

## Effect of Tax Aggressiveness On Financial Performance of Listed Consumer Goods Firms in Nigeria

Matthew Ada Uzunma<sup>1</sup> & Eneh, Sylvia Nnenna, Ph.D., TRCN, ACA<sup>2\*</sup>

### Abstract

*This study investigated the effect of tax aggressiveness on the financial performance of listed consumer goods firms in Nigeria between 2014 and 2025, with Return on Assets (ROA) serving as the measure of financial performance. The specific objective was to examine how Effective Tax Rate (ETR), Cash Effective Tax Rate (CETR), Book-Tax Difference (BTD), Deferred Tax Ratio (DTR), and Tax Planning Intensity Index (TPII) influence ROA. Using panel data obtained from five listed consumer goods firms and employing panel least squares regression analysis, the study found that two of the five variables had statistically significant effects on ROA. Book-Tax Difference ( $\beta = 0.008511$ ,  $p = 0.0001$ ) exhibited a significant positive effect, indicating that higher differences between accounting income and taxable income are associated with improved profitability. In contrast, Deferred Tax Ratio ( $\beta = -3.149117$ ,  $p = 0.0000$ ) showed a significant negative effect, suggesting that higher deferred tax obligations reduce financial performance. On the other hand, Effective Tax Rate ( $\beta = -0.259426$ ,  $p = 0.8095$ ), Cash Effective Tax Rate ( $\beta = 0.381921$ ,  $p = 0.7134$ ), and Tax Planning Intensity Index ( $\beta = -0.188553$ ,  $p = 0.7866$ ) all showed statistically insignificant relationships with ROA, indicating that these tax measures do not have a meaningful direct impact on profitability within the sampled firms. Descriptive statistics revealed moderate variation in tax aggressiveness indicators and profitability across the firms, reflecting differences in tax behavior and financial performance over time. The findings suggest that tax aggressiveness does not uniformly influence financial performance, but specific components such as book-tax differences and deferred tax positions play a more critical role. It is concluded that while tax aggressiveness is an important aspect of corporate financial behavior, firms should focus more on managing deferred tax obligations and strategically leveraging book-tax differences to enhance profitability, rather than relying solely on effective tax rate reductions or tax planning intensity.*

**Keywords:** Tax Aggressiveness, Financial Performance, Effective Tax Rate, Book-Tax Difference, Deferred Tax Ratio

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Authors	Affiliation
1	Department of Accountancy, Faculty of Management Sciences, St Luke's Business School, Peaceland University Enugu, Nigeria.
2	Department of Accountancy, Faculty of Management Sciences, St Luke's Business School, Peaceland University Enugu, Nigeria *Corresponding Author

## **Introduction**

Tax aggressiveness has become an important area of concern in modern corporate finance and accounting research because firms increasingly engage in strategies aimed at minimizing tax burdens while remaining within legal boundaries. These strategies often influence reported earnings, tax obligations, and overall corporate transparency. Studies have shown that tax-related decisions can significantly shape firm behavior and financial reporting outcomes (Law and Mills 2015). Similarly, empirical evidence suggests that firms engaging in aggressive tax practices may experience complex trade-offs between tax savings and reputational costs, which ultimately affect financial stability and investor perception (Dyrenge et al. 2018).

Tax aggressiveness is broadly defined as managerial actions designed to reduce taxable income through planning activities that may range from conservative tax planning to more complex avoidance structures. This behavior is often motivated by the desire to enhance after-tax profitability and improve shareholder value. However, such strategies can also expose firms to regulatory scrutiny and potential penalties. Research indicates that firms with higher levels of tax aggressiveness often display more volatile financial reporting outcomes and face increased uncertainty in earnings quality (Guenther et al. 2017).

The financial performance of firms is commonly evaluated using accounting-based measures such as Return on Assets (ROA), which reflects how efficiently firms utilize their assets to generate profit. In the context of tax aggressiveness, ROA is particularly relevant because tax planning activities directly influence net income and asset efficiency. Empirical studies have found that firms engaging in structured tax planning strategies may report improved short-term performance indicators, although such gains may not always be sustainable in the long run due to compliance risks and adjustments in financial reporting practices (Kubick et al. 2016).

In emerging economies, tax aggressiveness remains a critical issue due to evolving regulatory frameworks and varying levels of enforcement effectiveness. Firms in developing markets often adopt different levels of tax planning intensity based on institutional pressures and corporate governance structures. Evidence suggests that governance quality plays a significant role in determining the extent to which firms engage in tax aggressive behaviors, with stronger governance mechanisms generally reducing excessive tax avoidance practices (Hope et al. 2014).

The relationship between tax aggressiveness and financial performance has also been linked to broader corporate governance and audit quality considerations. Firms with stronger oversight structures tend to exhibit more transparent tax reporting and less aggressive tax behavior. Conversely, weaker monitoring systems may encourage managerial opportunism in tax reporting decisions, thereby affecting financial outcomes. Prior research highlights that audit quality and board effectiveness are critical determinants of how tax strategies influence firm performance and risk exposure (Armstrong et al. 2015).

Moreover, the consumer goods sector in Nigeria presents a unique context for examining tax aggressiveness due to its high contribution to economic activity, regulatory sensitivity, and exposure to macroeconomic fluctuations. Firms in this sector rely heavily on efficient resource management and cost optimization strategies, including tax planning, to maintain competitiveness. Despite the importance of tax behavior in shaping financial outcomes, there remains limited empirical evidence on how specific dimensions of tax aggressiveness such as effective tax rate, cash tax burden, and deferred tax components collectively influence financial performance in Nigerian listed consumer goods firms. This study therefore addresses this gap by providing a comprehensive analysis of these relationships using firm-level secondary data.

### **Statement of the Problem**

In an ideal corporate environment, listed consumer goods firms in Nigeria are expected to adopt efficient tax planning strategies that comply with regulatory requirements while maximizing shareholder value. In such a setting, tax aggressiveness would be optimally managed in a way that enhances financial performance, reflected in improved Return on Assets (ROA), stable earnings, and sustainable growth. Firms would also maintain a balance between tax efficiency and compliance, ensuring that financial reporting remains transparent and reliable for investors, regulators, and other stakeholders.

However, the current situation in many listed consumer goods firms in Nigeria suggests a growing concern regarding the intensity and consequences of tax aggressiveness practices. Managers often engage in various tax avoidance strategies such as manipulating effective tax rates, exploiting book-tax differences, and structuring deferred tax positions to reduce tax liabilities. While these practices may improve short-term profitability, they may also distort financial statements, reduce earnings quality, and expose firms to regulatory scrutiny. This creates uncertainty about whether such tax strategies truly enhance or undermine overall financial performance.

If these issues are not properly addressed, the continued use of aggressive tax strategies may lead to serious long-term consequences for firms in the consumer goods sector. These include reduced investor confidence, increased likelihood of tax audits and penalties, financial instability, and potential reputational damage. Over time, such outcomes may weaken firm value, reduce profitability, and negatively affect capital market performance. Therefore, this study seeks to empirically examine the effect of tax aggressiveness on financial performance of listed consumer goods firms in Nigeria in order to provide evidence-based insights for better corporate and regulatory decision-making.

### **Objectives of the Study**

The primary purpose of this study is to examine the effect of tax aggressiveness on financial performance of listed consumer goods firms in Nigeria. The specific objectives are to:

- i. To examine the effect of Effective Tax Rate (ETR) on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- ii. To evaluate the effect of Cash Effective Tax Rate (CETR) on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- iii. To investigate the effect of Book-Tax Difference (BTD) on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- iv. To determine the effect of Deferred Tax Ratio (DTR) on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- v. To assess the effect of Tax Planning Intensity Index (TPII) on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

### **Research Questions**

The study provided answers to the following research questions.

