

# EFFECT OF TAX INCENTIVES AND INTEREST RATE ON FOREIGN DIRECT INVESTMENT OF THE PETROLEUM INDUSTRY IN NIGERIA

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## Abstract

*This study assessed the effect of Tax Incentives and Interest Rate on Foreign Direct Investment of the Petroleum Industry in Nigeria. Using expos-facto research design, the population of this study consisted of three (3) petroleum companies in Nigeria, viz: MRS Plc, Oando Plc and Ardova Plc. Census sampling technique was adopted while secondary data was gotten from National Bureau of Statistics (NBS) from 1993 to 2023. Data collected was analyzed through descriptive statistics to assess the effect of Tax Incentives and Interest Rate on FDI of the selected petroleum companies in Nigeria over the years. Multiple regression analysis was used to establish the relationship between Tax Incentives and Interest Rate and Foreign Direct Investment in the Petroleum Industry in Nigeria. Based on data collected and analyzed, findings of the study shows that tax incentives and interest rate had positive and significant effect on Foreign Direct Investment FDI inflow in the petroleum industry in Nigeria. The study concludes that these business environment proxies have significant effect on Foreign Direct Investment FDI inflow in the Petroleum Industry in Nigeria. It was recommended that the Nigerian government should introduce and sustain attractive tax policies, such as tax holidays, reduced corporate tax rates, and capital allowances for foreign investors in the petroleum sectors. Secondly, Central Bank of Nigeria (CBN) should adopt monetary policies that ensure stable and competitive interest rates.*

**Keywords:** Tax Incentives, Interest Rate, Foreign, Investment, Petroleum.

## INTRODUCTION

The presence of foreign investors in any country, whether developed or developing, is influenced by the prevailing economic and environmental conditions. These conditions signal the potential success of investments and provide confidence in the free and optimal utilization of opportunities, thereby increasing the level of Foreign Direct Investment (FDI). This influx of FDI contributes to the economic growth of the host country. In the petroleum sector, a favorable investment climate is shaped by factors such as fiscal incentives, which may include tax waivers or advance tax payments, as well as stable exchange rates, interest rates, inflation rates, and commodity prices that ensure sustainable business operations.

Over the years, the Nigerian government has made significant efforts to establish a stable economic environment to attract FDI in the petroleum industry, allowing the country to fully reap the benefits of such investments. This aligns with the assertion of Sadeh (2021) that the past decade has witnessed a sharp rise in FDI inflows into developing countries due to their relatively higher Return on Investment (ROI) compared to developed nations. Similarly, Boetkke and Leeson (2015) emphasized that both developed and developing nations have liberalized their economic policies to attract more FDI. It is important to note that foreign direct investment laws comprise multiple layers, including general international law, global economic standards, and specific regulations within the FDI domain (Siami-Namini, 2015).

According to Jan *et al.* (2020), business environmental conditions refer to external economic factors that influence organizational operations and performance. These factors include overall economic conditions such as GDP growth, inflation, and unemployment; industry-specific elements such as supply and demand, competition, and technological advancements; and macroeconomic variables such as interest rates, exchange rates, tax incentives, inflation rates, and commodity prices. Understanding and monitoring these elements is crucial for organizations to adapt to economic shifts and achieve long-term success.

The presence of U.S. investors in Nigeria's petroleum sector is reflected through major corporations such as Chevron, Ardova, MRS, Oando, Texaco, and ExxonMobil, with an investment stock valued at

US\$3.4 billion as of 2008. In 1990, U.S. FDI accounted for 67.8% of total FDI in Nigeria, maintaining a steady inflow and increasing by 43% in 2022 (Babatunde, 2022). The U.S. remains the leading investor in Nigeria's oil, agriculture, and manufacturing sectors, although it plays a relatively smaller role in the service sector. Between 2010 and 2022, the U.S. contributed 45.6% of Nigeria's total FDI inflows. Despite the nominal increase in U.S. FDI over the years, its overall share declined from 67.8% in 2010 to 34.5% in 2012. During the 1990s, Japanese investors gained prominence, increasing their share of FDI from 23.0% to 50.5% within the same period (Babatunde, 2022).

The United Kingdom, home to Shell, is another major foreign investor in Nigeria, accounting for approximately 20% of the country's total foreign investment. Other significant FDI contributors include Argentina, Brazil, Chile, Italy, the Netherlands, France, South Africa, and China. China, which is Nigeria's second-largest trading partner in Africa after South Africa, increased its FDI in Nigeria from US\$3 billion in 2003 to US\$6 billion, with about 75% of this amount directed to the petroleum sector (Babatunde, 2022).

