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HOW DOES GOVERNMENT SPENDING SPUR PRIVATE CONSUMPTION, PRIVATE INVESTMENT AND FOREIGN CAPITAL INFLOWS FOR ECONOMIC GROWTH IN NIGERIA?

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Abstract

This study examined the effectiveness of government spending on economic growth in Nigeria through three principal variables: private investment, foreign capital inflows and private consumption using quarterly data covering the period of Q1 2007 to Q2 2020. Data for the study were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin. The study employed impulse response and variance decomposition, dynamic pass-through elasticity and granger causality test with Vector Error Correction Model. The results suggested that a shock in the government spending elicited wide fluctuating from gross domestic product (GDP). The pass-through computation suggested that the short-medium and long-term dynamic elasticity had a positive effect of private consumption expenditure on economic growth. Foreign capital inflows exerted negative elasticity in the entire time horizon while gross capital formation exhibited positive response throughout the chosen time horizon. Finally, the granger causality test suggested that there was causality between the series of government expenditure, gross capital formation and economic growth in Nigeria. The study recommended that when government expenditure is judiciously utilized, it has capacity to spring up other socio-economic activities from the private sector through private investment.

Keywords: Economic Growth, Foreign Capital Inflow, Government spending, Private Consumption, Private Investment

JEL Classification: O47, O42, H53, R42, E21

1.0 Introduction

Prior to the great depressions of the 1930's, the doctrine of the classical economists that, interaction of market forces dictates the tone of economic performance gained full acceptance. Their laissez-faire philosophy postulated that, the invisible hand of the market forces would act to ensure a high level of employment, stable prices, and a favourable balance of payments position so as to make infant industries to thrive (Ogar, Eyo & Arikpo, 2019). However, following the Great Depressions of the 1930s, Keynes (1936) postulated that, the invisible hand needed to be replaced with the visible hand (the government) to intervene in the economy. He postulated that the depressions

were as a result of inadequate aggregate demand and that there was a need for the government to stimulate consumption via increased government spending. His postulations proved effective in the United Kingdom and was widely adopted by both developing and developed economies. This has indeed widened and increased the role of government spending in stimulating private consumption that in turn propels private investment. Private consumption refers purchases made by households for final use and private investment refers to all purchases made by business firms for production purposes. In line with the Keynesian postulation private investment boosts economic growth.

It is generally believed that, government spending and interventions on health, education and physical infrastructure play a crucial role in achieving certain desired outcomes such as poverty reduction, economic growth, price stability, favourable balance of payment and low level of unemployment. Government engages in several policy measures such as economic interventions that ensure fair resources redistribution among citizens. Globally, the size and scope of government expenditure programmes have engendered great debates among researchers and macroeconomic decision makers due to its effects on economic growth (Akpan, 2018). While some studies (Okonkwo, 2010; Sevitenyi, 2012; Akerere & Yousuo, 2012; Ugwuegbe & Uruakpa, 2013; Olufemi, 2014; Ifarejimi & Ola, 2017 and Sule, 2019) have demonstrated that government expenditure have positive effects on economic growth, others have found that government expenditure is insufficient to drive growth in the Nigerian economy (Maku, 2009; Nurudeen & Usman, 2010; Egbetunde & Fasanya, 2013; Jeff-Anyeneh & Ibenta, 2019;). However, high level of growth may be insufficient to guarantee productive employment if it does not have the capacity to rein unemployment, poverty, inflation amongst others, if it is not private sector driven (Akiri et *al*. 2020). It is a truism that, the most important role of governments is to ensure that there is law and order as well as provide physical infrastructure to enable the private sector to thrive so as to bring about economic growth and hence the need to investigate more on this in Nigeria. This study, adopted a unique approach from previous studies by estimating the pass-through effect from government spending to economic growth through three principal variables – private investment, foreign capital inflows, and private consumption. The choice of these variables is predicated on the fact that, government expenditure (both capital and recurrent) is expected to influence private consumption and private investment. Also, if the government provides law and order and ensure adequate availability of infrastructural facilities such as roads, portable water and electricity and this will attract private investment (both domestic and foreign). All these variables are consequently expected to help push for the growth of the economy. Thus, this paper examined the causal relationship among private investment, foreign capital inflows, private consumption and economic growth in Nigeria. It also carried out a pass-through analysis of how government spending impacts economic growth through private investment, foreign capital inflows and private consumption.

2.0 Review of relevant literature

2.1 Theoretical Review

This study adopted the theories by Keynes, Musgrave and Neoclassical theories in formulating the models of this study. Keynes (1930) postulated that "if demand could be raised, production and employment would skyrocket, allowing the economy to reach its full employment potential. Furthermore, Keynes contended that fiscal policy expansion could achieve this, based on the fact that aggregate demand induces business firms to supply goods and services. The government will finance projects like public projects, and the resulting deficit spending would generate employment and boost economic output. Musgrave (1969) held the same view when he stated that there is a workable connection among economic growth and the growth of government activities, as such, public sector develops quicker than the economy. As a result, regardless of their objectives (peaceful or warlike) or size, all levels of government exhibit the same tendency to increase public spending.

It is important to point out that within an economic construct, beyond the role played by government, economic growth arises from a multitude of other sources and this was seen by the Neoclassical Growth Models which highlighted that along with capital and labour, technological innovations stimulate economic growth. Solow (1956) acknowledged that the level of technological progress in the economy under evaluation determines a sizable percentage of economic output. Capital can be domestic or foreign-sourced; as such in a globally interconnected world, foreign capital inflows whether through Foreign Direct Investment or Foreign Portfolio Investment both act as drivers of economic growth. Capital obtained is expended on investment which results in increasing output and cumulatively, national income.

Evidence from the Central Bank of Nigeria (2021) shows that, Government expenditure in Nigeria has been on the increase over the years and this increase is expected to boost aggregate demand which should spur private consumption. More so, the investment of government in infrastructure such as power, water, transportation facilities among others is expected to provide an environment conducive for both private investment and foreign capital inflow. All these are expected to drive economic growth.

