

CORPORATE TAX AVOIDANCE: HOW FINANCIAL HEALTH RESHAPES THE GAME

NICKLAUS STANLEY
LUKY PATRICIA WIDIANINGSIH*

Accounting Department, School of Business and Management, Universitas Ciputra, CitraLand CBD Boulevard,
Surabaya, Indonesia
luky.patricia@ciputra.ac.id

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Abstract: *Corporate tax avoidance has long been an ethical and social concern. Understanding what motivates firms to engage in such practices is crucial to maximize national tax revenues. However, research on financial distress and corporate tax avoidance is commonly seen from the perspective of conventional theories, with the financial distress proxy being less accurate in the context of developing economies. Therefore, this research aims to gather empirical evidence on the effect of financial distress on corporate tax avoidance in Indonesia, specifically emphasizing the consumer cyclical sector. This study utilizes secondary data obtained from firms' audited financial statements for the years 2019 to 2023, analyzed using the panel data regression approach. The results of this study indicate that financial distress negatively affects corporate tax avoidance. From the perspective of risk compensation theory, financially distressed firms must respond to their dire situation by changing their behaviour, such as avoiding risky tax avoidance activities. On the other hand, since financially healthy firms have a higher target level of risk, they would be more willing to engage in more tax avoidance since they have a 'financial cushion'. Theoretically, the findings contribute to the accounting and taxation literature by aligning with the risk compensation theory. Practically, the results indicate that tax authorities are advised to scrutinize financially healthy firms more closely, as they tend to have a greater propensity to engage in corporate tax avoidance practices.*

Keywords: *Consumer Cyclical Sector, Corporate Tax Avoidance, Financial Distress, Risk Compensation Theory*

INTRODUCTION

Taxes, a key instrument of fiscal policy, are obligatory payments imposed by the government on individuals and businesses to generate state revenue. According to the central government's audited financial statements, Indonesia's actual tax revenues reached IDR 2,154.21 trillion in 2023, accounting for 77.83% of total state revenue. Although these realized tax revenues were 101.69% of what was budgeted, the increase in this revenue could not fully finance all state expenditures, resulting in a

budget deficit of IDR 337.29 trillion ([Kementerian Keuangan 2024b](#)). One of the main types of taxes with the second-highest contribution is the corporate income tax, with a contribution of 21.93% in 2023 ([Kementerian Keuangan 2024a](#)). A report from the Directorate General of Taxes (DGT) showed that registered corporate taxpayers increased by approximately 0.67% from IDR 4.286 million in 2022 to IDR 4.314 million in 2023 ([Direktorat Jenderal Pajak 2024](#)). However, the increase in the number of registered corporate taxpayers is out of sync

with the growth of corporate income tax, as this growth contracted by more than 50% from 71.72% in 2022 to 20.26% in 2023 ([Kementerian Keuangan 2024a](#)).

Tax avoidance allows firms to retain their resources that should otherwise be transferred to the government ([Widyasari et al. 2024](#)). Even though tax avoidance is deemed legal, it remains an ethical and social concern, as firms that commit tax avoidance activities would directly reduce resources allocated by the state for public services ([Du and Li 2023](#); [Hendayana et al. 2024](#); [Bach et al. 2025](#)), especially in developing countries, where reduced tax revenues can further put lower-income and underprivileged groups in an unfavourable position ([Dang and Tran 2021](#)). Moreover, excessive tax avoidance also leads to an unjust distribution of tax burdens, thus potentially harming social development ([Gao et al. 2025](#)). Compared to other ASEAN countries, Indonesia imposes a relatively higher corporate tax rate, and its complicated tax system may prompt firms to avoid taxes ([Sutrisno et al. 2023](#)). Furthermore, Indonesia's self-assessment system creates a potential gap for taxpayers to exploit the undefined tax regulations and carry out tax avoidance activities ([Asyifanaya and Dewi 2023](#)).

Given the financial ramifications of corporate tax avoidance, a key inquiry arises: What motivates firms to resort to such unethical practices? One crucial factor to consider is the firm's financial health ([Mocanu et al. 2021](#)). Financial distress has become a widely discussed and debated topic due to the failure of several well-known firms worldwide ([Farooq et al. 2021](#)). Financial distress is when a firm struggles to pay off its liabilities to creditors, compelling the firm to adjust its corporate behaviour ([Alijughaiman et al. 2023](#); [Viana et al. 2022](#)), with tax strategy being a primary area for change. Research by [Dang and Tran \(2021\)](#) showed that tax avoidance increases with financial distress, meaning that firms in a

dangerous position of capital will avoid taxes more. However, [Kalbuana et al. \(2023\)](#) find no evidence that financial distress affects tax avoidance because managers will tend to benefit from the tax incentives provided by the state. In addition, while previous research on tax avoidance applied conventional theories such as agency, legitimacy, signaling, stakeholder, upper echelon, and other accounting and economic theories, these perspectives do not fully account for how firms change their behaviour to address risk. For this reason, a novel approach to understanding how financial distress affects a firm's operational decisions, including corporate tax avoidance, is by applying the risk compensation theory. According to this behavioural theory, firms shift their behaviours based on their perception of risk, often demonstrating riskier behaviour when having financial security or having mechanisms in place to mitigate risks.

Furthermore, the researchers identified that most prior research measured financial distress level of a firm using the Altman Z-score, which includes the sales-to-total assets ratio variable ([Dang and Tran 2021](#); [Ariff et al. 2023](#); [Putri et al. 2024](#); [Karlinah et al. 2024](#); [Lartey et al. 2022](#)). However, it has been proven that this variable is especially sensitive among industrial sectors. For instance, for non-manufacturing firms such as retail or service firms, the value of this ratio for retail firms is twice as high as that of manufacturing firms, and since this variable has a 1.0 weight, most retail firms have higher Z-scores than manufacturing firms ([Altman et al. 2019](#)). For this reason, it is reasonable to declare that the findings of most prior research cannot be broadly applied to different industries. Therefore, to obtain more reliable results, this study employs the Altman Z'-score model, seldom seen in previous studies, and is more appropriate for the context of Indonesia, an emerging market economy. Different from the previous versions of the Altman Z, this model omits the sales-to-total-assets ratio and has a

constant term of 3.25 for standardized analysis ([Altman and Hotchkiss 2006](#)).