Various governments, particularly in developing and transitional economies, leverage fiscal policies such as tax incentives, exchange rate management, interest rate adjustments, inflation control, and commodity price stabilization to attract FDI, particularly in capital-deficient economies with technological gaps (Arogundade, 2019). The link between FDI and economic conditions is well-documented globally. For instance, a 2000 United Nations (UN) report on economic factors and FDI revealed that economic stability is a key attraction for foreign investors. The study emphasized that capital-intensive sectors such as petroleum require an enabling business environment to motivate investment.

Ewe-Ghee (2001), in an International Monetary Fund (IMF) report on tax incentives and FDI in Venezuela, concluded that FDI inflows are highly dependent on tax incentives. Similarly, Craigwell (2021) examined the relationship between FDI and employment in the English- and Dutch-speaking Caribbean. The study found that investment expenditures significantly contribute to economic growth and employment. Caribbean nations such as Bermuda, the Cayman Islands, and Trinidad and Tobago have been more successful in attracting FDI due to flexible tax policies, stable exchange and inflation rates, interest rates, commodity prices, vibrant international business and financial services, and abundant natural resources, particularly petroleum.

In Asia, China has been recognized as a leading FDI recipient due to its economic policies fostering a favorable business climate (IMF, 2002). Russia, according to the same report, emerged as the top FDI destination in the oil and gas sector in Europe and Asia, primarily due to its tax incentives. A 2015 IMF report further highlighted Russia as an attractive destination for oil and gas investment due to its competitive commodity pricing. Similarly, a 2021 Investment Climate Statement on Ecuador emphasized that improving fiscal incentives is crucial for attracting FDI in the petroleum sector.

In the United Arab Emirates (UAE), Abdalla *et al.* (2021) observed that FDI supports host country development and allows multinational corporations to diversify their operations and maximize returns. Their study identified key factors contributing to increased FDI inflows into the UAE over the past five years, including economic stability, favorable fiscal policies, strategic geographic location, well-developed infrastructure, a stable currency, an advanced financial system, global events such as the Expo 2020, and proactive government policies. The IMF (2016) reported that economic diversification in Gulf Cooperation Council (GCC) countries Saudi Arabia, Bahrain, Kuwait, Oman, Qatar, and the UAE has enhanced trade openness and foreign investment, promoting sustainable growth through better resource allocation, job creation, technological advancements, and increased competitiveness.

In Saudi Arabia, Haider and Tarek (2019) analyzed FDI inflows from 1970 to 2015 using an auto-regressive distributive lag co-integration model. Their findings indicated that oil prices and financial market development positively impact FDI. The study recommended that the Saudi government enhance financial market development to attract FDI and reduce dependence on oil revenue. Gaber and Vekata (2013) also explored the impact of FDI on oil, gas, and refinery production and exports.

In Africa, Seth, Czech, and Phiri (2021) examined the economic factors influencing FDI across the continent. Their study, based on data from 2000–2018, revealed that African countries face significant competition and challenges in attracting foreign investment. Lower corporate income tax rates (CTR) and extended tax holidays were identified as key determinants of FDI inflows. While commodity prices were found to be a less significant factor compared to tax holidays, predictable pricing remains important for maintaining investment confidence (Ugwu, 2018).

Arzizeh and Onodi (2018) examined the impact of economic factors on foreign direct investment (FDI) in Nigeria's petroleum industry. Their findings indicated that tax incentives, exchange rates, and commodity prices significantly influence FDI inflows. A favorable investment climate is essential for attracting and sustaining physical investments in an economy. They recommended that Nigeria enhance its investment climate through effective economic policy formulation, proper implementation, and the provision of adequate infrastructure.

Similarly, Adam (2020) investigated the effect of petroleum tax incentives on FDI inflows in Nigeria. The study found that Nigeria's petroleum tax incentives are both adequate in number and well-structured to attract foreign investment. It concluded that while these incentives play a crucial role in attracting FDI, factors such as market size, macroeconomic stability, infrastructure development, and political risks do not have a significant impact on FDI in Nigeria's oil and gas sector. This finding aligns with other studies on developing host countries, which often lack the technical expertise to explore their crude oil resources independently. Consequently, Nigeria has engaged in petroleum exploration contracts to develop its crude oil sector. To maintain these contractual relationships and promote FDI inflows, the government has introduced various incentives for petroleum companies. This study, therefore, explores the effect of environmental conditions on FDI inflows into Nigeria's petroleum industry.

Since Nigeria got her independence in 1960, her development appears to have fallen short of expectations. This is attributed to low level of foreign direct investment (FDI) inflow giving rise to economic environment, like other developing countries of capital and technological inadequacy. Kukaj and Ahmeti (2016) stated that, due to the economic changes and developments around the globe, many countries lack mega investments that may command local, regional and national development. According to Adam (2020) state's influence on the economy has presented a significant topic for theoretical debate and empirical inquiry since the beginning of capitalism and the market society which requires conducive economic factors to attract FDI.

