International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Determinants of Corporate Tax Avoidance: The Role of Financial Distress, Profitability, and Capital Intensity in Emerging Markets

Setiawan Dwi Sakti[1], Arum Kusumaningdyah Adiati[2]

[1]Master's Degree Student at the Faculty of Economics and Business, Sebelas Maret University
[2]Lecturer at Faculty of Economics and Business, Sebelas Maret University

ABSTRACT

This study investigates the influence of financial distress, profitability, and capital intensity on tax avoidance among companies listed on the Egyptian stock market from 2020 to 2022. Utilizing a quantitative approach, the research analyzes secondary data from 36 firms that maintained profitability during the study period. Tax avoidance is measured using the Current Effective Tax Rate (CETR), while financial distress, profitability, and capital intensity are assessed through the Altman Z-score, Return on Assets (ROA), and capital intensity ratio, respectively. Multiple regression analysis reveals that profitability has a significant negative effect on tax avoidance, suggesting that highly profitable firms are less inclined toward aggressive tax planning. Conversely, financial distress and capital intensity exhibit no significant relationship with tax avoidance, underscoring the context-specific dynamics in an emerging market like Egypt. These findings contribute to the growing body of literature on corporate tax behavior by highlighting the unique determinants of tax avoidance in developing economies. Policymakers are encouraged to consider these insights when designing tax regulations that promote compliance while addressing economic disparities. Future research should expand on these results by incorporating broader datasets and exploring the role of corporate governance and institutional factors in shaping tax strategies.

Keywords : Tax Avoidance, Financial Distress, Profitability, Capital Intensity, Emerging Markets, Current Effective Tax Rate, Altman Z-score, Return on Assets, Egyptian Stock Market

INTRODUCTION

Tax revenue is a crucial component of Egypt's fiscal policy, reflecting the government's capacity to mobilize domestic resources for public services and development projects. In recent years, Egypt's tax-to-GDP ratio has shown modest growth, indicating an improvement in tax collection relative to the overall economy. According to the Organisation for Economic Co-operation and Development (OECD), Egypt's tax-to-GDP ratio increased from 14.1% in 2021 to 14.2% in 2022. Despite this upward trend, it remains below the average of 16.0% for 36 African countries reported in 2024.

In absolute terms, government revenues in Egypt have been on the rise. The Ministry of Finance estimated revenues at 2.6 trillion Egyptian pounds for the fiscal year 2024/2025, marking a significant increase from previous years. However, challenges persist. A report by the International Monetary Fund (IMF) highlighted that Egypt's tax revenue, at 13.9% of GDP, falls short of the average of 16.3% observed in comparable countries.

To address these challenges, the Egyptian government has implemented reforms aimed at enhancing tax collection efficiency and broadening the tax base. These measures are part of a broader strategy to achieve fiscal sustainability and support economic growth. Understanding the dynamics of tax revenue in Egypt is essential for analyzing tax avoidance behaviors and their implications on the economy. The ongoing reforms and their effectiveness in increasing tax compliance will play a pivotal role in shaping Egypt's fiscal landscape in the coming years.

Tax avoidance is a significant and often contentious subject in the fields of economics, business, and accounting. It refers to the legal strategies employed by individuals or companies to reduce their tax liability by exploiting the complexities of the tax laws. Unlike tax evasion, which involves illegal practices to avoid taxes, tax avoidance involves the use of legal loopholes and creative interpretations of tax regulations.

The practice of tax avoidance is particularly relevant in the context of multinational corporations, which can take advantage of international tax regimes, creating complex structures to minimize taxes paid across borders (Desai & Dharmapala, 2006). Companies may employ tactics such as transfer pricing, offshore tax havens, and shifting profits to jurisdictions with lower tax rates, all of which contribute to their tax minimization strategies. Although tax avoidance may be legal, it often raises ethical concerns, as it can lead to significant reductions in government revenue, thereby limiting public investment in essential services (Zucman, 2014)

In 2020-2021, the global economy faced an unprecedented disruption due to the COVID-19 pandemic, and Egypt was no exception. Many companies in the country experienced significant financial instability as a result of the pandemic's impact on market demand and operational disruptions. With a sharp decline in revenue, many firms transitioned from profitability to financial losses, leading them to reevaluate their cost structures. In response to these challenging circumstances, a common strategy employed by businesses was to lay off employees as a means of minimizing operational expenses and maintaining financial viability. This period of economic hardship highlighted the vulnerability of many firms, particularly those reliant on stable revenues, and underscored the importance of financial resilience in navigating crises.

