

Unraveling the Impact of Oil Price Volatilities on Government Recurrent Expenditure in Nigeria

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Abstract

This study investigates the fiscal repercussions of crude oil price volatility on government recurrent expenditure (RGEXP) in Nigeria from 1970 to 2022. Employing a three-step econometric approach, it begins with unit root tests using ADF, PP, and KPSS, which reveal a mixture of I(0) and I(1) series. The Bounds Testing technique confirms long-run cointegration among the variables, justifying the use of Vector Error Correction Model (VECM) for estimation. The results show RGEXP responds quickly to oil market disruptions, with stronger reactions in early periods. Internal shocks initially dominate, but external factors—especially government revenue (GOVR) and domestic debt (DDT)—grow increasingly impactful over time. GOVR is consistently the most significant determinant of RGEXP, while DDT's influence intensifies in post-shock scenarios. Real GDP plays a moderate role in later periods, reflecting economic adaptation. Policy implications include the urgent need for fiscal reforms: diversify revenue sources beyond oil through tax optimization and non-oil sector growth, implement medium-term debt sustainability frameworks, and adoption oil price risk management tools such as hedging and adaptive fiscal rules. These measures aim to enhance Nigeria's economic resilience, stabilize recurrent spending, and promote sustained macroeconomic stability.

Keywords: Oil Price Volatility, Government Revenue, Government Recurrent Expenditure, Unit root, Cointegration, Vector Error Correction Model

1.0 Introduction

Petroleum is a fundamental resources in the world economy; providing about 35% of energy supply globally (International Energy Agency ([IEA], 2002). Domestically, Crude oil has occupied a dominant position in the Nigerian economy since 1956 when it was discovered in the country. The country became almost totally oil dependent following the discovery of enormous commercially profitable oil reserve. This, in turn, resulted in the contraction of other sectors. Data from Central Bank of Nigeria ([CBN], 2021) shows that oil proceeds account for about 74% of the entire government revenue in Nigeria between 2004 and 2020.

However, a major problem of oil is that its prices have always been characterized with severe instability since World War II; and it has been more volatile than any other product (Lynch, 2001). A fall in oil price in the global market, invariably translate into a decline in public revenue and ultimately a contraction in national income. Accordingly, the uncertainty regarding the future price level in the global oil market culminate in uncertainty as regards the sum of income the nation will be obtained from oil, as well as the extent of any future growth in the demand for non-tradable in the Nigerian economy. Thus, the volatilities in oil prices lead to revenue swings and affect other fiscal responsibilities. It can cause a mess of fiscal planning in major oil producing and exporting nations, particularly in countries that operate fuel subsidy; severe price swings can lead to distortion of national budgets, fuelling deficits, and reducing imports. Oil Price volatility produces uncertainty on a wide front: human capital, investments, corporate performance and the economic progress of oil exporting nations (Fattouh & Economou, 2019; Mabro, 2001).

Consequently, several empirical works have been done in order to determine the impact of volatilities in the price of oil on government expenditure. However, almost all existing studies on the impact of oil price volatility on government expenditure focus on its impact on aggregate expenditure (Eltony & Al-Awadi 2001, Ademola 2006, Jbir & Zouari-Ghorbel 2009, Akpan 2009, Omisakin, et al 2009, Oriakhi & Iyoha 2013, Akinleye & Ekpo 2013, Sadeghi 2017, Abdel-Latif et al, 2018, and Adedokun, 2018). Studies focusing on how disaggregate government expenditure is impacted by oil price volatility are very scanty (see Orhewere & Ogbeide-Osaretin, 2020). Shortage in revenue resulting from lower oil prices forces government to reduce its expenditures. This decline may not largely reflect in recurrent expenditure since it is difficult to instantly cut down recurrent expenses, which are basically salaries and fixed costs. Consequently, there is the tendency for lower oil prices to have varying impacts on recurrent and capital expenditure performance, particularly in the immediate period as government attempts to manage its shortfall within the bounds of the fiscal obligation act while striving to satisfy its daily responsibilities. Hence it will be of interest to empirically establish if government recurrent expenditure is affected by oil price volatility.

Arising from the above, this study seeks to unveil the effects oil price volatility on government recurrent expenditures in Nigeria during the period of 1970-2022. Understanding the relationship between crude oil price volatilities and

government recurrent expenditure is crucial for Nigeria's economic planning and stability, given the country's heavy dependence on oil revenue. The study provides policy recommendations targeted at addressing negative effects of oil price volatility on government spending. The rest of this paper is organized as follows: Section 2 contains the literature review, while Section 3 consists of the methodology. The section 4 presents the results and discussions, while the last section, contains the conclusion and recommendations.

