



# Effect of Operating Leverage and Financial Leverage on Firm Value through Financial Performance

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**Abstract.** This study aims to analyze the effect of Operating Leverage and Financial Leverage on Firm Value through financial performance as an intervening variable in the food and beverage sub-sector on the Indonesia Stock Exchange (IDX) for the 2019-2023 period. This study uses a quantitative approach with data collection methods through documentation of financial statements and company annual reports. From a population of 95 companies, a sample was drawn using purposive sampling technique based on certain criteria, so that 34 companies were selected with a total of 170 financial reports used in this study. The collected data were processed using the Smart PLS program with the Structural Equation Modeling (SEM) approach of the Partial Least Square (PLS) type. The results showed that directly Degree of Operating Leverage (DOL) and Degree of Financial Leverage (DFL) have no significant effect on Financial Performance (ROA and ROE), and both also have no significant effect on Firm Value. In addition, financial performance is proven to have a positive and significant effect on Firm Value. Indirectly, Financial Performance is not able to mediate the relationship between Degree of Operating Leverage and Degree of Financial Leverage on Firm Value.

**Keywords:** Degree of Operating Leverage, Degree of Financial Leverage, Return on Asset, Return on Equity, Price to Earning Ratio.

## 1 Introduction

The Indonesia Stock Exchange (IDX) acts as both a platform for securities transactions and a barometer reflecting national economic conditions. Through the IDX, companies can raise the necessary capital for expansion and growth, while investors can participate in the nation's economic advancement through their investments. The growth and efficiency of the capital market, particularly the IDX, are a reflection of the dynamism of the Indonesian economy, contributing to sustainable development and national prosperity.

The rapid development of the IDX over the past five years is evidenced by the increasing number of companies listed, from 619 issuers in 2018 to 825 in 2023, with 59 new companies listed in that final year. Among the sectors that stand out is the food and beverage (F&B) industry, which plays a significant role in market capitalization and stock trading. In 2020, the F&B sector attracted USD 29.4 billion in investments and showed a growth of 75.93% by January 2021, reaching IDR 29.59 trillion [2].

For investors, firm value is a critical factor to consider when evaluating investment opportunities, as it helps in identifying potential risks and returns. The value of a company is a representation of its overall performance, often gauged through indicators such as the Price-to-Book Value (PBV) ratio and the Price-to-Earnings (P/E) ratio. The PBV ratio provides insight into how the market values a company relative to its book value, with a high PBV suggesting overvaluation and a low PBV indicating undervaluation [3]. Similarly, the P/E ratio reflects investor expectations regarding the company's future earnings potential.

The financial performance of companies in the food and beverage sub-sector listed on the IDX during the period from 2019 to 2023 has exhibited fluctuations in key indicators, including Return on Equity (ROE) and Return on Assets (ROA). The negative values in ROE and ROA for some companies during this period suggest challenges in managing assets and equity efficiently to generate profits. This poor financial performance directly affects firm value, as indicated by a declining PBV ratio in several companies within the sub-sector. Additionally, the Price-to-Earnings ratio has shown fluctuations, with significant decreases in 2020 and 2023 due to losses suffered by several companies.

Operating and financial leverage also significantly influence firm value. Operating leverage, which measures how changes in sales affect profitability, can improve profit margins during periods of high sales but also pose risks during downturns due to fixed costs [5]. Some studies have shown that high operating leverage can result in greater earnings volatility, which impacts firm value both positively and negatively.

## 2 Literature Review

The relationship between profitability, leverage, and firm value has been extensively examined in various sectors, including food and beverage. Several studies highlight profitability as a key determinant of firm value, as it reflects a company's efficiency in generating profits from its operations. Research shows a positive correlation between profitability and firm value, with companies demonstrating strong profitability being more likely to attract investors due to their higher market valuation [10][11][12][13].

For example, a study found that higher profitability correlates with greater firm value, particularly in sectors such as food and beverage, where profitability plays a significant role in sustaining business growth [10][11][12][13]. Similarly, another study demonstrated that profitability has a positive influence on firm value, noting that companies with strong profitability ratios tend to have better market performance, making them more attractive to investors [8]. However, some research suggests that external factors, such as market volatility or sector-specific conditions, may moderate this relationship, causing variations across industries [32] [33] [35].

