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Corporate tax strategy and the undermining of financial stability in emerging markets

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Abstract

This study aims to analyze the influence of corporate tax strategies on financial conditions, using an agency theory approach as a theoretical basis. Tax strategies are measured using the Effective Tax Rate (ETR) as an indicator of aggressive or conservative tax strategies, while financial conditions are proxied through the Altman Z-Score which is categorized into three levels: distress, gray area, and healthy. This study also includes three control variables, namely Debt to Asset Ratio (DAR), company size (Ln Total Assets/TA), and Return on Assets (ROA). This study used secondary data from 539 companies listed on the Indonesia Stock Exchange (IDX) in 2024, analyzed using ordered logistic regression using STATA 17. The results showed that ETR had a positive and significant effect on the Altman Z-Score. This indicates that the more conservative a company's tax strategy, the lower the likelihood of experiencing financial distress. ROA was also found to have a significant positive effect, while DAR and TA had a significant negative effect on financial condition. These findings support agency theory and strengthen the argument that aggressive tax practices can increase the risk of bankruptcy. Therefore, companies need to develop tax strategies that are not only fiscally efficient but also consider the impact on long-term financial sustainability.

Keywords: corporate tax strategy, effective tax rate, altman z-score, financial distress, agency theory.

INTRODUCTION

Financial stability is a crucial factor in determining a company's survival amidst global and regional economic dynamics. A company's financial condition is one indicator. The primary indicator for measuring operational stability and sustainability. One of the main threats to financial condition is financial distress, a condition where a company experiences serious financial difficulties that can lead to bankruptcy.

One commonly used analytical tool to assess the risk of bankruptcy or financial distress is the Altman Z-Score, which combines financial ratios such as liquidity, profitability, and operational efficiency into a single predictive score (Altman, 2018). A low Z-Score indicates a company is in a financially vulnerable zone.

On the other hand, companies often implement tax strategies to legally reduce their tax burden. One quantitative indicator used to measure tax aggressiveness is the Effective Tax Rate (ETR), which is the ratio of tax burden to accounting profit. A low ETR often indicates that a company has successfully reduced its tax burden, but this practice has sparked debate regarding its impact on the company's financial health. (Gulzar et al., 2018).

Several studies show that low ETR can be a strategy to increase internal cash, maintain profitability, and ultimately reduce the risk of financial distress (Bayar, Huseynov, & Sardarli, 2018). However, other studies link aggressive tax strategy practices with increased financial risk because it can reduce reporting transparency and increase exposure to fiscal uncertainty, especially in companies with weak governance (Majeed & Yan, 2019); (Alsaadi, 2020). On the one hand, an appropriate tax strategy can reduce tax liabilities and improve a company's internal cash flow. However, on the other hand, aggressive tax practices can create legal risks, reputational damage, and fiscal uncertainty, which

can ultimately worsen financial conditions and increase the potential for bankruptcy (Donohoe, Gale, & Mayberry, 2024).

In Indonesia, research examining the relationship between tax avoidance (ETR) and financial distress (Altman Z-Score) is still very limited, and previous results tend to be inconsistent. For example, a study by [1] Kalbuana, Taqi, Uzliawati, & Ramdhani (2023) showed that financial distress had no significant effect on corporate tax avoidance decisions. This suggests that the relationship between tax efficiency and corporate financial condition is not yet fully understood in the local context.

Furthermore, corporate tax compliance in Indonesia remains relatively low. Many companies exploit legal loopholes to lower their ETR, but the impact of these practices on corporate financial performance has not been empirically tested in Indonesia. Furthermore, the vulnerability of domestic companies to economic crises, exchange rate fluctuations, and reliance on debt makes the issue of financial distress crucial for further study (Younas, Uddin, Awan, & Khan, 2021).(Guizani & Abdalkrim, 2023)

The Indonesian government is also currently implementing tax reforms and improving oversight through digitalization and international data exchange. Therefore, understanding the impact of tax avoidance on a company's financial condition is highly relevant, not only for internal management but also for fiscal authorities, capital market regulators, and investors (Hossain, Ali, Ling, & Fung, 2024).