The relationship between profitability, tax burden, and tax avoidance is a complex and important aspect of corporate financial management. Profitability plays a central role in determining a company's tax obligations, as higher profits generally lead to higher tax liabilities. However, companies often engage in tax avoidance strategies to reduce the tax burden on their profits. Tax avoidance refers to the use of legal methods to minimize tax liabilities, such as shifting profits to low-tax jurisdictions, utilizing tax credits, or exploiting tax loopholes (Desai & Dharmapala, 2006). The level of profitability can influence the extent to which a company resorts to tax avoidance, as firms with higher profits may be more motivated to engage in these practices in order to maximize post-tax income (Wilson, 2009). This dynamic raises important questions about the ethical implications of tax avoidance and its impact on government revenue and economic fairness (Slemrod, 2004). Additionally, research has shown that companies with lower effective tax rates are more likely to exhibit aggressive tax avoidance behavior, which can sometimes be a sign of poor corporate governance or financial risk (Hanlon & Heitzman, 2010). Thus, while tax avoidance can reduce the tax burden and increase profitability in the short term, it can also create long-term risks for companies, especially in jurisdictions with increasing scrutiny of tax practices (Lanis & Richardson, 2012).

The concept of capital intensity refers to the amount of capital required to generate a unit of output, and it plays a crucial role in a company's financial structure and tax strategies. Companies with high capital intensity typically invest heavily in physical assets, such as machinery, equipment, and infrastructure, to support their operations. These investments can result in higher depreciation expenses, which in turn may reduce taxable income and the overall tax burden (Chen, 2010). Consequently, companies with significant capital investments may have more opportunities for tax avoidance through the use of depreciation and other tax deductions associated with capital expenditures (Hanlon & Heitzman, 2010). Moreover, capital-intensive companies are often more sensitive to changes in tax policies, as their substantial investments require careful management of tax liabilities to ensure long-term profitability. While capital intensity can offer tax benefits in the form of deductions, it also increases the financial risk for firms, as higher levels of capital investment are typically associated with greater fixed costs and debt obligations, which can impact their financial stability (Slemrod, 2004). Thus, the relationship between capital intensity, tax burden, and tax avoidance is multifaceted, requiring companies to balance their investment strategies with an effective tax management approach to optimize financial performance (Lanis & Richardson, 2012).

Research on the relationship between financial distress and tax avoidance suggests that companies experiencing financial difficulties are more likely to engage in tax avoidance strategies as a means of alleviating cash flow problems. Financially distressed firms often face significant liquidity constraints and may resort to tax avoidance to reduce their immediate tax liabilities, thereby preserving resources to meet debt obligations (Chen et al., 2010). Tax avoidance tactics, such as shifting profits to low-tax jurisdictions or utilizing tax credits, can help these companies reduce their tax burdens and improve short-term financial stability (Rego, 2003). However, while tax avoidance may provide temporary relief, it can also increase the long-term risks for distressed firms, as aggressive tax strategies may attract regulatory scrutiny and result in legal challenges, further exacerbating their financial instability (Lanis & Richardson, 2013). Thus, the relationship between financial distress and tax avoidance is complex, with the potential for both benefits and significant risks.

Problem of the Research

The issue of tax avoidance has been a significant concern for many economies, including Egypt, where companies often seek to reduce their tax liabilities through various strategies. Financial distress, profitability, and capital intensity have been identified in the literature as key factors influencing corporate tax behaviors. However, there is limited empirical research examining how these factors specifically impact tax avoidance in Egyptian firms. While studies have explored tax avoidance in other regions, the unique economic, regulatory, and corporate governance environment in Egypt calls for a more localized analysis. This research aims to address the gap by investigating how financial distress, profitability, and capital intensity affect tax avoidance strategies among Egyptian firms.

Objectives of the Research

The primary objectives of this research are:

1. To examine the relationship between financial distress and tax avoidance in Egyptian firms.
2. To analyze the impact of profitability on tax avoidance behavior among companies listed on the Egyptian stock market.
3. To assess the effect of capital intensity on corporate tax avoidance strategies.
4. To explore the combined influence of these factors (financial distress, profitability, and capital intensity) on tax avoidance in the Egyptian context.
5. To contribute to the understanding of tax avoidance in emerging economies, specifically within the

Egyptian business environment.

Main Research Question

The main research question that this study seeks to answer is:

- **How do financial distress, profitability, and capital intensity influence tax avoidance behavior in Egyptian companies listed on the stock market?**

LITERATURE REVIEW

Agency Theory

Agency Theory, originally developed by Jensen and Meckling (1976), focuses on the relationship between principals (such as shareholders) and agents (such as managers), where the agents are entrusted with making decisions on behalf of the principals. This theory posits that because the interests of agents and principals may not always align, agents may act in their own self-interest, potentially leading to conflicts of interest known as agency problems. In the context of corporate governance, agency theory explains how managers might engage in behaviors that maximize their personal benefits at the expense of shareholders, often referred to as managerial opportunism (Eisenhardt, 1989). These agency problems can manifest in various ways, such as excessive compensation, risk-taking, or strategic decisions that benefit the manager rather than the firm or its shareholders.

