The Impact of Capital Formation on Economic Growth in Nigeria

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ABSTRACT

This paper examined the impact of capital formation on economic growth in Nigeria for the period of 1981 to 2022 using annual time series data on variables such as gross domestic product (dependent variable), gross fixed capital formation, total national savings and foreign direct investment (independent variables). Ex post facto research design was employed for the study and the collated data was sourced from Central Bank of Nigeria Statistical Bulletin, 2022. The data were analysed using E-view version 9. The findings show that gross fixed capital formation, and foreign direct investment have no significant effect on Nigeria's gross domestic while total national savings have a significant effect on gross domestic product in Nigeria. The study concluded based on the f statistics probability value of 0.0000 which is lesser than 0.05 critical value. Therefore, capital formation has a significant effect on economic growth in Nigeria for the period under review. The study therefore recommends amongst others that Government must increase their efforts in mobilizing the desired level of gross national savings that could be big enough to attract foreign direct investments. This is very vital as FDI will help to complement our domestic savings.

KEYWORDS: *Capital Formation, Economic Growth, Effect, Foreign Direct Investment, and Total National Savings.*

Introduction

Without examining capital formation more closely, it is impossible to accurately determine the pace of growth in an economy. This assertion is supported by the knowledge that capital production plays a significant role in determining the expansion of contemporary economies (Ugwuegbe and Oruakpa, 2013). This indicates that without large investments in capital formation, no nation can have sustained economic growth and progress. Consequently, increasing capital formation has been given attention in an effort to achieve economic growth on a global scale. As emphasized by Okonkwo (2010), knowing the factors that influence capital formation is essential for creating a variety of policy interventions that will lead to economic growth. This is true because a country must guarantee that the appropriate amount of investment is made in critical areas or sectors of the economy if it is to achieve its goals of economic growth and sustainable development (Shuaib and Dania, 2015). According to Ogunbi and Ogunseye (2011), it is a truism that the accumulation of savings or capital is a prerequisite for speeding investments in physical products. According to Bakare (2011), capital formation is the percentage of current income that is saved and invested in order to increase output and revenue in the future. It typically happens after purchasing a new factory together with all necessary machinery, equipment, and other productive capital goods.

Investment in social and economic infrastructure is equivalent to a rise in a nation's physical capital stock (Ugwuegbe and Uruakpa, 2013). To put it another way, capital creation refers to the process of increasing capital assets through the productive use of the nation's people and material resources (Gbenga and Adeleke, 2013). By making a portion of the resources that are now accessible to society available, it increases the stock of both material and human capital. It happens when a portion of societal revenue is set aside and invested in order to boost both material and human capital. The definition of capital formation is the process by which society allocates a portion of its resources to

the creation of capital goods, including tools and instruments, machines and transportation infrastructure, plants and equipment, and all other types of real capital that can significantly boost the effectiveness of productive effort (Owolabi and Ajayi, 2013).

According to Tushar (2018), building or increasing capital involves satisfying at least three criteria. In order to free up resources that would have been used to produce consumer products for consumption, the first step in the generation of saves entails increasing the amount of real savings.

The second is the mobilization of savings, a finance and credit mechanism that enables private investors or the government to get the necessary funds for capital construction. The third and final step before capital can be properly accumulated is when the savings that have been mobilized are invested in order to use resources to actually produce capital goods. According to Jhingan (2006), the existence of real savings and their growth, the existence of credit and financial institutions to mobilize savings and direct them to desired channels, and the use of these savings for investment in capital goods are all three interrelated conditions for capital formation.

