Determinants of Tax Aggressiveness Among Quoted Construction/Real Estate Companies in Nigeria

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DOI: 10.56201/ijefm.v10.no4.2025.pg13.32

Abstract
Despite the growing body of literature on tax aggressiveness in financial management research, there is a gap in understanding the specific determinants of tax aggressiveness among companies in various industries, including the construction/real estate sector. This gap hinders the development of industry-tailored taxation strategies and obscures the nuanced factors shaping tax behaviours in this sector. In view of this, this study investigated the relationship between corporate attributes and tax aggressiveness of listed construction/real estate companies in Nigeria. However, the specific objectives were to assess the relationship between institutional ownership, liquidity, profitability and effective tax rate of listed construction/real estate companies in Nigeria. The study adopted ex-post facto research design and utilized a panel data of seventy (70) pooled observations gathered from seven (7) quoted construction/real estate companies in Nigeria over a period of ten (10) years (2014-2023) and employed a panel multiple regression technique to analyze the data via E-views 10.0 statistical package. The study findings revealed that Institutional ownership (Coeff. = 0.079938{0.0000}) have significant positive relationship with effective tax rate of quoted construction/real estate in Nigeria while Liquidity (Coeff. = -0.027056{0.7482}) and profitability has a non-significant relationship (Coeff. = 1.383168{0.0793}) with effective tax rate of quoted construction/real estate companies in Nigeria. It was thus concluded that institutional ownership are significant determinants of tax aggressiveness among quoted Nigerian construction/real estate companies at 5% significance level. It was recommended, amongst others, that management of construction/real estate companies should engage institutional investors and other stakeholders on tax-related matters as this can help the company to gain valuable feedback and perspectives.

Keywords: *Ownership structure; Effective tax rates; Institutional ownership; Profitability; Liquidity.*

1. Introduction

In order to promote economic growth and progress, governments must secure reliable sources of funding for public programs and investments. Services such as healthcare, education, and infrastructure are crucial for creating a thriving and well-functioning society, and they rely on government revenue. Taxation plays a vital role in financing these services and upholding the social contract between citizens and the economy (Ebire et al., 2024). However, the level of taxation directly impacts businesses, influencing their decisions related to investment and expansion. In environment with high tax rates, companies may be more inclined to seek alternative strategies to mitigate tax-related expenses and optimize their operations, potentially leading to a reluctance to participate in the formal sector. This dynamic underscores the delicate balance government must strike between securing necessary revenue through taxation and ensuring a conducive environment for businesses to thrive and contribute to overall economic development.

Evi et al. (2023) noted that businesses view taxes as a burden that hinders their profitability, as there are differing goals between the Treasury, which seeks high and consistent tax revenues, and businesses, which aim to reduce the tax liabilities. All businesses must fulfill their tax obligations to the Federal Inland Revenue on a regular basis based on a preceding year's earnings. The government imposition of high corporate taxes incentivizes companies to explore strategies to minimize their tax obligations, potentially leading to a more aggressive or proactive approach towards tax planning. Tax planning are influenced by various factors that affect the inflow of revenue to the government and the outflow of revenue to firms (Kimea et al., 2023). According to Adefunke and Ivie (2024), many registered businesses and some individuals have been involved in aggressive tax planning including tax evasion and avoidance, resulting in a notable decline in government revenue. McClure (2018) envisaged that tax avoidance reduces the company's tax liability below the statutory rate, resulting in a lower explicit tax rate and the tax risk is the level of uncertainty surrounding the potential tax savings that may be subject to reversal in the event of a future tax audit.

Tax aggressiveness, or the degree to which companies engage in aggressive tax planning and avoidance strategies to minimize their tax liabilities and maximize profitability has become a significant focus of research in the fields of accounting and taxation (Monday et al., 2025). The determinants of tax aggressiveness refer to the factors that influence the extent to which companies engage in practices that may be legally permissible but ethically questionable in order to reduce the tax burden. Prawira and Sandria (2018) defines it as the means by which cooperate groups can use in order to reduce the tax liabilities. Furthermore, a company's propensity to engage in tax aggressiveness is determined by factors such as firm's characteristics, including profitability, institutional ownership, and liquidity. Companies with higher profitability may be more incentivized to engage in aggressive tax planning to protect their earnings (Taufik et al., 2022). Additionally, companies with greater liquidity may be more willing to invest in tax planning strategies that provide long-term benefits. Companies with weak internal controls, ineffective oversight mechanisms, and a culture that prioritizes short-term financial performance over ethical behavior may be more likely to engage in aggressive tax practices. On the other hand, companies with strong governance practices are more likely to adopt conservative tax strategies to avoid reputational and legal risk associated with aggressive tax planning.

Real estate investment companies play a crucial role in the Nigerian economy, contributing to gross domestic product growth, employment generation, and structure development. The real estate sector in Nigeria has witnessed significant growth in recent years due to urbanization, population growth, and increased investment property development. However, the sector is also known to be prone to tax avoidance practices, given the complex nature of real estate transactions and the potential manipulation of tax rules. For companies that own real estate, the income generated is subject to applicable rates under the Company Income Tax Acts Cap C21 Laws of the Federation of Nigeria 2004. Companies may be taxed at a maximum rate of 30% of their turnover depending on the earnings in the relevance period. Taxation is a major source of revenue for countries, the world over. Nigeria is not an exception, and this why company income tax is important to national economy, hence an index in financial management reforms (Ibanga & Uwah, 2021). It is important for companies and individuals involved in real estate to comply with the tax laws in Nigeria and accurately report their rental income. Failure to do so result in penalties and legal consequences (Ogebeide & Iyafekhe, 2018).

