

Accumulation of Capital and the Growth of the Economy in Nigeria

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Article DOI:
10.48028/iiprds/ijarsmf.v10.i1.08

Keywords:

Accumulation of
capital, Expansion of
the economy, and
Nigeria

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Abstract

It was determined how much of an impact the accumulation of capital has on the rate of economic growth in Nigeria between the years 1981 and 2019. The specific objectives of the study are as follows: to analyse how the rate of national savings influences economic growth in Nigeria; to evaluate how the rate of foreign direct investment influences economic growth in Nigeria; to analyse how the inflation rate influences economic growth in Nigeria; and to determine how the rate of gross fixed capital formation influences economic growth in Nigeria. The study utilised time series data that were gathered annually beginning in 1981 and continuing through 2019 from the most recent edition of the CBN Statistical Bulletin. The Augmented Dickey -Fuller Unit Root Test was utilised in order to examine the stationarity of the data as well as the integration order. The variables that were investigated did not exhibit any significant fluctuations at first glance. In order to discover this long-term relationship, the co-integration approach was utilised, and the Johansen strategy served as its implementation. The rate of national savings in Nigeria had a positive but modest effect on the growth of the country's GDP, but the inflation rate in Nigeria had the opposite effect. Foreign direct investment and gross fixed capital creation both had a marginally negative impact on Nigeria's overall economic development. However, this effect was not significant. The recommendation is to keep an adequate quantity of savings at all times, as this is a critical component of the plan for achieving economic stability. In addition, the government ought to nurture conditions that bring in and continue to bring in a steady flow of foreign direct investment (FDI).

Background to the Study

The pace of growth in the economy of Nigeria cannot be completely analyzed without a more intensive gander at the commitment of capital accumulation to Nigeria's economic growth. With the arrangement that capital accumulation has been perceived as a significant factor that decides the growth of Nigerian economy. No nation has accomplished a supported economic growth without generous interest in capital accumulation. Also, understanding the factors that determine capital accumulation is essential in planning various approach intercessions towards accomplishing economic growth. Capital accumulation can be explained as present income saved and plowed back into the economy by way of investment to increase future yield and pay.

Jhingan (2003), characterizes growth as an interaction in which the genuine per capita pay of a nation increments throughout an extensive stretch of time. As per him, financial development is estimated by increment in the measure of labor and products delivered in a domestic economy. Growth happens when there is an increase in an economy's profitable limit which is thereafter utilized to deliver increased labor and product Quantities of hypothetical issues. The neo-traditional union set up that for a monetary specialist, reserve funds in addition to getting should approach resource procurement.

By implication, in a closed economy, public funds saved and homegrown speculation will consistently be equivalent. Hence, an increased pace of capital accumulation prompts an increased pace of efficiency which therefore leads to growth and development. As per Babalola (2003), capital accumulation normally assumes a significant part in the growth and advancement process in an economy. He argued that capital accumulation has consistently been viewed as a possible growth determinant. According to him, capital accumulation decides the public ability to deliver, which brings about economic growth. Capital accumulations inadequacy has been referred to as the most genuine imperative to feasible growth Owolabo and Ajayi, (2013). Thus, there is expectation that the examination of capital accumulation has gotten one of the focal issues in a country's macroeconomy.

A famous hypothesis during the early 1970s, for instance, was of the "Enormous Push" proposing that nations expected to bounce starting with one phase of improvement then onto the next through an ethical cycle wherein high interests in foundation and instruction alongside private speculation will propel an economy to a higher state of profitability, breaking and liberated from monetary ideal models proper to a smaller efficiency level. Many growth models such as the ones created by (Romer, 1986 and Lucas, 1988) foresee that expanded capital aggregation can bring about a lasting expansion in development rates. A connection between capital accumulation of the country and it's economic growth has been recorded in various observational examinations. Jhingan (2006) focused on saying the cycle of capital accumulation is aggregate and well-taking care of.

They include: (a) presence of genuine reserve funds: (b) presence of credit, monetary establishments to prepare investment funds (c) to utilize all the reserve funds for interest in capital merchandise. Hence, we comprehend that reserve funds is the significant factor of capital arrangement. It is broadly accepted that an increment in the extent of public pay dedicated to capital accumulation is just a single road for growth. Hence individuals are urged to save more than to burn-through additional, on the grounds that a developing economy needs a consistent progression of asset for interest in a way to guarantee an inventory of capital merchandise sufficient to the creation of shopper products and substitution of obsolete equipment (Iyoha, 2007).

Capital accumulation is practically related to an expansion in a nation's actual capital with interest in friendly and financial frameworks. Gross fixed capital formation (GFCF) is hereby characterized into net private homegrown speculation and gross public homegrown venture. Gross public speculation incorporates venture by a potentially open undertaking. Net homegrown speculation is comparable to gross fixed capital accumulation in addition to degree of inventories net changes. Capital accumulation may be prompts creation of substantial merchandise (i.e., plants, apparatuses and hardware, and so forth) and theoretical products (i.e., subjective and exclusive expectation of schooling, wellbeing, logical practice and exploration) in a nation (Atuma, Sodo and Nweze, 2017).

