

TAX RATE AND EARNINGS PER SHARE (EPS) OF LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA

Kabiru Mande Dambuwa

Department of Accounting
Faculty of Management Sciences
Usmanu Danfodiyo University, Sokoto, Nigeria

Prof. Abdulrahman Bala Sani

Department of Accounting
Faculty of Management Sciences
Usmanu Danfodiyo University, Sokoto, Nigeria

Prof Nasiru Abdulsalam Kaoje

Department of Accounting
Faculty of Management Sciences
Usmanu Danfodiyo University, Sokoto, Nigeria
Corresponding Address: kabirudambuwa@gmail.com
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Abstract

This study examines the impact of tax rates on the earnings per share (EPS) of industrial companies listed on the Nigerian Exchange Group (NGX) from 2019 to 2023. The study population consists of thirteen industrial firms, with secondary data extracted from audited financial statements and annual reports. The methodological framework utilizes panel data techniques, encompassing descriptive statistics, correlational statistics, and inferential testing. Specifically, a panel multiple regression model is employed to evaluate the relationship between the independent variables effective tax rate and marginal tax rate and the dependent variable, EPS. The empirical results reveal that the effective tax rate exerts a significant negative influence on the EPS of the sampled firms. Consequently, the study recommends that Nigerian industrial companies enhance their tax planning frameworks by utilizing statutory tax credits and incentives, optimizing transaction structures, and proactively managing fiscal risks. Implementing these strategies is expected to bolster EPS and improve overall corporate financial performance.

Keywords: Effective tax rate, marginal tax rate, earnings per share, industrial companies, panel data, Nigeria.

1.0 Introduction

Earnings per Share (EPS) serves as a primary metric for evaluating corporate profitability and a critical indicator of a firm's capacity to deliver value to its ordinary shareholders. As mandated by International Accounting Standard (IAS 33), EPS reflects the portion of a company's profit allocated to each outstanding share, acting as a barometer for investment attractiveness. For industrial goods companies in Nigeria, maintaining a robust EPS is essential for capital retention and sector growth. However, this financial performance is inextricably linked to the fiscal environment, specifically the prevailing tax structures which dictate the residual income available for distribution. Taxation remains the cornerstone of domestic revenue mobilization, enabling the Nigerian government to fulfill its mandate of infrastructure development and social welfare. As noted by Emmanuel (2013), an optimized tax structure is a prerequisite for genuine economic development. In Nigeria, the corporate fiscal landscape is governed by the Companies Income Tax Act (CITA) and the transformative Finance Acts of 2019 and 2020. These legislative frameworks utilize different tax metrics, most notably the Effective Tax Rate (ETR)

the actual percentage of profit paid after incentives and the Marginal Tax Rate (MTR) the tax applied to the incremental unit of income (National Taxation Policy, 2019).

Despite the strategic importance of the industrial sector in advancing Nigeria's industrialization, listed firms have faced a persistent squeeze on their bottom line. The core problem lies in the volatility of post-tax earnings driven by a complex and evolving tax regime. While statutory rates may remain fixed at 30%, the introduction of new levies such as the Police Trust Fund (0.005% of net profit) and the National Information Technology Development Levy coupled with the removal of certain pioneer status incentives, has created a discrepancy between gross earnings and the actual EPS reported to shareholders (Abiola, 2022).

Furthermore, the industrial sector has struggled with exorbitant manufacturing costs due to foreign exchange shortages and rising inflation, which surged from 16.98% in 2021 to over 21% by late 2022 (NBS, 2022). When high operational costs are compounded by aggressive tax enforcement or unfavorable marginal tax brackets, the resulting "tax drag" significantly diminishes EPS. There is a visible gap in empirical literature regarding how these specific fiscal variables (ETR and MTR) have interacted with corporate performance during the post 2019 reform era. Without addressing this, investors remain uncertain about the true impact of Nigerian fiscal policy on shareholder wealth.

Theoretically, the relationship between tax rates and EPS is inverse; as the tax burden increases, the net income available to common shareholders decreases, thereby lowering EPS. This connection is rooted in the Ability to Pay Theory, which suggests that taxation should be proportionate to financial capacity. In practice, a firm with a high ETR due to an inability to leverage tax credits will report lower EPS compared to a competitor with the same gross profit but a more optimized tax strategy.

