

Econometric Evaluation of Fiscal Policy and Oil Price Shocks on Sectoral Output Growth in Nigeria

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Abstract— Nigeria's entire reliance on oil production as a source of income has major economic consequences. Agriculture was abandoned in favour of oil, which became Nigeria's primary source of revenue and was expected to bring significant economic growth and prosperity. However, there have been a succession of oil price swings over the last four decades, which has hampered Nigeria's macroeconomic goals. This article looked at the impact of Nigeria's fiscal policy and oil price shocks on agricultural output growth. This study relied on secondary data. The relevant data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin, National Bureau of Statistics (NBS), World Economic and Financial Surveys and econometric statistics such as multiple regression and Johansen Co-integration test were used to analyze the data collected. The multiple regression effect results showed that the computed F-statistic with corresponding probability value ($F(6, 17) = 299.51$, $Prob > F = 0.0000$) and adjusted R^2 (0.9873), showed that government expenditure ($\beta = 1.023774$), oil price shocks ($\beta = .0078315$) and Government Revenue ($\beta = 0.0605299$) have a positive effect on agricultural output and external reserves ($\beta = -.0070502$), Foreign exchange rate ($\beta = -.0344523$) and external debt ($\beta = -.0109086$) have negative and insignificant effect on agricultural output at $p > 0.05$. The study showed that the independent variables incorporated into this model have been able to determine impact of fiscal policy and oil price shocks on agricultural sector in Nigeria to 98%. The F and probability statistics also confirmed the significance of this model. This hypothesis was to test whether or not there was significant impact of fiscal policy and oil price shocks on agricultural sector in Nigeria. From the decision rule above, the p-value equals 0.0000 which is less than 0.05, therefore the null hypothesis was rejected while the alternative hypothesis was upheld. Therefore, fiscal policy and oil price shocks has significant impact on agricultural output in Nigeria. On the contrary, the relation between external reserves, Foreign exchange rate, external debt and agricultural output was negative and also insignificant. The study recommends that since there was a positive and significant relationship between the fiscal policy, oil price shocks and agricultural output, government should consider harnessing its revenue potentials by expanding its revenue base via effective and efficient taxation system, diversification of Nigeria's revenue base by tapping into our solid minerals and agricultural potentials

Keywords— Fiscal policy, oil price shocks, sectoral output, multiple regression, economic growth, macro-economic objectives.

I. INTRODUCTION

In recent years, both developed and developing economies have placed a strong emphasis on the importance of macroeconomic policies and their effect on development (Andabai, 2016). One of the areas in the economics literature that can stimulate the rate of growth and development in an

economy is fiscal policy and its effect on real sector growth in Nigeria has been described in the economics literatures as one of the areas that can accelerate the rate of growth and development in a country like Nigeria. According to an empirical study conducted by (Omitogun and Ayinla, 2007), an increase in government spending leads to real sector growth and development. The implication is that a higher proportion of overall spending should be spent on capital projects that contribute to the real sector's growth and development. In any modern economy, efficient and effective government fiscal policy catalyzes real sector growth and development (Nzotta, 2014).

Government interference in the economy by fiscal policy, according to Alex and Ebieri (2014), has been to manipulate the receipt and expenditure sides of the budget to achieve those national objectives. According to Abdulrauf (2015), the use of fiscal policy as a major tool for economic stabilization is very important in every society, especially in LDCs. Crude oil has been highly important to the global economy since its discovery in the 1800s as an energy source. According to Gronwald (2008), the value of oil has risen to the point that, in the event of a world without oil, all major distribution networks that induce economic transactions on a global scale will fail, and the world economy will collapse

Crude oil is one of the most powerful driving factors in the global economy, and improvements in its price would have a direct impact on economic growth and the well-being of the global population. Since oil is the lifeblood of the economy, it has risen in demand as the global economy has become more urbanized and modernized (Eryigit, 2009). As a result of everyone's frequent use of oil, there is a rise in demand for it. To this end, the oil market has been continually changing and will continue to do so in the future, because oil is so important to the global economy and its market is truly global (El-badri, 2011). (Ogundipe, Ojeagaa & Ogundipea, 2014). Oil has distinct characteristics as a commodity, including its exclusive position as both a country's common natural heritage and a driving force of global economic growth, its deplorability and price shock nature, its enclave nature, high capital intensity, resulting in boom-bust cycles, technological sophistication, and the extraordinary profits generation that has accrued to the state and a few individuals.

