more credible to investors, so profitability is expected to strengthen or offset the effect of CSR on firm value (H5). From an Agency Theory perspective, managerial ownership aligns managers' interests with shareholders' by tying managers' wealth to firm performance; higher profitability may reinforce this alignment, so profitability is expected to moderate the effect of managerial ownership on firm value (H6). Institutional ownership, meanwhile, works through external monitoring rather than incentive alignment: institutional investors' oversight capacity does not depend on the firm's current profitability level, so profitability is not theoretically expected to strengthen or weaken the monitoring effect of institutional ownership on firm value (H7).

2. Research Methodology

This is a quantitative study built around an associative design, meant to uncover how CSR disclosure interacts with two ownership-based governance measures managerial and institutional in shaping firm value, and whether profitability changes the strength of those connections. Price-to-Book Value stands in for firm value throughout the analysis, with Return on Assets representing profitability. Every figure used comes from secondary sources: annual financial reports published by food and beverage issuers on Indonesia's exchange (IDX) covering the 2020 through 2024 window, pulled both from the exchange's own portal (www.idx.co.id) and from each company's individual disclosures.

Starting from a population of 83 IDX-listed food and beverage firms, a purposive sampling approach was used to identify companies meeting the study's eligibility requirements. That screening process narrowed the pool down to 16 companies, contributing a combined 80 observations across the five years covered. The purposive sampling criteria applied in this study were: (1) food and beverage subsector companies listed on the IDX during 2020–2024; (2) companies whose core business is focused on the food and beverage industry; (3) companies that were not newly listed (IPO) during the 2020–2024 period; (4) companies that published complete annual reports and sustainability reports for the full 2020–2024

period; (5) companies with available managerial ownership data; and (6) companies with available institutional ownership data. Of the 83 firms in the population, 23 were excluded for not being focused on the food and beverage industry, 25 for being newly listed (IPO) during 2020–2024, 2 for incomplete annual/sustainability reports, 16 for lacking managerial ownership data, and 1 for lacking institutional ownership data, leaving a final sample of 16 firms observed over five years (2020–2024), for a total of 80 firm-year observations. The full sample selection process is presented in Table 1.

Table 1. Sample Selection Criteria

No.	Sample Criteria	Not Meeting Criteria	Meeting Criteria
1.	Food and beverage subsector companies listed on the IDX 2020–2024	-	83
2.	Companies focused on the food and beverage industry	(23)	60
3.	Companies that were not newly listed (IPO) during 2020–2024	(25)	35
4.	Companies that published complete annual reports and sustainability reports for 2020–2024	(2)	33
5.	Companies with available managerial ownership data	(16)	17
6.	Companies with available institutional ownership data	(1)	16
	Number of companies meeting the criteria		16
	Years of observation		5
	Total sample data over 5 years of research		80

Table 2. List of Sampled Companies

No.	Kode	Nama Perusahaan
1	CPRO	Central Proteina Prima Tbk.
2	INDF	Indofood Sukses Makmur Tbk.
3	JPFA	Japfa Comfeed Indonesia Tbk.
4	MYOR	Mayora Indah Tbk.
5	PSDN	Prasidha Aneka Niaga Tbk.
6	SKBM	Sekar Bumi Tbk.
7	SKLT	Sekar Laut Tbk.
8	STTP	Siantar Top Tbk.
9	TGKA	Tigaraksa Satria Tbk.
10	ULTJ	Ultrajaya Milk Industry & Trading Company Tbk.
11	CLEO	Sariguna Primatirta Tbk.
12	HOKI	Buyung Poetra Sembada Tbk.
13	GOOD	Garudafood Putra Putri Jaya Tbk.
14	FOOD	Sentra Food Indonesia Tbk.
15	IKAN	Era Mandiri Cemerlang Tbk.
16	ENZO	Morenzo Abadi Perkasa Tbk.

