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The Effect of Financial Distress, Leverage, and Tax Avoidance on Firm Value with Firm Size as a Moderator

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Abstract*:* This study aims to determine the effect of financial distress, leverage, and tax avoidance on firm value with firm size as a moderating variable in the Indonesian consumer cyclicals sector. This type of research is quantitative research with a sampling method using purposive sampling, so that a sample of 57 companies in the consumer cyclicals sector is obtained. The data in this study was taken over a 5-year period from 2020-2024, so that the sample obtained was 285 processed data. The research data was analyzed using SPSS software. The findings indicate that financial distress and leverage substantially affect firm value, while tax avoidance has no significant direct effect. Firm size significantly influences the relationship between financial distress and firm value, suggesting that larger organizations are better able to withstand financial distress. However, firm size does not significantly moderate the effect of leverage and tax avoidance on firm value. This study enhances the literature by emphasising the influence of firm size on the effect of financial distress on firm value. The findings offer insights for managers and investors regarding the importance of internal financial indicators and organizational scale in maintaining firm value, especially during periods of financial uncertainty.
Keywords: Financial Distress, Leverage, Tax Avoidance, Firm Size, Firm Value

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1. INTRODUCTION

Firm value measures a company's long-term performance and potential. It signifies the effectiveness with which a firm utilizes its resources to generate sustainable earnings for shareholders. Firm value is influenced by several internal policies, such as operational efficiency and governance frameworks (Fatma & Chouaibi, 2021; Aydoğmuş et al., 2022). In both developed and emerging economies, firm value is essential for attracting investment, improving capital accessibility, and strengthening stakeholder confidence. Factors such as financial condition, capital structure, tax strategy, and company size collectively impact the value of a firm by investors (Akhtar, 2023). Thus, understanding the factors influencing firm value is crucial for both business leaders and regulators seeking to create stable and transparent financial markets. In the fluctuating environment of the consumer cyclical sector, business performance is very sensitive to economic changes. Thus, financial decisions, particularly regarding financing, risk management, and tax strategies, are crucial in impacting organizational value over time (Kirkpatrick & Radicic, 2020). Recent studies have discussed how financial distress, leverage, and tax avoidance are often associated with firm value, each of which indicates a firm's risk and strategic behavior.

Financial distress occurs when a company is unable to meet its obligations. Financial distress not only disrupts a company's financial condition but also influences investors and creditors' willingness to inject funds, leading to the company's liquidation (Isayas, 2021; Akbar et al., 2022). If a company is in liquidation, it will impact the firm value in the eyes of both investors and creditors. Financial distress decreases the company's market value, thus reducing investor confidence.

Leverage is a company's ability to use debt to increase investment returns. In this study, leverage is proxied by the debt-to-equity ratio, which measures the extent to which a company is financed with debt compared to its equity. Companies have alternatives for business expansion, including debt. However, relying solely on debt to sustain operations will negatively impact the company's value in the eyes of investors, as the company has high debt and low profits. The leverage ratio is used to assess the extent of a company's debt and the risks it may face to retain investors (Bui et al., 2023; Halim, 2024).

Taxes are contributions or obligations that must be paid by individual and corporate taxpayers. This represents a burden for the company. Tax payments reduce corporate income. To mitigate high tax payments, companies engage in tax avoidance (Lou et al., 2024). The burden of tax obligations on companies makes them feel like they are under increasing burdens. Therefore, companies often engage in tax avoidance practices to reduce their tax burden, which in turn reduces corporate income. If a company is successful in tax avoidance practices, it will increase its value, attracting investors, offering profitable and sustainable investment opportunities. Tax avoidance is a strategy used to reduce a company's taxes by exploiting loopholes in applicable tax regulations. Tax avoidance is a legal practice that increases company revenue, but it can also generate controversy with the government (Tang, 2020). This practice, especially for large companies, can impact government revenue, which can hamper public services.

This study enhances the literature by examining the effects of financial crisis, leverage, and tax avoidance on firm value. It introduces firm size as a moderating variable, providing insight into whether larger organizations are more adept at mitigating the adverse effects of financial hardship and risk-associated financial strategies.

