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EFFECT OF TAX INCENTIVES ON THE GROWTH OF LISTED COMPANIES IN NIGERIA

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Abstract

Tax incentives are given to achieve some economic goals, among which is to foster business growth of companies. Despite the tax incentives given to Nigeria businesses over the years, firms are proved to be still faced with growth difficulty. This study examines the effect of tax incentives on the growth of listed firms in Nigeria. Panel data for the study were obtained from the annual reports of the sampled companies, Nigeria Stock Exchange yearly fact books and financial service websites for a period of seven years (2012-2018). The study used Partial Least Square Structural Equation Modeling (PLS-SEM) as techniques of data analysis to test the effect of tax incentives on business growth. Tax incentive was constructed by four formative indicators: capital allowance, investment allowance, loss relief and interest incentive, while growth was constructed with three reflective indicators: revenue, total asset and number of employees. The measurement model evaluation revealed that both the formative and reflective constructs were valid and reliable. The findings revealed that there is significant effect of tax incentives on business growth of listed firms in Nigeria.

Keywords: *Tax incentives, Firm Growth, Capital Allowance, Investment Allowance, Interest Incentive, Loss Relief, PLS-SEM*

Introduction

Tax incentives are exemptions or reliefs granted to individuals and businesses to minimize the impact of taxes on them, in order to promote investment and savings (Aguolu, 1999). Tax incentives in the opinion of Fletcher (2003) are exemption, exclusions and deductions that provide preferential tax rate, special credits or tax liability deferment. These incentives are granted for several reasons. Phillips (2006) looked at tax incentives as a deliberate reduction of tax obligations of taxable entities, granted by the government to develop a particular economic unit. Corporate bodies may be granted certain incentives in order to increase investment, productivity, employment, export, or to reduce pollution and other harmful practices. Other motives for granting tax incentives include: to motivate taxpayers (Kuewumi, 2008), correct market imperfection like monopoly, foster sectoral and regional development (Mayende, 2013), and achieving some social goals. Such goal includes encouraging economic activity in undeveloped regions, a policy Klemm (2009) described as 'localized incentives'. In the international context, tax competition is the main driving force behind many of the tax incentives across the world (Klemm, 2009).

Tax incentives can be categorized into two: general tax incentives (enjoyed by all companies) and specific tax incentives (that are targeted at some certain sectors or firms). Besides the location-specific tax incentives provided for businesses within export free zones, a range of sector-specific incentives exists, especially for the agricultural, manufacturing and oil and gas sectors. General tax incentives on the other hand are enjoyed by all companies and they include capital allowance, investment allowance, loss relief and interest incentive.

Capital allowance is an incentive that enables entities to recover the amount spent on Qualifying Capital Expenditures (QCE) for the purposes of taxation in a financial year. QCEs are spelt out in the Companies Income Tax Act (CITA) 2007 (as amended) and they exclude some tangible assets like land, ships and aircraft (Nwonyuku, 2019). In the same way, CITA does not include expenditures in respect of intangible assets such as franchise, licenses, goodwill, patents or copyrights, and any other form of intangible assets as qualifying expenditures, except for research and development expenditure. In addition to the capital allowance, investment allowance is granted in respect of plant and equipment expenditures at the rate of 10% of cost. Investment allowance is granted only in the first year of purchase, unlike capital allowance that are granted to compensate for depreciation charge that is disallowed for income tax purposes.

Loss relief is an incentive that provides for a company that makes a loss to mitigate such loss by deducting it from the earnings of the next year's appraisal, beginning with the year after the loss occurred. Loss relief is automatic and does not require a formal application (ICAN, 2014; CITN, 2017). Interest on loans acquire wholly for the purpose of trade or business of a company is allowed as deductible expenses for tax purposes in line with the provision of Section 24(a) of CITA 2007. This incentive is one of the most visible attractions of debt financing options in capital budgeting and is meant to ease the burden of debt on businesses especially as access to finance has been identified as one of the most important restrictions to doing business in Nigeria (Iarossi, Mousley & Radwan, 2009). Although interest incentive is necessary for businesses to strive, it can be abused through 'thin capitalization' and 'earning stripping'.

Though, there is currently no thin capitalization regulation in Nigeria and loans between related parties are tax-deductible under section 24 of CITA, in practice, such loans must satisfy the arm's length principle. This was confirmed by the 2014 ruling of the Tax Appeal Tribunal sitting in Lagos in the case of Nigeria Agip Oil Company Limited vs. FIRS (Sowande, 2014).

Barbour (2005) posited that tax incentives are necessary as symbolic signals to investors and compensate for other disincentives inherent in the economy or favourable investment regimes elsewhere. He concluded that firms generally see incentives as necessary and it remains a widely used policy in either developing and advanced economies to stimulate job creation, revenue generation and economic growth.

Business growth of firms influences economic growth directly through an increase in output and employment. Rate of growth that is positive means job creation, while a negative growth rate represents job destruction. Also, a firm's growth influences economic growth by creating backward and forward linkages depending on the evolution of the active firms (Vance, 2017). Forward linkage is a situation where investment or growth in the business stimulates activities in the next production stage, while backward linkage is a situation where growth in a business/industry leads to the growth of the industries that supply input to it. The general effect of these on the economy is that it increases demand, thereby creating an increase in the economic activities that can boost the macro economy.

The understanding of the growth of a firm depends on the definition of what the firm is. Hart (1995) considers a firm as a set of assets under common ownership and control. The major shortcoming of this definition is that it restricted the firm to only asset-based firms and ignored other business model like franchise that utilizes external resources. However, Richardson (1972) perceived the firm as a network, the boundary of which depends on the type of activities it carries out. Since a network could be small, large, simple, complex, open or closed; it can be used to explain the nature of firms. The heterogeneity of both human and material resources implies that every firm is unique. Thus, companies have different business goals and patterns of growth which make a single metric of measuring growth inappropriate.

Statement of the Problem

In the last few decades, many countries have keenly publicized themselves as investment locations, to attract investment, technology and managerial expertize. Between 1985 and 1994, investment in tax heavens like the Caribbean and South Pacific countries (i.e. Cuba, Dominican Republic and Puerto Rico) has increased more than five times (Nuta & Nuta, 2012). More than 15 incentive-related laws have been passed in Nigeria and over 20 tax-related incentives have been implemented since 1949 (Fawowe, 2013). Unlike the Caribbean, business growth seems to be on the decline in Nigeria despite the increasing tax incentives over the years.