A great deal of economies relies upon ventures to determine a few monetary issues, emergency and difficulties. Less created nations in Africa, for example, Nigeria is presenting different monetary strategies that will draw in just as keep hold of hidden financial backers. This is because of the way that interests in specific areas of the economy can quickly change the various monetary difficulties we are looking as a country. In this way, the Nigerian government at some random chance works a great deal to draw in interests into different areas of the economy. The intention in this isn't outlandish. Speculation both private and public accompanies a great deal of advantages, for example, work creation, expansion in per capita pay, decrease in the degree of destitution, expansion in way of life, expansion in gross domestic product, and so on (Atuma, Odo and Nweze, 2017).

Throughout the long term, the growth pace of capital accumulation in Nigeria has not been agreeable. It has consistently been low and regularly adverse (Uremadu, 2016). Nigeria' saim of being among the twenty large and fast-growing economy in 2020, well-qualified assessment should be developing in any event 15% per annunciation, (Soludo, 2006). (Jhingan, 2006) contended on the low pace of capital accumulation and that the country needs those factors which decides capital accumulation. (Ewetan and Urhie, 2014) saw that weakness impedes business practices and incapacitates inaccessible and close monetary financial investors. (Adegbami, 2013) in his examination thought that instability is awkward to the overall flourishing of the people, and prompts the annihilation of business, properties, and movement of activities. Clearly, venture decides the pace of accumulation of actual capital (in any case called capital fotmation), it at that

point turns into a crucial determinant in growth of gainful capacity of the country which adds to growth by and large. The significance of speculation has been acknowledged by progressive organizations quite a while past.

Literature Review

This section explains concepts, theories and empirical works of scholars.

Conceptual Clarification

Capital Accumulation

This capital accumulation aggregation or arrangement alludes to the way toward hoarding or loading of resources of significant worth, the increment in riches or the making of additional abundance.

Capital accumulation equently proposed as a method for agricultural developing nations to build their drawn out development growth rates. To expand capital accumulation, it is important to: increment reserve funds proportions, keep up great financial framework and arrangement of advances, and stay away from defilement, great foundation to make speculation more beneficial (Ewubare and Ogbuagu, 2015). Both non-monetary and monetary capital gathering is normally required for financial development, since extra creation as a rule requires extra assets to amplify the size of creation (Ewubare and Ogbuagu, 2015).

Capital accumulation catches all the genuine worth added to the country in genuine resource terms which will prompt further improvement of reserve funds, venture and age of more abundance in future. Capital form accumulation derives from savings accumulation. It decidedly affects private investment funds aggregation as expansion in capital accumulation will prompt more investment funds.

At the point when reserve funds gather it will prompt an increment in gross domestic investment (GDI) and pay created because of the venture projects made will, thusly, lead to gross domestic product growth (Uremadu, 2016). Capital accumulation alludes to the way toward storing up or loading of resources of significant worth, the increment in riches or the formation of additional abundance.

Capital accumulation can be separated from reserve funds since gathering manages the expansion in supply of required genuine ventures and not all investment funds essentially contribute (Bakare, 2011). Ongoing writing has mistaken venture for capital accumulation. Venture can be in monetary resources, human (resources) advancement, genuine resources that can be profitable.

Economic theories have shown that capital accumulation assumes basic part in the model of financial turn of events and decide the National capacity to produce. This implies that deficient capital gathering is a significant requirement to financial turn of events. Subsequently factors that decide growth of capital accumulation ought to be given

satisfactory consideration. Capital accumulation is frequently recommended as a method for non-industrial nations to expand their drawn out development rates. To build capital formation it is important to: increase reserve funds proportions, keep up great financial framework and arrangement of advances, stay away from defilement, great foundation to make venture more advantageous (Ewubare and Ogbuagu, 2015).

Economic growth

The term economic growth is the extension in the proportion of work and items made by an economy as time goes on. It is regularly assessed as the percent speed of extension in veritable GDP. Improvement is for the most part decided in veritable terms, that is, development changed terms, to net out the effect of growing on the expense of the product and organization made.

FDI includes combination and getting new pursuit, yet moreover reinvested benefit and credits and equivalent capital trade between parent associations and their branches. FDI streams have filled in importance similar with various firms of overall capital streams, and the ensuing creation has extended as a segment of world yield.

Theoretical Framework.