In an ideal economic environment, the petroleum industry in Nigeria would attract substantial foreign direct investment (FDI) due to the country's vast oil reserves, strategic location, and potential for high returns. FDI would boost technological advancement, increase job opportunities, improve infrastructure, and drive economic growth. A stable regulatory framework, low levels of corruption, transparent governance, and consistent policies would create an environment conducive to investment, encouraging multinational corporations to commit long-term capital to the sector.

However, the reality presents a different scenario. The Nigerian petroleum industry faces significant challenges, including political instability, frequent policy shifts, insecurity, corruption, and poor infrastructure. CBN (2013) also stated that the most striking challenges is lack of transparency and fairness in the process of taking decisions on developing a conducive economic environment in Nigeria. These factors contribute to a volatile business environment that discourages FDI. In addition, regulatory uncertainties, such as delays in implementing key reforms like the Petroleum Industry Act (PIA), deter potential investors who are concerned about the risks associated with unclear or unfavorable legal and fiscal frameworks. The fluctuating tax incentives, exchange rate, interest rate, inflation rate and commodity prices further complicate the investment climate which seems to indicate that Nigeria did not attract significant foreign direct investment especially in the petroleum sector. As a result, Nigeria struggles to attract and retain the level of FDI necessary to unlock the full potential of its petroleum resources.

It is from the background that the researcher is motivated to conduct a study “effect of tax incentives and interest rate on the foreign direct investment in Nigeria with a focus in the petroleum industry in Nigeria” to bridge the gap.

The main objective of this study is to determine the effect of economic business environment on foreign direct investment of the petroleum industry in Nigeria. The specific objectives are to:

- i. To assess the effect of tax incentives on Foreign Direct Investment of petroleum industry in Nigeria and
- ii. to Evaluate the effect of interest rate on Foreign Direct Investment of petroleum industry in Nigeria.

## **LITERATURE REVIEW**

### **Tax Incentives**

Adam (2020) defines tax incentives as the concessions in tax codes that mean a conscious loss of government budgetary revenue because they reduce either the tax base (tax allowance) or the tax due (tax credit). Therefore, it is the waiver on certain taxes that is called tax incentives. Tax incentives are meant to encourage and stimulate the economic activities of enterprises and investments (Akinyomi, 2021). They are fiscal policies designed by the Government to revive, rehabilitate and stabilize individuals and corporate bodies (Akinyomi, 2021). Adeola (2021) opined those fiscal incentives refers to the “monetary benefit” offered to the enterprises such as tax savings and discounts. In other words, fiscal incentives are instruments such as tax reduction, incentives, grants and subsidies applied by the governments to support various activities of individuals and organizations. Fiscal incentives are aspects of fiscal policy that are able to influence and induce the behaviors of people and firms to act in a particular way by offering financial reward for certain activities. Also referred to as tax incentives, these incentives come in a variety of forms and usually involve the reduction or periodic freeze of tax payments. Some forms of fiscal incentives are tax credit, tax abatement and tax exemption (Carkovic, 2012).

According to Kiser and Karceski (2017) Tax incentives are given to specific entities in specific stages, resources, sectors and types of goods and services. In terms of stages, tax incentives mostly apply to construction or initial operation stages, as the stage normally requires high setting costs, and the government prefers to relieve enterprises from tax requirements. In terms of resources, many enterprises can be excluded from obligations of paying import duties on capital goods and certain raw materials to encourage an increase in resource supply and utilization for economic development. In terms of sectors, in the economy, a country may want to give special priority to social development; for example, enterprises working in the agribusiness and agriculture sector, tourism sector and health sector may be exempted from tax obligations. Other forms of tax incentives apply to certain goods and services produced/ supplied by enterprises (Okpeyo et al., 2019).

### **Interest Rate**

Mankiw (2019) defined interest rates as the price paid for the use of borrowed funds, acting as an important determinant of investment and savings behaviors. High interest rates generally discourage borrowing and encourage saving, while low rates have the opposite effect. Parkin (2020) expanded on this, stating that interest rates influence the cost of capital for businesses and are thus a crucial factor in determining corporate investment decisions and economic growth.

Anna *et al.* (2022) defined interest rate as the gain or return on investment. Thus, it is very rational for any investor to channel their investments from low-interest rate areas to high-interest rate areas purposely to attained the golden goal of profit maximization. Interest rates are the rental payments for the use of credit by borrowers return for parting with liquidity by lenders (Ogunbiyi, 2014). Jimenez, *et al.* (2019) defined interest as the amount a borrower pays in addition to the principal of loan to compensate the lender for the use of the money while Interest rates are the expressions of interest as a percentage of the principal. Whereas interest rate is a rate which is charged or paid for the use of money, an interest rate is

often expressed as an annual percentage of the principal. It is calculated by dividing the amount of interest by the amount of principal.