2.2 Empirical Review

Government expenditure can boost economic growth through foreign capital inflow by investing in infrastructural development and providing security. The effect of foreign capital inflows (separated into Foreign Direct Investment, Foreign Portfolio Investment, and Workers Remittances) on Nigerian economic growth was assessed by Onyinye, *et al* (2018) from 1986 to 2014 and found some components of foreign capital inflows, aside from workers' remittances, had a strong influence on economic growth. Also, Ahemen *et al* (2022) found that remittances and official development assistance were two main sources of foreign capital that contributed greatly to Nigeria's economic growth between 1981 and 2020. Orji *et al* (2014) evaluated the effect of foreign capital inflow on economic growth in the West African Monetary Zone and found that Nigeria's official development assistance and foreign direct investment contributed positively to

output growth during the period under review. On the effect of private investment on economic growth, Sule (2019) evaluated the result of consumption and investment expenditure on economic growth in Nigeria from 1971 to 2016 using the Keynes concept of effective demand. The finding shows that private investment expenditure does indeed have a good but minor change on economic growth.

The composition effect of government expenditure on private consumption and output growth in Nigeria was investigated by Matthew (2013). The finding shows that government spending had a long-term impact across both personal consumption and output; while Akekere and Yousuo (2012) looked into the changes in the gross domestic product (income) on individual consumption expenditure in Nigeria. The findings confirmed the authors' theoretical prediction of a favourable relevant impact of Gross Domestic Product (income) on Private Consumption Expenditure.

3.0 Methodology

3.1 Data

This study adopted an ex post facto research design in order to objectively arrive at the conclusion of the study. The data used in the study ranged from the first quarter of 2007 to the second quarter of 2020 sourced the Central Bank of Nigeria (2021). The model and variables for the study are drawn in line with the postulations of Keynes (1936) which sees government spending as a booster of household consumption, investment and overall growth of the economy. The variables of the study are in line with Keynesian theory are Real Gross Domestic Product (RGDP) which is a measure of economic growth, Government Expenditure (GEX) which includes monies spent by the government on both recurrent and capital items, Savings (SAV) which refers to total amount of money saved in the financial sector in Nigeria, Gross Fixed Capital Formation (GCF) which refers to money spent of replacement and purchase of capital assets and Private Consumption (PCE) which refers to expenditure by business firms for business purposes, Foreign Capital Inflows (FCI) measured as to amount of money coming into Nigeria from other countries and Interest Rate (INR) which is a percentage charges on loans over a period of time. The variables were measured in billions of naira but INR was measured in percentages.

3.2 Model Specification

The Keynesian theory clearly links government expenditure with economic growth and investment. There is also strong evidence from empirical studies on the relationship between government expenditure and economic growth and the association of private consumption, private investment and foreign capital inflows and economic growth as found in the studies by Musaba, Chilonda and Matchaya (2013); Matthew (2013); Kimitei (2012), Teheen (2017) and Ahemen et *a*l (2022). Thus, The specification of the functional form of the relationship as:

$$RGDP = f(GEX, SAV, DCR, INR, GCF, FCI, PCE) \quad (1)$$

Where: **RGDP** =Real Gross Domestic Product, **GEX**=Government Expenditure, **SAV** = Domestic Savings, **DCR**=Domestic Credit, **INR**=Interest Rate, **GCF**= Gross Fixed Capital Formation, **FCI** = Foreign Capital Inflows and **PCE** = Private Consumption

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By taking the first difference of the variables, and haven established that they are integrated of order one and there is cointegration among the variables, we presented the relationship in a Vector Error Correction (VECM) model which is given as:

$$\Delta RGDP_t = \alpha^{RGDP} + \sum_{I=1}^{K} \beta_i^{RGDP} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{RGDP} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{RGDP} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{RGDP} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{RGDP} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{RGDP} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{RGDP} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{RGDP} \Delta PCE_{t-i} + \tau^{RGDP} ECM_{t-i}^{RGDP} + \varepsilon_t^{RGDP} \quad (2)$$

$$\Delta GEX_t = \alpha^{GEX} + \sum_{I=1}^{K} \beta_i^{GEX} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{GEX} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{GEX} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{GEX} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{GEX} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{GEX} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{GEX} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{GEX} \Delta PCE_{t-i} + \tau^{GEX} ECM_{t-i}^{GEX} + \varepsilon_t^{GEX} \quad (3)$$

$$\Delta SAV_t = \alpha^{SAV} + \sum_{I=1}^{K} \beta_i^{SAV} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{SAV} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{SAV} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{SAV} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{SAV} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{SAV} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{SAV} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{SAV} \Delta PCE_{t-i} + \tau^{SAV} ECM_{t-i}^{SAV} + \varepsilon_t^{SAV} \quad (4)$$

$$\Delta DCR_t = \alpha^{DCR} + \sum_{I=1}^{K} \beta_i^{DCR} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{DCR} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{DCR} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{DCR} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{DCR} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{DCR} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{DCR} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{DCR} \Delta PCE_{t-i} + \tau^{DCR} ECM_{t-i}^{DCR} + \varepsilon_t^{DCR} \quad (5)$$

$$\Delta INR_t = \alpha^{INR} + \sum_{I=1}^{K} \beta_i^{INR} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{INR} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{INR} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{INR} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{INR} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{INR} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{INR} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{INR} \Delta PCE_{t-i} + \sum_{i=1}^{K} \sigma_i^{INR} \Delta LF_{t-i} + \tau^{INR} ECM_{t-i}^{INR} + \varepsilon_t^{INR} \quad (6)$$

$$\Delta GCF_t = \alpha^{GCF} + \sum_{I=1}^{K} \beta_i^{GCF} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{GCF} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{GCF} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{GCF} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{GCF} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{GCF} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{GCF} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{GCF} \Delta PCE_{t-i} + \tau^{GCF} ECM_{t-i}^{GCF} + \varepsilon_t^{GCF} \quad (7)$$