Augmented Solow Growth Model

Solow, (1956); Khan, (1997; Iyoha ,(2000), showed that neoclassical development hypothesis places that adjustments of the amounts of components of creation represent development. The model credits increase in growth in public pay to expansions in the supply of actual capital, the workforce size and a lingering addressing wide range of various components.

$$Y=f(A, K, L)$$

Where;

Y = yield

A= the technology level

K= the capital stock, and

L = the quantity of labour

Condition (1) can be changed as

$$Y_t = A_t F(K_t L_t) \dots \dots (2)$$

Where;

Y_t = total genuine yield,

K = capital stock,

L = work,

A = proficiency factor, and

t = time measurement.

The huge disadvantage of the model is that the Solow waiting which address a greater degree of progress in yield was viewed as exogenous.

This inability to explain the factors of the extra is what incited the happening to endogenous improvement models. A main degree of the endogenous improvement model is that advancement is endogenous as in it is directed by the potential gains of the limits of the system as opposed to being given by external variables like the speed of coherent progression. This model credits improvement out in the open compensation to developments in the stockpile of genuine capital, the size of the labor force, and a waiting tending to the wide scope of different segments.

Empirical Review

Kanu and Ozurumba, (2014), examined the role of capital gathering on the financial advancement of the nation by using various backslides strategy. It was found in the short run, net fixed capital course of action through influenced money related turn of events; while the VAR model check shows that gross fixed capital turns of events, full scale exchanges and the loosened potential gains of Total national output had positive relationship with monetary improvement in the country.

Orji and Mba (2009), comparatively established that there it's an opposite association between public investment fund and financial development, while Total national output apparently had unidirectional relationship with exchange and GFCF. The assessment further endorses that Nigerians ought to be made to amass the ideal level of gross public save finances that could be sufficiently huge to attract new direct investments. This is incredibly basic as FDI will help with enhancing our local hold reserves. The examination further recommends that organization should work on her perhaps exportable products, the profits of which should be utilized in the obtaining of required specific contraptions and portions.

The specific revelations suggest that capital advancement basically influences financial improvement in Nigeria for the period under review this result check the disclosures of Bakare (2011), Protections trade in like manner showed a constructive outcome, while both extension rate and financing cost oppositely influences money related improvement in Nigeria for the period under review. The result of the study indicates that there is a long run association which exist between capital turn of events and financial advancement in Nigeria within the period of study. Consequently, highlight should be place on social occasion capital in the nation in order to help accelerate advancement and improvement of the economy. The country's protections trade should be grown more to update their obligation to the advancement in the local economy.

Ajose and Oyedokun (2018), analyzes the effect of capital conglomeration on monetary advancement in Nigeria. Disclosures revealed that none of the variables were fixed at level yet were completely fixed from the beginning differentiation. The results moreover show that there is a long run relationship that exists between the components assessed

and there is a causal association between capital turn of events and monetary improvement in Nigeria inside the period under assessment. The result moreover revealed a negative non-immense association between monetary turn of events and capital course of action in Nigeria. The examination proposes that system formulators in Nigeria need to arrange a couple of monetary benefactors' friendly methodologies that will support, advance.

There is need to downplay on theoretical associations and to place assets into the veritable spaces of the economy. Khalil and Hafeez (2019), investigated the HR and money related advancement nexus inside seeing pollution for a disaggregated trial of made and making economies, and East, West, and South Asia. For the explanation, Dynamic Board Data (DPD) and the Summarized Technique for quite a long time (GMM) are used. The disclosures give derivations that HR vehemently impacts monetary improvement in spite of the way that for specific social affairs of economies, degradation support

It shows that unfamiliar conversion scale drives capital development in Nigeria, trailed by record of energy utilization and afterward obligation administration proportion. The paper along these lines suggested a decrease in swapping scale contortions/misalignment; expansion in energy supply by giving consistent power and framework to help modern energy utilization; and ceaseless minimization of unfamiliar obligations to lessen measure of public pay utilized for obligation adjusting.

Donwa and Odia in (2009), studied the effect of globalization on the GFC arrangement in Nigeria, 1980 to 2006. The ordinary least square was used, they discovered that globalization intermediary by receptiveness is adversely and irrelevantly identified with net fixed capital development. At the end of the day, it has not aided in helping fixed capital development. Unfamiliar Direct Venture and Total national output were positive and critical while conversion scale contrarily affected GFCF.

Aiyedogbon, (2011), attempted in investigating the connection relating military use and capital accumulation in Nigeria. The study covered the years 1980 to 2010, using the econometric philosophy of the vector error correction model, and it tested the results using the stationarity test, co-reconciliation, and change degradation. The study was carried out over the course of 36 years. Recent research has shown that Nigeria's short-term and long-term Gross Capital Formation (GCF) is negatively impacted by the country's military consumption (Milex) and loaning rate. In the long run, the Gross Domestic Product is certain to be quite large, yet in the short run, it has become positive and rather irrelevant. The examination suggests that the current subsidizing of the military ought to be sliced to deliver more assets for different areas. The nation's military authority ought to use the accessible assets and release their part in establishing speculation agreeable climate to upgrade monetary advancement in Nigeria.

