

## **Savings – Investment: A Strategy for Economic Growth in Nigeria**

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### **Abstract**

*The main objective of this study is to empirically examine the effect of savings and investment on economic growth in Nigeria. The study uses annual data from 1990 to 2020, being a sample period of thirty (30) years. Error corrected representation is used to examine the effects of savings and investment on economic growth. The economic utilized lag order 2 as the optimal lag length as selected by the information criteria. The key policy variables are savings, investments, exchange rate and short – term interest rate, as against the policy target economic growth, proxy for gross domestic product (GDP) the long run empirical results indicates that increase in saving induces a decrease in GDP, increase in investment lead to increase in GDP and increase in interest rate decrease the GDIncP in the long run the result from the co – integration shows that there is long run relationship between savings, investment and economic growth in Nigeria, the result of the regression indicates that change in Gross Domestic Savings movement has negative and significant effect on the change in economic growth in Nigeria and that the change in gross domestic investment has positive and significant effect on the change in the Nigerian economic growth, from the findings the study, therefore recommend that monetary authority should focus in controlling an manipulating instruments such as short term interest rate, in the form of treasury bill rate, as major tool for transmitting monetary impulses for domestic output in the Nigerian economy.*

**Keywords: Savings, Investment, Economic Growth**

**JEL Classification: E21, E22, F43**

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### **1. Introduction**

In most countries, promoting economic growth through savings and investment strategy has received considerable attention in view of the strong positive correlation between investment and Gross Domestic Product (GDP) growth rate; this has led to a serious debate on savings

and investment strategic process in promoting economic growth in many countries around the world. The central idea of traditional theory of savings was that increasing saving would accelerate economic growth, while theory of investment specified investment as the key to promoting economic growth. On the other hand, neoclassical; theory argues that increase in the saving rate boots steady- state output buy more than its direct implications on savings. This is because the increase income raises savings, leading to a further rise in investment (Verma, 2017). The persistence of rising magnitude of savings and investment in Nigeria which was characterized by the level of private sector operation has adverse implication on economic growth.

Bhatia and Khatkhate, (2018) defined savings as the excess of income over consumption and concluded that this is the way of acquiring assets for the whole economy. Soyibo and Adekanye (2019) also, defined saving as the amount of income per capital time period that is not consumed by Economic units. For the household savings represents that part of disposable income not spend on domestically produced or imported goods and services while for the firm, its represents undistributed business profits. Saving provide developing countries like Nigeria with the much needed capital or investment which improve economic growth. Increase in saving leads to increase in capital formation and production activities that will lead to employment creation and reduce external borrowing of government. Loans deposits saving rate may maintain low – growth level because Harrod Dormar model suggested that saving is an important factor for economic growth.

In explaining savings and investment on economic growth, Abu (2016) stated that increase in savings results to increase in capital formation and investment and thereby raising the growth of the nation's economy. Savings and investment are the basic requirements for economic growth and development in any nation. The evaluation of the impact of savings and investment on economy in Nigeria is very important because it will provide useful information on which of the macro - economic variables will be used to monitor the level of economic growth and development through savings and investment. Understanding the impact of savings and investment on economic growth has become more relevant for its policy implications in Nigerian economy. Perhaps, if savings and investment cause economic growth, then promoting gross domestic savings and investment should be focused on to boost the level of economic growth in Nigeria.

## **2. Literature Review**

### **2.1 Conceptual Clarification**

#### **2.1.1 Concept of Saving**

According to Zira (2020), savings refers to the money that a person has left over after they subtract out their consumer spending from their disposable income over a given time period, savings therefore represents a net surplus of funds for an individual or household after all expenses and obligations have been paid. Savings are kept in the form of cash or cash equivalents (eg as Bank deposits) which are exposed to no risk of loss but also come with correspondingly minimal returns, savings can be grown through investing, which requires that the money be put at risk. But Bulus (2021) stated that savings is the amount of money left over after spending and other obligations are deducted from earnings, savings represent money that is otherwise idle and not being put at risk with investment or spend on consumption, savings are very safe but tend to offer very low rates of returns as a result, savings can be contrasted with investing in that the latter involves seeking to grow wealth by putting money at risk.