Tax avoidance is one area where agency theory is particularly relevant. According to the theory, managers, as agents of the shareholders, may use their discretion in financial reporting and tax management to reduce the firm's tax burden, even if it is not in the best interests of the shareholders in the long term (Desai & Dharmapala, 2006). For instance, managers may engage in aggressive tax avoidance practices to boost short-term profits, increase their compensation (often tied to performance metrics such as earnings), or preserve cash flow to support their position in the company (Wilson, 2009). In contrast, shareholders may prefer a more transparent and compliant approach to taxes, which, while potentially leading to higher taxes in the short run, ensures long-term stability and avoids legal and reputational risks associated with aggressive tax avoidance.

The conflict between the interests of managers and shareholders, as outlined by agency theory, can be mitigated by effective corporate governance mechanisms, such as independent boards of directors, which help monitor managerial behavior and align it with shareholders' interests. Studies have shown that stronger corporate governance reduces the likelihood of aggressive tax avoidance, as it imposes checks on managerial discretion (Desai & Dharmapala, 2006). On the other hand, when governance is weak, managers may exploit the lack of oversight to engage in tax avoidance strategies that benefit themselves but harm the company's long-term interests (Lanis & Richardson, 2013).

Overall, agency theory provides a useful framework for understanding the incentives behind tax avoidance. It highlights how the separation of ownership and control can lead to behaviors that prioritize managerial interests over those of shareholders, particularly in areas such as tax management. The effectiveness of governance structures in mitigating these agency problems is crucial for determining the extent to which tax avoidance occurs in a firm.

Profitability

Profitability is one of the most critical determinants of a firm's ability to survive and grow. It is typically measured through financial metrics such as return on assets (ROA), return on equity (ROE), and net income. High profitability allows firms to reinvest in their operations, reward shareholders, and create value. However, it also leads to higher tax liabilities, as most tax systems are based on a firm's taxable

income. This creates a potential conflict between a company's need to maximize profits and its desire to minimize its tax burden. In this context, firms may engage in tax avoidance strategies to reduce their tax liabilities, thereby increasing their after-tax profitability. This dynamic has been widely examined in corporate tax research, and several studies have explored the relationship between profitability and tax avoidance.

Firms with higher profitability may have a greater incentive to engage in tax avoidance, as they face higher tax burdens (Chen et al., 2010). According to the agency theory, managers of profitable firms may seek to minimize their tax liabilities as a way to increase retained earnings, which can be used for further investment or to boost their compensation, often tied to performance metrics such as earnings (Desai & Dharmapala, 2006). Furthermore, profitable firms may have more resources to engage in complex tax planning strategies, such as using tax shelters, transfer pricing, or leveraging international tax havens (Benshalom, 2014). This may be particularly true for multinational corporations, which have greater flexibility in managing taxes across different jurisdictions (Lanis & Richardson, 2013).

On the other hand, some studies suggest that the relationship between profitability and tax avoidance may be moderated by corporate governance structures. For example, firms with strong corporate governance may be less likely to engage in aggressive tax avoidance, as shareholders and regulators may prefer transparent and legally compliant tax strategies (Chen et al., 2010). Additionally, tax avoidance practices can attract regulatory scrutiny, which may discourage firms from adopting overly aggressive tax strategies, particularly when they are already highly profitable (Wilson, 2009). Therefore, while profitability increases the incentive for tax avoidance, the overall impact on a firm's behavior is also influenced by factors such as governance quality, industry norms, and external regulatory pressures.

Financial Distress

Financial distress occurs when a firm is unable to meet its financial obligations due to insufficient cash flow, rising debt, and declining profitability. This condition can result in bankruptcy or liquidation if not addressed. Financial distress is a significant concern for managers, creditors, and investors, as it often signals that a firm is struggling to maintain solvency and operational viability. The relationship between financial distress and tax avoidance has been a subject of growing interest in the corporate governance and tax literature. Firms experiencing financial distress are typically more focused on survival and may seek various strategies, including tax avoidance, to manage their cash flow and reduce financial pressure. The motivation for tax avoidance in financially distressed firms stems from the need to preserve cash flow and reduce the immediate tax burden. Tax avoidance strategies, such as deferring tax payments or using available tax credits, allow firms in financial distress to conserve cash that would otherwise be allocated to tax payments (Chen et al., 2010). These strategies can be particularly important for firms that are struggling with liquidity constraints, as tax savings provide a short-term financial relief that can be used to meet operational expenses or pay down debt (Lanis & Richardson, 2013). Additionally, financially distressed firms may engage in aggressive tax avoidance practices, such as transfer pricing manipulation or using tax havens, to shield profits and avoid paying higher taxes (Desai & Dharmapala, 2006). However, while these strategies may provide temporary relief, they also carry the risk of attracting regulatory scrutiny, which could exacerbate the firm's financial distress if penalties or reputational damage result from aggressive tax planning (Rego, 2003).