Baghebo and Edoumiekumo (2012), look at the connection between Open Capital Amassing and Monetary Advancement in Nigeria 1970-2010. The stationarity and non-stationarity of the information arrangement were analyzed utilizing group unit root test. The factors genuine per capita total national output (PCGDP), government capital use on financial area (ECONS), government capital consumption on organization (ADM), government capital use on friendly administrations (SOC), and government capital use on move (TRANSF) accomplished stationarity after first contrasts.

The Johansen cointegration trial of follow and greatest Eigen esteem insights was utilized to build up since a long time ago run harmony relationship among the determinants in the model. The creators additionally assessed the over parameterized and tightfisted ECM to represent short run dynamic change needed for stable since a long time ago run harmony relationship among the factors in the model.

The effect of monetary improvement was positive and genuinely inconsequential while TRANSF was negative and measurably huge. The positive however irrelevant effect of troubling in light of the fact that these are the areas that record for a gigantic measure of government capital use. Straightforwardness and responsibility in the lead of Government exercises ought to be supported. Accordingly, the entrenchment of the way of life of straightforwardness and responsibility will assist with monitoring public assets for the numerous things the public authority needs to accomplish for the general public.

Kalu and Mgbemena (2015), researched the connection between homegrown private venture and monetary development in Nigeria, utilizing the Cob-Douglas model structure. The model is assessed utilizing Blunder Rectification Demonstrating (ECM) approach and yearly information covering 1970 to 2012 was utilized. The examination shows the meaning of venture on genuine total national output (RGDP). The after effect of tests uncovers balance connection between genuine Gross domestic product and its determinants in the long and short-run. A significant finding of the investigation is that, as most different examinations, Foreign Direct investment (FDI) ought to, best case scenario, supplement homegrown private venture.

We hence, presume that macroeconomic approaches and in general macroeconomic soundness is very fundamental for the advancement of homegrown private venture. The examination consequently suggested that the money related and financial specialists need to enhance the monetary impetuses and financial approach activities that could support the presence of homegrown private speculation.

Also, eliminating the apparently obstructions and empowering reserve funds and venture instruments would support homegrown private speculation and thusly invigorate monetary development. Atuma, Odo and Nweze (2017), assessed the connection existing among homegrown speculation, capital arrangement and financial development in Nigeria. To fund speculation for monetary development and improvement, each economy needs to prepare capital.

The exploration utilizes pattern investigation and progressed econometrics test to determine the long run and causal relationship existing between homegrown speculation, capital arrangement and monetary growth in Nigeria. The outcomes indicate that there is (1) a long run critical relationship that exists among homegrown venture, capital development and (2) both homegrown speculation and gross fixed capital arrangement granger cause financial development in Nigeria inside the period under examination.

It is tracked down that gross fixed capital arrangement has not moved with the development pace of homegrown interest in Nigeria. The investigation suggests that there is need for government to establish empowering climate for homegrown speculation to flourish through selection of macroeconomic approaches which will set out venture open doors in the economy and add to the development of the economy. Orji and Mba, (2011) in their assessment focused at association of FPI, Capital Plan and Advancement, in the country using the two-stage least squares (2SLS) methodology for evaluation. The assessment shows that the long run impact of capital turn of events and new private theory on financial improvement is greater than their short-run influence.

There is thusly, a longrun amicability relationship between the components as the bungle amendment term is immense, anyway the high level of progress is minimal in the two models. From their result, the very two stages least squares checks are particularly close to the OLS measures recommending that OLS checks are unsurprising and reasonable. Accordingly, endogeneity was not an issue in the evaluated models. That a synchronization does not exist between GDP advancement and capital game plan model.

These disclosures as such have some game plan ideas as explained in the work.

Kanu, Ozurumba and Anyanwu in (2014), making on "Capital uses and capital storing up in the country puts that Capital in the country with 1%, 5% Alpha rate, other full scale financial elements, for instance, imports, Public funds and total national output arrangement of human resources. By putting this capital in laborers, their proficiency is expanded.

From the serious review of the specific assessments drove in this examination, it is seen that there are not extremely various new works on the subject of capital accumulation and financial turn of events, especially in the Nigerian setting; Uremadu (2008); Donwa and Odia (2009); Aiyedogbon (2011); Bakare (2011); Orji and Mba(2011); Baghebo and Edoumiekumo (2012); Ugwegbe and Uruakpa (2013); Ainabor(2014); Kanu and Ozurumba (2014); Atuma, Odo and Nweze(2017).

In like manner, this examination would get the extraordinary changes and examples in the association between capital assortment and monetary improvement using Nigerian data sourced from the Public Bank of Nigeria (CBN). Moreover, a couple of models have been used by a couple of makers to take a gander at the association between monetary turn of events and capital course of action, similar to Tobin "Q" theory model, gas pedal model, and neoclassical model, "neoliberal" model.