This study examines the cyclical consumer sector in Indonesia, an area that is particularly responsive to economic changes and has been inadequately addressed in prior empirical research; hence, it augments the significance of the findings for emerging market environments. Firms in this sector face greater volatility in revenues and profitability across economic cycles. This condition makes the consumer cyclical sector an appropriate setting to examine how financial decisions and corporate policies influence firm value, as stakeholders carefully assess the resilience of these companies in responding to external shocks.

2. LITERATURE REVIEW

Agency Theory

Agency theory investigates the conflicts that emerge when decision-making authority is dissociated from ownership, resulting in managers (agents) possibly prioritizing their own interests over those of shareholders (principals) (Jensen & Meckling, 1976). Recent literature persists in utilizing this framework for corporate governance and firm value, highlighting that information asymmetry and inadequate oversight exacerbate agency costs, especially in contexts of distress or elevated debt (Bijoy & Mangla, 2023). Managers will proceed with caution to prevent involvement in opaque tactics like aggressive tax evasion, which ultimately detrimentally affects corporate valuation.

Signaling Theory

Signaling Theory clarifies how financial actions communicate a company's quality to external stakeholders, particularly investors. This concept asserts that corporate practices, such as debt levels, tax methods, and financial resilience, function as indications of the company's potential risks (Connelly et al., 2011). Investors evaluate these factors to determine the company's value. In this context, assessments of leverage, tax avoidance, and financial health serve as critical determinants influencing the market valuation of a firm. Thus, signaling theory clarifies how the market assesses a company's strengths or weaknesses through its financial behavior (Spence, 2002).

Financial Distress and Firm Value

Financial distress arises when a corporation fails to fulfil its financial obligations, leading to diminished operating capacity and heightened bankruptcy risk. Agency theory posits that financial distress results in underinvestment, potentially diminishing business value. Signaling Theory posits that indicators of financial trouble convey adverse signals to the market regarding the company's financial stability and prospective performance (Dumitrescu et al., 2025). This frequently leads to a decrease in investor trust and, thus, a reduction in corporate value. Recent research establishes a substantial inverse correlation between financial crisis and firm value (Das & Kumar, 2023).

H1: Financial distress has a negative effect on firm value

Leverage and Firm Value

From an agency theory perspective, excessive debt creates financial risks and exacerbates agency problems between shareholders and creditors (Fosu et al., 2016). Agency theory also warns that high leverage can pressure managers to undertake risky projects or manipulate earnings to meet debt obligations. Empirical studies have found that while debt can increase firm value, high leverage in cyclical consumer sectors can actually lead to the opposite effect, namely a decline in firm value (Bui et al., 2023).

H2: Leverage has a negative effect on firm value

Tax Avoidance and Firm Value

Tax avoidance can enhance cash flow, thereby aligning with shareholder objectives in the near run. According to agency theory, aggressive tax techniques may obscure management opportunism, diminish transparency, and affect long-term reputation (Desai & Dharmapala, 2006). Consequently, the correlation between tax avoidance and firm value is intricate. Tang (2020) identified a beneficial impact in many emerging markets; nevertheless, other research indicates that excessive tax planning may diminish corporate value due to reputational and regulatory issues (Shubita, 2024).

H3: Tax avoidance has a negative effect on firm value

Moderating Role of Firm Size

Larger firms generally have stronger bargaining power, easier access to external funding, and greater visibility in the capital market, which can alter the strength of the relationship between the independent variables. Although firm size itself does not directly monitor managerial actions, it represents a structural and market advantage that indirectly shapes monitoring mechanisms, decision-making flexibility, and investor perceptions (Kim & Im, 2017).

According to signaling theory, larger companies tend to be more transparent and stable, thus increasing investor trust (Cumming & Nguyen, 2025). Agency theory also considers firm size as a proxy for monitoring governance effectiveness and quality. Larger firms may experience fewer agency problems due to their tight stakeholder oversight. Previous studies have shown that firm size can strengthen or weaken the influence of corporate financial policies on firm value, thus confirming its role as a moderating factor (Hernández et al., 2020; Diantimala et al., 2021).