### **Foreign Direct Investment**

According to Blonigen and Piger (2019) Foreign Direct investment (FDI) refers to an investment made by a firm or individual in one country into business interests located in another country. It typically involves establishing ownership or controlling stakes in foreign companies or assets, with the goal of long-term business engagement. As described by Alfaro and Chen (2018) FDI refers to cross-border investments where investors from one country establish lasting interests in a company based in another country. It plays a critical role in the economic integration of global markets by facilitating capital flows and technology transfers. Adams and Opoku (2020) added that FDI is a direct investment in a foreign country that results in a controlling interest in a local company. It is widely considered a catalyst for economic growth, as it leads to job creation, infrastructure development, and increased productivity in the host country.

### **Tax Incentives and Foreign Direct Investment**

Udeh *et al.* (2023) conducted a study on tax incentives and foreign direct investment in Sub-Saharan African countries. The study employed historical research approach to review the literature on the influence of tax incentives on foreign direct investment in Sub-Sahara African economies, particularly Nigeria. It finds that even as tax concessions, longer tax holidays, withholding tax and other tax expenditures in Sub-Sahara African countries have continued to be in the increase, their impact on FDI has remained generally non-significant. This situation is blamable on the several factors that have played against the business environment for foreign investments in developing countries. The proposed study's Variables are; tax incentives, interest rate, exchange rate, inflation rate and commodity rate as environmental conditions while, the reviewed study used tax incentives as tax incentive as an indicator. In Methods; the proposed study planned; Ex post-facto research design, Secondary data and multiple regression analysis for the test of hypotheses, whereas the reviewed study used historical research approach.

Elish (2022) examined the impact of taxation on foreign direct investment in Nigeria (1970-2009), using with secondary data from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics. Regression analysis with (OLS) technique was used. Findings indicate that there is a positive correlation between government expenditure, manufacturing output, inflation and foreign direct investment (FDI). However, company tax was negatively correlated. Based on these findings, the study found out that taxation has contributed insignificantly to foreign direct investment (FDI) and therefore recommend that, government intensifies efforts towards positive fiscal policy reform by encouraging foreign direct investment (FDI) through low corporate tax rates and identify and implement instruments including control of inflation that encourage foreign direct investment. Petroleum industry in was proposed as against the central banks of Nigeria as used in the reviewed study.

Ibrahim (2022) determined the impact of tax incentives (tax holiday and custom duty exemption) on FDI inflow into Nigeria over the period 2008-2018. Using secondary data obtained from the Nigerian Investment Promotion Commission, Central Bank of Nigeria and Nigerian Customs Service, Driscoll-Kraay Standard Errors regression analysis was used via STATA version 14 to test the research hypothesis. The study's findings revealed that overall, tax incentive has a positive and significant impact on FDI inflow. Specifically, tax holiday has significant positive effect on FDI at 5% level of significance ( $\beta = 0.1578$ ;  $t = 3.99$ ;  $p < 0.05$ ) while custom duties exemption reported significant positive effect on FDI at 1% level of significance ( $\beta = 0.2436$ ;  $t = 5.61$ ;  $p < 0.01$ ). The proposed study aims to investigate a variety of macroeconomic factors influencing FDI, including exchange rates, tax incentives, interest rates, inflation rates, and commodity prices. While Ibrahim's study focused specifically on the impact of tax incentives (tax holidays and custom duty exemptions) on FDI in Nigeria. The proposed study utilized ex-post- facto research design was adopted for the study. Secondary data were collected and analyzed using descriptive and inferential statistics. While the study of Driscoll-Kraay Standard Errors regression

analysis via STATA to examine the impact of tax incentives on FDI over a 10-year period. And focused on the significance and magnitude of the effects of specific tax incentives on FDI.

Appiah-Kubi, *et al.*, (2021) investigated the implication of taxation in FDI inflows in Pakistan. The study used Time Series data covering the period from 1985 to 2020 obtained from the World Development Indicator and the Economic Survey of Pakistan. The data analysis was conducted using Auto-Regressive Distributed Lag (ARDL) and Error Correction Model (ECM) techniques. The result revealed that a higher tax rate had a significant adverse effect on FDI flow. The proposed study focuses on Nigeria, a developing country with unique economic, social, and political conditions that influence FDI. Whereas the reviewed study examined the impact of taxation on FDI in Pakistan, which, while also a developing country, has different economic structures and investment environments compared to Nigeria.