2.1 Corporate Social Responsibility (x1)

Following (Hermawan & Herawati, 2016), CSR in this study is understood as the full set of information a company chooses to publish about its social responsibility activities. To turn that concept into a measurable figure, disclosures were scored against the Corporate Social Responsibility Disclosure Index, built on the 2021 GRI indicator set. The following

formula is used to express corporate social responsibility (CSR) as a percentage:

$$CSRI = \frac{\sum x_{ij}}{n_j} \times 100\%$$

Notes:

CSRI : Corporate Social Responsibility Index
X_{ij} : Company I's CSR disclosure score for item j (1 = disclosed, 0 = not disclosed)
N_j : Total number of CSR indicators used in the study (84 indicators)

2.2 Managerial Ownership

Managerial ownership here refers to the share of a company's outstanding stock held by people inside its own management team directors and executives among them (Indrawati *et al.*, 2023). The logic behind measuring it is straightforward: once managers hold equity, their personal wealth rises and falls with the firm's fortunes, which theoretically pulls their decisions closer to what benefits shareholders as a whole. In this study, managerial ownership was measured using the following formula:

$$\text{Managerial Ownership} = \frac{\text{Number of Shares Held by the Manager}}{\text{Number of Shares Outstanding}} \times 100\%$$

2.3 Institutional Ownership

In contrast, institutional ownership refers to the portion of a company's stock that is held by organizations as opposed to private individuals. This can include state bodies, foreign corporations, insurers, banks, and pension funds (Indrawati *et al.*, 2023). Because these institutional holders typically command greater resources and expertise than retail shareholders, their presence is often associated with more rigorous monitoring of management decisions. The following formula was used to determine institutional ownership in this study:

$$\text{Institutional Ownership} = \frac{\text{Number of shares held by institutional investors}}{\text{Number of Shares Outstanding}} \times 100\%$$

2.4 Price to Book Value

This study relies on Price-to-Book Value to represent firm value, the outcome variable at the center of the analysis. The ratio itself works by weighing what the market is currently willing to pay for a share against what that share is technically worth on the company's books. The following formula is used to determine PBV:

$$\text{PBV} = \frac{\text{Stock Price}}{\text{Book Value per Share}}$$

The book value of a stock can be calculated using the following formula:

$$\text{Book Value per Share} = \frac{\text{Total Equity}}{\text{Number of Shares Outstanding}}$$

2.5 Return on Assets (ROA)

Profitability enters the model as a moderating variable, captured through Return on Assets. This ratio reflects how efficiently a company converts everything it owns its total asset base into actual earnings. The following formula is used to determine ROA:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

2.6 Data Analysis Techniques

All statistical procedures in this study were processed with EViews 13. The analytical process began with a descriptive overview of each variable, followed by model selection to determine the most suitable panel data specification; this involved comparing the Common Effect, Fixed Effect, and Random Effect models through the Chow, Hausman, and Lagrange Multiplier tests respectively. Prior to model estimation, CSR disclosure, managerial ownership, and institutional ownership were transformed using the natural logarithm (LN) to reduce skewness and scale differences among variables, while firm value (PBV) was transformed using the inverse hyperbolic sine (asinh) function. The asinh transformation was applied to PBV specifically because, unlike the logarithm, it remains defined for negative and zero values a necessary property here, since several sample firms report negative book equity, producing negative PBV ratios. Return on Assets (ROA) was retained in its original, untransformed form. These transformations explain why the descriptive statistics reported in Table 3. Results of Descriptive Statistical Analysis. show negative mean values for CSR, managerial ownership, and institutional ownership: since the pre-transformation proportions for these variables lie between 0 and 1, their natural logarithms are negative. The minimum PBV value of -4.2346 (after asinh transformation) corresponds to Sentra Food Indonesia Tbk. (FOOD) in 2024, which reported a raw price-to-book ratio of -34.51, consistent with negative book equity in that year. Serial correlation and cross-sectional dependence were also assessed. The Durbin-Watson statistic of 2.117857 (see Table 8.) is close to 2, indicating no strong evidence of autocorrelation in the model residuals. The Pesaran CD test produced a statistic of -0.977575 (p = 0.3283), indicating no significant cross-sectional dependence among the panel units. Given the relatively small number of cross-sectional units (16 firms), these results should be interpreted with caution, and firm-clustered inference is treated as a limitation of this study.

