# The Influence of Moderation Leverage on The Relationship Between Profitability and Firm Value (Empirical Study of Firms Listed on The Idx, 2019-2021 Period)

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# ABSTRACT

Capital market investors anticipate their investments will appreciate and progress in line with their investment objectives, specifically to enhance investor well-being. The investment value appreciates when the issuer's share price or firm value rises. Several variables can impact the value of a company, with profitability and leverage being two significant influences. Prior studies have presented empirical proof that a firm's profitability and leverage can impact its value. This study examines the moderating impact of leverage on the association between profitability and company value. The study employed data from companies listed on the Indonesia Stock Exchange between 2019 and 2021. Currently, there are no studies that have investigated the impact of leverage as a moderating factor on the relationship between profitability and firm value. The data analysis revealed a strong positive correlation between profitability and firm valuation. Significant leverage levels have a considerable negative effect on a corporation's value. The interaction variable of profitability and leverage has a minimal effect on the relationship between profitability and firm value. The test results suggest that leverage modifies, diminishing the link between profitability and company value. However, it is essential to note that leverage is not demonstrated to be a substantial moderating variable in this relationship.

Keywords: Profitability, Leverage, Firm Value

# INTRODUCTION

Investing in capital market shares is a viable option for society to enhance their well-being. Stock investors can reap rewards by witnessing an appreciation in their investment worth, which can be attributed to the rising share prices or the company's overall value (Firm value). (Ferriswara et al., 2022; Rajagukguk & Siagian, 2021) In addition to capital gains, stock investors will receive cash flow through profit distribution or dividends. Capital gains and dividends have the potential to enhance the well-being of investors. The share price reflects the company's market value. Elevated stock prices correspondingly increase the company's valuation. The company's substantial value will bolster investor confidence in investing since it can deliver significant dividends to investors. For creditors, the firm's worth is determined by its liquidity, which refers to the company's ability to repay the loans provided by the creditors (Megasanti & Riwayati, 2023) Several variables can impact a firm's valuation. Two factors to consider are the profitability and leverage of the company. Multiple prior research has demonstrated that the level of profitability has a favorable impact on the value of stocks. Prior studies Kartikasari et al., (2023) have consistently demonstrated a favorable correlation between profitability and stock prices.

Another critical factor is leverage. Prior studies have demonstrated that leverage can impact the value of stocks. Exceeding a specific level of leverage might have a detrimental impact. Prior studies Rachmawati & Pinem, (2015) indicate that leverage serves as a detrimental indicator for investors, resulting in a negative impact on share prices when debt levels are increased. Contrarily, Bintara, (2020) demonstrates that leverage positively impacts stock prices in alternative studies. Extensive research has been conducted on the correlation between profitability and leverage concerning firm value. However, previous research has yet to be identified on the role of leverage as a moderating variable at the time this study was conducted. This study aims to analyze how leverage influences the relationship between profitability and corporate value.

#### **Signaling Theory**

Signaling theory is a fundamental concept that forms the basis of study in the Capital Market. According to this idea, stock market prices are impacted by the information circulating in the capital market (LEE et al., 2015). Positive news will positively influence share prices, while negative news will have the opposite effect. Therefore, the diverse information presented will offer favorable or unfavorable indications for investors while making investment choices.

#### Firm value

The market value determines the company's value, representing the maximum potential for shareholder prosperity if share prices rise Likitwongkajon & Vithessonthi, (2020) defines intrinsic value as the amount per share of common stock that shareholders would receive if all the firm's assets were sold at their market value. The company value represents the tangible value per share obtained if the business's assets were sold at the prevailing share price. As share prices increase, each share's value also increases, boosting investor confidence in potential returns. This forms the basis for achieving one of the company's goals: maximizing the financial well-being of shareholders.

Investor opinion determines the company's value, which is strongly linked to its share price. (Kartiko & Rachmi, 2021) Company executives must align financial policy decisions with company objectives. Appropriate financial strategies can maximize company value, enhancing shareholder investment worth. Firm value denotes the monetary worth of a company when it is sold.