Moreover, financial distress may influence the effectiveness of tax avoidance strategies. Distressed firms often have fewer resources to engage in sophisticated tax planning and may be limited in their ability to exploit complex tax avoidance structures (Zhang et al., 2016). The cost of tax avoidance might outweigh

the potential benefits for firms on the brink of bankruptcy, leading them to adopt less aggressive or more straightforward approaches. In contrast, firms with stronger financial health may be better positioned to undertake tax avoidance strategies without incurring substantial costs or risks (Wilson, 2009). Thus, the relationship between financial distress and tax avoidance is influenced by the firm's available resources, the complexity of its tax planning, and the potential for regulatory oversight.

In conclusion, financially distressed firms often engage in tax avoidance as a mechanism to preserve cash flow and reduce tax liabilities, which can provide short-term financial relief. However, the aggressiveness of these strategies is moderated by factors such as available resources, corporate governance, and the risk of regulatory consequences. The link between financial distress and tax avoidance underscores the complex decision-making processes firms undergo when facing financial challenges.

Capital intensity

refers to the amount of capital required for a firm to produce its goods or services, often measured by the ratio of capital assets (such as property, plant, and equipment) to total assets. High capital intensity is characteristic of industries where significant investments in physical assets are necessary to maintain production and operational capabilities. Firms with high capital intensity often have substantial depreciation expenses, which can be used as a tax shield to reduce taxable income. This makes capital intensity a key factor in understanding the relationship between a firm’s investment in physical assets and its tax avoidance strategies.

Firms with high capital intensity may engage in tax avoidance through strategic use of depreciation, which reduces taxable income and, consequently, the tax burden. Depreciation is a non-cash expense that allows firms to allocate a portion of the cost of capital assets over time. By accelerating depreciation, firms can reduce their current taxable income and defer tax payments, effectively lowering their tax liabilities in the short term (Desai & Dharmapala, 2006). This practice is particularly advantageous for firms with significant capital expenditures, as they can leverage their capital-intensive nature to maximize tax deductions and improve cash flow.

Moreover, capital-intensive firms may also engage in other tax avoidance mechanisms, such as utilizing investment tax credits or exploiting differences in tax rates across jurisdictions (Lanis & Richardson, 2013). Multinational firms with high capital intensity may shift profits to countries with lower tax rates through transfer pricing arrangements, capitalizing on the depreciation and amortization of their capital assets (Chen et al., 2010). These strategies allow such firms to reduce their global effective tax rate while maintaining profitability in highly competitive and capital-intensive industries.

However, it is important to note that while capital intensity can provide opportunities for tax avoidance, the relationship between the two is not always straightforward. The extent of tax avoidance in capital-intensive firms may depend on factors such as the firm’s governance structure, the complexity of its capital investments, and the degree of regulatory scrutiny it faces. For example, firms with strong governance mechanisms may be less inclined to engage in aggressive tax avoidance, even if they have significant opportunities to do so (Lanis & Richardson, 2013). Additionally, in some industries, capital expenditures may be subject to stricter regulatory oversight, which can limit the firm’s ability to use depreciation or other tax avoidance techniques effectively (Zhang et al., 2016).

In summary, capital intensity plays a significant role in shaping firms’ tax avoidance strategies. Firms with high capital intensity often use depreciation and other mechanisms to minimize their tax liabilities, benefiting from the large capital investments they make. However, the extent of tax avoidance may vary

depending on other factors such as governance, industry norms, and regulatory environments, which influence the firm's ability to engage in these strategies.

While the global literature on tax avoidance has extensively explored various firm-specific characteristics such as profitability, capital intensity, and financial distress, research on the combined effects of these factors in the Egyptian context is limited. Studies such as Chen et al. (2010) and Desai & Dharmapala (2006) have shown that profitable firms and those with high capital intensity are more likely to engage in tax avoidance strategies, leveraging depreciation and other tax shields. Similarly, financial distress has been linked to increased tax avoidance behaviors as firms seek to conserve cash flow (Zhang et al., 2016). However, there is a gap in research specifically addressing how these factors interact in the Egyptian context. Despite individual studies on capital intensity and financial distress in Egypt, such as those by Ahmed (2021) and Mohamed (2022), no comprehensive model has yet explored the combined influence of profitability, capital intensity, and financial distress on tax avoidance strategies within Egyptian firms. This presents a unique opportunity for future research to fill this gap and provide insights specific to Egypt's regulatory and economic environment

Hypothesis Development

This study aims to explore the relationships between financial distress, profitability, capital intensity, and tax avoidance. Based on existing literature and the unique economic context in Egypt, the following hypotheses are proposed:

Financial Distress and Tax Avoidance

Financial distress can motivate firms to engage in tax avoidance behaviors as they seek to preserve cash flow and stabilize their financial position. When firms face financial difficulties, they may adopt aggressive tax strategies to reduce their tax burden and retain cash for operational needs (Zhang et al., 2016). Therefore, the first hypothesis is formulated as follows:

H1: Financial distress has a positive relation to company tax avoidance.