1.2 Statement of the problem

Tax aggressiveness is a common practice in the business world, where companies strategically minimize tax liabilities within legal boundaries. This approach impacts tax compliance, revenue generation, and economic growth. Real estate investment companies in Nigeria play a vital role in the economy, yet the extent and determinants of tax aggressiveness in this sector is unclear (Monday et al., 2025). Oyesode (2015) highlighted that the surge of tax injustice faced by Nigerian government due to tax aggressiveness strategies employed by companies has deprived government of the much needed revenue for growth. Despite the efforts made by the government to address the issue of tax aggressive strategies in companies, experts in finance and accounting meticulously plan and execute sophisticated methods to exploit legal loopholes and complex structures to diminish or eliminate tax responsibilities for their clients. By implementing intricate schemes like base erosion, and treaty shopping, these professionals strive to shift profits to jurisdictions with lower taxes and exploit the advantages offered by tax havens.

Previous empirical studies have examined determinants of tax aggressiveness in various industries and countries, including firm characteristics, industry-specific factors, and corporate governance structures, as potential dynamic influencers. However, the unique dynamics of the real estate sector, including complex transactions, asset valuation challenges, regulatory ambiguities, may give rise to distinct determinants of tax planning behaviour in the Nigerian real estate investment companies. Overtime, many academicians and researchers have conducted series of investigation on the determinants of tax aggressiveness in different sectors, yet the outcome of the research on this topic were mixed and inconclusive, studies by Martins and Sule (2024); Mustika and Nursiam (2024); Ibilola et al. (2022); Ajube and Jeroh (2023); A'zizah (2023); Udochukwu et al. (2022); Zubairu et al. (2022); Jaffar et al. (2021); Abubakar (2021); Aprinyanti and Arifin (2021); Eragbhe and Igbinoba (2021); Hani and Muhammad (2021); Prawira and Sandria (2021); Sormin (2021); Abdulkadir et al. (2020); Kayode et al. (2020); Yahaya and Yusuf (2020) revealed a positive relationship, while other studies by Anyaduba and Ogbeide (2022); Ifeyinwa and Otusanya (2022); Paskalina and Murtianingsih (2021); Chukwu et al. (2020); Lukman et al. (2020); Panda and Nanda (2020); Kibiya and Aminu (2019); Ogebeide and Evbaziegbere (2019); Homonangan (2023); Uniamikogbo et al. (2019); Multazam and Rahmawaty (2018) indicated a negative correlation, studies by Inuaghata et al. (2021); Dibie and Ogbodo (2023); Kusumastuti et al. (2024) revealed an insignificant effect. Therefore, it was due to this lack of consensus in prior study's findings and their recommendations that this research was undertaken.

1.3 Research objectives

The broad objective of this study was to investigate the relationship between determinants of tax aggressiveness among quoted construction/real estate companies in Nigeria. However, the specific objectives were as follows:

1. To determine the relationship between institutional ownership and effective tax rate of quoted construction/real estate companies in Nigeria.
2. To ascertain the relationship between liquidity and effective tax rate of quoted construction/real estate companies in Nigeria.
3. To evaluate the relationship between profitability and effective tax rate of quoted construction/real estate companies in Nigeria.

1.4 Research hypotheses

In line with the objectives and research questions of the study, the following hypotheses stated in the null form were formulated and tested.

H_{01}: There is no significant relationship between institutional ownership and effective tax rate of quoted construction/real estate companies in Nigeria.

H_{02}: Liquidity does not have any significant relationship with effective tax rate of quoted construction/real estate companies in Nigeria.

H_{03}: Profitability does not have any significant relationship with effective tax rate of quoted construction/real estate companies in Nigeria.

2. Literature review

2.1 Conceptual framework

The diagram below depicts the conceptual relationship among the variables examined in this study.

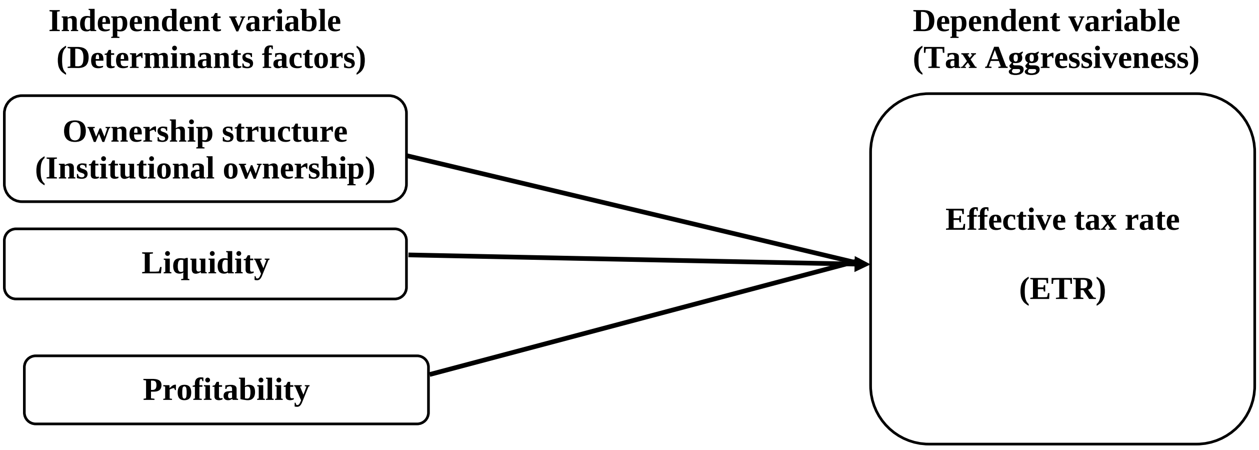

Figure 1: Interrelationship of variables
Source: Researcher's Conceptualization (2024)