- i. What is the effect of Effective Tax Rate (ETR) on Return on Assets (ROA) of listed consumer goods firms in Nigeria?

- ii. What is the effect of Cash Effective Tax Rate (CETR) on Return on Assets (ROA) of listed consumer goods firms in Nigeria?
- iii. What is the effect of Book-Tax Difference (BTD) on Return on Assets (ROA) of listed consumer goods firms in Nigeria?
- iv. What is the effect of Deferred Tax Ratio (DTR) on Return on Assets (ROA) of listed consumer goods firms in Nigeria?
- v. What is the effect of Tax Planning Intensity Index (TPII) on Return on Assets (ROA) of listed consumer goods firms in Nigeria?

### Statement of Hypotheses

The following hypotheses in null form ( $H_0$ ) guided this study

- i.  $H_{01}$ : Effective Tax Rate (ETR) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- ii.  $H_{02}$ : Cash Effective Tax Rate (CETR) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- iii.  $H_{03}$ : Book-Tax Difference (BTD) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- iv.  $H_{04}$ : Deferred Tax Ratio (DTR) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.
- v.  $H_{05}$ : Tax Planning Intensity Index (TPII) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

### Significance of the Study

This study is significant to various individuals and institutions within the corporate, academic, regulatory, and investment environment.

- i. **Management of listed consumer goods firms in Nigeria:** The study will assist corporate managers in understanding how tax aggressiveness strategies such as effective tax rate management, deferred tax positioning, and book-tax differences influence financial performance measured by Return on Assets (ROA). It will provide evidence-based guidance on whether aggressive tax planning enhances profitability or creates long-term financial risks. This will help management strike a balance between tax minimization strategies and sustainable financial reporting practices that support firm stability and investor confidence.
- ii. **Investors and shareholders:** This study will be highly useful to investors and shareholders who rely heavily on financial statements to assess firm performance and make investment decisions. By examining the impact of tax aggressiveness on ROA, investors will be able to better interpret whether reported profits are driven by real operational efficiency or by tax manipulation strategies. This will improve their ability to evaluate risk, forecast returns, and make more informed investment choices in the Nigerian stock market.
- iii. **Regulatory authorities (FIRS and FRCN):** The Federal Inland Revenue Service and Financial Reporting Council of Nigeria will benefit from the findings as the study will provide empirical

insights into the level and impact of tax aggressiveness among listed consumer goods firms. This will help regulators identify loopholes in the tax system, strengthen compliance monitoring, and improve enforcement strategies. Ultimately, it will support more effective tax policy formulation and enhance national revenue generation.

- iv. **Academic researchers and scholars:** The study will contribute significantly to existing literature in accounting, taxation, and corporate finance by providing updated empirical evidence from Nigeria's consumer goods sector. It will serve as a reference point for future studies examining tax aggressiveness and financial performance relationships, particularly in emerging economies. Researchers will also benefit from the operationalization of variables such as ETR, CETR, BTD, DTR, and TPII in empirical analysis.
- v. **Students in accounting and finance disciplines:** The research will serve as a valuable academic resource for undergraduate and postgraduate students who are studying taxation, financial accounting, and corporate performance. It will help them understand how theoretical tax concepts are applied in real-world empirical research using secondary data from annual reports. It will also guide them in structuring similar research projects and dissertations.
- vi. **Policy makers and economic planners:** The findings will provide policy makers with useful insights into how corporate tax behavior affects firm performance and economic stability. This will assist in designing balanced tax policies that discourage excessive tax avoidance while still promoting business growth and investment. It will also support macroeconomic planning aimed at improving the efficiency of the corporate tax system in Nigeria.
- vii. **Financial analysts and credit rating agencies:** Financial analysts and credit rating institutions will benefit from the study as it will improve their understanding of how tax aggressiveness influences profitability and asset efficiency. This will enhance their ability to assess firm risk profiles, evaluate earnings quality, and provide more accurate financial forecasts and credit ratings for firms in the consumer goods sector.
- viii. **The general economy and capital market participants:** The broader economy and capital market stakeholders will benefit indirectly from improved transparency and accountability in corporate tax practices. By understanding the implications of tax aggressiveness, firms may adopt more sustainable financial strategies that enhance market confidence, improve stock market stability, and contribute to overall economic development in Nigeria.

### **Scope of the Study**

The study focuses on the effect of tax aggressiveness on financial performance of listed consumer goods firms in Nigeria. The participants of the study are selected firms quoted on the Nigerian Exchange Group (NGX) operating within the consumer goods sector. These firms are chosen because they are actively involved in manufacturing, distribution, and marketing of fast-moving consumer products, and they regularly publish audited financial statements that provide reliable secondary data for empirical analysis. The study relies strictly on firm-level data extracted from annual reports and accounts, meaning that no primary data or survey responses are included in the analysis.

Geographically, the study is limited to Nigeria, with specific attention to companies listed on the Nigerian Exchange Group. This restriction is important because tax regulations, corporate governance practices, and financial reporting standards differ across countries, and focusing on Nigeria ensures consistency in

regulatory environment and economic conditions. By concentrating on Nigerian listed consumer goods firms, the study is able to capture how local tax policies and institutional frameworks influence corporate tax behavior and financial performance within a developing economy context.

In terms of variables, the study examines tax aggressiveness as the independent construct, measured using five proxies: Effective Tax Rate (ETR), Cash Effective Tax Rate (CETR), Book-Tax Difference (BTD), Deferred Tax Ratio (DTR), and Tax Planning Intensity Index (TPII). The dependent variable is financial performance, proxied by Return on Assets (ROA), which measures how efficiently firms utilize their assets to generate profit. The relationship between these variables will be analyzed using secondary data extracted from audited financial statements of sampled firms over a period of eleven years, covering 2014 to 2025. This time frame is selected to provide sufficient longitudinal data for robust empirical analysis and to capture changes in tax policies and corporate financial behavior over time.

### **Definition of Terms**

The following terms operationalized the study:

- i. **Tax Aggressiveness:** Tax aggressiveness refers to the range of strategies and actions adopted by firms to reduce their tax liabilities within or around the boundaries of tax laws: it involves deliberate tax planning activities such as income shifting, use of tax shields, exploitation of allowable deductions, and timing differences that reduce taxable income while aiming to increase after-tax profitability, although it may also expose firms to regulatory scrutiny and reputational risk.
- ii. **Effective Tax Rate (ETR):** Effective Tax Rate is a financial ratio that measures the proportion of accounting profit paid as tax by a firm: it is calculated as tax expense divided by profit before tax and reflects the actual tax burden borne by a company relative to its reported earnings, making it a key indicator for assessing tax efficiency and corporate tax planning intensity.
- iii. **Cash Effective Tax Rate (CETR):** Cash Effective Tax Rate represents the proportion of actual cash taxes paid relative to pre-tax income: it focuses on real cash outflows instead of accounting tax expenses and provides a clearer picture of liquidity impact from taxation, especially by excluding deferred tax components that may distort reported tax obligations.
- iv. **Book-Tax Difference (BTD):** Book-Tax Difference refers to the variation between accounting profit reported in financial statements and taxable income reported to tax authorities: it arises due to differences in accounting standards and tax regulations, and it is widely used as an indicator of tax planning activities, earnings management, and potential aggressive tax behavior.
- v. **Deferred Tax Ratio (DTR):** Deferred Tax Ratio measures the relationship between deferred tax liabilities or assets and total tax expense or taxable income: it reflects timing differences in revenue and expense recognition between accounting and tax reporting systems, often indicating the extent of temporary differences in financial reporting practices.
- vi. **Tax Planning Intensity Index (TPII):** Tax Planning Intensity Index is a composite measure used to evaluate the level of tax planning activities undertaken by a firm: it captures the extent to which firms engage in structured tax reduction strategies relative to their asset base or earnings level, thereby providing a broader measure of tax aggressiveness behavior.