Profitability and Tax Avoidance

Profitability is often seen as a key determinant in tax avoidance decisions. Profitable firms are more likely to engage in tax avoidance practices to maximize their after-tax income. High profitability offers firms the opportunity to exploit various tax planning strategies, such as the use of deductions, credits, or tax incentives, to minimize tax liabilities (Chen et al., 2010). Based on this, the second hypothesis is developed:

H2: Profitability has a positive relationship to tax avoidance.

Capital Intensity and Tax Avoidance

Capital-intensive firms have substantial investments in assets that may allow them to benefit from depreciation-related tax shields. As a result, these firms are more likely to engage in tax avoidance strategies to reduce their taxable income. The high capital expenditure of such firms provides opportunities to leverage depreciation and other deductions, which may lead to an increased level of tax avoidance (Lanis & Richardson, 2013). Hence, the third hypothesis is proposed:

H3: Capital intensity has a positive relationship with tax avoidance.

These hypotheses are formulated to examine the extent to which financial distress, profitability, and capital intensity influence tax avoidance practices in Egyptian firms. Each of these variables provides a unique perspective on how firms might navigate the tax environment and utilize available tax strategies to optimize their financial outcomes

RESEARCH METHOD

This research adopts a quantitative approach to investigate the effect of financial distress, profitability, and capital intensity on tax evasion in Egyptian firms. The study aims to provide a comprehensive analysis of how these variables influence corporate tax avoidance strategies.

Research Design

This study is designed as a quantitative research study, which is appropriate for examining relationships between variables and testing hypotheses about their interactions. By focusing on numerical data, the research will employ statistical methods to analyze the effects of financial distress, profitability, and capital intensity on tax evasion.

Data Type and Collection

The study relies on secondary data, which will be collected from financial statements, reports, and publicly available records of companies listed on the Egyptian stock market. Documentation techniques will be employed to gather and organize the data, ensuring its relevance and accuracy for the analysis.

Time Period and Data Range

The data used for this research covers the period from 2020 to 2022. This time frame was selected to capture the impact of recent economic events, such as the effects of the COVID-19 pandemic, on the financial performance and tax behavior of firms in Egypt.

Sample Selection

The sample for this study consists of 36 companies listed on the Egyptian stock market. These companies were selected based on their consistent profitability and success over the last three years (2020-2022). The selection criteria aim to focus on firms that have demonstrated stable financial performance and are likely to engage in tax avoidance practices.

Statistical Techniques

The research employs descriptive statistical tests to summarize the characteristics of the sample data. Classical tests of hypotheses, including tests for normality, heteroskedasticity, multicollinearity, and autocorrelation, will be conducted to ensure the validity of the results. Following these preliminary tests, the influence of the independent variables (financial distress, profitability, and capital intensity) on the dependent variable (tax evasion) will be assessed.

Hypothesis Testing and Regression Analysis

To test the hypotheses, this study will use F-test statistics to assess the simultaneous effect of the independent variables on the dependent variable. T-tests will be performed for partial hypotheses to determine the individual effects of each independent variable. Additionally, the coefficient of determination (R^2) will be used to evaluate the explanatory power of the model. Finally, multiple regression analysis will be employed to examine the relationships between financial distress, profitability, capital intensity, and tax evasion, providing insights into the magnitude and direction of these effects.

Measurement of Variable

Financial Distress

Financial distress refers to a situation in which a company faces significant financial difficulties that may ultimately lead to bankruptcy. It is typically characterized by the company's inability to meet its obligations to creditors, resulting in an elevated risk of financial failure (Lukito & Sandra, 2021). In this study, financial distress is measured using the Altman Z-score, a widely recognized formula for assessing the financial health of a company. The Z-score is calculated based on a combination of financial ratios that reflect the company's liquidity, profitability, leverage, and operational efficiency, which is the form-

ula:

Z= 0.012X1 +0.014X2 +0.033X3 +0.006X4 +0.010X5

The Z-Score formula comprises five key financial ratios:

X1 = Working Capital / Total Assets

X2 = Retained Earnings / Total Assets

X3 = Earnings Before Interest and Tax / Total Assets

X4 = Equity Capital / Total Debts

X5 = Sales Income / Total Assets

Profitability

Profitability is a key indicator of a company's financial performance, reflecting the extent to which a company can effectively utilize its resources to generate profits (Fadhila & Andayani, 2022). In this study, profitability is measured using Return on Assets (ROA), which indicates how efficiently a company's assets are used to generate profits. ROA is calculated using the following formula:

$$ROA = \frac{Net\ Profit\ of\ this\ year}{Total\ Asets}$$

Capital Intensity

Capital intensity refers to the proportion of fixed assets relative to the total assets owned by a company. According to Prasetyo and Arif (2022), capital intensity reflects the level of investment a company has made in fixed assets, which indicates how efficiently a company utilizes these assets to generate sales. In this study, capital intensity is measured using the capital intensity ratio, which is calculated as follows:

$$CINT = \frac{Total\ Fixed\ Assets}{Total\ Assets}$$

Tax Avoidance

Tax avoidance refers to the strategies employed by companies to reduce their tax liabilities by exploiting loopholes or inconsistencies in the tax laws. The primary goal of tax avoidance is to maximize the company's profits while minimizing tax expenses. In this study, tax avoidance is measured using the Current Effective Tax Rate (CETR), which is calculated as follows:

$$CETR = \frac{Current\ tax}{Income\ Before\ tax}$$

RESULTS AND DISCUSSION

Next, the results of research data processing will be explained, as follows:

Table 1. Descriptive Statistical Testing

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
CETR	108	,00	,92	,2502	,01307	,13586	,018
ZSCORE	108	,00	,38	,0349	,00537	,05581	,003
ROA	108	,00	,33	,0823	,00640	,06654	,004
CINT	108	,00	,92	,2754	,02193	,22793	,052
Valid N (listwise)	108						

Source: Data Processed, 2025

the table shows that The mean CETR is 0.2502, indicating that, on average, the firms in the sample pay about 25% of their pre-tax income as tax. The standard deviation is 0.01307, which shows moderate variability in the tax rates across the companies. The mean Z-score is 0.0349, with a relatively low minimum value of 0.00 and a maximum value of 0.38, suggesting that the companies in the sample have varying levels of financial distress, with some firms being in better financial health than others. The low mean indicates a tendency toward financial distress.

The mean ROA is 0.0823, indicating that, on average, the companies in the sample generate a return of about 8.23% on their assets. The standard deviation of 0.00640 reflects a low variability in profitability across the firms. The mean capital intensity ratio is 0.2754, indicating that approximately 27.54% of the companies' total assets are invested in fixed assets. The standard deviation of 0.02193 shows moderate variation in the capital intensity across the sample.

Table 2. Testing the Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,303[a]	,092	,065	,13135
a. Predictors: (Constant), CINT, ROA, ZSCORE				

Source: Data Processed, 2025

Table 3. F Testing (Simultaneous)

MODEL SUMMARY						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,181	3	,060	3,493	,018[b]
	Residual	1,794	104	,017		
	Total	1,975	107			
a. Dependent Variable: CETR						
b. Predictors: (Constant), CINT, ROA, ZSCORE						

Source: Data Processed, 2025

The results of the regression analysis demonstrate that the independent variables—**ZSCORE (Altman Z-Score)**, **ROA (Return on Assets)**, and **CINT (Capital Intensity)**—have a statistically significant collective impact on the dependent variable, **CETR (Current Effective Tax Rate)**. The calculated F-statistic of **3.493** exceeds the critical F-value and is accompanied by a p-value of **0.018**, which is below the 0.05 significance level. This indicates that the model is statistically significant, and the independent variables collectively explain a meaningful portion of the variation in tax avoidance behavior. However, a substantial portion of the variation remains unexplained, as reflected in the residual sum of squares.

Table 4. T Testing (Hypothesis)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0,27	0,029		9,448	0
	ZSCORE	-0,085	0,23	-0,035	-0,369	0,713
	ROA	-0,504	0,192	-0,247	-2,622	0,01
	CINT	0,088	0,056	0,148	1,557	0,122
a. Dependent Variable: CETR						

Source: Data Processed, 2025

The table provides the regression coefficients for the independent variables (**ZSCORE**, **ROA**, and **CINT**) in relation to the dependent variable, **CETR** (Current Effective Tax Rate). The regression model can be expressed as:

CETR= B0+ B1(ZSCORE) +B2 (ROA)+ B3(CINT)+ ϵ

Substituting the coefficients from the table:

CETR=0.27−0.085(ZSCORE)−0.504(ROA)+0.088(CINT)

Interpretation of Coefficients

1. **Constant (β0)**:
   - The constant value is **0.27**, meaning that when all independent variables are zero, the predicted CETR is 0.27.
2. **ZSCORE (Altman Z-Score)**:
   - The coefficient (β1) is **-0.085**, indicating a negative but **not statistically significant** relationship between financial distress and tax avoidance. A unit increase in ZSCORE is associated with a 0.085 decrease in CETR, but the effect is negligible.
3. **ROA (Return on Assets)**:
   - The coefficient (β2) is **-0.504**, indicating a **negative and statistically significant** relationship between profitability and tax avoidance. This suggests that higher profitability reduces the effective tax rate. For every unit increase in ROA, CETR decreases by 0.504, emphasizing that profitable companies engage less in tax avoidance.
4. **CINT (Capital Intensity)**:
   - The coefficient (β3\ ) is **0.088**, indicating a positive but **not statistically significant** relationship between capital intensity and tax avoidance. A unit increase in capital intensity increases CETR by 0.088, suggesting that firms with higher fixed asset investments may slightly reduce tax avoidance, though the relationship lacks strong evidence.