Nigeria has been granting tax incentives to companies since the colonial times and these incentives are ever-increasing, even with that, the country has witnessed a lot of business failures over the years. The collapse of banks and textile companies in the 1990s to early 2000s, the current rate of business absorption and the recent takeover of distressed banks by the Central Bank are few examples, despite the fact that those companies have enjoyed tax incentives.

More worrisome is the explosion in the rate of unemployment and declining revenue

being experienced in Nigeria, which could be attributed to the failure of businesses in the textile, cement, fertilizer and other subsectors of the economy. Kiabel, Nangih & Oyedokun (2018) attributed this problem to lack of growth of existing companies because growth of firms influences economic growth directly.

In a competitive market, growth is a necessity for survival. Companies that are recording constant growth have better chances of survival in the market (Carrizosa, 2006). For expansion and growth of companies in Nigeria, the government gives tax incentives. This growth can be measured through employment and other measures, but still, government ministries are the highest employer of labour in Nigeria. This calls the effectiveness of these incentives into question.

Empirical studies on the impact of tax incentives have produced conflicting results over the years. Oman (2001) revealed that big multinational companies such as automobile companies normally negotiate special tax regimes, thus creating incentives for themselves. This finding questions the efficacy of tax incentives in influencing the investment and growth decisions of companies, because it implies that big firms can go to any jurisdiction of their choice irrespective of the tax regime and negotiate for tax reliefs. More so, McIntyre & Tipps (1985:50) asserted that, "In real world, companies invest only when they need new plant and equipment to produce products they can sell to customers", indicating that firms do not invest simply because of tax saving but only where and when there is a return prospect.

Tax incentives are associated with loss of revenue to the government, distortion in resource allocation which may attract investors that only seek short-term profit and high administrative cost (Morisset, 2003). However, whether one thinks the argument for tax incentives is convincing or not, it is important to seek enquiry into their impacts on businesses for countries like Nigeria that already have them in place.

The objective of this study therefore, is to examine the effect of tax incentives on the business growth of listed firms in Nigeria. The study also aimed to ascertain the effect of various types of general tax incentives: capital allowance, investment allowance, loss relief and interest incentive on the growth of listed firms in Nigeria.

To achieve the objectives of the study, the following hypotheses were formulated.

Ho1: There is no significant effect of tax incentives on the business growth of listed firms in Nigeria.

Ho2: There is no significant impact of capital allowance on the growth of listed firms in Nigeria.

Ho3: There is no significant impact of investment allowance on the growth of listed firms in Nigeria.

Ho4: There is no significant influence of loss relief on the growth of listed firms in Nigeria.

Ho5: There is no significant impact of interest incentives on the growth of listed firms in Nigeria.

Review of Related Studies

Mcdonald (2011) did a study on Canadian firms in reaction to the argument that lowering corporate taxes allows businesses to invest in computers, infrastructure and workers, resulting in increased efficiency, long-term economic growth, jobs and wealth creation. Lower tax rates did not result in increased job growth as argued because fewer jobs were generated proportionally than the overall average, but there seems to

be a positive connection between lower tax rates and corporate income, according to the author. Tax incentives and lower taxes have a negative relationship with machines, technology, and workers, while tax incentives and business results have a positive relationship (i.e. lower tax rate and corporate profits). This study has produced interesting conclusions, it however omitted an important measure of growth, revenue. This is important because most scholars and researchers measure growth by revenue (Gruenwald, 2015). Perhaps it is a common goal of every business venture to increase revenue unlike assets and employees.

Similarly, Fawowe (2013) studied Nigeria's fiscal incentives on FDI and private investments. The study created two indices to track the incentives in Nigeria from 1970 to 2006, these indices were imputed into equations for foreign direct investment and private investment to assess their effectiveness in stimulating investment. Fiscal incentives were divided into four categories: corporate income tax rate, investment cost recovery, export-oriented and export processing zone incentives. The study discovered that fiscal incentives have a negative impact on both domestic investment and FDI in Nigeria. The author thus recommended that instead of concentrating on fiscal incentives, effort should be made by the government to remove disincentives that hinder investment such as lack of amenities, weak systems and institutions. The study however excluded the major changes in the Nigerian tax system from 2007 because the indices stopped in 2006. Although the study is among the few studies in Nigeria that assessed the influence of tax incentives on private investments, the measure adopted was the contribution of the private sector to the GDP which does not fully reflect the growth of firms.

Taking on the revenue dimension of firm growth, Alhulail & Takeuchi (2014) studied the impact of tax incentives on the trade of eco-friendly vehicles in Japan. A sample of 10 models of vehicles were drawn from the 30 leading Japanese vehicle brands from 2006 to 2013. The study collected research data using the monthly sale data of the studied vehicle models. The vehicles comprise of Toyota Corolla, Toyota Voxy, Nissan Serena, Honda Step Wagon and Toyota Prius. The study's aim is to investigate the impact of the Tonnage and Acquisition Tax Cuts for Environmentally friendly automobile, as well as the subsidy of Eco-Cars implemented by Japan in 2009.

Under the Tonnage & Acquisition Tax Cuts incentive, depending on the greenhouse emission level, a buyer is entitled to an allowance of up to 100% from acquisition tax or tonnage tax paid during the first compulsory inspection. Tonnage tax is paid based on the weight of a vehicle usually annually. Under the Eco-Car Subsidy, a consumer that replaces his/her old combustion engine vehicle with an eco-friendly vehicle will be given up to 100,000 yen. Using the fixed effect regression technique, the study found that the tax incentives have a more substantial positive influence on sales of environmental-friendly vehicles than the price of gasoline. This study has made interesting findings, but given the difference in the level of industrialization and tax systems between Japan and Nigeria, it is questionable to what extent it evaluation results are relevant in Nigeria. Furthermore, incentives like Tonnage and Acquisition tax incentive for eco-friendly vehicles, and the Eco-Car Subsidy in Japan are aimed at promoting the use of environmental-friendly vehicles which is currently not promoted in Nigeria. While the results of this study are important to the advancement of knowledge, they do

not address the effect of the incentives that are available in Nigeria.