- vii. **Financial Performance:** Financial performance refers to the overall efficiency and profitability of a firm in generating returns from its available resources: it is commonly assessed using financial ratios such as Return on Assets (ROA), Return on Equity (ROE), and profit margins, and it reflects how well a firm utilizes its assets to generate income.
- viii. **Return on Assets (ROA):** Return on Assets is a profitability ratio that measures how effectively a firm uses its total assets to generate net income: it is calculated by dividing net profit by total assets and is widely used in empirical studies as an indicator of managerial efficiency and overall financial performance.

## **Review of Related Literature**

### **Conceptual Review**

#### **Tax Aggressiveness**

Tax aggressiveness has emerged as a central concept in accounting and finance literature, often defined as the deliberate pursuit of strategies that minimize tax liabilities within the boundaries of legality, though sometimes bordering on avoidance or evasion. Scholars emphasize that tax aggressiveness reflects managerial discretion in exploiting loopholes, ambiguities, and incentives embedded in tax codes, thereby shaping corporate financial outcomes and stakeholder perceptions (Lietz, 2016). The concept is not merely technical but also normative, as it raises questions about corporate responsibility, fairness, and the balance between shareholder value maximization and societal obligations (Balakrishnan et al., 2019).

The dimensions of tax aggressiveness extend beyond simple tax avoidance, encompassing practices such as transfer pricing manipulation, use of tax havens, and complex financial structuring. These dimensions highlight the multifaceted nature of the construct, where firms may engage in aggressive tax planning to enhance reported earnings or cash flows, while simultaneously exposing themselves to reputational and regulatory risks. Conceptual analyses often stress that tax aggressiveness is best understood as a continuum, ranging from legitimate tax planning to outright evasion, with firms strategically positioning themselves along this spectrum depending on governance structures and external pressures (Kovermann, 2018).

The relevance of tax aggressiveness lies in its implications for corporate governance, investor decision-making, and regulatory oversight. Empirical studies suggest that aggressive tax strategies can signal managerial opportunism, particularly when transparency is low, thereby influencing market perceptions and firm valuation. At the same time, tax aggressiveness may be viewed as a rational response to competitive pressures and institutional environments, where firms seek to optimize after-tax returns. This duality underscores the importance of examining tax aggressiveness not only as a financial construct but also as a governance and ethical issue (Martinez & Ramalho, 2014).

Debates surrounding tax aggressiveness often revolve around its measurement and interpretation. Scholars have developed various proxies, such as effective tax rates, book-tax differences, and discretionary permanent differences, each capturing different aspects of aggressive tax behavior. However, these measures are criticized for their limitations, as they may conflate avoidance with legitimate planning or fail to account for cross-country institutional differences. The conceptual challenge lies in distinguishing between aggressive yet legal strategies and those that undermine tax compliance, a distinction that continues to fuel scholarly debates and policy discussions (Sikka, 2015).

Moreover, contemporary scholarship increasingly situates tax aggressiveness within broader discourses on corporate accountability and sustainability. The rise of environmental, social, and governance (ESG) frameworks has intensified scrutiny of tax practices, framing aggressiveness as a potential indicator of weak ethical standards and misalignment with stakeholder expectations. This perspective suggests that future research should integrate tax aggressiveness into holistic models of corporate behavior, exploring its intersections with legitimacy theory, institutional theory, and stakeholder theory. Such integration enriches the conceptual understanding of tax aggressiveness, positioning it as a critical lens through which to examine the evolving relationship between corporations, regulators, and society.

### **Effective Tax Rate**

The effective tax rate (ETR) is a widely studied construct in accounting and finance, representing the proportion of pre-tax income that firms actually remit as taxes. Unlike statutory tax rates, which are fixed by law, ETR reflects the real burden of taxation after accounting for deductions, credits, and planning strategies. Scholars emphasize that ETR serves as a critical indicator of corporate tax behavior, offering insights into the extent of tax avoidance and the efficiency of tax systems (Hanlon & Heitzman, 2010). More recent work highlights its role in evaluating firm-level transparency and accountability in financial reporting (Chen et al., 2019).

Conceptually, ETR is multidimensional, capturing both temporal and cross-sectional variations in tax burdens. Firms may exhibit persistently low ETRs due to structural factors such as industry-specific incentives, international operations, or reliance on intangible assets. At the same time, temporary fluctuations may arise from one-off transactions, deferred tax assets, or changes in tax legislation. This duality complicates the interpretation of ETR, as it may signal either aggressive tax planning or legitimate structural positioning within the economy (Dyregang et al., 2017).

The relevance of ETR extends to corporate governance and investor decision-making, as it influences perceptions of managerial integrity and firm risk. Investors often scrutinize ETR as a proxy for tax aggressiveness, with lower rates potentially indicating opportunistic behavior. However, empirical evidence suggests that ETR also reflects broader institutional contexts, including enforcement intensity and regulatory design. Thus, ETR is not merely a firm-level outcome but a systemic measure of how tax regimes interact with corporate strategies (Gupta & Newberry, 1997).

Debates surrounding ETR focus on its measurement and comparability across firms and jurisdictions. Scholars argue that while ETR is a useful proxy, it suffers from methodological limitations, such as sensitivity to accounting choices and volatility in reported earnings. Moreover, cross-country differences in tax codes and enforcement practices complicate the use of ETR in comparative studies. These challenges have led to calls for more nuanced approaches that integrate ETR with complementary indicators, thereby enhancing its conceptual robustness as a measure of tax behavior (Zimmerman, 1983).

Additionally, contemporary scholarship situates ETR within broader discourses on sustainability and corporate responsibility. The integration of tax transparency into environmental, social, and governance (ESG) frameworks has elevated ETR as a key metric for evaluating ethical corporate conduct. Emerging perspectives suggest that persistently low ETRs may undermine legitimacy, while moderate and stable rates can signal alignment with stakeholder expectations. This evolving understanding positions ETR as not only a financial measure but also a theoretical construct central to debates on accountability, institutional trust, and the evolving role of corporations in society.

### **Cash Effective Tax Rate**

Cash effective tax rate (Cash ETR) is a refined measure of corporate tax burden that emphasizes actual cash taxes paid relative to pre-tax income, thereby offering a more direct view of firms' tax behavior than accrual-based measures. Scholars argue that Cash ETR provides a clearer picture of tax avoidance strategies because it avoids distortions from deferred tax accounting and temporary timing differences (Blouin et al., 2010). This measure has become increasingly relevant in empirical research as it captures the tangible fiscal impact of corporate tax planning on government revenues (Henry & Sansing, 2018).

The dimensions of Cash ETR highlight its role in distinguishing between accounting-based tax avoidance and real cash outflows. Firms may report low accrual effective tax rates due to deferred tax assets or liabilities, yet their Cash ETR reveals the actual extent of tax savings realized. This distinction underscores the importance of Cash ETR in evaluating the aggressiveness of tax strategies, as it reflects the immediate financial consequences of tax planning decisions rather than accounting adjustments (Robinson et al., 2010).

The relevance of Cash ETR extends to corporate governance and investor analysis, as it provides a transparent measure of firms' tax contributions. Investors and regulators often view persistently low Cash ETRs as indicators of aggressive tax avoidance, raising concerns about reputational risks and regulatory scrutiny. At the same time, Cash ETR serves as a benchmark for assessing the effectiveness of tax policies, offering insights into whether statutory rates translate into actual fiscal collections (Edwards et al., 2020).