Ownership structure

Ownership structure refers to how ownership interests in the company are held, structured, and traded on public exchanges. Chukwu et al., (2019) defined ownership structure as the number of individuals with sizeable number of shares in a company (block shareholding), the level of managerial shareholding as well as the ownership of shares by other corporate bodies (institutional shareholding). Efenana and Egbunike (2023) sees ownership structure as the equity allocation and control in a company, as well as the personality of the equity investors.

Ownership in real estate investment companies is typically structured in the form of shares of stock, which can be bought and sold on public stock exchanges. Ownership structure in real estate companies plays a crucial role in determining how the business is managed, operated, and distributed among owners. The choice of ownership structure can impact decision-making processes, profit distributions, and the overall governance of the company. In the real estate sector, where investments are substantial and risks are significant, selecting the right ownership structure is essential to protect assets, manage liabilities, and ensure long-term success. The study adopted institutional ownership as a proxy for ownership structure.

Institutional ownership

This represents the ownership stakes held by large financial institutions such as mutual funds, pension funds, and hedge funds, which typically have a significant amount of capital at stake and participate actively in corporate governance. Institutional investors are more likely to have a direct influence on a company's tax strategy and can exert pressure on management to engage in tax aggressive behaviour. A'zizah (2023) noted that institutional ownership involves managers responsible for overseeing company's operations to enhance performance, ensuring compliance with regulations, and accuracy in financial reporting. Lawal et al., (2019) opined that institutional ownership is the percentage of equity owned by the financial institutions, mutual funds, foreign financial institutions, foreign mutual funds and other institutions. Institutional ownership refers to shares held by registered institutions such as investment companies, insurance companies, money managers, and pension funds.

According to a study by Khurana and Moser (2013) companies in developed countries such as United States with higher level of short-term institutional ownership tend to exhibit more tax aggressiveness in their strategies. In contrast, companies with higher level of institutional investors are more likely to engage in less aggressive tax strategies. This indicates that the nature institutional investors, whether they are focused on short-term gains or long-term sustainability, can influence a company's approach to tax planning. Short-term institutional owners may prioritize maximizing immediate financial returns, potentially leading to a greater willingness to pursue tax strategies to boost profitability in the short-term. On the other hand, long-term institutional investors may be more concerned with the overall suitability and reputation of the company, leading them to advocate for more conservative and ethical tax planning practices. It is calculated as follows;

$$\text{Institutional ownership} = \frac{\text{Number of shares owned by institutions}}{\text{Total number of outstanding shares}}$$

Liquidity

An organization is insolvent when its going concern value does not exceed the expected value of its liabilities (Doan, 2019). In normal times, when non-financial markets are strong, it is easy to identify insolvent non-financial firms. However, at times of crisis, it is difficult since solvency becomes so co-mingled with liquidity issues. The term Liquidity commonly referred to the ability of an entity to change their assets into cash within the shortest possible time without losing its value. In other word, liquidity also describes the ability of an organization to strategically manage and focuses on maintaining efficient levels of current assets and current liabilities to enable the firm to have a constant flow of cash to meet its short-term obligations thus continue to exist in the near future (Monday et al., 2025). Another primary aspect of liquidity is that it performs an important role in the existence of every firm and proper management is needed to ascertain continues cash flows for the day-to-day operation of the firms. Current assets include receivable, inventory, investments for trading and cash that are continuously flowing in and out of the organizations. However, current liabilities are short-term current liabilities such as accounts payables, that part of long-term liability during the financial year or operating cycle. Liquidity ratios indicate the capability of an entity to settle its short-term obligations, however, the weakness of the ratios values may portray that the organization is facing some challenges in meeting their short-term debt. The proxy for measuring liquidity in this study is the current ratio. Thus, this ratio is generally recognized as the patriarch among ratios and is computed thus;

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} : 1$$

Profitability

Profitability is a key measure of a company's financial health and performance. It refers to the ability of a company to generate profits from its operations after accounting for all expenses, including production costs, operating expenses, interest payments, and taxes. In business, the analysis of performance whether financial, production, marketing (even managerial), or general activity is very necessary because the outcome of the very present decisions lie in the projection of the future. The concept of performance therefore cuts across all spheres of operation within and outside the organization. Company performance implies the ability to control and maintain investment, operational decisions and strategies that will help in the achievement of business stability and objective. It also refers to the measure of a firms' earning power. The earning power of a company is the primary concern of its shareholders. Fukui et al. (2021) defined performance as the yield or results of activities carried out in relation to the purposes being pursued. Its objective is to strengthen the degree to which organization achieve their purposes.