Uwaigbe, Ranti, Kingsley & Chineye (2016) examined the impact of tax incentives on the performance of production ventures in Nigeria. The study adopted a judgmental sampling technique to sample 20 small and medium manufacturing companies in Ogun State, and questionnaires were administered to 100 respondents (five questionnaires were given to five accountants and tax officers in each of the selected firms). The result of regression analysis on the data showed that tax incentives influence the availability of investment capital in the manufacturing sector in Nigeria. the study also revealed that the companies that are incentivised are willing to pay their taxes promptly and also tax incentives are capable of increasing the number of manufacturing firms in Nigeria. The study recommended increased awareness among manufacturing companies on the available tax incentives. Significant results were noted in the study, however, the small sample size and lack of diversity of the respondent is a limitation on the generalizability of the findings. Most importantly, the study addressed the growth of firms in terms of the number of industries but it did not look at the impact of tax incentives on the companies based on any growth measures.

Also, Tapang, Onodi & Amaraihu (2018) carried out a study in Nigeria on the effect of tax incentives on foreign direct investment into the oil and gas industry. An ex-post-facto research design was adopted for the study and secondary data covering 2008 to 2017 were collected and analysed using regression analysis. The findings revealed that tax incentives proxies by non-productive rent, investment allowance and capital allowance has a high significant effect on foreign direct investment. Based on the findings the study concluded that firms that are granted tax incentives will generate more employment opportunities than firms in highly taxed regions. However, the study dwell on the oil and gas sector which could limit the applicability of the result in other sectors. Even with that, the conclusion that foreign direct investment into oil and gas sector, an industry that is crowded of expatriates is contestable.

Twesige and Gasheja (2019) looked at the impact of tax incentives on the growth of SMEs in Rwanda, using Nyarugenge District as a case study. The population of the study comprised of all the 49,000 registered small scale enterprises in the district, out of which 136 samples were drawn for the study. The result of the multiple regression analysis revealed that in Rwanda, tax incentives have a strong positive and substantial relationship with the development of small and medium firms. The study suggested that authorities should design programmes that target the sustainable growth of SMEs. The study has found a significant result on the influence of tax incentives on SMEs in Rwanda. However, the growth measures used are assets and retained earnings which may not be appropriate for low asset-based businesses like a franchise. More so, the sample size of 136 for a population of 49,000 is rather too small, even though the study justified it with the sample size formula of Silovin and Yemen.

Ugwu, Okwa & Inyang (2020) examined the impact of Nigeria's tax incentives on the growth of investment. The study used company tax and investment allowance as proxies for tax incentives while gross fixed capital formation (measured by fixed assets acquisition less disposals) represents growth. The study covered a period from 1985-2018. The outcome of the ordinary least square regression study using ex-post-facto Research Design showed that a tax incentive

is related to gross fixed capital formation in a positive and significant way. Lesser private spending and lower gross fixed capital growth are also related to a higher corporate income tax rate, according to the findings. While this study yielded substantial results, it did not assess the effect of tax incentives on firm growth.

Methodology

This study adopted the ex-post-facto design. The study is a systematic enquiry into data that are existing.

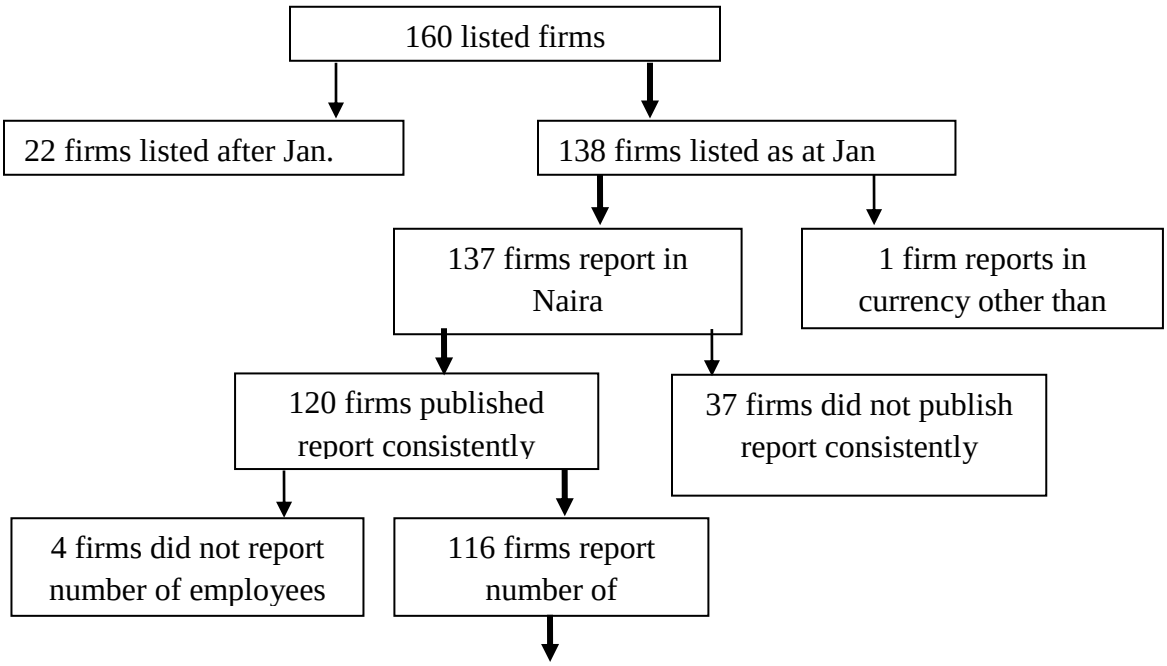
Population and Sample

The population of this study comprised of all the 160 companies listed on the Nigerian Stock Exchange (NSE) as at 1st October, 2019. These companies cut across 11 sectors as shown in Table 3.2. The purposive sampling technique was adopted for the study because a study of listed companies that is done over 7 years in an exchange that has companies listing and delisting from time to time deserve to focus on companies that have stayed on the exchange during the period of the study. To avoid missing data, consistency of firms in rendering annual report is important for the study as well as for the integrity of the report. The emphasis was on annual 'reports' because some of the data needed for this study are not available on the financial statement, but in the detailed notes to the account. More so, companies that did not disclose their number of employees during the period of the study were not included in the sample. The following sampling criteria were used for sample selection.