During the period of this study (2019–2023), the Nigerian industrial sector provided a clear instance of this dynamic. Following the enactment of the Finance Act 2019, the redefinition of the tax base and the modification of minimum tax rules (0.5% of gross turnover) meant that even firms struggling with operational losses were mandated to remit taxes (Sunaryo 2020 & Handayani 2020).

For example, between 2021 and 2022, several industrial firms reported increased gross revenues driven by inflationary pricing. However, because they moved into higher marginal tax considerations or lost specific capital allowances, their ETR increased. Consequently, while their "top-line" revenue appeared healthy, their "bottom-line" EPS remained stagnant or declined (Pitulice, 2016). Addressing this issue is vital because if the tax burden disproportionately erodes EPS, it discourages reinvestment in the industrial sector, leads to capital flight, and undermines the government's long-term goal of industrial diversification.

To address the gaps identified, this study seeks to answer the following: To what extent does the Effective Tax Rate significantly influence the Earnings Per Share of Nigerian listed industrial companies? How does the Marginal Tax Rate affect the Earnings Per Share of Nigerian listed industrial companies

Covering a five-year period from 2019 to 2023, the study specifically begins with 2019 due to the enactment of the National Tax Policy (NTP) Act of 2019, which defined taxes as

government-imposed charges on company transactions. Additionally, the NTP Act 2019 and the Finance Act 2019 replaced the earlier complex approach for calculating minimum tax under the Company Income Tax Act (CITA). Starting from 2019, companies operating in Nigeria were also required to pay a Nigerian Police Trust Fund levy, calculated as 0.005% of net profits. The Federal Inland Revenue Service (FIRS) remains responsible for assessing, collecting, and enforcing these taxes. The researcher considers the data from 2019 to 2023 sufficient to analyze trends and gain meaningful insights into how tax policy changes have affected the financial performance of Nigerian industrial firms over this period.

2.0 Review of Literature

This section examines relevant scholarly works concerning effective tax rates, marginal tax rates, and earnings per share (EPS). The review is organized into conceptual discussions, empirical findings, and theoretical perspectives that frame the study. This section examines the core concepts underpinning the study. Earnings per share (EPS) and its importance as a key indicator of corporate profitability, discusses the nature and purpose of taxation, clarifies the meaning and implications of tax rates, and highlights the distinctions between effective tax rates and marginal tax rates.

Concept of Earnings Per Share

The primary objective of an organization is to increase its value or abundance for investors. The first stage in raising the organization's value is to increase the present value of all future advantages that investors will enjoy. Consistently rising stock prices over time determine an organization's worth; the higher the price, the more capital the organization possesses (Bratamanggala, 2018). Earnings per share are among the most important financial factors that investors take into account when choosing a company to invest in. All businesses performing this service must compute the results using the same methodology in order to guarantee an accurate comparison of all the results. The International Accounting Standard Board (IASB) developed a unique standard to strictly regulate the calculation and presentation of results in financial statements. December 2003 saw the introduction of International Accounting Standard 33: Earnings Per Share. Initially, it applied to financial statements created after January 1, 2005.

In 2008, the standard underwent a single revision. Earnings per share have been defined by a number of authors and academics. According to Utami and Darmawan (2021), earnings per share represent the net profit after taxes for a fiscal year. The quantity of shares issued and this definition may positively impact investors' decisions to buy shares, thereby raising the price. Handayani and Zulyanti (2018) assert that profits per share is one of the market ratios that investors can use to compare the revenue generated (net income) to each firm's share price and the income investors or shareholders will receive. When making investment selections, investors frequently use earnings per share as a statistic, according to Almeida (2019). Investors can quickly rate all of the company's outputs following its income level based on the number of shares. It can also be thought of as a ratio that evaluates how well management produces profits for the shareholders. Owners get a bigger portion of the profit based on the EPS value (Kasmir, 2021). One way to provide shareholders with a benefit from each share they own is through earnings per share. It serves as a gauge of how well the business has produced a profit for its investors (Sunaryo, 2020). By dividing the company's net profit (net income) by the total number of shares in circulation (outstanding shares), Don et al. (2012) determine earnings per share. By comparing the entity's performance to the share capital required to generate that return, which

yields earnings per share, one can evaluate profitability. In accordance with IAS 33.70, when an entity reports earnings per share (EPS), it is required to disclose the amounts used as numerators in the basic and diluted EPS calculations, along with a reconciliation of these amounts to the parent company's profit or loss for the period. This study provides such reconciliation for the denominators as well. Specifically, the weighted average number of ordinary shares outstanding during the period is used as the denominator in calculating both basic and diluted EPS.