Companies that are highly profitable typically have strong earnings and cash flows, which can be used to drive growth, reward shareholders, and invest in the business However, higher profit can result in increased tax liability (Ebire et al., 2024). The delicate balance between profitability and tax aggressiveness is a critical consideration for companies as they navigate complex financial and regulatory environments. While minimizing tax liability can enhance profitability by reducing expenses and increasing after-tax profits, companies must also consider the potential risks and consequences of engaging in overly aggressive tax planning practices. Striking a balance between profitability and responsible tax planning involves a thorough understanding of tax laws, compliance requirements, ethical considerations, and long-term business objectives. Companies that adopt a sustainable and transparent approach to managing their tax affairs are more likely to build trust with stakeholders, maintain a positive reputation, and create long-term value for shareholders. By considering both profitability and tax aggressiveness in conjunction with other factors, companies can develop a comprehensive financial strategy that promotes financial health, compliance, and responsible business practices. The proxy used for measuring profitability in this study is Return on total assets (RETA). Return on Assets is measured in ratio units using the following equation:

$$\text{Return on total assets (RETA)} = \frac{\text{Profit after tax (PAT)}}{\text{Average total assets}} \times \frac{100}{1}$$

Tax aggressiveness

Tax aggressiveness in real estate investment companies refers to the extent to which these firms engage in aggressive tax planning strategies to minimize their tax liabilities, maximize tax benefits, and enhance profitability (Yusuf & Adediran, 2024; Dibie & Ogbodo, 2023). Monday et al. (2025) noted that Real estate investment companies often face complex tax rules and regulations due to the nature of their business operations, which involve owning, managing, and investing in various properties. As a result, these companies may resort to tax aggressiveness to exploit legal loopholes, take advantage of tax incentives, and push the boundaries of tax laws to reduce their tax burden. One common tax aggressive strategy employed by these companies is the use of tax shelters or tax havens to shelter income from taxation. According to Kimea et al. (2023), companies may establish entities in jurisdictions with favorable tax laws or offshore tax havens to channel income, profits, or investments in ways that minimize their tax obligations. By utilizing these tax shelters, companies can potentially reduce their effective tax rate and shield their earnings from high tax jurisdictions, thereby boosting their after-tax profits.

Moreover, real estate investment companies may engage in aggressive tax planning techniques such as transfer pricing, profit shifting, and tax arbitrage to artificially manipulate their taxable income, expenses, and deductions. By manipulating the pricing of transactions between related entities or subsidiaries, companies can shift profits to low-tax jurisdictions and shift expenses to high-tax jurisdictions, thereby reducing their overall tax liability (Zubairu et al., 2022). While transfer pricing is a common practice in international tax planning, aggressive transfer pricing strategies can lead to tax controversies, disputes with tax authorities, and legal risks for companies. Another form of tax aggressiveness in real estate investment companies involves the exploitation of tax loopholes, credits, deductions, and exemptions to gain tax advantages (Eragbhe & Igbinoba, 2021). For example, companies may strategically time their capital gains realizations, structure their financing arrangements, or utilize tax-deferred exchanges to defer or reduce capital gains taxes on property sales. Additionally, real estate investment companies may leverage tax incentives such as historic rehabilitation credits, energy efficiency tax credits, or opportunity zone tax benefits to maximize tax savings and enhance their investment returns. It is calculated as follows;

$$\text{Effective tax rate} = \frac{\text{Current tax expense}}{\text{Pre} - \text{tax income}}$$

Institutional ownership and tax aggressiveness

One of the key ways institutional ownership can affect the effective tax rate of real estate investment companies is by exerting pressure for tax-efficient practices. According to Azizah (2023), institutional investors typically seek to maximize returns on their investments and may push companies to adopt tax strategies that minimize their tax burden. This can lead to more conservative tax planning, such as taking advantage of tax credits, deductions, and incentives to reduce taxable income and lower the effective tax rate. Furthermore, institutional investors often have a long-term perspective on their investments and are concerned with the overall financial health and sustainability of the companies they invest in. This focus on long-term value creation can incentivize real estate investment firms to engage in tax planning that enhances their competitiveness and profitability, ultimately leading to a lower effective tax rate.

Additionally, Ezekwesili and Ezejiofor (2022) noted that, institutional investors often conduct thorough due diligence and analysis before making investment decisions, which can include an assessment of a company's tax practices and compliance. Companies with a high level of institutional ownership may be more inclined to maintain transparent and compliant tax practices to attract and retain institutional investors. This commitment to tax compliance can help mitigate risks associated with audits, penalties, and reputational damage, all of which could increase the effective tax rate of real estate investment companies. Based on the findings of the Jensen and Meckling (1979) study, institutional ownership serves as a key supervisory role within companies. By overseeing company operations and enhancing overall performance, institutional owners play a crucial role in ensuring compliance with regulations and promoting accuracy in financial reporting. This oversight by institutional owners creates a transparent environment where managers are more inclined to share public information openly. Consequently, this increased transparency helps mitigate the risks of information fraud, particularly in the realm of tax avoidance practices, as highlighted by the study conducted by Rahmawati et al. (2021). Empirical studies by Lukman et al. (2020) revealed that institutional ownership had a negative significant effect on tax aggressiveness. In contrast, the work of A'zizah (2023) revealed that institutional ownership had a positive effect on tax aggressiveness.