H4a: Firm size weakens the relationship between financial distress and firm value

H4b: Firm size weakens the relationship between leverage and firm value

H4c: Firm size weakens the relationship between tax avoidance and firm value

3. RESEARCH METHOD

The population of this study included all companies in the consumer cyclicals sector listed on the Indonesia Stock Exchange. Purposive sampling technique was used to select the sample based on the following criteria: 1) Companies that are consistently listed in the consumer cyclical sector during the 2020–2024 observation period. Firms that were delisted during this period were excluded to ensure data consistency, 2) Companies that publish audited annual financial statements for each year. Based on these criteria, the final sample includes 57 companies, resulting in a total of 285 observations. The research data is secondary data obtained from the Indonesian stock exchange. Data testing was carried out using the SPSS tool.

Firm Value as a dependent variable is measured by Tobin's Q. Tobin's Q can be used to assess how financial strategy affects a company's market performance (Marta, 2021).

$$\textbf{Tobin's Q} = \frac{\textbf{Market Value of Equity+Total Liabilities}}{\textbf{Total Assets}} \quad \text{.....(1)}$$

The first independent variable is financial distress, which is measured using the Altman Z-Score proxy. This score consolidates multiple financial ratios into a single composite metric that predicts a company's financial ratio. Recent studies confirm that the Altman Z-Score is a reliable measure of financial distress in both developed and developing countries, and is frequently employed in empirical corporate finance research (Kukreja et al., 2020).

$$\textbf{Z=6.56X1+3.26X2+6.72X3+1.05X4} \quad \text{.....(2)}$$

Where:
X1 = Working Capital / Total Assets
X2 = Retained Earnings / Total Assets
X3 = EBIT / Total Assets
X4 = Market Value of Equity / Total Liabilities

Leverage, as a second variable, denotes the degree to which a corporation uses debt to fund its operations and expansion. Leverage is quantified by the Debt-to-Equity Ratio (DER), which contrasts total obligations with shareholders' equity (Afolabi et al., 2021).

$$\textbf{Leverage} = \frac{\textbf{Total Liability}}{\textbf{Total Equity}} \quad \text{.....(3)}$$

As the third independent variable, tax avoidance refers to a deliberate strategy employed by a firm to reduce its tax liabilities by legal means, including tax planning techniques, income shifting, or the strategic timing of deductions and income recognition. This study uses ETR as a proxy for tax avoidance (Nebie & Cheng, 2023).

$$\textbf{ETR} = \frac{\textbf{Tax Expense}}{\textbf{Earnings Before Tax (EBT)}} \quad \text{.....(4)}$$

Large firms generally exhibit superior market power, varied income sources, greater financial access, and strong internal control systems, which may reduce

operational risk and increase company value. In this study, firm size serves functions as a moderating variable (Yadav et al., 2021).

$$\textbf{Firm Size} = \textbf{LN Total Assets} \quad (5)$$

This study develops a regression model to assess the influence of financial distress, leverage, and tax avoidance on firm value with firm size as a moderating variable.

Model 1: Tobin's Q = β0 + β1FD + β2DER + β3TA + β4FS + ε

Model 2: Tobin's Q = β0 + β1FD + β2DER + β3TA + β4FS + β5(FD × FS) + β6(DER × FS) + β7(TA × FS) + ε

Where Tobin's Q represents firm value, FD is financial distress, DER indicates leverage, TA indicates Tax Avoidance, FS signifies firm size. The moderating effect is derived from the interaction variables FD_FS, DER_FS dan TA_FS.

4. RESULTS AND DISCUSSION

Tabel 1. Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Dev
FD	285	-6.065	15.166	1.655	2.833
DER	285	-6.696	9.874	1.088	1.359
ETR	285	-6.165	46.121	0.332	2.805
FS	285	17.670	31.845	27.333	3.315
FV	285	0.207	4.095	0.906	0.356

Source: Data processing in SPSS. 2025.