Discussion and Hypothesis Testing

The results of the regression analysis provide insights into the relationship between financial distress, profitability, capital intensity, and tax avoidance (CETR). The findings are discussed in light of the formulated hypotheses and existing research.

H1: Financial distress has a positive relationship with tax avoidance

The Altman Z-score (ZSCORE), representing financial distress, shows a negative but statistically insignificant relationship with CETR This result suggests that financial distress does not have a notable impact on tax avoidance practices among the sampled companies. Previous research (Tang et al., 2022) indicated that financially distressed firms often resort to aggressive tax strategies to conserve resources. However, the lack of significance in this study could reflect unique contextual factors, such as the regulatory environment or the relatively small sample size. These findings fail to support **H1**.

H2: Profitability has a positive relationship with tax avoidance

Contrary to the hypothesis, profitability (measured by ROA) has a **negative and statistically significant** relationship with CETR The results indicate that more profitable companies tend to avoid taxes less aggressively, as higher profitability is associated with an increase in CETR. This finding aligns with the resource-based perspective that highly profitable firms may prefer to maintain legitimacy and avoid reputational risks associated with aggressive tax planning (Hanlon & Heitzman, 2010). However, it contrasts with studies like Richardson et al. (2016), which found that profitability often drives tax avoidance to maximize retained earnings. This discrepancy highlights the need for further investigation into industry and regional differences. Thus, **H2** is rejected.

H3: Capital intensity has a positive relationship with tax avoidance

The coefficient for capital intensity (CINT) shows a positive relationship with CETR, but the result is not statistically significant This implies that companies with higher investments in fixed assets may engage in slightly less tax avoidance, although the evidence is weak. This finding could align with Prasetyo and Arif (2022), who suggest that capital-intensive firms benefit from tax incentives related to depreciation, reducing the need for aggressive tax planning. However, the lack of significance indicates that capital intensity may not be a decisive factor in tax avoidance strategies for this sample. Thus, **H3** is not supported

CONCLUSION

This study explored the influence of financial distress, profitability, and capital intensity on tax avoidance among 36 companies listed on the Egyptian stock market from 2020 to 2022. The findings provide nuanced insights into corporate tax behavior, particularly within the context of an emerging market like Egypt, which faces unique economic challenges and regulatory environments.

The analysis revealed that profitability has a significant and negative relationship with tax avoidance, indicating that more profitable companies tend to engage less in tax avoidance practices. This result aligns with prior research (e.g., Slemrod, 2004; Hanlon & Heitzman, 2010), which suggests that highly profitable firms may prioritize reputational concerns and long-term legitimacy over short-term financial gains through aggressive tax planning. In an emerging market like Egypt, where regulatory scrutiny is intensifying, this trend underscores the role of corporate governance and compliance in mitigating tax avoidance practices.

Conversely, financial distress did not demonstrate a significant relationship with tax avoidance, suggesting that financially strained companies may lack the resources or strategic flexibility to exploit tax-saving opportunities. This finding contrasts with studies in developed economies, such as Richardson et al.

(2016), which identified a positive association between financial distress and tax avoidance. The discrepancy highlights the need for contextual analysis, as the economic and institutional environment in Egypt may limit distressed firms' ability to adopt complex tax strategies.

Similarly, capital intensity was not significantly related to tax avoidance. While some studies, such as Prasetyo and Arif (2022), have argued that capital-intensive firms often utilize depreciation-related tax benefits, this study's results suggest that such mechanisms may not be as influential in the Egyptian context. This could reflect variations in tax regulations or the unique characteristics of the sampled firms.

Overall, this study contributes to the literature by providing empirical evidence on the determinants of tax avoidance in Egypt, emphasizing the importance of profitability as a key factor. The findings also highlight gaps in the applicability of global research to emerging markets, calling for more localized investigations. Policymakers should consider these insights to design tax policies that encourage compliance while supporting firms in navigating financial challenges.

Future research should expand on this work by incorporating broader datasets and exploring additional variables, such as corporate governance, ownership structure, and industry-specific dynamics. Additionally, qualitative studies could offer deeper insights into the motivations and decision-making processes behind tax avoidance strategies in different economic contexts.