This study also employs an alternative proxy test, in which the proxy for a variable is replaced with another to ensure robust results for both financial distress and tax avoidance ([Neumayer and Plümper 2017](#)). The alternative proxy employed for financial distress is the Zmijewski X-score model, which utilizes the probit approach ([Marsenne et al. 2024](#)), because [Zmijewski \(1984\)](#) asserted that non-random sampling can result in biased parameters and estimates. Thus, the Zmijewski model is considered one of the commonly used measures of financial distress due to its relatively high accuracy, alongside the Altman model ([Radovanovic and Haas 2023](#); [Liu et al. 2025](#)). Corporate tax avoidance can be slightly difficult to assess using the cash effective tax rate (ETR) with income before tax, particularly for firms with very low or negative income before tax. In such cases, the tax rates may display large fluctuations due to small or negative income before tax, especially during periods of crisis ([Edwards et al. 2016](#); [Saragih 2024](#)). Due to this, this research also uses an alternate measure for corporate tax avoidance, specifically the cash ETR with total assets as the denominator, since cash paid for taxes and total assets typically do not decrease by the same amount ([Edwards et al. 2016](#); [Mindzak and Zeng 2020](#)).

Finally, prior research regarding tax avoidance commonly and mainly focused on certain industries and sectors, such as LQ45 (a group of firms with high liquidity), manufacturing, and mining ([Rini et al. 2024](#); [Hendayana et al. 2024](#); [Firmansyah et al. 2022](#)). Therefore, to add more novelty, this study analyzes firms from the consumer cyclical sector that sell non-essential or secondary goods and services to consumers. This sector is unique because economic conditions and business cycles impact its businesses. The index fact sheet of the consumer cyclical sector shows that it has an overall index performance of -17.89% since its base date in 2018. This performance is lower

than that of the LQ45 category, with an overall performance of -12.89%, and the JCI (Jakarta Composite Index) category, with an overall performance of 19.60% ([Bursa Efek Indonesia 2025](#)). The data also show that the consumer cyclical sector had the worst performance throughout its history in 2020, with a negative index performance of more than 30% ([Bursa Efek Indonesia 2025](#)). In light of this, this sector is particularly interesting to examine. As far as the researchers are aware, this paper is the first to investigate the effect of financial distress on corporate tax avoidance over a five-year span of worldwide instability. This includes US-China Trade War, COVID-19 pandemic, Russia-Ukraine War, and alterations in Indonesia's tax regulations, which are among the key elements that would have influenced the firm's financial condition.

This study sheds light on the understanding of financial distress and corporate tax avoidance by employing alternate proxies for both variables while shifting the sectoral focus to the consumer cyclical sector. Since corporate tax avoidance continues to be a pressing issue, this research seeks to provide empirical evidence on how financial distress influences corporate tax avoidance in Indonesia; specifically emphasizing the consumer cyclical sector. Theoretically, the findings add to the existing accounting and taxation literature, particularly in the realm of corporate tax avoidance. To the researchers' knowledge, the risk compensation theory has not been applied within the context of financial distress and tax avoidance. Therefore, the present research introduces it as a novel theoretical lens. Practically, the results indicate that tax authorities are advised to scrutinize financially healthy firms more closely, as they tend to be more inclined toward committing corporate tax avoidance practices.

Risk Compensation Theory

Risk compensation is a behavioural and psychological theory that refers to the behavioural adjustments individuals make in response to perceived improvements in safety, such as those resulting from regulations or design enhancements ([Levy and Miller 2000](#)). Theoretical frameworks suggest that when governments implement safety standards, such as mandating improved brakes or tire performance and improving the quality of road infrastructure, drivers may respond by engaging in riskier behaviours, such as increasing driving speed, thus potentially offsetting the intended safety benefits of such measures ([Levy and Miller 2000](#)). One of the most renowned studies related to risk compensation is the work of [Peltzman \(1975\)](#), in which he found that auto safety regulation does not affect the highway death rate because drivers counteract this benefit by taking higher levels of accident risk. Similarly, [Lave and Weber \(1970\)](#) inferred that padded instrument pedals do not affect injuries; thus, there are no reductions in accident risk. Moreover, [Lave and Weber \(1970\)](#) also argued that the implementation of safety devices may lead individuals to drive at faster speeds, as these safety devices enhance the vehicle's overall safety and encourage more efficient travel to their destination. While [Peltzman \(1975\)](#) analyzed risk compensation from an economic perspective, [Wilde \(1982\)](#) analyzed risk compensation from a psychological perspective, in which risk is an intrinsic component of human nature ([Hedlund 2000](#)). According to [Wilde \(1982\)](#), every individual has their own 'target level of risk.' They will most likely take on riskier behaviours to bring the level of risk back up to the preferred threshold and vice versa, should the perceived risk be higher than the desired risk level. From this process, the concept of 'risk homeostasis' is deduced, which asserts that individuals tend to adjust their behaviour when there is a dissimilarity between the risk they perceive and their desired risk level ([Wilde 1998](#)).

As established in the previous literature, risk compensation theory explains why individuals alter their behaviour in response to their perception of risk. The present study extends the theory's logic to distressed firms, where financial strains may lead to changes in corporate behaviour. Firms in financial distress face heightened default risk and pressure from external stakeholders, including creditors and investors. Under such conditions, financially distressed firms must respond by behaving more cautiously to reduce the likelihood of financial penalties and jeopardizing their reputation. This behaviour reflects a shift towards risk aversion when firms perceive themselves as being in a vulnerable state. On the other hand, financially healthy firms have a 'financial cushion', so they are more willing to take more risks, including tax avoidance.