Oil price shocks are described as instabilities, shifts, or a rise or fall in the supply or demand side of the international oil market. The rise or fluctuation in oil prices may be positive (i.e. a rise) or negative (i.e. a fall) According to Akpan (2012),

supply-side disruptions such as OPEC supply quotas, political upheavals in the oil-rich Middle East, and militancy in the Niger Delta region have historically been blamed for oil price volatility. Changes in global oil market prices have a significant impact on economic growth, especially in the real sector. The real sector is where goods and services are created by combining the use of raw materials with other production variables like labour, land, and capital. As a result, the real sector is the primary engine of economic growth in any economy around the world. Agriculture, industry, building and construction, and services make up the real sector (Nnanna and Masha 2003). Consequently this paper is divided into five parts. Section one deals with the introduction as discussed while part two deals with the literature review, section three describes the methodology aspect, section four deals with results and discussion, and finally section five describes conclusions and recommendations.

Statement of the Problem

The impact of oil price shocks on Nigeria's economy is difficult to assess because oil has long been the lifeblood of the country's economy. Nigeria's entire reliance on oil production as a source of income has major economic consequences. Agriculture was abandoned in favour of oil, which became Nigeria's primary source of revenue and was expected to bring significant economic growth and prosperity. However, there has been a succession of price changes in the oil market during the last four decades, which has hampered Nigeria's macroeconomic goals (CBN, 2008).

Oil is one of the most variable prices, according to empirical evidence, and has a considerable impact on the macroeconomic behavior of many industrialized and emerging nations (Ferderer, 1996; Guo&Kliesen, 2005). Mork, Olsen, and Mysen (1994), Hooker (1999), Guo and Kliesen (2005), Narayan and Narayan (2007), Mehrara (2008), Salisu, and Fasanya (2013) all discovered volatility clustering and proved the existence of asymmetries in oil price volatility.

The Nigerian economy's reliance on oil profits as its primary source of revenue raises concerns about the influence of oil price volatility on the country's macroeconomic unpredictability. As a result, numerous researches have looked into the influence of oil price changes on macroeconomic factors in Nigeria. While oil price fluctuations have a direct and significant association with many macroeconomic variables, they do not have a considerable impact on output growth, according to the consensus (Adeniyi, 2011; Omojolaibi, 2013; Olowe, 2009; Wilson, David, Inyama& Beatrice, 2014; Taiwo, Abayomi&Damilare, 2012; Apere&Ijomah, 2013). However, the majority of earlier research concentrated on the influence of changes in oil price levels on macroeconomic variables, while neglecting the dynamic link between oil price shocks and fiscal policy on sectoral production growth.

Usman (2010), Oseni and Olomola (2011), Ogunmuyiwa (2011), Oseni and Onakoya (2012), Oseni and Onakoya (2013), and other research that looked at the relationship between fiscal policy and real output growth focused solely on aggregate output growth, ignoring sector-specific analysis.

The current literature's neglect of these critical issues produced an empirical gap in which research could be conducted, and it may have harmed the policy relevance of conclusions drawn from empirical evidence from such studies, particularly in Nigeria. This paper therefore intends to examine the empirical relationship between fiscal policy and oil price shocks impact on sectoral output growth in Nigeria between 1981 and 2018.

Hence, this study aims to fill significant gaps on this issue especially with the use of an econometric approach and inclusive of more appropriate explanatory and controlled variables to have robust results.

Research Hypothesis

H₀₁: Fiscal policy and oil price shocks has no significant influence on agricultural output growth in Nigeria.

II. LITERATURE REVIEW AND CONCEPTUAL EXPLANATION

2.1 Theoretical Review

2.1.1 According to the mainstream view of economic growth, production is the most essential predictor of economic growth, and production, which is the transformation of matter in some way, necessitates the use of energy. Capital, labor, and land are classified as primary components of production in this theory because they exist at the start of the production period and are not immediately utilised in production (though they can be degraded or added to). While energy resources (such as oil and gas, gasoline, and coal) are classified as intermediate inputs, they are formed during the manufacturing process and used up completely (Oriakhi and Osazee) (2013).