Muhammad and Ivan (2021) analyzed the impact of tax incentives, namely tax holidays and corporate income tax rates, on Foreign Direct Investment (FDI) in Indonesia from 1981 to 2020. The sampling technique used in this study was purposive sampling so that 40 samples were obtained from 1981 until 2020 of each variable, namely FDI inflows as the dependent variable, tax holiday and corporate income tax rates as independent variables, and gross domestic product growth, inflation, and trade openness as control variables. Analysis of the data used in this study is the method of multiple regression analysis. This study consisted of two models, namely testing without control variables and with control variables. The study results without control variables show that the tax holiday positively and significantly affects FDI inflows. In contrast, the corporate income tax rate has a negative and significant effect on FDI inflows. The study results with control variables show that the tax holiday positively and significantly affects FDI inflows, income tax rates, and trade openness negatively and significantly affects FDI inflows. In contrast, Gross Domestic Product (GDP) growth and inflation have no significant effect on FDI inflows. The proposed study aims to investigate a variety of macroeconomic factors influencing FDI, including exchange rates, tax incentives, interest rates, inflation rates, and commodity prices. This provides a comprehensive view of the different economic conditions that might affect FDI. Muhammad and Ivan (2021) focus specifically on tax incentives (tax holidays and corporate income tax rates) and their impact on FDI, with some additional control variables (GDP growth, inflation, and trade openness) in Indonesia.

Seth *et al.* (2021) analyzed the influence of tax incentives on foreign direct investment in African economies based on data from 2000–2018. We utilized panel data on forty (40) African countries and an econometric model of four proxies of tax incentives, after controlling other variables, with robust Random Effect as our discussion estimator. The results revealed that FDI responds to lower corporate income tax (CTR). Furthermore, foreign direct investment predominates in African economies with longer tax holidays and withholding tax. However, tax concession is insignificant to the inflows of FDIs in Africa. The proposed study's Variables are; tax incentives, interest rate, exchange rate, inflation rate and commodity rate as indicators of environmental conditions while, the reviewed study used income tax, tax holidays and withholding tax as measure of the independent variables. The proposed study planned; Ex post-facto research design, observations, Secondary data and multiple regression analysis for the test of hypotheses, the reviewed study used secondary data, Descriptive statistics and ordinary least square regression were employed for data analysis. While the reviewed study used panel data. The reviewed study used forty African countries whereas the proposed study focused only on Nigeria.

Mbui (2017) assessed the association between interest rates and FDIs inflows in the energy and petroleum industry in Kenya. The independent variable was interest rates as measured by quarterly CBK lending rate. The control variables were economic growth as measured by quarterly GDP, inflation rates as measured by quarterly CPI and exchange rates as measured by quarterly exchange rate between KSH and USD. FDI inflows into the energy and petroleum industry in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the energy and petroleum industry on a quarterly basis. Data for the study was gathered for a duration of 10 years that is from January year 2007 and December year 2016 which was based on quarters. The results revealed that individually, interest rate and exchange rates are not significant determiners while economic growth and

inflation rates of FDI inflows into the energy and petroleum industry in Kenya are significant. The proposed study's Variables are; tax incentives, interest rate, exchange rate, inflation rate and commodity rate as environmental condition indicators on FDI while, the reviewed study used only measures of exchange rate to measure the impact of environmental conditions on FDI. The proposed study planned secondary data and multiple regression analysis for the test of hypotheses, which is similar to the reviewed study. Petroleum industry was proposed in in Nigeria as at against Kenya in the reviewed study.

A study by Ruhii (2017) ascertained how interest rates affected on influenced FDI's arrival in Kenya. The independent variable was interest rates as measured by quarterly CBK lending rate. The control variables were inflation rates as measured by quarterly CPI, exchange rates as measured by quarterly exchange rate between KSH/USD and economic growth as measured by quarterly GDP. FDI inflows in Kenya were the dependent variable which the study explained and it was measured by FDI inflows in the country on a quarterly basis. The study data which was secondary data was gathered for a duration of 10 years which was from January year 2007 to December year 2017 and this was in quarterly basis. The results further revealed that individually, interest rate, inflation rates, exchange rates and economic growth are not significant determiners of FDI inflows in Kenya. Petroleum industry in Nigeria was proposed as against the central banks of Kenya as used in the reviewed study.

Mandinga (2015) investigated corporate income tax rates and its impact on FDI of Small Island Developing States. Using pooled data- partial adjustment model it was revealed that FDI is negatively related to corporate income tax rates. Using descriptive statistics, correlation analysis, Ahmed (2015) studied the association between FDI and company taxation in Bangladesh. The study reveals a significant negative relationship between FDI and corporate tax rate. Van-Parys and James (2010) examined the effectiveness of tax incentives in attracting investment in the CFA Franc zone using dynamic panel data methodology. It found no robust positive relationship between tax incentives and investment in the CFA Franc zone. The proposed study focused on environmental conditions that influence FDI while the reviewed study is concerned with the impact of corporate income tax rates on FDI.