Financial Distress and Corporate Tax Avoidance

In corporate decision-making, financial distress amplifies a firm's sense of vulnerability and exposure to external scrutiny. Hence, from the perspective of the risk compensation theory, firms in financial distress may choose not to commit corporate tax avoidance practices. Empirically, previous and relevant research on financial distress and corporate tax avoidance showed various results. Previous research by [Dang and Tran \(2021\)](#) showed that financial distress increases in connection with tax avoidance, in that if a firm is in a dangerous position of capital, it will avoid taxes more. In a parallel context, [Le et al. \(2024\)](#) claimed that firms pay less in taxes if they are breached or have experienced cyberattacks. Furthermore, they also mentioned that the impact of cyberattacks is greater when the firm is financially distressed; firms that are victims of cyberattacks and have higher cash flow volatility will have an approximate 1.1% greater tax avoidance level. [Gao et al. \(2025\)](#) demonstrated that the enforcement of the Anti-Trust Law, a competition policy created to promote equitable

competition in the market and to prevent monopoly, results in a decline in profit margins and increases business uncertainty for monopolistic firms, which in turn stimulates financial distress and increases the tax avoidance of monopolistic firms to a greater extent than competitive firms. Conversely, [Ariff et al. \(2023\)](#) revealed that financially distressed firms exhibited lower tax avoidance before and during the span of the coronavirus pandemic due to increased regulatory oversight and limited financial resources. They also found that financial distress had a greater adverse influence on tax avoidance throughout the pandemic compared to before it, as the sudden emergence of the pandemic provided firms with little opportunity to avoid taxes. Similarly, [Ariff et al. \(2023\)](#) suggested that financial distress negatively impacts tax avoidance. When it comes to the United States, the coronavirus outbreak led to a reduction in the firms' inclination to partake in corporate tax avoidance operations because of the substantial drop in income, affected by market closures and quarantines, which motivates firms not to avoid taxes ([Kobbi-Fakhfakh and Bougacha 2023](#)). Drawing from a selection of Indonesian firms, [Karlinah et al. \(2024\)](#) determined that critical financial distress reduces firms' efforts toward tax avoidance. Similarly, [Guo et al. \(2024\)](#) discovered that digital finance suppresses tax avoidance by alleviating financial distress via allocating resources, since lowered financing costs and greater accessibility to credit soothe financial distress. Contrary to this, [Athira and Ramesh \(2023\)](#) identified that distressed firms engage in aggressive tax avoidance to prioritize survival, as tax authorities are overwhelmed during the pandemic, which allows firms to avoid taxes at a diminished risk. In a related scenario, [Ramesh and Athira \(2024\)](#) provided evidence that an increased geopolitical risk contributes to a rise in corporate tax avoidance. After all, economic uncertainty coerces firms to save more cash, and the leniency of government monitoring and tax enforcement, due to handling

geopolitical conflicts, creates opportunities for firms to avoid taxes. Grounded in agency theory, [Kalbuana et al. \(2023\)](#) described that tax avoidance is not influenced by financial distress because managers will tend to benefit from the tax incentives provided by the state.

Amid mixed evidence in prior research, this study draws on the perspective of risk compensation theory, which suggests that when individuals or organizations perceive themselves in a vulnerable state, they would adjust their behaviours to compensate for that elevated risk. Applied to the corporate context under financial distress, firms are discouraged from adopting corporate tax avoidance practices to avoid incurring additional costs. While conventional theories, such as agency theory, might argue that distressed firms are more likely to avoid taxes to lessen financial pressure, the risk compensation theory offers a contrasting logic; distress may lead to greater risk aversion. In such cases, firms prioritize stability, tax compliance, and long-term survival over short-term financial benefits. Thus, this makes the risk compensation theory a more compelling lens for understanding conservative corporate behaviour in times of financial distress.

Given the contradictory results in prior literature – a number of studies show a positive effect, while others show a negative one – this study leans toward the negative effect based on the risk compensation theory. This research argues that firms in financial distress tend to curb tax avoidance to reduce exposure to further risk. Hence, this study put forward this hypothesis:

H: Financial distress has a negative effect on corporate tax avoidance.

METHOD

This quantitative research seeks to offer empirical evidence regarding the influence of financial distress on corporate tax avoidance in the consumer cyclical sector from 2019 to 2023. The study utilizes secondary data acquired from firms' audited financial statements, accessible on the firms' official sites as well as the

Indonesian Stock Exchange (IDX) website. The consumer cyclical sector is chosen for its unique characteristics compared to other sectors, since economic conditions can heavily affect the financial performance of firms within this sector. The period from 2019 to 2023 was selected based on several reasons. First, the tax ratio of Indonesia is among the lowest compared to other ASEAN countries, such as Malaysia, Singapore, the Philippines, Thailand, and Vietnam, at only 10.1% to 12.1% between 2019 and 2022 ([Organisation for Economic Co-operation and Development 2024](#)). A report by the Directorate General of Taxes shows that the ratio of central government tax revenues to gross domestic product (GDP) declined from 10.39% in 2022 to 10.31% in 2023 ([Direktorat Jenderal Pajak 2024](#)). Second, the Indonesian government enacted key reforms such as the Omnibus Law on Job Creation in 2020 and the Harmonization of Tax Regulations Law in 2022, which include reduction of corporate income tax from 25% to 22%, facilities and in-kind expenses regarded as deductible expenses, and changes in tax sanctions that directly shape firms' tax behaviour. Third, beyond national reforms, the 2019-2023 period coincides with profound global economic and geopolitical shifts. Trade tensions, commodity price volatility, and supply chain disruptions directly affected Indonesian firms' financial stability, especially those within the consumer cyclical sector, which further increases financial distress risk. Together, these factors make 2019-2023 a critical period to investigate the link between financial distress and corporate tax avoidance in the consumer cyclical sector of Indonesia.