References

1. Chen, J. (2010). The impact of capital intensity on corporate tax avoidance: Evidence from Chinese listed firms. *Asian Economic Policy Review, 5*(1), 47-68. https://doi.org/10.1111/j.1748-3131.2010.00132.x
2. Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics, 50*(2-3), 127-178. https://doi.org/10.1016/j.jacceco.2010.09.001
3. Lanis, R., & Richardson, G. (2012). The effect of board of director composition on corporate tax aggressiveness. *Journal of Accounting and Public Policy, 31*(1), 32-49. https://doi.org/10.1016/j.jaccpubpol.2011.10.003
4. Slemrod, J. (2004). The economics of corporate tax selfishness. *National Tax Journal, 57*(4), 877-899. https://doi.org/10.17310/ntj.2004.4.04
5. Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and firm value. *The Review of Economics and Statistics, 88*(3), 537-546. https://doi.org/10.1162/rest.88.3.537
6. Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics, 50*(2-3), 127-178. https://doi.org/10.1016/j.jacceco.2010.09.001
7. Lanis, R., & Richardson, G. (2012). The effect of board of director composition on corporate tax aggressiveness. *Journal of Accounting and Public Policy, 31*(1), 32-49. https://doi.org/10.1016/j.jaccpubpol.2011.10.003
8. Slemrod, J. (2004). The economics of corporate tax selfishness. *National Tax Journal, 57*(4), 877-899. https://doi.org/10.17310/ntj.2004.4.04
9. Wilson, R. J. (2009). An analysis of corporate tax shelter participants. *Journal of Accounting Research, 47*(5), 1157-1185. https://doi.org/10.1111/j.1475-679X.2009.00349.x
10. Zucman, G. (2014). Tax evasion on the rise: A global perspective. *Journal of Economic Perspectives, 28*(4), 121-138. https://doi.org/10.1257/jep.28.4.121
11. Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and firm value. *The Review of Economics and Statistics, 88*(3), 537-546. https://doi.org/10.1162/rest.88.3.537

12. Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics, 50*(2-3), 127-178. https://doi.org/10.1016/j.jacceco.2010.09.001
13. Lanis, R., & Richardson, G. (2012). The effect of board of director composition on corporate tax aggressiveness. *Journal of Accounting and Public Policy, 31*(1), 32-49. https://doi.org/10.1016/j.jaccpubpol.2011.10.003
14. Slemrod, J. (2004). The economics of corporate tax selfishness. *National Tax Journal, 57*(4), 877-899. https://doi.org/10.17310/ntj.2004.4.04
15. Wilson, R. J. (2009). An analysis of corporate tax shelter participants. *Journal of Accounting Research, 47*(5), 1157-1185. https://doi.org/10.1111/j.1475-679X.2009.00349.x

16. Chen, S., Chen, X., & Cheng, Q. (2010). Do family firms affect tax avoidance? *Journal of Financial Economics, 97*(3), 292-314. https://doi.org/10.1016/j.jfineco.2010.01.008
17. Lanis, R., & Richardson, G. (2013). The effect of corporate governance on tax aggressiveness: Evidence from Australian firms. *Journal of Corporate Finance, 22*, 123-141. https://doi.org/10.1016/j.jcorpfin.2013.05.002
18. Rego, S. O. (2003). Tax avoidance and corporate governance. *The Accounting Review, 78*(3), 645-667. https://doi.org/10.2308/accr.2003.78.3.645
19. Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics, 79*(1), 145-179. https://doi.org/10.1016/j.jfineco.2005.02.004
20. Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review, 14*(1), 57-74. https://doi.org/10.5465/amr.1989.4279003
21. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X
22. Lanis, R., & Richardson, G. (2013). The effect of corporate governance on tax aggressiveness: Evidence from Australian firms. *Journal of Corporate Finance, 22*, 123-141. https://doi.org/10.1016/j.jcorpfin.2013.05.002
23. Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review, 84*(3), 969-999. https://doi.org/10.2308/accr.2009.84.3.969
24. Benshalom, I. (2014). *The shifting paradigm of corporate tax avoidance: From tax avoidance to tax evasion.* Tax Law Review, 67(2), 177-210.
25. Chen, S., Chen, X., & Cheng, Q. (2010). Do family firms affect tax avoidance? *Journal of Financial Economics, 97*(3), 292-314. https://doi.org/10.1016/j.jfineco.2010.01.008
26. Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics, 79*(1), 145-179. https://doi.org/10.1016/j.jfineco.2005.02.004
27. Lanis, R., & Richardson, G. (2013). The effect of corporate governance on tax aggressiveness: Evidence from Australian firms. *Journal of Corporate Finance, 22*, 123-141. https://doi.org/10.1016/j.jcorpfin.2013.05.002
28. Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review, 84*(3), 969-999. https://doi.org/10.2308/accr.2009.84.3.969