Table 3. Cross-Section Dependence Test

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	154,9895	120	0,0173
Pesaran scaled LM	2,258561	-	0,0239

Bias-corrected scaled LM	0,258561	-	0,7960
Pesaran CD	-0,977575	-	0,3283

Prior to hypothesis testing, the regression model was screened for two classical assumption violations multicollinearity among the independent variables and heteroscedasticity in the residuals to confirm that the estimation results would be statistically reliable. The core hypotheses were then evaluated through a t-test for individual variable significance, an F-test for the joint significance of all predictors, and the Adjusted R² to gauge the model's overall explanatory power. To capture the moderating role of profitability, an interaction-term approach (Moderated Regression Analysis) was applied, multiplying each independent variable by the moderating variable to observe whether the relationship's strength or direction changed. The following is the panel data regression model used in this investigation:

Principal Regression Model (H1-H3)

$$PBV_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 KM_{it} + \beta_3 KI_{it} + e_{it}$$

Moderation Regression Model / MRA (H4-H6)

$$PBV_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 KM_{it} + \beta_3 KI_{it} + \beta_4 ROA_{it} + \beta_5 (CSR_{it} \times ROA_{it}) + \beta_6 (KM_{it} \times ROA_{it}) + \beta_7 (KI_{it} \times ROA_{it}) + e_{it}$$

Notes:

PBV = Price to Book Value
 α = Constant
 $\beta_1 - \beta_7$ = Regression Coefficients
 CSR = Corporate Social Responsibility
 KM = Managerial Ownership

KI = Institutional Ownership
 ROA = Return on Assets (Profitability)
 CSR x ROA = Interaction between Corporate Social Responsibility and ROA
 KM x ROA = Interaction between Managerial Ownership and ROA
 KI x ROA = Interaction between Institutional Ownership and ROA
 e = error term
 i = Company cross section
 t = time period (time series)

3. Result and Discussion

3.1 Results

3.1.1 Descriptive Statistics

Before turning to formal hypothesis testing, it helps to get a general sense of what the data looks like. EViews 13 was used to generate the standard descriptive figures mean, median, minimum, maximum, and standard deviation for each variable in the model. Table 1 presents these figures, calculated across the full set of 80 observations drawn from the 16 food and beverage companies sampled over 2020–2024.

Table 4. Results of Descriptive Statistical Analysis

Keterangan	Y (PBV)	X1 (CSR)	X2 (KM)	X3 (KI)	Z (ROA)
Mean	1,569368	-1,773419	-4,607269	-0,505454	5,530610
Median	1,595196	-1,597603	-4,745652	-0,412567	5,677230
Maximum	5,627634	-0,271934	-0,538868	-0,021191	94,35689
Minimum	-4,234558	3,737670	-8,778558	-1,436480	-48,87841
Std. Dev.	1,462135	0,917049	2,562865	0,349796	15,31977
Skewness	0,013173	-0,246401	-0,241050	-1,142382	1,530420
Kurtosis	7,818567	2,029474	2,097599	3,637575	17,99344
Observations	80	80	80	80	80

Firm value, represented here by PBV, comes out to an average of 1.5694 across the sample, though the underlying figures swing considerably from a low of -4.2346 up to a high of 5.6276. CSR disclosure sits at a mean of -1.7734, while the two ownership variables come in lower still, averaging -4.6073 for managerial ownership and -0.5055 for institutional ownership. Profitability tells a different story: its mean of 5.5306% comes paired with the largest standard deviation in the entire dataset, meaning ROA fluctuates more sharply across firms than any other variable measured here.

3.1.2 Panel Data Model Selection

Settling on the correct panel data model meant weighing three possibilities Common Effect, Fixed Effect, and Random Effect against one another using a set of standard diagnostic tests. Table 2 walks through this process, applying the Chow, Hausman, and Lagrange Multiplier tests in turn to arrive at the most defensible specification.

Table 5. Conclusions From the Panel Regression Model Test

No.	Metode	Pengujian	Hasil
1	Uji Chow	<i>Common Effect Model (CEM) vs Fixed Effect Model (FEM)</i>	<i>Fixed Effect Model (FEM)</i>
2	Uji Hausman	<i>Fixed Effect Model (FEM) vs Random Effects Model (REM)</i>	<i>Fixed Effect Model (FEM)</i>
3	Uji Lagrange Multiplier (LM)	<i>Common Effect Model (CEM) vs Random Effect Model (REM)</i>	<i>Common Effect Model (CEM)</i>

The Fixed Effects Model outperformed the Common Effects Model in the Chow test, and this preference was reinforced by the Hausman test, which likewise pointed to Fixed Effects over Random Effects. Taken together, these two results settled the choice of specification: this study proceeds with the Fixed Effects Model.