The population examined in this study contains 154 firms in the consumer cyclical sector in Indonesia. The purposive sampling technique is applied to select the final sample of 93 firms. The total observational dataset of 257 is selected from the initial observational dataset of 770 (154 x 5) after filtering based on the predetermined specifications, and is presented in Table 1. Firms with effective tax rate (ETR)

values lower and greater than 1 are considered as outliers, as this value is restricted within the interval of 0 and 1 ([Medhioub and Boujelbene 2024](#); [Stanley and Widianingsih 2024](#); [Athira and Ramesh 2023](#)). Moreover, only positive pre-tax income is included to prevent anomalous interpretations ([Sánchez-Ballesta and Yagüe 2021](#); [Stanley and Widianingsih 2025](#)). Following previous research, firms reporting their financial statements in currencies other than the Indonesian Rupiah (IDR) are excluded to ensure sample homogeneity ([Ifada et al. 2023](#); [Kusuma and Rahayu 2022](#); [Zain et al. 2022](#)).

Variables and Measurements

A reliable financial distress prediction model is used to evaluate a company's probability of financial failure, which is crucial for stakeholders ([Baydaş and Pamučar 2022](#)). Among the most reliable bankruptcy prediction models is the Altman Z-score model, which is a long-standing tool to predict firms' bankruptcy risk ([Biswas et al. 2022](#); [Dalwai and Salehi 2021](#); [Habermann and Fischer 2023](#); [Tarighi et al. 2022](#); [Aviantara 2023](#)). It has a 95% prediction rate accuracy level ([Younas et al. 2021](#); [Kukreja et al. 2020](#)). The Altman Z-score model evaluates the chances of firms facing financial distress using several financial ratios ([Lord et al. 2020](#); [Wu et al. 2020](#); [Swalih et al. 2021](#)). One modification of the Altman Z is the Altman Z'-score for Emerging Markets model, which is applicable in the context of emerging markets due to its classification position improvement ([Srebro et al. 2021](#)). This modified version omits the sales-to-total-assets variable because it varies from one industry to another, which distorts the model ([Alcalde et al. 2022](#)). Based on the above explanation, since Indonesia is considered an emerging market, financial distress is assessed using the Altman Z'-score for Emerging Markets, with the following equation ([Altman 2005](#)):

$$EM\ Z''\text{-score} = 3.25 + 6,56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

Where X_1 is working capital divided by total assets, X_2 is retained earnings divided by total assets, X_3 is earnings before interest and taxes (EBIT) divided by total assets, and X_4 is total equity divided by total liabilities. The EM Z'' -score has 3 critical values of interpretations; a Z'' -score greater than 5.85 suggests that the firm is financially healthy, a Z'' -score between 3.75 and 5.85 signifies that the firm is situated in the grey zone, and a Z'' -score lower than 3.75 indicates a state of financial distress (Srebro et al. 2021). Given these conditions, a lower Z'' -score conveys a higher level of distress, while the opposite is true for a higher score.

The Zmijewski X-score model is also employed as an alternate proxy for financial distress to ensure robust results and is calculated below (Marsenne et al. 2024):

$$X\text{-score} = -4.3 - 4.5X_1 + 5.7X_2 - 0.004X_3$$

Where X_1 is net income divided by total assets, X_2 is total liabilities divided by total assets, and X_3 is the total current assets divided by total current liabilities. The X-score has 2

critical values of interpretation; an X-score greater than or equal to 0 indicates that the firm is in the financially distressed zone and has a high risk of bankruptcy, and an X-score less than 0 signifies that the firm is healthy. In this case, a higher X-score signifies a greater level of distress (Ahemed et al. 2025).

The effective tax rate (ETR) is a popular metric to assess tax avoidance (Chan et al. 2013), where there are different possible numerators such as total income tax expense (GAAP ETR), current income tax expense (current ETR), and cash taxes paid (cash ETR) (Hanlon and Heitzman 2010). This study proxied corporate tax avoidance with the cash ETR, which is measured as the ratio of cash paid for taxes to the firm's pre-tax income (Dyreg et al. 2008, 2010). Dyreg et al. (2017) argued that cash ETR can capture the managers' intention of reducing cash taxes paid relative to pre-tax financial accounting income. Furthermore, this tax avoidance measure can exhibit both permanent and temporary book-tax discrepancies (Flamini et al. 2021; Sánchez-Ballesta and Yagüe 2021).

$$\text{Cash ETR} = \text{Cash Paid for Taxes} / \text{Pre-tax Income}$$

Table 1. Research Observations

Description	Number of Observations
The firm is listed on IDX from 2019 to 2023.	770
The firm did not publish any audited financial statements or annual reports.	(158)
The firm's audited financial statement is reported in USD.	(58)
The firm experienced losses.	(242)
The firm did not report any tax payments.	(38)
Outliers (ETR < 1 and ETR > 1)	(17)
Total	257

A substitute proxy for measuring tax avoidance is also employed, which is cash ETR with total assets as the denominator, and it has been used in prior research ([Wang et al. 2024](#); [Mindzak and Zeng 2020](#)). This is because [Edwards et al. \(2016\)](#) claimed that using pre-tax accounting income can be troubling for firms showing negative or close-to-zero income before tax, since it can cause disproportionately large fluctuations in tax rates rather than considerable changes in the cash paid for taxes. ETR and corporate tax avoidance are inversely related, where lower ETR indicates higher tax avoidance and vice versa ([Khelil and Khlif 2023](#)).

