# Abstract

In managing a mon ns follow revenue patterns in cycles of ocyclical, which is an indicator of poor olished a stabilization fund in ding of the role of a stabilization fund in the fiscal management of the Nigerian economy. This is done using an econometric model framework that explains both government spending and fiscal balance as a share of GDP while controlling for a set of economic and demographic variables. The results indicate that the establishment of a stabilization fund has no moderating effect on government spending behaviour. Moreover, the evidence shows that the stabilization fund has a positive impact on fiscal balance during the sample period.

# Introduction

The basic economic theory of public finance stipulates that a budget deficit exists when a government expends more than the revenue it receives from all sources. This deficiency in funding is covered through borrowing from financial markets. If a fiscal deficit is financed by external borrowing, a country’s balance of payments problem can be exacerbated. Moreover, the interest on external debt can exert pressure on a country’s level of fiscal deficit. On the other hand, if a fiscal deficit is financed through bank borrowing, more paper money has to be printed with its attendant inflationary consequences. This aside, domestic borrowing also attracts interest expense which complicates the deficit situation. A major problem facing many developing countries centres on the sustainability of their fiscal affairs. In Nigeria, Isabota and Odukoya (2013), and Akinlo (2012) argue that the volatility in the crude oil market results in unsustainable growth, given the susceptibility of the economy to external shocks due to low commodity prices. The sustainability condition has been tested by several researchers, including Hamilton and Flavin (1986), Trehan and Walsh (1988), Wilcox (1989), Uctum and Wickens (1997) and Papadopoulos and Sidiropoulos (1999). The IMF and the World Bank use a ‘rule of thumb’ to define a sustainable debt level as (a) a net present value (NPV) of debt to exports ratio

between 200 per cent and 250 per cent and (b) a debt service to export ratio between 20 per cent and 25 per cent.

In the case of Nigeria, Omopariola (2002) reports that the discovery of oil was accompanied by a phenomenal increase in government expenditures which resulted in an enlarged public sector. The oil revenue-induced public expenditures shifted the economy away from agriculture into transportation, construction and other service sectors. Akinlo (2012) notes that crude oil production rose from 395.7 million barrels in 1970 to 776.01 million barrels in 1998. Concurrently, oil revenue showed a similar trend, rising from 166.6 million NGN (Nigerian currency, NGN) in 1970 to 6.531 billion NGN in 2008 up to 8.026 billion NGN in 2012. This oil revenue growth motivated a significant increase in government expenditures, thereby, complicating Nigeria's macroeconomic management. The resultant effect of increased oil revenue-induced public spending is systemic deficit financing that has persisted over a number of years for Nigeria.

Gollwitzer (2011) notes that many African countries inherited their budgetary frameworks from their respective colonial powers. In several of the countries, informal practices were in conflict with formal rules which results in a breakdown of budgetary discipline. Osinubi and Olaleru (2006) note that Nigeria's problem hangs on the need to coordinate an effective fiscal program in the face of a rising external debt burden that was created by past budget deficits. Ezeabasili, Tsegba and Ezi-Herbert (2012) examine the impact of fiscal deficits on economic growth in Nigeria and conclude that a 1 per cent increase in fiscal deficit dampens economic growth by about 0.023 per cent. The situation in Nigeria calls for fiscal prudence and scrupulosity. Mauro, Romeu, Binder and Zaman (2013) note that, in practice, prudence and scrupulosity connote medium-term concepts. At best, these medium-term concepts may be used to evaluate if a country's fiscal policies are appropriate in supporting economic growth, as well as achieving social objectives without leading to a fiscal crisis. In an evaluation of an appropriate fiscal framework for resource-rich developing countries, Baunsgaard, Romeu, Binder and Zaman (2012) propose a framework with several critical elements which include:

1.
Macro-fiscal stability;

2.
Fiscal sustainability when resource revenue flow is temporary;

3.
Gradual scaling up of growth-enhancing expenditure; and

4.
Adequate accumulation of precautionary savings.

In a related approach, Sugawara (2014) explores the use of stabilization funds in resource-rich countries and concludes that such funds contribute to smoothing government expenditures, thereby

alleviating volatility in spending.