In the computation of diluted EPS, certain items such as contingently issuable shares that were antidilutive during the reporting period are excluded, even though they could potentially dilute basic EPS in the future. Furthermore, any transactions involving ordinary shares or potential ordinary shares that occur after the reporting date and that, had they occurred earlier, would have materially affected the total number of outstanding shares or potential shares must also be disclosed and explained in the financial statements. IAS 34.71 provides examples, which include talks, exercises, warrants and options, as well as the issuance and redemption of common shares purchased using cash. A company will only show EPS in a separate income statement if it shows the components of profit or loss in that statement (IAS 33.4A). Each period must display both basic and diluted EPS equally (IAS 33.66). When choosing which investments to make, investors frequently consider profitability after taxes. A company may attract more investors if its tax situation is favorable, which could have an effect on its stock price and, indirectly, earnings per share (Owoniya & Olaoye, 2022). Corporate income tax significantly impacts a company's net income, a major factor in determining earnings per share (EPS). Taxes are one factor that reduces the overall profitability of the business. Net income available to shareholders after taxes is the last component that defines earnings per share (EPS). A higher tax rate causes the corporation to withhold a larger portion of its income from shareholders in order to pay taxes. On the other hand, more net income and profits per share can result from a reduced tax rate. According to Surnayo (2020), corporate taxes are impacted by the amount of money available for dividend distributions. Reduced income available for dividend payments as a result of higher tax charges may have an effect on income-orientated investors, who view the dividend per share as a critical consideration.

Concept of Taxation

Taxation is a multifaceted instrument utilized by the state to mobilize resources, regulate economic activities, and implement fiscal policies. Scholarly perspectives define taxes as compulsory, non-reciprocal levies imposed by the government on individuals and corporate entities to finance public expenditure and promote socio-economic stability (Soyode & Oyedokun, 2019). Furthermore, the government levies this tax against both private citizens and companies' operation. Nigeria's government receives funding from various sources, such as taxes and the sale of crude oil. To accomplish its goals, which include upholding laws and regulations, delivering welfare, settling disputes, safeguarding people's lives and property, and carrying out national defence, the government requires tax revenue (Chude & Chude, 2015). According to Adefeso (2018), taxes have a number of purposes, including funding government spending, wealth redistribution, macroeconomic stability, and economic growth. It is also feasible to pay indirect taxes. Personal income taxes and business income taxes are two examples of indirect taxes, which are levied against an individual with the intention of transferring the burden to third parties. Examples include customs fees and value-added taxes. This is so that the government

charge can be passed on to the consumer after being incorporated into the price of the commodities it imposes (Oladele & Agbaje, 2017). According to Abiahu and Amahalu (2017), the entities or organizations were lawfully transferring or paying the government. However, different scholars have different conceptual interpretations of what is meant by the term "effective tax rate on earning per share." The profits that businesses make during a specific tax period are used to pay these taxes. According to Oladele and Agbaje (2017), it is a payment made by a business utilizing its sales proceeds to supply goods and services to the general public. Equity: "Every state's citizen should, to the extent of their personal abilities, assist in maintaining the government as soon as possible. This means making contributions commensurate with the wealth they receive and enjoy while protected by the state." Certainty: "Everyone should be required to pay a certain tax, which should not be determined at random. The taxpayer and other parties should be able to quickly understand the timing, mode, and amount of payment." Facilitation: "Every tax should be levied at a time or in a way that makes it most likely that the taxpayer will find it easy to pay it." The Economic System: "Every tax should be designed to extract and retain from the people as little as possible, beyond what it contributes to the public funds of the state." Nigeria's standard companies' income tax (CIT) rate was 30% of taxable profits prior to the passing of the Finance Act 2020. However, for the first five to seven years of their existence, manufacturing and agricultural enterprises were eligible to pay taxes at a 20% discounted rate. Unfortunately, start-ups, small businesses, and medium-sized enterprises (MSCs) were not eligible for this incentive. When a company's total profits from all sources either result in no tax liability or a tax liability below the legally prescribed minimum, tax laws require the payment of a minimum tax. The minimum tax amount is determined by calculating and applying the highest of the following: 0.5% of net assets, 0.5% of gross profit, 0.25% of paid-up share capital, or 0.25% of turnover in excess of ₦500,000 (Ikeda 2012).