Sampling Criteria
For any company to be selected for this study, the company must meet the following criteria. A listed company that:

a. was listed on the NSE as at 1st January, 2012.
b. reports in Naira.
c. has consistently published annual reports from 2012 to 2018.
d. disclosed number of employees.

The filtration procedure is presented in the criterion sampling frame in Figure 4.1.



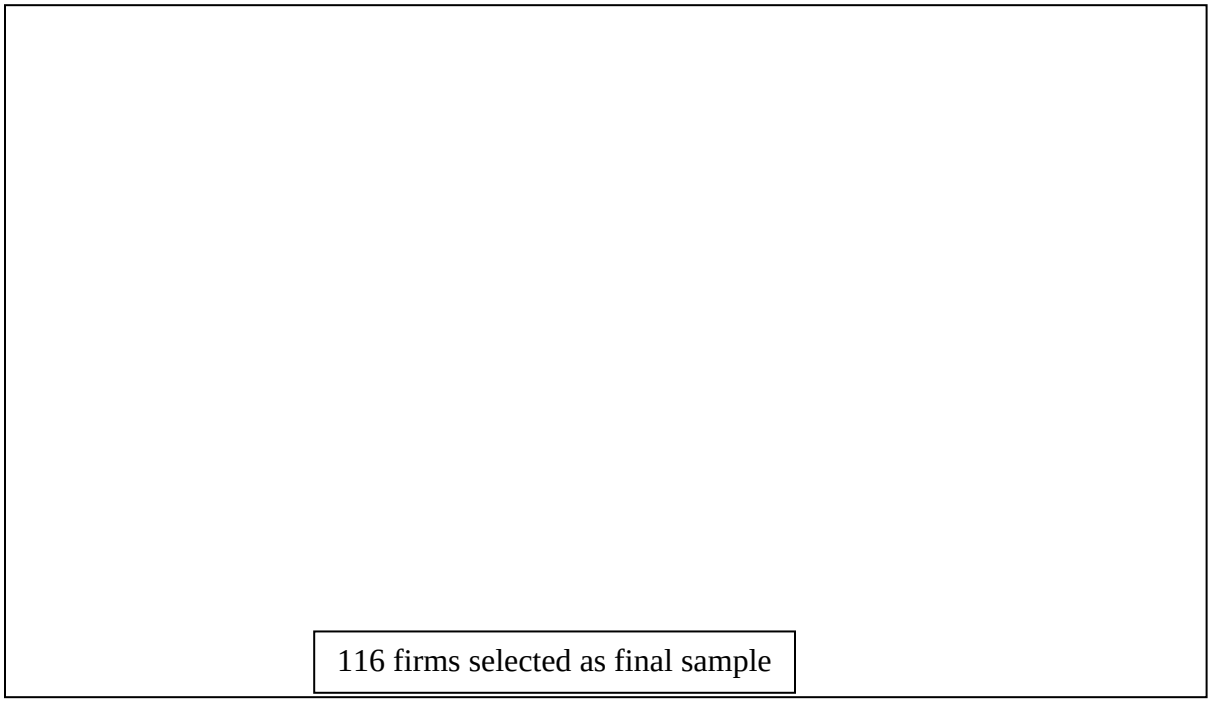


Figure 4.1. Criterion Sampling frame (adapted from Stoll & Hall, 2013)

Out of the 160 companies listed on the NSE, 138 companies met the criterion of being listed as at January 2012. The companies that are listed before January 2012 and render reports in Naira are 137, out of which 120 firms publish annual report consistently from 2012 to 2018. Four out of the 120 firms did not report the number of employees during the study period, while the remaining 116 companies were selected to form the final sample. The sectoral classification of the selected companies is shown in Table 4.1.

Table 4.1. Sample segregation

S/N	Sector	No. of companies	No. of sample selected
1.	Agriculture	5	3
2.	Conglomerates	6	6
3.	Construction/real estate	5	3
4.	Consumer goods	20	17
5.	Financial services	51	33
6.	Healthcare	10	8
7.	ICT	9	5
8.	Industrial goods	13	10
9.	Natural resources	4	4
10.	Oil and gas	12	8
11.	Services	25	19
	TOTAL	160	116

Source: Computed by researcher (2019)

4.2 Data Analysis Technique

The study utilized two statistical analyses: descriptive analysis and Partial Least Square Structural Equation Modeling (PLS-SEM). PLS-SEM allows for the testing of multiple predictor variables, the construction of latent (unobservable) variables and the modelling of measurement errors for observed variables, using a combination of factor analysis, regression and path analyses to test causal relationships (Hox & Bechger,1999; Hair, Hult, Ringle, & Sarstedt, 2016).

PLS-SEM Model Discussion

Two models were formulated for this study using diagrammatical presentation as SEM studies give preference to the diagrammatical presentation of the model over mathematical presentation. The model for this study is presented in Figure 4.1 and Figure 4.2.

Model 1

The model was framed using latent constructs (TAX-INC and GROWTH) to show the structural connection between tax incentives and growth.

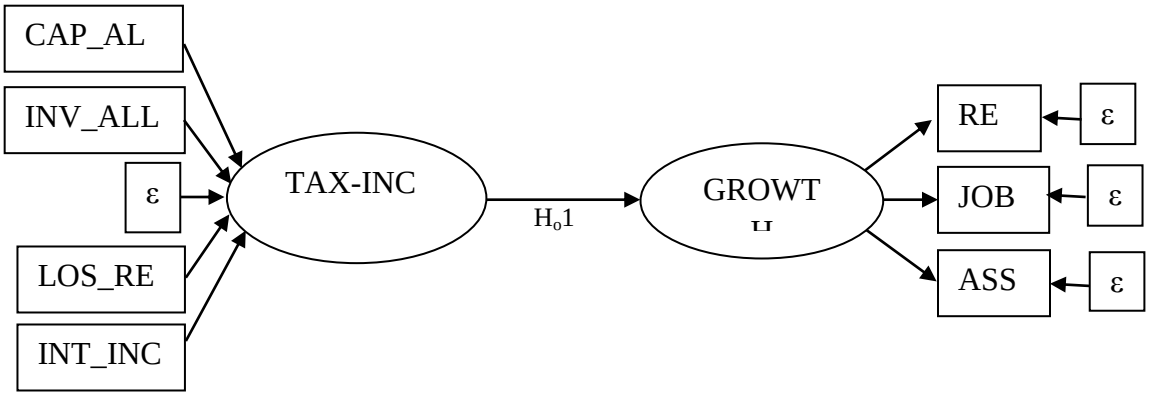


Figure 4.1. Structural Diagram (Model 1)