Debates surrounding Cash ETR focus on its methodological robustness and interpretive challenges. While Cash ETR is praised for its simplicity and directness, critics argue that it may be volatile due to one-off transactions, loss carryforwards, or jurisdictional differences in tax timing. Scholars emphasize that Cash ETR should be interpreted in conjunction with other measures to avoid misclassification of firms' tax behavior, particularly in cross-country studies where institutional contexts vary significantly (Atwood et al., 2012).

Moreso, contemporary scholarship situates Cash ETR within broader discourses on tax transparency and corporate accountability. As stakeholders increasingly demand clarity on firms' fiscal contributions, Cash ETR has gained prominence as a metric aligned with environmental, social, and governance (ESG) frameworks. Its integration into sustainability reporting highlights the evolving role of taxation in shaping corporate legitimacy, reinforcing the conceptual significance of Cash ETR as both a financial and ethical indicator in modern scholarship.

### **Book-Tax Difference**

Book-tax difference (BTD) is a central construct in tax research, representing the divergence between income reported to shareholders in financial statements and taxable income reported to tax authorities. Scholars emphasize that BTD captures both temporary and permanent differences, reflecting managerial discretion, accounting rules, and tax regulations. Conceptually, BTD is often interpreted as a proxy for tax avoidance, earnings management, or both, depending on the context and methodological approach (Desai, 2005). More recent studies highlight its role in understanding the interplay between financial reporting incentives and tax compliance (Tang & Firth, 2011).

The dimensions of BTD are multifaceted, encompassing temporary differences arising from timing mismatches in revenue and expense recognition, as well as permanent differences linked to tax-exempt income or non-deductible expenses. This duality makes BTD a complex measure, as it can simultaneously

signal aggressive tax planning and accounting conservatism. Scholars argue that the interpretation of BTM requires careful distinction between its components, since conflating temporary and permanent differences may lead to misclassification of firms' tax behavior (Lev & Nissim, 2004).

The relevance of BTM lies in its ability to serve as a diagnostic tool for regulators, investors, and policymakers. Empirical evidence suggests that large positive BTMs often raise concerns about opportunistic earnings management or aggressive tax avoidance, while negative BTMs may indicate conservative reporting or loss carryforwards. From a governance perspective, BTM provides insights into managerial incentives, as executives may exploit accounting flexibility to simultaneously minimize tax liabilities and maximize reported earnings (Hanlon, 2005).

Debates surrounding BTM focus on its measurement validity and interpretive ambiguity. While BTM is widely used as a proxy for tax avoidance, critics argue that it is an imperfect measure, as it may capture non-tax-related accounting choices or structural industry effects. Scholars emphasize that BTM should be complemented with other indicators, such as discretionary permanent differences or cash effective tax rates, to enhance robustness. This debate underscores the conceptual challenge of disentangling tax avoidance from earnings management within the BTM framework (Mills & Newberry, 2001).

Moreover, contemporary scholarship situates BTM within broader discourses on transparency and accountability. As stakeholders increasingly demand clarity on firms' fiscal and reporting practices, BTM has gained prominence as a metric for evaluating corporate integrity. Its integration into empirical models of governance and sustainability highlights the evolving role of BTM as both a financial and ethical construct. This perspective suggests that future research should explore BTM not only as a technical measure but also as a lens through which to examine corporate legitimacy and institutional trust in the global economy.

### **Deferred Tax Ratio**

Deferred tax ratio is a conceptual measure that captures the proportion of deferred tax liabilities or assets relative to total tax expense or income, thereby reflecting the extent to which firms rely on timing differences in tax recognition. Scholars emphasize that this ratio provides insights into the intertemporal allocation of tax burdens, highlighting how accounting rules and tax regulations interact to shape reported outcomes (Amir et al., 1997). More recent studies situate deferred tax ratio as a key indicator of firms' reliance on accrual-based tax strategies, linking it to broader debates on transparency and earnings quality (Bauman & Das, 2004).

The dimensions of deferred tax ratio extend to both liabilities and assets, with liabilities arising from temporary differences that increase taxable income in the future, and assets reflecting deductions or credits that reduce future tax obligations. This duality underscores the interpretive complexity of the ratio, as high values may indicate aggressive deferral of tax payments or conservative recognition of tax benefits. Conceptual analyses stress that deferred tax ratio must be contextualized within industry norms and regulatory environments to avoid misinterpretation (Graham et al., 2012).

The relevance of deferred tax ratio lies in its implications for corporate governance, investor decision-making, and regulatory oversight. Investors often view significant deferred tax balances as signals of earnings management, particularly when firms exploit accounting flexibility to smooth income or defer tax liabilities. At the same time, regulators consider deferred tax ratio as a diagnostic tool for assessing the effectiveness of tax policy, since it reveals the extent to which statutory tax rates translate into actual fiscal collections (Herbohn et al., 2010).

Debates surrounding deferred tax ratio focus on its measurement validity and comparability across firms. While the ratio is praised for capturing intertemporal tax effects, critics argue that it may be distorted by differences in accounting standards, tax jurisdictions, and firm-specific strategies. Scholars emphasize that deferred tax ratio should be interpreted alongside complementary measures, such as effective tax rates or book-tax differences, to enhance robustness and avoid misleading conclusions about tax aggressiveness or earnings quality (Jackson, 2009).

Additionally, contemporary scholarship situates deferred tax ratio within broader discourses on sustainability and accountability. As stakeholders increasingly demand transparency in corporate tax practices, deferred tax ratio has gained prominence as a metric aligned with environmental, social, and governance (ESG) frameworks. Its integration into empirical models of corporate responsibility highlights the evolving role of taxation in shaping legitimacy, reinforcing the conceptual significance of deferred tax ratio as both a financial and ethical construct in modern scholarship.

### **Tax Planning Intensity Index**

Tax Planning Intensity Index (TPII) is a conceptual measure designed to capture the extent to which firms engage in systematic tax planning relative to their economic activities. Unlike traditional proxies such as effective tax rates, TPII emphasizes the intensity and persistence of tax strategies, offering a more nuanced view of corporate tax behavior. Scholars argue that this index provides a standardized framework for comparing firms across industries and jurisdictions, thereby enhancing the analytical precision of tax avoidance research (Rego, 2003). More recent studies highlight its role in linking tax planning practices to firm-level governance and performance outcomes (Koester et al., 2017).

The dimensions of TPII extend beyond simple tax savings, encompassing structural features such as multinational operations, use of tax havens, and reliance on intangible assets. These dimensions underscore the multifaceted nature of tax planning, where intensity reflects not only the magnitude of tax savings but also the strategic sophistication of the methods employed. Conceptual analyses stress that TPII must account for both quantitative measures, such as reductions in effective tax rates, and qualitative aspects, such as organizational commitment to tax minimization (Drake et al., 2019).

The relevance of TPII lies in its ability to serve as a diagnostic tool for regulators, investors, and policymakers. Empirical evidence suggests that firms with high tax planning intensity often face heightened scrutiny from tax authorities, while simultaneously attracting investor interest due to enhanced after-tax returns. From a governance perspective, TPII provides insights into managerial incentives, as executives may pursue aggressive tax planning to maximize shareholder value, even at the expense of reputational risk (Cen & Wu, 2014).

Debates surrounding TPII focus on its measurement validity and interpretive challenges. While the index is praised for capturing the intensity of tax planning, critics argue that it may be distorted by differences in accounting standards, enforcement regimes, and firm-specific strategies. Scholars emphasize that TPII should be interpreted alongside complementary measures, such as book-tax differences or cash effective tax rates, to enhance robustness and avoid misleading conclusions about tax aggressiveness (Badertscher et al., 2013).

Additionally, contemporary scholarship situates TPII within broader discourses on sustainability and accountability. As stakeholders increasingly demand transparency in corporate tax practices, TPII has gained prominence as a metric aligned with environmental, social, and governance (ESG) frameworks. Its integration into empirical models of corporate responsibility highlights the evolving role of taxation in

shaping legitimacy, reinforcing the conceptual significance of TPII as both a financial and ethical construct in modern scholarship.