2.1.2 The Asymmetry-in-effects theory of economic growth used the U.S economy as a case study. According to the idea, the relationship between crude oil price declines and economic activity in the United States is drastically different, if not nil. Mork (1994), members of this school, corroborated the asymmetry in the effect of oil price shocks on economic growth in a study of various African countries. Another member of this school, Ferderer (1996), focused on three alternative approaches to explain the asymmetric mechanism between the influence of oil price shock and economic growth: counter-inflationary monetary policy, sectoral shocks, and uncertainty.

2.2 Sectoral Output Performance

2.2.1 Agriculture

Nigeria is one of the largest countries in Africa, with a total geographical area of 923 768 square kilometres and an estimated population of about 163 million (2010 estimate). It is located entirely within the tropics along the western coast of Africa, near the Gulf of Guinea. Nigeria's agro-ecological conditions are exceedingly diverse, allowing for the development of a wide range of agricultural products. As a result, agriculture is one of the most important economic sectors. The sector is very important in terms of creating jobs and contributing to GDP and export revenue revenues. Despite Nigeria's abundant agricultural resources, the sector has grown at a snail's pace. Only about half of the country's cultivable

agricultural land is cultivated. The contribution of the agricultural sector to GDP, 63 per cent in 1960 declined to 34 per cent in 1988 not because the industrial sector increased its share, but due to neglect. It was therefore not surprising that by 1975, the economy had become a net importer of basic food items. The structure of agricultural production in Nigeria shows the dominance of crude oil production which accounted for 71.88 per cent of the total output between 1981 and 1985, 76.87 per cent between 1986 and 1990, 79.30 per cent between 1991 and 1995, 79.92 per cent between 1996 and 2000 and 82.46 per cent between 2000 and 2005. As at 2010, crude oil production accounted for 89.1 per cent of the total agricultural output. This was followed distantly by livestock with a share of 17.07 per cent between 1981 and 1985, 15.39 percent between 1986 and 1990, 13.69 per cent between 1991 and 1995, 13.02 per cent between 1996 and 1999, and 14.10 per cent between 2000 and 2005. This figure stood at 6.4 percent of agricultural production in 2010.

2.2.2 Fiscal Policy

Fiscal policy has been defined as the deliberate use of government revenue (mostly from taxes) and expenditure to manipulate the amount of economic activity in a country as a tool for macroeconomic management (Akpapan, 1994). It can also be thought of as a part of government policy relating to raising revenue through taxation and other means, as well as deciding on the level and pattern of expenditure, with the goal of manipulating economic activities or achieving some necessary macroeconomic goals. The goal of fiscal policy is to promote economic and social development by maintaining a policy posture that provides a feeling of balance between taxation, spending, and borrowing that is consistent with long-term growth. Macroeconomic policies (fiscal and monetary) are essential tools for reducing short-run swings in output and employment (Oke, 2013). Both established and emerging economies have recognized them as powerful tools in the hands of policymakers for dealing with macroeconomic difficulties such as high unemployment, insufficient national savings, unsustainable budget deficits, and massive public debt loads.

According to Peter and Simeon (2011), fiscal policy is the process by which the government manages the economy by manipulating its income and expenditure in order to attain specified macroeconomic goals. Fiscal policy, as defined by the Central Bank of Nigeria (2011), is the utilization of government spending and revenue collection through taxes and the quantity of government spending to impact the economy.

Fiscal policy, according to Samuelson and Nordhaus (2002), is a government's plan for purchasing goods and services, spending on transfer payments, and determining the amount and kind of taxes. The use of government revenue collection (taxation) and expenditure (spending) to impact the economy is known as fiscal policy in finance. Government taxes and expenditure are the two basic instruments of fiscal policy. Changes in the volume and composition of taxation and government spending can have an impact on aggregate demand, economic activity, resource allocation patterns, and

income distribution (David, 2005; Mark and Asmaa, 2009; Chirag, 2010). This means that fiscal policy relates to the government's use of its budget to influence economic activity.

Fiscal policy, according to Geoff (2012), entails the use of government spending, taxing, and borrowing to influence aggregate demand, output, and job creation. Macroeconomic conditions are influenced by government spending programs. In order to control the economy, these policies alter tax rates, interest rates, and government spending. Fiscal policy is the process through which a government modifies its expenditure levels in order to track and impact the economy of a country. Various researchers have submitted that fiscal policy goals include the following: increasing employment opportunities; attaining full employment; stabilization of domestic prices; promoting economic growth and development through industrialization; achieving equity in income redistribution; achieving stable exchange rate; and increasing the rate of investment in the country (Anyanwu (2004); Omitogun and Ayinla (2007); Abeng (2009); CBN (2010) and Ogbole, Sonny and Isaac (2011). According to Afam (2012), fiscal policy is the part of government policy concerned with raising money through taxation and other means and deciding on the volume and pattern of expenditure in order to influence economic activity.