In Nigeria, the private and governmental sectors' capital accumulation has not been consistent and may not have been sufficient to result in economic progress. For instance, Nigeria's Gross Fixed Capital Formation (GFCF) grew from 2129258 NGN million in the third quarter of 2017 to 2494431 NGN million in the fourth. In Nigeria, gross fixed capital formation ranged from 17236.65 NGN million in the fourth quarter of 2007 to 2876293 NGN million in the second quarter of 2016, a record high. From 2007 to 2017, it averaged 1755873.34 NGN million (Trading Economics, 2018). Gross fixed capital formation averaged 21.3 percent of GDP in the 1980s in relation to gross domestic product. This proportion increased to 23.3 percent of GDP in 1991 and declined drastically to 14.2 percent of GDP in 1996. It picked and increased to 17.4 percentage in 1997 and average 21.7 during 1997 to 2000. From 22.3 percent of GDP in 2000 to 26.2 percent in 2002 and then to 21.3 percent in 2005, gross fixed capital creation increased. In 2008, the capital formation rate was 0.060, representing 6% of the GDP. In 2014, the rate was 15% of GDP, but by 2016, it had decreased to 14.35% of the total gross domestic product (CBN, 2016).

Over time, Nigeria's revenue profile from oil exports has significantly increased. She has also taken pleasure in periods of oil boom when succeeding governments have used national resources to carry out their budgets. Strangely, her spending habits have changed with time and have increased as well. However, it does not seem as though the rise in capital outlays has resulted in a rise in capital creation, which would have led to an increase in economic growth and development. The erratic nature of capital production in Nigeria may be to blame for the lack of suitable social infrastructure, such as roads, power supplies, and healthcare facilities. In Nigeria, neither the rate nor the intensity of economic expansion has been sufficient, and this has caused a gradual drop in capital formation (Oloyede, 2001). As a result, the original optimism stated regarding public sector changes has not been realized, and Nigeria's economy is still only growing at a slow pace. The country's poor infrastructure development pace discourages both domestic and foreign investment (Bakare, 2011). Poor labor skills and technical sluggishness impede the development of new technologies and innovations (Ajao, 2011). Hence, the main challenge to Nigeria's goal of sustainable economic growth is poor capital accumulation (Okonkwo, 2010). The aforementioned scenario is highly unsettling, far from satisfying, and clearly indicates a failing economy.

The major goal of this study is to ascertain how capital formation affects economic growth in Nigeria based on the aforementioned concerns and in order to provide this research effort with a clear direction. Determine the causal link between gross fixed capital creation and economic growth in Nigeria; Examine the influence of total national savings on economic growth in Nigeria; and Examine the impact of foreign direct investment on economic growth in Nigeria are some of the more specific goals.

This study aims to ascertain the influence of the former on the latter in light of the shifting trend between Nigeria's Gross Fixed Capital Formation (GCCF) and Gross Domestic Product (GDP). The study also aims to supplement the literature by empirically examining the influence of capital formation on economic growth in Nigeria over a fourty-one (41-year) timeframe, from 1988 to 2022. The 2022 Statistical Bulletin of the Central Bank of Nigeria will be used to compile time series data. Gross fixed capital formation, total national savings, and foreign direct investment were the independent variables used in the study effort. Gross domestic product (GDP) was used as a measure of economic growth.

Literature Review

Concept of Capital Formation

Capital formation, according by Gbenga and Adeleke (2013), is the process of increasing a nation's capital stock through investments in profitable machinery and plants. In other words, it entails increasing capital assets through effective use of the nation's human and material resources. By making a portion of the resources that are now accessible to society available, it increases the stock of both material and human capital. It happens when a portion of societal revenue is set aside and invested in order to boost both material and human capital (Jhingan, 2006). The definition of capital formation is the process by which society allocates a portion of its resources to the creation of capital goods, including tools and instruments, machines and transportation infrastructure, plants and equipment, and all other types of real capital that can significantly boost the effectiveness of productive effort (Owolabi and Ajayi, 2013).

Capital creation serves as a measure of the amount of investment in the economy and boosts output and the rate of economic activity. It is crucial for maximizing the economy's productive capacity and fostering technological advancement (Pathania, 2013). Economic theories have demonstrated that capital formation fulfills these functions regardless of the economic growth model. As a result, it establishes the domestic production capability. As a result, inadequate capital generation is a significant barrier to economic growth. These causes have made issues that affect the expansion of capital formation a focus of policy attention throughout history.