Dalis (2022) stated that savings comprise the amount of money left over after spending, people may save for various life goals or aspirations such as retirement, a child's college education, the down payment for a home or car, a vacation or several other examples, savings may commonly be earmarked for emergencies.

#### **2.1.2 Concept of Investment**

Bamdy (2021) defined investment as essentially an asset that is created with the intention of allowing money to grow, the wealth created can be used for a variety of objectives such as meeting shortages in income, saving up for retirement or fulfilling certain specific obligations such as repayment of loans, payment of tuition fees or purchase of other assets. According to Gizo, (2022), investment is an asset acquired or invested into build wealth and save money from the hard earned income or appreciation, investment meaning is primarily to obtain an additional source of income or gain profit from the investment over a specific period of time.

Zogore (2020) also defined investment as an asset with the goal of generating income or appreciation, appreciation refers to an increase in the value of an asset over time. When an individual purchases a good as an investment, the intent is not to consume the good but rather to use it in the future to create wealth. An investment always concerns the outlay of some capital to day-time, effort, money, or an asset in hopes of a

greater payoff in the future than what was originally put in for example an investor may purchase a monetary asset now with the idea that the asset will provide income in the future or will later be sold at a higher price for a profit.

### **2.1.3 Concept of Economic Growth**

Likita (2020) defined economic growth as the process by which a nation's wealth increases overtime, although the term is often used in discussions of short-term economic performance, in the context of economic theory it generally refers to an increase in wealth over an extended period, it involve process of transformation.

Godong (2020) asserted that economic growth refers to is an increase in the production of economic goods and services, compared from one period of time to another, it can be measured in nominal or real (adjusted for inflation) terms. In economics economic growth is commonly modeled as a function  $f$  physical capital, human capital, labour force and technology. Simply put, increasing the quantity or quality of the working age, population, the tolls that they have to work with and the recopies that they have available to combine labor, capital, and raw materials, which will lead to increased economic output.

Abimiku (2021) also in his view defined economic growth as the total increase or improvement in the inflation adjusted market value of the goods and services produced by an economy over time, the economic growth rates of countries are commonly compared using the ratio of the GDP to population (per-capita income).

Dicksen (2019) also defined economic growth as a means of increase in the value of an economy's goods and services which create more profit for businesses as a result, stock prices rise, that gives companies capital to invest and hire more employees, as more jobs are created, incomes rise, consumers have more many to buy additional products and services, and purchases drive higher growth.

## **2.2 Theoretical Review**

### **2.2.1 Classical Theory of Interest Rate**

The classical theory of interest rate stresses that the supply of funds and demand for them it says that the forces of demand and supply determine the interest rate. The supply of loanable fund in governed by the ability of people to save in the economy. According to the classical theory, interest rate is determined by the intersection of the investment – demanded schedule and the saving schedule, i.e. schedule and the saving investment and saving to the rate of interest. However, no solution is

possible because the position of the saving – schedule will vary with level of real income hence the Keynesian attack of the classical theory of interest on the ground that it is indeterminate. That is, as income rise, the saving – schedule will shift to the right hence we cannot know what the rate of interest will be unless we are already know the income level. But we cannot know the income level without already knowing the rate of interest, since a lower interest rate will mean a large volume of investment and so, via the multiplier, a higher level of real income.

