Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.15, No.8, 2024

Tax Incentives and Business Growth: Evidence from Nigeria's Manufacturing Industry

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Abstract

The study examines the impact of tax incentives on business growth in the Nigerian manufacturing industry. Ex post facto research design was utilized where fifty listed manufacturing companies were purposively selected. Data were sourced from the companies' audited financial statements, Nigerian Exchange Group factbook, and Federal Inland Revenue Service (FIRS). Tax incentive was measured by capital allowance, while business growth was measured by the profitability metric - return on equity (ROE). The control variables of the study were firm growth opportunities, interest rate, and firm size. A panel data analysis using a Fixed Effect Regression Model was employed to analyze the data. The results indicates that capital allowance incentives have a significant positive impact on the ROE of the manufacturing companies. The study concludes that tax incentive scheme plays a crucial role in promoting business growth in Nigeria. Therefore, we recommend that the Federal Government continue to promote the tax incentives for the manufacturing industry to ensure its meaningful contribution to business growth and sustainable development.

Keywords: Tax incentives, business growth, return on equity, manufacturing companies, panel data

DOI: 10.7176/JESD/15-7-06
Publication date: September 30th 2024

1. Introduction

The manufacturing industry serves as a foundation for economic and technological progress, making it a major area of focus for any economy. There is a clear link between robust manufacturing sectors and national economic growth. Countries like China, India, Indonesia, and Brazil leverage strong domestic demand for their manufactured goods as a crucial strategy for industrial and economic development. With a population exceeding 170 million, Nigeria is the largest market in Africa and should strengthen its manufacturing sector (Onuoha, 2012). It is essential for governments at all levels, along with their agencies, to actively support and promote manufacturing firms in Nigeria.

The importance of a well-developed manufacturing sector cannot be overstated. Highly developed manufacturing firms create high-quality products, foster research and development (R&D), significantly contribute to the national Gross Domestic Product (GDP), and improve their competitiveness on a global scale. One effective method for the Nigerian government to boost local investment and support the growth of its manufacturing sector is by offering tax incentives. Such incentives have long been a key component of Nigeria's industrial policy (Ohaka, 2010). Asaolu et al., (2015) state that the goals of a tax system are to achieve specific economic objectives and encourage individuals and businesses to engage in taxable activities, typically through the implementation of effective tax incentives.

Tax incentives refer to specific exclusions, exceptions, or reductions that provide special credits, preferential tax rates, or deferrals of tax liabilities (Fletcher, 2003; Clark et al., 2007; Azeez, 2013). These incentives promote the growth of local manufacturing industries, which in turn decreases reliance on imported goods (Uwuigbe et al., 2016; Sebele-Mpofu et al., 2022). Picas et al. (2021) expressed that incentive systems can minimize the costs and risks associated with R&D activities, create financial leverage, and stimulate private investment in basic research. Tax incentives include tax holidays, capital allowances, taxpayer election rights, reinvestment allowances, investment tax credits proportional to capital investments, accelerated depreciation, export processing zones, investment subsidies, tax exemptions, reduced tax rates, and indirect tax incentives (Obafemi et al., 2021).

The creation of tax incentives is a deliberate act of government as an instrument of motivation and stimulation for domestic and foreign investment towards the achievement of economic advancement and self-reliance of a

country (Shah, 2006; Picas et al., 2021). In addition to encouraging creation of investment opportunities for entrepreneurs, tax incentives help in self-reliance of local production of essential goods, provision of employment opportunities, and discourage capital flight while providing revenues payable to the government (Liu & Mao, 2019).

Several studies have been conducted on the impact of tax incentives on firm performance or economic growth of Nigeria. However, majority of the studies were primary data based which relied on respondents' perceptions; a subjective approach. It is therefore the purpose of this study to analyze the impact of tax incentives on the growth of the quoted manufacturing companies in Nigeria using secondary data of panel estimation.