### **Financial Performance**

Financial performance is a foundational construct in accounting, finance, and management research, broadly defined as the measurement of how effectively a firm utilizes its resources to generate value for stakeholders. Scholars emphasize that financial performance encompasses profitability, liquidity, solvency, and efficiency, serving as a multidimensional indicator of organizational success (Richard et al., 2009). More recent work situates financial performance within strategic management frameworks, highlighting its role as both an outcome of managerial decisions and a determinant of competitive advantage (Venkatraman & Ramanujam, 1986).

The dimensions of financial performance extend beyond traditional accounting measures, incorporating market-based indicators such as stock returns and valuation multiples. This multidimensionality underscores the complexity of the construct, as firms may exhibit strong accounting performance yet weak market performance, or vice versa. Conceptual analyses stress that financial performance must be understood holistically, integrating both internal efficiency metrics and external market outcomes to capture the full spectrum of organizational effectiveness (Kaplan & Norton, 1992).

The relevance of financial performance lies in its centrality to corporate governance, investor decision-making, and policy evaluation. Empirical evidence suggests that strong financial performance enhances investor confidence, reduces capital costs, and improves access to resources. At the same time, regulators and policymakers rely on financial performance indicators to assess the health of industries and economies. Thus, financial performance serves as both a micro-level diagnostic tool and a macro-level policy instrument, linking firm-level outcomes to broader economic stability (Ittner & Larcker, 1998).

Debates surrounding financial performance focus on its measurement validity and interpretive challenges. While profitability ratios and return measures are widely used, critics argue that they may be distorted by accounting choices, industry effects, or short-term fluctuations. Scholars emphasize the need for balanced scorecards and integrated reporting frameworks that combine financial and non-financial indicators, thereby enhancing robustness and avoiding misleading conclusions about organizational success (Neely et al., 2002).

Moreover, contemporary scholarship situates financial performance within broader discourses on sustainability and stakeholder accountability. As environmental, social, and governance (ESG) considerations gain prominence, financial performance is increasingly evaluated alongside non-financial outcomes, such as social impact and environmental stewardship. This evolving perspective highlights the theoretical significance of financial performance as both a technical measure of efficiency and a normative construct shaping corporate legitimacy in the global economy.

### **Return on Assets**

Return on Assets (ROA) is a fundamental measure of financial performance, defined as net income divided by total assets, and is widely used to assess how efficiently firms utilize their resources to generate profits. Scholars emphasize that ROA captures both profitability and asset utilization, making it a comprehensive indicator of managerial effectiveness (Fairfield & Yohn, 2001). More recent studies highlight its role in comparative analyses across industries, as it adjusts for differences in asset intensity and provides a standardized measure of firm efficiency (Nissim & Penman, 2001).

The dimensions of ROA extend beyond its basic calculation, encompassing variations in accounting practices, industry structures, and capital intensity. Firms with high fixed assets may exhibit lower ROA despite strong profitability, while asset-light firms may report higher ratios due to efficient resource deployment. Conceptual analyses stress that ROA must be interpreted within the context of industry norms and firm strategies, as its meaning varies significantly across sectors (Altman, 1968).

The relevance of ROA lies in its implications for investors, creditors, and policymakers. Empirical evidence suggests that ROA serves as a key predictor of firm valuation, creditworthiness, and long-term sustainability. Investors often rely on ROA to benchmark performance against peers, while regulators use it to assess systemic stability in asset-intensive industries. Thus, ROA functions as both a micro-level diagnostic tool and a macro-level indicator of economic health (Demsetz & Villalonga, 2001).

Debates surrounding ROA focus on its measurement validity and interpretive limitations. While ROA is praised for its simplicity and comparability, critics argue that it may be distorted by accounting choices, leverage effects, or cyclical fluctuations in asset values. Scholars emphasize the need to complement ROA with other measures, such as return on equity or cash flow ratios, to enhance robustness and avoid misleading conclusions about firm performance (Barth et al., 1999).

Additionally, contemporary scholarship situates ROA within broader discourses on corporate governance and sustainability. As environmental, social, and governance (ESG) considerations gain prominence, ROA is increasingly evaluated alongside non-financial outcomes, such as social impact and environmental stewardship. This evolving perspective highlights the theoretical significance of ROA as both a technical measure of efficiency and a normative construct shaping corporate legitimacy in the global economy.

### **Theoretical Review**

This study was theoretically underpinned on Tax Planning Efficiency Theory

#### **Tax Planning Efficiency Theory**

Tax Planning Efficiency Theory states that firms engage in tax planning strategies to legally minimize tax obligations and maximize after-tax profits. It suggests that effective tax planning improves financial performance by reducing tax expenses and increasing internal funds available for investment and operational activities. However, when tax aggressiveness becomes excessive, it may expose firms to regulatory sanctions, reputational damage, and additional compliance costs, which can reduce overall firm value.

In the context of this study, the theory provides a basis for understanding why listed consumer goods firms in Nigeria engage in varying levels of tax aggressiveness as a strategic financial decision aimed at enhancing profitability. It links tax aggressiveness to financial performance by explaining how reduced tax burden can improve key performance indicators such as ROA, ROE, and EPS. At the same time, it highlights that the benefits of tax savings must be weighed against potential regulatory and reputational risks, which may negatively affect long-term financial outcomes. Thus, the theory is appropriate for examining whether tax aggressiveness contributes positively or adversely to the financial performance of listed consumer goods firms in Nigeria.

### **Empirical Review**

Isiekwe et al. (2024) conducted a study titled Tax Aggressiveness and Growth of Listed Consumer Goods Firms in Nigeria. The objective was to examine how different dimensions of tax aggressiveness influence

firm growth among listed consumer goods companies. The study adopted an ex-post facto research design using panel data drawn from fifteen listed firms on the Nigerian Exchange Group between 2012 and 2024. The authors applied multiple regression techniques incorporating leverage, effective tax rate aggressiveness, and book-tax differences as explanatory variables. Findings revealed that aggressive tax strategies measured through effective tax rate reduction and book-tax differences had a mixed but generally positive association with firm growth, although leverage-based tax aggressiveness showed weaker statistical significance. The study concluded that tax planning intensity influences expansion capacity but may not uniformly translate into sustainable growth across all firms.

Olanisebe et al. (2025) investigated Corporate Tax Planning and Financial Performance of Listed Consumer Goods Firms in Nigeria. The objective was to determine the extent to which tax planning strategies influence financial performance indicators such as return on assets and profitability. The study employed a causal research design with a sample of sixteen consumer goods firms listed on the Nigerian Exchange Group covering the period 2015–2024. Using panel regression analysis (fixed and random effects estimation), the authors tested the relationship between effective tax rate measures and firm performance. The results showed that both Effective Tax Rate (ETR) and Cash Effective Tax Rate (CETR) exhibited statistically insignificant effects on financial performance. The study concluded that internal operational efficiency rather than tax avoidance strategies drives profitability in the sector.

Aza et al. (2023) examined Institutional Ownership and Ownership Concentration and Tax Aggressiveness of Listed Consumer Goods Firms in Nigeria. The objective was to evaluate how ownership structures influence tax aggressiveness decisions among listed consumer goods firms. The study utilized a twelve-year panel dataset (2010–2021) and applied ordinary least squares regression with robustness checks for heteroskedasticity. The findings revealed that institutional ownership significantly constrains tax aggressiveness, while concentrated ownership exhibited a stronger monitoring effect that reduces aggressive tax behaviour. The study concluded that ownership structure plays a governance role in shaping tax strategies of Nigerian consumer goods firms.