#### Measuring Company Value

Several ratios that can measure company value consist of:

#### a) Price Earning Ratio (PER)

The Price Earning Ratio (PER) is determined by dividing the market price of common shares by the earnings per share (EPS). According to Inge Beliani & Budiantara, (2017), investors should expect more robust profit growth when the price-earnings ratio is higher. The price-earnings ratio (PER) measures the relationship between the market price and earnings per share. The equation can be expressed as follows: *PER=MPSEPS*. Note :

- PER = *Price Earning Ratio*
- MPS = market price share
- EPS = earning per share

#### b) Price Book Value (PBV)

The Price Book Value (PBV) is the quotient obtained by dividing the share price by the book value per share. The book value per share represents the amount of money in rupiah that would be given for each share if the company were to be dissolved, assuming that all assets can be sold at their book value. It also indicates the value of the company's assets to which each share is entitled. The formula for Price Book Value (PBV) is as follows: PBV represents the current value of a single share in the market.

#### Tobin's Q

James Tobin, an esteemed American recipient of the Nobel Prize, is credited with the discovery of Tobin's Q. Tobin's Q is a measure of a company's asset value in the market, calculated by considering the cost of replacing such assets. The Q ratio is preferable to the market value to book value ratio since it directly assesses a company's present value relative to the current expense of replacing it. The company's market value is calculated by comparing the market value of its stock and the book value of its total debt with the book value of its assets and total debt. The formulation of this computation is as follows: Tobin's Q is determined by dividing the combined market value of equity (ME) and debt (DEBT) by the total assets (TA).

Note:

Q = company value

ME = (number of outstanding shares x Closing Price)

DEBT = book value of total debt

TA = book value of total assets

#### c) Profitability

Investors diligently track the company's profitability as a crucial metric for evaluating performance. Profitability is a metric that quantifies a company's ability to generate profits. Metrics such as return on investment (ROI), return on equity (ROE), and earnings per share (EPS) are frequently used to evaluate company profitability.

Corporation profitability refers to a corporation's capacity to earn profits during a specific timeframe. Profitability is a crucial metric for evaluating the effectiveness of management.

Numerous methods are available for assessing a corporation's profitability. The return on investment (ROA) is a widely utilized ratio to evaluate a company's profitability. Return on assets (ROA) is a metric that assesses how well management generates profits by leveraging asset resources.

#### d)Leverage

Leverage measures the ratio between a company's debt and its total capital. Leverage is sometimes considered a potential concern for a corporation when meeting its obligations to external entities. As leverage increases, so does the company's level of debt. A crucial decision that financial management must make is determining how the firm will acquire funds for its diverse operational and investment operations. A corporation requires substantial financial resources to ensure the smooth operation of its ongoing activities. The requirement for adequate money can be achieved by (1) Internal Factors, such as utilizing Retained Earnings and attracting investors, and (2) External Factors, which involve obtaining foreign capital through borrowing or debt. If the company's internal capital is still in a deficit, exploring external funding sources, including debt financing, is imperative.

#### The influence of profitability on Firm Value

Stock investors in the capital market anticipate that stock prices will rise. If the issuer of the shares generates profits from its operations, the share prices will continue to rise. These earnings can then be used to give shareholders dividends and fund the firm's expansion. According to Sa'diah et al., (2023), a company's ability to make profits directly and positively impacts stock investors in the Capital Market. This increases demand for the company's shares, resulting in higher share prices. This aligns with signaling theory, which posits that a rise in corporate profits is a favorable indication for prospective investors, thereby bolstering the demand for shares.