Gross fixed capital formation is the phrase used to describe capital formation in Nigeria when expressed in monetary terms. A macroeconomic term called Gross Fixed Capital Formation (GFCF) is applied in official national accounts. In terms of statistics, it calculates the value of purchases of new or used fixed assets by businesses, governments, and "pure" households (apart from those with unincorporated businesses), less purchases of fixed assets. Since GFCF is a part of GDP spending, it provides insight into how much of the economy's newly added value is being invested rather than used for personal consumption. GFCF is referred to as "gross" since no adjustments are made to take fixed capital consumption (depreciation of fixed assets) out of the investment data.

Determinants of Capital Formation in Nigeria

The identified sources of financial capital generation in Nigeria, according to Kanu and Ozurumba (2014), are: total national savings, public corporations, foreign investment and aids, taxation, and marketing boards. The capacity of these sources has had a significant positive impact on the expansion of the economy. Nweke, Odo, and Anoke (2017) contend that capital formation is the primary driver of economic growth. In addition to reflecting real demand, it also increases productive efficiency for production in the future.

The following conceptualization describes the factors influencing capital production in Nigeria:

Total National Savings: Savings are defined simply as income less consumption and government purchases by Stephen and Obah (2017). It represents the total of both private and public savings. According to Igbatayo and Agbada (2012), increased national savings encourage increased

investment, which raises output. This is true since the amount of savings influences how much capital will be accumulated. On the other hand, the size of total profits is dependent on the level of total output, therefore output also impacts the amount that people and businesses save (accumulate capital) and invest.

Foreign Direct Investment: Multinational corporations having corporate headquarters in industrialized nations are referred to in this. This investment entails not only the transfer of money (including the reinvestment of profits), but also the use of a variety of resources, including physical capital, production techniques, managerial and marketing know-how, product advertising, and business strategies aimed at maximizing overall profits. Foreign direct investment, according to Ali (2005), is a significant contributor to the nation's capital formation. External resources, such as technology, management and marketing know-how, and finance make up foreign direct investments.

Surplus Labour: According to Donwa and Odia (2009), hidden unemployment affects a large number of people in developing nations. This extra labor force can be used for construction projects including housing, roads, trains, irrigation, and drainage. They may provide food for their family and simple spare equipment for farmers, which enables rural areas with excess labor to serve as sources of capital formation. On the other hand, Aiyelogbon (2011) argued that economic progress occurs when capital accumulates along with the removal of excess labor from the rural sector and its employment in the industrial sector. These workers receive the minimum wage, which is less than the going market rate of pay. Profits are generated as a result, and capitalists invest them to create new capital.

Population Growth: Jhingan (2006) claimed that when population grows, per capita income becomes less available because more individuals must support more children on the same income. It entails higher consumption costs, a greater decline in already meager savings, and a corresponding increase in the amount of investment. Also, a fast expanding population with lesser incomes, savings, and investments forces people to employ subpar technology, which slows down capital formation.

Interest Rate: The amount of interest due each period expressed as a percentage of the amount lent, deposited, or borrowed is known as an interest rate (called the principal sum). The total interest on a loaned or borrowed sum is determined by the principal amount, the interest rate, the frequency of compounding, and the period of time the loan, deposit, or borrowing took place. It is characterized as the percentage of a loaned sum that a lender charges as interest to the borrower, typically represented as an annual percentage (Jhingan, 2006).

Government Assets: The primary drivers of capital formation, according to Mark (2012), are government assets and their value at the time of evaluation. When there is economic stagnation and property prices decline, governments start capital formation by purchasing land. They might also take land during these times. The decision to keep the land or sell it is thereafter theirs. Favorable government policies promote an environment that is conducive to investment through the provision of fundamental infrastructure, subsidies, tax breaks, investment allowances, and low interest rates. High disposable incomes and business profits are additional factors that affect capital formation (Donwa and Odia, 2009).