Linus (2017) determined the effect of interest rates on foreign direct investments inflows in Kenya. The independent variable was interest rates as measured by quarterly CBK lending rate. The control variables were economic growth as measured by quarterly GDP, exchange rates as measured by quarterly exchange rate between KSH/USD and inflation rates as measured by quarterly CPI. FDI inflows in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the country on a quarterly basis. Secondary data was collected for a period of 10 years (January 2007 to December 2017) on a quarterly basis. The study employed a descriptive research design and a multiple linear regression model was used to analyze the relationship between the variables. Statistical package for social sciences version 21 was used for data analysis purposes. The results of the study produced R-square value of 0,320 which means that about 32 percent of the variation in FDI inflows in Kenya can be explained by the four selected independent variables while 68 percent in the variation was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with FDI inflows ( $R=0.566$ ). ANOVA results show that the F statistic was significant at 5% level with a p-value less than 0.005. The results further revealed that individually, interest rates, economic growth, exchange rates and inflation rates are not significant determiners of FDI inflows in Kenya. The reviewed study made selection of control variables like economic growth, exchange rates, and inflation rate. While the proposed study uses other potentially influential factors such as tax incentives, interest rate, exchange rate, inflation rate and commodity rate as proxies of environmental conditions. For the purpose of this study, I have adopted the internalization theory.

### **The Internalization Theory**

The theory of internalization was developed by Buckley and Casson in (1976) with the assumptions that: growth is dependent on transnational companies with their motivations for attracting foreign direct investment and intangible assets have some features of public goods because their value increase in direct proportion to firm's market value, the theory was re-introduced by Hennart in 1982 and Casson in 1983 (Denisia, 2010). The theory demonstrates that transnational companies organize their internal activities

so as to develop specific advantages, which would be later exploited. According to Casson (2015) the theory provides an explanation of why multinational business activity is concentrated in innovative knowledge-intensive industries, and in industries where the quality of components and raw materials is difficult to measure and control.

In a study to assess the growth of transnational companies as well as their motivations for achieving foreign direct investment, Pondo (2018) identified two major determinants of FDI which are the removal of competition and the advantages which some firms possess in a specific activity. The first determinant glaringly applies to Nigeria's petroleum industry which multinational firms have held sway as the monopolists. Similarly, the second determinant refers to firm-specific advantages which implies that FDI took place only if the benefits of exploiting firm-specific advantages outweighed the relative costs of the options abroad. The researcher therefore agreed with the views of Pondo (2018) as applied in the study.

## METHODOLOGY

Expos-facto research design was adopted for this study, this is because all the variables under the study are already in existence in secondary data form which shows that all the events are in existence. The population of this study consisted of three (3) petroleum companies in Nigeria which include: MRS Plc, Oando Plc and Ardova Plc. The aforementioned companies were selected because of the profile of documentation and age in petroleum sector with large amount of FDI inflow. The study covered a period of 30 years, from 1993 to 2023. The sampling technique for the research study is census sampling technique where the whole population is retained as sample size, therefore, the whole of the companies aforementioned above formed sample size for the study.

Secondary data was collected for the study; the FDI data was gotten from National Bureau of Statistics (NBS) from 1993 to 2023. The economic conditions experiences by the selected companies were extracted from the NBS and financial statements of the selected companies for the study period. Data collected was analyzed through descriptive statistics to assess the effect of economic environment on FDI of the selected petroleum companies in Nigeria over the years. Multiple regression analysis (MRA) was used to establish the relationship between economic environmental and foreign direct investment in the petroleum industry in Nigeria.

## Model Specification

Foreign direct investment is regarded in this study as a function of economic environment,

$$FDI = f(EEN) \quad (1)$$

Where;

FDI = f (tax incentives, interest rate)

FDI = EEN (independent variable)

This is to show that these economic environments (tax incentives, interest rate) comprise of five dimensions, the implicit form of the model is given as follows:

$$FDI = f(TIN, ITR) \quad (2)$$

Where:

TIN = Tax Incentives

ITR = Interest Rate

Therefore, the form of the model for the study were:

$$FDI = \beta_0 + \beta_1 TIN + \beta_2 ITR + \varepsilon \quad (3)$$

Where:

$\beta_0$  = intercept of the model (Constant)

$\beta_1, \beta_2$  = regression coefficient

$\varepsilon$  = error term

Apriorri Expectation

$\beta_1 > \beta_2 > 0$

### Decision Rule

Standard error test was used in testing the hypotheses while decision rule was used to accept or reject a hypothesis. If the standard error of  $b_i$  [ $S(b_i) > \frac{1}{2} b_1$ ] accept the null hypothesis, that is, accept that the estimate  $b_i$  is not statistically significant at the 5% level of significance. If the standard error of  $b_i$  is statistically significant at the 5% level of significance the null hypothesis was rejected.