Therefore, this study will focus on companies listed on the Indonesia Stock Exchange (IDX) in 2024, with the aim of examining the effect of the Effective Tax Rate as an indicator of corporate tax strategy on corporate financial condition, as measured using the Altman Z-Score. This study is expected to provide empirical and practical contributions to the literature on finance and fiscal policy in Indonesia, as well as provide strategic insights for investors, corporate management, and regulators in understanding the financial implications of tax avoidance strategies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Literature Review and Hypothesis Development

This research is based on agency theory developed by Jensen & Meckling (1976), which explains the relationship between owners (principals) and managers (agents) in the context of corporate decision-making. This theory assumes that there is a conflict of interest between the two parties because managers tend to act based on their personal interests, which are not always aligned with the main goal of the owners, namely increasing the long-term value of the company. One concrete form of this conflict can be seen in corporate tax strategies, where managers may design tax policies aimed at maximizing short-term profits or increasing personal compensation, without considering the long-term impact on the company's financial risk (Powers, Robinson, & Stomberg, 2016).

Tax strategies themselves can encompass a wide range of activities, from legal tax planning to more aggressive tax avoidance. In the context of corporate governance, these strategies can be a tool to optimize cash flow and improve a company's fiscal efficiency. Kalbuana et al. (2023) found that company characteristics such as size, board structure, and financial pressure influence the intensity of tax avoidance strategies in public companies in Indonesia (Kalbuana et al., 2023). However, overly aggressive strategies can lead to legal consequences, reputational damage, and fiscal uncertainty, ultimately increasing the risk of financial distress.

Financial distress refers to an unhealthy financial condition, characterized by a company's inability to meet short-term obligations, declining cash flow, and potential bankruptcy. This condition is generally measured using indicators such as the Altman Z-score or the Zmijewski model. When tax strategies are implemented without considering long-term risks, companies can become trapped in financial crises from which they are difficult to recover. Research Eastman, Ehinger, & Xu (2024) shows that companies that implement integrated risk management (enterprise risk management) are better able to manage the impact of tax strategies on their financial stability, making them less likely to experience distress even when implementing tax avoidance strategies.

Previous studies have also shown that shareholder perceptions of corporate tax strategies are becoming increasingly important. Donohoe et al. (2024) found that shareholders tend to negatively evaluate overly aggressive tax strategies because they increase unwanted financial and legal risks, ultimately affecting the company's stock value. Other research has Shubita (2024) found that financially healthier or more profitable companies tend to avoid excessive tax avoidance practices, as they do not want to increase fiscal risks that could lead to bankruptcy.

Although many studies have discussed tax strategies and financial performance, there are still few studies that specifically examine the effect of tax strategies on bankruptcy risk, especially in Indonesia and using the latest available data from companies listed on the Indonesia Stock Exchange in 2024. The review by Ge, Su, & Wong (2024) of 172 empirical studies reinforces the existence of a research gap: most prior studies do not assess bankruptcy-specific risks, and few employs holistic measures such as the Altman Z-Score. In the context of the post-pandemic economy and continuously evolving tax regulations, this study is important to fill the gap in the literature and provide new insights into the effect of tax strategies on corporate financial conditions from an agency theory perspective.

H1: Corporate tax strategy has an impact on the company's financial condition.

METHODS

This study uses a quantitative approach with a causality design to analyze the influence of corporate tax strategies, as measured by the Effective Tax Rate (ETR) indicator, on corporate financial conditions, as proxied by the Altman Z-Score. This study also includes three control variables: the Debt to Asset Ratio (DAR), company size as measured by the logarithm of total assets (LnTA), and Return on Assets (ROA) as a proxy for profitability.

Data Types and Sources

The type of data used is secondary data obtained from the Bloomberg Terminal platform, which provides verified financial report information, including financial ratio and tax data for public companies. The population in this study is all companies listed on the Indonesia Stock Exchange (IDX) in 2024, with a purposive sampling technique, based on the following criteria: (1) having complete financial reports, (2) not experiencing losses during the observation period, and (3) having data available to calculate the Altman Z-Score.