From the diagram in Figure 4.1, the latent construct growth (GROWTH) is design with reflective indicators of revenue (REV), employment (JOB) and assets (ASS), while the latent construct tax incentives (TAX-INC) has capital allowance (CAP_ALL), investment allowance (INV_ALL), loss relief (LOS_REL) and interest incentive (INT_INC) as formative indicators. The connection between the latent variables and the indicators is based on the direction of the arrows. A straight arrow from the latent variable to the indicator variable (as shown between GROWTH and REV, GROWTH and JOB; and GROWTH and ASS) indicates that the indicator is reflective, i.e. the indicator reflects the latent variable. More so, each of the reflective indicators is error-prone. Whereas a straight arrow from an indicator variable to the latent variable (such as between CAP_ALL and TAX-INC above) indicates that the indicator is formative. Unlike reflective indicators, formative indicators themselves are assumed to be error-free, however, the error term in the formative construct is meant to captures all the other causes of the construct that is not included in the model (Diamantopoulos & Siguaw, 2006).

Model 2

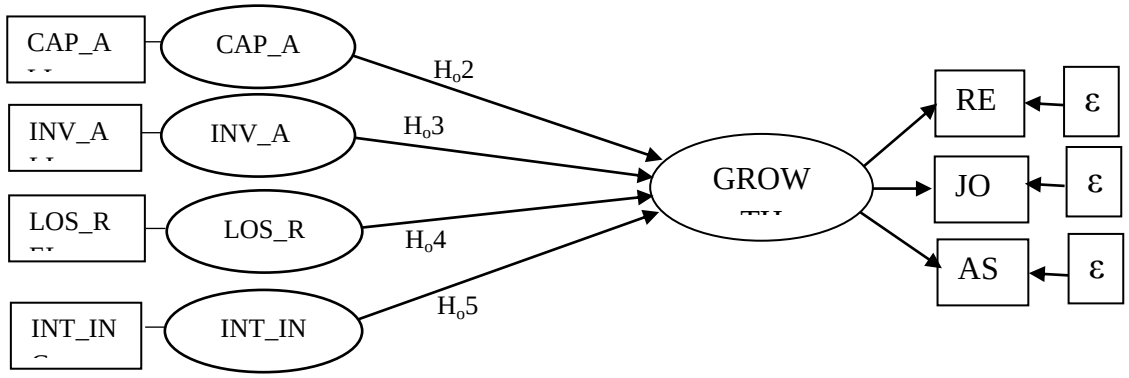


Figure 4.2. Structural Diagram (Model 2)

In Model 2, the structural model shows the connection between the various types of general tax incentive and the latent construct 'GROWTH'. The exogenous variables in the model (CAP_ALL, INV_ALL, LOS_REL and INT_INC) are observed variables, hence have one indicator each. Presenting the model this way is essential because if the effect arrows (H_o2, H_o3, H_o4 and H_o5) had linked the rectangular symbols for the incentives to GROWTH, it could have depicted the incentives as indicators of growth, which would be misleading.

Table 4.1 shows the variables and their measurement.

Table 4.2. Variables and Measurement

Variable	Type		Measurement	A priori Expectation
	Model 1	Model 2		
Tax Incentive (TAX-INC)	Latent exogenous	n/a	Capital allowance, investment allowance, loss relief and interest incentive	Positive
Capital Allowance (CAP_ALL)	Indicator of capital allowance	Exogenous	Capital intensity i.e. fixed assets/total assets	Positive
Investment Allowance (INV_ALL)	Indicator of capital allowance	Exogenous	Natural log of 10% of the cost of additional plant	Negative
Loss Relief (LOS_REL)	Indicator of capital allowance	Exogenous	1 or 0 to reflect loss year and non-loss year respectively	Positive
Interest Incentive (INT_INC)	Indicator of capital allowance	Exogenous	Natural log of interest on debt financing	Positive
Growth (GROWTH)	Latent endogenous	Latent endogenous	Revenue, employees and total assets	n/a
Revenue (REV)	Indicator of growth	Indicator of growth	Natural log of sales	n/a
Employees (JOB)	Indicator of growth	Indicator of growth	Natural log of the number of employees	n/a
Total Assets (ASS)	Indicator of growth	Indicator of growth	Natural log of total assets	n/a

Source: Computed by the researcher (2019)

Sources and Method of Data Collection

This study used secondary data collected to cover a period of 7 years from 2012 to 2018. Data for the study were gathered from annual reports of companies, financial service firm websites, and NSE fact books.

Data Analysis and Findings

Descriptive Statistics

The main characteristics of the data including the mean, standard deviation, minimum and maximum, year and number of observation are presented in Table 5.1.

Table 5.1. Descriptive statistics

Variables/Indicators	Observation	Mean	Std. Dev.	Min.	Max.
CAP_ALL	812	0.43	0.49	0	9.51
INV_ALL	812	50*	362*	0	9,027*
LOS_REL	812	0.23	0.42	0	1
INT_INC	812	1,661*	6,346*	0	58,313*
REV	812	52,790*	108,160*	0	901,213*
JOB	812	1,056	2,285	0	19,234
ASS	812	207,484*	663,864*	57*	5,955,710*

*Indicates figures in millions of Naira.

Source: Researcher (2019)

As shown in Table 5.1 above, the average capital intensity (CAP_ALL) of the firms for the period 2012 to 2018 was 0.43 with a standard deviation of 0.49. The standard deviation of 0.49 shows that the capital allowance incentives earned by the companies varied significantly among firms and over time, this is because the value of the standard deviation is higher than the mean. The minimum capital intensity during the period is 0 while the maximum is 9.51. The table also shows that the average investment allowance during the study period is 50 million Naira with a standard deviation of 362 million Naira which depicted a large variability in the amount allowance by the firms over the period. The maximum investment allowance granted was 9.027 billion Naira while the minimum is 0.