While commenting on the systemic budgetary problems in Nigeria, Ayinde (2014) notes that the structural adjustment program (SAP) of the 1980s was accompanied by fiscal operations which allowed government expenditures to continually surpass its revenues. Moreover, Nigeria's fiscal dilemma was not improved by subsequent efforts such as the introduction of democratic dispensation in 1999, achievement of debt forgiveness in 2005 and the Fiscal Responsibility Act (FRA) (2007). Adegbite, Ayadi and Ayadi (2008) and Gillies (2010) conclude that as a mono-product economy, government expenditure patterns follow revenue patterns in cycles of boom and bust in crude oil prices. Thus, fiscal policy becomes procyclical, which suggests a lack of fiscal prudence, and is a primary indicator of poor fiscal management. Given this procyclical expenditure pattern, a logical question that follows is whether the introduction of a sovereign wealth fund (SWF) is capable of positively impacting Nigeria's out-of-control fiscal cycles.

The objective of this article is to provide a better understanding of the role of a stabilization fund in the fiscal management of the Nigerian economy. This is carried out by utilizing an econometric model framework that explains both government spending and fiscal balance as a share of GDP while controlling for a set of economic and demographic variables. The article makes a significant contribution to existing literature given that research on the role of stabilization funds in African economies is very scant (Triki & Faye, 2011). To the best of our knowledge, this is the first research on the subject based on a single country study using Nigerian data. Therefore, the results should shed some light on the relevance of stabilization funds in arresting the boom-bust fiscal cycles in Nigeria that are driven by crude oil prices.

The key contribution of this article to the debate on the role of stabilization funds in macroeconomic management is the use of quantile regression to a single-country study. This is important because Al-Hassan, Papaioannou, Skancke and Sung (2013) report that operations of SWFs have implications on public finances through their funding and withdrawal rules. Moreover, the authors project that the existence of SWFs affects (a) monetary policy via liquidity conditions and (b) external accounts through exchange rate variations. Given the dearth of research on African fiscal policies and procedures (Gollwitzer, 2011; Triki & Faye, 2011), insights into this area may prove valuable.

The rest of this article is organized as follows: The background to the Nigerian fiscal crisis is provided in the second section. Third section gives an overview of Nigeria's stabilization fund, while fourth section explores the theoretical literature review. In fifth section, the fiscal management in Nigeria and its implication on sustainability is discussed. Sixth section focuses on the empirical analysis while the final section contains the article conclusion and implications drawn therefrom.

## Background on the Nigerian Fiscal Crisis

Nwagbo (2000) reports that Nigeria's debt management is a bookkeeper's nightmare because of the existence of conflicting reports on how much the country owes. Nigeria's external debt stood at 82.4

million NGN (NGN: Nigerian currency) in 1960. Due to the economic crisis that was experienced immediately after independence, a new loan was obtained and Nigeria's debt profile stood at 435.2 million NGN in 1965. By 1970, the debt stock stood at 489 million NGN, which was only 9.2 per cent of gross domestic product (GDP) for the period. This debt package consisted mainly of long-term loans with maturities ranging from 10 to 40 years and a grace period between 3 and 10 years at rates as low as 2 per cent. These loans were sourced from the World Bank and leading Western trading partners such as Holland, Italy, United States of America, Germany and Britain (Ogbodo & Ezema, 2001; Omopariola, 2002; Osinubi & Olaleru, 2006; Owasanoye, 2001).

Ayadi et al. (2003) and Arikawe (2001) note that the Nigerian civil war from 1967 to 1970 did not give rise to excessive external borrowing because of the Rehabilitation, Reconstruction and Development Decree of 1970, which sanctioned the raising and use of external loans not exceeding one billion naira for reconstruction, rehabilitation, development and for on-lending to the states. Other factors were the rigid fiscal and monetary policies used to extract funds from the Nigerian people, along with the control of imports. Moreover, the difficulty facing most developing countries made it more difficult to source financing from international capital markets, with Nigeria being no exception.

With problems in the global capitalistic economies during the 1970s, banks found it difficult to attract new investors since many of them were sceptical of the business climate. Moreover, the first oil shock of the period compounded the problem as it added to the cost of production. Nonetheless, key oil-rich states found themselves with huge external reserves realized from petrol dollars. These funds found their way into the international capital market with no choice but to lend to the middle-income, oil-producing states and the middle-income, non-oil producing states that faced serious liquidity problems. This state of the global economy allowed Nigeria, being one of the middle-income, oil-producing countries to position itself to enjoy its oil wealth. There was an improved balance of payments position and many capital projects were executed without recourse to external loans. By 1976, Nigeria's external debt nose-dived to 374.6 million naira, and Nigeria became a respectable member of the international capital market as it became a lender to the market under an oil facility in 1974. During the early 1970s, Nigeria's debt stock not only declined, but the bulk of it was bilateral and multilateral loans on concessionary or soft terms (longer maturity and low rate of interest). Thus, debt servicing posed no serious problem during this period.