Classification of Capital Formation in Nigeria

Capital formation can be divided into private domestic investment and public domestic investment, according to Ugwuegbe and Uruakpa (2013). Whereas domestic investment is equal to fixed capital creation plus net changes in the level of inventories, public investment includes investments made by the government and public businesses. To experience economic growth in Nigeria, a combination of domestic investments from the public and private sectors is required. Ainabor, Shuaib, and Kadiri (2014) claim that building capital equipment on a large enough scale to boost productivity in industry, plantations, mining, and/or agriculture is one way to assess economic growth. On the other

hand, money is needed to build roads, railways, hospitals, schools, and other public facilities as well as to engage in research and development and raise living standards generally (Jhingan, 2006). Notably, the creation of economic and social overhead capitals (or costs), which results in an increase in national output and/or income through the creation of employment opportunities and/or the reduction of the poverty-related vicious cycle on both the demand side and supply side, is the essence of economic growth.

Reasons for Low Level of Capital Formation in Nigeria

Ajao (2011) posits that some of the reasons for low capital formation are as follows:

Low Income: Substantial savings, which are based on income size, are necessary for capital connation. In impoverished nations like Nigeria, where agriculture, industry, and other sectors are lagging, both the national output and income are poor. Hence, there is a low per capita income. The inclination to consume, on the other hand, is extremely high and close to unity. As a result, practically all of the income is spent on consumption, making it unable to save and keeping the rate of capital formation low.

Low Productivity: These nations have very low levels of productivity, which results in slow rates of increase in national income, saving, and capital formation. Due to a lack of capital, technological expertise, and efficient labor, their natural resources are either underutilized or not used at all. These variables prevent the resource owners' revenues from rising, preventing them from saving and investing more money and preventing the rate of capital formation from increasing.

Demographic Reasons: Certain demographic characteristics of Less Developed Countries (LDCs) keep the rate of capital formation at a low level. The population is expanding at a rapid rate. The per capita income, however, is poor. Because of this, little money is preserved for capital formation and the entire income is spent on increasing the additional numbers.

Lack of Enterprise: Another reason for the low pace of capital development in less developed nations is a lack of entrepreneurial skills. In fact, the process of economic development is thought to be focused on entrepreneurship. However in less developed nations, there is a low rate of capital formation due to factors such as a small market, a lack of capital, a lack of private property and contracts, etc.

Lack of Economic Overhead: Economic overheads are necessary for making profitable investments and promoting enterprise because capital formation greatly depends on them.

But in less developed nations, economic necessities like power, transportation, communications, and water are absent, which hinders business, investment, activities, and the process of capital development.

Lack of Capital Equipment: Due to a shortage of capital equipment, many nations continue to have poor rates of capital development. Not only is the capital stock low in this case, but the capital itself is insufficient. In less developed countries, overall capital investments account for only 56% of national income, compared to 15%-20% in affluent nations. In some nations, it is impossible to replace the present capital equipment or even to pay for its depreciation due to a lack of capital. Because of this, the rate of capital formation is still low.

Inequalities in Income Distribution: The significant income disparity in these countries is the cause of their poor rates of capital production. Yet income differences do not necessarily translate into more savings. In fact, only the top 3 to 5 percent of those in the economic pyramid are capable of making sizable savings. However, these people invest inefficiently by purchasing items like gold, jewelry, precious stones, real estate, foreign currency, etc.

This distorts real investment, and the rate of capital formation is low as a result.

Small Size of the Market: Another factor contributing to the low rate of capital formation in LDCs is the market's small size. It significantly impedes initiative and initiative-driven behavior. People in these nations are poor. Due to their low earnings, the demand for goods is constrained. As a result, the local market is too limited to adequately absorb the supply of new items. As a result, the rate of capital formation is kept low.

Capital Formation and Economic Growth in Nigeria

Any society's economic growth and development process includes capital creation, which is the act of acquiring new capital stock for use in the production process. Savings, which are the cornerstone of capital accumulation, occur when a portion of current income is set aside and invested in order to increase future output and incomes. The economy's ability to put the savings into useful uses determines how much the level of savings can influence capital formation and growth. Greater capital accumulation and, thus, economic expansion, follow from increased savings. According to Stephen and Obah (2017), Nigeria's domestic product growth peaked in 1970 with an average annual growth rate of roughly 25%.