Operational Definition of Variables

The Independent Variables used in this research Corporate Tax Strategy (Effective Tax Rate) Calculated as:

$$ETR = (\text{Income Tax})/(\text{Earning Before Interest and Tax})$$

The lower the ETR, the higher the level of tax avoidance carried out by the company.

Dependent Variable:
Company Financial Condition (Altman Z-Score)
Measured using the Altman Z-Score model, which is a bankruptcy prediction model that combines several financial ratios:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

Where:

X_1 = Working Capital / Total Assets
X_2 = Retained Earnings / Total Assets
X_3 = EBIT / Total Assets
X_4 = Market Value of Equity / Total Liabilities
X_5 = Sales / Total Assets

A Z value < 1.81 indicates a distress condition, a Z value > 2.99 indicates a safe zone, and a value between 1.81–2.99 is in the grey area.

For the needs of the ordered logistic regression model, the Z-Score values are categorized into three ordinal classes:

1 = Distress → Z < 1.81
2 = Gray Area → 1.81 ≤ Z ≤ 2.99
3 = Healthy → Z > 2.99

This categorization allows the use of ordinal logistic regression techniques to look at the factors that influence the likelihood of a company being in better or worse financial condition.

Control Variables:
Debt to Asset Ratio (DAR) : Total Liabilities ÷ Total Assets
Ln Total Assets (LnTA) : Natural logarithm of the company's total assets
Return on Assets (ROA) : ROA = (Net Income) / (Total Assets)

Data Analysis Techniques

The analysis was conducted using the Ordered Logistic Regression technique with the help of STATA 17 software. This method was chosen because the dependent variable is ordinal (distress, grey, and healthy categories), and this model can capture the relative probability of a company being in a certain bankruptcy risk category, based on the values of the independent and control variables.

The regression model used is as follows:

$$Pr(Zi = j) = logit\text{-}1\ (\alpha j + \beta 1ETRi - \beta 2DARi - \beta 3ln(TAi) - \beta 4ROAi)$$

Information:
Zi = Financial condition category (1 = distress, 2 = grey area, 3 = healthy)
αj = Thresholds (cutpoints) between categories j and j+1
β1 - β4 = Regression coefficient for each variable

ETRi, DARi, ln(TAi), and ROAi are the values of the independent and control variables of the i-th company

RESULT AND DISCUSSION

Descriptive analysis was conducted to provide a general overview of the characteristics of the research data, particularly the average value (mean), standard deviation (std. dev.), minimum value (min), and maximum value (max) of each variable studied. The descriptive table includes five variables: AZS (Altman Z-Score category), ETR (Effective Tax Rate), TA (company size), ROA (Return on Assets), and DAR (Debt to Asset Ratio), with a total of 539 company observations presented in Table 1 as follows:

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AZS	539	1	3	2.324675	.8272562
ETR	539	0	1.0611	.2244742	.1577444
LnTA	539	24.29702	33.78663	28.39894	1.911515
ROA	539	.0001	.5759	.0656801	.0685126
DAR	539	0	.8063	.1821679	.1613992

The AZS variable is used as an indicator of a company's financial condition, categorized into three levels: 1 = distress, 2 = grey area, and 3 = healthy. The average score of 2.32 indicates that the majority of companies in the sample are between the grey and healthy zones. However, due to the relatively large standard deviation (0.83), there is a distribution of companies that are still in the vulnerable (distress) zone. Overall, observations show that 23% of companies are in distress, 21% are in the grey area, and 56% are financially healthy.

The average ETR value is 0.224, indicating that companies generally pay 22.4% of their pre-tax profits in taxes. This indicates that the average company is conservative, paying taxes according to the tax rate in the observed year, which is 22%. The minimum ETR value is 0, indicating that some companies pay no taxes at all, which could be interpreted as an indication of aggressive tax avoidance or compensation for losses in previous years. The maximum value reaches 1.06, indicating the possibility of a higher tax burden than pre-tax profits (for example, due to past tax losses or certain tax adjustments). The standard deviation of 0.157 indicates a diversity of tax strategies among companies.