2. Literature Review

2.1 Tax

Tax is simply a compulsory levy imposed by public authority/government on a subject (individual or corporate) or upon his property, income and/or consumption with the view of generating revenue to provide social amenities, security, and create suitable conditions for the economic well-being of the society (Asaolu et al., 2015). Taxes are imposed to regulate the production of certain goods and services, protection of infant industries, control business and curb inflation, reduce income inequalities, promote export and stimulate growth and development in the economy (Ishola, 2002; Saidu, 2014). Salawu (2005) defined tax as a compulsory contribution made by individuals and organizations towards defraying the expenditure of the government. Tax can either be direct or indirect. Direct taxes are imposed on the income or consumption of a tax payer who bear the burden of taxation. Indirect taxes, on the other hand, are imposed on goods and services on which the tax payer does not bear the burden of taxation, but can transfer it to the final consumer who bears the burden, in form of price.

2.2 Tax Incentive

Tax incentive refers to exemption or relief granted to an individual or a company to reduce the effect of taxation and thus encourage savings and investment (Shah, 2006; Dopemu, 2017; Picas et al., 2021). Tax incentive is a deliberate reduction in (or total elimination of) tax liability granted by government in order to encourage particular economic unit or corporate bodies, to act in some desirable ways (Adedotun, 2001). These desirable ways towards which incentive may be targeted include: invest more, produce more, consume less, import less and so on. This definition implies that tax incentives enhance the emergence of new enterprises or re-activation of existing ones, thereby reducing profit tax which would have been earn from them, but ultimately encouraging production to curb the menace of unemployment, youth restiveness and over-dependence on the government for a means of livelihood (Saidu, 2014; Picas et al., 2021).

2.3 Types of Tax Incentives available to Investors and Businesses in Nigeria

There are quite a handful of tax incentives available to investors and businesses in Nigeria. The essence of these measures is obviously to stimulate investors (corporate and individual) to invest more, produce more, employ more, export more, sell more, consume less, import less and pollute less.

Tax incentives in Nigeria can be classified as both general and specific tax incentives. The general incentives are incentives that are applied to stimulate and attract both foreign and domestic investments in all sectors of the economy and they include capital allowance, re-investment allowance, and investment tax credit. Specific tax incentives have been established by the government to stimulate growth in the manufacturing sector and reposition it as the engine of economic development. The goal is to achieve both social and economic benefits, including increased investment, industrialization, job creation, value addition, and the development of local content.

Some of the tax incentives in the manufacturing sector include the following:

2.3.1 Capital Allowance (CA)

Capital allowance is tax deductions that allow businesses to write off the cost of certain capital expenditures over time. These allowances are designed to encourage investment in assets that are essential for the operation and growth of a business, such as machinery, equipment, buildings, and vehicles. Capital allowance allows companies to cancel the capital cost on qualifying assets for tax purposes in a given accounting period. The rate is restricted to 75% of assessable profit per annum for companies in the manufacturing sector and 66 per cent for others, except those in the agro-allied industries. Companies in the agro-allied industries are granted 100 per cent

on leased assets, while an additional investment allowance of 10% is granted on leased assets for agricultural plants and equipment.

2.3.2 Re-investment Allowance (RIA)

Re-investment allowance is an incentive given to already existing manufacturing companies that incur capital expenditure for purposes of approved expansion of production capacity, modernization of production facilities and diversification into related products (Klemm & Stefan, 2012). The allowance is available as a percentage of the expenditure incurred on qualifying projects, and its deduction is restricted to a percentage of the statutory income. The quantum of the deduction varies depending on some pre-conditions like the activity engaged, geographical location where the expenditure is incurred, and whether a certain level of production process efficiency is achieved (Bird, 2000).

2.3.3 Investment Tax Credit (ITC)

Investment tax credits are earned when qualified buildings or equipment are purchased for use in the firm (Klemm, 2009). It is a tax credit that permits companies or individuals to deduct a specified percentage of certain investment costs from their tax liability in addition to the normal capital allowances. ITC is directed towards new manufacturing plant and equipment purchased for first-time use in manufacturing or processing. Consequently, corporations earn 10% non-refundable tax credit which can be applied against corporate income tax in the year earned with unused credits available for a ten-year carry forward and a three-year carry-back. ITCs are only earned in the year that the property was actually acquired, and only applies to new properties (Ougi & Zodrow, 1991). This means that properties acquired are eligible at a rate of 10% of the capital cost of the properties.