$$\Delta FCI_t = \alpha^{FCI} + \sum_{I=1}^{K} \beta_i^{FCI} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{FCI} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{FCI} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{FCI} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{FCI} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{FCI} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{FCI} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{FCI} \Delta PCE_{t-i} + \tau^{FCI} ECM_{t-i}^{DCR} + \varepsilon_t^{FCI} \quad (8)$$

$$\Delta PCE_t = \alpha^{PCE} + \sum_{I=1}^{K} \beta_i^{PCE} \Delta RGDP_{t-i} + \sum_{i=1}^{K} \gamma_i^{PCE} \Delta GEX_{t-i} + \sum_{i=1}^{K} \delta_i^{PCE} \Delta SAV_{t-i} + \sum_{i=1}^{K} \theta_i^{PCE} \Delta DCR_{t-i} + \sum_{i=1}^{K} \vartheta_i^{PCE} \Delta INR_{t-i} + \sum_{i=1}^{K} \pi_i^{PCE} \Delta GCF_{t-i} + \sum_{i=1}^{K} \rho_i^{PCE} \Delta FCI_{t-i} + \sum_{i=1}^{K} \sigma_i^{PCE} \Delta PCE_{t-i} + \tau^{PCE} ECM_{t-i}^{PCE} + \varepsilon_t^{PCE} \quad (9)$$

Where Δ denotes the first difference operator, ECM_{t-i} is the error correction term which measures the speed of adjustment and captures long-run equilibrium in the model and ε_t is the error term.

3.3 Estimation Procedure

The unit root test for stationarity was conducted using the Augmented Dickey-Fuller test and it confirmed that all the variables are integrated of order one. This is the first step to take when considering using the Vector Error Correction Model (VECM). The Johansen co-integration test was also conducted to examine cointegration among the variables and the impulse response function was also carried out to study the impact of a one-time shock to one of the innovations on the existing and future values of the endogenous variables. The dynamic pass-through elasticity was estimated and the granger causality test was conducted. Some test of diagnostic to check the goodness of fit of the model such as the heteroscedasticity and serial correlation tests were also carried out.

3.4 The Pass-Through Model

According to Sanusi (2010), computing the dynamic pass-through elasticity can be achieved by estimating the proportionate change in the rate of the dependent variable and dividing this by the proportionate change in the standard deviation of the pass-through variable from the impulse response result. The pass-through analysis was therefore evaluated to indicate if the flow of government expenditure through these 3 variables (Private consumption, Private investment and Foreign capital inflow) to economic growth was complete or incomplete. Thus, the pass-through analysis was a major deviation from other studies and the gap to be filled to introduce another dimension in estimating the impact of government expenditure on economic growth in Nigeria.

$$PT_t = \frac{\%\Delta P_t}{\%\Delta S_0} \quad (10)$$

where: PT_t = Pass-through at time t,
$\%\Delta P_t$ = percentage change in the impulses of the dependent variable and
$\%\Delta S_0$ = percentage change in the Standard Deviation of the Pass-through variable

The dynamic elasticities of the variable's (private investment, foreign capital inflows, and private consumption) were used to compute the pass-through effect. This was done using the coefficients and standard deviations obtained from the impulse response functions (IRFs).

4.0 Results

4.1 Descriptive Statistics

Table 1 shows the behaviour of the variables under study.

Table 1: Descriptive Statistics

	GDP	GEX	SAV	INR	DCR	PCE	FCI	GCF
Mean	15,285	1193.204	9,268	25.249	10,852	14,260	86452.53	3251125.
Median	15,797	1100.510	8,656	24.900	9,382	14,234	90778.15	2950955.
Maximum	19,041	2439.623	17,535	31.550	18,817	27,790	176665.7	10,785
Std. Dev.	2,284	563.297	4,395	4.141	4,238	8,350	30582.57	2,244
N Std. Dev.	0.149	0.472	0.474	0.164	0.39	0.586	0.354	0.69
Skewness	-0.199	0.567	0.215	-0.051	0.109	-0.043	0.521	1.129
Kurtosis	1.913	2.462	1.993	2.029	1.877	1.886	3.082	4.648
Jarque-Bera	2.958	3.479	2.647	2.101	2.889	2.756	2.413	17.254
Probability	0.227	0.176	0.266	0.349	0.236	0.252	0.299	0.000

Source: *Extract from E-view 10*

Table 1 shows the statistical characteristics of the nominal variables in this research. The results reveal that mean growth was N15,285billion, ₦1,193 billion, ₦9,268million, and ₦10,852million for the series of GDP, GEX, and SAV, DCR respectively. Equally, it is clear from the outcomes that the PCE, FCI, and GCF had means of ₦14, 260million, $86,452million while that of INR stood at 25.25%. given the authenticity of some of the series' signs, the Jarque-Bera statistic inferred that all the series are distributed normally except GCF.

4.2 Pre-estimation Test

Unit root and cointegration analysis

The first step to take when considering the VECM is to establish the order of integration and the nature of cointegration among the variables. The Augmented Dickey-Fuller test confirmed that all the variables are integrated of order one, this result is presented in Table 2

Table 2 Summary of Formal Test of Stationarity

	Augmented Dickey-Fuller				
	Level (Constant &Trend)	**Probability**	**1st Diff. (Constant &Trend)**	**Probability**	**Order of Integration**
GDP	-1.8970	0.3310	-3.7868	0.0056	I(1)
GEX	-2.0337	0.2720	-8.7305	0.0000	I(1)
SAV	-3.0575	0.0662	-6.6980	0.0000	I(1)
INR	-0.9046	0.7791	-5.0323	0.0003	I(1)
DCR	-2.2110	0.2050	-4.3752	0.0010	I(1)
PCE	-1.8159	0.3682	-4.0543	0.0029	I(1)
FCI	-1.9312	0.3158	-10.3051	0.0000	I(1)
GCF	-1.1873	0.6733	-10.0113	0.0000	I(1)

*Notes: ***, ** and * denote 1%, 5% and 10% significance levels respectively.*
Source: *Extract from E-view 10*

After establishing the order of integration, we use the Johansen co-integration test to examine the cointegration among the variables. The test confirms cointegration and establish that there is a long run relationship between the variables. These results are presented in Tables 3 and 4.