The impact of fiscal policy on the industrial sector's output and capacity utilization cannot be overstated. Through the planned manipulation of government revenue and expenditure, fiscal policy drives the manufacturing sector's market. When the government pursues an expansionary strategy, it lowers taxes while increasing spending and the purchasing power of economic units, thereby expanding the market for manufactured goods. As a result, firms are signalled to enhance their production capacity in order to take advantage of the increased market demand. When a contractionary policy is pursued, the opposite is true. Fiscal policy also establishes the legal, social, and economic environment necessary for a successful business. Arikpo and colleagues (2017).

2.2.3 Dimensions of Fiscal Policy

Both taxation and government spending are under the jurisdiction of the government. Expansionary fiscal policy is when the government utilizes fiscal policy to expand the quantity of money available to the general public. Expansionary fiscal policy is commonly employed to mitigate the negative economic effects of a recession or cyclical downturn in the economy (such as a drop in RGDP and growing unemployment). The purpose of the policy is to stimulate the economy by increasing aggregate demand. Three policy options are used, they include: an increase in government spending, tax reduction (which increases consumer spending); or a combination of an increase in government spending and tax reduction. These policy activities, according to Walstad and Bingham (1996), will result in a budget deficit if the budget was balanced before to the policy actions.

Contractionary fiscal policy is when the government employs fiscal policy to reduce the quantity of money available to the public. Contractionary policy is a type of fiscal

policy that is designed to keep demand-pull inflation under control. The goal of this strategy is to reduce the price level through reducing aggregate demand forces. Government spending reductions, tax increases that lower consumer spending, or a combination of government spending reductions and tax increases are all used. A budget surplus will result if the government budget is balanced before policy measures are enacted, according to Walstad and Bingham (1996). When it comes to fiscal policy, there's another way to look at the phrases expansionary and contractionary. When we consider the effects of fiscal policy on the economy as a whole rather than on individuals, we can observe that expansionary fiscal policy boosts output and national income whereas contractionary fiscal policy lowers output and national income.

2.2.4 Oil price shocks

The term shock has been given different definitions by different scholars across disciplines. In relation to crude oil price, shock is the variation in the worth of a variable, especially price (Routledge, 2002) as cited in (Busayo, 2013) Shock is the measure of the tendency of oil price to rise or fall sharply within a period of time, such as a day, a month or a year (Ogiri et al. 2013) Lee (1998) as cited in Oriakhi and Osazee(2013) defines shock as the standard deviation in a given period. She notes that shock has a negative and significant impact on economic growth instantly, while the impact of oil price changes delays until after a year. She concludes by saying that it is shock/change in crude oil prices rather than oil price level that has a significant influence on economic growth. In a nutshell, shock is a measurement of the fluctuations (i.e rise and fall) of the price of commodity for example oil price over a period of time. Several factors have been identified as triggers of oil price shock; these factors range from demand and supply of crude oil, OPEC decisions, crises, wars to economic downturn.

2.3 Review of Empirical studies

Using an error correction mechanism, Audu (2012) looked at the impact of money supply, fiscal deficit, and export on economic growth from 1970 to 2010. All of the variables have a major impact on economic growth, according to his results. That a 10% increase in the fiscal deficit will result in a 2% reduction in Nigeria's economic growth. Mohanty (2012) investigated the impact of India's budget imbalance on economic development using a vector error correction model. His findings found a substantial negative association between fiscal deficit and economic growth, with no indication that the two variables are causally related.

Maji and Achegbulu (2012) found a significant and strong positive link between fiscal deficit and economic growth in Nigeria using ordinary least square on a period of data from 1970 to 2009. They went on to say that a 1% increase in the fiscal deficit would result in a 7.5% increase in economic growth in Nigeria. Using ordinary least square on series from 1970 to 2008, Taiwo and Abayomi (2011) discovered a significant positive association between economic growth and capital and recurrent spending.