It was found in the composing that none of the model truly got the essential energizer of capital course of action which is saving in their models. Thusly, ask the researcher to get and get the examination on Expanded Solow neoclassical model Thirdly, considering the strategy for assessment used by various scientists in their examinations, it was seen that none of the assessments surveyed used the causality association between capital turn of events and monetary advancement which the flow assessment will in everyday catch.

Methodology

This segment clarifies the different cycles engaged with getting and investigating the information vital for the examination. It expresses the specialist's system for completing examination and furthermore the strategy utilized for investigating the gathered information. It manages the procedure embraced in breaking down the factors in the examination.

Research Design

The exploration configuration embraced in this exploration work is ex-post-factor also called the semi test research plan, on the grounds that the specialist tries to inspect the circumstances and logical results connection between Capital Amassing and Genuine GDP (RGDP) development rate without essentially and straight forwardly controlling the autonomous factors.

Method of Data Collection

The information utilized was acquired from government organizations like the Central Bank of Nigeria (CBN) Measurable Notice as the most significant and solid routine compiler and provider of factual information in Nigeria. In particular, this examination depended fundamentally on time arrangement optional information sourced from the National Bank of Nigeria (2019) distributions like yearly report and proclamation of record, monetary and monetary survey and measurable notice. Other pertinent sources incorporate reading material, Papers, Magazine and Scholastic Diaries.

Specification of Model and estimation technique

In determining the connection between capital accumulation and economic growth we modified the solow neoclassical hypothesis.

The solow neoclassical growth model uses total capacities in which

$$Y = L^{1-a}$$

$$Y/L = (L^{1-a})/L$$

$$y = L^{1-a-1}$$

$$y = L^{-a}$$

$$y = L^{-a}$$

Where;

$Y/L = y$ = Real per capita Gross domestic product

A = productivity boundary

K = supply of real capital.

In this study, the Vector Autoregressive (VAR) method is applied. To better understand the short-run components and long-run causation, Ang and McKibbin (2007), suggest using VECM once there is compromise among the variables. In comparison to univariate time plan models and complicated theory-based simultaneous conditions models, it consistently provides more comprehensive data. Keep in mind that the distinction between exogenous and endogenous components is not critical when choosing a model for this inquiry. As Sims (1980) points out, exogenous and endogenous variables are handled similarly when it is shown that they have different capabilities in a VECM model. The useful model for this examination is as expressed underneath:

$$Y = f(\text{GFCF}, \text{NSR}, \text{FDI}, \text{INFR}) \dots \dots (3)$$

The VECM model for this investigation is as expressed beneath:

$$\Delta Y_t = \beta_0 + \sum_{i=1} \beta_1 \Delta \text{RGDP}_{t-1} + \sum_{i=1} \beta_2 \Delta \text{GFCF}_{t-1} + \sum_{i=1} \beta_3 \Delta \text{NSR}_{t-1} + \sum_{i=1} \beta_4 \Delta \text{FDI}_{t-1} + \sum_{i=1} \beta_5 \Delta \text{INFR}_{t-1} + \beta_6 \text{ECT}_{t-1} + U_t \dots \dots \dots (3)$$

Where:

Y_t = Vector of the factors in the model

RGDP = Real GDP which is utilized as an intermediary for financial development

GFCF = gross fixed capital formation

NSR = National Savings Rate

FDI = Foreign Direct Investment

INFR = Inflation Rate

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are altogether boundaries to be assessed while U_t is the error term. It ought to be noticed that every factor in the above model is communicated as a past slack of itself.

In light of monetary deduced assumption, the conduct or response of the informative factors corresponding to the reliant variable, as shown by the signs and extents of their separate incline coefficients, are introduced beneath: $\beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 < 0$

Where;

$\beta_2 > 0$ indicates gross fixed capital formation ought to have a positive relationship with RGDP growth rate, taking everything into account.

$\beta_3 > 0$ shows that national savings rate is supposed to have a positive relationship with RGDP growth rate, ceteris paribus.

$\beta_4 > 0$ indicates foreign direct investment ought to have a positive relationship with RGDP growth rate, ceteris paribus.

$\beta_5 < 0$ indicates that inflation is supposed to have a negative relationship with RGDP growth rate, ceteris paribus.

Results and Discussion

This section inspects the properties and conduct of the information utilized in this examination using expressive measurement, stationarity and Co-integration tests, and gauges utilizing the vector error correction model (VECM).

Descriptive Statistics

The descriptive statistics is stated in Table 1.in order to reveal more about the variables employed for the study.