2.3.4 Tax Relief for Research and Development (TRRD)

Industrial establishments are expected to engage in R&D for the improvement of their processes and products. Up to 120% of expenses on R&D are tax deductible, provided that such R&D activities are carried out in Nigeria and related with the businesses from which income is derived. Also, 140% is allowed as R&D on local raw materials. However, where the research is long-term, the expenses on R&D is taken as capital expenditure and written off against profit. The results of such research would be patented and protected according to international property rights (NIPC, 2009).

2.3.5 Reduced Company Income Tax (RCIT)

Companies with turnover of less than ₦1.0 million in the manufacturing sector pay CIT of 20% instead of 30% in the first five years of operations. Also, dividends from such companies are tax free for the first five years. In addition, dividends from manufacturing companies in the petrochemical and liquefied natural gas sub-sector are tax free.

2.4 Benefits of Tax Incentives

Saidu (2014) highlighted some benefits derived from tax incentives which include:

i. Tax incentive is a convenient tool to attract industries that will help to solve unemployment problem; as it is considered neural between capital intensive and labour intensive types of businesses, especially in a country with unemployment problem like Nigeria.
ii. It also serves to establish a favorable investment climate and provide the desire assurance against confiscation and against non-convertibility different problems like currency restrictions, instability of government and the risk that foreign capital investment may be expropriated.
iii. It also increases the profit prospects of a new venture and enables a firm to recover its capital costs more faster so that the risk of investment are reduced considerably.

2.5 Business Growth

Business growth is the process of improving some measures of an enterprise's success. This can be achieved either by boosting the revenue of the business with greater product sales, or by increasing the profitability of the operation (Monday, 2012; Uwuigbe et al., 2016). Growth is precondition for the survival of a business firm. Business firms endeavour to achieve growth in order to obtain economies of scale, exploit business opportunities, face competition in the market by diversifying the product line, gain economic and market power, create resources for further reinvestment into business, make optimum utilization of resources, and secure subsidies and tax incentives offered by the government. In the view of Munyanyi and Chiromba (2015), tax incentives are amongst the various policy instruments that governments use to fund or support the local industries and to stimulate business growth.

2.6 Review of Empirical Studies

To fully appreciate this subject, it is pertinent to review some previous empirical studies conducted within Nigeria. Olabisi (2009) conducted a study to assess tax incentive as a catalyst for economic development in Nigeria. This study employed cross-sectional survey design, and 100 questionnaires were administered to employees of 12 incorporated companies in Nigeria. Data was analysed by descriptive statistics and Chi-Square analysis. The results showed that tax incentives had a positive impact on investment decision, and tax incentives coupled with political stability stimulates the economic growth. However, the study found that tax incentives lead to reduction in government revenue.

In the similar vein, Ohaka (2010) investigated the impact of tax Incentives on corporate financial performance of quoted manufacturing firms in Nigeria. The study employed cross-sectional survey design on 58 manufacturing companies. Tax incentives were measured by investment tax credit and re-investment allowance, while financial performance was measured by return on investment (ROI), return on equity (ROE), and profit after tax (PAT). Data was analyse using paired samples t-test. The study found that tax incentives made significant difference on each of ROI, ROE and PAT. Therefore, the incentives significantly enhanced corporate financial performance of quoted manufacturing firms.

Jiakponna (2012) conducted research on the impact of tax incentives on growth and development of small and medium-scale manufacturing enterprises in Nigeria. Primary data was obtained through the administration of structured questionnaire to employees of three conveniently selected manufacturing companies in Enugu, Nigeria. Data was analysed using frequency, percentage and Pearson Correlation Statistic. The findings revealed that small-scale industries that benefited from tax incentives experienced an increase in their productive assets, capital investment and working capital formation. Also, the incentives influenced positively the investment development which lead to diversification and increase in employment.