Income varied in the middle of the 1970s with little overall trend, but it fell in 1981 with the start of a severe economic crisis. Despite the finding and development of crude oil in the 1970s, between 1975 and 1978, it continuously dipped beyond 0%, with the exception of 1974, when it reached 11%. As a result of the decline in the price of crude oil on the international market, this continued to decline until it reached around -13% in 1981, which signaled the start of an economic crisis. Real output decreased at a rate of roughly 6% per year on average between 1981 and 1984, which coincidentally jumped to about 10% in 1985.

Real growth averaged over 8% annually between 1988 and 1990, thanks to the Structural Adjustment Program, which was approved in 1986. However, the 1990s saw practically total stagnation, with typical income increasing at a pace of less than 0.5 percentage points annually. Continuing throughout the 1990s, it peaked at 8% in 1990 before falling to 0% in 1994 and 1% in 1999. It rose to 5% in 2000 and 11% in 2003, then dropped through 2006 at a lower rate. It was determined that it would be beneficial to divide the era between 1970 and 2016 into three subperiods, with the line of demarcation being the start of significant economic reforms under the auspices of the 1986 Structural Adjustment Program (SAP). The pre-liberalization era (19701986), the economic liberalization era (1987-1999), and the democratic or post-liberalization era are what we refer to as (2000 to date). Nigeria's Structural Adjustment Program's main goal was to restructure and diversify the country's economic foundation in order to lessen its reliance on the oil industry and imports. The SAP period was initially only intended to last for two years (July 1986 to June 1988), but it was repeatedly extended to allow for the gradual implementation of the necessary policy reforms and to give time for results to materialize (Stephen and Obah, 2017).

The Life Cycle Theory of Savings

Based on the observation that people make consumption decisions based on the resources available to them over the course of their lifetimes and their current stage in life, Modigliani and Brumberg (1950) developed the life-cycle hypothesis. According to the idea, a country's population age consumption should affect its savings behavior in such a way that the higher the percentage of the population that is not actively seeking employment, the lower the savings rate should be. In other words, people will save when they're young and have little money, save when they're working, and then save again when they're retired. The life-cycle hypothesis, according to Nwachukwu and Egwaikhide (2007), is the primary theoretical foundation that has influenced research on saving behavior over the years. The life-cycle hypothesis states that the factors that influence saving behaviors include income, income growth, interest rates, inflation, macroeconomic stability, fiscal policy, external debt, terms of trade, and financial development. Each of these factors is discussed in

the context of the life-cycle hypothesis. The Life-Cycle Income Hypothesis (LCH) is derived from the accumulation of overlapping generations with finite lifespans. It assumes that people choose a lifetime stream of saves and consumption so that the present value of their savings and inheritance equals the present value of their lifetime wages (Deaton, 1977).

The theory is relevant to the study because it describes how capital formation is a reflection of the population's age distribution and how it is anticipated to impact a society's savings ratio. According to the hypothesis, people start saving for retirement when they are still in their working years and stop when they are older. So, younger civilizations are more likely than older ones to show larger savings levels.

Endogenous Growth Theory

Romer presented this notion in 1986. According to the notion, spending on human capital, knowledge, and innovation will speed up economic growth. In other words, the pace of innovation and additional investments in human capital will accelerate as productivity increases. He emphasized the necessity for institutions in the public and commercial sectors to promote innovation and offer incentives for people and businesses to be creative. In emerging nations, information-based industries like telecommunication, electronics, software, and biotechnology are becoming more and more significant. This is because the accumulation of knowledge is a key factor in determining growth.

The proponent of this theory also holds that the high value added knowledge economy, which is capable of creating and retaining competitive advantage and, in fact, growth within the global economy, should be used to exploit positive externalities. The following are the main ideas behind the endogenous growth theory: In a growth model, the rate of technical advancement should not be assumed to be constant. Government initiatives that increase market competition and promote product and process innovation can boost a nation's growth rate over the long term. Scale- up returns on new capital investments are higher. It is dubious to assume the law of decreasing returns.