Table 1: Descriptive Statistics

VARIABLES	RGDPR	GFCF	FDI	NSR	INFR
Mean	3.767692	360113.6	353727.1	13.09872	18.77692
Median	3.900000	40121.31	115952.2	8.650000	12.60000
Maximum	10.00000	3050576.	1360308.	35.10000	72.00000
Minimum	-5.400000	8799.480	264.3000	3.250000	5.400000
Std. Dev.	3.614504	678897.1	408292.1	8.900245	16.22139
Skewness	-0.590997	2.500252	0.912277	0.936933	1.777508
Kurtosis	3.273715	8.804488	2.627538	2.708339	5.308563
Jarque-Bera	2.392051	95.38285	5.635058	5.844221	29.19736
Probability	0.302394	0.000000	0.059753	0.053820	0.000000
Sum	146.9400	14044432	13795355	510.8500	732.3000
Sum Sq. Dev.	496.4563	1.75E+13	6.33E+12	3010.145	9999.069
Observations	39	39	39	39	39

Source: E-views

Table 1 shows the mean values of real gross domestic product growth rate (RGDPGR), gross fixed capital formation (GFCF), foreign direct investment (FDI), national savings rate(NSR) and inflation rate (INFR) are 3.767692, 360113.6, 353727.1,13.09872 and 18.77692 respectively. It is seen from the table that RGDPGR had the most minimal standard deviation of 3.614504 while GFCF had the best quality deviation 678897.1. The estimation of skewness demonstrates the measure of skewness as well as the deviation. A nearby perception of the skewness showed that the variable are rightward slanted decidedly slanted. Consequently, we finish up the circulation to be around typical. The kurtosis demonstrates the level of peakedness of a dissemination and it was seen that real GDP rate (RGDPGR) and gross fixed capital formation (GFCF) and national savings rate (NSR), foreign direct investment (FDI) and inflation rate (INFR) had generally low topped circulation called platykurtic since their qualities is under three (<3).

Data Analysis

The primary mark of issue of examination was to direct the unit root test utilizing the augmented dickey fuller (ADF) test.

At whatever point a non-fixed time arrangement is relapsed on another the outcome is consistently a deceptive. A misleading relapse depicts a circumstance where no direct relationship really exists between a reliant variable and a free or a bunch of autonomous factors with high R-squared or changed R-squared and few factual critical t-proportions. In this way, the Increased Dickey-Fuller Unit root test is directed to keep away from the assessed relapse being misleading or counterfeit.

Table 2: Augmented Dickey-Fuller Unit Root Test Results

Variable	Level	First difference	Second difference	Lag(s)	Model	Order of integration
RGDPGR	-3.485724	-8.469868		1	Trend & Intercept	I(1)
GFCF	-2.589976	-7.409523		1	Trend & Intercept	I(1)
NSR	-2.487247	-4.754919		1	Trend & Intercept	I(1)
FDI	-1.834487	-7.544899		1	Trend & Intercept	I(1)
INFR	-3.252681	-5.968870		1	Trend & Intercept	I(1)
Test Critical level						
@5% level -3.540328						

Source: Author's computation

Note: *(**) *** means genuinely critical at 1%, 5% and 10% level separately.

ADF unit root test in table 2 shows that real GDP rate, gross fixed capital formation, national savings rate, foreign direct investment, and inflation rate are generally non-fixed at level, got fixed from the start distinction at five percent level of importance, while in this manner concurs with the way that most macroeconomic factors are fixed at their first contrast.

Co-integration Rank Test (Trace)

Co-integration Rank Test (Follow) To decide if there is a harmony condition that holds the variable with respect to each other over the long haul, the quantity of co-coordinating conditions in the Vector Error correction Model (VECM) just as to know whether the factors are Co-integrated. The Johansen cointegration test is directed utilizing the factors coordinated at request one, i.e., 1(1), and the created remaining which is fixed at level. The outcomes acquired in the investigation are as introduced underneath:

Table 3: Co-integration Rank Results

Hypothesized	Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.762523	105.1890	69.81889	0.0000
At most 1 *	0.460635	51.99465	47.85613	0.0194
At most 2	0.354652	29.15226	29.79707	0.0592
At most 3	0.260159	12.94754	15.49471	0.1168
At most 4	0.047450	1.798681	3.841466	0.1799

Source: Author's computation

In table 3 the after effect of the follow measurement above demonstrates two (2) co-incorporating conditions at 5% level. This can likewise effectively be viewed as one of the follow Measurement esteems is more noteworthy than their basic qualities at 5% level

with huge likelihood esteem. This uncovers that there is a potential since quite a while ago run relationship among the factors utilized in the model. Having affirmed the way that all the 1(1) factors are co-coordinated in model, we continue to assess the vector error correction model.