A study on tax incentives on manufacturing industry was conducted by Ohaka and Agundu (2012).The study used questionnaire to obtain data from 58 quoted manufacturing firms. Data was analysed using regression analysis and Z-test. Their results showed that tax incentives help in boosting manufacturing industry investments in the Nigerian economy. These results corroborate the findings of Jiakponna (2012).

Furthermore, Azeez (2013) investigated the impact of tax incentives on the contribution manufacturing sector to economic growth in Nigeria using time series data from 1991-2000. Economic growth was measured by gross domestic product, while tax incentive was measured by company income tax, and controlled by exchange rate, interest rate, and bank credit facilities to the manufacturing sector. The study found that tax incentive had a negative impact on manufacturing sector's contribution to GDP. However, with the combined influence of the control variables, tax incentive had positive and significant impact on the growth of the manufacturing sector.

Oriakhi and Osemwengie (2013) examined the impact of tax incentives on revenue productivity of the Nigerian tax system using time series data from 1981 to 2009. The study utilised macroeconomic data such as gross domestic product, petroleum profit tax, custom and excise duties, consumption expenditure, total value manufacturing, total value of oil, total tax revenue, company income tax, value added tax, and total value imports, exports and manufacturing. OLS was used to analyse the data. The results revealed that well-articulated tax incentives would not only promote increased economic activity but also stimulate foreign investors into the economy thereby improving revenue productivity and tax base of Nigeria’s tax system.

Saidu (2014) assesses the impact of tax incentives on economic growth and industrial development in Nigeria. This study employed cross-sectional survey design aided by self-administered structured questionnaire and content analysis on three medium-sized companies in the North Eastern Nigeria. Data was analysed by Chi-Square statistic and analysis of variance (ANOVA) methods. The study showed that tax incentives were usually made available to companies who possess the criteria to qualify for incentives, and the incentives had significant and positive effect on industrial development in Nigeria.

In addition, Uwuigbe et al. (2016) studied the relationship between tax incentives and the growth of manufacturing firms in Nigeria. The study employed cross-sectional survey design of 20 small and medium manufacturing companies which gave a study sample size of 100 accountants and tax officers. Employing multiple regression analysis to analyse the data, the study found that manufacturing companies in Nigeria are privileged to enjoy certain tax incentives from the government and the incentives had significant positive effect on the productivity and growth of the manufacturing firms.

Nnubia and Obiora (2018) examined the effect of tax incentives on economic growth of Nigeria using time series data which covered a period of 2007 and 2016. This study applied ex post facto research design. Using OLS

regression method, the findings indicated that annual allowance had a significant positive impact on economic growth in Nigeria; whereas investment allowance showed a significantly negative impact on economic growth in Nigeria.

Oluwole et al. (2020) investigated the effect of tax incentives on the growth and development of manufacturing firms in Nigeria using ex-post facto research design. Data on corporate income tax incentives, capital allowance incentives, custom duty incentives, excise tax incentives and return on asset were secondarily sourced from financial statement of account from 2013 to 2018. Using OLS regression technique to analyze the data, the study revealed that the various tax incentives have a positive and significant effect on return on asset of the manufacturing firms.

Gap in Literature

From the foregoing, it is clear that extensive research on tax incentives has been conducted in Nigeria, all of which revealed that tax incentives have a significant positive impact on firm performance and economic growth. However, the majority of these studies on the impact of tax incentives on the performance and growth of manufacturing firms in Nigeria relied on primary data analyses, which can be subjective. This study provides further empirical evidence using secondary data.

3. Methodology

3.1 Research Design and Sample

The study employs an ex post facto research design. This non-experimental method is used to investigate relationships between variables after an event has occurred. In this design, researchers analyze existing data to explore how independent variables may have influenced dependent variables without manipulating any variables. The population for the study consists of all 64 listed manufacturing companies listed in the Nigerian Exchange Group (NGX) factbook. Using a purposive sampling technique, 50 listed manufacturing companies were selected based on data accessibility and accuracy. This represents more than three-quarters of the listed manufacturing companies in Nigeria. The study relied on secondary data sourced from the companies' financial statements, the NGX factbook, and the Federal Inland Revenue Service (FIRS) for the period from 2016 to 2022.