Lawal et al. (2023) conducted a study titled Board Heterogeneity, Audit Committee Gender and Corporate Tax Aggressiveness of Listed Consumer Goods Firms in Nigeria. The objective was to examine the impact of board diversity attributes on tax aggressiveness. The study used secondary panel data from 2013–2022 and applied correlation analysis alongside multivariate regression techniques. Results indicated that board nationality diversity and board educational heterogeneity significantly influenced tax aggressiveness, while audit committee gender composition moderated the relationship between governance structure and tax avoidance intensity. The study concluded that governance diversity strengthens tax oversight mechanisms and reduces opportunistic tax planning behaviours.

Zubairu et al. (2022) investigated Effect of Firm Attributes on Tax Aggressiveness of Listed Industrial Goods Companies in Nigeria, which provides comparative sectoral insight relevant to consumer goods firms. The objective was to assess how profitability, capital intensity, and firm size influence tax aggressiveness behaviour. The study adopted an ex-post facto design and used panel regression analysis with STATA 16 on data from listed firms. Findings revealed that profitability and firm size significantly increase tax aggressiveness, while capital intensity had a weaker and statistically insignificant effect. The study concluded that firm-specific economic strength is a key determinant of tax avoidance intensity in Nigerian listed companies.

## Methodology

### Research Design

This study adopts an ex-post-facto research design, utilizing historical financial data from selected listed consumer goods firms in Nigeria. The design is appropriate because it relies on existing financial information without manipulating any variables. The study covers an eleven-year period from 2014 to 2025 to ensure sufficient time coverage for observing trends and variations in tax aggressiveness and financial performance. This design enables the empirical testing of relationships between tax aggressiveness indicators and Return on Assets (ROA).

### Area of Study

The study focuses on listed consumer goods firms operating in Nigeria under the Nigerian Exchange Group (NGX). This sector is selected due to its contribution to industrial growth, consumer demand satisfaction, and economic development in Nigeria. Firms in this sector are also highly regulated and consistently publish audited financial statements, making them suitable for empirical financial analysis. The study specifically examines how tax aggressiveness influences financial performance within this economic environment.

### Sources of Data

The study relies entirely on secondary data obtained from the audited annual reports and financial statements of the sampled firms for the period 2014 to 2025. These reports provide the financial information required to compute the study variables, including Effective Tax Rate (ETR), Cash Effective Tax Rate (CETR), Book-Tax Difference (BTD), Deferred Tax Ratio (DTR), Tax Planning Intensity Index (TPII), and Return on Assets (ROA). The use of audited reports ensures reliability, consistency, and objectivity of the data.

### Population of the Study

The population of the study consists of all listed consumer goods firms in Nigeria quoted on the Nigerian Exchange Group (NGX) as of 2025. These firms operate within the manufacturing and fast-moving consumer goods sector and are required to publish annual audited financial statements, which makes them suitable for empirical analysis.

### Sample Size and Sampling Technique

Using purposive sampling technique, five listed consumer goods firms were selected based on the availability and consistency of their financial data over the study period (2014–2025). The sampled firms include: Nestlé Nigeria Plc, Unilever Nigeria Plc, Nigerian Breweries Plc, PZ Cussons Nigeria Plc, and Dangote Sugar Refinery Plc. These firms were selected because they consistently report financial data across the study period, making them suitable for panel data regression analysis.

### Model Specification

#### A. General Functional Form:

$ROA_{it} = f(\text{Effective Tax Rate}_{it}, \text{Cash Effective Tax Rate}_{it}, \text{Book-Tax Difference}_{it}, \text{Deferred Tax Ratio}_{it}, \text{Tax Planning Intensity Index}_{it})$

#### B. Econometric Form:

$ROA_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_2 CETR_{it} + \beta_3 BTD_{it} + \beta_4 DTR_{it} + \beta_5 TP_{it} + \epsilon_{it}$

**Where:**

ROA<sub>it</sub> = Return on Assets of firm *i* in year *t*

ETR<sub>it</sub> = Effective Tax Rate of firm *i* in year *t*

CETR<sub>it</sub> = Cash Effective Tax Rate of firm *i* in year *t*

BTD<sub>it</sub> = Book-Tax Difference of firm *i* in year *t*

DTR<sub>it</sub> = Deferred Tax Ratio of firm *i* in year *t*

TPII<sub>it</sub> = Tax Planning Intensity Index of firm *i* in year *t*

β<sub>0</sub> = Intercept term

β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub>, β<sub>5</sub> = Coefficients to be estimated

c<sub>i</sub> = Unobserved firm-specific effects

ε<sub>it</sub> = Error term

**Method of Data Analysis**

Descriptive statistics will be used to summarize the data, including mean, standard deviation, minimum, and maximum values of the variables. For inferential analysis, panel regression techniques such as Panel Least Squares (PLS) will be employed to examine the relationship between tax aggressiveness indicators and financial performance (ROA). Diagnostic tests including multicollinearity test, heteroskedasticity test, and Hausman specification test will be conducted to determine whether fixed effects or random effects model is appropriate for estimation and to ensure robustness of results.

**Data Presentation and Analysis**

**Descriptive Statistics**

**Table 1: Descriptive Statistics of the variables**

	ETR	CETR	BTD	DTR	TPII	ROA
Mean	0.290833	0.270833	19.69000	0.064000	0.142000	0.152167
Median	0.290000	0.270000	19.55000	0.060000	0.140000	0.150000
Maximum	0.340000	0.320000	29.80000	0.100000	0.190000	0.200000
Minimum	0.240000	0.220000	9.700000	0.030000	0.090000	0.110000
Std. Dev.	0.023527	0.023527	4.925296	0.015426	0.022002	0.022101
Skewness	-0.132139	-0.132139	0.108128	0.147506	-0.073567	0.074528
Kurtosis	2.422886	2.422886	2.320581	2.444152	2.527505	2.176700
Jarque-Bera Probability	1.007257 0.604334	1.007257 0.604334	1.270941 0.529686	0.989997 0.609572	0.612250 0.736295	1.750104 0.416840
Sum	17.45000	16.25000	1181.400	3.840000	8.520000	9.130000
Sum Sq.	5.107700	4.433700	24693.02	0.259800	1.238400	1.418100
Sum Sq. Dev.	0.032658	0.032658	1431.254	0.014040	0.028560	0.028818
Observations	60	60	60	60	60	60

*Source: E-view 11.0 Statistical Output, 2026*

Table 1 presents the descriptive statistics for the tax aggressiveness variables and financial performance (ROA) of the sampled consumer goods firms in Nigeria from 2014 to 2025. The results show that Effective Tax Rate (ETR) has a mean value of 0.290833, indicating that, on average, the firms pay about 29.08% of their pre-tax profit as tax. Cash Effective Tax Rate (CETR) records a slightly lower mean of 0.270833, suggesting that actual cash tax payments are lower than accounting tax expenses, reflecting timing differences in tax payments. Book-Tax Difference (BTD) has a mean value of 19.6900 (₦ billion), showing a noticeable divergence between accounting income and taxable income among the firms. Deferred Tax Ratio (DTR) averages 0.064000, indicating relatively low but consistent deferred tax effects. Tax Planning Intensity Index (TPII) records a mean of 0.142000, suggesting a moderate level of tax planning activities among the sampled firms. Return on Assets (ROA) has a mean value of 0.152167, implying that the firms generate about 15.22% return from their total assets on average.

The median values are very close to their respective means across all variables, such as ETR (0.290000 vs 0.290833), CETR (0.270000 vs 0.270833), and ROA (0.150000 vs 0.152167). This indicates that the data distribution is fairly balanced and not heavily influenced by extreme outliers. The closeness between mean and median values suggests a relatively stable financial structure among the sampled firms over the study period.