Table 4: The Vector Error Correction Estimates

Error Correction:	D(RGDPR)	D(NSR)	D(INFR)	D(GFCF)	D(FDI)
CointEq1	-0.022113 (0.04716) [-0.46890]	0.080530 (0.06713) [1.19964] (0.0336)*	-0.156738 (0.21160) [-0.74074] (0.0061)*	-5867.139 (7858.42) [-0.74661] (0.8833)*	-5455.305 (1317.01) [-4.14220] (0.7946)*
D(RGDPR(-1))	-0.432562 (0.18009) [-2.40198]	0.213658 (0.25634) [0.83348]	-0.323537 (0.80802) [-0.40041]	-5180.118 (30008.7) [-0.17262]	2335.106 (5029.21) [0.46431]
D(RGDPR(-2))	-0.434219 (0.17034) [-2.54920]	0.115826 (0.24246) [0.47770]	-1.017281 (0.76428) [-1.33104]	3698.438 (28384.0) [0.13030]	1333.477 (4756.92) [0.28032]
R-squared	0.701292	0.155696	0.238239	0.269429	0.730678
Adj. R-squared	0.676884	-0.231277	-0.110901	-0.065416	0.607238
S.E. equation	3.493990	4.973529	15.67715	582224.3	97576.00
F-statistic	1.462392	0.402344	0.682359	0.804639	5.919321
Log likelihood	-88.82101	-101.5321	-142.8628	-521.6694	-457.3653
Akaike AIC	5.601167	6.307338	8.603487	29.64830	26.07585
Mean dependent	0.213889	0.425278	-0.327778	657.7819	17550.10
S.D. dependent	3.739261	4.482154	14.87405	564067.2	155696.3

Source: Eviews

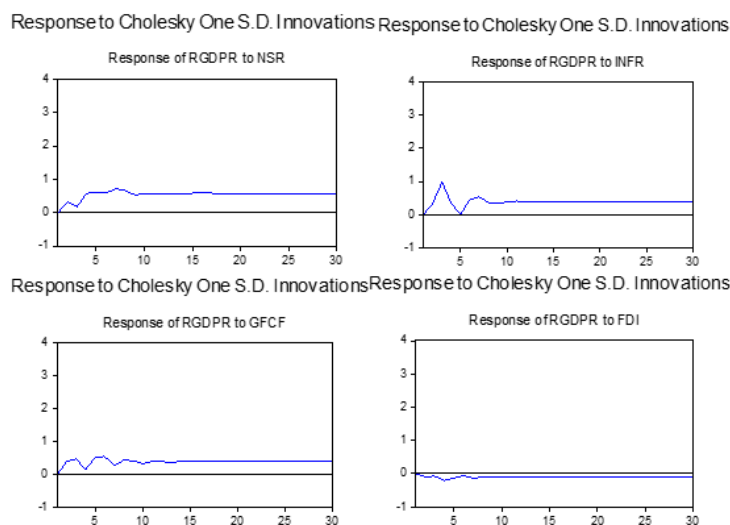
Table 4 above shows that over the long haul, national savings Rate (NSR) and Inflation Rate (INFR) both live up to their deduced desires as NSR is emphatically identified with Real GDP Rate (RGDPR) while INFL is adversely identified with RGDPR. In actuality, Gross Fixed Capital Formation (GFCF) and Foreign Direct Investment (FDI) don't live up to their financial desires as the two of them are contrarily identified with RGDPR in the above gauges.

Generalized Impulse Response Function (GIRF)

The Generalized Impulse Response Function (GIRF) focuses on the nature and long run relationship among the factors. It graphically shows the long run relationship of each capital accumulation variable on the level of growth rate.

The GIRF for this investigation is introduced underneath:

Figure 1: Generalize Impulse Response Function (GIRF)



From Figure 1 above, a positive one standard deviation innovation to National Savings Rate (NSR) results in a positive response in RGDP up to about the seventh year after which the response of RGDP became weak. The weakness may be as a result of government borrowing and as well servicing of both domestic and external debts.

In the same vein, a positive one standard deviation innovation to Inflation Rate (INFR) results in a positive response in RGDP up to about the third year, became negative to about the fifth year and became positive again after the fifth year. With respect to Gross Fixed Capital Formation (GFCF) and Foreign Direct Investment (FDI), a positive one standard deviation innovation results in a largely weak negative response in RGDP. The weakness of GFCF may be as a result of embezzlement and siphoning of public funds which are meant for capital formation in the country. Also, the weakness of FDI may be as a result of insecurity in the country scares investors away.

Variance Decomposition

The variance decomposition which gives a breakdown of the impact of each capital accumulation variable on RGDP is presented in Table 5 below:

Table 5: Variance Decomposition

Period	S.E.	RGDP	NSR	INFR	GFCF	FDI
5	5.046621	89.21273	3.322376	4.671868	2.506757	0.286272
10	6.527725	85.00514	6.444090	4.838975	3.422120	0.289673
15	7.711625	83.92325	7.368757	4.730427	3.681404	0.296158
20	8.738777	83.30164	7.938068	4.649902	3.810255	0.300139
25	9.656842	82.92038	8.287423	4.596510	3.893006	0.302679
30	10.49516	82.65394	8.531659	4.559584	3.950439	0.304379

The variance decomposition shown in Table 5. above indicates that RGDP has a very high impact on itself. This is expected and it is not the focus of this work. However, NSR has a slow but increasing impact on RGDP over the years. For instance, in the fifth year, NSR had an impact of about 3.32 percent on RGDP which increased to 8.53 percent in the thirtieth year. The impact of INFR on RGDP appears stable but slightly decreases over the years. Whereas, GFCF displays a slightly increasing impact on RGDP over the years. Its impact in the fifth year stood at 2.51 percent but increased to 3.95 percent in the thirtieth year. Of all the variables, FDI appears to have the smallest impact on RGDP as seen in Table 5 above.