On the other hand, the average revenue (REV) of listed firms during the period, 2012 to 2018 is 52.790 billion Naira with a large standard deviation of 108.16 billion naira. The minimum amount of revenue recorded by firms during the period is 0 while the maximum is 901.213 billion naira. Also, the average JOB (i.e. number of employees of listed firms) during the study period is 1,056 employees with a deviation of 2,285. The minimum number of employees in the observation is 0 while the maximum is 19,234. The mean value of total asset (ASS) is 207.484 billion naira with a standard deviation of 663.864 billion. The minimum value of total assert is 57 million while the maximum value is 5.955 trillion naira.

Partial Least Square Structural Equation Modeling (PLS-SEM)

Model 1 Results

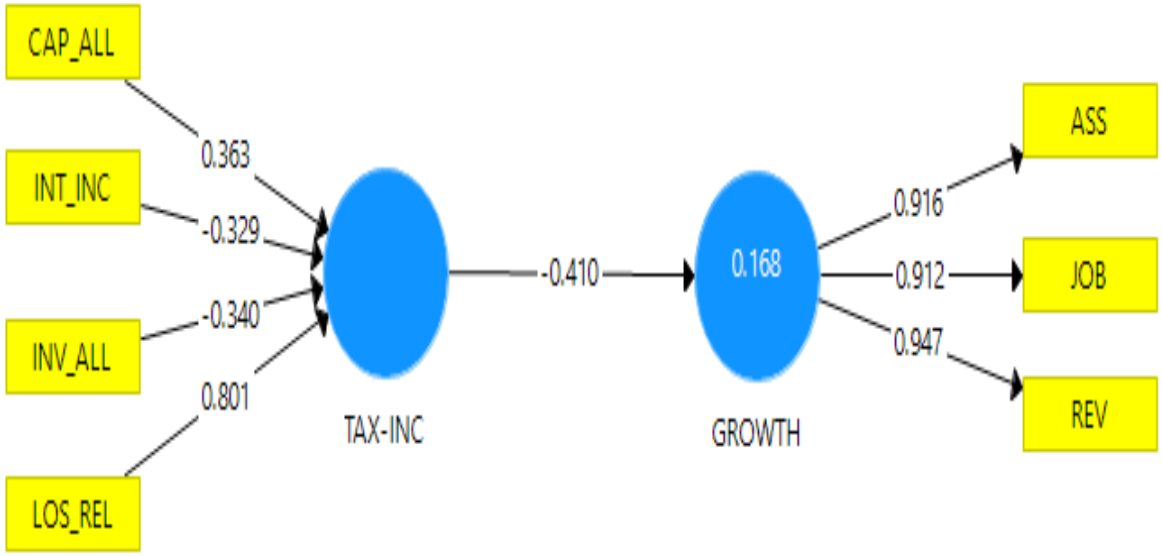


Figure 5.1. Model 1 results (Source: Smartpls 3 output, 2020)

The values on the arrows that linked the tax incentive indicators to TAX-INC in Figure 4.1 are the outer weights of the formative indicators while the values on the arrows that linked GROWTH to its indicators represent the outer loadings. The value on the arrow linking TAX-INC and GROWTH (-0.410) is the path coefficient while the value inside the oval symbol for GROWTH (0.168) represents the coefficient of determination (R^2).

5.2.2 Model 2 Results

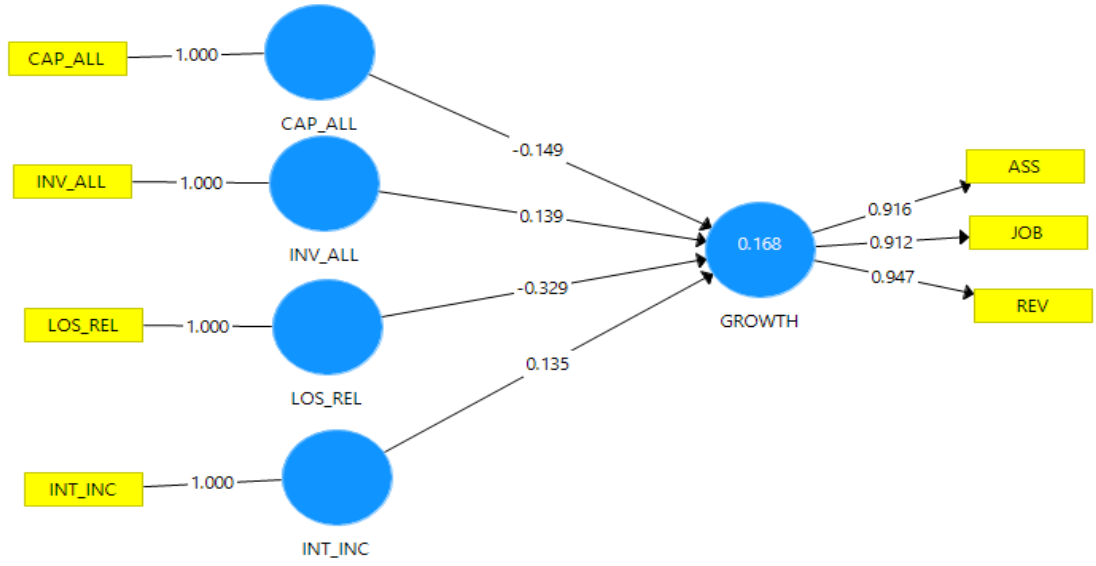


Figure 5.2. Model 2 results (Source: Smartpls 3 output, 2020)

Assessment of the Formative Measurement Model

This assessment is only applicable to Model 1 because Model 2 has no formative measurement. The validity assessment of the formative measurement model involves assessing the face validity, the collinearity among the indicators using the Variance Inflation Factor (VIF) and the outer model weights of the indicators.

a. Face Validity

In the formative construct, the indicators' face meanings present a coherent and relevant collection of all the dimensions of the construct (TAX-INC). Hence, there are valid for the construct.

b. Collinearity

Table 5.2: VIF Values of Formative Indicators

	VIF
CAP_ALL	1.119
INT_INC	1.351
INV_ALL	1.289
LOS_REL	1.055

Source: Smartpls 3 output, 2020

Table 5.2 shows that all the VIF values for the formative indicators are less than 5, which indicates that there is no collinearity issue among the indicators.

c. Outer Model Weight

Outer model weight represents the influence of an indicator on the description of its corresponding latent variable when the influences of all other indicators are controlled (Cenfetelli & Bassellier, 2009). When an indicator outer model weight is significant (i.e. T-Value > 1.645 or P-Value<5%), there is empirical support to retain the indicator (Ali & Cobanoglu, 2016).