Table 3: Johansen Co integration Test

Null Hypothesis	Trace Statistic	0.05 Critical Value	Null Hypothesis	Max-Eigen	0.05 Critical Value
r=0*	252.1037	159.5297	r=0*	92.9508	52.3626
r≤1*	159.1529	125.6154	r≤1*	60.3909	46.2314
r≤2*	98.7620	95.7537	r≤2	30.5004	40.0776
r≤3	68.2616	69.8189	r≤3	27.0621	33.8769
r≤4	41.1995	47.8561	r≤4	20.0639	27.5843
r≤5	21.1356	29.7971	r≤5	13.3831	21.1316
r≤6	7.7525	15.4947	r≤6	7.1325	14.2646
r≤7	0.6201	3.84147	r≤7	0.6201	3.8415

Source: *Extract from E-view 10*

Note: *r represents the number of co integrating vectors. Both Trace statistic and Max-Eigen statistic indicate 3 and 2 co integrating equations each. * denotes rejection of the hypothesis at the 0.05 level*

4.3 Long-run Results

A summary of the long-run elasticities which is the normalized cointegrating coefficient are presented in Table 4.

Table 4: Normalized Co integrating Coefficients (Long-Run Elasticity)

	LOG (GDP)	LOG (GEX)	LOG (SAV)	LOG (DCR)	LOG (INR)	LOG (PCE)	LOG (FCI)	LOG (GCF)
Normalized coefficients	1.000000	-0.230	0.136	-0.042	0.533	0.001	-0.094	0.170
Standard Error		(0.038)	(0.064)	(0.053)	(0.131)	(0.004)	(0.074)	(0.024)

Source: *Extract from E-view 10*

From the model estimated, the coefficients of government expenditure, domestic credit and gross fixed capital formation were statistically significant. The coefficient of government expenditure event though statistically significant, is negatively signed. This result does not conform to the Keynes' theoretical postulations; this may be due to allocation of resources to projects that are either over bloated or later abandoned. This may lead to high government spending with no tangible physical economic growth. Furthermore, the coefficient of domestic credit is also negatively signed, which may due to the attitude of Nigerians borrowing from financial institutions and diverting the funds to unproductive activities; such acts become a hindrance to growth.

Also, the estimated coefficient of gross fixed capital formation (private investment) was positively signed. Thus, an improvement in private investment is expected to bring in positive changes to economic growth which conforms to Keynesian postulations. Thus, in building the capital base of the country through increased investment in long term infrastructures such as road, rail and energy facilities, greater efficiencies are attained in production, production costs and other logistical issues are curbed ensuring economic growth is spurred in the long term. These findings are consistent with the findings of Sule (2019) in Nigeria, Garikai and Nicholas (2016) in Malawi, Kimitei (2012), Menjo and Kotut (2012) both in Kenya and Alexiou (2009) in South East Asian Countries.

The estimated coefficients of savings, private consumption expenditure and foreign capital inflows were statistically insignificant. The insignificant effect of savings on growth could be attributed to the current high level of poverty, unemployment and inflation, these could have a devastating effect on people's ability to save. Apparently, it was expected that increase in savings, would make available loanable funds for investment, resulting in economic growth in the country. However, deposit rates in Nigeria are extremely low, making it difficult for a significant proportion of depositors to save their idle resources for investment goals. This result is consistent with the

findings of Ugochukwu *et al.* (2021) who also found an insignificant relationship between domestic savings and economic growth in Nigeria.

From the estimated model, the significant effect of interest rate on economic growth is worthy of note because with a higher cost of borrowing at a mean rate of over 25%, it becomes discouraging for micro and small enterprises to borrow, this will allow for bigger enterprises to borrow, thus, their activities will help in boosting investments, expansion in businesses and productivity, this will lead to growth in the economy.

The estimated coefficient of private consumption is positive but statistically insignificant. The positive relationship suggests that private consumption has increasing response on economic growth. This finding is inconsistent with the findings of Adelowokan (2021) who found an inverse relation relationship between private consumption and economic growth in ECOWAS countries.

Finally, the estimated coefficient of foreign capital inflows is negative and statistically insignificant. This result is plausible as foreign capital inflows comprise of portfolio and foreign direct investment. The profit taking which characterizes portfolio investment is short term in nature; as such, this capital inflow does not produce significant long-term impact on economic growth. Furthermore, with these multinationals and corporations repatriating their profits and reinvesting minimally beyond their initial capital, their optimal contribution to economic growth is limited. This outcome is consistent with the findings of Nwosa, Ugwu and Ehinomen (2020) who found that portfolio investment and other investment inflows hinders economic growth in Nigeria. The results are inconsistent with the findings of Onyinye *et al.* (2018,) and Orji *et al.* (2014) in Nigeria, Teheen, (2017) in Pakistan, Fambon (2013) in Cameroon and Chilonda, and Matchaya (2013) in Malawi.