3.1.3 Test Of Classical Assumptions

A regression model is only as trustworthy as the assumptions behind it. Before drawing conclusions from the panel estimates, two standard diagnostic checks were run one for multicollinearity and one for

heteroscedasticity to make sure the results weren't distorted by violations of these assumptions.

3.1.4 Multicollinearity Test

Multicollinearity describes a situation where independent variables are so closely correlated with each other that it becomes difficult to isolate each one's individual effect. A common rule of thumb flags this as a problem once correlation coefficients climb above 0.90; staying below that mark indicates the variables are distinct enough from one another for the model to remain reliable.

Table 6. Multicollinearity Test

Variabel	X1 (CSR)	X2 (KM)	X3 (KI)	Z (ROA)
X1 (CSR)	1,000000	-0,087644	-0,168439	0,230379
X2 (KM)	-0,087644	1,000000	-0,517006	0,252605
X3 (KI)	-0,168439	-0,517006	1,000000	-0,024415
Z (ROA)	0,230379	0,252605	-0,024415	1,000000

As underscored by the statistical data presented in Table 3, none of the correlation evaluations among the explanatory attributes exceed the threshold of 0.90. This diagnostic evidence provides a solid justification to conclude that the panel regression parameters are free from any adverse multicollinearity constraints.

3.1.5 Heteroscedasticity Test

A heteroscedasticity appraisal was deployed to scrutinize the consistency of error variances over time. For the panel regression configuration to remain efficient and valid, it is imperative that the final model is uninfected by any heteroscedasticity violations.

According to the quantitative indicators presented, the heteroscedasticity validation utilizing the Glejser framework indicates that the significance levels for the CSR metric X1 and management ownership X2 are positioned above 0.05, meaning they are free from residual variance instability. Conversely, the computational readouts for institutional blocks X3 along with corporate profitability patterns (ROA) generate p-values below 0.05, which explicitly documents a structural heteroscedasticity violation. Therefore, Fixed Effect Model (FEM) estimation in this study uses the White Cross-Section method to produce robust standard errors, thereby making the estimation results and hypothesis testing more valid.

Table 7. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.870666	0.412660	2.109886	0.0390
X1_CSR_	-0.135143	0.091899	-1.470556	0.1466
X2_KM_	0.025788	0.061743	0.417674	0.6777
X3_KI_	1.087572	0.469572	2.316089	0.0240
Z_ROA_	-0.014910	0.004078	-3.655911	0.0005
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.640274	Mean dependent var	0.359337	
Adjusted R-squared	0.526360	S.D. dependent var	0.588312	
S.E. of regression	0.404885	Akaike info criterion	1.241889	
Sum squared resid	9.835899	Schwarz criterion	1.837396	
Log likelihood	-29.67557	Hannan-Quinn criter.	1.480645	
F-statistic	5.620709	Durbin-Watson stat	1.585117	
Prob(F-statistic)	0.000000			

3.1.6 Panel Data Regression Analysis

In light of the design selection diagnostics and classical assumption evaluation outcomes, this inquiry deploys a Fixed Effects Model (FEM) combined with White cross-section standard errors. The resulting panel regression outputs are thoroughly delineated in the following matrix.

Table 8. Result of the Fixed Effects Panel Data Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.357893	1.200292	0.298171	0.7804
X1_CSR_	-0.416802	0.089202	-4.672558	0.0095
X2_KM_	0.155062	0.023106	6.710935	0.0026
X3_KI_	-2.035018	1.693329	-1.201785	0.2957
Z_ROA_	0.028590	0.017337	1.649084	0.1745

Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.776939	Mean dependent var	1.569368	
Adjusted R-squared	0.706303	S.D. dependent var	1.462135	
S.E. of regression	0.792386	Akaike info criterion	2.584783	
Sum squared resid	37.67257	Schwarz criterion	3.180289	
Log likelihood	-83.39131	Hannan-Quinn criter.	2.823538	
F-statistic	10.99921	Durbin-Watson stat	2.117857	
Prob(F-statistic)	0.000000			

Considering the empirical estimation's structural readouts, individual coefficient metrics reveal estimation using the Fixed Effects Model (FEM) with the White Cross-Section method, the following panel data regression equation was obtained:

$$PBV = 0,357893 - 0,416802(CSR) + 0,155062(KM) - 2,035018(KI) + 0,028590(ROA) + e$$

Based on the regression equation, the variables Corporate Social Responsibility (CSR) and institutional ownership (KI) have negative coefficients, indicating that an increase in these two variables tends to decrease firm value (PBV). Meanwhile, managerial ownership (KM) and profitability (ROA) have positive coefficients, indicating that a rise in these two variables tends to raise the value of the company. However, before hypothesis testing is carried out using a partial test (t-test), the direction of these coefficients cannot yet be utilized as a foundation for drawing conclusions.