Oil price shock is not a new event; it has been the most important feature in the oil market during the last two decades. Oil price shock and its impacts on economic growth was first examined using the experience of the developed countries. However, since the 1980's till date there have been a number of studies carried out for some developing economies on which have produced meaningful results on the examination of the impacts of oil price shock on countries economic growth. The empirical studies examined in this work were analysed by other researchers in which their researches are based on the Nigeria economy. Adeniji (2010) notes that oil price shock do not account for significant observable movements in macroeconomic aggregates. He finds out that the impact of oil price shock on most of the macroeconomic variables is minimal in Nigeria. Specifically, the results of the impulse response functions and variance decomposition analysis to a large extent confirmed that oil price shocks are only able to explain a small proportion of the forecast error variance of these macroeconomic aggregates. Oil price shocks, as revealed by variance decomposition, accounted for less than 1% of the variations in output, inflation and Government revenue. Despite the introduction of critical thresholds which was included in the estimation procedure this issue still persists.

Many countries have proven the link between oil shocks and economic development, according to Cantore, Antimiani, and Rui (2012), though the effects are greater over longer time horizons or when oil price spikes are permanent. The source of the oil price shock could have an impact on the degree or relevance of the effect on oil-importing countries.

III. METHODOLOGY

This study empirically examined fiscal policy and oil price shocks impact on sectoral output growth in Nigeria between 1981 and 2018. Secondary data were used for this study. The relevant data were collected from Central Bank of Nigeria (CBN) Statistical Bulletin, National Bureau of Statistics (NBS), World Economic and Financial Surveys (IMF,2018). Multiple regression analysis technique was used to test the impact of fiscal and oil price shocks on sectoral output growth variables by using least squares. Granger causality test was also used to ascertain the direction of causality between fiscal policy, oil price shock and sectoral output variables from 1981 to 2018. Other econometric tests such as unit root test, co-integration test and vector error correction mechanism (VECM) were also conducted to determine stationarity of the data as well as the long- run and short-run relationship between the variables.

Model Specification

To examine the extent of fiscal policy and oil price shocks impact on agricultural sector in Nigeria. The model were specified below:

$$Y = f(x_1, x_2, x_3, x_4, x_5, x_6, \mu) \quad (1)$$

Where Y is agricultural output = dependent variables, $x_1 - x_6$ are independent variables and F represents the functional notation.

This can be specifically stated as;

AGRICQ

$$= f(GREV, GEXP, EXTREV, FEXR, EXTDEBT, OPS, \mu)(2)$$

$$AGRICQ = \alpha + \beta_1 GREV + \beta_2 GEXP + \beta_3 EXTREV + \beta_4 FEXR + \beta_5 EXTDEBT + \beta_6 OPS + \mu \quad (3)$$

Where:

- GREV= Government Revenue
- GEXP = Government Expenditure
- EXTREV = Foreign external reserve
- EXTDEBT = External debt
- FER = Foreign exchange rate
- AGRICQ =Agriculture Output
- OPS = Oil Price Shock
- μ = Error term

IV. RESULTS AND DISCUSSIONS

4.1.1 Unit Root Test

Table 1 below showed the unit root test of the effect of fiscal policy and oil price shocks on agricultural sector. In order to avoid estimating spurious regression, the stochastic properties of the series were tested. Several procedures for the test of order of integration have been developed in which the most popular one is the Augmented Dickey-Fuller (ADF). The

criterion is that the absolute value of Dickey fuller result must be strictly greater than the absolute critical value at certain level of significance to confirm the presence of stationarity pattern of variables.

The ADF test relies on rejecting a null hypothesis of unit root (the series are non-stationary) in favour of the alternative hypothesis of stationarity. If the absolute value of ADF t-stat is greater than critical value when the p-value is less than or equal to a specified significance level, often 0.05 (5%), or 0.01 (1%) and even 0.1 (10%) so null hypothesis can be rejected. Table 1 are evident that we are unable to reject the null hypothesis for the presence of a unit root at level of each of the time series. All of the time series are stationary at their first difference except since each of the time series is stationary at its first difference so the variables are cointegrated. There exists an equilibrium or long run relationship between the time series if all the variables are integrated of the same order, Engle & Granger (1987). The study applies Johansen cointegration technique. Johansen and Juselius (1991) introduced, in the multivariate cointegration test, the two likelihood ratio tests (maximum Eigen value and trace tests) to find out the number of cointegrating vectors.

