

# Capital Formation and Economic Growth of Nigeria (1980-2017)

Dr. F.O. Chinyere Osunkwo

Department of Economics, Abia State University Uturu Nigeria

Email address: chinyerefunke @ yahoo.com

**Abstract**— This research work is on capital formation and Economic Growth of Nigeria (1980-2017). Data were collected from CBN statistical bulletin of various issues, the variables employed in this research work are Real Gross Domestic Product (RGDP), Gross Fixed Capital Formation (GFCF) and Interest Rate (INTR). It was discovered that GFCF, and Economic Growth were stationary at second difference, Johansen co integration test was employed to determine the order of integration while error correction model was employed to determine the speed of adjustment to equilibrium. The empirical findings suggest that capital formation has significant positive impact on economic growth while interest rate has a negative impact on Economic Growth in Nigeria for the period under review. It is therefore recommended that the monetary policy committee should set the interest rates at such level that will stimulate private investment in Nigeria.

**Keywords**— Capital Formation, Economic Growth, Interest Rate.

## I. INTRODUCTION

### Background to the Study

One cannot gainsay the importance of capital formation on Gross Domestic Product in an economy, especially in a developing country like Nigeria. Capital Formation refers to the process of stocking assets to increase wealth, it also refers to present income saved and invested in order to augment future output.

Bakare (2011) opined that capital formation is the proportion of income not spent on current consumption. Growth models predicts that increased capital accumulation can result in a permanent increase in growth rates, because it determines the national capacity to produce, therefore an understanding of the impact of capital formation is a crucial prerequisite in designing a policy intervention towards achieving economic growth.

### Statement of the Problem

Over the years the growth rate of capital in Nigeria has not been encouraging; it has often been unsteady, low and negative, resulting in capacity under-utilization, unemployment and its attendant high dependency ratio, low level output and sluggish economic growth. In view of this, the problem of this research is to find out the impact of investment (GFCF) and Interest rates (INTR) on the real GDP of the economy.

### Objectives of the Study

The broad objective of this research work is to investigate the impact of capital formation on the economic growth of

Nigeria, within the period under review. Whereas the specific objectives are

- 1 To determine the impact of Gross fixed capital formation on real GDP
- 2 To investigate the impact of interest rate on real GDP.

### Research Questions

- 1 What is the impact of gross fixed capital formation on real gross domestic product?
- 2 What is the effect of interest rate on real GDP?

### Hypotheses

The hypotheses will be expressed in null forms.

- 1 Ho1, GFCF does not have a significant impact on real GDP
- 2 Ho2, Interest rate does not exert any impact on real GDP

## II. REVIEW OF RELATED LITERATURE

### Conceptual Literature

Gross fixed capital formation is called gross because the measure does not make any adjustments to deduct the consumption of fixed capital (depreciation of fixed assets) from investment figures. GFCF is not a measure of total investment because only the value of net additions to fixed assets is measured.

Nigeria experience a tremendous growth in the rate of gross fixed capital formation at current prices between 1990 to 2005, it was #40.1billion in 1990, #141.9bn in 1995 #331bn in 2000, #804.4bn in 2005 and #1,546.5bn increase in private investments over these years (Akpokadje: 1999), it is therefore widely accepted that the expansion of private investment should be the added impetus for economic growth in the developing economies. (Chibber & Dailami 1990)

Savings which is defined as income not spent on current consumption but rather kept for future production is the foundation of capital formation, the extent to which savings can affect capital formation and growth depend largely upon the capacity of the economy to channel the savings into productive use. Therefore with higher savings and higher investment, higher GDP is assured. Glahe (2005).

Economic Growth is the increase in the amount of goods and services produced in an economy over a time period. Economic growth theory typically refers to growth of potential output, i.e. the production at full employment which is caused by growth in aggregate demand or output.

Johnson (2000) defines economic growth as part of economic theory that explains the rate at which a country's economy grows over time.

The effect of interest rate on savings cannot be over emphasized; an increase in the rate of return increases savings but real income effect of higher rates of return can affect savings adversely.

*Theoretical Literature*

Growth models like the ones developed by Romer (1986) and Lucas (1988) predict that increased capital accumulation can result in a rapid increase in the growth rate of the economy. No wonder in 1986, government considered the need for improvement in capital formation and pursued an economic reform that shifted emphasis to the private sector. The public sector reforms were expected to ensure that interest rates were positive in real terms in order to encourage savings so that investible funds would be readily available to the real sector. (Bakare 2011)

The influence of savings or investment in any nation depends partly on marginal efficiency of capital and partly on the rate of interest, on the other hand, the inducement to invest is inversely related to the rate of interest so that when interest rate is high investment is discouraged and vice versa.

*James Tobin Q theory of Investment*

The Q theory of investment entails a connection between investment and stock market price of a share in a company. The managers of the company can then be thought of as responding to price of the stock by producing more new capital than investing at all when the price of shares is low. Q is an estimate of the value the stock market places on a firm's asset relative to the cost of producing those assets. In its simplest form, 'q' is the ratio of the market value of a firm's stock to the replacement cost of the capital, when the ratio is high, firms will produce assets so investment will be rapid and vice versa.