Table 9. Hypothesis for Panel Data Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.357893	1.200292	0.298171	0.7804
X1_CSR_	-0.416802	0.089202	-4.672558	0.0095
X2_KM_	0.155062	0.023106	6.710935	0.0026
X3_KI_	-2.035018	1.693329	-1.201785	0.2957
Z_ROA_	0.028590	0.017337	1.649084	0.1745

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.776939	Mean dependent var	1.569368
Adjusted R-squared	0.706303	S.D. dependent var	1.462135
S.E. of regression	0.792386	Akaike info criterion	2.584783
Sum squared resid	37.67257	Schwarz criterion	3.180289
Log likelihood	-83.39131	Hannan-Quinn criter.	2.823538
F-statistic	10.99921	Durbin-Watson stat	2.117857
Prob(F-statistic)	0.000000		

3.1.7 Partial Significance Test (t-test)

Looking at the individual variables in Table 6, CSR carries a coefficient of -0.416802 alongside a p-value of 0.0095 comfortably under the 0.05 cutoff which points to a statistically significant relationship, though a negative one, with firm value. Managerial ownership tells a different story: its coefficient of 0.155062, paired with a p-value of 0.0026, signals a significant positive relationship instead. Institutional ownership and profitability don't clear that bar, however, with p-values of 0.2957 and 0.1745 respectively landing well above 0.05, meaning neither shows a statistically meaningful link to firm value in this model.

3.1.8 Simultaneous Test (F-Test)

Taken together rather than one at a time, the independent variables produce an F-statistic of 10.99921 with a probability of 0.000000 far below the 0.05 threshold confirming that CSR, managerial ownership, and institutional ownership jointly shape firm value in a statistically meaningful way.

3.1.9 Test of the Coefficient of Determination (R²)

The model's Adjusted R² comes out to 0.706303, meaning CSR, the two ownership variables, and profitability together account for roughly 70.63% of the movement seen in firm value. The remaining 29.37% is left to factors this study didn't measure.

Table 10. Moderated Regression Analysis (MRA)

Variabel	Koefisien	Std. Error	t-Statistic	Prob.
C	1,546546	0,050957	30,35020	0,0000
X1_C	-0,273629	0,061137	-4,475651	0,0000
X2_C	0,093395	0,056704	1,647082	0,1050
X3_C	0,161728	0,301565	0,536295	0,5938
Z_C	0,044706	0,008399	5,322969	0,0000
X1_Z_INT	0,015940	0,007412	2,150609	0,0358
X2_Z_INT	-0,005408	0,004136	-1,307664	0,1962
X3_Z_INT	-0,019792	0,018786	-1,053544	0,2965

Table 7 interaction terms tell a mixed story about profitability's moderating role. The CSR × ROA interaction comes out significant, with a coefficient of

0.015940 and a p-value of 0.0358, indicating that profitability does change how CSR relates to firm value. The other two interactions don't clear that bar,

though $KM \times ROA$ returns a p-value of 0.1962 and $KI \times ROA$ comes in at 0.2965, both well above 0.05 meaning profitability leaves the managerial and institutional ownership relationships essentially untouched.