The TA variable, measured using the natural logarithm of total assets, showed a mean value of 28.39, with a range from 24.30 to 33.79. This indicates a wide variation in company size within the sample. The higher the TA value, the larger the company. ROA has an average value of 0.066, equivalent to 6.6% of net profit of total assets. This value indicates relatively moderate average profitability. The minimum value is close to zero (0.0001). Meanwhile, the maximum value reaches 57.59%, indicating that some companies are very efficient at generating profits from the assets they manage. The relatively high standard deviation (0.0685) also indicates inequality in profitability between companies.

The DAR variable has an average value of 0.182, meaning the average company finances 18.2% of its assets with debt. A minimum value of 0 indicates a company that is entirely financed by equity, while a maximum value of 0.8063 indicates a company with a relatively high debt structure. This variation is important because, as discussed in the regression, high leverage contributes to increased bankruptcy risk.

Further analysis was conducted to determine the effect of tax avoidance (as measured by the Effective Tax Rate / ETR) on the company's financial condition (proxied using the Altman Z-Score and categorized into three ordinal levels: distress, gray area, and healthy). The model also controls for three additional variables: company size (Ln Total Asset / TA), profitability (ROA), and capital structure (Debt to Asset Ratio / DAR).

Based on the results of data processing with ordered logistic regression on 539 companies, the results obtained are as presented in Table 2 below:

Table 2. Ordered Logistic Regression

	Coefficient	P-value	Results	Finding
ETR	1.251511	.041	Significant Positive	Hypothesis accepted
LnTA	-.3488502	.000	Significant Negative	
ROA	23,50606	.000	Significant Positive	
DAR	-5.621301	.000	Significant Negative	
Pseudo R^2		.2424		
LR Chi^2		259.66		
Prob > chi^2		.0000		

The model has a LR Chi^2 value of 259.66 ($p < 0.0000$) and Pseudo R^2 of 0.2424, indicating that the model can explain approximately 24% of the variation in the probability of the Altman Z-Score category. All independent and control variables are statistically significant at the 1% or 5% level.

Corporate tax strategy has a significant positive effect on a company's financial condition (coefficient = 1.251, $p = 0.041$). This indicates that the higher the ETR (meaning a more conservative strategy), the greater the likelihood that the company is in a better financial condition (grey area or healthy category). In other words, a more aggressive corporate tax strategy (low ETR) increases the risk of the company being in distress.

These findings provide empirical confirmation of the agency theory framework, which states that managers, as agents, can make strategic decisions that conflict with the interests of owners, especially when their incentives depend on short-term outcomes. Aggressive tax strategies are often viewed to increase short-term net income or conserve cash flow. However, such strategies can have long-term consequences, such as litigation risk, fiscal sanctions, and regulatory uncertainty, which negatively impact a company's financial stability (Powers et al., 2016). This is also in line with findings Donohoe et al. (2024) that aggressive tax strategies increase fiscal and reputational risks, which worsen a company's financial stability.

Contextually, these results support research Donohoe et al. (2024) that found that shareholders tend to respond negatively to aggressive tax avoidance strategies, as they perceive such practices as increasing financial risk and reducing the company's credibility in the eyes of investors and tax authorities. Kalbuana et al. (2023) also found that tax avoidance tends to increase in companies experiencing financial stress, and this increases the potential for financial distress if not combined with good risk management.

This study also found that Return on Assets (ROA) had a highly significant and positive effect on financial condition (coefficient = 23.506, p = 0.000). This finding has been widely demonstrated in previous literature, demonstrating that profitability is a key buffer against bankruptcy, as it provides companies with room to meet short-term obligations and manage financial burdens more flexibly (Shubita, 2024). A high ROA also indicates efficient asset utilization, which ultimately strengthens a company's ability to withstand economic and fiscal pressures.

Meanwhile, the Debt to Asset Ratio (DAR) shows a negative and significant relationship to financial condition (coefficient = -5.621, p = 0.000), which means that the greater the proportion of debt to assets, the higher the likelihood of a company experiencing financial distress. This is in line with the findings Guo, Legesse, Tang, & Wu (2021), which state that excessive leverage reduces company efficiency and increases the likelihood of a liquidity crisis, especially if the company does not have a balanced capital structure. In addition, companies with high leverage tend to be more vulnerable to interest rate fluctuations and market pressures, which can trigger defaults or dependence on external financing.