Liquidity and tax aggressiveness

Liquidity plays a significant role in determining the effective tax rate of real estate investment companies. Liquidity refers to the ability of a company to convert its assets into cash quickly without significantly impacting the asset's value (Ariyani et al., 2023). In the context of real estate investment companies, liquidity is essential for meeting financial obligations such as debt servicing, property acquisitions, and operational expenses. One of the key ways in which liquidity affects the effective tax rate of real estate investment companies is through their financing activities. Real estate investment companies often rely on debt financing to fund property acquisitions and development projects. Mustika and Nursiam (2024) noted that, in times of low liquidity, such as during a downturn in the real estate market or a liquidity crisis, these companies may face challenges in securing financing or refinancing existing debt. As a result, they may have to resort to higher-cost financing options, which can increase their interest expenses and reduce their taxable income, leading to a higher effective tax rate.

Additionally, liquidity constraints can limit the ability of real estate investment companies to take advantage of tax planning strategies that can reduce their tax liabilities. For example, companies may be unable to invest in tax-efficient structures such as real estate investment trusts (REITs) or undertake tax-deferred exchanges due to a lack of liquidity. This can result in these companies paying higher taxes on their profits, leading to a higher effective tax rate. Furthermore, liquidity can impact the timing of tax payments for real estate investment companies. Companies with higher liquidity levels may have more flexibility in timing their tax payments to minimize their tax liabilities, such as by deferring income recognition or accelerating deductions (Paskalina & Murtianingsi, 2021). On the other hand, companies with lower liquidity may not have the financial resources to do so, resulting in a higher effective tax rate. The findings from the study by Bintara (2022); Danladi and Alhassan (2022); revealed a positive relationship, suggesting that every increase in one unit of liquidity will result in an increase in tax aggressiveness. This implies that the higher the liquidity value, the higher the value of tax aggressiveness. However, the findings of Dibie and Ogbodo (2023); Adang and Wijoyo (2022); Olaniyi and Okerekeoti (2022) indicated that liquidity had no significant effect on tax aggressiveness, suggesting that companies with cash flow problems are more prone to break tax laws and engage in tax evasion.

Profitability and tax aggressiveness

The profitability of real estate investment companies has a direct impact on their effective tax rate. Profitability is a key factor in determining the taxable income of a company, which forms the basis for calculating taxes owed to the government (Prawira & Sandria, 2021). Higher profitability generally leads to a higher taxable income, which in turn can result in a higher effective tax rate for real estate investment companies. One way in which profitability affects the effective tax rate of real estate investment companies is through the application of corporate income tax rates. According to Jaffar et al. (2021), profitable companies are subject to corporate income tax, which is levied on their taxable income at a specified rate. Real estate investment companies with higher profitability will have a larger tax liability, leading to a higher effective tax rate compared to less profitable companies.

Moreover, profitability influences the availability of tax deductions and credits that can lower the tax liability of real estate investment companies. Profitable companies may have more taxable income against which they can offset deductions such as depreciation, interest expenses, and operating expenses. These deductions can reduce the taxable income of the company, resulting in a lower tax liability and, ultimately, a lower effective tax rate (Hani & Muhamad, 2021). Conversely, if a real estate investment company experiences a period of lower profitability or incurs losses, its taxable income may decrease or turn negative. In such cases, the company may be able to carry forward or carry back the losses to offset taxable income in future periods, thereby reducing its tax liability and effective tax rate. Losses can also trigger tax planning opportunities, such as restructuring or asset write-offs, that can help lower the overall tax burden on the company. Studies by Mustika and Nursiam (2024); Yosephine and Gunawan (2023); Maulana (2020), revealed that profitability had a significant impact on tax aggressiveness, suggesting that a profitable company would be more willing to engage in aggressive tax planning and vice versa. Conversely, empirical studies such as Homonangan (2023); Edwards et al. (2013); Boone et al. (2013) found negative effect.

Firm size (Control variable)

The size of a real estate investment company encompasses factors such as revenue, assets under management, market capitalization, and the number of properties owned. These characteristics have a significant impact on the company's effective tax rate and tax profile. Khaki and Akin (2020), defines size as the natural logarithm of total assets. Size can be a substitute for the efficiency of a company because in business, commonly large companies are effective

(Mugosa, 2015). One key aspect of firm size for real estate investment companies is the scale of their operations. Previous studies maintained that larger enterprises tend to have more business portfolio, a greater number of properties, and higher levels of revenue and assets (Ebire et al., 2024). Ogbeide et al. (2022) noted that this scale allows larger companies to benefit from economies of scale in their tax planning efforts. They often have access to specialized tax expertise, sophisticated tax management systems, and the ability to leverage tax incentives, credits, and deductions to optimize their tax liabilities. The size of the company can also impact its ability to engage in complex tax planning techniques, such as entity structuring, transfer pricing arrangements, and tax deferral strategies, which can help reduce their effective tax rate.

2.2 Theoretical review

Agency theory by Ross and Mitnick (1973)

The development of agency theory can be attributed largely to the work of Ross and Mitnick (1973) and they examined the principal agent relationship both in the context of compensation or fees to the agent to encourage good behaviour as the principal preferred, and imperfections in behaviour as a preference for the principal in the context of agency agreements. Shareholders want management to maximize profits and shareholder wealth, while management may have their own incentives and preferences that might not align with those of the shareholders. This misalignment of interests can lead to tax aggressiveness, where management takes action to reduce the company's tax burden even if it involves aggressive tax strategies that may not be in the best interest of the shareholders.