3.2 Model Specification

The dependent variable of the study is business growth, which was measured by the profitability metric - return on equity (ROE) of the listed manufacturing firms. The independent variable is tax incentive which was measured by capital allowance. The control variables include interest rate, firm growth opportunities, and firm size.

Linear multiple regression using panel data models was employed to represent the relationship between tax incentives and business growth. Panel data, also known as longitudinal data, refers to a dataset that contains observations on multiple entities (such as individuals, companies, or countries) across several time periods. In order words, it is a combination of both cross-sectional data (data collected at one point in time) and time series data (data collected over multiple time periods for a single entity). There are three basic types of panel data models which are; pooled, fixed effect and random effect models.

Basic panel model: $Y_{it} = \beta X_{it}^{/} + Z_i^{/}\gamma + \varepsilon_{it}$ (1)

with $i = 1,2,\ldots, N$ and $t = 1, 2, \ldots, T$

Where:

Y_{it} = Dependent variable for firms$i$ in year t
X_{it} = kx1 vector of explanatory variables
β = kx1 vector of parameter of interest
Z_i = The variables responsible for unobserved heterogeneity (and dependence on the y's).
ε_{it}= time varying disturbance term serially uncorrelated with mean zero and variance one (1).

3.2.1 Pooled (Constant Effect) Model

Basic model: $Y_{it} = \beta X_{it}^{/} + Z_i^{/}\gamma + \varepsilon_{it}$

$Z_i^{/}\gamma$ is a constant. $z_i = \alpha (and\ uncorrelated\ with\ X_{it})$. So, repeated observations on individual $i$are linearly independent. In this case,

$Y_{it} = \beta X_{it}^{/} + \alpha + \varepsilon_{it}$ (2)

So, Ordinary Least Squares (OLS) estimates αandβconsistently. We estimate k+1parameters

3.2.2 Fixed Effect Model

Assume$Z_i'\gamma = \alpha_i(constant; it\ does\ not\ vary\ with)$. Then

$$Y_{it} - \beta X_{it}' + \alpha_i + \varepsilon_{it} \quad (3)$$

The regression line is raised or lowered by a fixed amount for each i (the dependence created by the repeated observations). In econometrics terms, this is the source of the fixed-effects. We have a lot of parameters: k +N. We have Nindividual effects. OLS can be used to estimate α and β consistently.

3.2.3 Random Effect Model

The differences between individuals are random, drawn from a given distribution with constant parameters.

Assume $Z_i's\ are\ uncorrelated\ with\ the\ X_i$,

i.e $E[Z_i/X_i] = \mu$ (if X_i contains a constant term, $\mu = 0$)

Add and subtract $E[Z_i'\gamma] - \mu^*$, then

$$Y_{it} - \beta X_{it}' + \mu^* + u_i + \varepsilon_{it} \quad (4)$$

OLS estimates μ and β consistently, but Generalized Least Squares (GLS) will be efficient.

Thus, the relationship between tax incentives and business growth is represented by:

$$ROE_{it} = \alpha + \beta_1 CAP_{it} + \beta_2 INT_{it} + \beta_3 FSIZE_{it} + \beta_4 GRW_{it} + \varepsilon_{it} \quad (5)$$

Where:

ROE=Return on equity
CAP= Capital allowance
INT= Interest rate
GRW= Firm's Growth opportunities, proxied by Market-To-Book
FSIZE = Firm Size
α = constant
β_{1-4} = slope coefficients

Apriori expectation: $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 > 0$, $\beta_4 > 0$

Table 1: Description of Measured Variables

Variables	Code	Measurement
Return on Equities	ROE	Operating profits/Total Equities
Capital Allowance	CA	(Initial Allowance plus Annual Allowance)/QCE
Interest Rate	IR	Interest Rate
Firm Growth	MTB	MTB = (BVA - BVE + MVE)/BVA
Size	SIZE	Natural logarithm of Total Asset =Ln(Total Asset)

BVA = Book Value of Assets, BVE = Book Value of Equity, MVE = Market Value of Equity

4. Result and Discussion

4.1 Descriptive Statistics Analysis of Sample Firms

The analysis begins by examining the basic features of the data (return on equity, capital allowance, interest rate, market-to-book/firm growth, and firm size) using descriptive statistics. The analysis in Table 2 provides information about measures of central tendency (mean), probable outliers (maximum and minimum values), and measures of dispersion (standard deviation) for the 50 listed manufacturing companies over a period of 7 years, resulting in 350 observations.