Diagnostic Tests

Two diagnostics tests were conducted, serial correlation test and heteroscedasticity test.

Serial Correlation Test

Presented in table 6 below is the serial correlation test result

Table 6.

Lags	LM-Stat	Prob
1	21.90104	0.6415

Probs from chi-square with 25 df.

Table 6 above shows that there is no serial correlation in the model as the p-value of 0.6415 is greater than the conventional five percent.

Heteroscedasticity Test

Presented in table 7 below is the test for heteroscedasticity.

Table 7: Heteroscedasticity Test

Joint test:		
Chi-sq	df	Prob.
316.8122	330	0.6895

The p-value of 0.6895 which is greater than 5 percent in Table 7 above shows that the model is homoscedastic.

Discussion of Findings

From the outcome in table 4. the connection between gross fixed capital formation and RGDP shows that a unit change in GFCF when all factors are held consistent will prompt an abatement in RGDP by - 5867.139 percent. This effect is negative and

measurably unimportant with a likelihood worth of 0.8833. Along these lines GFCF impacts contrarily on RGDP in Nigeria. The outcomes showed that public saving rate impacts decidedly on RGDP in Nigeria with a coefficient of 0.80530 which uncovers that a unit change in public saving rate when all factors are held consistent will prompt an increment in RGDP by 0.80530 unit with an immaterial prob. esteem 0.0326. This suggests that public saving rate unimportantly affect RGDP.

Moreover, the outcome shows that a unit changes in FDI when all other factors are held consistent will prompt an abatement in RGDP by - 5455.305 units. This uncovers that FDI in the outcome adversely affect RGDP in Nigeria with an irrelevant likelihood of 0.7946. The outcomes showed that INFR rate impacts adversely on RGDP with a coefficient of - 0.156738 which uncovers that a unit change in INFR when all factors are held constant will prompt a reduction in RGDP by - 0.156738 unit with a prob. esteem of 0.0061. This infers INFR rate unimportantly affect RGDP in Nigeria.

Gross fixed capital formation is negative since cash implied for structures and hardware are not productively utilised. Additionally, machines bought by government for financial reasons for existing are generally unloaded which sway contrarily on RGDP. Weakness is likewise a central point that influences FDI, in light of the fact that foreign investors are not prepared to work in an insecure environment which thus influences its commitment to RGDP of Nigeria.

Conclusion and Recommendations

The study investigated the impact of capital accumulation on economic growth in Nigeria over the period 1981-2019 by using vector error correction model (VECM).

The outcomes uncovered the proof of a since a long time ago run connection between the reliant variable, Real Gross Domestic product growth rate (RGDP) and the autonomous factors like gross fixed capital formation (GFCF), national savings rate (NSR), foreign direct investment (FDI) and inflation rate (INFR). The outcome is reliable with various prior investigations in the writing that discovered capital accumulation and economic growth to be co integrated over the long run.

Based on our investigations and discoveries, the accompanying ends could be drawn about the effect of capital accumulation on economic growth in the short-run and long run. National savings rate met our deduced assumption with economic growth. It has a positive coefficient. This implies that national saving rate has profited the Nigerian economy. In all, since capital accumulation matters significantly for a country's way of life and growth there is need for a revived interest in the activation of homegrown asset to back investment funds and economic growth. In the event that reserve funds can be improved, in this way prompting expanded speculation, we can have economic growth. Specifically, the environment in Nigeria should guarantee macroeconomic soundness and financial turn of events.

Dependent on the discoveries in this examination, the accompanying recommendations are made:

- i. Sufficient stockpile of reserve funds ought to be kept up as a focal strategy to stimulate economic growth. The public authority can likewise save more money through drastic reduction in frivolitie. The public authority can do this by diminishing government buys. A public reserve funds rate that is comprehensively in accordance with venture needs diminishes the economy's weakness to surprising changes in worldwide capital streams.
- ii. The public authority should establish a favorable climate as far as security, and foundation, for example, consistent force supply and great medical care conveyance that would improve a consistent progression of Foreign direct investment and is a sine qua non for advancement particularly of the economy. A large scale growth in the Nigerian economy accompanied with security of investment would assist in building the stability of Foreign Direct investment in Nigeria.
- iii. Nigerian government should institute policies there are compatible to foreign direct investment inflow that will support, advance and pull in more capital inflows.
- iv. For Nigeria to accomplish significant effect on economic growth, inflation rate should be in single digits. This will encourage investment and consumption.

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