$$\text{Cash ETR} = \text{Cash Paid for Taxes} / \text{Total Assets}$$

This research also includes firm-specific variables such as profitability, leverage, firm size, liquidity, and capital intensity that are commonly found in tax avoidance literature. More profitable firms often minimize their tax expenses to boost net income, thereby attracting more investors ([Zhang et al. 2022](#); [Hossain et al. 2024](#); [Khlifi et al. 2025](#); [Alkurdi et al. 2024](#)). Profitability is measured by return on assets, which is the ratio of net income to total assets ([Abdelmoula et al. 2022](#); [Iazzi et al. 2023](#)). High-leverage firms are more proactive with tax avoidance, as interest expenses help reduce taxable income ([Toumi et al. 2022](#); [Khlifi et al. 2025](#)). This aligns with prior research that demonstrated a positive relationship between leverage and tax avoidance ([Hasan et al. 2021](#); [Hossain et al. 2024](#); [Shams et al. 2022](#)). Leverage is measured by the debt-to-equity ratio, which is the ratio of total liabilities to total equity ([Iazzi et al. 2023](#); [Abdelmoula et al. 2022](#)). Larger firms generally avoid paying less taxes to prevent a damaged reputation and a lower market value ([Khlifi et al. 2025](#); [Zhang et al. 2022](#)). This aligns with prior research that demonstrated a negative relationship between firm size and tax avoidance ([Toumi et al. 2022](#); [Hasan et al. 2021](#); [Kalbuana et al. 2023](#)). Firm size is proxied by the natural logarithm of total

assets ([Abdelmoula et al. 2022](#); [Iazzi et al. 2023](#)). Firms with higher liquidity tend to be reluctant to pay taxes under applicable laws ([Alkurdi et al. 2024](#)), in alignment with prior research that demonstrated a positive relationship between liquidity and tax avoidance ([Hasan et al. 2021](#); [Adela et al. 2023](#)). Liquidity is measured by the current ratio, which is the ratio of total current assets to current liabilities ([Du and Li 2023](#); [Alkurdi et al. 2024](#)). Larger firms tend to have higher capital investments that result in higher depreciation expenses, thus, more complex tax planning activities ([Pipatnarapong et al. 2025](#); [Koay and Sapiei 2025](#)), in alignment with previous research that demonstrated a positive relationship between capital intensity and tax avoidance ([Acosta Garcia et al., 2024](#); [Kamarudin et al., 2024](#); [Ortas & Gallego-Álvarez, 2020](#)). Capital intensity is measured as the ratio of fixed assets to total assets ([Taufik 2023](#); [Hendayana et al. 2024](#)).

The following main model equation depicts the research model of this study:

$$TAX_{it} = \alpha + \beta_1 FDS_{it} + \beta_2 PRO_{it} + \beta_3 LEV_{it} + \beta_4 FSZ_{it} + \beta_5 LIQ_{it} + \beta_6 CIN_{it} + \varepsilon_{it}$$

Where TAX is tax avoidance, FDS is financial distress, PRO is profitability, LEV is leverage, FSZ is firm size, LIQ is liquidity, CIN is capital intensity, α is the constant term, β is the coefficient of each variable, ε is an error term, i is the firm or cross-sectional unit, and t is the year or period (2019-2023). In addition to the main model, the researchers also employ two supporting models to ensure robustness. The first supporting model proxies tax avoidance using cash ETR with total assets as the denominator while keeping other variable measurements constant, whereas the second model proxies financial distress with the Zmijewski X-score, with all other variable measurements kept constant.

Method of Analysis

This study employs panel data regression, which includes both cross-sectional units (denoted as n) and time-series (denoted as t) (Bailey 2019). The panel data regression model is estimated using 3 approaches: the pooled least squares (PLS) model, the fixed effects (FE) model, and the random effects (RE) model. The PLS model underestimates the standard errors, inflating t - and F -statistics, thus resulting in findings that appear statistically significant when they should not be (Mehmetoglu and Jakobsen 2017). The FE model is a model that captures differences in the dependent variable with each unit and period while controlling unit-

specific effects (Bailey 2019). However, in the RE model, the unit-specific error term is treated as a stochastic variable that does not correlate with the independent variable (Bailey 2019).

The Chow and Hausman tests serve to determine the model best-fit for this study. The Chow test determines whether the PLS model is more suitable than the FE model, where a statistically significant result supports the FE model. In contrast, the Hausman test assesses whether the FE model is preferable to the RE model (Bailey 2019), with a statistically significant result indicating that the FE is preferred.

Table 2. Descriptive Statistics

Variable		Mean	Std. Dev.	Min	Max
TAX	Overall	0.2931888	0.2131315	0.0020063	0.9762785
	Between		0.1867594	0.0020063	0.9371796
	Within		0.1413597	-0.1181865	0.8867596
FDS	Overall	13.62605	58.4632	-376.8176	726.0823
	Between		87.18099	-376.8176	726.0823
	Within		19.52566	-182.9143	249.5773
PRO	Overall	0.0764431	0.2939217	-0.0110199	4.693277
	Between		0.4831713	0.0011217	4.693277
	Within		0.0287759	-0.0501945	0.2257537
LEV	Overall	1.499657	11.85809	-1.023203	190.3071
	Between		5.31051	-1.023203	51.45048
	Within		10.03042	-48.18382	140.3562
FSZ	Overall	5.22	7.52	0.0279	35.9
	Between		6.18	0.0448	33.5
	Within		1.16	-0.662	12.9
LIQ	Overall	5.891945	27.83352	0.0369568	406.9266
	Between		23.70444	0.0369568	185.5573
	Within		17.62718	-156.011	227.2613
CIN	Overall	0.2928521	0.2097818	0.0003243	0.969526
	Between		0.2161352	0.0005142	0.9493922
	Within		0.0368452	0.1301836	0.4524506

Firm (i)
Year (t)