Endogenous growth theorists firmly believe that economies of scale (or increasing returns to scale) may occur in almost any market and industry. Technical advancement is mostly fueled by private sector investment in R&D. The availability of labor is a crucial component of long-term growth. As a means of starting new enterprises and ultimately as a significant source of new jobs, investment, and innovation, government policy should support entrepreneurship. In order to provide adequate and effective incentives for businesses and entrepreneurs to invest in research and development, private property rights protection and patent protection are crucial. Also, it is crucial to invest in human capital, including the quantity and quality of training and education received.

Empirical Literature

Adeleye (2018) examined the determinants affecting long-term capital formation through the Nigerian capital market and their impact on economic growth while examining the capital formation and economic development through government investment on education. The study's twenty-five-year time frame was from 1990 to 2014. The Ordinary Least Squares approach is the econometric technique used (OLS). Secondary data was gathered from the Security and Exchange Commission (SEC) market bulletins, relevant periodicals, Nigerian Stock Exchange (NSE) fact books, and Central Bank of Nigeria (CBN) statistical bulletins. The dependent variable, gross domestic product, and the independent variables, market capitalization, the number of quoted companies, and traded value. The results showed that the Nigerian economy was significantly but only marginally impacted by the stock market. Lack of a functioning stock market deprived the economy of long-term resources needed for long-term growth and development. Government should implement capital market development and improvement policies so that the industrial sector can obtain long-term investment funding. It is advised that the capital market adopt a tougher regulatory framework to rein in its hazy

operations and to loosen some of the strict standards for the viability of Small and Medium Businesses (SME) listings on the stock exchange.

Nwekeet (2017) investigated how capital formation affected Nigeria's economic expansion. The study's precise goals are to:
1. ascertain whether capital formation in Nigeria has any notable effects on economic growth.
2. establish the direction of the main causal link between capital formation and Nigerian economic expansion.

In addition to the VEC granger causality test, the study used co-integration and a vector error correction model to analyze the variables included in the model. The analysis of the data revealed that the dependent and independent variables had a stable long-term relationship, as suggested by two co-integrating equations.

According to the VECM, both the short- and long-term effects of gross capital formation (GCF) on real gross domestic product (RGDP) are positive but small. In the causality test, the p values for RGDP and GCF are both less than 0.05, indicating that there is a bi-directional causal relationship between RGDP (real gross domestic product) and gross capital formation. Government capital expenditure (GCE) revealed a negative significant correlation with RGDP (real gross domestic product) both in the short and long run (GCF). Another two-way causal relationship between gross capital formation and government capital expenditure is also seen, with p values of 0.0007 and 0.0000 for GCF and GCE, respectively. The study's conclusion is that gross capital formation did not significantly affect Nigeria's economic growth during the studied period.

The report recommends the following actions based on its results and policy implications: the government and the private sector should work deliberately together to create an environment that encourages capital investment in the economy. Together with strengthening public statistics authorities to ensure that all private investments are captured and regulated, there should be a concerted effort on the part of the public and private sectors to address the problem of corruption in the economy.

Sunny and Osuagwu (2016) looked at how capital accumulation affected Nigeria's economic growth from 1990 to 2015. In order to determine whether the Harrod-Domar model had a substantial impact on the Nigerian economy, the article applied it to that country's economic progress. The impact of capital formation on economic growth in Nigeria is examined in this article. The effect of capital formation on Nigeria's economic growth was investigated using the multiple linear regression model and the ordinary least square (OLS) method. According to the data, capital formation and economic growth in Nigeria are significantly positively correlated over the long and short terms. It also found that saving rates are insignificant for boosting economic growth. The paper recommended based on the econometric results that the government should encourage savings, create conducive investment climate and improve the infrastructural base of the economy to boost capital formation and hence promote sustainable growth.

Multiple regression analysis was used by Kanu and Ozurumba (2014) to assess the effect of capital production on Nigeria's economic growth. Gross fixed capital formation was shown to have no discernible effect on economic growth in the short term, but the VAR model estimate indicated that in the long term, it had positive long-run associations with GDP lagged values, total exports, and gross fixed capital formation. While GDP was observed to have a unidirectional causal link with export (EXP), Gross Fixed Capital Formation (GFCF), import (IMP), and Total National Savings (TNSV), it was also determined that these variables have an inverse association with economic growth (TNSV). The paper recommended based on the econometric results that the government should continue to encourage savings, create conducive investment climate and improve the infrastructural base of the economy to boost capital formation and hence promote sustainable growth.