Table 5: Summary of Vector Error Correction Model

Variables	Coefficient	St Error	t-Statistic
CointEq1	-0.685	(0.116)	[-10.162]
D(Log(RGDP(-1))	0.477	(0.106)	[4.481]
D(Log(GEX(-1))	0.1209	(0.0375)	[3.219]
D(Log(SAV(-1))	-0.037	(0.126)	[-0.299]
D(Log(DCR(-1))	0.208	(0.102)	[2.035]
D(Log(INR(-1))	0.131	(0.234)	[0.562]
D(Log(PCE(-1))	0.0103	(0.0077)	[1.3383]
D(Log(FCI(- 1))	0.0796	(0.0706)	[1.1269]
D(Log(GCF(- 1))	-0.201	(0.0363)	[-5.5440]

Source: *Extract from E-view 10*

Table 5 represents the estimates of the Johansen Co integrating Equation and VECM model. The ECM indicates that any short-run disequilibrium from the long-run is adjusted in every succeeding period at the rate of 68 per cent. The ECM is negatively signed and statistically significant meeting the acceptability criteria.

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4.4 Impulse Response

The periodic responses of GDP to the key variables of interest is presented in figures 1-4.

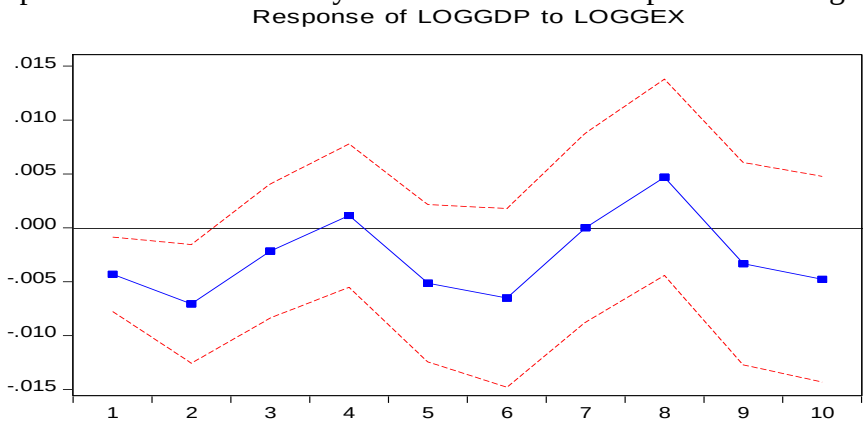

Figure 1: Graphical Representation of the GDP response to GEX

From figure 1, it can be observed that a standard one deviation shock in government expenditure will generate wide fluctuating outcomes in economic growth that may span beyond 10 years. The zig-zag movement of the response middle line has mostly stayed negative except for year 4, year 7 and year 8. This implies that although GEX may not directly influence economic growth, it does so through other channels and hence the need to plan it properly.

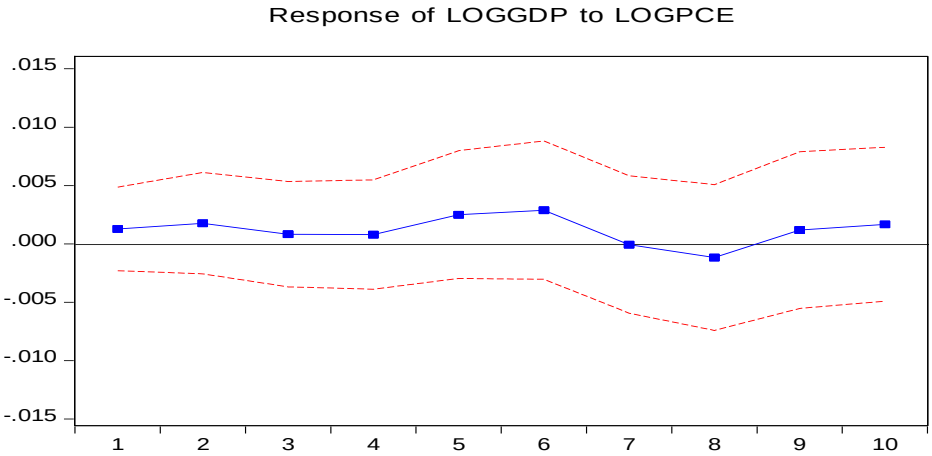

Figure 2: Graphical Representation of the GDP response to PCE

In Figure 2, it can be seen that one standard deviation shock in private consumption expenditure will elicit gentle positive fluctuations in economic growth from year 1 to year 6 before it tends towards negative in year 8. The trend turns back to positive again between year 8 and 9. This shows that, PCE will always have huge positive impact on GDP. This conforms with prepositions of Keynes (1936) and findings of Akekere and Yousuo (2012) and Matthew (2013).

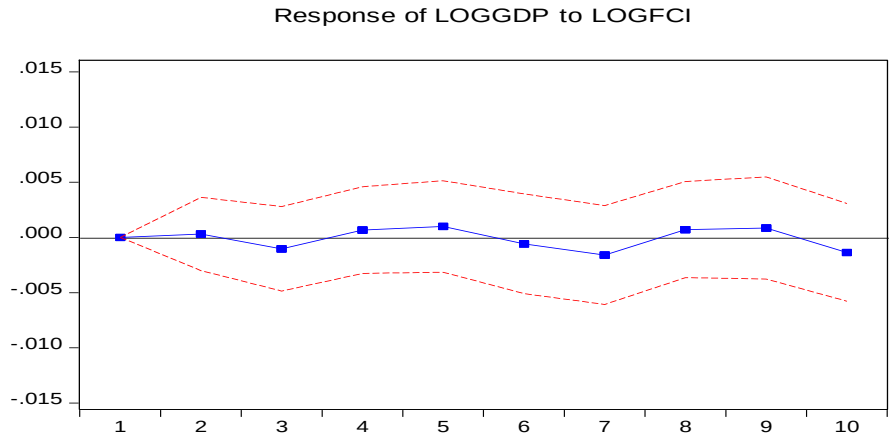

Figure 3: Graphical Representation of the GDP response to FCI

From Figure 3, shocks to FCI elicited negative responses from GDP throughout the forecasted period. Worthy of note is the third quarter where the response was negative; similar responses were elicited in the sixth, seventh and tenth quarters. In all other quarters, the response was positive. The relationship is insignificant for the estimated model.