Table 3. Estimation Model Test

Test	Description
Chow Test	0.0000
Hausman Test	0.0009
Result	FE

Note: FE stands for fixed effect

Classical assumption tests for panel data regression analysis include multicollinearity, heteroscedasticity, and autocorrelation tests. Multicollinearity is tested using the variance inflation factor (VIF) to detect any signs of multicollinearity (Mehmetoglu and Venturini 2021). If the mean VIF value exceeds 10, then there is multicollinearity (Hair et al. 2019). Aside from this, heteroscedasticity is tested using the Modified Wald Test (Baum 2001), while autocorrelation is tested using the Wooldridge Test (Drukker 2003). Both heteroscedasticity and autocorrelation are present when the Prob > chi2 and Prob > F values are below 0.05 (Baum 2001; Drukker 2003). Heteroscedasticity can be remedied with robust standard errors (Hoechle 2007).

total of 257 observations (N = 257) from 93 firms (n = 93), resulting in an average of 2 observations per firm (T-bar = 2.76344). TAX has a mean value of 0.2931888 and a considerably large standard deviation of 0.213131, indicating substantial variation in ETR values among firms in the consumer cyclical sector. Furthermore, higher variability is observed between firms than within firms over time, suggesting tax avoidance is more firm-specific than time-sensitive. FDS has a mean value of 13.62605 and a large standard deviation of 58.4632, especially between firms, indicating that differences in financial distress are primarily structural across firms rather than due to temporal changes. Since this mean value is greater than the critical value of 5.85, it implies that most firms are financially healthy.

RESULTS

Table 2 outlines the statistical summaries for the research variables. There is a

Classical Assumptions

Table 4. Classical Assumptions Test

Test	Description
FSZ	3.21
FDS	3.17
CIN	3.06
LIQ	2.60
PRO	1.57
LEV	1.02
Mean VIF	2.44
Modified Wald Test	0.0000
Wooldridge Test	0.6389

Estimation Model

Table 3 shows the tests conducted to select the most fitting model for estimation. Since the result of the Chow test shows a value, the FE model is chosen over the PLS model. Furthermore, the result from the Hausman test also shows a value; thus, the best-fitting estimation is the FE model.

Since the FE model is most appropriate, it is essential to test for classical assumptions such as multicollinearity, heteroscedasticity, and autocorrelation to ensure the data is fit for use, as shown in Table 4. The multicollinearity test used is the variance inflation factor (VIF); there are no symptoms of multicollinearity as the mean VIF is less than ten. The heteroscedasticity test used is the Modified Wald Test, and there are symptoms of heteroscedasticity as the Prob > chi2 value is 0.000. Lastly, the autocorrelation

test used is the Wooldridge Test, and there are no symptoms of autocorrelation as the Prob > F value is 0.6389.

Regression Analysis

Table 5 shows the regression analysis results of the FE model after it has been remedied with robust standard errors due to heteroscedasticity problems. The F-test result shows value of 0.000, which indicates the research model is suitable for use. The results reveal that the Z²-score has a negative effect on ETR; the higher the Z²-score, the lower the ETR value, and vice versa. This implies that the lower the distress level of firms, the higher the level of tax avoidance; therefore, the hypothesis is accepted.

Table 5. Regression Analysis

Description	TAX
FDS	-0.0045691*** (0.007)
PRO	-1.665601*** (0.000)
FSZ	-0.001261 (0.980)
DER	-0.0007375** (0.013)
CIN	0.2884233 (0.200)
LIQ	0.0068345*** (0.000)
Constant	0.3947375 (0.779)
Prob > F	0.0000***
R-squared	0.0167

Note: robust p-values in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In the case of the control variables, PRO has a negative effect on ETR; FSZ does not have a effect on ETR; DER has a negative effect on ETR; CIN does not have a effect on ETR; LIQ has a positive effect on ETR. From the explanation above, it can be concluded that both PRO and DER have a positive and effect on the level of tax avoidance, whereas LIQ has a negative effect on the level of tax avoidance. The overall R-squared value is 0.0167, which implies that this model can explain TAX by 1.67%, and the remaining is attributed to variables beyond the scope of this study.

Robust Test

Robust tests are conducted in this subsection by adopting other proxies for both financial distress and tax avoidance. Table 6 summarizes the robust test results, where tax avoidance is proxied by cash ETR with total assets as the denominator, while all other

variables remain constant in accordance with the model equation. FE is used for this estimation, with robust standard errors applied to address heteroscedasticity issues (untabulated). This model yields an overall R-squared of 0.17%. The results reveal that financial distress has a negative effect on corporate tax avoidance, aligning with the results of the main model.

Table 7 summarizes robust test results when financial distress is measured using the Zmijewski X-score, while all other variables remain constant in accordance with the model equation. The RE model is used for this estimation (untabulated). This model yields an overall R-squared of 13.68%. The results show that the X-score is positively on ETR, which suggests that financial distress has a negative effect on corporate tax avoidance. This robust test result aligns with the results of the main model, even when the proxy for financial distress is changed to the Zmijewski X-score.

Table 6. Alternate Proxy Test for Tax Avoidance

Description	TAX
FDS	-0.0003088*** (0.004)
PRO	0.1569736*** (0.001)
FSZ	-0.0112084*** (0.000)
DER	-0.0000161 (0.580)
CIN	0.0341541** (0.034)
LIQ	0.0003781*** (0.002)
Constant	0.3152998*** (0.000)
Prob > F	0.0000***
R-squared	0.0017

Note: robust p-values in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 7. Alternate Proxy Test for Financial Distress

Description	TAX
FDS	0.0246861*** (0.000)
PRO	-1.274578*** (0.000)
FSZ	0.0117277 (0.271)
DER	-0.000625 (0.521)
CIN	-0.0857428 (0.282)
LIQ	0.00169*** (0.000)
Constant	0.1123588 (0.709)
Prob > F	0.0000***
R-squared	0.1368

Note: robust p-values in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Accepting the formulated hypothesis, the findings of this study, from both the main model and robust model, demonstrate that financial distress negatively affects corporate tax avoidance. This suggests that firms under financial distress are generally less inclined to carry out tax avoidance, in contrast to financially healthy firms, which partake in more tax avoidance. The outcomes derived from this research can be interpreted from two contrasting perspectives: that of financially distressed firms and that of financially healthy firms. This dual perspective is adopted due to the mean Z'-score exceeding 5.85, indicating healthy financial position as evidenced by the descriptive statistics.

