

The Impact of Debt Policy and Profitability on Dividends and Firm Value

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Abstract: This research examined the direct and indirect effects of debt policy and profitability on firm value, with dividends mediating variables, particularly in the non-cyclical consumer goods industry. The choice of this industry is significant as it represents a stable and less volatile sector, providing a unique context for studying the relationship between debt policy, profitability, and firm value. Debt policy is proxied by the debt-to-equity ratio (DER), profitability is proxied by return on equity (ROE) and earnings per share (EPS), and dividends are proxied by the dividend payout ratio (DPR). At the same time, firm value is measured by price-to-book value (PBV). The analytical tool employed in this study was robust, utilizing multiple regressions processed with IBM SPSS 24 and the Sobel test statistic to examine the mediating role. The data consisted of 156 observations from companies from 2020 to 2022, using purposive sampling techniques to ensure a comprehensive and reliable research process. The findings of this study, which were of significant importance, indicated that debt policy does not affect dividend payments but positively impacts firm value. Profitability, measured by ROE and EPS, positively influenced firm value directly and indirectly. Additionally, ROE and EPS also affect dividends. The mediation test results showed that dividends do not mediate the relationship between debt policy and firm value. However, dividends were confirmed to be a mediating variable in the relationship between profitability and firm value.

Keywords: Debt Policy; Profitability; Firm Value.

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A. INTRODUCTION

Debt policy is a strategic decision impacting firm value and dividend policy. Debt policy reflects how much the company uses debt to support its operational and investment activities. Funding decisions that involve the use of debt in the capital structure can significantly impact financial performance, and a specific limit on debt can increase the company's value. However, excessive use of debt will harm firm value and the ability to pay dividends [1]; [2]; in their agency theory, they explain that management enhances the welfare of the company's owners through a rise in stock prices. For this purpose, management is given the authority to carry out operational activities, including funding policies, investment decisions, and dividend policies. Funding policy involves seeking the best financing sources for the company, which will determine the company's capital structure. Investment decisions involve searching for alternative uses of funds for investments that can generate income for the company.

Another factor that is predicted to affect dividend policy and firm value is profitability. Profitability shows the company's ability to generate profits from its equity and debt;

companies that create profitability will get appreciation from the market so that the company's value increases, which is reflected in the stock price. Profitability also shows the availability of cash that

can be used to pay dividends. The dividend policy decides whether the profits earned will be used to develop the company or be distributed to shareholders. Several previous studies related to these policies have shown that profitability and dividends determine stock price factors, particularly in the banking sector on the Abu Dhabi Stock Exchange [3]. Debt and dividend policies, when implemented together, will reduce the firm's performance [4]. Similar studies have shown that profitability determines stock prices [5] and debt policies determine firm value [6]. Some studies with different findings include that profitability does not affect stock prices.

Based on the results of several previous studies, this research examined the effects of debt policy and profitability on dividends and company value, focusing on the mediating role of dividends in that relationship. This study used data from the consumer goods sector, which is highly stable and attractive to investors, especially amid economic fluctuations. This research provided deeper insights into how debt policy and profitability influence company value and the role of dividends as a mediating variable that strengthens the relationship between these two factors and firm value.

B. LITERATURE REVIEW AND HYPOTHESIS

1. Debt-Equity Ratio and Dividends

The debt-to-equity ratio (DER) shows how much debt funds an organization's day-to-day operations. Agency theory suggests that there is inherently a conflict of interest between management and shareholders. Debt can be used to mitigate this conflict, as it obligates the company to make interest payments, thereby enforcing greater discipline on management in using company funds [2]. However, a high level of debt can also increase the risk of bankruptcy and may reduce the company's ability to pay dividends. Consequently, companies with a high proportion of debt tend to be disadvantaged in dividend payments. Past research has negatively correlated debt and dividend payments [7]. Based on this description, the research presented the following hypothesis (H1): H1: DER negative effects on dividends.