The results show that the average return on equity is 3.0628, indicating that, on average, Nigerian manufacturing companies achieve a 3.06% return on their shareholders' equity. The standard deviation of 26.75 indicates significant variability in ROE among the manufacturing companies, highlighting a wide range of performance levels in terms of equity returns across the sample. The results also report an average capital allowance of

₦2,132,055, with a maximum of ₦97,846,114 and a minimum of ₦687.00, and a standard deviation of ₦6,411,990. The average values of firm size (FSIZE), firm growth (GRW), and interest rate (IR) are 7.00, 2.60, and 10.1, with standard deviations of 0.79, 3.25, and 2.33, respectively.

In addition, the dataset was checked to see if the variables were normally distributed. In statistical analysis, it is a necessary condition that the dataset must be normally distributed as a basic assumption of Ordinary Least Squares (OLS) regression. The values of Jarque-Bera reveal that the distribution exhibits appreciable conformance with normality requirements, judging by the statistically significant p-values recorded for most of the variables. Both the values of skewness and kurtosis indicate that the distributions have an insignificant presence of outliers.

Table 2: Descriptive Statistics of Measured Variables

	Mean	Maximum	Minimum	Std. Dev.	Observations
ROE	3.062811	294.6870	-10.21991	26.74774	350
CAP	2132055.0	97846114	687.0000	6411990.	350
FSIZE	7.000208	8.805818	5.343292	0.789629	350
GRW	2.604247	30.79254	0.953497	3.247655	350
INT	10.10231	12.00000	6.130000	2.334310	350

4.2 Stationarity Analysis of the Variables

The variables in the model were subjected to Panel Unit Root Tests of Augumented Dickey-Fuller (ADF) and Phillips-Perron (PP). The essence of these tests was to determine the stationarity of the measured variables in the models. This establishes the confidence in the reliability of the models. The analysis in Table 3 shows the unit root tests for stationarity of the data series. The analysis shows that all variables have their p-values less than 5% level of significance using ADF - Fisher Chi-square and PP - Fisher Chi-square Tests. This reveals that the model variables are stationary at level I(0). Hence, the null hypothesis that the data series have unit root is rejected.

Table 3: Result of Unit Root Tests

	ADF – Fisher Chi-square			PP - Fisher Chi-square			
Variable	Stat	Prob	Order	Stat	Prob	Order	State
ROE	236.054	0.0000	I(0)	339.786	0.0036	I(0)	Level
CAP	258.318	0.0021	I(0)	336.218	0.0000	I(0)	Level
INT	221.007	0.0000	I(0)	250.088	0.0026	I(0)	Level
GRW	122.582	0.0050	I(0)	158.761	0.0061	I(0)	Level
FSIZE	210.808	0.0000	I(0)	249.803	0.0000	I(0)	Level

4.3 Impact of Tax Incentives on the Growth of Nigerian Manufacturing Companies

Pooled regression analysis is excluded in this paper because the study focuses attention on the heterogeneity nature of the manufacturing firms. The Hausman test was conducted to determine whether the fixed or random effect models were appropriate for the study. The Hausman test result indicated that the fixed-effect model was appropriate since the p-value was less than 5%. Thus, the null hypothesis that the random effect model is appropriate was rejected. The analysis in Table 4 shows the panel regression analysis of the impact of tax incentives on the growth of quoted manufacturing companies in Nigeria. Since the Hausman test suggested that the fixed-effect estimator was appropriate, the interpretation of results was based on the fixed-effect model of OLS.