The oil boom of the early 1970s gave adequate cover for the high expenditure and large-scale importation of foreign inputs, raw materials, machineries and so on. The oil glut of 1977 resulted in a great decline in the revenue of the federal government. With the high import profile of Nigeria still in place, the balance of payments position deteriorated considerably and external debt grew from 374.6 million NGN in 1976 to 496.9 million NGN in 1977. By the end of 1977, it was clear that the available foreign exchange earnings were no longer sufficient to meet the huge imports of the economy which forced Nigeria into the international capital market.

In 1978, a euro–dollar loan, commonly called a 'jumbo' loan, of $1.0 billion was obtained from the international capital market. This loan had a short maturity and high interest rates. It was obtained to finance the balance of payments deficit, construction of oil storage tanks, laying of oil pipelines, establishment of refineries, pulp and paper mills, construction of steel manufacturing companies and for port development. It must be noted that plans for loan repayments were quite unrelated to the profitability or viability of intended projects. The maturity pattern depicts an unreasonably short-term pattern and with a high rate of interest, debt servicing became one of Nigeria's major fiscal problems. Between 1978 and 1983, even more loans were raised in the private capital market with higher rates of interest and shorter maturity patterns. Nigeria could not enjoy the soft loans of the bilateral and multilateral institutions any longer. The indiscriminate borrowing, coupled with a shortfall in oil revenue led to a sharp decline in the country's foreign exchange earnings, and ostensibly in the import habits of the people, which resulted in payments in arrears from 1982. These payments in arrears increased to 1,981.7 million NGN, amounting to an external debt in excess of 42,229 million NGN (or approximately US $18,631 million). This external debt represented over 160 per cent of Nigeria's GDP for the period between 1978 and 1983. One important point to note is that between 1980 and 1983, the bulk of Nigeria's external debt was owed to the international capital market with medium-term maturity patterns and higher rates of interest.

The state governments competed indiscriminately for these costly funds in a massive and reckless borrowing spree. Nigeria's external reserves faced depletion during this period. In 1992, Nigeria was classified by the World Bank as one of the severely indebted low-income countries (SILICs). By 1998, Nigeria's total external debt was estimated at $28.773 billion with a significant portion owed to the Paris Club. Barsky and Kilian (2004), and Ayinde (2014) note that the country spent an average of $2 billion on debt servicing between 1991 and 1997. This amount is significantly lower than the debt requiring service estimate of $5 billion per year. In 2005, the total external debt of Nigeria was about $20.7 billion when it worked out an agreement with the Paris Club. By 2008, the external debt stock was just $3.7 billion (Adegbite et al., 2008; Ajayi & Oke, 2012; Ezeabasili et al., 2012). The recent trend where Nigeria has begun to accumulate both domestic and external debt, along with a shortfall in revenue from oil harken back to the country's fiscal dark days.

## Overview of Nigeria's Stabilization Funds

Kemme (2012) views SWFs as pools of assets used by governments to achieve some national objectives. The resources used to fund these pools come from foreign exchange reserves, general tax revenues or royalties on sale of natural resources. The IMF (2008) identifies five types of funds consistent with underlying national objectives as stabilization, savings, reserve investment, development or pension reserve. For example, stabilization funds are used to insulate the national budget as well as domestic economy from swings in commodity prices. Savings funds are used to provide a diversified base of asset for future generations and to prevent the occurrence of Dutch

disease. Reserve investment corporations are to realize a higher return of foreign reserve assets as well as for managing exchange rates. Development funds are used to support projects in an attempt to promote economic development. Finally, pension reserve funds are used to fund the national pension scheme.

In view of the fact that public spending follows boom and bust cycles in the crude oil market, Nigerian authorities decided in 2004 to de-link government expenditure from the fluctuating price of oil by setting up the Excess Crude Account (ECA) (Bassey et al., 2014). ECA had as its primary objective to protect planned budgets against shortfalls in revenue resulting from volatility in crude oil prices. The Nigerian government set a conservative benchmark price for oil and savings such that revenues received over the benchmark price are deposited into the ECA. According to Gillies (2010), the balance in the ECA reached $20 billion in late 2008, but soon after that the balance was quickly depleted. Withdrawals from the ECA were ad hoc and discretionary rather than planned. Gillies also notes that President Obasanjo's withdrawals included $8 billion for independent power plants and $10 billion to compensate for overly optimistic budget revenue projections. Moreover, President Yar'Adua and later President Jonathan withdrew funds to appease state governors and for other political reasons. ECA performed woefully because of unrealistic oil revenue projections and weak and malleable governance (Gillies, 2010). Some argued that a lack of enabling law was partly to blame, which they, in turn, believe led to the establishment of Nigeria's SWF.