The role of leverage in influencing firm value is more complex. Operating leverage, which refers to the proportion of fixed costs in a company's cost structure, amplifies both profits and losses. Studies have shown that operating leverage can increase firm value during profitable periods but can also lead to greater earnings volatility during downturns [14]. On the other hand, financial leverage, which measures a company's debt levels, can either enhance or reduce firm value depending

on how well the company manages its debt obligations. Research has highlighted the potential benefits of financial leverage, such as tax shields on interest payments [15], but excessive debt can lead to financial distress and reduced firm value [17] [18].

Research on the interaction between profitability and leverage suggests that the two factors can work together to either enhance or detract from firm value. A study found that firms with high profitability can manage leverage more effectively, using it to improve firm value, while companies with lower profitability are more vulnerable to the risks associated with high leverage [14]. This idea is supported by research that suggests profitability moderates the relationship between leverage and firm value, with more profitable companies being better positioned to benefit from leverage [15].

In the food and beverage sector, the relationship between profitability, leverage, and firm value is further complicated by external factors such as fluctuating raw material costs and consumer demand. A study focused on the F&B sector found that profitability is essential in maintaining firm value, especially during periods of economic volatility [23]. Another study showed that firms with high operating leverage in this sector are more vulnerable to economic downturns due to their high fixed costs, which can negatively affect firm value during periods of low sales [24].

### 3 Research Methods

#### 3.1 Research Approach

The design utilized in this research is a quantitative approach, which is an approach that explains the influence between various variables where in the process initial conjectures will be built and then empirically tested on the proposed hypothesis so that the relationship between the various variables is known [36].

#### 3.2 Population and Samples

The population in this study were all companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange (IDX) during the 2019-2023 period totaling 95 companies, while the sample was determined with a non probability sampling approach of purposive sampling.

The results of the sample determination selection based on the 3 criteria above show 34 companies that meet all the criteria set out in the study to be further analyzed. The following 34 companies were sampled in this study:

**Table 1.** Table captions should be placed above the tables.

| No. | Company Name | Code |
|-----|--------------|------|
|-----|--------------|------|

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|    |  |      |
|----|--|------|
| 1  | Astra Agro Lestari Tbk.                        | AALI |
| 2  | Austindo Nusantara Jaya Tbk                    | ANJT |
| 3  | Bisi International Tbk                         | BISI |
| 4  | Campina Ice Cream Industry Tbk                 | CAMP |
| 5  | Wilmar Cahaya Indonesia Tbk                    | CEKA |
| 6  | Sariguna Primatirta Tbk                        | CLEO |
| 7  | Wahana Interfood Nusantara Tbk                 | COCO |
| 8  | Delta Djakarta Tbk                             | DLTA |
| 9  | Dharma Satya Nusantara Tbk                     | DSNG |
| 10 | Garuda Food Putra Putri Jaya Tbk               | GOOD |
| 11 | Indofood CBP Sukses Makmur Tbk                 | ICBP |
| 12 | Indofood Sukses Makmur Tbk                     | INDF |
| 13 | Japfa Comfeed Indonesia Tbk                    | JPFA |
| 14 | PP London Sumatera Indonesia Tbk               | LSIP |
| 15 | Multi Bintang Indonesia Tbk                    | MLBI |
| 16 | Mayora Indah Tbk                               | MYOR |
| 17 | Nippon Indosari Corpindo Tbk                   | ROTI |
| 18 | Sawit Sumbermas Sarana Tbk                     | SSMS |
| 19 | Tunas Baru Lampung Tbk                         | TBLA |
| 20 | Ultra Jaya Milk Industry & Trading Company Tbk | ULTJ |
| 21 | Cisarua Mountain Dairy Tbk                     | CMRY |
| 22 | Charoen Pokphand Indonesia Tbk                 | CPIN |
| 23 | Malindo Feedmill Tbk                           | MAIN |
| 24 | Buyung Poetra Sembada Tbk                      | HOKI |
| 25 | Salim Ivomas Pratama Tbk                       | SIMP |
| 26 | Central Proteina Prima                         | CPRO |
| 27 | Sampoerna Agro Tbk                             | SGRO |
| 28 | Mulia Boga Raya Tbk                            | KEJU |
| 29 | Sinar Mas Agro Resources & Technology Tbk      | SMAR |
| 30 | Budi Starch & Sweetener Tbk                    | BUDI |
| 31 | Sekar Bumi Tbk                                 | SKBM |
| 32 | Siantar Top Tbk                                | STTP |
| 33 | FKS Multi Agro Tbk                             | FISH |
| 34 | Tigaraksa Satria Tbk                           | TGKA |