*Empirical Literature*

Bakare (2011) did a co-integration test, to ascertain the relationship between capital formation and economic growth, he found a direct relationship existing between both variables.

Greene and Villanueva (1991) estimated the effect of public and private investment as a proxy for GFCF in Nigeria using the Ordinary Least Square method, found a positive relationship with real GDP, while interest rate has a negative impact.

Ugwuegbe & Urakpa (2013) investigated the impact of capital formation on the growth of Nigeria economy and found that interest rate exerts a negative influence on real GDP, while GFCF has a positive impact on real GDP.

Ogah (2014) in his research, Capital Formation and GDP growth rate used OLS estimates, found a negative relationship between the growth rate of GDP and interest rate.

Abiodun and Basiru (2013) examined the cause and effect relationship between domestic savings and economic growth in Nigeria, using granger causality and co-integration test found that causality runs from savings to economic growth in the period under review.

Ugwuegbe and Urakpa (2013) on the Impact of Capital Formation on the growth of the Nigeria economy used the

OLS method of data estimation and found a positive relationship amongst GFCF, SMC AND GDP.

*Summary of Literature*

Having examined the conceptual, theoretical and empirical literature relevant to this study, we found that various works have established a direct and long run relationship amongst the variables reviewed in this work.

The gap in literature however is that, despite all the research done on these subject matter, there is still a need to ascertain if a positive relationship still exist between gross fixed capital formation, stock market capitalization and the growth rate of GDP, especially with the current situation of rising unemployment, high inflation rate, under-capacity utilization and low output.

Secondary data collected from central bank of Nigeria were used in this research work

Model specification

$$RGDP=f(GFCF,INTR)$$

$$RGDP=a_0+a_1GFCF+a_2INTR$$

APRIORI EXPECTATION

$$a_1 \geq 0, a_2 \leq 0$$

The parameter a1 is expected to have a positive sign given that the increase in GFCF will cause RGDP to rise; in the same vein parameter a2 should have a negative sign because as interest rate rises investment falls.

III. PRESENTATION AND ANALYSIS OF DATA

*OLS Results*

Dependent Variable: RGDP

Method: Least Squares

Date: 04/11/19 Time: 16:49

Sample: 1981 2017

Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GFCF	3.53E-09	2.83E-10	12.46411	0.0000
INTR	-116.3040	90.35302	-1.287218	0.2067
C	24319.41	2018.001	12.05124	0.0000

R-squared	0.855718	Mean dependent var	32749.95
Adjusted R-squared	0.847231	S.D. dependent var	18889.20
S.E. of regression	7382.966	Akaike info criterion	20.72934
Sum squared resid	1.85E+09	Schwarz criterion	20.85996
Log likelihood	-380.4928	Hannan-Quinn criter.	20.77539
F-statistic	100.8251	Durbin-Watson stat	0.219778
Prob(F-statistic)	0.000000		

*Summary of Findings*

The result shows that there is a positive relationship between Gross fixed capital formation and Real Gross Domestic Product, this implies that as GFCF rises RGDP also rises, which is in line with the apriori expectation.

In the same vein, Interest rate has a negative and insignificant impact on RGDP, therefore increase or decrease in interest rate will not cause RGDP to rise or fall, the result

also shows that the independent variables included in the model accounted for 85% variations in the dependent variable while the remaining unexplained variations is taken care of by the error term.

The coefficient of the F statistics shows that the overall regression is significant.

#### IV. CONCLUSION

Gross Domestic Product is used to measure economic growth, because it determines whether or not an increased aggregate expenditure is matched by output overtime. An increase in GFCF is expected to bring about an increase in RGDP via increase in investment and provide employment opportunities for the teeming population. The objective of this research is to find out the impact of GFCF on RGDP, which has been found to be positive, one wonders however while the impact of capital formation is not evident on the economy, this however should form the basis for further research on the subject matter, to find out the factors that are slowing down growth in the economy.

##### *Contribution to knowledge*

The researcher has been able to ascertain the positive impact of capital formation on economic growth of Nigeria, we have been able to find that a positive relationship still exist between GFCF and RGDP, and a negative relationship between RGDP and Interest rate.

##### *Recommendation*

We have seen the importance of capital formation on RGDP, therefore the following recommendation are made to enhance capital formation and RGDP in Nigeria.

1 Government and the entire citizenry should promote an enabling environment devoid of violence and political

instability conducive for investment in order to attract foreign investors; this will promote inflow of capital into the economy and complement our domestic savings.

2 A slight raise in income will go a long way to encourage private savings, bearing in mind that households are the major contributors of savings and capital formation.

3 Corruption and misappropriation of funds should be avoided to enable the economy to actually feel the impact of increased capital formation. Financial discipline and prudence should be observed in all the facet of the economy.

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