2.0. Empirical Literature: A Regional and Temporal Review

Oil price volatility has long been a driver of macroeconomic instability and fiscal decision-making across oil-exporting and oil-importing countries alike. Government spending, particularly in resource-dependent economies, often correlates with fluctuations in global oil prices. This report synthesizes studies across developed, developing, and African nations, with a particular emphasis on Nigeria, highlighting chronological progression in scholarly inquiry and evolving insights over time.

Sadeghi (2017) considered government size as a determinant of the extent economic growth is affected by oil price shocks in 28 oil-exporting nations. The outcome of the exploration confirms that unanticipated surge in price of oil lead to a rise in government expenditure and it enlarges as government size gets larger. Also, Abdel-Latif et al. (2018) explored the consequence of unstable oil price on government spending, with particular reference to the educational and health sectors of Saudi Arabia. The study estimated a nonlinear ARDL model for 1990 to 2017 period using quarterly data. The findings indicated the presence of a nonlinear association regarding oil prices and government expenditures. It also found that negative shocks to oil price had long run impact on government expenditure in comparison to positive swings.

Eltony and Al-Awadi (2001) carried out an investigation on the economy of Kuwait and established the relevance of shocks in price of oil in explaining government spending. West African Monetary Agency ([WAMA], 2008) analyses the consequence of petroleum price fluctuations on macroeconomic aggregates in ECOWAS countries by means of VAR. The outcomes show that the consequences of oil prices on fiscal deficits in these nations are felt after a year. The results imply that a 1% surge in oil prices will probably deteriorate fiscal deficits in The Gambia, Senegal and Benin by 1.27, 1.53 and 1.09 % respectively. In the case of Nigeria, it was found that 1% upsurge in oil prices causes 1.83%

decline in fiscal deficits. Conversely, a 1% escalation in oil prices, raises fiscal deficits of Cote d'Ivoire, Burkina Faso and Ghana by 0.37, 0.86 and 0.05% respectively. They emphasize that global oil price rise proved to deteriorate fiscal deficits in countries that are oil importers, whereas oil price increases basically enhanced fiscal deficit of oil exporters. Jbir and Zouari-Ghorbel (2009) in a study of the economy of Tunisia explores the link between oil price waves and economic activity by means of quarterly data in a VAR framework. The results obtained indicate absence of direct influence of swings in oil price on economic activities in linear model as well as non-linear models in Tunisia. Instead, prices of oil indirectly influence economic wellbeing basically through government spending.

Ademola (2006) examined the consequence of oil price fluctuation on real imports and government spending in Nigeria in a VAR analysis. The result reveals that variations in oil price have effects on government expenditure and real imports in Nigeria. Also, Akpan (2009) using VAR analysis examines the impacts of oil price shock on Nigeria's macro economy. The study reports that shocks in the price of oil have positively significant repercussion on real government spending in Nigeria. In addition, the study finds that swings in the price of oil have marginal effect on output growth of the industrial sector; while it has significant real exchange rate appreciation effect. Omisakin et al. (2009) studied the consequences of shocks in the price of oil on Nigeria's economy in the short run using VEC model. They established that a upsurge of 10% in the price of oil generates about 45% rise in government expenditure, 79% surge in oil revenue and 17% upswing in M2; in addition, it generated 31% surge in GDP and 11% fall in CPI in the immediate period. The study affirms the vulnerability of the Nigerian economy to volatilities in the international prices of oil. Also, Oriakhi and Iyoha (2013) in a study on the Nigerian economy investigate the macroeconomic impact of oil price volatility within the 1970 to 2010 period. The authors record direct effect of oil price volatility on real values of exchange rate, government expenditure and import. Conversely, they detected indirect influence of oil price volatility on real values of GDP, money supply and inflation with real government spending serving as the main channel of transmission. Thus, the sum of government expenditure is determined by oil price changes, in turn, government expenditure determines the expansion rate of the economy. Hence, government spending plays a dominant role in the Nigerian Economy. Akinleye and Ekpo (2013) using vector autoregressive technique considered the influence of oil price changes on macroeconomic performance in Nigeria. The study reveals

that positive as well as negative shocks to oil price has only a long run influence on real government expenditure, while the effects of both shocks on external reserves showed stronger long run implications for real expenditure. In the case of its impact on Real RGDP, the study unveils that positive shocks to oil price has stronger immediate and long term effects relative to negative shocks, thereby generating an inflationary trend and depreciation in local currency due to increased importation. The authors argue that by implication, the economy displays the Dutch disease condition in the immediate and long term. Similarly, Adedokun, (2018) considered the dynamic association between shocks to oil price, government receipt and government outlay in Nigeria using SVAR, VAR and VEC. Findings revealed that short-run, fluctuations in oil price do not explain the changes in government expenditure, while volatility in oil price accounts for the variability in government expenditure in the long-run. The study also established a long term impact of oil revenue on government expenses.