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Source: [www.idx.co.id](http://www.idx.co.id) (2024)

### 3.3 Data and Analysis Approach

The approach used in collecting research data on the food and beverage sub-sector which is consistently listed on the Indonesia Stock Exchange using secondary company data in the form of financial reports and company annual reports during the 2019-202. Then, the data analysis technique uses the Structural Equation Modeling approach with Partial Least Squares Path Modeling (PLS-SEM) as a data analysis approach, consisting of two different stages the initial stage which includes

measurement (outer model) and the next stage which includes evaluation of the inner model [37].

## 4 Results and Discussions

### 4.1 Descriptive Statistics

Convergent Validity.

The convergence results result after the PBV indicator is removed from the research model.

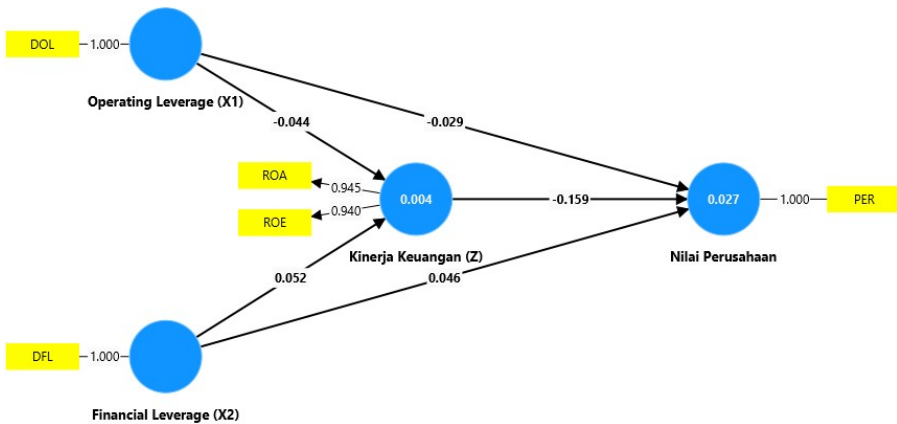


Fig. 1. PLS Algorithm

Table 2. Table captions should be placed above the tables

| Variables | Financial Leverage (X2) | Financial Performance (Z) | Firm Value (Y) | Operating Leverage (X1) |
|-----------|-------------------------|---------------------------|----------------|-------------------------|
| DFL (X1)  | 1.000                   |                           |                |                         |
| DOL (X2)  |                         |                           |                | 1.000                   |
| PER (Y)   |                         |                           | 1.000          |                         |
| ROA (Z.1) |                         | 0.945                     |                |                         |
| ROE (Z.2) |                         | 0.940                     |                |                         |

Sources: Smart PLS (2024)

The table above shows that all indicators used have a loading factor value greater than 0.70 (loading factor > 0.70) which indicates that all items are valid.

Discriminant Validity.

The discriminant validity value in this study is based on the Fornell-Larcker criterion where the AVE value of a construct must be greater than the squared correlation with other constructs.