Return on equity (ROE) is a quantitative measure that evaluates a company's ability to generate profits by utilizing its capital. The term typically used to describe this concept is the return on investment of the company's capital. The ratio is determined by dividing the net income by the average shareholders' equity. A higher Return on Equity (ROE) signifies superior firm performance and positively impacts the company's stock price, similar to Return on Assets (ROA).. According to Sari & Brata, (2020), stock returns will also rise if

share prices rise. Therefore, ROE is likely to impact stock returns positively. Prudent investors will be attracted to issuers that demonstrate a high degree of efficiency and effectiveness in managing corporate assets, as this leads to the attainment of firm profits, which are also expected to be substantial. The research conducted by Purwanti, (2022) demonstrates a positive correlation between profitability and stock returns. Therefore, a company's profitability will directly impact the upward movement of its share prices. A study conducted by Bustani et al., (2021) demonstrates a direct correlation between profitability and company value, as measured by the price-to-book value ratio (PBV).

Ha1: Profitability has a positive effect on company value

#### The Effect of Leverage on Firm Value

The leverage ratio is employed to ascertain the degree to which a company's operations are funded through debt. The leverage ratio, represented by the debt-to-equity ratio (DER), is a metric utilized to assess the proportion of debt to equity in a company (Annisa & Chabachib, 2017). A higher level of leverage suggests a more significant reliance on borrowed cash from creditors, increasing the company's risk. According to Bintara, (2020), if leverage is perceived as a risk, an increase in leverage can lead to a decline in share prices and impact stock returns.

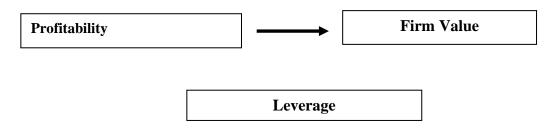
Conversely, leverage might be regarded as a potential investment prospect. Firm growth can be attained by leveraging external funding schemes, enabling the firm to expand its operations. This increase in debt will facilitate expansion, leading to higher corporate earnings and ultimately enhancing the company's overall value. The study conducted by Annisa & Chabachib, (2017)demonstrates that Distributed Energy Resources (DER) have a favorable and substantial impact on the profitability of stocks. Similarly, the research findings Purwanti, (2022) indicate that the leverage ratio, as measured by DER, has a beneficial impact on stock returns.

Ha2: Leverage affects company value.

The effect of leverage as a moderating variable in the relationship between profitability and Firm Value

This research employs a contingency method as a comprehensive theory. Contingency theory suggests that other situational aspects can interact with one another to impact specific scenarios. Mangesti Rahayu et al., (2019) suggests addressing inconsistencies by identifying conditional factors that relate to both variables using a contingency approach. This contingency method permits other variables to function as moderating or intervening variables. As the company's profitability rises, share prices will also increase. The increase in company value will be more significant if the company has a low level of debt. This is because investors perceive that a controlled level of debt reduces the company's risk of defaulting in the future. Consequently, the company's reputation will improve, ultimately leading to an increase in its overall value.

Ha3: Leverage negatively influences the relationship between profitability and company value



### METHOD

#### Data collection methods, population and research samples

The data collection method employs secondary data analysis, which involves gathering information from financial reports by examining and extracting data from these secondary sources. The sampling was carried out using the purposive sampling method. The study's population and sample comprise issuers belonging to the LQ45 category on the Indonesia Stock Exchange between 2019 and 2021. The study's data was acquired from the websites www.idx.co.id and www.idnfinancials.com. All LQ 45 members, excluding the banking industry and state-owned property sector issuers, utilize the same pollution sample. The banking industry was omitted from the sample due to its distinct characteristics, including collecting client savings (customer debt) for credit distribution. Consequently, the leverage in the banking sector may differ from that of other sectors. Meanwhile, in the BUMN

Property sector, this company is presently recognized as facing issues with colossal debt, resulting in its exclusion from the sample. Waskita Karya and Wijaya Karya have been identified as delinquent companies. (Source: Ekonomi.Republika.co.id, 2023). The investigation includes 180 firm financial reports from 45 issuers from LQ that met the specified criteria.