2. Debt to Equity Ratio and Firm Value

The debt-to-equity ratio (DER) shows how much debt funds the business's ongoing operations. Using debt as a funding source can enhance the company's operations, potentially increasing revenue. However, a higher proportion of debt also increases risk because of the interest burden that must be paid. Therefore, the company must manage its debt ratio effectively to generate income. The Theory of Trade-off explains that companies must balance debt and equity [8]. Firm value can rise to a certain point with debt,

After that, additional debt will reduce the firm value because the risk of bankruptcy is higher than the benefits obtained from using debt. Previous studies have shown that debt influences stock prices and firm value [9], and Findings show that the relationship between debt and company value depends on the growth rate [10]. This underscores the need for

responsible and proactive debt management, leading us to propose the following hypothesis (H2): H2: The debt- equity ratio affects firm value.

3. Return on Equity and Dividends

Return on equity (ROE) proxies the profitability generated from the invested capital. This return rate is crucial for shareholders as it reflects the actual profit earned. Signaling theory explains that companies that have high profitability are often used to give positive signals to the market through dividend policy [11]. Investors interpret the increase in dividends as a signal that management is confident in the prospects for future profits. Conversely, a decrease or cessation of dividend payments can give a negative signal about a company's financial health. The robust and consistent empirical evidence shows that ROE positively affects dividends [12; 13]. Based on this description, this research presented the following hypothesis (H3): H3: Return On equity has a positive effect on dividends.

4. Return on equity and firm value

Return on Equity (ROE) is the ability of a company to generate profits using its assets or equity. Profitability provides an overview of how effectively a company operates to generate profits, which is a significant attraction for investors. Investors naturally consider a company's profit to assess potential future investment returns. Profitability is an essential indicator of a company's performance and significantly impacts firm value. High profitability reflects good operational and managerial efficiency, sends a positive signal to the market, and reduces capital costs, which enhances firm value. This positive influence of profitability on firm value is a crucial argument in this study, supported by several previous studies [14]. Based on this description, the research presented the following hypothesis (H4): H4: Profitability positively affects firm value.

5. Earnings Per Share and Dividend

Earnings Per Share (EPS) measures the earnings per share from the company's net profit, reflecting the company's actual profit potential. The higher the EPS, the greater the potential income to be distributed to shareholders. Companies with high EPS have a higher potential to pay dividends.[1] The bird in hand theory explains that investors prefer dividends paid now to capital gains expected to be obtained in an uncertain future. Therefore, more profitable companies tend to pay higher dividends because they have more cash flow, thus giving investor confidence. Previous studies have shown that EPS positively affects dividend payments [15]. Based on this description, this research presented the following hypothesis (H5): H5: Earning Per Share positively affects dividends.

6. Earnings Per Share and Firm Value

Earnings per Share (EPS) represent the potential earnings for each share owned. Therefore, EPS is often crucial in determining stock prices and firm value. Literature indicates that individual investors make investment decisions based on the EPS results. EPS is often also used to project a company's future profitability. If investors believe that EPS will continue to increase, they will be willing to buy more of the company's shares. This will

undoubtedly increase firm value. Previous studies have shown that EPS affects firm value [16] [17]. Based on this description, the research presented the following hypothesis (H6): H6: Earnings per share positively affect firm value.

7. Dividends and Firm Value

Dividends are the distribution of a company's profits to shareholders. Many investors prefer current cash dividends over uncertain future capital gains. This preference is reinforced by the theory developed by [18] as the "Gordon Growth Model," which explains that shareholders prefer current dividends to uncertain capital gains, leading to higher firm value for companies that pay higher dividends. Furthermore, signaling theory suggests that a dividend policy can signal the market regarding the company's prospects. When a company pays higher-than-average dividends, management is confident in its future profitability.

On the other hand, a decrease in dividends may indicate that the company may face financial difficulties or be uncertain about its future earnings [11]. Therefore, a stable or increasing dividend policy tends to enhance the company's value because it sends a positive signal to investors. Previous research supporting signal theory was conducted by [13][19], whose findings align with this concept. Based on this description, this research presented the following hypothesis (H7): H7: Dividend policy positively affects firm value.

C. METHOD

1. Research Design

The study design focused on the correlation between firm value, dividend policy, profitability, and debt policy. As a mediating variable, dividend policy connects profitability and debt policy with firm value. Profitability is proxied by earnings per share and Return on Equity, while debt policy is proxied by the debt-to-equity ratio. Dividend policy is represented by the Dividend Payout Ratio as a mediating variable, whereas the Price measures firm value to Book Value.