**Table 3.** Discriminant Validity Result.

| Fornell-Larcker Criterion | Financial Leverage (X2) | Financial Performance (Z) | Firm Value (Y) | Operating Leverage (X1) |
|---------------------------|-------------------------|---------------------------|----------------|-------------------------|
| Financial Leverage (X2)   | 1.000                   |                           |                |                         |
| Financial Performance (Z) | 0.045                   | 0.942                     |                |                         |
| Firm Value (Y)            | 0.034                   | 0.155                     | 1.000          |                         |
| Operating Leverage (X1)   | 0.160                   | -0.036                    | -0.016         | 1.000                   |

**Sources: Smart PLS (2024)**

Based on the table above, it can be seen that the root AVE value which is greater than the squared correlation between constructs indicates that the variance explained by the construct indicators (AVE) is greater than the variance shared with other constructs (squared correlation).

### Composite Reliability.

In this study, composite reliability is reviewed based on the value of cronbac's alpha and composite reliability (rho\_a and rho\_b) which is greater than 0.70 [38]

**Table 4.** Composite Reliability Result.

| Variables                 | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Descrip. |
|---------------------------|------------------|-------------------------------|-------------------------------|----------|
| Firm Value (Y)            | 1.000            | 1.000                         | 1.000                         | Reliabel |
| Financial Performance (Z) | 0.874            | 0.875                         | 0.941                         | Reliabel |
| Leverage Operasi (X1)     | 1.000            | 1.000                         | 1.000                         | Reliabel |
| Leverage Keuangan (X2)    | 1.000            | 1.000                         | 1.000                         | Reliabel |

**Sources: Smart PLS (2024)**

Based on the table above, it can be seen that the variables of firm value, financial performance, operating leverage and financial leverage show the acquisition of Cronbach's alpha, Composite reliability (rho\_a), and Composite reliability (rho\_c) is greater than 0.70 so that all variable items meet the composite reliability criteria or in other words are reliable.

### The Coefficient of Determination.

The coefficient of determination test results are as follows:

**Table 5.** Coefficient of Determination Result.

| Variables                 | R-square | R-square adjusted | Description |
|---------------------------|----------|-------------------|-------------|
| Financial Performance (Z) | 0.004    | -0.012            | Low         |
| Firm Value(Y)             | 0.027    | 0.004             | Low         |

**Sources: Smart PLS (2024)**

Based on the analysis, the R-square ( $R^2$ ) values for both equations in the study are relatively weak. In Equation I, which examines the impact of Operating Leverage (X1) and Financial Leverage (X2) on Financial Performance (Z), the  $R^2$  value is 0.004, indicating that these variables explain only 0.4% of the variability in Financial Performance. In Equation II, which assesses the effect of Operating Leverage (X1), Financial Leverage (X2), and Financial Performance (Z) on Firm Value (Y), the  $R^2$  value is 0.027, meaning they explain only 2.7% of the variability in Firm Value. This suggests that these factors have a minimal influence on Firm Value, with other unaccounted factors likely playing a larger role, especially in the Food and Beverage sector on the Indonesia Stock Exchange from 2019-2023.

**Predictive Effect (Q Square).**

The Q-square value of 0.031 indicates that this model has low predictive ability. The value of 0.031 or 3.1% indicates that only a small part of the variability of the dependent variable can be predicted by the model.

**Goodness-of-Fit Index (GOF).**

SRMR values range from 0 to 1, where lower values indicate a better model. In general, an SRMR value of less than 0.08 is considered to indicate a model that has a good fit with the data [39].

**Table 6.** Goodness-of-Fit Index.

|            | Saturated model | Estimated model |
|------------|-----------------|-----------------|
| SRMR       | 0.029           | 0.029           |
| d_ ULS     | 0.013           | 0.013           |
| d_ G       | 0.046           | 0.046           |
| Chi-square | 39.955          | 39.955          |
| NFI        | 0.684           | 0.684           |

**Sources: Smart PLS (2024)**

Based on the table above, it can be seen that the SRMR value of 0.029 indicates that the model has a good fit with the data, as this value is well below the threshold of 0.08 which is considered the upper limit for a good fit.

**Direct Hypothesis Test.**

Direct hypothesis testing usually involves the path coefficient in the SEM structural model.