First, financially distressed firms may not have enough resources, both financial and human capital, to undertake complex planning and legal structuring to avoid taxes effectively. From the standpoint of financial performance, firms in financial distress may experience disruptions in liquidity, profitability, operating efficiency, and solvency. Due to their weaker

financial performance, these firms have limited financial resources to address the consequences of tax avoidance, such as administrative sanctions and fines imposed by the authorities. Moreover, firms reporting low cash ETRs are prone to face tax litigation from shareholders, as they are most concerned about their reputation and investments if the firm is too tax aggressive ([Donelson et al. 2024](#)).

In most cases, firms do not immediately declare bankruptcy; instead, they typically undergo a prolonged period of financial distress, during which proactive strategies for survival are required to avert bankruptcy ([Zhou et al. 2022](#)). Since corporate tax avoidance activities pose increased risks ([Adela et al. 2023](#)), financially distressed firms would avoid such measures since it would jeopardize their survival. In the context of Indonesia, firms that incur fiscal loss during the current tax year may offset this loss against fiscal net profits in subsequent tax years, for up to 5 consecutive years. Given this compensation, it is fair to argue that firms experiencing financial distress have no reason to

utilize tax avoidance strategies, as avoiding taxes would only further destabilize their financial health. The arguments above support the risk compensation theory, which suggests that financially distressed firms must respond to their dire situation by changing their behaviour, such as not committing risky tax avoidance activities.

Secondly, in the case of financially healthy firms, they have more financial resources and internal control to competently employ tax avoidance strategies. For example, having qualified and skilled managers can lessen the chances of firms experiencing stock price crash risk as a repercussion associated with tax avoidance (Garg et al. 2022). Furthermore, firms with a stronger perceived legitimacy, whose operations and esteem are recognized by society, can afford more freedom in their tax avoidance schemes, with relatively low backlash from shareholders (Gillette and Stinson 2022). Unlike financially distressed firms, whose goal is to prioritize survival,

financially healthy firms have more incentive to preserve cash for future growth and expansion. From a managerial perspective, firms with stronger financial performance allow their managers to be more risk-taking, using corporate tax avoidance strategies to increase their incentive compensation (Kovermann and Velte 2019). Even with equity compensation, managers would still engage in tax avoidance to boost business performance by maximizing profits (Wenwu et al. 2023). As discussed by Richardson et al. (2015), firms have greater inclination for tax avoidance when the incremental benefits outweigh the incremental costs. Consistent with the idea of risk compensation theory, since financially healthy firms have a higher risk threshold, their willingness to take part in tax avoidance increases, as they view the risks involved as low. Financially healthy firms have a ‘financial cushion’ to bear the weight and consequences of committing tax avoidance activities.

Table 8. Additional Tests

Description	Pre-COVID (2019) TAX	COVID (2020-2022) TAX	Post-COVID (2023) TAX
FDS	-0.0051039 (0.143)	0.0007168** (0.039)	-0.0079265 (0.285)
PRO	-0.5301305 (0.145)	0.0100664 (0.791)	-1.808565*** (0.001)
FSZ	0.0042556 (0.770)	0.0114551 (0.115)	0.0260877 (0.262)
DER	0.0624469* (0.085)	0.0003217 (0.976)	-0.0001906 (0.507)
CIN	-0.10687 (0.309)	-0.1439842** (0.012)	-0.0530981 (0.732)
LIQ	0.0067446* (0.070)	-0.0012874 (0.335)	0.0061763 (0.585)
Constant	0.2514987 (0.550)	-0.0778914 (0.707)	-0.23768 (0.722)
Prob > F	0.0019***	0.0123**	0.0285**
R-squared	0.2606	0.0875	0.1952

Note: robust p-values in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Additional Tests

To enrich the overall findings and analyses of this research, additional tests are conducted by segmenting the main research model into three distinct time periods: pre-COVID phase (2019), COVID-19 crisis period (2020-2022), and post-COVID recovery period (2023). This division allows for a clearer understanding of whether and how financial distress influences corporate tax avoidance across different temporal contexts. The results of these tests, based on multiple linear regression, are summarized in Table 8.

In the pre-pandemic period, financial distress had no discernible effect on corporate tax avoidance. The relatively stable institutional environment can explain this. Distressed firms faced strong incentives to maintain credibility with their existing stakeholders, such as creditors and investors, as they often depended on external financing options to survive. Engaging in tax avoidance practices could raise red flags about managerial opportunism ([Zhu et al. 2023](#)), potentially jeopardizing access to financing. Moreover, tax authorities were fully operational, meaning that the potential risks of audits were high. As a result, from the risk compensation theory's perspective, distressed firms had little incentive to increase their exposure to regulatory penalties through risky tax avoidance strategies, as the perceived risks outweighed their desired risk threshold. In this specific period, financial distress functioned more as a deterrent than a driver of tax avoidance.