Orhewere and Ogbeide-Osaretin (2020) estimated the influence of oil price shocks on government capital expenditure in Nigeria by means of VEC techniques. The study revealed that Capital expenditure exhibited a negative response to volatility in oil prices as well as government income while its response to internal debt was positive. Darma, et al (2022) investigated the linkage between oil price shocks, government expenditure and economic growth in Nigeria for the 1986 to 2018 period, using the Vector Error Correction and GMM techniques. The study unveils that oil price shocks directly influence government spending and GDP growth. It highlights Dutch Disease and recommends export diversification.

Ojukwu and Udokang (2023) estimated the effect of oil price volatility and federal government recurrent expenditure in Nigeria using a GARCH model for the period covering 1980 to 2022. The study revealed that oil price volatility significantly affects recurrent expenditure while the Exchange rate plays a mediating role. Oluwagbade et al. (2023) evaluated the effect of oil price volatility on capital expenditure in Nigeria 1993 to 2022 using an ARDL model. The study found that oil price volatility has no significant long-term impact on capital expenditure. It suggests short-run effects and calls for better fiscal monitoring. Also, Oduyemi et al (2025) examined the responses of fiscal policy to Oil Price Shocks in Nigeria during the period of 1980 to 2023. The estimated VAR model revealed that oil price volatility affects revenue stability, healthcare

funding, and debt sustainability. The study recommends stronger fiscal buffers and diversification.

3.0 Methodology

The study utilized secondary data obtained from the Statistical Bulletin of the Central Bank of Nigeria for the period 1970 to 2022. This study made use of a three stage econometric techniques to examine how volatility in oil price affect government recurrent expenditure by means of Vector Error Correction Model (VECM). Firstly, the order of integration of the variables were confirmed using the ADF, PP and KPSS tests. Next, the Bound Testing cointegration techniques is used to test for the presence of long run relationship among all the variables in the model However, Narayan (2005), argued that the critical bounds provided in Pesaran et al, (2001) are not applicable in small sample studies, as they have been computed basically for large samples ranging from 500 to 1,000 sizes and replications of 20,000 to 40,000. Hence, he introduced a set of critical bounds for smaller sample cases, with a range of 30 to 80 cases. Given a size of 53 observations in our study, we extract the relevant critical bounds from Narayan (2005). Once cointegration is established, we progress to estimate the VEC model to ascertain the responses of government recurrent expenditures to innovations in oil price volatility. The emphasis here will be on the Impulse Response Functions (IRF) and the Variance decompositions. Price volatility in the oil market (OIL_PVOL) was captured by normalizing changes in the price of oil with their GARCH volatility.

Specification of Model

This model seeks to explain the behaviour of Government Recurrent Expenditure in terms of Volatility in Oil Price, Real GDP, Government Revenue, and Domestic borrowing.

The specified Vector Error Correction model is given below:

$$RGEXP_t = \alpha + \sum_{j=1}^K RGEXP_{t-j} + \sum_{j=1}^K OIL_PVOL_{t-j} + \sum_{j=1}^K RGDP_{t-j} + \sum_{j=1}^K GOVR_{t-j} + \sum_{j=1}^K DDT_{t-j} + u_t \text{ Where:}$$

RGEXP = Government Recurrent Expenditure, OIL_PVOL = Volatility in Oil Price, GOVR = Government Revenue, RGDP = Real GDP, and DDT = Domestic Debt

The justifications for the inclusion of these variables are as follows:

i. Government Revenue

Fluctuations in crude oil prices directly affect government revenue, since crude oil constitutes a significant portion of Nigeria's revenue. Changes in revenue can influence how much the government can allocate to recurrent expenditure. Besides, Government revenue is critical in planning the budget, especially the recurrent expenditure segment, which includes salaries, pensions, and other ongoing operational costs. Changes in government revenue can trigger policy responses that might affect recurrent expenditure differently, depending on whether the revenue increases or decreases.