### Variable Measurement

The independent variable for the study is tax incentive and interest rate while the dependent variable is foreign direct investment (FDI). All the variables were measured on interval scale.

## RESULTS AND DISCUSSION

The data is presented based on result obtained from Statistical package for Social Sciences. The results of the study were also discussed with reference to information from the related literature.

**Table 1: Regression Results**

| Variable                                      | B            | Std. Error | Beta | t-value | p-value |
|-----------------------------------------------|--------------|------------|------|---------|---------|
| (Constant)                                    | .2899779971. | .333354990 |      | 8.699   | .000    |
| TIN                                           | .19.251      | 57.744     | .634 | .333    | .000    |
| ITR                                           | 112.570      | 175.950    | .813 | .640    | .000    |
| <b>R = .813</b>                               |              |            |      |         |         |
| <b>R<sup>2</sup> = .846</b>                   |              |            |      |         |         |
| <b>Std. Error of the Est. = .1590709737.1</b> |              |            |      |         |         |
| <b>Adjusted R<sup>2</sup> = .648</b>          |              |            |      |         |         |
| <b>F (3, 258) = 8.484</b>                     |              |            |      |         |         |
| <b>P = 0.000</b>                              |              |            |      |         |         |
| <b>Durbin-Watson = 1.091</b>                  |              |            |      |         |         |

a. Dependent Variable: FDI \*\*Correlation is significant at 0.01 level (2-tailed), F Calculated value = 8.484 at 0.05, R = 0.813, R<sup>2</sup> = .846

**Source:** SPSS Output, 2024

The result in Table 1 showed that the regression coefficient, R = .813 depicts the relationship that exist between the independent variables and dependent variable. This indicates a positive relationship which by implication reflects that a positive relationship exists between tax incentives, interest rate and foreign direct investment such that a unit change increases in tax incentives, interest rate variables would increase Foreign Direct investment (FDI) by 81.3% percent. The coefficient of determination (R<sup>2</sup>) was 0.846. Coefficient of determination explains the extent to which changes in the dependent variable is explained by the change in the independent variables or the percentage of variation in the dependent variable (Foreign Direct Investment FDI) that is explained by all independent variables. The coefficient of determination showed that 84.6 % of the variation in Foreign Direct Investment FDI is explained by tax incentives and interest rate.

The fundamental assumption about error terms is not violated because the error term captured order variable that affects the model outside the variables included in the model. Durbin Watson statistics which are based on the square difference of successive error from our result, the estimated Durbin Watson is given as 1.091 at 5% level of significance. The Durbin Watson value fall within region of Auto-correlation. This means that there is no auto-correlation, meaning that variables of the model are statistically independent and different from Zero.

**Table 2: Analysis of Variance (ANOVA)**

| Model      | Sum of squares           | Df | Mean Square | F     | Sig              |
|------------|--------------------------|----|-------------|-------|------------------|
| Regression | 11265457773603838000.000 | 2  | 3755        | 8.484 | 242 <sup>b</sup> |
| Residual   | 65789294158077420000.000 | 26 | 2530        |       |                  |
| Total      | 77054751931681260000.000 | 29 |             |       |                  |

a. Dependent Variable: FDI

b. Predictors: (Constant) TIN, ITR

Source: Author's computation using SPSS version 21.0 (2024)

The F value from the ANOVA Table is 8.484 and is significant because the significance level = .000 which is less than  $P \leq 0.05$ . This implies that the overall regression model is statistically significant, valid and fit. The valid regression model implies that all independent variables are capable of explaining a positive and significant relationship between tax incentives, interest rate with the dependent variable (Foreign Direct Investment FDI). The Estimated Model Coefficients shows that the general form of the equation to predict FDI from TI is:

$$\text{Predicted FDI} = 0.2899 + 0.634 (\text{TIN}) + 0.813 (\text{ITR}) + \text{ET} \quad (3)$$

The regression coefficient in Table 1 for TCR ( $\beta_1$ ) = .634 is positive and correctly signed which implies that one percent increase in tax incentives will result to 63.4% percent increase in Foreign Direct Investment FDI if other variables are kept controlled. The T value is 0.333 which is significant at .000 because significance level is less than  $P < 0.05$ . The regression coefficient for tax incentive ( $\beta_2$ ) = .813 is also positive and correctly signed, this implies that a positive relationship exists between interest rate (ITR) such that that one percent increase in will bring about 81.3% increase change in Foreign Direct Investment FDI if other variables are kept constant. The T value is 0.640 which is significant at .000. The regression coefficient for TEP ( $\beta_3$ ) = .618 which means that one percent increase in tax exemption results to 61.8 % increase in Foreign Direct Investment FDI if other variables are kept constant.