As the interest rate moves upwards, investment projects which were formerly only just profitable will become potentially loss –making and so planned investment will be out back, thus reducing the demand for loanable funds. A high rate of interest will encourage a higher level of abstention from current consumptions; therefore the supply of loanable funds will tend to rise. Adjustment will continue until the whole of the excess demand has been removed. It should be recognized that in the classical theory, the money supply has no explicit role. This is explained by the classical basis of the theory, which argues the supply of money is “neutral” in the sense that it only determines the absolute level of price; it has no effect on the real variables (such as the real values of consumption, saving and investment). Thus, is the money supply is raised, this causes all prices to rise proportionately, and by implication the money value desired savings and investment will also rise in proportion in order to maintain their desired real values. The additional liquidity created by the increase in money supply is quickly and completely absorbed by a higher price level. This was based on the quantity theory of money by the classical school of thought; changes in money supply will have no effect on the real rate interest (Micah, 2020).

### **2.2.2 Theory of Financial Liberalization**

Financial liberalization theory was propounded by Mickinnon (1973) which predict that financial liberalization can promote economic growth and development by increasing savings, investment and the productivity of capital and much of the evidence from both developing and developed economies. It shows the establishment of higher interest rates that equate the demand for, and the supply of, savings, it expresses the views that higher interest rates will lead to increased savings and financial intermediation as well as to improve in the efficiency of using savings, it also indicate that higher real interest rates increases the extent of financial intermediation while increased financial intermediation raises the rate of economic growth in developing countries and also the effects of interest rates in investment efficiency and in economic growth.

### **2.2.3 Neo Classical Theory of Investment**

Neoclassical theory of investment is the appropriate theory that discusses the relationship between savings investment and economic growth. The theory was developed in the nineteenth and twentieth century at the time of industrialization in the West. Its view on investment is built on the premise of domestic investment climate, where the growth rate of real output is positively related to investment. This means, when inputs and outputs in production are allocated efficiently, they stimulates economic growth. Investment therefore, is likely to be important to some extent for any country's economic prosperity. According to Barro (1996), a higher saving rate increases the level of investment and it ultimately leads to a steady state level of output per worker, which enhances economic growth rate. a rapidly growing economy through domestic investment would be expected to boost expectations and hence further investment opportunities (Duncan, 1999). In conclusion, Kowalski (2000) argues that saving investment is a fruitful indicator for economic growth. Thus, domestic investments can serve as a means of faster and sustainable channel for modern economic growth, particularly through capital formation, productivity, infrastructural development, export, among others, hereby making the investors to automatically seek out the most favourable investment opportunities.

### **2.3 Empirical Review**

Verma and Wilson (2015) examined the relationship between savings, investment, foreign inflows and economic growth in Indian using ordinary least square method and annual time series data from 1980 to 2010. The study revealed that savings and investment affect GDP in the long run while GDP has significant but small effects on household savings and investment in the short run. This means that the feedbacks to GDP are absent in the long run and only small in the short run. However, their results and findings did not support the Solow and endogenous growth theory which states that there is needed to increase household savings and investment so as to encourage economic growth.

Similarly, Verma (2017) investigated the relationship between savings, investment and economic growth in India from 1951 to 2004 using Autoregressive Distributed Lag (ARDL) Bounds Testing technique to test for co – integration. The result of ARDL co – integration revealed that GDP, GDS and GDI have long relationship except when GDP is depending variable. The study also examines the long – run and short –

run elasticity of the correlation between GDS, GDI and GDP Growth. The result shows that savings do not cause growth, but growth causes savings, saving drive investment both in the short – run and in long – run and that investment is the driver of economic growth in India during the period.

Furthermore, Jangili (2016) examined the direction of the relationship between savings, investment and economic growth in India at both aggregate and sectoral level. He use error correction Mechanism and Granger Causality in his methodology, result show savings influence investment, but the effects savings and the investment was weak. The Granger Causality shows one directional movement from savings and investment to economic growth to savings and investment.

Similarly, Sultan and Haque (2019) investigated the estimation of the relationship between domestic investment, export and economic growth in India using Johnson's co – integration methodology. The result showed that there is presence of a long run relationship between investment, export and economic growth in India. The study also shows that only domestic investment significantly contributes to economic growth both in long run and short run, while export has positive and insignificant impact on economic growth in India. This means that India should continue to focus on domestic investment while diversifying investment towards promoting export sector through investment in infrastructure.