ii. Domestic Debt

The government's decision to borrow domestically can affect its capacity to manage recurrent expenditure, especially when revenue from oil is volatile. An increase in domestic debt usually results in higher interest payments, which are part of recurrent expenditure. Also, High levels of domestic debt may force the government to adjust its recurrent expenditure to maintain fiscal sustainability.

iii. Real GDP

The Real GDP is an indicator of the overall economic health, reflecting the total value of goods and services produced. It influences government policies on recurrent expenditure. Revenue and Expenditure Correlation Higher GDP often correlates with higher tax revenues, allowing more room for recurrent expenditure. In addition, Government expenditure decisions, including recurrent spending, are often influenced by GDP growth rates. Lower GDP growth may lead to cuts in recurrent expenditure, while higher growth may enable expansion.

By including government revenue, domestic debt, and real GDP as independent variables, the model can capture the multifaceted effects of crude oil price volatilities on government recurrent expenditure. These variables provide a comprehensive view of the economic and fiscal dynamics that drive government spending decisions in Nigeria.

Unit root test

The Augmented Dickey-Fuller (ADF) test checks whether a time series is non-stationary by testing for a unit root. The PP test is similar to the ADF test but uses non-parametric corrections to account for serial correlation and heteroskedasticity in the error terms. Here is the decision criteria for both tests:

- Null Hypothesis (H_0): The series has a unit root (i.e., it's non-stationary). We compare the test statistic calculated with the tabulated values at 5% critical value from the ADF or PP table respectively. If the test statistic is less than the critical value (more negative), reject $H_0 \rightarrow$ the series is stationary. If the test statistic is greater than the critical value (less negative or positive), do not reject $H_0 \rightarrow$ the series is non-stationary

The KPSS (Kwiatkowski–Phillips–Schmidt–Shin) test flips the usual logic of unit root tests. Instead of assuming non-stationarity, it starts with the assumption that the time series is stationary.

- Null Hypothesis (H_0): The time series is stationary (either level or trend stationary).
- Alternative Hypothesis (H_1): The time series is non-stationary (has a unit root)

Condition

Conclusion

Test statistic $>$ critical value Reject $H_0 \rightarrow$ Series is non-stationary

Test statistic \leq critical value Fail to reject $H_0 \rightarrow$ Series is stationary

The Bounds Test is used to determine whether a long-run relationship (cointegration) exists between variables. Compare the calculated F-statistic to the critical values from the Narayan's bounds table, which provides lower and upper limits. If the F-statistic is above the upper bound, it indicates a long-run relationship exists among the variables. Values between bounds or below the lower bound lead to different conclusions about cointegration.

4.0 Results and Discussions

4.1 Unit Root Test Results

Table 1a: Unit Root Tests at Levels

Variables	ADF		Remarks	Philip-PERRON		Remarks	KPSS		Remarks
	T-Stat.	5% Critic Values		T-Stat.	5% Critica Values		LM-Sat	5% Critical Values	
DDT	-2.388348	-2.918778	YES	-2.286178	--2.918778	YES	0.506747	0.463000	YES
OIL_PVOL.	-6.242076	-1.947248	NO	-6.768644	-2.918778	NO	0.202843	0.463000	NO
RGEXP	-1.995443	-2.918778	YES	-2.070244)	-2.918778	YES	0.416339	0.463000	NO
GOVR	-1.758010	--2.918778	YES	-1.924083	-2.918778	YES	0.304547	0.463000	NO
RGDP	-6.242076	-1.947248	YES	-2.010113	-2.918778	YES	0.430730	0.463000	NO

Source: Computed using Eviews 9

Table 1b: Unit Root Tests at First Difference

Variables	ADF		Remar	Philip-PERRON		Remar	KPSS		Remar
	T-Stat.	5% critical Values		T-Stat.	5% Critical Values		LM-Sat	5% Critical Values	
DDT	-8.707913	-2.919952	NO	-9.392988	-2.919952	NO	0.206126	0.463000	NO
OIL_PVOL	-	-	-	-	-	-	-	-	-
RGEXP	-6.552673	-2.919952	NO	-6.641099	-2.919952	NO	-	-	-
GOVR	-5.893067	-2.919952	NO	-5.912485	-2.919952	NO	-	-	-
RGDP	-5.434403	-2.931404	NO	-6.910233	-2.919952	NO	-	-	-

Source: Computed using Eviews 9

Table 1c: Summary of Unit Root Tests

Variables	Order of Integration			Conclusion order of integration
	ADF	PP	KPSS	
DDT	I(1)	I(1)	I(1)	I(1)
OIL_PVOL	I(0)	I(0)	I(0)	I(0)
RGEXP	I(1)	I(1)	I(0)	I(1)
GOVR	I(0)	I(1)	I(0)	I(1)
RGDP	I(1)	I(1)	I(0)	I(1)

Source: Computed using Eviews 9

4.3. Criteria for Selection of Lag

To identify the suitable lag, the VAR lag selection criteria were used. The result as presented in table 3 revealed that lag 2 was selected by all lag criteria. Therefore, the lag 2 is most efficient and was used for the estimation.