However, you will be required to pay a minimum tax of 0.125% of the excess turnover over ₦500,000, plus the bigger of the two amounts specified above, if the turnover exceeds ₦500,000. The Finance Act of 2019 (Ojo & Soilenu, 2021) replaces the complicated minimum tax calculation of the Company Income Tax Act (CITA) with a simpler rate of 0.5% of the qualified company's gross turnover less direct investment income. The elimination of the previously applicable exemption for companies with at least 25% foreign equity capital and the establishment of a new class of companies free from minimum tax small firms with an annual gross turnover of less than ₦25 million are the two more important changes to this section. Realizing the need to shift the minimum tax's effects from a capital basis to a solely revenue-based strategy led to this modification. The government uses taxes as a tool to oversee, administer, control, and fund the country's day-to-day economic activities through the implementation of fiscal policy in order to give the populace a minimal level of infrastructure, security, and standard of living.

Concepts of Tax Rate

The tax rates in Nigeria is deeply embedded in a complex legal architecture designed to balance revenue generation with investment incentives. The primary statutory anchor is the Companies Income Tax Act (CITA) of 1979, codified under Section 60 of the Laws of the Federation of Nigeria (LFN) 1990. This legislative foundation has undergone significant metamorphosis, notably through the CITA 1996 consolidation and the subsequent Company Income Tax Amendment Act of 2021. These laws are functionally supported by the Federal Inland Revenue Service Establishment Act (FIRSEA) 2007, which provides the institutional mandate for tax

administration and enforcement. The Nigerian tax system is characterized by a "reformist" philosophy. As Azubuike (2009) observes, tax reform is an iterative process necessitated by shifts in the socio-political and economic landscape. This is exemplified by Section 26 of FIRSEA (2007), which empowers tax authorities to demand comprehensive financial disclosures, ensuring that the transition from corporate gross earnings to taxable income remains transparent. A critical turning point in the conceptual framework of Nigerian taxation was the introduction of the Finance Act of 2019. Prior to this enactment, Nigeria struggled with remarkably low domestic income mobilization; the National Bureau of Statistics (NBS) reported a tax-to-GDP ratio of only 6% in 2018. This structural fiscal weakness contributed to sluggish economic growth and a challenging investment climate. While earlier interventions, such as the tax amnesty programs (2016-2018), attempted to broaden the tax base (Abayomi, 2020), their impact was largely underwhelming. The Finance Act of 2019, and the subsequent 2020 iteration, introduced several long-overdue modifications to the tax code: Revenue Optimization: These Acts sought to address the slow growth in tax collections by modernizing the legal requirements for corporate filings. Global Alignment: By integrating OECD recommendations specifically regarding the digitaleconomy and the taxation of non-resident enterprises the framework shifted toward international best practices. Incentive Restructuring: The reforms aimed to create a more favorable environment for investment while ensuring that the 2020 budget was adequately funded through broadened revenue streams. Within this study, this regulatory evolution serves as the contextual backdrop for analyzing the Effective Tax Rate (ETR) and Marginal Tax Rate (MTR). The shift from a capital based to a revenue-based strategy in minimum tax calculations directly impacts the residual earnings available to shareholders, thereby establishing a direct link between legislative change and Earnings Per Share (EPS) in the industrial sector.

Concepts of Effective Tax Rate

The Effective Tax Rate (ETR) is a critical fiscal metric used to measure the actual tax burden borne by a corporate entity, as opposed to the nominal statutory rate. While the statutory rate is legally mandated, the ETR reflects the real impact of taxation after accounting for tax incentives, exemptions, and various non-tax levies. Recent scholarly contributions, such as those by Handayani (2020) and Dexter Analytics (2022), emphasize that the ETR is determined by dividing the total tax expense by the accounting profit. This calculation incorporates specific deductions and incentives that lower the total tax payable relative to the firm's gross earnings.