Ross and Mitnick's earlier work paved the way for Jensen and Meckling (1976) seminal contribution by exploring key aspects of the principal-agent relationship, such as aligning incentives, mitigating moral hazard, and understanding the challenges of agency agreements. Jensen and Meckling (1976) defined agency theory as a contractual relationship between multiple parties, such as agents and principals. In this arrangement, principals delegate authority to agents to carry out specific tasks. For example, investors act as principals by entrusting managers with decision-making power within a corporate entity. This theory emphasizes the significance of aligning the interest of managers with those of the shareholders. Different factors such as board independence and institutional ownership play a critical role in achieving this alignment, including monitoring and influencing a company's tax aggressiveness (Udochukwu et al., 2022). In addition, the agency theory helps to explain the incentives and motivations that drive managers to engage in tax avoidance practices. Managers may have incentives to be tax aggressive in order to maximize shareholder wealth and performance metrics. This can lead to conflicts of interest between the principals, who may value ethical tax practices and compliance, and the agents, who may prioritize reducing tax.

Furthermore, agents are hired with the expectation of maximizing shareholders' wealth. To achieve this goal, cost reduction is essential, and one method is through legally compliant tax aggressiveness to minimize tax obligations (Ifeyinwa & Otusanya, 2022). Agency conflict arises in the context of tax management strategies, where executives of companies possess more specialize knowledge about their organization compared to government authorities. This knowledge asymmetry empowers these executives to engage in tax planning activities aimed at minimizing tax obligations. Consequently, tax aggressive practices are utilized by businesses to enhance their financial gains, often leading to reduced tax revenues for the government. This situation highlights the strategic use of tax minimization tactics by company leaders to prioritize profit maximization, potentially conflicting with the state's tax collection objectives (Otusanya et al., 2022). This theory supports this study because it underscores the role of information asymmetry in the manager-shareholder relationship, where managers may possess more information about the company's tax position and exploit this knowledge to pursue aggressive tax strategies. This can further exacerbate conflicts of interest and contribute to tax aggressiveness within the company.

2.3 Empirical review

Taimako and Francis (2024) examined how the characteristics of firms influence tax aggressive behavior of listed conglomerate firms in Nigeria from 2012 to 2022. The result showed that capital intensity, leverage and firm size are the most important determinants of tax aggressiveness among listed conglomerate firms in Nigeria. While capital intensity is positively related with tax aggressiveness, in contrast, leverage and firm size are negatively related with tax aggressiveness. However, for inventory intensity and profitability, the study found no significant relationship with tax aggressiveness of listed conglomerate firms.

Yusuf and Adediran (2024) evaluated the determinants of tax aggressiveness in deposit money banks in Nigeria from 2012-2022. Result of Random effect robust regression was suggestive that firm size and firm age has negative and effect on book tax difference with correlation coefficient of -.0000185 and p-value of .0003 while return on asset has positive but non-significant effect on book tax difference of deposit money banks of Nigeria for the period under study having correlation coefficient of .3546 and p-value of 1.116. The study concluded that the explanatory variables (firm size, ROA and firm age) do not significantly affect tax aggressiveness of deposit money banks in Nigeria.

A'zizah (2023) investigated the impact of tax aggressiveness on profitability, leverage, an independent board of commissioners, company size, and institutional ownership. Manufacturing companies in the food and beverage industry sub-sector that are listed on the IDX for the 2018-2021 period comprise the research population. Profitability, firm size, and institutional ownership were found to have a positive effect on tax aggressiveness. Meanwhile, leverage and an independent board of commissioners have a negative effect on tax aggressiveness.

Dibie and Ogbodo (2023) the effect of corporate firm attributes on tax planning of listed industrial goods firms in Nigeria from 2013 to 2022. The findings showed that: firm leverage has a significant negative effect on the book-tax difference for listed industrial goods firms in Nigeria ($p<0.05$); firm liquidity has a non-significant negative effect on the book-tax difference for listed industrial goods firms in Nigeria ($p>0.05$); firm size has a non-significant negative effect on the book-tax difference for listed industrial goods firms in Nigeria ($p>0.05$).

Efenana and Egbunike (2023) examined the effect of ownership structure on tax aggressiveness among quoted industrial goods sector from 2009 to 2018 financial years using the ex-post facto research design. Results revealed that managerial ownership was a significant predictor of tax aggressiveness at a p value of 0.01. On the other hand, ownership concentration (p-value of 0.37; F= 1.0621), institutional ownership (p value of 0.32; F= 1.1804) and foreign ownership (p value of 0.77; F= 0.3755) had insignificant effects. Overall, the study model revealed that ownership structure influences tax aggressiveness of firms.

Ibilola et al. (2022) examined the effect of tax aggressiveness on the financial performance of listed industrial goods firms in Nigeria. Data for the study were analyzed using descriptive and inferential methods of data analyses using STATA 13 statistical software. Findings of the study revealed that GAAP effective tax rate has significant positive effect on return on assets. On the other hand, cash effective tax rate has negative significance effect on return on assets.

Abubakar (2021) examined the effect of board structure on tax aggressive of selected industrial goods companies listed in Nigerian Stock Exchange from 20016-2020. The result revealed that firm size (FSZ) and leverage (LEV) are negatively related to tax rate while board size (BSZ), independent directors (IND) and return on equity (ROE) are positively related to tax rate. It was also found that an independent director (IND) was statistically significant at 1% level, while board size (BSZ) was negatively insignificant.