The data used in this research was from Consumer Non-Cyclical companies listed on the Indonesia Stock Exchange (IDX) from 2020 to 2022. The data was obtained from the IDX through a rigorous process of purposive sampling techniques, resulting in 156 data points that met predetermined criteria. The analysis used was the powerful multiple regression analysis conducted with the SPSS program, ensuring the robustness of these findings.

Two-equation models were used to examine the relationship between the research variables. The first equation model used dividend policy as an independent variable and examined the relationship between debt policy and profitability. The second equation model tested the relationship between debt policy, profitability, and dividend policy, with firm value as a dependent variable. These equation models are depicted as follows:

$$\text{DPR} = a_1 + b_1 \text{ROE} + b_2 \text{EPS} + b_3 \text{DER} + \epsilon_1 \quad (1)$$

$$\text{PBV} = a_2 + b_4 \text{ROE} + b_5 \text{EPS} + b_6 \text{DER} + b_7 \text{DPR} + \epsilon_2 \quad (2)$$

Where: a_1 ; a_2 is Constant; b_1 ; b_2 ; b_3 ; b_4 ; b_5 ; b_6 ; b_7 is Regression coefficients.

2. Operational Definition

Table 1. Operational Definition

Variable	Definition	Measurement
Return on equity (ROE)	Return on equity is an indicator that assesses the efficiency of a company in obtaining profits for investors.	ROE = Net Income: Equity
Earning Per Share (EPS)	Earnings Per Share is a firm ability to generate profits for each share.	EPS = Net profit: Number of shares
Debt to Equity Ratio (DER)	Debt-to-Equity Ratio is a measure of the ratio of debt to the capital of the company owner	DER = Total Debt: Equity
Dividend	Policies carried out by management are related to the distribution of cash from profits to shareholders.	DPR = Dividend per share: Earning per share
Firm Values	Investors determine firm value based on how well the company manages its resources, which is reflected in the market price.	PBV = Stock market price/Stock book value

3. Descriptive Statistics

The data used in this research were 156 companies within the consumer non-cyclical sector; the results of the descriptive statistical test on obtaining an overview, as seen in the table of the consumer non-cyclical sector, can be explained in Table 2. The descriptive statistical test in Table 2 shows that the maximum return on equity is 1.453, and the average value has a standard deviation of 0.184. Earnings per share show that the average value is 137,269, with a standard deviation 440,573. The average debt-to-equity ratio is 0.702, with a 0.724 standard deviation. The dividend payout ratio has a standard deviation of 0.560 and an average value of 0.479. The average price-to-book value is 1.857, with a standard deviation of 1.441.

Table 2. Descriptive statistics

Variable	N	Min	Max	Mean	Std. Deviation
Return On Equity	156	0.001	1.453	0.1880	0.184
Earning Per-share	156	0.169	4025.120	137.269	440.573
Debt to Equity Ratio	156	0.011	7.920	0.702	0.724
Dividen Payout Ratio	156	0.006	5.263	0.479	0.560
Price to Book Value	156	0.096	9.120	1.857	1.441

D. RESULTS AND DISCUSSION

The design model in this study placed the dividend variable as a mediator to test it using two models. The first model is the dividend variable as a dependent variable with independent variables, such as earnings per share, return on equity, and debt-to-equity ratio. The second model is the company's value as a dependent variable, while dividends, earnings per share, return on equity, and debt-to-equity ratio are independent variables. The test results were based on multiple regression after passing the classical assumption test, which includes the heteroscedasticity, autocorrelation, and multicollinearity tests. The findings of the regression test to the two research models are combined in Table 3 as follows:

Table 3. Regression Test Results

Relationship Variabel	Coefficient	t	Sig	Results
DER and DPR	0,015	0,255	0,799	Rejected
DER and PBV	0,284	2,062	0,041	Accepted
ROE and DPR	0,954	4,181	0,000	Accepted
ROE and PBV	1,620	2,834	0,005	Accepted
EPS and DPR	0,0001	2,750	0,007	Accepted
EPS and PBV	0,001	2,445	0,016	Accepted
DPR and PBV	0,820	4,263	0,000	Accepted

This study presented key findings on the relationship between debt, dividends, and firm value. Contrary to Hypothesis H1, which suggests a negative impact of debt on dividends, our comprehensive testing, detailed in Table 3, reveals that the influence of debt on dividends is not statistically significant, with a probability value > 0.05 . This finding indicates that the proportion of debt the company uses does not reach a level that affects dividend payments. Further reinforcing this, the descriptive data in Table 2 shows a profit margin of 0.1880 (18.8%), significantly higher than market interest rates and the Bank Indonesia reference rate of 6.25%. This strong evidence suggests that using debt does not burden the company and does not directly impact dividend payments.