Table 3 VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC
0	-3019.096	NA	2.78e+47	123.4325	123.6255
1	-2911.035	189.6568	9.42e+45	120.0423	121.2005
2	-2845.199	102.1127*	1.84e+45*	118.3755*	120.4990*
3	-2828.860	22.00793	2.85e+45	118.7290	121.8177
4	-2804.010	28.39994	3.40e+45	118.7351	122.7890

* indicates lag order selected by the criterion

Source: Computed with Eviews 9 by author

4.4 Test for Cointegration

Given that variables in the model are integrated of different order, we conducted cointegration test with the bounds testing techniques. The result shows an F stat of 7.653751 which exceeds Narayan's lower and upper bounds 5% critical values of 2.823 and 3.872 respectively (see table 4). Hence, the null hypothesis is rejected and we affirm the presence of cointegration among the variables.

Table 4 Bound Test for Cointegration

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	7.653751	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Computed with Eviews 9 by author

4.5 Impulse Responses to Shocks

Table 5: Impulse Response of Government Recurrent Expenditure

Period	RGEXP	OIL_PVOL	GOVR	RGDP	DDT
1	150217.3	0.000000	0.000000	0.000000	0.000000
2	246163.6	7728.393	139141.6	25692.51	4331.866
3	154844.1	15397.01	104055.6	122 929.9	101733.1
4	201710.7	21397.20	162081.3	125342.6	108044.6
5	247073.3	22836.65	120955.3	75489.55	93379.00
6	222395.5	2045.709	74458.78	24437.82	97881.37
7	194236.4	-7027.986	61776.98	15045.63	92369.64
8	169638.5	7453.048	79705.16	55055.82	101889.0
9	178737.5	14804.59	106763.4	91007.51	103444.5
10	200984.8	17222.61	117453.2	89488.80	997 82.92

Source: Computed using Eviews 9

The impulse response is a vital tool in the analysis of VECM. Table 5 and Figure 8 reveal the response of RGEXP to its own shock, GOVR, OIL_PVOL, RGDP and DDT at a confidence interval of 95%. The outcome shows that RGEXP positively respond to shocks in itself all through the period. It responded negatively to OIL_PVOL in the 7th period and positively in other periods. Also, RGEXP was found to positively respond to GOVR, DDT and RGDP in all the periods. The mixed responses of RGEXP to volatility in oil prices could be traced to the reality that oil is the mainspring of revenue in Nigeria and hence, Government recurrent expenditure raises in response to upward movement in oil price, while it is negatively affected by adverse swing in oil prices. It is observed that government recurrent expenditure (RGEXP) spikes immediately after oil volatility, potentially over stimulating the economy. Also, oil volatility transmits quickly into fiscal and economic fluctuations. The result of positive response of RGEXP to own shock, GOVR, DDT and RGDP are in line with expectation that RGEXP increase with increase in GOVR, RGDP and DDT.

4.7 Variance Decomposition

Table 6: Variance Decomposition of GREXP

PERIOD	S.E.	RGEXP	OIL_PVOL	GOVR	RGDP	DDT
1	150217.3	100.0000	0.000000	0.000000	0.000000	0.000000
2	321342.1	80.53570	0.057842	18.74903	0.639260	0.018173
3	404677.0	65.42269	0.181234	18.43388	9.630882	6.331315
4	508491.2	57.17195	0.291857	21.83539	12.17599	8.524809
5	590913.3	59.81780	0.365472	20.35878	10.64822	8.809724
6	643711.5	62.34382	0.308987	18.49400	9.117217	9.735974
7	681701.3	63.70731	0.286137	17.31141	8.178077	10.51707
8	716459.9	63.28196	0.269868	16.91007	7.994319	11.54378
9	758856.2	61.95622	0.278617	17.05274	8.564263	12.14816
10	805179.7	61.26313	0.293233	17.27489	8.842415	12.32633

Source: Computed using Eviews 9

Table 6 presents the outcome of the variance decomposition for Government Recurrent Expenditure. For RGEXP, own shock constitutes a major cause of the variation in its forecast errors. This was between the ranges of 57% to 100% over the ten years. Given an exogenous shock to other variables used for the study, it was evident that the other main sources of variation in RGEXP were GOVR, DDT and RGDP. GOVR accounted most 21% in the immediate period and 17% and 18% in the longer periods (6th, 9th and 10th periods); while RGDP and DDT each contributed 12% most in the 4th and 10th period respectively. Shocks to OIL_PVOL constitute an insignificant source of variation in RGEXP.