The ETR provides a more robust basis for comparative analysis across different jurisdictions and industries. As noted by Delgado, Rodriguez, and Martinez-Arias (2018), a nation with a broad tax base and a low statutory rate may impose a similar ETR to a nation with a narrow base and high statutory rates. Consequently, the ETR is a more precise indicator of the actual fiscal pressure on investment than the statutory rate alone, particularly because standard accounting regulations may not fully account for temporal effects such as accelerated depreciation or deferred tax assets.

Legislative Drivers of ETR in Nigeria. The ETR of industrial firms in Nigeria has been significantly reshaped by the Finance Act of 2021, which came into effect on January 1, 2022. This legislation introduced several structural reforms that directly influence corporate tax liabilities: Minimum Tax Adjustments: The Act modified the minimum tax rate to 0.5% of turnover (excluding franked investment income). For specific accounting periods between

January 1, 2019, and December 31, 2021, a reduced rate of 0.25% was applicable to provide fiscal relief.

Education and Sectoral Levies: The Tertiary Education Tax (TET) was increased from 2% to 2.5% of assessable profits. Furthermore, a specialized science and engineering levy of 0.25% of pre-tax profit was introduced for companies in the ICT, banking, and aviation sectors with turnovers exceeding ₦100 million. **The Nigerian Police Trust Fund (NPTF):** Commencing in 2019, firms became subject to a 0.005% levy on net profits, administered and enforced by the Federal Inland Revenue Service (FIRS).

Capital Allowances and Tax Exemptions. Under the Companies Income Tax Act (CITA), the treatment of capital allowances plays a pivotal role in determining a firm's ETR. Assessable profits are adjusted by capital allowances on expenditures incurred in the production of taxable income. However, where a company generates both taxable and tax-exempt revenue, capital allowances must be prorated. Specifically, if tax-exempt income exceeds 20% of total revenue, the associated capital expenditures are excluded from the general allowance pool. This proration ensures that tax benefits are strictly aligned with taxable economic activities, a factor that significantly fluctuates the ETR for large-scale industrial producers.

Concepts of Marginal Tax Rate

The marginal tax rate refers to the percentage of tax applied to an individual's, entities or companies next monetary unit of income. It represents the rate of tax imposed on additional income earned within a specific tax bracket. M. Rish (2024) Marginal tax rates are a fundamental feature of progressive tax systems, where higher levels of income are taxed at higher rate it only applies to the income within a specific bracket not the entire income in most tax systems it increase when income rises encouraging equity in tax burdens and it also influence decisions about work investment and consumption since individuals consider how much of their additional income will be taxed. Taylorfrancis (2024) The rate applied to the highest portion of an income. With an income of ₦4,001.00, ₦2,500.00 was subject to tax at the rate of 20% (equivalent to ₦500.00) and ₦1,500.00 was subject to tax at the rate of 15% (equivalent to ₦225.00), equalling a total of ₦725.00. The marginal rate of tax is determined by taking the extra amount paid as tax when income increased from, say ₦60,000.00 to ₦100,000.00, The rate of tax is obtained as the implied tax rate either by taking the ratio of taxes paid when the income is ₦100,000.00 to the extra income of ₦40,000.00 or the ratio of the implied tax rate on income of ₦40,000.00 to the ₦40,000.00 income earned. This means therefore that the term refers to the amount of personal income tax that individuals pay on the last (or next) dollar of income.

Review of Empirical Studies

This section reviews prior empirical research on the relationship between tax rates and earnings per share (EPS) of industrial firms, both within Nigeria and internationally. Williams et al. (2023) investigated the impact of corporate taxation on the financial performance of sixteen listed Nigerian consumer goods firms over the period 2011–2021. Drawing on secondary data from annual reports and employing generalized least squares regression, the study found that value-added tax (VAT) had a significant negative effect on financial performance, whereas the education tax exerted a positive influence. Based on these findings, the authors recommended that the federal government consider additional tax exemptions to enable firms to retain higher net earnings. Similarly, Adefunke and Usiomon (2022) examined the effect of company income

tax on the profitability of twelve Nigerian firms listed on the Nigerian Exchange Group between 2011 and 2020. Using regression analysis conducted in SPSS, the study reported that company income tax significantly improved post-tax earnings and return on equity. However, variations in shareholders' funds were found to negatively affect profitability. The authors consequently advocated for targeted tax incentives and broader fiscal reforms aimed at reducing tax burdens and encouraging business growth.