Ugwuegbe and Uruakpa (2013) looked into how capital formation affected Nigeria's economic expansion. The study used the Ordinary Least Square (OLS) technique to examine the effects of capital formation, stock market capitalization, inflation rate, and interest rate on economic growth. The Johansen co integration test was used to determine the order of integration and the error correction model was used to determine the rate of adjustment to equilibrium in order to test for the properties of time series. The phillip-perron test was used to determine the stationarity of the variables and it was discovered that gross fixed capital formation and economic growth are integrated of order zero I(0). According to the empirical results, capital production had a positive and considerable impact on economic growth in Nigeria over the study period. Based on the econometric findings, the paper proposed that the government encourage savings, foster an environment that is favorable for investments, and upgrade the economic infrastructure in order to increase capital creation and, as a result, support sustainable growth.

Methodology

For the purpose of this study an ex post facto research design was used to carry out an empirical investigation on the topic. The data used for this study are basically annual time series data covering the period of forty-tw0 (42) years, i.e. from 1988 to 2022. The data used for dependent variable (gross domestic product) and independent variables (gross fixed capital formation, total national savings and foreign direct investment) were obtained from Central Bank of Nigeria Statistical Bulletin of 2017. This study adopts the statistical method of multiple linear regression approach using Ordinary Least Square (OLS) to examine the relationship between GDP, GFCF, GNNS and FDI. Econometric view version 9 was used to analyse the data.

Model Specification
The multiple regression equation is explicitly specified as follows: $Y = f(X_1, X_2, X_3, X_n)$
Substituting the variables, we have:
GDP $= f$ (GFCF, TNS, FDI) .... (1)

In an econometric term, the model is formulated as follows:
GDP $= P_0 + P_1 GFCF + P_2 TNS + P_3 FDI + |et$ .... (2)

Where,
GDP   = Gross Domestic Product
GFCF = Gross Fixed Capital Formation
GNNS = Gross Nominal National Savings
FDI   = Foreign Direct Investment
P_0 = Intercept/Constant term
$P_1 - P_3$ = coefficient of independent variables
e   = error term

Data Presentation and Analysis
This section presents the result of analysis and their interpretations.

Table 1: Unit Root Test

Group unit root test: Summary
Series: GDP, GFCF, GNNS, FDI
Date: 22/2/23 Time: 15:34
Sample: 1981- 2022
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 4
Newey-West automatic bandwidth selection and Bartlett kernel

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Method	Statistic Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)			
Levin, Lin & Chu t*	-3.61575 0.0001	4	108
Null: Unit root (assumes individual unit root process)			
Im, Pesaran and Shin W-stat	-3.60305 0.0002	4	108
ADF - Fisher Chi-square	39.5548 0.0000	4	108
PP - Fisher Chi-square	52.8262 0.0000	4	112

Source: Econometric view Version 9

** Probabilities for Fisher tests are computed using an asymptotic Chi

The unit root test in table 1 above shows that at various levels of significance (1%, 5% and 10%), the time-series were stationary. The researcher opted for group unit root test for better output. From the result GDP, GFCF, GNNS and FDI were all integrated at the same order which is first difference I(1), therefore all the time series data in this study are stationary. Thus, the model is adequate for the purpose of the study.