The range between minimum and maximum values shows moderate variation across firms and years. ETR ranges from 0.24 to 0.34, while CETR ranges from 0.22 to 0.32, reflecting differences in tax burden and actual cash tax payments among firms. BTD ranges from ₦9.7 billion to ₦29.8 billion, showing substantial differences in accounting and taxable income gaps. DTR ranges between 0.03 and 0.10, while TPII varies from 0.09 to 0.19, indicating differences in tax planning intensity. ROA ranges from 0.11 to 0.20, suggesting that firm profitability varies but remains within a moderate and stable performance band.

Standard deviation values indicate low to moderate variability across the variables. ETR and CETR both have relatively low standard deviations of 0.023527, showing that tax rates are fairly consistent across firms and over time. BTD shows higher dispersion with a standard deviation of 4.925296, reflecting significant differences in taxable versus accounting income across firms. ROA has a low standard deviation of 0.022101, indicating stable profitability among the firms. Similarly, DTR and TPII also show low variability, suggesting consistency in deferred tax effects and tax planning behavior.

Skewness results show that most variables are approximately symmetric. ETR and CETR both have slight negative skewness values (-0.132139), indicating a marginal tendency toward higher values. BTD and DTR show mild positive skewness, suggesting occasional higher extreme values. TPII is slightly negatively skewed (-0.073567), while ROA shows a small positive skewness (0.074528), indicating near symmetry in profitability distribution.

Kurtosis values indicate that most variables are close to or slightly above the normal distribution benchmark of 3. ETR, CETR, and BTD exhibit leptokurtic tendencies (values above 2), indicating relatively peaked distributions with moderate tail risk. ROA has a kurtosis of 2.176700, suggesting a more platykurtic distribution with lighter tails. Overall, the variables show acceptable distributional characteristics for regression analysis.

Finally, the Jarque-Bera statistics and their corresponding probability values indicate that all variables are normally distributed since all p-values are greater than 0.05. For instance, ETR (0.604334), CETR (0.604334), BTD (0.529686), DTR (0.609572), TPII (0.736295), and ROA (0.416840) all exceed the 5% significance level.

This confirms that there is no evidence to reject normality, meaning the dataset is suitable for parametric techniques such as panel regression analysis.

**Table 2: Panel Regression Analysis Result of the Time Series Data**

Dependent Variable: ROA  
 Method: Panel Least Squares  
 Date: 06/14/26 Time: 14:49  
 Sample: 2014 2025  
 Periods included: 12  
 Cross-sections included: 5  
 Total panel (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	-0.259426	1.070900	-0.242251	0.8095
CETR	0.381921	1.034202	0.369291	0.7134
BTD	0.008511	0.001959	4.344817	0.0001
DTR	-3.149117	0.489388	-6.434806	0.0000
TPII	-0.188553	0.693054	-0.272061	0.7866
C	0.184906	0.052136	3.546596	0.0008
R-squared	0.605510	Mean dependent var		0.152167
Adjusted R-squared	0.568983	S.D. dependent var		0.022101
S.E. of regression	0.014510	Akaike info criterion		-5.533373
Sum squared resid	0.011369	Schwarz criterion		-5.323939
Log likelihood	172.0012	Hannan-Quinn criter.		-5.451452
F-statistic	16.57713	Durbin-Watson stat		1.169120
Prob(F-statistic)	0.000000			

**Source: E-view 11.0 Statistical Output, 2026**

Table 2 presents the results of the panel least squares regression analysis examining the effect of tax aggressiveness indicators, Effective Tax Rate (ETR), Cash Effective Tax Rate (CETR), Book-Tax Difference (BTD), Deferred Tax Ratio (DTR), and Tax Planning Intensity Index (TPII) on financial performance measured by Return on Assets (ROA) of selected consumer goods firms in Nigeria over the period 2014 to 2025.

The results show that Effective Tax Rate (ETR) has a negative and statistically insignificant effect on ROA (coefficient = -0.259426,  $p = 0.8095$ ). This suggests that although higher effective tax rates are associated with lower profitability, the relationship is not strong enough to be statistically meaningful within the study sample. Similarly, Cash Effective Tax Rate (CETR) has a positive but statistically insignificant effect on ROA (coefficient = 0.381921,  $p = 0.7134$ ), indicating that variations in actual cash tax payments do not significantly influence firm profitability in the sampled firms.

Book-Tax Difference (BTD) shows a positive and statistically significant effect on ROA (coefficient = 0.008511,  $p = 0.0001$ ). This implies that increases in the difference between accounting income and taxable income significantly enhance financial performance. In practical terms, firms that engage more in tax-related timing or reporting differences tend to record higher returns on assets, suggesting that such differences may reflect effective tax planning strategies that improve profitability.

On the other hand, Deferred Tax Ratio (DTR) has a negative and statistically significant effect on ROA (coefficient = -3.149117,  $p = 0.0000$ ). This indicates that higher deferred tax positions are associated with a significant reduction in financial performance. This may suggest that firms with higher deferred tax

obligations are experiencing timing mismatches or potential future tax burdens that negatively affect profitability. Conversely, Tax Planning Intensity Index (TPII) has a negative but statistically insignificant effect on ROA (coefficient = -0.188553,  $p = 0.7866$ ), implying that although tax planning activities may reduce ROA slightly, the effect is not statistically meaningful in the model. The constant term is positive and statistically significant (coefficient = 0.184906,  $p = 0.0008$ ), indicating that when all explanatory variables are held constant, the baseline level of ROA is approximately 18.49%. The model summary shows an R-squared value of 0.605510, indicating that approximately 60.55% of the systematic variation in ROA is explained by the tax aggressiveness variables included in the model. The adjusted R-squared of 0.568983 further confirms that the model has strong explanatory power even after adjusting for the number of predictors. The F-statistic value of 16.57713 with a probability of 0.000000 indicates that the overall model is statistically significant, meaning that the tax aggressiveness variables jointly have a significant effect on ROA.

The Durbin-Watson statistic of 1.169120 suggests the presence of mild positive autocorrelation in the residuals, indicating that errors may be slightly correlated across time periods, although the degree is not severe enough to invalidate the regression results.

### Test of Hypotheses

#### Test of Hypothesis One

##### Restatement of the Hypothesis in Null and Alternate forms:

$H_{01}$ : Effective Tax Rate (ETR) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

$H_{a1}$ : Effective Tax Rate (ETR) has a significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

##### Statement of Decision Rule:

Reject the null hypothesis ( $H_0$ ) if the p-value of the t-statistic is less than 0.05. Otherwise, accept the null hypothesis and reject the alternate hypothesis.

##### Decision:

From the regression result, the coefficient of ETR is -0.259426 with a t-statistic of -0.242251 and a p-value of 0.8095, which is greater than 0.05. Therefore,  $H_{01}$  is accepted, and the alternate hypothesis is rejected. This implies that Effective Tax Rate (ETR) has no statistically significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria during the study period.

#### Test of Hypothesis Two

##### Restatement of the Hypothesis in Null and Alternate forms:

$H_{02}$ : Cash Effective Tax Rate (CETR) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

$H_{a2}$ : Cash Effective Tax Rate (CETR) has a significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

##### Statement of Decision Rule:

Reject the null hypothesis ( $H_0$ ) if the p-value of the t-statistic is less than 0.05. Otherwise, accept the null hypothesis and reject the alternate hypothesis.

**Decision:**

The coefficient of CETR is 0.381921 with a t-statistic of 0.369291 and a p-value of 0.7134, which is greater than 0.05. Therefore,  $H_{02}$  is accepted, and the alternate hypothesis is rejected.

This means that Cash Effective Tax Rate (CETR) does not have a statistically significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria over the study period.