#### **Data Analysis Model**

The utilized analysis model is a causality association test. The relationship test is employed to determine the presence of a correlation between research variables. There are three categories of relationships that exist between research variables: symmetrical relationships, asymmetrical ties, and interactive relationships (Nuryaman and Chistina, 2015: 83). This study aims to examine the impact of profitability on the valuation of manufacturing companies that are publicly traded on the Indonesia Stock Exchange, while also considering the role of debt as a moderating factor.

#### The analysis model used uses multiple linear regression analysis.

The regression analysis model examines the combined cross-sectional and time series data (Widarjono, 2017). The panel data regression analysis equation model is as follows:

 $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$ 

Note :

Y: Tobin,s Q (TQ)

 $\alpha$  : Constant

 $\beta$ 1,2,3 : Regression coefficients

X1 : Leverage proxied by debt to equity ratio (DER)

X2: Profitability as proxied by return on assets (ROA)

X3 : X1.X2 proxy variable moderating leverage

ε: Disturbance variable (disturbance's error)

#### Variable Operationalization

#### **Table. 1. Operationalization of Research Variables**

Variabel	Indicator	Scale
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Leverage	Debt to Equity Ratino (DER)	Rasio
Profitabily	Return On Asset (ROA)	Rasio
Firm Value	Tobin's Q	Rasio

#### DISCUSSION

Table 2. Descriptive statistics of Profitability, Leverage and Company Value

	Ν	Minimu m	Maximu m	Mean	Std. Deviation
ROA	180	-13.36	46.66	8.2531	7.98392
DER	180	.14	7.04	1.1344	1.08092
TQ	180	.38	9.99	2.1028	1.78316
Valid N (listwise)	180				

#### **Descriptive Statistics**

Note: ROA= Return on investment; DER=Debt to Equity Racio; TQ=Tobin,s Q

According to the data in Table 2, the sample companies had an average Return on Assets (ROA) of 8.25% with a standard deviation of 7.9%. This indicates a wide range of variation in profitability performance, with significant disparities between companies. The mean Debt-to-Equity Ratio (DER) of the sample companies is 1.13 or 113%, indicating that, on average, the companies have more debt than capital, which is suboptimal.

The average Tobin's Q value is 2.1, indicating that the market value of the issuer's shares is 2.1 times higher than its book value, which is the value of the company's assets. However, a significant departure is 1.7 times from this average. The TQ standard deviation of 1.7 indicates a significant level of variance or disparity in the share prices of the 45 issuers.

# Table. 3. Calculated F value statistics, simultaneous test of the relationship between research variables.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.463	1	20.463	6.638	.011 <sup>b</sup>
	Residual	548.697	178	3.083		
	Total	569.160	179			
2	Regression	27.606	2	13.803	4.511	.012 <sup>c</sup>
	Residual	541.554	177	3.060		
	Total	569.160	179			
3	Regression	33.326	3	11.109	3.649	.014 <sup>d</sup>
	Residual	535.834	176	3.045		
	Total	569.160	179			

#### ANOVA<sup>a</sup>

Note:

a.Dependent Variable: TQ

b. Predictors: (Constant), ROA

c. Predictors: (Constant), ROA, DER

d. Predictors: (Constant), ROA, DER, MV

The F test is presented in table model 3. The statistical significance of Model 1, which examines the relationship between the profitability variable ROA as the independent variable and TQ as the dependent variable, is confirmed at a significance level of 1.1%. Model 2 depicts the relationship between profitability and leverage using TQ. This model exhibits statistical significance at a significance level of 1.2%. Model 3 investigates the relationship between profitability, leverage, and moderating variables on TQ. The model has statistical significance, with a significance level of 1.4%. These models have statistical significance with a p-value of less than 0.05. This suggests that the analysis of essential relationships can continue.

#### **Classic assumption test**

According to Mudrajad Kuncoro (2003), while doing research utilizing panel or crosssectional data, performing optionalest is unnecessary. Similarly, the autocorrelation test only applies to linear regression models of time series data. This research conducted conventional assumption tests, specifically heteroscedastic and multicollinear tests, and the results satisfied the necessary criteria.