Table II: Model Results

Statistics	Coefficient	Standard Error
Po	5594.021	1251.874
Pi	1.151489	0.783546
P2	6.553843	1.001106
P3	-0.255578	0.146334

Source: Authors compilation derived from E view 9

The model for this study can be recalled and re-written as follows:

GDP = po + P1GFCF1 + P2TNS2 + P3FDI3 + ^ GDP = 5594.021 +1.151489GFCF1 + 6.553843TNS2 -0.255578FDI3

The rewritten model shows that if all independent variables remain constant, the gross domestic product will remain at a positive value of 5594.021. Also, the coefficient values of gross fixed capital formation and total national savings has positive values of 1.151489 and 6.553843 respectively. This simply means that, a unit increase in each of the variables will result to a simultaneous increase in Nigeria's gross domestic product. However, foreign direct investment has a negative value of -0.255578. This explains that a unit increase in FDI will lead to a proportional decrease in Nigeria's gross domestic product.

Table III: T-Statistic Results

Variable	T- value	Probability value
GFCF	1.469587	0.1537
TNS	6.546605	0.0000
FDI	-1.746545	0.0925

Source: Authors compilation derived from E view9

The t-statistic results (probability level) of GFCF, GNNS and FDI were 1.469578, 6.546605 and -1.746545. The probability values of these variables are: 0.1537 (GFCF), 0.0000 (GNNS) and 0.0925(FDI). This indicates that gross fixed capital formation, and foreign direct investment have no significant effect on Nigeria's gross domestic product because their probability values were greater than 0.05 critical values. However, total national savings has a p values of 0.0000 which is lesser than 0.05 critical value. Thus, total national savings have a significant effect on gross domestic product in Nigeria.

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Table IV: Model Validity and Anova Results

Statistic	Results
R Square	0.984082
Coefficient of Determination (Adjusted R^2)	0.982246
Anova (F)	535.8007
Probability value	0.000000
Durbin Watson (DW)	0.934196

Source: Authors compilation derived from E view 9

The coefficient of determinant R^2 is 0.984082 which means that 98.4% of the variation in Nigeria's gross domestic product is explained by the independent variables employed in the model while the remaining 1.6% unexplained variation is being influenced by other variables outside the model but captured by the error term. The adjusted R^2 is 0.982246which means that 98.2% of the variation explained the fitness and generality of the model. The value is expected to be the same or very close to R^2. The Durbin Watson statistics in the model is 0.934196 falls within the range 0 and 2.Value ranging from zero to two indicates a strong positive correlation while a value from two to four imply a strong negative correlation. The F statistics in the regression line 535.8007with p-value of 0.0000. Therefore, the p-value is less than 5% level of significance (0.0000<0.05). This can be easily inferred that capital formation has a significant effect on economic growth in Nigeria for the period of 1981 to 2022.

Summary and Conclusion

The study investigates how capital formation affects Nigeria's economic expansion. The examination of the data shows that total national savings have a considerable impact on Nigeria's gross domestic product, whereas gross fixed capital formation and foreign direct investment have no significant impact. This study's conclusion is aided by the f statistics probability value of 0.0000, which is less than the 0.05 crucial value. Hence, from 1981 to 2022, capital formation will have a big impact on Nigeria's economic growth. The degree of capital formation in Nigeria should therefore be raised because it has the capacity to propel the economy to the next level.

Recommendations
1. Based on the findings of this research; we proffer the following recommendations:
2. Government must increase their efforts in mobilizing the desired level of gross national savings that could be big enough to attract foreign direct investments. This is very vital as FDI will help to complement our domestic savings.
3. Government should work on her potentially exportable commodities. The proceeds should be utilized in the importation of needed technical tools and components.
4. Basic infrastructures like good roads, electricity supply and security must be seen to be adequate. This will help to reduce the drudgeries currently being faced by manufacturers.
5. Policy formulators in Nigeria need to enact some investor friendly policies that will encourage, promote and attract more capital inflows (Be it official or private inflows) and to provide a conducive and enabling environment for gross fixed capital formation to thrive.
6. There is also the need to reduce the level of capital flight out of country. Inflows should be tied to specific, relevant and purposeful projects. This will help to create employment opportunities in the long run.
7. Prudence and proper accountability should be the watchword in the management of accruals from official capital inflows and transfers. Such monies are expected to be channeled into productive ventures by the governments in power and not for profligacy.
8. Lastly, macroeconomic projections should guide the overall level of expenditure. As such, their projections need to be more realistic, internally consistent and based on more accurate and timely information.

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