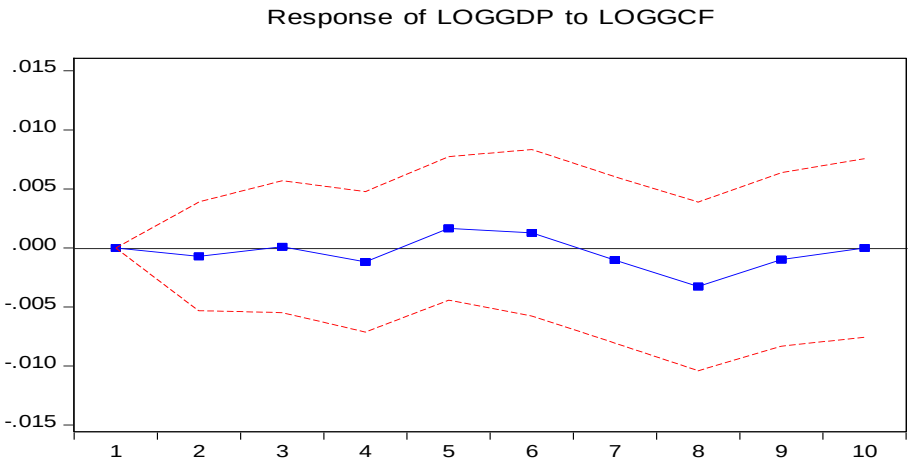

Figure 4: Graphical Representation of the GDP response to GCF

As shown in Figure 4, quarters five and six were successive quarters where the response of GDP to shocks from GCF was positive. In quarter seven, eight and nine, the response of GDP to innovations from GCF was negative. Apparently, the sign is contrary to a-priori expectation and it is insignificant. This result is at a dissonance to the findings of Gariki and Nicholas (2016) and Sule (2019). The outcome of this study further re-emphasized the inadequacies of private investment expenditure in stimulating production activities.

4.5 Pass-Through Dynamic Elasticities

The dynamic elasticities of government expenditure in Nigeria for the forecasted situations are presented in Table 6. Deducing from this, the dynamic elasticities of government expenditure were presented in the short-term, medium-term, and long-run horizon using gross fixed capital formation (private investment expenditure), foreign capital inflows and private consumption expenditure as the pass-through to economic growth.

Table 6: Coefficients of the Pass-Through

Period	LOG(PCE)	LOG(FCI)	LOG(GCF)
t=2	2.69	-8.57	194.37
t=4	-0.48	-0.74	0.43
t=6	5.20	0.06	5.47
t=8	-0.76	-0.94	0.56
t=10	14.68	-4.69	3.68

Source: *Author's Computation from E-view 10 Output*

Estimates from Table 6 shows that in the short (t=2), medium (t=6), and long-term (t=10) scenarios, the dynamic elasticity indicated a positive impact of Private Consumption Expenditure on economic growth, which is consistent with the findings of Teshome (2006) and Akekere and Yousuo (2012), while the findings of Pius and Lawrence (2016) which found a negative relationship between economic growth and private consumption expenditure is also consistent with the scenarios of the study at t=4 and t=8. The positive pass-through effect is an indication that ceteris paribus, increases in government spending can engender private consumption expenditure through increased purchasing power that can translate to economic growth across the time horizon.

Foreign Capital Inflows which consisted of Foreign Direct Investment and Foreign Portfolio Investment had a negative dynamic elasticity in all the forecasted time horizon except in t=6; this is contrary to the findings of Fambo (2013), Olufemi (2014), Gariki and Nicholas (2016), Teheen (2017) and Onyinye et al (2018). This implied that the current level of foreign capital inflows was either not sufficient to drive growth or it was not channeled into productive sectors that can propel sustainable growth and development but are motivated by returns. Because of the mono-economic nature of the Nigerian economy, foreign corporations often channeled their resources to the crude oil sector with its high rate of return (which is an enclave in nature) and thus capable of limiting economic growth over a long period.

The outcome of the pass-through elasticity also suggested that gross capital formation exhibits a positive response throughout the forecasted time horizon (t=2, t=6, 6=10). This is in line with the findings of Alexiou (2009), Halder and Mallik (2010), and Ugwuegbe and Uruakpa (2013). GCF also represented domestic investment, which was required significantly to attract other foreign investment for growth to be achieved.

Interrogating Table 6 further, the high pass-through coefficients of the parameters indicated that the transmission of innovations from these variables to economic growth was complete in much of the forecasted periods. Over the forecasted epoch of the investigation, Foreign Capital Inflow

pass-through exerted the most mitigating effect on economic growth. This can be traced back to the short to medium-term behaviour of foreign capital inflows in the country. Gains from these investments were seldom invested in the Nigerian economy to engender growth but repatriated to countries of origin.

Private Consumption Expenditure pass-through in the 2nd, 6th and 10th period portend a complete pass-through of its innovation on economic growth, which is consistent with Keynesian hypotheses that consumption is a driving force in inducing economic growth. The negative effects of PCE pass-through in the 4th and 8th in Nigeria can be explained by the high Marginal Propensity to Consume (MPC) which impinged on savings and capital formation. Longer-term (t=10), PCE was the main driver of economic growth in Nigeria from the estimated model.

Gross Fixed Capital Formation pass-through on the estimated model held the greatest potential for instigating economic growth in Nigeria. As inferred from Table 6, in the short term, innovations from GCF elicited a complete, positive, and high response to economic growth. It is worth noting also that there is a diminishing effect of GCF's pass-through on economic growth over time. This may not be unconnected with the vast potentials in financial and nonfinancial idle resources which can stimulate rapid economic growth at the onset of targeted capital investment in Nigeria.

Having constructed a three-variable pass-through to ascertain which best allows for the transmission to economic growth, the responses of the pass-through dynamic in Table 6 indicated that Gross Fixed Capital Formation was the preferred channel for transmitting the gains of government expenditure to economic growth. Any government attempts at increasing aggregate demand through cash transfers to the citizens would engender economic growth but at a less than optimal level.