Roman (2017) employed the Autoregressive Distributed Lag (ARDL) approach to test for co–integration, error correction and granger causality analysis in examining the relationship between the gross domestic savings, investment and growth in Nepal for the period of 1980 to 2015. The result of the study show that co – integration exists between domestic savings, investment and gross domestic product when each of them is taken as dependent variable. The result of the granger causality test revealed that is short – run and long – run bidirectional causality between investment and gross domestic product as well as between gross domestic savings and investment. Nevertheless, no short – run causality is found between gross domestic savings and gross domestic product.

Mohamed (2018) examined the causal relationship among savings, investment and economic growth in Ethiopia using annual time series data from 1970 – 2011 in a multivariate framework. Result from the ARDL Bounds testing indicates that there exists co-integration among savings, investment and gross domestic product when GDP is taken as dependent variable. The study also revealed that labour force and investment have significant and positive effect on economic growth

Ethiopia both in the short – run and long – run while savings and human capital are statistically insignificant.

Turan and Olesia (2016) investigated the impact of savings on economic growth in Albania over the period of 1992 to 2012 using Johansen co – integration test and error correction model. The result revealed that the savings and economic growth are co–integrated, therefore showing the existence of a stable long–run equilibrium relationship. The literature reviewed shows evidence of mixed modeling as well as inconsistencies in the choice of variables; the geographical area and the scope are also inconsistent. The extent to which savings and investment affects economic growth has remained uncertain and undermined in Nigeria. This has been identified as the existing gap of knowledge in literature.

### **3. Theoretical Framework and Methodology**

The theoretical framework is based on the financial liberalization theory which started with the seminal work of Mickinnon (1973) and Shaw (1973) which highlighted the adverse effects of financial repression growth. They termed developing economies as “financially repressed”. Their central argument is the financial repression causes indiscriminate “distortions of financial prices including interest rates and foreign – exchange rates (Cecchetti, 2019). In other words, financial repression – a combination of heavy taxation, interest rate controls and government participation in the credit – allocation process– would lead to both a decrease in the depth of the financial system and loss efficiency, with which savings are intermediated.

The proponents of financial reform (Mckinnon - shaw) argued that financial liberalization tends to raise ratios of domestic private savings to income (Shaw 1973). Therefore, financial liberalization will lead to significant economic growth through a more effective domestic saving mobilization, financial deepening, investment and efficient resource allocation. Interest rate ceilings are imposed to stifle competition in public sector funds raised from the private sector. Measures such as the imposition of foreign exchange controls, interest rate ceilings, high reserve requirements, and the suppression or non – development of private capital markets can all increase the flow of domestic resources to the public sector without higher tax, inflation, or interest rates Cecchetti (2008).





NB:\*, \*\*, \*\*\* imply 1%, 5% and 10% levels of statistical significance respectively.  
 Source: Author’s Computation, 2022

From the above, it shows a unit increase in interest rate reduces a decrease in GDP in the long run. This is in line with the a-priori expectation which states that interest rate reduces GDP by -240666.6. The result also show that increase in exchange rate, will lead to an increase in GDP. Savings (SAV) variable has a negative sign which implies that the relationship between Savings and Gross Domestic product (GDP) Is inverse. This is consistent with the theoretical expectation of the study which says increase in savings will lead to decrease in GDP.

#### 4.2 Co-Integration Test Result

Co-integration with unrestricted intercepts and no trends in the VAR

Co-integration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

30 observations from 1990 to 2020. Order of VAR = 1.