### Test of Hypotheses

The two hypotheses formulated in this study were tested as follows:

#### Test of Hypothesis One

**H<sub>01</sub>:** There is no significant effect of tax incentives on foreign direct investment inflow in the petroleum industry in Nigeria.

To test this hypothesis, the strength of the relationship between tax incentives and Foreign Direct Investment FDI was measured by the calculated p-value = 0.000 at a significance level ( $\alpha$ ) of 0.05. Since the computed t-value is less than the significance level ( $\alpha$ ) of 0.05 (*p-value*  $0.000 < \alpha < 0.05$ ), the null hypothesis was rejected. This indicates that tax incentives have significant effect on foreign direct investment inflow in the petroleum industry in Nigeria. This implies that, a unit increase in tax incentives for petroleum companies will boost foreign direct investment by 63.4%.

#### Test of Hypothesis Two

**H<sub>02</sub>:** There is no significant effect of interest rate on foreign direct investment inflow in the petroleum industry in Nigeria.

To test this hypothesis, the strength of the relationship between interest rate and Foreign Direct Investment FDI was measured by the calculated t-value = 0.000 at a significance level ( $\alpha$ ) of 0.05. Since the computed t-value is less than the significance level ( $\alpha$ ) of 0.05 (*p-value*  $0.000 < \alpha < 0.05$ ), the null hypothesis was rejected and alternate accepted. Therefore, it was concluded that interest rate has significant effect on foreign direct investment inflow in the petroleum industry in Nigeria. This implies

that, a unit increase in interest rate for petroleum companies will boost foreign direct investment by 81.3%.

### Discussion of Findings

The findings of this study flow from the hypothesis tested. In examining the Effect of Tax Incentives on Foreign Direct Investment FDI, the result of the regression analysis indicates that Tax Incentives affects Foreign Direct Investment FDI. Regression was used to test the hypothesis at 5 % level of significance and the t-value (.000) was less than the significance level. This can be statistically given as t-value  $0.000 < \alpha = 0.05$ . The findings of this study agree Ohaka and Daibi (2015) also concluded in his study that tax incentives significantly increased the mean cash flows from financing, investing and operating activities of Nigerian manufacturing corporations. It was therefore recommended that Nigerian government should provide adequate tax incentives for manufacturers in Nigeria, if vision of becoming one of the top twenty nations by the year 2020 must be realized. Also, Olaleye (2016) found that company income tax rates have been successfully used in Nigeria that reduced tax avoidance or tax evasion. The reduced company income tax measures that countries have used to attract technology-intensive investment include reduction in effective tax rate, tax holidays, tax free dividends, tax exemption from minimum tax levy, flat rate and loss carry forward relief.

In examining the effect of Interest Rate on Foreign Direct Investment FDI in inflow in the petroleum industry in Nigeria, the result of the regression analysis revealed that interest rate has a significant effect on FDI. The result from the regression was used to test the hypothesis at 5 % level of significance and the p-value (.000) was less than the significance level. This can be statistically given as P-value  $0.000 < \alpha = 0.05$ . This result is in line with the findings of Yahaya and Bakare (2020) who found out that petroleum profit tax (PPT) and company interest rate have positive significant impact on gross domestic product (GDP) in Nigeria with the Adjusted  $R^2$  of 87.6% which directly enhanced growth in Nigeria. The study then concluded that PPT and CIT serves as the major source of revenue to the Nigeria economy, and contribute to the growth of Nigeria economy.

### CONCLUSION AND RECOMMENDATIONS

Based on findings, the study concluded that tax incentive and interest rate have a significant effect on Foreign Direct Investment FDI in inflow in the petroleum industry in Nigeria.

Based on the findings of this study, the following recommendations are made to enhance Foreign Direct Investment (FDI) inflow in Nigeria's petroleum industry:

- i. Given that tax incentives significantly affect FDI inflow, the Nigerian government should introduce and sustain attractive tax policies, such as tax holidays, reduced corporate tax rates, and capital allowances for foreign investors in the petroleum sector. A stable and transparent tax regime will encourage long-term investment commitments.
- ii. Central Bank of Nigeria (CBN) should adopt monetary policies that ensure stable and competitive interest rates. Lower and predictable interest rates can improve the investment climate, reducing capital costs for foreign investors and fostering confidence in the petroleum industry.

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