**Table 7.** Direct Hypothesis Test Result.

| Direct Effect | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics ( O/STDEV ) | P-values |
|---------------|---------------------|-----------------|----------------------------|--------------------------|----------|
| Z -> Y        | 0.159               | 0.166           | 0.060                      | 2.630                    | 0.009    |
| X1 -> Z       | 0.052               | 0.049           | 0.084                      | 0.622                    | 0.534    |
| X1 -> Y       | 0.046               | 0.049           | 0.060                      | 0.777                    | 0.437    |
| X2 -> Z       | -0.044              | -0.044          | 0.083                      | 0.530                    | 0.596    |
| X2 -> Y       | -0.029              | -0.028          | 0.038                      | 0.756                    | 0.449    |

**Sources: Smart PLS (2024)**

The study finds that Operating Leverage (X1) has a positive but statistically insignificant effect on Financial Performance (Z) (path coefficient: 0.052, p-value: 0.534, t-statistic: 0.622), and Financial Leverage (X2) has a negative but also insignificant effect (path coefficient: -0.044, p-value: 0.596, t-statistic: 0.530), leading to the rejection of both hypotheses. Similarly, Operating Leverage shows a positive yet insignificant effect on Firm Value (Y) (path coefficient: 0.046, p-value: 0.437, t-statistic: 0.777), and Financial Leverage has a negative but insignificant effect (path coefficient: -0.029, p-value: 0.449, t-statistic: 0.756). However, Financial Performance (Z) positively and significantly impacts Firm Value (Y) (path coefficient: 0.159, p-value: 0.009, t-statistic: 2.630), supporting the hypothesis that improved financial performance increases firm value, making it a key determinant in the food and beverage sector on the Indonesia Stock Exchange from 2019-2024.

**Indirect Hypothesis Test.**

The results of the indirect effect test are obtained through comparison of the resulting significance value with a value of 5%. if the significance value <0.05 means that it has an influence, and vice versa. the test results show that:

**Table 8.** Indirect Hypothesis Test Result

| Indirect Effect | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics ( O/STDEV ) | P values |
|-----------------|---------------------|-----------------|----------------------------|--------------------------|----------|
| X1 -> Z -> Y    | 0.007               | 0.007           | 0.015                      | 0.460                    | 0.646    |

|        |        |        |       |       |       |
|--------|--------|--------|-------|-------|-------|
| X2 ->  | -0.008 | -0.008 | 0.015 | 0.535 | 0.593 |
| Z -> Y |        |        |       |       |       |

Sources: Smart PLS (2024)

The mediating role of Financial Performance (Z) in the relationships between Operating Leverage (X1) and Firm Value (Y), as well as Financial Leverage (X2) and Firm Value, is statistically insignificant. For the mediation between Operating Leverage and Firm Value, the path coefficient is 0.007 (t-statistic: 0.460, p-value: 0.646), and for the mediation between Financial Leverage and Firm Value, the path coefficient is -0.008 (t-statistic: 0.535, p-value: 0.593). This indicates that Financial Performance does not significantly mediate these relationships, leading to the rejection of hypotheses 6 and 7.

## 5 Discussions

### The Effect of Operating Leverage on Financial Performance.

The direct hypothesis test results show a p-value of 0.534 ( $0.534 > 0.5$ ) and a t statistic of 0.622 ( $0.622 < 1.96$ ) which indicates that Operating Leverage has no significant effect on Financial Performance in the Food and Beverage sector listed on the Indonesia Stock Exchange for the 2019-2023 period. This is possible due to cost structure factors and company revenue stability. Where companies with high DOL often have substantial fixed costs. If sales do not increase enough to cover these fixed costs, the expected increase in operating income may not materialize, thus affecting net income and subsequently ROA and ROE. So that the effect of DOL on ROA and ROE may not be directly visible [40][26].

Mandelker and Rhee (1984) also point out that if net income does not grow as DOL increases, then the effect of DOL on ROA and ROE will not be apparent. ROA and ROE are ratios that measure a company's efficiency in generating profits from its assets and equity. If net income does not increase in accordance with changes in operating profit, then ROA and ROE will also not show a comparable increase [42].