List of variables included in the co-integration vector:

GDP                  SAV                  INV                  INTR                  EXR

List of Eigen values in descending order:

.96956                  .89882                  .29360                  .25755                  .026439

**Table 2: Co-Integration Vector output on Saving-Investment Model**

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	62.8578	33.6400	31.0200
r <= 1	r = 2	41.2349	27.4200	24.9900
r <= 2	r = 3	6.2564	21.1200	19.0200
r <= 3	r = 4	5.3604	14.8800	12.9800
r <= 4	r = 5	.48231	8.0700	6.5000

Source: Authors Computation, 2022

Table 2 reports the co-integration test results for the GDP model. Maximal Eigen value tests indicate 2 co-integrating relationship or vector at 5% level of significance. To determine co-integrating test, we compare the maximal Eigen value tests statistics to the critical value in order to determine the number or co-integrating equations. If the maximal Eigen value tests statistics is greater than the critical value there is co-integrating equation. For rank 1 the maximal Eigen value tests statistics is 62.8578 greater than the critical value 33.6400 and at rank 2, the maximal Eigen value tests statistics is 41.2349 greater than the

critical value 27.4200. Thus, the maximal Eigen value tests statistics indicates 2 co-integrating relationship or vector at the 5% level of significance. The study proceeds to the long run estimation.

**Table 3: Johansen Co-integration Table**

Vector 1	Vector 2	
GDP	6510E-7 (-1.0000)	4100e-7 (-1.0000)
SAV	1656E-7 (-.25435)	.4834E-8 (-.11790)
INV	-.0011569 (17770.3)	-.19699E-4 (480.2555)
INTR	.015661 (-240556.6)	-.0058916 (143687.5)
EXR	-.7304E-3 (11219.8)	-.9425E-3 (22986.3)*

Sources: Author Computation, 2022

From the result, thus, a unit increase in saving induces a decrease in domestic output (GDP) in the long-run by -.25435. Investment is positively related GDP. This is in line with the a-priori expectation which states that increase in investment will lead to increase in GDP. Thus, units increase in investment leads to 17770.3 units.

### 4.3 Short run Dynamics: Error Correction Model

Short run Dynamics: Error Correction Model

ECM for variable GDP estimated by OLS based on cointegrating VAR (2)

Dependent Variable GDP

30 observations used for estimation from 1990to 2020

**Table 4: Short Run Dynamics: Vector Error Correction Model**

Regressor	Coefficient	Standard Error	T- Ratio[Prob]
Intercept	4620457	1241401	3.7220[.005]
dGDP1	-.91255	.33582	-2.7174[.024]
dSAV1	.33681	.92807	.36292[.725]
dINV1	-11085.6	2903.6	-3.8179[.004]
dINTR1	341662.8	164505.0	2.0769[068]
dEXR1	-2483.8	2156.3	-1.1519[.279]
ecm1(-1)	203925	884103.1	2.3066[.46]
ecm2(-1)	-395333	884993.9	4.4671[.002]
R – Square	.87753	R-Bar-Squared	.78228
S.E of regression	884074.4	F-stat. F (7, 9)	9.2126[.002]

Mean of Dependent Variable	2235161	S.D. of Dependent Variable	1894692
Resident sum of Squares	7.033E+12	Equation Log-likelihood	-251.4851
Akaike Info. Criterion	-129.4851	Schwarz Bayesian Criterion	-262.8179
DW-statistic	1.9895	System Log-Loglihood	-688.2380

Sources: Author Computation, 2022

From the short run result savings, interest rate and exchange rate are not statistically significant, only investment is statistically significant, but not in the line with the theoretical expectations of the study which says that investment has positive relationship with gross domestic product.. However, the short run term does not give the true picture of about the variables. It is only an adjustment mechanism towards the long run, from the result above, the coefficient of determination ( $P_2$ ) value is .87753. This implies that 88 percent of the total variables in Gross Domestic Product is explained by the changes in the explanatory variables

#### **4.4 Discussion of Findings**

From the result, it shows a unit increase in interest rate reduces a decrease in GDP in the long run. This is in line with the a-priori expectation which states that interest rate reduces GDP by -240666.6. The result also show that increase in exchange rate, will lead to an increase in GDP. Savings (SAV) variable has a negative sign which implies that the relationship between Savings and Gross Domestic product (GDP) Is inverse. This is consistent with the theoretical expectation of the study which says increase in savings will lead to decrease in GDP; the reason is that savings has contractionary effect; money that would have been invested is kept as Savings. The value of the coefficient is negative; indicating that a unit increase in saving will lead to -.25435 decreases in GDP. The variable investment has a positive sign, indicating that there is a direct relationship between investment and GDP. This is consistence with the study’s a-priori expectation, which says that increase in investment will lead in increase in GDP.