Table 1: Unit Root Test

Variables	ADF stat	1% critical value	5% critical value	10% critical value	Order of integration	Remark
AGRICQ	-3.677	-3.682	-2.972**	-2.618	1(0)	Stationary
EXTREV	-7.213	-3.682	-2.972**	-2.618	1(1)	Stationary
FEXR	-4.290	-3.682	-2.972**	-2.972	1(1)	Stationary
EXDEBT	-4.044	-3.682	-2.972**	-2.616	1(1)	Stationary
OPS	-7.866	-3.675	-2.969**	-2.618	1(1)	Stationary
GREV	-4.519	-3.682	-2.972**	-2.618	1(0)	Stationary
GEXP	-4.094	-3.682	-2.972**	-2.618	1(1)	Stationary

Indication: *0.01, **0.05 and *** 0.10
Source: Author's Computation (2021)

4.1.2 Johansen Tests for Co-integration

The sample, the trend specification, and the number of lags included in the model are all listed in Table 2. Each conceivable value of r, the number of cointegrating equations, has its own row in the main table. All four variables in this model are stationary when r = 4. The null hypothesis of no cointegrating equations is rejected in this investigation because the trace statistic at r = 0 of 211.1725 exceeds its critical value of 124.24. The null hypothesis that there are one or fewer cointegrating equations is likewise rejected because the trace statistic at r = 1 of 146.3655 exceeds its critical value of 94.15. Similarly, the trace statistic of 96.3823 at r = 2 exceeds the critical value of 68.52. The null hypothesis of two or fewer cointegrating equations is likewise ruled out. The null hypothesis that there are three or fewer cointegrating equations is likewise rejected because the trace statistic at r = 3 of 51.7495 exceeds its critical value of 47.21. The null hypothesis that there are four or fewer cointegrating equations cannot be rejected since the trace statistic at r = 4 of 23.9393 is smaller than its critical value of 29.68.

Because the first r for which the null hypothesis is not rejected is accepted by Johansen's method for estimating r, r = 4 is accepted as the estimate of the number of cointegrating equations between these seven variables. The value of r selected by Johansen's multiple-trace test process is shown by the "*" by

the trace statistic at r = 4. The null hypothesis of no cointegrating equation was rejected at the 5% level critical value based on the results. Hence, it is concluded that long-run relationship exist among the four variables. This suggest that there are four cointegrating equations in the balanced-growth data as indicated by the "*" in the output. Having determined that there is a cointegrating equation among the AGRICQ, EXTREV, FEXR, EXDEBT, OPS, GREV and GEXP series, the parameters of a bivariate cointegrating these four series by using vector error - correlation model were estimated in table 2 .

Table 2: Johansen Tests for Cointegration

Maximumrank	Parms	LL	eigenvalue	TraceStatistic	5%critical value
0	105	15.055922	.	211.1725	124.24
1	118	17.347599	0.84302	146.3655	94.15
2	129	42.339168	0.76023	96.3823	68.52
3	138	64.655573	0.72063	51.7495	47.21
4	145	78.560686	0.54823	23.9393*	29.68
5	150	86.887234	0.37861	7.2862	15.41
6	153	89.605124	0.14385	1.8504	3.76
7	154	90.53033	0.05150		

Source: Author's Computation (2021)

Table 3: Lagrange-Multiplier Test

lag	chi2	Df	Prob> chi2
1	34.1995	49	0.94631
2	47.5379	49	0.53252

H0: no autocorrelation at lag order

Table 4:Jarque-Bera (Normality Test)

Equation	chi2	df	Prob> chi2
D_LOGAGRICQ	1.924	20.	38218
D_LOGGREV	0.110	2	0.94649
D_LOGGEXP	4.337	2	0.11437
D_OILSHOCKS	1.869	2	0.39286
D_LOGEXTERNALDEBT	53.667	2	0.00000
D_LOGFEXR	2.923	2	0.23190
D_LOGEXTREV	4.648	2	0.09790
ALL	69.476	14	0.00000

Source: Author's Computation (2021)

4.1.3: Regression Analysis on the Impact of Fiscal Policy and Oil Price Shocks on Agricultural Sector in Nigeria.