In addition, there are several relevant references to show that operating leverage has no effect on financial performance. One of them research which states that Leverage has no effect on financial performance [43]. Similar findings are also supported by this research findings by stating that Leverage has no effect on financial performance [44].

### The Effect of Financial Leverage on Financial Performance.

The direct hypothesis test results indicate a negative effect of Financial Leverage (X2) on Financial Performance (Z), with a path coefficient of -0.044. This negative relationship arises because companies with high debt face increased interest expenses, which reduce net income as more operating profit is allocated to interest payments rather than retained for corporate profits [45]. Additionally, high debt levels raise financial risk, as companies may struggle to meet their obligations during periods of declining operating profits, increasing financial instability [46]. However, the negative effect is not statistically significant in the food and beverage sector on the

Indonesia Stock Exchange (IDX) for the 2019-2023 period, evidenced by a p-value of 0.596 and a t-statistic of 0.530.

Stable demand for staple products such as rice, snacks, and drinks helps mitigate the negative impact of Financial Leverage on financial performance. Even during periods of high debt, the stable revenue ensures that net income remains positive, thereby lessening the influence of interest expenses on financial performance [47]. This trend was particularly evident during the COVID-19 pandemic when the food and beverage sector managed to maintain consistent revenue levels.

Strong brands with loyal customer bases, such as Indomie from PT Indofood CBP Sukses Makmur Tbk (ICBP) and PT Mayora Indah Tbk (MYOR), benefit from stable revenues, which help offset the effects of high Financial Leverage on net income. Although high leverage increases sensitivity to changes in operating profit, a loyal customer base significantly reduces the adverse effects on financial performance [48] [49].

Furthermore, food and beverage companies on the IDX practice prudent debt management strategies, such as debt restructuring and securing fixed interest rates, which mitigate the negative impacts of high debt. With stable economic conditions, these practices further lessen the influence of Financial Leverage on financial performance [50][51]. Similar studies support these findings, showing that Financial Leverage does not significantly impact financial performance indicators like return on assets and Q Tobin, indicating consistent results across the sector [52][54].

### **The Effect of Operating Leverage on Firm Value.**

The effect of Operating Leverage on Firm Value shows a path coefficient of 0.046, indicating a positive effect; however, with a p-value of 0.437 (greater than 0.05) and a t-statistic of 0.777 (less than 1.96), this effect is not statistically significant. Therefore, hypothesis 4, which posits an effect of Operating Leverage on Firm Value, is rejected. Despite the positive coefficient, the insignificance highlights that the relationship between Operating Leverage and Firm Value in the food and beverage sector on the Indonesia Stock Exchange for the 2019-2024 period is not strong enough to be statistically validated.

The lack of a significant effect from the Degree of Operating Leverage (DOL) on firm value, as measured by the Price-to-Earnings Ratio (PER), suggests that changes in operating profit sensitivity to sales fluctuations do not majorly impact market perceptions of firm value. In this sector, where companies produce staple products such as rice, cooking oil, and bottled drinking water, demand tends to be stable and less affected by economic fluctuations. Consequently, while DOL may indicate potential earnings sensitivity, investors view this metric as less relevant in assessing PER due to the overall stability of income in the food and beverage sector.

Moreover, the stock market tends to value companies based on a variety of factors, including growth prospects, product innovation, business strategy, and management effectiveness. In the food and beverage sector, although DOL can be an indicator of operational risk, investors often prioritize long-term growth potential, brand reputation, and adaptability to changing consumer trends. These elements are considered more critical in determining a company's long-term success, leading the market to place greater emphasis on them rather than on changes in DOL [56].

Research consistently supports the finding that operating leverage does not significantly affect firm value, as indicated by PER [58]. This suggests that, in the context of the food and beverage sector, the market is more influenced by factors related to growth and stability rather than the variability of operating profit as measured by DOL.