3.2 Discussion

The empirical analysis reveals that Corporate Social Responsibility (CSR) disclosure exerts a statistically significant negative effect on firm value, with a coefficient of -0.416802 and a p-value of 0.0095. This outcome, which leads to the acceptance of H1, suggests that investors in the food and beverage sector during the 2020–2024 period prioritized short-term financial performance over sustainability commitments. Consequently, CSR expenditures were likely perceived as expenses that diminish near-term profits rather than as positive signals of long-term stability, a finding that diverges from traditional Signaling Theory expectations but aligns with the results reported by Santoso (2021). In contrast, managerial ownership demonstrates a positive and statistically significant impact on firm value, evidenced by a coefficient of 0.155062 and a p-value of 0.0026, thereby supporting H2. This result reinforces Agency Theory, indicating that equity stakes held by management effectively align their interests with those of shareholders. By bearing the risks and rewards of their strategic decisions, managers are incentivized to enhance firm performance and minimize agency conflicts, ultimately boosting the Price-to-Book Value (PBV) ratio. This finding is consistent with the research of Utami and Margie (2025). Regarding institutional ownership, the results indicate a coefficient of -2.035018 with a p-value of 0.2957, which is statistically insignificant, leading to the rejection of H3. This suggests that the mere presence of institutional investors does not guarantee effective monitoring or increased market valuation in this sample.

It appears that these investors may prioritize expected investment returns over active supervision of management activities, a conclusion supported by Ariani *et al.* (2024). Finally, the simultaneous test yields an F-statistic of 10.99921 with a p-value of 0.000000, confirming that CSR, managerial ownership, and institutional ownership collectively exert a significant influence on firm value (H7 accepted). These results demonstrate that firm value in the Indonesian food and beverage sector is not driven by isolated factors, but by the complex interplay between corporate governance structures and social responsibility practices. From the perspectives of both Agency and Signaling Theories, these combined mechanisms provide the essential information required for investors to evaluate a company's prospects and overall market valuation. The

regression analysis indicates that profitability (ROA) significantly moderates the relationship between Corporate Social Responsibility (CSR) and firm value. With an interaction coefficient of 0.015940 and a p-value of 0.0358, the positive interaction suggests that profitability acts as a reinforcing mechanism; CSR disclosure contributes more positively to firm value when a company demonstrates strong financial performance. This aligns with Signaling Theory, as high profitability provides a credible signal of managerial capability, which, when coupled with CSR initiatives, enhances investor confidence and market valuation (PBV). These findings are consistent with the research of Tenriwaru and Fadiah (2020). Conversely, the results show that profitability does not significantly moderate the relationship between managerial ownership and firm value, as evidenced by an interaction coefficient of -0.005408 and a p-value of 0.1962. This suggests that the influence of managerial ownership is rooted in the long-term control structure of the firm, which remains largely unaffected by short-term fluctuations in profitability. Furthermore, the limited proportion of managerial shareholdings in the sample may prevent managers from leveraging profitability changes to influence market perception significantly. This outcome is consistent with the study by Wangsa (2023). Similarly, profitability fails to act as a significant moderator for the relationship between institutional ownership and firm value (coefficient = -0.019792, p-value = 0.2965). The lack of a significant interaction implies that institutional investors may not prioritize profitability data as a primary driver for their monitoring activities, or that their often passive oversight style renders them unresponsive to profitability shifts in terms of corporate decision-making. Consequently, the presence of institutional investors does not translate into higher firm value even when profitability improves, a finding that further supports the conclusions reached by Wangsa (2023).

4. Conclusion

Based on the empirical findings regarding the influence of Corporate Social Responsibility (CSR) and governance mechanisms on firm value within the Indonesian food and beverage subsector from 2020 to 2024, several key conclusions can be drawn. First, the study confirms that CSR disclosure has a significant negative effect on firm value (H1 accepted), suggesting that investors in this sector perceived sustainability expenditures as a burden on short-term profitability. Conversely, managerial ownership exerts a significant positive influence on firm value (H2 accepted), supporting Agency Theory by demonstrating that equity stakes effectively align the interests of managers with those of shareholders.

In contrast, institutional ownership shows no statistically significant impact on firm value (H3 rejected), indicating that institutional blockholders in this sample did not exercise sufficient influence to alter market valuation. When analyzed collectively, CSR, managerial ownership, and institutional ownership exert a significant simultaneous effect on firm value (H7 accepted), highlighting that market valuation is driven by the complex interaction of both social responsibility practices and ownership structures. Regarding the moderating role of profitability, the study finds that Return on Assets (ROA) significantly strengthens the relationship between CSR and firm value (H4 accepted), as investors view CSR activities more favorably when supported by strong financial performance. However, profitability does not significantly moderate the relationship between firm value and either managerial ownership (H5 rejected) or institutional ownership (H6 rejected), suggesting that the governance influence of these ownership structures is primarily rooted in long-term control dynamics rather than short-term profit fluctuations.

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