Table 5.3: Outer Model Weight of Formative Indicators

	Weight	T Statistics	P Values
CAP_ALL -> TAX_INC	0.363	2.312	0.021
INT_INC -> TAX_INC	-0.327	2.232	0.026
INV_ALL -> TAX_INC	-0.340	2.584	0.010
LOS_REL -> TAX_INC	0.801	3.485	0.001

Source: Smartpls 3 Output, 2020

Table 5.3 shows that all the formative indicators have T-Values greater than 1.645 and are significant at 5%, therefore the formation construction is empirically justified.

Assessment of the Reflective Measurement Model

This evaluation is the same for Model 1 and Model 2 because the reflective measurement model (GROWTH) is the same in both models. The assessment of reflective measurement model is done through indicator reliability, internal consistency reliability, convergent validity and discriminant validity.

a. Indicator reliability

This evaluation aims to determine how much of the variance in the manifest variable is explained by the latent variable. Indicator reliability is defined as the square of the measurement loading. Measurement loadings (also called outer model loadings) are the standardized path weights connecting the latent variable to the indicator variables. An indicator loading takes a value ranging from 0 to 1 and a well-fitting reflective model loading should be above 0.708. Since indicator reliability is simply the square of the loadings, the acceptable indicator reliability value is 0.5 (i.e. 0.708^2).

Table 5.4. Outer Model Loadings for Reflective Indicators

	Loadings	T Statistics	P Values
ASS <- GROWTH	0.916	3.137	0.002
JOB <- GROWTH	0.912	3.143	0.002
REV <- GROWTH	0.947	3.142	0.002

Source: Smartpls 3 output, 2020

The rule of thumb is that indicators with loadings below 0.4 should be dropped; indicators with loadings in the range of 0.4 to 0.7 should also be dropped if dropping it will improve the *Composite Reliability* (Hair, Hult, Ringle & Sarstedt, 2014); and indicators with loadings above 0.7 should be retained. Table 5.4 shows that all the three reflective indicators in the model have loadings above 0.708 (i.e. indicator reliability above 0.5), hence the reflective construct is reliable based on this criterion.

b. Internal Consistency Reliability

Internal consistency reliability is a method of reliability that test how well the item or instrument that are supposed to measure the same variable produced similar results. Internal consistency reliability is analysed through Composite Reliability and Cronbach's Alpha.

Table 5.5: Reflective Construct Reliability

	Cronbach's Alpha	Composite Reliability
GROWTH	0.917	0.947

Source: Smartpls 3 Output, 2020

The Cronbach's alpha and composite reliability values of GROWTH, the only reflective construct in the models are 0.917 and 0.947 respectively. These values are higher than the benchmark value of 0.7, hence confirms the internal consistency reliability of the construct.

c. Convergent Validity

This validity test seeks to establish whether indicators that are supposed to be measuring the same construct are related. It shows that measures that should be related are actually related. Convergent validity, also known as construct communality (Rajesh, 2015) is measured by the Average Variance Extracted (AVE). A well-specified reflective construct should have AVE greater than 0.5 (Garson, 2016).

Table 5.6: Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
GROWTH	0.856

Source: Smartpls 3 output, 2020

The AVE of GROWTH shown in Table 5.6 is 0.856. This shows a high convergent validity because the value is more than 0.5. This indicates that the indicators of GROWTH in the model are related and are true measures of business growth.

d. Discriminant Validity

Discriminant validity test whether measures that are unrelated are in fact unrelated. Discriminant validity is measured by Fornell Larcker Criterion and Cross loading. According to the Fornell Larcker criterion, the square root of AVE must be greater than the correlation of the construct with all other constructs in the structural model, including the formative construct.

Table 5.7: Fornell Larcker Criterion

	GROWTH
GROWTH	0.925
TAX_INC	-0.410

Source: Smartpls 3 output, 2020

Table 5.7 shows that the reflective construct, GROWTH satisfied the Fornell Larcker criterion i.e. $\sqrt{AVE}$ = 0.925, which is higher than the correlation of the second construct (TAX_INC).

Indicators load well on the construct they are meant to measure and that is reported by the outer model loading. Indicators also load on other constructs they are not meant to measure. This type of loading is called cross-loading. An indicator's outer loadings on a construct is supposed to be higher than all its cross-loadings with other constructs, else the construct would lack discriminant validity.

Table 5.8. Cross Loadings

	GROWTH	TAX_INC
ASS	0.916	-0.293
CAP_ALL	-0.108	0.263
INT_INC	0.105	-0.257
INV_ALL	0.195	-0.477
JOB	0.912	-0.349
LOS_REL	-0.336	0.821
REV	0.947	-0.460

Source: Smartpls 3 output, 2020

Table 5:8 shows that the cross-loading (in all borders) of ASS to TAX_INC is -0.293; JOB to TAX_INC is -0.349; and REV to TAX_INC is -0.460. These cross-loadings to tax incentives are far below the loading on growth, which is an indication that the reflective construct, GROWTH has discriminant.

The Structural Model Evaluation

Evaluation of structural model consists of three broad assessments: collinearity, structural model path coefficient and the overall model estimation (i.e. coefficient of determination [R^2], effect size [F^2] and predictive relevance [Q^2]).

a. Collinearity Assessment

Structural multicollinearity is measured by 'inner VIF' values. In a well-fitting model, inner VIF values should be less than 5.0.

Table 5.9: Inner VIF Values

	Inner VIF Value
TAX_INC	1.0000
Capital allowance	1.1189
Interest incentive	1.3508
Investment allowance	1.2893
Loss relief	1.0553

Source: Smartpls 3 output, 2020

Table 5.9 above shows that the VIF values of the exogenous variables are below the benchmark of 5.0. This indicates that the model has no structural multicollinearity issues.

b. Structural Model Path Coefficients

This explains how strong the effect of the exogenous variable is on the endogenous variable. The values of the different path coefficients enable us to rank their relative statistical importance. The path coefficients range from -1 to +1 and are interpreted like a regression coefficient (i.e. values closest to 1 represent the strongest effect).