### **The Effect of Financial Leverage on Firm Value.**

The effect of Financial Leverage (X2) on Firm Value (Y) shows a negative path coefficient of -0.029, but with a p-value of 0.449 (greater than 0.05) and a t-statistic of 0.756 (less than 1.96), this effect is not statistically significant. Consequently, hypothesis 4, which posits a relationship between Financial Leverage and Firm Value, is rejected. Although the coefficient suggests a negative effect, the lack of significance indicates that the relationship is not strong enough to be statistically proven in the food and beverage sector on the Indonesia Stock Exchange during the 2019-2024 period.

One main reason for the lack of significant impact from the Degree of Financial Leverage (DFL) on firm value is the conservative debt structure commonly adopted by companies in this sector. Many food and beverage companies rely more on equity or maintain a carefully controlled level of debt. As a result, their interest expenses do not heavily burden net income, meaning changes in operating profit do not significantly alter net income. This scenario makes DFL less relevant in influencing market perceptions of firm value, particularly in the context of the Price-to-Earnings Ratio (PER) [59].

Moreover, a low-interest rate environment may also reduce the impact of DFL on firm value. Lower interest expenses make the effect of debt on net income less significant [62]. In this context, the market is likely to prioritize other critical factors for PER valuation, such as a company's ability to sustain profit growth and operational efficiency [62][63]. The perceived lower risk in the food and beverage sector, attributed to stable demand for staple products, also contributes to the diminished significance of DFL. Investors generally focus more on long-term stability and resilience than on sensitivity to debt, making DFL less relevant in assessing enterprise value in this sector. Overall, factors such as conservative debt structure, cash flow stability, and market focus on growth and innovation indicate that DFL does not significantly influence the Price-to-Earnings Ratio (PER) in the food and beverage sector.

### **The Effect of Financial Performance on Firm Value.**

The influence of Financial Performance (Z) on Firm Value (Y) shows a path coefficient of 0.159, indicating a positive effect of Financial Performance on Firm Value. With a p-value of 0.009 (P-value < 0.05) and a t-statistic of 2.630 (2.630 > 1.96), this effect is statistically significant. This suggests that Financial Performance has a significant positive impact on Firm Value in the food and beverage sector listed on the Indonesia Stock Exchange from 2019 to 2024.

Financial performance offers insight into the health and utilization of assets and liabilities in generating profit, which can attract investors and sustain business

longevity. A strong financial standing is associated with lower investment risk and higher potential returns for investors, thereby increasing firm value [64][24][65]. Financial performance, measured through Return on Assets (ROA) and Return on Equity (ROE), has a significant positive effect on firm value since these indicators reflect management effectiveness in leveraging assets and equity to generate profit. High ROA and ROE indicate efficient resource management, increasing investor confidence and interest [66].

The significant positive effect of ROA on firm value is due to the company's ability to maximize asset utilization. Firms with high ROA tend to be more efficient in using their assets to generate profits, which not only boosts profitability but also strengthens the company's competitive position in the market. Consequently, the market often assigns higher valuations to companies with good ROA, reflected in increased Price-to-Earnings Ratio (PER) or stock prices [67][68]. ROE also sends a strong signal to the market about management's capability in managing equity. A high ROE shows that the company can provide greater returns to shareholders than the invested capital, attracting more investors and increasing Firm Value [69].

The positive link between ROA, ROE, and Firm Value is also related to market perception of risk. Companies with strong financial performance, reflected in high ROA and ROE, are perceived as having lower risk in terms of sustainability and growth under different economic conditions [70]. This stability and consistency are highly valued by investors, contributing to overall Firm Value growth [71]. This aligns with signaling theory, proposed by Spence (1973), which states that positive financial performance serves as a beneficial signal to investors, encouraging investment and enhancing Firm Value.

### **The Effect of Operating Leverage on Firm Value with Financial Performance as Intervening Variables.**

The mediating role of Financial Performance (Z) in the relationship between Operating Leverage (X1) and Firm Value (Y) shows a path coefficient of 0.007, indicating a very small mediation effect. With a t-statistic of 0.460 (less than 1.96) and a p-value of 0.646 (greater than 0.05), this mediation effect is not statistically significant. This suggests that Financial Performance does not play a significant role in influencing how Operating Leverage affects Firm Value, leading to the rejection of hypothesis 6 in this study.