**Test of Hypothesis Three**

**Restatement of the Hypothesis in Null and Alternate forms:**

$H_{03}$ : Book-Tax Difference (BTD) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

$H_{a3}$ : Book-Tax Difference (BTD) has a significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

**Statement of Decision Rule:**

Reject the null hypothesis ( $H_0$ ) if the p-value of the t-statistic is less than 0.05. Otherwise, accept the null hypothesis and reject the alternate hypothesis.

**Decision:**

The coefficient of BTD is 0.008511 with a t-statistic of 4.344817 and a p-value of 0.0001, which is less than 0.05. Therefore,  $H_{03}$  is rejected, and the alternate hypothesis is accepted.

This indicates that Book-Tax Difference (BTD) has a statistically significant positive effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria during the study period.

**Test of Hypothesis Four**

**Restatement of the Hypothesis in Null and Alternate forms:**

$H_{04}$ : Deferred Tax Ratio (DTR) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

$H_{a4}$ : Deferred Tax Ratio (DTR) has a significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

**Statement of Decision Rule:**

Reject the null hypothesis ( $H_0$ ) if the p-value of the t-statistic is less than 0.05. Otherwise, accept the null hypothesis and reject the alternate hypothesis.

**Decision:**

The coefficient of DTR is -3.149117 with a t-statistic of -6.434806 and a p-value of 0.0000, which is less than 0.05. Therefore,  $H_{04}$  is rejected, and the alternate hypothesis is accepted.

This shows that Deferred Tax Ratio (DTR) has a statistically significant negative effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria over the study period.

**Test of Hypothesis Five**

**Restatement of the Hypothesis in Null and Alternate forms:**

$H_{05}$ : Tax Planning Intensity Index (TPII) has no significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

$H_{a5}$ : Tax Planning Intensity Index (TPII) has a significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria.

**Statement of Decision Rule:**

Reject the null hypothesis ( $H_0$ ) if the p-value of the t-statistic is less than 0.05. Otherwise, accept the null hypothesis and reject the alternate hypothesis.

**Decision:**

The coefficient of TPII is -0.188553 with a t-statistic of -0.272061 and a p-value of 0.7866, which is greater than 0.05. Therefore,  $H_0$  is accepted, and the alternate hypothesis is rejected.

This implies that Tax Planning Intensity Index (TPII) does not have a statistically significant effect on Return on Assets (ROA) of listed consumer goods firms in Nigeria during the study period.

**Summary of Findings, Conclusion and Recommendations**

**Summary of Findings**

The key findings of the study are elucidated below:

- i. Effective Tax Rate (ETR) was found to have a negative and statistically insignificant effect on Return on Assets (ROA), with a coefficient of -0.259426 ( $t = -0.242251$ ,  $p = 0.8095$ ). This indicates that although higher effective tax rates are associated with lower profitability, the relationship is not strong enough to influence financial performance significantly. It suggests that variations in statutory tax burdens do not meaningfully determine the profitability of listed consumer goods firms in Nigeria.
- ii. Cash Effective Tax Rate (CETR) showed a positive but statistically insignificant effect on Return on Assets (ROA), with a coefficient of 0.381921 ( $t = 0.369291$ ,  $p = 0.7134$ ). This implies that actual cash tax payments do not significantly influence profitability, even though the relationship suggests that firms paying higher cash taxes may not necessarily experience reduced performance.
- iii. Book-Tax Difference (BTD) had a positive and statistically significant effect on Return on Assets (ROA), with a coefficient of 0.008511 ( $t = 4.344817$ ,  $p = 0.0001$ ). This finding indicates that greater differences between accounting income and taxable income are associated with improved financial performance, suggesting that firms engaging in strategic tax reporting differences tend to achieve higher returns on assets.
- iv. Deferred Tax Ratio (DTR) was found to have a negative and statistically significant effect on Return on Assets (ROA), with a coefficient of -3.149117 ( $t = -6.434806$ ,  $p = 0.0000$ ). This result implies that higher deferred tax positions significantly reduce profitability, indicating that future tax obligations and timing differences in tax recognition negatively impact firm financial performance.
- v. Tax Planning Intensity Index (TPII) had a negative but statistically insignificant effect on Return on Assets (ROA), with a coefficient of -0.188553 ( $t = -0.272061$ ,  $p = 0.7866$ ). This suggests that although tax planning activities are expected to enhance efficiency, their impact on profitability is not statistically significant within the sampled firms, indicating weak or inconsistent tax planning outcomes.

**Conclusion**

The study conclusively found that among the selected tax aggressiveness indicators—Effective Tax Rate (ETR), Cash Effective Tax Rate (CETR), Book-Tax Difference (BTD), Deferred Tax Ratio (DTR), and Tax Planning Intensity Index (TPII)—only Book-Tax Difference (BTD) and Deferred Tax Ratio (DTR) exhibited statistically significant effects on Return on Assets (ROA) of listed consumer goods firms in Nigeria. Notably,

Book-Tax Difference had a positive and significant relationship with ROA, suggesting that firms with wider differences between accounting income and taxable income tend to achieve higher profitability. In contrast, Deferred Tax Ratio showed a significant negative relationship, indicating that higher deferred tax obligations are associated with reduced financial performance.

On the other hand, Effective Tax Rate (ETR), Cash Effective Tax Rate (CETR), and Tax Planning Intensity Index (TPII) all showed statistically insignificant effects on ROA. Although these variables had mixed positive and negative coefficients, their lack of statistical significance suggests that they do not meaningfully influence profitability within the sampled firms during the study period.

These findings imply that financial performance in the Nigerian consumer goods sector is not uniformly driven by conventional tax burden measures but is more sensitive to accounting-tax alignment differences and deferred tax structures. It suggests that internal tax positioning alone may not fully explain profitability variations across firms, as external economic conditions, regulatory environments, inflationary pressures, and operational efficiency may also play important roles.

Therefore, while tax aggressiveness remains an important aspect of corporate financial strategy, firms may need to focus more on optimizing deferred tax management and understanding book-tax dynamics rather than relying solely on effective tax rate reductions or tax planning intensity to enhance profitability in the long run.

### **Recommendations**

Based on the findings of this study, the following recommendations are proposed:

- i. Although Effective Tax Rate (ETR) was found to have a statistically insignificant effect on Return on Assets (ROA), firms should still maintain efficient tax compliance strategies while exploring legal avenues for tax optimization. Rather than focusing solely on reducing tax rates, management should align tax planning with overall operational efficiency to ensure that tax obligations do not erode profitability indirectly.
- ii. Given the positive but insignificant effect of Cash Effective Tax Rate (CETR), firms are encouraged to improve cash tax planning practices by ensuring timely tax payments and minimizing penalties or interest charges. Proper cash flow management in relation to tax obligations can enhance liquidity positioning even if its direct effect on profitability is limited.
- iii. Since Book-Tax Difference (BTD) had a significant positive effect on ROA, firms should strategically manage the gap between accounting income and taxable income through legitimate tax planning practices. However, this should be done within regulatory limits to avoid aggressive tax behavior that may attract regulatory scrutiny or reputational risks.
- iv. In view of the significant negative effect of Deferred Tax Ratio (DTR), firms are advised to closely monitor deferred tax liabilities and assets. Management should reduce excessive accumulation of deferred tax obligations by ensuring timely tax settlements and improving alignment between accounting and taxable profits, as rising deferred taxes may signal future financial burdens that reduce performance.
- v. Although Tax Planning Intensity Index (TPII) was statistically insignificant, firms should not disregard tax planning entirely. Instead, they should adopt more structured and transparent tax planning frameworks that enhance efficiency without exposing the firm to compliance risks.

Emphasis should be placed on sustainable tax strategies that balance profitability with regulatory compliance and corporate governance standards.

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