Chukwu et al. (2020) investigated the effect of corporate governance mechanism on tax aggressiveness of listed consumer goods firms in Nigeria for the period 2015 to 2019. The study employed ex-post facto research design and analyzed data obtained from the published annual reports and financial statements of twenty-two firms for the sample period. The findings of the study revealed a negative but significant relationship between board independence and effective tax rate. Each of the other corporate governance variables had insignificant relationship with effective tax rate. Hence, this paper concludes that certain corporate governance variables negatively impact the level of tax aggressiveness of listed companies in Nigeria.

Lukman et al. (2020) investigated the effect of institutional ownership, gender board diversification on tax aggressiveness of quoted conglomerate companies in Nigeria. The population of the study consisted of the six (6) conglomerate companies listed on the Nigerian Stock Exchange as at 31st December 2019. The result of the pooled Ordinary Least Square (OLS) multiple regression analysis revealed a negative significant effect of institutional ownership and gender board diversification on tax aggressiveness of listed conglomerate companies in Nigeria.

Yahaya and Yusuf (2020) examined company characteristics and aggressive tax avoidance in Nigerian listed insurance companies. It assessed the impact of firm size, profitability, leverage and firm age on aggressive tax avoidance of listed insurance companies in Nigeria. The results of the study revealed that firm size (coeff of 0.628) and Leverage (with coeff. of 0.549) have a positive and significant (p-value < 1% level of significance) impact on aggressive tax avoidance, while firm' Profitability (coeff of -0.843) and Age (with coeff of -0.056) had a negative and significant.

3. Methodology

This study adopted the ex-post facto research design and secondary data gathering technique was employed. Purposive sampling technique was employed to select Seven (7) construction/real estate companies listed on the floor of the Nigerian Exchange Group during a 10-year period, 2014 to 2023. The data employed was analyzed using descriptive statistic technique, regression assumption tests and panel multiple regression analysis and the analytical software employed was E-views version 10. The descriptive statistics was used to evaluate the characteristics of the data: mean, maximum, minimum, and standard deviation and also check for normality of the data. Correlation analysis was employed to evaluate the association between the variables and to check for multicollinearity.

Model specification

The study adopted the model specified by Mustika and Nursiam (2024which was modified for the purpose of establishing the relationship between the dependent variables and the linear combinations of several determining variables captured in the study. Succinctly, the model for this study is stated as;

$$\text{ETR} = \mathcal{F}(\text{IS}, \ \text{RETA}, \text{CUR})$$

This can be econometrically expressed as:

$$ETR_{it} = \beta_0 + \beta_1 IS_{it} \, \beta_2 CUR_{it} + \beta_3 RETA_{it} + \mu_{it}$$

Where:

ETR	=	Effective tax rate (Proxy for tax aggressiveness)
IS	=	Institutional ownership (Proxy for ownership structure)
CUR	=	Current ratio (Proxy for liquidity)
RETA	=	Return on total assets (Proxy for profitability)
$\boldsymbol{\beta_0}$	=	Intercept of the model/constant
$\boldsymbol{\beta_1 - \beta_3}$	=	Slope coefficient of each independent variable
μ	=	Stochastic disturbance

i = i^{th} firm
t = time period

Analysis and discussion of results

Table 1 Descriptive statistics results

	ETR	IS	CUR	RETA	FSZ
Mean	0.130806	2.450379	1.452001	0.005021	16.09124
Median	0.126632	0.391780	0.843479	0.032092	16.25196
Maximum	5.817729	38.45415	8.982123	0.137064	20.04258
Minimum	-3.938698	-0.004516	0.006416	-0.789853	11.69454
Std. Dev.	1.009418	6.324006	1.452878	0.139071	2.187962
Skewness	0.847004	3.927679	2.781579	-3.889273	-0.371533
Kurtosis	21.64558	19.22226	12.90549	19.89490	2.741660
Jarque-Bera	1022.371	947.5323	376.4465	1009.002	1.805087
Probability	0.000000	0.000000	0.000000	0.000000	0.405537
Sum	9.156424	171.5265	101.6401	0.351438	1126.387
Sum Sq. Dev.	70.30577	2759.521	145.6490	1.334508	330.3153
Observations	70	70	70	70	70

Source: Researcher's computation (2024) using E-views 10.0

From table 1 above effective tax rate reveals a minimum of -3.9%, implying that the lowest effective tax rate in the construction/real sector between 2014-2023 was approximately -4%; the highest however was 5.8%, and the sector's average reveals 13% ETR indicating that companies in this sector exhibited moderate tax aggressiveness. The standard deviation which reveals the variability and dispersion of key financial metrics was (1.0094) indicating that ETR in the construction /real estate sector was moderate revealing differences in tax optimization strategies. Institutional ownership, has a maximum value of 38.45415, the minimum value was -0.004516, while the average value was relatively low, with institutional investors holding approximately 2.45% (Natural log: 2.4503) of total outstanding shares, potentially limiting their influence on company decisions. Liquidity levels were generally adequate on the average, with a current ratio of 1.45:1, indicating the ability to meet short-term obligations, while the minimum and maximum values were 0.006416 and 8.982123 with a standard deviation of 6.3240. However, profitability is a concern, with a return on assets of only 0.5% (0.005) on average, implying that companies struggled to generate sufficient returns from their asset base. This indicates inefficiencies in operations or inadequate asset utilization. Profitability also reveals a standard deviation of (0.1391), indicating moderate variability which suggests differences in operational efficiency The average firm size was moderate, with a score of 16.09, suggesting established operations. These findings imply that Construction/Real Estate companies in Nigeria prioritized stability and risk management over tax aggressiveness, but faced challenges in optimizing profitability.