		ROA	DER
ROA	Pearson Correlation	1	130
	Sig. (2-tailed)		.083
	Ν	180	180
DER	Pearson Correlation	130	1
	Sig. (2-tailed)	.083	
	Ν	180	180

#### Table 4. Multicollinear test

**Correlations** 

Table 4 indicates no statistically significant association among the independent variables, thereby ruling out the presence of multicollinearity. Similarly, the Glejser test revealed no statistically significant correlation between the residual error value and the independent variable. Therefore, the testing process can proceed to the next stage.

# The relationship between profitability, leverage and company value and the role of leverage as a moderating variable

 Table.5. The relationship between profitability, leverage and moderating variables

 with company share prices

# Coefficients<sup>a</sup>

			Unstandardized Coefficients			
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.753	.188		9.302	.000
	ROA	.042	.016	.190	2.576	.011
2	(Constant)	1.992	.244		8.157	.000
	ROA	.039	.017	.175	2.366	.019
	DER	186	.122	113	-1.528	.028
3	(Constant)	2.105	.257		8.184	.000
	ROA	.034	.017	.197	2.608	.010
	DER	183	.122	111	-1.504	.034
	MV	028	.020	103	-1.371	.172

a. Dependent Variable: TQ

Table 5 demonstrates that profitability has a notable impact on the value of a company, with a significance level of 1.9% (below the threshold of 5%). Investors demonstrate a substantial reaction to variations in a company's financial performance, as evidenced by fluctuations in share prices. By considering the direction of the association (+, positive), it aligns with the hypothesis of this study that an increase in profitability will positively affect the rise in share prices and vice versa. The findings of this study align with the outcomes of other studies (Cheryta, 2017; Afinidy, 2021). The correlation between leverage and firm value demonstrates a substantial inverse association with company value, with a statistical significance level of 2.8% (below 5%). The data suggest that investors reacted strongly to the issuers' rise in debt levels. Investors believe an increase in the issuer's debt will increase the Company's risk. This study corroborates the findings of Kasmir's 2019 research and Al-Slehat, Z.A.F. (2020) but contradicts the research conducted by Pratiwi et al (2017). In order to investigate the role of leverage as a moderating variable further, this study aims to continue testing by introducing leverage as a moderating variable. The F-test findings in Model 3 indicate that this model is statistically significant at a significance level of 1.4%.

Nevertheless, the results of a partial test indicate that profitability substantially impacts stock returns, with statistical significance at the 1% level. Additionally, it is observed that leverage has a sizeable negative influence, with a significance level of 3.4%. Similarly, when considering the moderating variable of leverage, leverage does not have a statistically significant impact on the connection between profitability and firm value, with a significance level of 17.2%. These findings suggest that no evidence supports the idea that leverage acts as a moderating factor in the link between profitability and company value. As previously stated, investors have two views on utilizing the Company's external finance sources. Some investors argue that utilizing debt can be justifiable as long as it improves corporate profitability. To do additional research, one can retest the relationship between leverage and firm value by incorporating profitability as an intervening variable. However, it is advisable to use a larger sample size for more accurate results.

### CONCLUSION

This study investigates the influence of leverage on the correlation between profitability and firm value, as assessed using Tobin's Q model. This study expands upon previous research that has already proven the correlation between profitability, leverage, and the value of a company. The results of this study, obtained through data analysis, suggest that both profitability and leverage have had a concurrent impact on the company's value. A corporation's profitability has a significant and advantageous effect on its worth.. This demonstrates that investors react strongly to the financial performance of the organization. Partial leverage has a substantial detrimental impact on company value since it leads investors to view the increase in firm debt in an unfavorable light. Therefore, consideringprofitability and leverage are crucial in investors' decision-making process. Nevertheless, leverage does not impact this relationship regarding the correlation between profitability and firm value. Consequently, the escalation of debt unaffected the correlation between profitability and corporate value.

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