Although financial theory posits a mediating role for financial performance in this relationship, the findings contradict that expectation [41]. Operating leverage typically reflects how a firm's operating income responds to fluctuations in sales revenue, and previous research has shown that it can positively impact profitability by amplifying revenue changes on operating income [72]. However, the study indicates that while operating leverage is expected to influence financial performance and, in turn, firm value, this relationship did not manifest significantly in this context.

The lack of a significant mediation effect could be attributed to unique characteristics of the food and beverage sector, which often maintains operational stability despite variations in operating leverage. Moreover, other factors, such as liquidity, solvency, business strategies, risk management, or product innovation, might play a more prominent role in influencing the relationship between Operating

Leverage and Firm Value than Financial Performance [73][74]. Thus, while Operating Leverage may impact Financial Performance, its effect is insufficient to significantly alter Firm Value in this sector.

Overall, the rejection of hypothesis 6 emphasizes that Financial Performance cannot be considered a significant mediator between Operating Leverage and Firm Value in the food and beverage sector on the IDX. Investors and analysts should consider other dominant factors that influence firm value in this sector. The study highlights the importance of not relying solely on general assumptions about the mediating role of Financial Performance, but also the need to analyze the specific dynamics of the industry.

### **The Effect of Financial Leverage on Firm Value with Financial Performance as Intervening Variables.**

The mediating role of Financial Performance (Z) in the relationship between Financial Leverage (X2) and Firm Value (Y) shows a path coefficient of -0.008, indicating a very small and negative mediation effect. With a t-statistic of 0.535 (less than 1.96) and a p-value of 0.593 (greater than 0.05), this mediation effect is not statistically significant. This suggests that Financial Performance does not significantly mediate the relationship between Financial Leverage and Firm Value in the food and beverage sector on the Indonesia Stock Exchange for the 2019-2024 period, leading to the rejection of hypothesis 7 in this study.

While financial theory posits that Financial Leverage significantly impacts firm value through its influence on profitability, this study presents contrasting results. Financial Leverage can influence profitability by reducing agency problems, enhancing resource utilization by managers, and providing a tax shield. However, the findings indicate that Financial Performance is not capable of mediating the relationship between Financial Leverage and Firm Value [75]. This insignificance suggests that while Financial Leverage may impact Financial Performance, that impact is insufficient to significantly influence firm value.

Moreover, the market and investors may focus on other factors that are more relevant to firm valuation, such as capital structure, corporate policies, effective business strategies, product innovation, or strong management. Although Financial Performance is an important indicator in many contexts, its insignificance as a mediator in this sector shows that it does not play a primary role in determining how Financial Leverage affects Firm Value. Financial Performance indicators, such as Return on Assets (ROA) or Return on Equity (ROE), already reflect operational effectiveness and profitability, directly impacting firm value.

Overall, these results highlight the importance of not relying solely on Financial Performance as a mediator in the relationship between Financial Leverage and firm value. Instead, a focus on other relevant factors may provide a better understanding of firm valuation in the food and beverage sector. This suggests that Financial Performance operates independently in assessing firm value, making mediation unnecessary in this context.

## 6 Conclusion

Based on the research findings on the influence of Operating Leverage and Financial Leverage on Firm Value, with Financial Performance as an intervening variable, several conclusions can be drawn. First, Operating Leverage does not have a significant direct impact on Financial Performance in the food and beverage sub-sector listed on the Indonesia Stock Exchange for the period 2019-2023. Similarly, Financial Leverage also does not significantly affect Financial Performance directly in this sub-sector. Additionally, both Operating Leverage and Financial Leverage do not have a significant direct effect on Firm Value in the food and beverage sub-sector during the same period.

However, Financial Performance shows a direct positive and significant impact on Firm Value. Despite this, Financial Performance is unable to mediate the indirect relationship between Operating Leverage and Firm Value, as well as between Financial Leverage and Firm Value, in the food and beverage sub-sector on the Indonesia Stock Exchange from 2019 to 2023. These results indicate that the mediating role of Financial Performance is limited in this context, and other factors may play a more crucial role in determining firm value in this sector.

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