The analysis indicates that capital allowance incentives ($\beta = 0.000000879$; $t = 3.690103$, $p < 0.01$) have a significant positive impact on the manufacturing companies' growth, as measured by the return on equity (ROE). This implies that ₦1 increase in the capital allowance incentive resulted in a marginal increase of 0.0000879 percent of ROE. Conversely, the interest rate ($\beta = -0.988168$; $t = -1.661028$, $p < 0.10$) negatively impacted the companies' ROE, suggesting that a ₦1 decrease in the interest rate leads to an increase of 0.988 percent in ROE.

Thus, lower interest rates correlate with higher business growth and vice versa. Currently, the recent rise in interest rates by the Central Bank of Nigeria is negatively affecting the ROE of many manufacturing companies. Higher interest rates raise the cost of borrowing for businesses, making loans more expensive. This can lead to reduced capital investment, as companies may postpone or scale back projects due to the higher costs associated with financing.

The analysis further reveals that firm size ($\beta = 4.647575$; $t = 2.403046$, $p < 0.05$) has a significant positive impact on the profitability of the manufacturing companies. This suggests that larger firms tend to be more profitable, as firm size is a measure of a company's total assets. Firm size is a critical factor influencing business operations, competitive strategy, and economic impact. It affects everything from profitability and market dynamics to policy considerations. Understanding the intricacies of firm size can help stakeholders, including investors, managers, and policymakers, make informed decisions. In addition, the study reveals that firm growth positively influences the ROE of the manufacturing companies, indicating that the greater the growth opportunities for the companies, the higher their profitability.

The analysis shows that capital allowance, firm growth, and firm size are positively related to the return on equity (ROE) of the selected manufacturing companies, while the interest rate is negatively related to ROE, in accordance with the a priori expectations of this study. These findings suggest that the Nigerian government has been making efforts to provide tax incentives to the manufacturing industry to boost profitability, but more needs to be done, particularly in maintaining a low interest rate.

Table 4: Panel Regression Analysis on Impact of Tax Incentives on Business Growth

Predictor	Fixed Effect Model	Random Effect Model
Constant	-20.47633 (-1.353354) *0.1768*	-23.83182 (-1.490121) *0.1371*
CAP	8.79E-07 (3.690103)*** *0.0003*	1.54E-08 (0.077266) *0.9385*
INT	-0.988168 (-1.661028)* *0.0976*	-0.820585 (-1.870426)* *0.0623*
FSIZE	4.647575 (2.403046)** *0.0168*	5.064423 (2.373298)** *0.0182*
GRW	0.340120 (0.799823) *0.4244*	0.090106 (0.239380) *0.8110*
R^2	0.584267	0.027235
Adjusted R^2	0.509828	0.015956
F statistic	7.848968***	2.414777**
Prob (F statistic)	0.000000	0.048652
Durbin-Watson Stat	1.562840	0.768707
Test Summary	Chi-Sq. d.f.	Prob.
Hausman Test		
Test Summary	Chi-Sq. Statistic (d.f)	Prob.
Cross-section random	45.550494 (4)	0.0000

*Note: *, ** and ***indicate significance at 10%, 5% and 1% respectively. The first values represent the regression coefficients, values in brackets represent t-statistic, and values in italics represent probability values.*

Furthermore, the analysis shows that capital allowance and its associating components have a significant impact on the manufacturing companies' return on equity ($F = 7.849$, $p < 0.01$). This depicts that the overall model of this study is statistically significant. Considering the R-square value, the analysis reveals that capital allowance and its associating components explained as high as 58.43% of the variation in the profitability of the manufacturing companies. This reveals that tax incentives have a significant positive impact on the business growth of manufacturing companies in Nigeria.

The regression assumptions were also checked for normality, autocorrelation, and multicollinearity. The normality condition was determined using Jarque-Bera via residual diagnostics, and the result showed that the regression model fulfilled the requirement of normality (Jarque-Bera = 2570.538, $p > 0.05$). Durbin Watson (DW) statistic was satisfactory (approximately 2.00), indicating no autocorrelation between the residuals from the regression model. The multicollinearity of the explanatory variables in the model was verified by the Variance Inflation Factor (VIF) as presented in Table 5. For VIF, all were less than 10, indicating the absence of multicollinearity in the regression model. That is, there is no cross-section dependence in the residuals.