The descriptive statistics show some interesting trends in the key variables. The mean value of financial distress (FD) is 1.655, and the standard deviation is 2.833. This means that there is a lot of difference in the financial distress of companies, from those that are in minimum of -6.065 to those that are maximum of 15.166. The debt-to-equity ratio (DER) shows how much debt a company has compared to its equity. It ranges from -6.696 to 9.874, with an average of 1.088. There may be extremes or firms with negative equity because of this wide spread. The effective tax rate (ETR) has a mean that is very close to zero 0.332 but a standard deviation that is very high 2.80. This suggests that some firms have high tax burdens. The natural logarithm of firm size (FS) shows that it is pretty evenly spread out, with a mean of 27.333 and a standard deviation of 3.315. Finally, firm value (FV), which is probably a proxy for Tobin's Q, has a range of values from 0.207 to 4.095, with an average of 0.906. This indicates that investors possess a moderately divergent perspective on a company's valuation relative to its assets.

Tabel 2. Classical Assumption Test

Classical Assumption Test		Results	
Normality test	Kolmogorov- Smirnov Asymp. Sig (2-tailed)	0.071	
		Tolerance	VIF
Multicollinearity test	Financial Distress	0.985	1.015
	Leverage	0.995	1.005
	Tax Avoidance	0.988	1.012
	Firm Size	0.982	1.019
Heteroscedasticity test	Financial Distress	0.354	
	Leverage	0.682	
	Tax Avoidance	0.541	
	Firm Size	0.280	
Autocorrelation test	Durbin Watson	1.908	

Source: Data processing in SPSS, 2025.

Based on the test results using the One Sample Kolmogorov Smirnov method, the Asymp sig result of 0.071 is greater than 0.05 which means that the data is normally distributed. According to the multicollinearity test, all independent variables possess acceptable tolerance and VIF values: Financial Distress has a tolerance of 0.985 and a VIF of 1.015, Leverage has a tolerance of 0.995 and a VIF of 1.005, Tax Avoidance has a tolerance of 0.988 and a VIF of 1.012, and Firm Size has a tolerance of 0.982 and a VIF of 1.019. There is no indication of multicollinearity, as all tolerance values are greater than 0.1 and all VIF values are significantly lower than the threshold of 10. In the heteroscedasticity test, the variables financial distress, leverage, tax avoidance, and company size had values of 0.354, 0.682, 0.541, and 0.280, respectively. All variables had significance values above 0.05, so there is no heteroscedasticity. Finally, the autocorrelation test employing the Durbin-Watson statistic yields a value of 1.908. The amount of data in this study is N = 285 and the number of independent variables (K) is 4. The dU value is 1,828 and the value of 4 - dU is 2,172. The durbin-watson value in this study is between dU and 4-dU or 1,821 < 1,908 < 2,172. So it can be concluded that there are no aotocorrelation symptoms in this regression model.

Table 3. Multiple Regression Analysis (Model 1)

Variable	Coefficient	Std. Error	t	Sig.
Constant	1.495	0.148	10.130	0.000
FD	-0.001	0.006	-0.166	0.868
DER	-0.005	0.000	-10.398	0.000
ETR	0.001	0.006	0.191	0.849
FS	-0.022	0.005	-4.014	0.000
Adjusted R^2		0.299		
F Sig.		0.000		

Source: Data processing in SPSS, 2025

The multiple regression analysis presented in Table 3 indicates that the independent variable DER exerts a negative and statistically significant effect,

evidenced by a coefficient of -0.005 and a p-value of 0.000. Similarly, firm size demonstrates a negative and significant impact, with a coefficient of -0.022 and a p-value of 0.000. Conversely, financial distress and tax avoidance have no significant influence on the dependent variable, evidenced by their p-values of 0.868 and 0.849, respectively. The results demonstrate that only DER and firm size serve as significant predictors in the model. The adjusted R^2 value is 0.299, and the F significance value is 0.000, signifying that about 29.9% of the variation in the dependent variable is elucidated by the regression model.