Interestingly, the findings of this study also indicate that company size (Ln Total Assets) has a negative effect on financial condition (coefficient = -0.349, p = 0.000). This contradicts some literature stating that large companies are better able to manage risk and have broader access to funding. However, in the Indonesian context, this finding can be explained by studies Mukhtaruddin, Ubaidillah, Dewi, Hakiki, & Nopriyanto (2019), which state that large companies are often more complex and bureaucratic, so decision-making is not always effective and swift in responding to crises, including in terms of fiscal risk management.

In the context of Indonesian tax regulations and practices in 2024, the findings of this study are highly relevant. The government, through the Directorate General of Taxes (DGT), has strengthened oversight of base erosion and profit shifting (BEPS) practices and implemented a digital-based tax reporting system and collaboration with foreign authorities (OECD CRS). In this environment, aggressive tax avoidance strategies are becoming increasingly risky and unsustainable, requiring companies to strike a balance between fiscal efficiency and long-term financial stability.

The implications of this research are significant for managers, auditors, investors, and policymakers. For managers, these findings emphasize that tax avoidance strategies must be carefully considered within the context of risk management and corporate viability. For regulators, the ETR can be used as an additional risk indicator in the supervision of public companies. For investors, information related to the ETR and distress indicators such as the Altman Z-score can serve as analytical tools in evaluating the financial health of companies they intend to invest in.

The results of this study strengthen the ETR's position as a key indicator in measuring tax avoidance strategies and their risks to financial health. In the context of Indonesian companies listed on the IDX in 2024, these results provide evidence that aggressive tax strategies are not without consequences, as they significantly increase the likelihood of companies experiencing financial distress.

The managerial implication of these findings is the importance of balancing tax efficiency strategies with long-term fiscal and financial risk considerations. Managers should avoid decisions focused solely on reducing short-term tax burdens and instead develop risk management systems that can manage the fiscal uncertainty arising from selected tax strategies.From a policy perspective, regulators such as the Directorate General of Taxes and the Financial Services Authority (OJK) can use ETR as an indicator of fiscal oversight of public companies, particularly those in the distressed or highly leveraged categories.

CONCLUSION

This study aims to examine the effect of corporate tax strategies, proxied by the Effective Tax Rate (ETR), on corporate financial conditions, as measured using the Altman Z-Score in ordinal categories (distress, gray area, and healthy). Using secondary data from 539 companies listed on the Indonesia Stock Exchange in 2024, and using ordered logistic regression analysis using STATA 17, it was found that corporate tax strategies have a significant impact on corporate financial conditions.

The results of the study indicate that ETR has a significant positive effect on a company's financial condition. This means that companies with conservative tax strategies (high ETR) tend to have more stable financial conditions. Conversely, the more aggressive a company's tax strategy (low ETR), the higher the risk of the company entering a state of financial distress. This finding supports the agency theory framework, which highlights the potential conflict of interest between managers and company owners, particularly when short-term tax efficiency strategies compromise long-term financial sustainability.

Furthermore, control variables such as ROA exhibit a positive and significant effect on financial condition, indicating that more profitable companies tend to be financially healthier. Conversely, the Debt-to-Asset Ratio and company size (Ln Total Assets) have a significant negative effect, indicating that an unhealthy capital structure and the complexity of large companies can increase their vulnerability to bankruptcy.

In general, this study concludes that tax strategy is not only an issue of fiscal efficiency but also closely related to financial risk and corporate sustainability. Therefore, management needs to consider the long-term implications of the chosen tax policy. This study also contributes to regulators and investors in assessing a company's financial stability using a combination of relevant fiscal indicators and financial ratios.

However, this study has several limitations. First, it uses only one proxy for tax avoidance (ETR) and one bankruptcy prediction model (Altman Z-Score), thus not fully capturing the complexity of tax strategies and non-accounting financial risks. Second, this study is limited to data from Indonesian companies, so cross-country generalizations need to be tested. Future research is recommended to use several tax indicators and other financial models, as well as advanced econometric methods such as panel data regression or dynamic GMM to strengthen the validity of causal relationships.

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