4.6 Granger Causality Test

The vector granger causality block exogneity Wald test to establish if there is causality among the variables is presented on Table 7.

Table 7: VEC Granger Causality/Block Exogeneity Wald Tests

Dependent variable: D(LOG(RGDP))			
Excluded	Chi-sq	Df	Prob.
D(LOG(GEX))	10.36741	1	0.0013
D(LOG(SAV))	0.089729	1	0.7645
D(LOG(DCR))	4.144686	1	0.0418
D(LOG(INR))	0.315852	1	0.5741
D(LOG(PCE))	1.791200	1	0.1808
D(LOG(FCI))	1.270015	1	0.2598
D(LOG(GCF))	30.73665	1	0.0000
All	44.55949	7	0.0000

Source: *Extract from E-view 10, 2021*

Table 7 shows the Granger Causality test. The result showed that there is causality among the series of GEX, DCR, and GCF granger causes economic growth in Nigeria and this buttresses the significance of the series of GEX and GCF in the VECM estimates in the long run. However, the effect of the series SAV, INR, PCE, and FCI was insignificant.

4.7 Diagnostic Test

For the diagnostic test, Figure 5 shows the AR Roots Graph, which confirms that the model is stable while Table 8 failed to ascertain serial correlation.

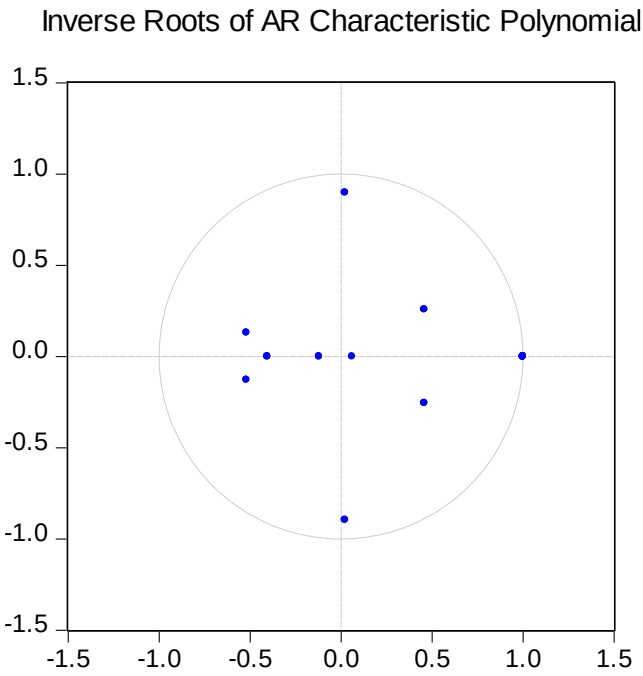

Figure 5: Inverse Roots of AR Characteristic Polynomial

The polynomial shows that the model has stable errors since none of the points fall outside the polynomial circle.

Table 8: VEC Residual Heteroskedasticity Tests (Levels and Squares)

Joint Test		
Chi-sq	Df	
34,673.67	543	0.95

Source: *Extract from E-view 10*

5. Conclusion and Recommendations

We investigate the relationship between government spending and economic growth in Nigeria through three principal variables – private investment, foreign capital inflows, and private consumption. In this light, the empirical investigation revealed that a shock in government expenditure resulted in a negative response from economic growth. The outcome of the pass-through computation suggested that the short, medium, and long-term dynamic elasticity indicated a positive effect of private consumption expenditure on economic growth. Foreign capital inflows exerted negative elasticity in the entire time horizon while gross capital formation exhibited a positive response throughout the forecasted period. Of the three variables simulated for the pass-through, Gross Fixed Capital Formation in the model provided the best channel through which economic growth in Nigeria can be optimized. Finally, the Granger causality test suggested that there was a clear link between the variable's government expenditure, domestic credit, and gross capital formation, and economic growth in Nigeria. Arising from the above, this study concluded that within the study period, government expenditure was inadequate to engender growth and even the pass-through channel further buttress this scenario given the elasticity that is not proportional (less than 1).

Based on the findings in the study, the following recommendations have been made:

i. A substantial proportion of government expenditure is spent on payment of subsidy on oil consumption which is not a productive expenditure and such funds should be channelled towards building the country's capital base which can engender higher levels of production and increase economic growth.
ii. The government should ensure in budgeting that targeted priority sectors of the economy like agriculture, energy, and manufacturing be given priority. In addition to blocking all leakages and wastages in funds disbursement to achieve the purpose it was set out for. Also, when government expenditure is judiciously utilized, it can spring up other socio-economic activities from the private sector.
iii. The current level of interest rate is on the high side for those who want to source funds from deposit money bank for investment purposes, thus the need for the monetary authority to implement and expand the scope of development financing, through the Central Bank, which would allow for affordable loanable funds that can engender significant investment translating to economic growth and development.
iv. Nigeria's level of foreign capital inflows is not sufficient, thus the need for government to put in place necessary fiscal measures such as curtailing the level of external borrowing in addition to a guaranteeing the level of security, and other necessary strategies that can attract reasonable foreign capital inflows into productive sectors leading to economic growth in Nigeria.

References

Adelowokan, O.A., (2021). Fiscal Policy, Private Consumption, and Economic Growth among the Economic Community of West African States. *Jurnal Ekonomi & Studi Pembangunan* 22(2), 288-300

Ahemen, M., Asue, E.A**.,** & Ikyaator, J, V. (2022). Foreign Capital Inflows and Economic Growth in Nigeria: A Dynamic Modelling Approach. *Defense Journal of Economics and Finance.* 7(2), 201-215

Akekere, J. & Yousuo, P. O. (2012). Empirical analysis of change in income on private consumption expenditure in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 2(12), 10-11.