Table 5: Collinearity Statistics of the Independent Variables

	VIF
CAP	1.544
INT	1.022
FSIZE	1.483
GRW	1.227

The results of the study are consistent with the findings of Zeeet al. (2002), Ohaka (2010), and Ohaka and Agundu (2012) who discovered through empirical investigation that tax incentives have a significant impact on financial performance of manufacturing firms. Also, Teraoui et al. (2011) in a study of the impact of tax incentives on corporate financial performance in the Tunisian Mechanical and Electrical Industries found that an increase in tax incentives invariably results in an increase in firms' profitability within the industries. Uwuigbe et al. (2016) revealed that tax incentives play a significant role in the growth of small and medium-scale manufacturing companies in Nigeria. They found that tax incentives have a significant positive effect on the profitability and expansion of the manufacturing SME sector. Oluwole et al. (2022) found that corporate income tax, capital allowance, custom duty, and excise tax incentives have positive and significant effects on the growth and development of manufacturing companies in Nigeria.

5. Conclusion and Recommendation

The findings of this study indicate that the tax incentive scheme is a valuable tool that the Federal Government can utilize to drive business growth in Nigeria. Therefore, the study concludes that keeping interest rates at an affordable minimum and expanding firm growth opportunities can significantly enhance business growth. The study recommends that the government intensify its efforts to promote tax incentives for the manufacturing sector if it is to contribute meaningfully to sustainable development. More so, the Federal Government, through its monetary authorities such as the Central Bank of Nigeria (CBN), should strive to maintain a favorable interest rate to enable optimal utilization of these incentives for promoting business growth in the country.

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List of Quoted Manufacturing Companies in the Study

S/N	QUOTED MANUFACTURING COMPANIES
1	7 UP BOTTLING CO PLC
2	A.G LEVENTIS NIGERIA PLC
3	ACADEMY PRESS PLC
4	ALUMINIUM EXTURSION INDUSTRIES
5	ASHAKA CEMENT PLC
6	AUSTIN LAZ & CO. PLC
7	AVON CROWNCAPS &CONTAINERS NIG PLC
8	BERGER PAINTS PLC
9	BETA GLASS PLC
10	BRITISH OXYGEN COMPANY (BOC) NIGERIA PLC
11	CADBURY PLC
12	CHAMPION BREWRIES PLC
13	CHELLARAMS PLC
14	CUTIX PLC
15	DANGOTE CEMENT PLC
16	DANGOTE FLOUR MILLS PLC
17	DANGOTE SUGAR REFINERY PLC
18	DN MEYER PLC
19	DN TYRE & RUBBER PLC
20	EVANS MEDICAL PLC
21	FIRST ALUMINIUM PLC
22	FLOUR MILLS OF NIGERIA PLC
23	FTN COCOA PROCESSORS
24	GLAXO SMITHKLINE CONSUMER NIGERIA PLC,
25	GRIEF NIGERIA PLC
26	GUINNESS NIGERIA PLC
27	HONEYWELL PLC
28	INTERNATIONAL BREWERIES PLC
29	LAFARGE CEMENT WAPCO NIGERIA PLC
30	LIVESTOCK FEEDS PLC
31	MAY & BAKER
32	MORISON INDUSTRIES PLC
33	MULTIVERSE MINNING & EXPLORATION PLC
34	NATIONAL SALT COMPANY OF NIGERIA PLC
35	NESTLE NIGERIA PLC
36	NIGERIA BREWERIES PLC
37	NIGERIAN GERMAN CHEMICALS PLC
38	NORTHERN NIGERIA FLOURMILLS
39	OKOMU OIL PALM COMPANY PLC
40	PHARMA DEKO PLC
41	PREMIER BREWERIES PLC
42	PREMIER PAINTS PLC
43	PRESCO PLC
44	PZ CUSSONS NIGERIA PLC
45	PS MANDRIDES & CO PLC
46	SCOA NIGERIA PLC
47	TRANSNATIONAL CORPORATION
48	UNILEVER NIGERIA PLC
49	UAC NIGERIA PLC
50	VITAFOAM NIG PLC