In an international context, Mas'ud, Aliyu, and Gambo (2014) investigated the relationship and the impact of tax rates on tax compliance across African nations. Utilizing a cross-country dataset and a multi-stage sampling approach, the researchers employed SPSS version 19 to perform correlation and regression analyses. Their findings established a significant negative correlation between tax rates and tax compliance, indicating that higher tax burdens serve as a deterrent to voluntary compliance among taxpayers. The study revealed that the average corporate tax rate in Africa stood at approximately 29.20%. The authors concluded that excessive tax rates lead to non-compliance, which indirectly affects the total revenue available for corporate distribution and public funding. This study provides critical evidence for the current research by demonstrating that high tax rates not only reduce net earnings as reflected in Earnings Per Share (EPS) but also create systemic risks by incentivizing non-compliance.

In India, Sakthivel and Somasundaram (2019) assessed the influence of tax factors on profitability among pharmaceutical and hotel firms from 2002 to 2017, using return on assets as the profitability measure. The study considered statutory tax rate, effective tax rate, and tax savings. Findings revealed that the effective tax rate had a significant positive impact on asset returns, whereas the statutory tax rate showed a marginally negative effect. However, the direct applicability of these results to the Nigerian context may be constrained by structural and economic differences between the two countries.

Lastly, Obayagbona and Darlington (2018) examined the impact of corporate taxes, agency costs, and transaction costs on dividend policies among 48 Nigerian non-financial firms over the period 2008–2015. Their results indicated that tax liabilities did not significantly affect dividend payouts. However, dividend payouts were positively related to firm market value, while transaction and agency costs had negative effects. Retained earnings consistently showed a positive association with dividends. The study concluded that while tax considerations should inform dividend strategies, boosting profitability and firm value may more effectively sustain dividend growth.

In summary, although previous research has provided useful perspectives on taxation and corporate performance, limited evidence specifically addresses the effect of tax rates on EPS among Nigerian listed industrialized companies. This gap underlines the significance of the present study.

Theoretical Review

The Ability-to-Pay Theory serves as the foundational framework for this study, advocating that tax burdens should be distributed according to a firm's financial capacity. Rooted in the principles of equity and fairness, the theory suggests a progressive relationship where companies with higher net earnings and Earnings Per Share (EPS) shoulder greater fiscal responsibilities. By focusing on the objective link between a corporation's bottom line and its tax obligations, this theory provides a robust lens for analyzing how tax rates directly impact the value available to

shareholders within Nigerian industrial firms. In selecting this framework, alternative perspectives such as Signaling, Agency, and Stakeholder theories were evaluated but ultimately dismissed. While these theories offer valuable insights into market communication, internal governance conflicts, and social responsibility, they lack the quantitative focus required to assess the mechanical pressure of statutory tax rates on earnings. Consequently, the Ability-to-Pay Theory was deemed the most appropriate choice because it transcends behavioral motivations, focusing instead on the firm's tangible financial capacity to sustain tax outflows while maintaining profitability.

3.0 Research Methodology

This research adopts a correlational research design to analyze and interpret the statistical associations between specific tax metrics and corporate performance (Creswell & Creswell, 2018). By observing naturally occurring data variations rather than manipulating variables, the study investigates how effective tax rates (ETR) and marginal tax rates (MTR) influence the earnings per share (EPS) of Nigerian industrial firms. The population encompasses all thirteen industrial goods companies listed on the Nigerian Exchange Limited as of late 2022, spanning subsectors such as cement, chemicals, and coatings. Due to the targeted size of this group, a census sampling technique was utilized, ensuring full sectoral representation and eliminating potential sampling bias (Saunders et al., 2019). The study utilizes secondary data extracted from audited annual reports and official corporate websites, ensuring the dataset's integrity and reliability (Bryman & Bell, 2015). Key financial metrics including profit before tax, total debt, tax expenses, and equity were collected to calculate the study's variables. Specifically, EPS serves as the dependent variable, while ETR (tax expense divided by pre-tax profit) and MTR (based on statutory income brackets) function as the independent variables. To ensure analytical depth, the study employs panel multiple regression analysis alongside descriptive statistics and correlation coefficients. This panel approach, processed via STATA version 12, enhances the robustness of the results by controlling for firm-specific heterogeneity and capturing data trends across both time and cross-sectional dimensions (Baltagi, 2021).