However, the dynamics shifted in a noticeable way during the pandemic. Here, the financial distress of firms increased the level of corporate tax avoidance, reflecting the extraordinary pressures of the crisis. This finding is in opposition to the findings of [Ariff et al. \(2023\)](#), who argued that the sudden arrival of the pandemic gave financially distressed firms a

tighter opportunity to avoid taxes. However, in this study, the researchers argue that the pandemic caused severe liquidity and operational disruptions for firms already struggling financially. Under these extreme conditions, tax avoidance could serve as a survival strategy for firms to preserve cash ([Adela et al. 2023](#)). Coincidentally, government interventions in the form of tax relief programs, such as the reduction of income tax article 25 installments, blurred the line between legitimate tax benefits and avoidance, creating opportunities for firms to stretch compliance boundaries. More importantly, the monitoring intensity of tax regulators weakened, as attention shifted towards maintaining business continuity through policy shifts to prevent systemic collapse. In such an environment, the cost-benefit calculation changed, in which the short-term benefits of avoiding taxes outweighed the longer-term risk of potential penalties. This may raise the firm's desired risk level, thus making the perceived risk from tax avoidance strategies low. Consequently, through the lens of the compensation theory, distressed firms are more willing to avoid taxes during the pandemic to restore their risk to that level, as well as prioritizing financial survival.

Once the crisis subsided, financial distress no longer affected tax avoidance, mirroring pre-pandemic conditions. With economies reopening and institutions regaining stability, the government reintroduced stricter tax enforcement. Creditors and investors also resumed more rigorous scrutiny of financially distressed firms, with a possible renewed emphasis on transparency and credibility. For firms in distress, their strategic priority shifted from survival to recovery, requiring them to rebuild operations and signal long-term viability. In this environment, the perceived risks of tax avoidance once again outweighed the firm's desired risk level. Therefore, distressed firms

have little incentive to avoid taxes because doing so could undermine their recovery efforts and weaken stakeholder trust.

CONCLUSION

This research seeks to provide empirical evidence on how financial distress influences corporate tax avoidance in Indonesia, with emphasis on the consumer cyclical sector. The results reveal that financial distress and negatively affects corporate tax avoidance. According to the risk compensation theory, entities, including firms, shift their attitude based on their perceived degree of risk. In the context of this study, firms in a financially distressed position would deliberately reduce risky tax avoidance activities because their weaker financial position already places them at a relatively high level of risk. Pursuing proactive tax avoidance strategies can result in exposing them to further regulatory scrutiny and legal penalties. Financially healthy firms, however, have a higher target risk level since they possess greater financial stability. As a result, this encourages healthy firms to adopt more tax avoidance measures.

Amid preceding studies that highlighted the importance of tax avoidance for financially distressed firms from the perspective of conventional accounting theories, this study offers a new perspective on that relationship from a behavioural theory – the risk compensation theory. This research provides both theoretical and practical implications. By integrating a behavioural theory, the risk compensation theory, into accounting-related research, this study enriches the progression of accounting and taxation literature, specifically focusing on the dual perspectives of both financially distressed and healthy firms regarding corporate tax avoidance activities. Thus, the study proposes a more profound and robust theoretical knowledge of how firms manage organizational risk by balancing financial health against risky corporate

strategies such as tax avoidance. This research also emphasizes that the traditional view of tax avoidance as a simple trade-off between tax savings and costs is insufficient, as a firm's financial health plays a dominant role in its decision-making process.

The practical implications of this research hold equal importance. Contrary to empirical belief, which suggests that tax avoidance can be employed as a strategy to increase cost savings, this research shows that financially distressed firms are better off prioritizing tax compliance rather than tax avoidance. Financially distressed firms should choose to prioritize tax compliance to avoid both financial and litigation risks. Tax avoidance is not a universal “good”; it is only viable when the firm has the ‘financial cushion’ to withstand potential downside. Instead of employing tax avoidance strategies, financially distressed firms can evaluate the costs of their operational activities, seek to increase sales revenue, or focus their resources on core operational turnaround. Conversely, financially healthy firms with low ETRs must exercise caution, as this can further attract government tax auditors. Firms that have low ETRs experience much higher degree of tax uncertainty (with the possible forfeiture of tax benefits), since tax authorities are presumed to challenge the tax avoidance strategies employed by the firms and may prevail in such disputes ([Dyreg et al. 2019](#)). Consequently, tax avoidance tends to become costly for firms, forcing them to increase their precautionary cash reserves to manage future tax payments ([Hanlon et al. 2017](#)). Thus, financially healthy firms should strike a balance between tax aggressiveness and reputation, weighing the long-term reputational risks of aggressive tax avoidance against short-term cash savings. Such firms should also manage tax avoidance within legal bounds and with robust governance, avoiding reckless or overly aggressive approaches. Tax savings derived from tax avoidance practices can be redirected into essential investments such as research and

development, business expansion, or innovation. Firm's management also needs to understand the context of tax strategies, in which they should have different risk appetites for tax planning depending on the firm's financial health. Corporate managers can use these insights to better calibrate tax avoidance strategies in accordance with a firm's financial health, ensuring that potential risks remain within manageable limits for the firm itself. In times of weakening financials, upper management must choose to strengthen control and supervision over aggressive tax strategies.

For tax authorities and regulators, it should be acknowledged that financially distressed firms are less eager to implement tax avoidance schemes. Rather than the possibility of distressed firms resorting to tax avoidance, tax authorities can focus their attention on financially stable firms that possess a greater capacity and incentive to assume tax avoidance-related risks. Hence, tax audit resources can be more effectively allocated to financially healthier firms as they have a heightened tendency to

avoid taxes. Financial metrics can also be incorporated directly into risk assessment models used to select audit targets. Furthermore, assisting distressed firms in understanding safe tax practices can reduce the risk of unintentional non-compliance.

Nevertheless, this study has a limitation in that the selection of firms is not based on specific criteria, such as those classified under IDX's special monitoring list, due to the inability to conduct the analysis caused by the limited sample size. While this study focuses on financial distress and corporate tax avoidance within the Indonesian institutional context, future research can extend the analysis by including behavioural dimensions such as CEO risk behaviour. This may provide deeper insights into how managerial characteristics influence firms' tax strategies under distress conditions. Future studies can also use proxies to account for both conforming and non-conforming tax avoidance, as well as consider other firm-level factors and country-specific variables.

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