Table 5.10: Path Coefficient

	Coefficient	T Statistics	P Values
TAX_INC -> GROWTH	-0.410	2.244	0.025
CAP_ALL -> GROWTH	-0.149	2.809	0.005
INT_INC -> GROWTH	0.135	3.337	0.001
INV_ALL -> GROWTH	0.139	4.268	0.000
LOS_REL -> GROWTH	-0.329	11.267	0.000

Source: Smartpls 3 output, 2020

Table 5.10 above shows that the latent construct, tax incentive (TAX_INC) negatively related to firm growth (GROWTH) with a path coefficient of -0.410 and it is statistically significant at 5%. The table also indicates that there is a negative effect of capital allowance (CAP_ALL) and loss relief (LOS_REL) on business growth (GROWTH). While interest incentive (INT_INC) and investment allowance (INV_ALL) have positive effects on growth in Nigeria.

Overall Model Estimation

This estimation involved determining the coefficient of determination, effect size and predictive relevance. The central criterion for judging the quality of PLS-SEM is the R^2 which measures the predictive accuracy of the model.

Table 5.11: Coefficient of Determination (R^2)

	R^2	R^2 Adjusted	
		Model 1	Model 2
GROWTH	0.168	0.167	0.164

Source: Smartpls 3 output, 2020

From Table 5.11, the R^2 value for GROWTH is 16.8% which indicates that 16.8% of the variation in the endogenous variable is explained by the exogenous variables.

Adding predictors to a model appears to increase R2 thus, the adjusted R^2 is a modified version of R^2 that has been adjusted for such a bias. From Table 5.11, it could be observed that the Adjusted R^2 in Model 1 is 16.7% while that of Model 2 with more exogenous variables is reduced to 16.4%.

The effect size (f2), which tests the intensity of the effects that the model aimed to detect, is the second significant criterion for evaluating a model. F^2 effect size measures (also known as 'R^2 Change') is the change in R^2 when a causal (exogenous) variable is dropped from the model. The larger the F^2 value, the less the explained variance in the endogenous variable when the exogenous variable is omitted.

Table 5.12: F^2 Values

	GROWTH
TAX_INC	0.202
Capital allowance	0.024
Interest incentive	0.016
Investment allowance	0.018
Loss relief	0.123

Source: Smartpls 3 output, 2020

Table 5.12 shows TAX_INC→GROWTH has an f^2 value of 0.202 which falls in the range of medium effect based on Cohen (1988) categorization of effect size. Cohen

(1988) opined that an f^2 value of 0.02 represents a small effect size, 0.15 represents a medium effect and 0.35 represents a high effect size. In that light, all the structural links in the model have a small effect size as indicated by their respective f^2 values.

Predictive Relevance (Q^2) also known as Stone-Geisser Q^2, after its authors (Stone, 1974; Geisser, 1974) was used to assess the predictive relevance of the model. Q^2 applies only to models with the reflective endogenous construct. PLS-SEM model is predictive of the given endogenous variable if Q^2 is greater than 0.

Table 5.13: Q^2 Values

	Q^2
GROWTH	0.135

Source: Smartpls 3 output, 2020

The model predictive relevance is tested using Q^2. In this study, the Q^2 as shown in Table 5.13 is 0.135. This indicates that the model has a good predictive relevance since the Q^2 value is greater than zero (0).

Discussion of Findings

Tax Incentives and Growth

The study found that tax incentives have a significant effect on the growth of companies in Nigeria. Although, the path coefficient is moderate at -0.410, it is significant at 5%, implying that tax incentives as a whole significantly affect business growth. This finding is in line with previous empirical results of Mcdonald (2011) whose study found a significant negative effect of tax incentives on machines, technology and employee in Canada.

Capital Allowance and Growth

The analysis of hypothesis 2 revealed that capital allowance has a significant negative effect on business growth of listed firms in Nigeria. This indicates that capital allowance does not contribute to the business growth of listed firms in Nigeria. This finding agrees with the result of Tapang, Onodi & Amaraihu (2018) who found a significant positive effect of capital allowance on FDI into the Nigerian petroleum industry. However, capital allowance was introduced in Nigeria since 1952 and going by that the number of years it has been implemented in Nigeria, it can be concluded that its impact has not been felt in most sectors of the economy.

Investment Allowance and Growth

The finding based on the analysis in hypothesis 3 revealed that investment allowance has a significant positive effect on the business growth of listed firms in Nigeria. This implies that when businesses are granted investment allowance, it aids their growth, thereby increasing their revenue-generating capacity, encourage employment generation and increase in their total asset. This finding conforms with the study of Ugwu, Okwa & Inyang (2020) which found that there is a significant positive impact of investment allowance on the gross fixed capital formation (a measure of the value of acquisition of fixed assets by households and firms less disposal of fixed assets) in Nigeria.

Loss Relief and Growth

Analysis of hypothesis 4 revealed that loss relief has a significant negative effect on the business growth of listed firms in Nigeria. It shows that loss relief does not contribute to

the growth of listed firms in Nigeria. This result is contrary to the finding of Twesige & Gasheja (2019) who found that loss carry-forward has a significant positive effect on the growth of small and medium enterprises in Rwanda. This discrepancy can be explained by the fact that listed companies are relatively large and operate under strict regulatory environment than the SMEs.

Interest Incentives and Growth

Hypothesis 5 analysis revealed that interest incentive has a positive effect on business growth of listed firms in Nigeria. This indicates that when Nigeria companies enjoy interest incentive, it has a positive effect on them. This finding corroborates with that of Iarossi, Mousley & Radwan (2009) who ranked access to finance as the second most important constraint to doing business in Nigeria after electricity. Interest incentive is important to firm growth in Nigeria because it subdues business disincentives in the country such as poor electricity.

Conclusion and Recommendations

Based on the findings, this study concludes that tax incentives have a significant effect on the growth of listed companies in Nigeria. The study also concluded that investment allowance and interest incentive have positive impacts on the growth of listed in Nigeria. While capital allowance and loss relieve incentives do not impact positively on the business growth of firms in Nigeria. The study therefore recommends the following:

1. Policymakers should consider a review of the tax incentives in Nigeria. The review should focus on expanding incentives like investment allowance and interest incentive to bring about the desire business growth in Nigeria.
2. Management of listed companies should concentrate on claiming investment allowance and interest incentive. These incentives have a positive impact on the growth of their businesses.
3. Management of companies should deemphasize capital allowance and loss relief as they do not contribute to the growth of listed companies. Firms should not look up to opportunities to claim these incentives.

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