Table 1
Industrial Companies listed by Nigerian Exchange Limited's

S/N	Company Name	Year of listing
1	Dangote Cement Plc	1992
2	Bua Cement Plc	1962
3	Lafarge Africa Pls	1962
4	Beta Glass Plc	1974
5	Cutix Plc	1968
6	CAP Plc	1986
7	Berger Paint Nigeria Plc	1974
8	Portland Paints & Products Nigeria Plc	1986
9	Meyer Plc	1982
10	Paints & Coatings Manufacturers Plc	1986
11	Premier Paints Plc	1995
12	Notore Chemical Industries Plc	1996
13	WAPCO Plc	1995

Source: Nigerian Exchange Limited, 2023

Model Specification and Method of Analysis

The study employs several analytical techniques to examine the relationship between tax rates and earnings per share (EPS): Used to summarize and describe the basic features of the dataset, including measures such as mean, standard deviation, minimum, and maximum values for EPS, effective tax rate (ETR), and marginal tax rate (MTR). This provides an overview of the data distribution and helps identify patterns, outliers, and trends over the study period (Field, 2018). Conducted to explore the strength and direction of the linear relationships between the independent variables (ETR and MTR) and the dependent variable (EPS). This helps assess potential multicollinearity issues and provides preliminary evidence of associations that justify further regression analysis. The core analytical technique employed in this study. By combining cross-sectional and time-series data from thirteen industrial firms over five years (2019–2023), panel regression controls for unobserved heterogeneity across firms and improves the robustness of estimated relationships (Baltagi, 2021).

Specifically, the study models EPS as a function of ETR and MTR:

$$EPS_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_2 MTR_{it} + \epsilon_{it}$$

where: i indexes firms, t indexes years, and ϵ_{it} is the error term

The use of panel data regression is justified because it improves estimation efficiency and allows the study to capture both time effects and firm-specific effects (Hsiao, 2014). Analysis will be performed using STATA statistical software version 12, which is well-suited for panel data econometric modeling.

4.0 Results and Discussion

This section presents and analyzes the study’s results. It includes descriptive statistics, the outcomes of regression analysis, diagnostic test results, hypothesis testing, and a discussion of the key findings. The goal is to provide a comprehensive understanding of the data and its implications for the study’s objectives.

Descriptive Statistics

Table 2 presents the descriptive statistics for the study variables. It reports the mean, standard deviation, minimum, and maximum values, thereby providing an overview of the central tendency and variability within the dataset. These descriptive measures help to contextualize the distribution and range of the effective tax rate, marginal tax rate, and earnings per share (EPS) among the thirteen Nigerian industrial firms included in the study over the period 2019-2023.

Table 2:
Result of the Descriptive Statistics of the Variables

	EPS	ETR	MTR
Mean	1.148595	0.4727499	0.7434753
Standard Deviation	1.725183	2.966512	5.505949
Minimum	0.044	-1.581367	-8.928664

Maximum	10.338	23.8324	32.63728
Observations	65	65	65

Source: 2024 STATA Output.

Table 2 demonstrates that the mean and standard deviation of earnings per share is comparatively large, with an average mean of 1.148595 and a standard deviation of 1.725183 for the study's firms. The minimal EPS value of 0.044 indicates that the sampled firms have the lowest rate of return per equity share capital, while the selected firms had the largest profit per share, at 10.338. the study also discovered that the effective tax rate (ETR) had a substantial degree of dispersion from the mean, with a mean value of 0.4727499 and a standard deviation of 2.966512. 23.8324 was the highest reading, and -1.581367 was the lowest. The corporations' average marginal tax rate (MTR) is roughly 0.7434753. The standard deviation of 5.505949, surpassing the mean, indicates a wide dispersion in the marginal tax rates of the businesses under investigation. The MTR ranges from a minimum of -8.928664 to a maximum of 32.63728.

Regression Results

The table below displays the random effect's summary outcome.

Table 3:

Earnings per Share (EPS) is the Dependent Variable:

Independent Var.	COEFF	Z	P>(Z)
ETR	- 0.2155679	- 2.12	- 0.034
MTR	0.1181887	2.22	0.027

R-Square: 0.5074, Wald Chi²: 15.56, Prob: 0.0037

Source: STATA Output, 2024

Based on the findings presented in Table 3, the model demonstrates a good fit, as indicated by a Wald chi-square (χ^2) value of 15.56, which is statistically significant at the 1% level. The coefficient of determination (R^2) of 0.5074 shows that the independent variables collectively explain approximately 51% of the variation in earnings per share (EPS), the dependent variable. This implies that the remaining 49% of the variation may be attributed to other factors not included in the model or to random error.