Table 7: Period-by-Period Analysis of Variance Decomposition

Period	RGEXP (%)	OIL_PVOL (%)	GOVR (%)	RGDP (%)	DDT (%)	Key Insight
1	100.0	0.00	0.00	0.00	0.00	RGEXP entirely drives itself initially.
2	80.5	≈0.06	18.7	0.64	0.02	GOVR begins influencing RGEXP strongly.
3	65.4	0.18	18.4	9.6	6.3	RGDP and DDT emerge as notable contributors.
4	57.2	0.29	21.8	12.2	8.5	RGEXP mostly driven by GOVR, RGDP, and DDT.
5	59.8	0.37	20.4	10.6	8.8	GOVR remains a strong driver. OIL_PVOL still minor.
6–10	≈61–64	≈0.27–0.31	≈17–18	≈8–9	≈10–12	GOVR, DDT maintain influence; RGEXP's own shock stabilizes at ~60%.

Source: Computed by author

Government Revenue (GOVR) is the second most influential factor on RGEXP from Period 2 onward, suggesting that fiscal capacity strongly shapes recurrent spending. Domestic Debt (DDT) influence grows gradually, peaking around 12% by Period 10. This underscores that debt dynamics increasingly affect how the government allocates recurrent funds. Real GDP (RGDP) plays a moderate role, indicating that macroeconomic performance modestly affects recurrent expenditure—possibly via automatic stabilizers or demand-side budget adjustments. Oil Price Volatility (OIL_PVOL) has minimal impact throughout—hovering below 0.4%. This implies recurrent expenditure is fairly insulated from direct oil price shocks, although GOVR (which is oil-sensitive) indirectly channels this effect.

5.0 Conclusion and Recommendations

The study focuses on the impact of volatility in the price of oil on government recurrent expenditure in Nigeria. Over the period 1970-2022, the annual average price of Nigerian reference crude (Bonny Light) experienced significant fluctuations. In terms of revenue source, the economy still depend highly on crude proceed. Volatility in oil prices exact significance influence on government revenue. Hence, the Nigerian economy is extremely prone to shocks in the price of oil. The outcome of the study shows that oil volatility transmits quickly into

fiscal and economic fluctuations. RGEXP reacts quickly to oil volatility and fluctuates sharply; internal shocks dominate early periods, but external factors gain influence over time. GOVR consistently emerged as the largest external driver of RGEXP across both IRF and Variance Decomposition. Domestic debt (DDT) showed a delayed but growing influence on recurrent expenditure and spikes sharply post-oil volatility shock. RGDP moderately influences RGEXP in later periods and reflects the economy's capacity to absorb shocks. Although oil price volatility directly affects RGEXP minimally in the decomposition, it creates substantial ripple effects via GOVR and debt.

Arising from the above, the study recommends as follow:

- i. Revenue Diversification and Strengthening: This can be achieved through broadening the tax base and formalizing the informal economy, Promoting non-oil sectors such as agriculture, ICT, and manufacturing and strengthening tax administration to reduce revenue leakages.
- ii. Debt Sustainability & Fiscal Prudence. This is necessary to prevent debt-driven fiscal crowding out and protect government recurrent expenditure from long-term shocks. This is achievable through adoption of medium-term debt strategies with sustainability targets, increasing transparency in debt use and reducing domestic interest burdens; prioritizing concessional borrowing and optimizing debt service ratios.
- iii. Oil Market Risk Management. This is crucial, given that oil price volatility exerts substantial indirect effects on recurrent expenditure via government revenue and debt channels. Necessary measures include adoption of hedging instruments and price smoothing mechanisms in budget planning; developing adaptive fiscal rules based on oil price forecasts; as well as channelling oil windfalls into long-term capital investments rather than recurrent expenditure. These measures will effectively insulate budgetary operations from oil market disruptions and cyclical instability.

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