Tabel 4. Moderated Regression Analysis (Model 2)

Variable	Coefficient	Std. Error	t	Sig
Constant	1.954	0.029	51.675	0.000
FD	-0.031	0.009	-3.383	0.001
DER	0.909	0.110	8.252	0.000
ETR	-0.018	0.015	-1.180	0.239
FS	-0.022	0.001	-20.618	0.000
FD_FS	0.001	0.000	2.820	0.005
DER_FS	0.003	0.004	0.847	0.398
ETR_FS	0.001	0.000	1.236	0.217
Adjusted R^2		0.295		
F Sig.		0.000		

Source: Data processing in SPSS, 2025.

Table 2 indicates that Financial Distress significantly and negatively affects company value, as indicated by the p-value of 0.000 and the coefficient of -0.031. With a coefficient 0.909 and a p-value of 0.000, DER demonstrates a significant and positive effect. ETR has a negative but insignificant effect with a significance value of 0.239, whereas firm size negatively influences firm value, with a coefficient of -0.022 and a significance value of 0.000. The interaction between financial distress and firm size exhibits a significant value of 0.005, indicating that firm size substantially moderates the impact of financial distress on firm value. The interaction between DER and firm size, as well as ETR and firm size, is not significant, as indicated by significance values of 0.398 and 0.217, respectively. These data demonstrate that firm size does not substantially influence the relationship between DER or tax avoidance.

4. RESULT AND DISCUSSION

The Effect of Financial distress on Firm Value

The regression analysis from Models 1 and 2 demonstrates that financial distress consistently reduce a firm value. In Model 1, the coefficient for financial distress is -0.001 with a significance value of 0.868. In Model 2, the effect is more pronounced and statistically significant, with a coefficient of -0.031 and a significance value of 0.000. This suggests that firm value declines as it faces greater financial distress. The results of this study support previous research by (Das & Kumar, 2023). This outcome indicates that investors and stakeholders perceive financially troubled organizations as riskier, thereby reducing trust and market valuations. This finding supports agency theory, which suggests that financial distress intensifies conflicts between management and creditors, leading to a decrease in the company's value.

The Effect of Leverage on Firm Value

In Model 1, the coefficient for DER is -0.005, with a significance value of 0.000, suggesting that increased leverage results in a decline in firm value. This discovery corresponds with agency theory, which posits that excessive debt can exacerbate agency conflicts between owners and creditors. Excessive leverage may constrain management's flexibility and result in suboptimal decision-making. Consequently, investors may interpret a high DER will diminish firm value. This finding is supported by the research results from Bui et al. (2023). Conversely, in Model 2, the coefficient for DER is 0.909, with a significance value of 0.000. This indicates that when supplementary considerations, such as moderating variables, are considered, leverage seems to augment firm value. According to signaling theory, this can be construed as a favorable signal to the market. Companies exhibiting confidence in their future performance may incur additional debt to demonstrate strength and development potential. The disparity in outcomes between Model 1 and Model 2 illustrates how the interpretation of DER's influence can vary based on the overarching financial environment and the variables incorporated in the research.

The Effect of Tax avoidance on Firm Value

The coefficient for tax avoidance in Model 1 is 0.001 with a significant value of 0.849. These results show that tax avoidance has no effect on firm value. This study aligns with agency theory, which posits a link between the agent, who prioritises short-term profits, and the principal, who focusses on long-term value. Excessive tax avoidance will adversely affect legal risk and the company's reputation, thereby diminishing investor trust.

In Model 2, after including interaction terms with firm size, the coefficient for tax avoidance becomes -0.018, and the significance value is 0.239, which remains statistically insignificant. Although the direction of the relationship turns negative, the lack of significance means that there is still no strong evidence that tax avoidance affects firm value. This shift in direction might suggest that, in the presence of firm size, tax avoidance is perceived more negatively, possibly because larger firms engaging in aggressive tax planning face higher scrutiny and reputational risk. Overall, both models show that tax avoidance does not significantly influence firm value, and the hypothesis is not supported. This finding is inconsistent with research by (Shubita, 2024), but is supported by (Kirkpatrick & Radicic, 2020). These findings align with agency theory, which explains that tax avoidance can create agency problems when used for managerial opportunism, yet its effect on firm value may be muted if stakeholders view it as a neutral or mixed strategy.