Panel multiple regression result

Dependent Variable: ETR
Method: Panel Least Squares
Date: 10/18/24 Time: 05:49
Sample: 2014-2023
Periods included: 10
Cross-sections included: 7
Total panel (balanced) observations: 70

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.444634	0.863553	-3.514889	0.0084
IS	0.079938	0.017702	4.515819	0.0000
CUR	-0.027056	0.083921	-0.322403	0.7482
RETA	1.383168	0.775609	1.783332	0.0793
FSZ	-0.006100	0.049000	-5.124483	0.0013

R-squared	0.357022	Mean dependent var	0.130806
Adjusted R-squared	0.295786	S.D. dependent var	1.009418
S.E. of regression	0.847078	Akaike info criterion	2.600591
Sum squared resid	45.20505	Schwarz criterion	2.825440
Log likelihood	-84.02067	Hannan-Quinn criter.	2.689904
F-statistic	5.830267	Durbin-Watson stat	1.879616
Prob(F-statistic)	0.000070		

Source: Researchers' computation (2024) using E-views 10.0

The panel multiple regression in Table 3 above reveals an F-statistics of 5.830267 with p-value 0.000070 indicating that the model is fit for statistical inference and that the determinants factors have significant relationship with effective tax rate (ETR) of the companies under study. The model provided an R-squared value of 0.357022 implying that about 36% of the changes in the dependent variables can be explained by the independent variables of this study. However, the unexplained part is captured in the error term.

4. Discussion of findings

Institutional ownership and tax aggressiveness (ETR)

The result from panel multiple regression model in table 3 revealed that Institutional ownership exhibits a significant positive relationship with effective tax rate, with a coefficient of 0.079938, a p-value of 0.0000, and t-statistic of 4.515819. This indicates that higher level of institutional ownership are associated with higher level of tax aggressiveness in these companies. This finding highlights the importance of transparency and accountability in tax planning practices. Companies should consider the implications of their tax strategies on their reputation, legal compliance, and investor relations to ensure long-term sustainability and success. The findings of this study supports the work of A'zizah (2023) who found a positive relationship between institutional ownership and effective tax rate, indicating that companies with higher institutional ownership may face increased scrutiny due to their tax practices. On the contrary, Efenana and Egbunike (2023); Ezekwesili and Ezejiofor (2022); Lukman et al. (2020) found out in their study that institutional ownership does not enhance tax aggressiveness of these companies.

Liquidity and tax aggressiveness (ETR)

The result from the regression output in table 3 shows that Liquidity (Coeff. = -0.027056; p-value = 0.7482; t-stats. 0.322403) has a non-significant negative relationship with effective tax rate of quoted construction/real estate companies in Nigeria. This means that as liquidity decreases, effective tax rates do not necessarily increase. Without a direct link between liquidity and tax aggressiveness, construction/real estate companies in Nigeria may need to reassess their tax strategies and consider other factors that can influence their tax outcomes. The results obtained from this study supports the findings of Kusumastuti et al. (2024); Mustika and Nursiam (2024); Ariyani et al. (2023); Dibie and Ogbodo (2023), that there is no significant relationship between liquidity and tax aggressiveness, implying that liquidity is not a primary driver of tax aggressiveness.

Profitability and tax aggressiveness

The regression result in table 3 reveals a non-significant positive relationship between profitability and effective tax rate, with a coefficient of 1.383168, a p-value of 0.0793, and t-statistics of 1.783332. Although the relationship is positive, it is not statistically significant. This suggests that construction/real estate companies should focus on improving operational efficiency to drive profitability, rather than relying on tax planning strategies. This includes streamlining processes, reducing costs, optimizing resources, and enhancing productivity. Hence, the findings of this study reinforces the results of Ebire et al. (2024); Yusuf and Adediran (2024); Anisa and Usman (2023); Ajube and Jeroh (2023); Inuaghata et al. (2021), that there is no significant relationship between profitability and tax aggressiveness, suggesting that companies may need to reconsider the common assumption that higher profitability leads to higher tax aggressiveness. However, the findings of this study contradicts the works of Zubairu et al. (2022); Abubakar (2021); Paskalina and Murtianingsi (2021); Sormin (2021), that profitability had a positive effect on effective tax rates, suggesting that taxpayers are driven to tax aggressiveness because of the existing level of profitability.

5. Conclusion

Based on the findings it was concluded that institutional ownership among other corporate attributes significantly and positively influence effective tax rates of listed construction/real estate companies in Nigeria, indicating that higher level of institutional ownership are associated with higher level of tax aggressiveness in these companies. This finding highlights the importance of transparency and accountability in tax planning practices.

6. Recommendations

The study came up with the recommendations which would add to existing literature on the subject matter, and meaningful contribution to knowledge. It was recommended as follows that:

1. Management of construction/real estate companies should engage institutional investors and other stakeholders on tax-related matters as this can help the company to gain valuable feedback and perspectives. By involving key stakeholders in tax planning discussions, company can make more informed decisions that align with their interests and expectations.
2. Although liquidity and profitability does not significantly influence tax aggressiveness, the management of these companies should focus on optimizing their working capital management to maintain adequate liquidity levels without negatively impacting their tax aggressiveness.
3. The Construction/real estate companies should also focus on optimizing their operational efficiency to enhance profitability without increasing their tax aggressiveness. By

improving processes, reducing costs, and maximizing revenue, companies can boost profitability while maintaining tax efficiency.

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