The coefficients 17770.3, this implies that a unit increase in investment will decrease Gross Domestic Product by (GDP). Interest Rate (IR) has a negative sign which, implies that the relationship between interest rate Gross Domestic Product (GDP) is invest. This means that an increase in interest rate will reduces Gross Domestic product (GDP). This is consistent with the theoretical expectation of the study. The value of the coefficient is negative, indicating that the

percentage increase in interest rate will lead to decrease in Gross Domestic product by -240556.6. Exchange rate (EXTR) has a positive sign which, indicates that the relationship between exchange rate and GDP is direct, meaning that an increase Gross Domestic Product (GDP). This is in line with the theoretical expectation of the study. The value of the coefficient is positive, indicating that a percentage increase in exchange rate will lead to increase in Gross Domestic product by 11219.8.

However, the short run result does not give the true picture about the variable it is only an adjustment mechanism towards the long run. From the result above, the coefficient of determination (P2) value is .87753 this implies that 88 percent of the total variable in Gross Domestic Product is explained by changes in the explanatory variables. Subsequently, 12percent is unexplained due to error term. The adjusted coefficient of determination (R-2) is .78228 this implies that 78 percent of the total variation in G.DP is explain by the changes in the explanatory variables when the coefficient of determination is adjusted for degree of freedom. This implies that 22 percent is unexplained due to error term. The statistic is highly significant at 5% level of significant with the pro-value of .002. Durbin Watson Statistic of 1.98 indicates that there is absence of serial autocorrelation. Thus one can say that the model has a high goodness of fit

## **5. Conclusion and Policy Recommendations**

The main objective of this study is to examine the impact of savings –investment on the growth of the Nigeria economy. The research study made use of secondary data which were sourced from the Central Bank of Nigeria Statistical Bulletin (2021). The data were collected for a period of thirty (30) years (1990-2020). Error Correct Mechanism was employed in the analysis of the data between Gross Domestic Product (RGDP) and savings. It also shows that there is a positive relationship between Gross Domestic Product and Investment. This has affirmed with the work of Mohammed in 2018 that labour and investment have significant and positive effect on economic growth. It further revealed that Gross Domestic Product has inverse relationship with interest rate. This study is focused on the saving investment on the economic growth of the Nigeria economy. This agreed with the work of Verma in 2017 that savings drive investment in both the short-run and the long-run and that investment is the driver of economic growth.

Based on the findings of the study, it was observe that savings and interest rate are not impacted significantly on the growth of the

Nigeria economy. Only investment has significant and positive impact on the growth of the economy. The study concludes that investment is significant to the growth of the Nigerian economy.

In view of the findings of this research work, the following recommendations are put forward:

- i. A better and stronger savings culture should be promoted and sustained; there should be strong and comprehensive legal framework that will continue to aid in monitoring the performance of savings of the deposit money banks in Nigeria.
- ii. For an economy to experience growth there should be a collection contribution of different sectors towards investment with the aim of achieving a common goal. Examples of such sectors are agricultural sector and the manufacturing sector etc.
- iii. Since the study identified investment as the most important variable affecting economic growth, efforts should be made towards encouraging more investment in Nigeria.
- iv. Finally, capital formation has significant and positive effects on economic growth in Nigeria. It therefore recommends that the focus of development policies in Nigeria should be on the monetary and fiscal policies, as to encourage high investment and savings culture.

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