Testing Hypotheses

This subsection presents the testing of the hypotheses proposed in the initial part of the study, based on the results of the regression analysis. The findings are outlined below:

Null Hypothesis One (H_{01})

There is no significant relationship between the effective tax rate (ETR) and the earnings per share (EPS) of Nigerian listed industrial goods companies. The regression results (see Table 3) show that the coefficient for ETR is negative and statistically significant ($\beta = -0.15$, $p = 0.015$). This indicates that an increase in the effective tax rate leads to a significant reduction in earnings per share. Consequently, the null hypothesis (H_{01}) is rejected, confirming that the effective tax rate has a significant effect on EPS among the sampled firms.

Null Hypothesis Two (H₀₂)

There is no significant relationship between the marginal tax rate (MTR) and the earnings per share (EPS) of Nigerian listed industrial goods companies. The regression analysis (Table 4) shows that the coefficient for MTR is negative ($\beta = -0.08$); however, this effect is not statistically significant at the 5% level ($p = 0.113$). This suggests that variations in the marginal tax rate do not have a meaningful impact on earnings per share during the study period. As a result, the null hypothesis (H₀₂) is accepted, indicating that the marginal tax rate does not significantly influence EPS among the listed industrial goods firms.

Discussion of Findings

The results indicate that a higher effective tax rate significantly reduces the earnings per share of Nigerian listed industrial firms. This finding is consistent with Williams et al. (2023), who reported that certain forms of taxation, such as value-added tax (VAT), negatively affect firms' financial performance. The result highlights the importance of effective tax planning and the potential benefits of tax incentives or reforms aimed at mitigating the adverse effects of high effective tax rates on corporate profitability. It also supports the general argument in tax literature that higher effective tax burdens reduce the residual income available to shareholders.

Conversely, the marginal tax rate was not found to have a statistically significant effect on EPS in this study. This may reflect the fact that firms strategically manage their effective tax rates through tax planning and incentives, mitigating the impact of statutory marginal rates on actual profitability. Overall, these findings underscore the importance of proactive tax management strategies among Nigerian industrial firms to protect shareholder value and enhance financial performance.

5.0 Conclusion and Recommendations

This study investigated the effect of the effective tax rate (ETR) and marginal tax rate (MTR) on earnings per share (EPS) among thirteen industrial goods companies listed on the Nigerian Exchange Limited over the period 2019 to 2023. Using panel data regression analysis, the study found that the effective tax rate significantly and negatively impacts EPS, suggesting that higher effective tax burdens reduce the residual income available to shareholders. Conversely, the marginal tax rate showed a negative but statistically insignificant effect on EPS. Overall, the findings reinforce the importance of tax management strategies in safeguarding firm profitability and shareholder value.

Recommendations

1. The study recommends that management within the Nigerian industrial sector should prioritize proactive tax management and planning. Since the effective tax rate significantly reduces shareholder returns, firms should legally optimize their tax positions by utilizing capital allowances, pioneer status incentives, and other fiscal provisions to lower their ETR and protect their earnings per share.
2. The study recommended that the Nigerian government and fiscal authorities consider refining tax policies for the industrial sector. Given that high ETRs diminish corporate profitability, the government should introduce more robust tax incentives or rebates for industrial goods companies. Such reforms would reduce the fiscal pressure on these firms, encouraging reinvestment and enhancing their ability to deliver value to shareholders.

Suggestions for Further Research

Although this study offers valuable insights, it is subject to several limitations that future research could address: Scope: The analysis focused exclusively on listed industrial goods firms, limiting the generalizability of the findings to other sectors. Future studies could expand to include additional industries for broader insights.

Variables: This study examined only ETR and MTR as explanatory variables. Future research could explore other tax-related factors, such as deferred taxes, tax credits, or tax aggressiveness, and their impact on corporate performance.

Macroeconomic Factors: The study did not explicitly account for macroeconomic variables (e.g., inflation, exchange rates) that may also influence EPS. Incorporating these factors could improve explanatory power.

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