The table 5 shows impact of fiscal policy and oil price shocks on agricultural sector in Nigeria. 1% increase in the Government Revenue (GREV) increases Agricultural output (AGRICQ) by 0.06%. This suggests a positive impact of GREV on AGRICQ. The outcome is not significant ($\beta=0.0605299$, $t = 0.32$, $P>|t| =0.754$) 1% increase in Government Expenditure (GEXP) increases AGRICQ by 1.02%.This means that GEXP imparted AGRICQ positively and significantly ($\beta = 1.023774$, $t = 3.92$, $P>|t|=0.001$). That is if GEXP increases AGRICQ will also increase. 1% increases in oil price shock (OPS) will have positive impact on agricultural out (AGRICQ) by .007%. ($\beta=.0078315$, $t = 0.14$,

$P> t = 0.889$). The implication of the result was that OPS increases AGRICQ by .007%. OPS has influence on AGRICQ in Nigeria.

Contrarily, 1% increase in the External reserves (EXTREV) reduces AGRICQ by .007 %. This suggests that EXTREV does not have significant impact on AGRICQ ($\beta = -.0070502$, $t = -0.08$, $P>|t| = 0.937$). More so, 1% increase in Foreign exchange rate (FEXR) reduces AGRICQ by .03%. This also reveals insignificant impact of FEXR on AGRICQ. ($\beta =-.0344523$, $t = 0.26$, $P> t =0.801$). This is suggesting that if FEXR increases AGRICQ will decline. 1% increases in External Debt (EXTDEBT) will have negative impact on the agricultural output (AGRICQ) i.e. ($\beta = -.0109086$, $t = -0.35$, $P> t =0.733$).

This implies that EXTDEBT have negative impact on AGRICQ. Given coefficient of determination (R^2) as 99% with the high value of adjusted R^2 as 98%.It indicates that the independent variables used in this model were able to predict the impact of fiscal policy and oil price shocks on Nigeria's agriculture sector to 98 percent accuracy. The significance of this model was further supported by the F and probability statistics. This hypothesis seeks to determine whether fiscal policy and oil price shocks have a substantial impact on Nigeria's agriculture industry. The null hypothesis is rejected, whereas the alternative hypothesis is supported, because the p-value equals 0.0000, which is less than 0.05, according to the decision criterion above. As a result, fiscal policy and oil price shocks have a considerable impact on Nigeria's agricultural output.

Table 5: Regression Analysis on the Effect of Fiscal Policy and Oil Price Shocks on Agricultural Sector in Nigeria.

Dependent Variable	Independent Variables	Coef.	Std. Err	T	P> t	[95% Conf. Interval] Coef.
AGRICQ	GREV	.0605299	1904547	0.32	0.754	-.3412945 .4623543
	GEXP	1.023774	.261245	3.92	0.001	.4725954 1.574953
	EXTREV	-.0070502	.0883661	-0.08	0.937	-.1934864 .1793859
	FER	-.0344523	.134581	-0.26	0.801	-.3183934 .2494888
	EXTDEBT	-.0109086	.0314867	-0.35	0.733	-.0773398 .0555225
	OPS	.0078315	055045	0.14	0.889	-.1083032 .1239662
	CONS	.8463703	.7418585	1.14	0.270	-.7188143 2.411555
R-squared = 0.9906	Adj R-squared = 0.9873	Prob> F = 0.0000	Root MSE =.25689	F(6, 17) = 299.51		

Source: Author's Computation (2021)

V. CONCLUSION AND RECOMMENDATIONS

Based on the empirical findings of this study, the following conclusions were drawn:Government expenditure has a positive significant impact on agricultural sector in Nigeria. That government should increase her budgetary allocation to agricultural sector due to its multiplier effect on the economy. Government revenue also has positive impact on the agricultural sector both in the short run and long run Nigeria. Government tax revenue from agricultural sector should not be counter-productive to the growth of the sector, now that government is looking at agricultural sector as a means of diversification from oil based economy. Based on the findings in the course of this study, the following recommendations were suggested 1. Public expenditure is

found to be an output stimulant, the government should consider restructuring its expenditure pattern by allocating more towards productive expenditure such as capital projects; this will have the effect of Stimulating output growth in various sectors of the economy. Also, Government should also consider harnessing its revenue potentials by expanding its revenue base via effective and efficient taxation system, diversification of Nigeria's revenue base by tapping into our solid minerals and agricultural potentials.

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