Firm size moderates the relationship between financial distress and firm value

Model 2 illustrates that firm value is affected by firm size. This is proven by the test results which show the coefficient for the FD_FS interaction term is 0.001, accompanied by a significance level of 0.005. From the regression results in model 2, the coefficient of FD_FS is 0.001, and the p-value is 0.005, which is less than 0.05. This means the moderating effect is statistically significant. In other words, firm size does significantly moderate the relationship between financial distress and firm value. This finding implies Large companies are generally better able to mitigate the negative impact of the financial crisis.

According to agency theory, larger firms often establish more rigorous monitoring systems and stronger governance frameworks, which can reduce agency problems that intensify during financial volatility. The negative effects of financial distress on firm value may be diminished in larger companies. This result illustrates the importance of firm size as an important moderating variable in reducing the severity of agency conflicts.

Firm size moderates the relationship between leverage and firm value

In Model 2, the coefficient for DER_FS is 0.003 with a significance value of 0.398, which is greater than 0.05, indicating that the moderating effect is not statistically significant. According to agency theory, leverage is perceived as a mechanism to alleviate agency conflicts between managers and shareholders. The insignificant moderating effect of firm size suggests that the positive role of leverage in reducing agency problems is consistent across both small and large firms. This suggests that leverage continues to be used as a disciplinary tool to harmonise managerial behaviour with the interests of shareholders, irrespective of the size of the company. Consequently, firm size does not seem to enhance or diminish the agency-based relationship between leverage and firm value.

Firm size moderates the relationship between tax avoidance and firm value

Based on Model 2, the coefficient of ETR_FS is 0.001, and the significance value is 0.217, which is greater than 0.05. This means the moderating effect of firm size on the relationship between tax avoidance and firm value is not statistically significant. Therefore, there is no strong evidence to support that firm size changes how tax avoidance affects firm value. Under agency theory, tax avoidance can either increase or decrease firm value depending on whether it benefits shareholders or is used opportunistically by managers. This suggests that the effect of tax avoidance on firm value remains relatively similar regardless of whether the firm is large or small.

5. CONCLUSION

This study examines the effect of financial distress, leverage, and tax avoidance on firm value, with firm size as a moderating variable. The analysis is based on 57 companies from the consumer cyclicals sector listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The findings reveal that financial distress does not have a significant effect on firm value. This suggests that although financial distress may indicate deteriorating company health, it does not directly influence market valuation or investor confidence in this context. Leverage, measured by the debt-to-equity ratio, has a significant negative effect on firm value. While debt financing can provide additional resources for expansion and growth, an excessive reliance on leverage may increase financial risk, limit managerial discretion, and ultimately reduce firm value. Tax avoidance does not show a significant impact on firm value, implying that while it may enhance short-term profitability, investors may prioritize long-term value, making the strategy less influential on overall firm valuation.

Regarding moderation effects, firm size significantly strengthens the relationship between financial distress and firm value. This finding indicates that larger firms are more capable of mitigating the adverse effects of financial difficulties due to greater resource availability and stronger market reputation. Conversely, firm size weakens the relationship between leverage and firm value, as large firms tend to rely more on internal financing, thereby reducing dependence on debt. Additionally, firm size exhibits the positive effect of tax avoidance on firm value, indicating that larger firms are able to improve this relationship. Aggressive tax strategies in large firms may attract regulatory scrutiny and harm reputation, leading to a decline in investor trust.

The findings suggest that decision-makers should carefully manage debt and monitor financial conditions, especially during times of uncertainty. For investors, understanding how a firm's size and financial strategies interact can help guide better investment decisions. Future research could expand the approach to include other industries, thus exploring broader institutional contexts. Future research could also examine governance processes, ownership structure, or profitability as moderating variables influencing managerial actions, thereby enhancing understanding of the interactions between various factors that influence firm value.

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