Akiri, S.E., Ahemen, M. & Abu, J. (2020) Exchange Rate Pass-Through to Unemployment in Sub-Saharan Africa: Evidence from Nigeria and South Africa. *SSRG International Journal of Economic and Management Sciences*, 7(3), 114-122

Akpan, N. I. (2018). Government expenditure and economic growth in Nigeria: A disaggregated approach. *CBN Economic and financial review*, 43(1), 2-3.

Alexiou, C. (2009). Government spending and economic growth: Evidence from South East Europe. *Journal of Economic and Social Research*, 11(1), 1-16.

Al-shatti, A. S. (2014). The impact of public expenditure on economic growth in Jordan. *International Journal of Economics and Finance*, 6, 157-166.

Egbetunde, T., & Fasanya, I. O. (2013). Public expenditure and economic growth in Nigeria: Evidence from auto-regressive distributed lag specification. *Zagreb International Review of Economics & Business*, 16(1), 79-92.

Fambon, S. (2013). Foreign capital inflow and economic growth in Cameroon. WIDER Working Paper Series 124, World Institute for Development Economic Research.

Garikai, M., & Nicholas, M. O. (2016). Public and private investment and economic growth in Malawi.*Journal of Economic Research*, 32(10), 673-689.

Halder, S. K., & Mallik, G. (2010). Does human capital cause economic growth? A case study of India. *International Journal of Economic Sciences and Applied Research*, 3(1), 7-25.

Ifarejimi, G. D., & Ola, K. O. (2017). Government expenditure and economic growth in Nigeria: Analysis with dynamic ordinary least square. *International Journal of Academic Research in Business and Social Sciences.* 7(5), 8-26.

Jeff-Anyeneh, S. E. & Ibenta, S.N. (2019). Government expenditure and economic growth: Evidence from the Nigerian economy. Advances in research, 19(4), 1-14.

Keynes, J. M. (1930). *General Theory of Employment, Interest and Money*, London: Macmillan.

Kimitei, G. J. (2012). Contribution of private and public investment to economic growth in Kenya. College of Humanities, University of Nairobi-Kenya.

Matthew, A. B. (2013). Composition effects of government expenditure on private consumption and output growth in Nigeria: A single equation error correction modeling. *Romanian Journal of Fiscal Policy*, 2 (7), 18-34.

Menjo, K. I., & Kotut, C. S. (2012). Effects of fiscal policy on private investment and economic growth in Kenya. *Journal of Economics and Sustainable Development*, 3(7), 5-6.

Musaba, E. C., Chilonda, P., & Matchaya, G. (2013). Impact of government sectoral expenditure on economic growth in Malawi. *Journal of Economics and Sustainable Development, 4(2), 71-78.*

Nwakoby, C. & Benard A. (2016). Effect of Private Sector Investment on Economic Growth in Nigeria *NG-Journal of Social Development* 5(4) 150-167

Nwosa, P.I., Ugwu, E and Ehinomen, C. (2020) Volatility in Foreign Capital Inflows and Economic Growth in Nigeria EuroEconomica 1(39) 98-112

Nurudeen, A. & Usman, A. (2010). Government expenditure and economic growth in Nigeria, 1970-2008: A disaggregated analysis. *Business and Economic Journal*, 6(20), 23-40.

Sanusi, R. A. (2010). Exchange rate pass-through to consumer prices in Ghana: Evidence from structural vector auto regression. *The West African Journal of Monetary and Economic Integration*, 10 (1), 45-58.

Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70(1), 69-94.

Sule, A. (2019). Analysis of consumption and investment expenditure on economic growth in Nigeria. *Journal of Economic and Social Research* (JESR), 8(2), 135-161.

Ogar, A., Eyo, I.E & Arikpo, O. F. (2019). Public expenditure and economic growth in Nigeria: Var approach. *European journal of economic and financial research*, 3(3), 4-5.

Okonkwo, A. (2010). Impact of capital formation in Nigeria. *Journal of Economics and Finance*, 14(6), 5-7.

Olufemi, S. (2014). Capital inflow and economic growth nexus in Nigeria: The role of trade openness. *Acta Universitatis Danubius Economica*, 10 (6).

Onyinye, I. A., Anthony, O., Jonathan, E. O., & Emmanuel O, N. (2018). Disaggregated foreign capital inflows and economic growth in a developing economy: Empirical evidence from Nigeria. *Journal of Empirical Studies, Conscientia Beam*, 5(1), 1-11.

Orji, A., Uche, A.S., & Ilori, E.A., (2014). Foreign Capital Inflows and Growth: An Empirical Analysis of WAMZ Experience *International Journal of Economics and Financial Issues* 4(4), 971-983.

Pius, E. A., & Lawerence, E. U. (2016). The effect of economic policies on private consumption expenditure in Nigeria. *International Journal of Social Sciences*, 7(1), 4-8.

Sule, A. (2019). Analysis of consumption and investment expenditure on economic growth in Nigeria. *Journal of Economic and Social Research* (JESR), 8(2), 135-161.

Teheen, J. (2017). Foreign capital inflow and economic growth of Pakistan. *Journal of International Management*, 22(2).

Teshome, K. (2006). Impact of government spending on economic growth: the case of Ethiopia", AAU, AA, Ethiopia.

Ugochukwu, S.D., Oruta L. I., Israel, V.C., & Lucky, E.A. (2021). Understanding the Nexus between Savings, Investment and Economic Growth in Nigeria: An Empirical Analysis. *Traektoriâ Nauki = Path of Science.* 7(10) 41-55

Ugwuegbe, S. U., & Uruakpa, P. C. (2013). The impact of capital formation on the growth of Nigerian economy. *Research Journal of Finance and Accounting*, 4 (9), 1-12.

Yovo, K. (2017) Public Expenditures, Private Investment and Economic Growth in Togo. *Theoretical Economics Letters*, **7**, 193-209. doi: 10.4236/tel.2017.72017.