The results of testing the impact of debt policy on firm value, as stated in Hypothesis H2, show that debt is predicted to affect firm value. A probability value confirmed this < 0.05 , as shown in Table 3. These findings suggest that investors perceive the financial benefits of using debt to outweigh its risks, as the trade-off theory explains. This theory posits that debt can have either a positive or negative effect on firm value. Debt can positively impact firm value if the level of debt has stayed within the company's optimal threshold. Still, it can negatively affect firm value if investors perceive that the level of debt has surpassed the optimal limit, thus increasing the risk beyond their tolerance. These findings have significant implications for financial decision-making and support previous Chen & Zhang (2022) research.

The result tested the impact of profitability on dividend policy, proxies by the Dividend Payout Ratio, as stated in hypotheses H3 and H5, asserting that Return on Equity and Earnings per Share positively affect dividends. As shown in Table 3, the analysis results indicate that profitability, proxies by both ROE and EPS, positively impacts dividend policy. These findings align with financial concepts and literature, which suggests that higher profits result in a more remarkable ability to pay dividends. Agency theory explains that high profitability can increase conflict between managers and shareholders [2]. High dividend payments can reduce the funds available to managers, decreasing the likelihood of misuse of company resources.

Hypotheses H4 and H6 in this study represented the testing of the effect of profitability on firm value. The results show that profitability, as measured by both ROE and EPS, positively affects firm value. It is evident from the significance values of both variables being < 0.05 , as shown in Table 3. These findings suggest that, statistically, profitability positively affects the firm value, aligning with the predictions stated in hypotheses H4 and H6. The findings suggest that investors consider profitability an essential indicator of

company's performance, making it a crucial factor in stock investment decisions. This finding supports previous research conducted by: [14].

Hypothesis H7 posits that dividends have a positive impact on firm value. The analysis results confirm that dividends do have a positive effect on firm value. This finding strongly supports the signaling theory developed by [20], which suggests that dividend payments signal to the market about firm financial stability. This theory has significant implications for understanding the correlation between dividends and firm value. Additionally, [2] explains that dividends reduce conflicts between managers and shareholders. By paying dividends, a company reduces the cash available to managers for investing in less profitable projects. The results of the mediation variable testing using the Sobel test indicate that dividend policy does not mediate the relationship between debt policy and firm value, as shown in Table 4, where the p-value > 0.05. Meanwhile, testing the mediation variable in the relationship between profitability and firm value statistically confirms that both profitability measures ROE and EPS are significant, as evidenced in Table 4, where the p-value < 0.05.

Table 4. Sobel Test

Variable	Test Statistic	p-value
DER -> DPR -> PBV	0.25847181	0.79629
ROE -> DPR -> PBV	2.98883881	0.00280
EPS -> DPR -> PBV	4.27083332	0.00319

E. CONCLUSIONS AND SUGGESTIONS

This study examined the effects of debt policy and profitability on firm value by placing dividends as a mediating variable. Based on the testing results, the use of debt does not affect dividend payments; this finding indicates that the level of debt remains within a safe limit, thus not burdening the company in paying dividends. This is further supported by findings showing that debt positively affects firm value. It refers to the trade-off theory, which states that debt policy can positively affect firm value when the financial benefits of using debt outweigh the associated risks. This research findings validated previous predictions, indicating that profitability, as measured by Return on Equity (ROE) and Earnings per Share (EPS), significantly influences dividend policy and firm value. High profitability suggests ample cash reserves, enabling the company to pay dividends. This operational efficiency, appreciated by investors and reflected in stock prices, also positively impacts firm value. The findings on dividend policy confirmed the positive influence of dividend payments on firm value. This validation of the signaling theory, which suggests that dividend payments signal a company's financial stability, and the agency theory, which argues that dividends can reduce conflicts between managers and shareholders, further strengthens the research. The mediation test did not find dividends to be a mediating variable in the relationship between debt policy and firm value. However, the testing results confirmed that dividends mediate the influence of profitability, as measured by ROE and EPS, on firm value.

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