The enabling Act that established the Nigerian Sovereign Investment Authority (NSIA) as the institutional foundation for Nigeria's SWF was signed by Nigeria's President in May 2011 and began operations in October 2012. Its main goal is capital preservation. The NSIA's $1 billion initial investment was made at a time when Nigeria's oil-linked currency reserves dropped because of a decline in oil production. Although it has experienced decades of oil production, Nigeria has managed without an SWF. It now wants to increase its fund annually by about $1 billion. Nigeria's SWF is the third largest in sub-Saharan Africa. Botswana has $6.9 billion and Angola has $5 billion in assets (Blas, 2013; Katz & Ojong, 2009).

The NSIA's mandate is to:

1.
generate a savings base for future generations of Nigerians, via investments in hedge funds, private equity, real estate and stocks;

2.
improve the development of Nigeria's infrastructure including agriculture, electricity, healthcare and transportation,

3.
provide fiscal stability for Nigeria during periods of economic stress by providing a buffer against short-term instability; and

4.
manage other matters as they become necessary in accomplishing the first three (Blas, 2013).

Nigeria's SWF consists of three pools with banks managing 32.5 per cent of the future generations fund, 32.5 per cent of the infrastructure fund, and 20 per cent of the stabilization fund (Blas, 2013). Nigeria's oil revenues are accumulated in its ECA which serves as a cushion between its actual and budgeted oil income. At the beginning of 2013, the balance in the ECA was almost $10 billion and the IMF had forecasted an increase in the funds to $18bn at year-end. At the end of 2013, however, the holdings had fallen to $5 billion following a drop in oil production: budgeted, 2.5 million barrels per day to actual 1.8–1.9 million barrels per day. Part of this decrease was caused by thefts and pipeline glitches (Blas, 2013).

In 2011, an IMF report concludes that Nigeria's fiscal rule needs to become transparent in order to arrest procyclical fiscal policy, which has become a permanent feature of the country's public finances and to put an end to the boom–bust cycles caused by swings in oil prices (IMF, 2011). According to the report, the Nigerian fiscal policy has become highly procyclical. The situation is made worse with a poor implementation of the oil rule. The various tiers of government were in a conflict leading to *ad hoc* disbursements from the ECA. Of more relevance was the situation in 2010 when the price of oil and domestic production were well in excess of budget benchmarks. The government spent all current revenues as well as some of its savings from the ECA. All these actions had implications for fiscal sustainability.

## Review of the Literature

Greene (2011) defines fiscal sustainability as the ability to maintain fiscal operations without the threat of a crisis that would require drastic policy changes. According to the author, fiscal vulnerability is associated with fiscal sustainability. With fiscal vulnerability, the government is unable to meet key fiscal objectives because of underlying weaknesses in budgeting, accounting, revenue structure, expenditure control or fiscal institutions. One of the key ingredients of fiscal vulnerability is a poor accounting and control system. Poor accounting management may result in inconsistencies between budget balance and budget financing. It can also result in the inability of a government to recognize the full extent of contingent liabilities. A poor control system breeds unreliable revenue and expenditure data.

The macroeconomic instability experienced by many developing countries seems to be self-imposed due to the lack of fiscal discipline (Erbil, 2011; Folorunso & Falade, 2013; Mauro et al., 2013; Sugawara, 2014). Gavin and Hausmann (1998) and Gollwitzer (2011) lists various budgetary malpractices in developing countries that are reported in the literature to be multidimensional. They include: common pool problems, time inconsistency of preferences, optimism bias, unrealistic budgeting, hidden budgeting, escapist budgeting, repetitive budgeting and enclave budgeting. Common pool problems

arise when decision makers who participate in the budgetary process compete for what they consider public resources with little to no consideration of the implications of their actions (Etemad, 2014). In the face of electoral uncertainty and disagreement with rival policymakers, Alesina and Tabellini (1990) note that the government of the day fails to realize the implications of leaving debts to a succeeding government. The authors refer to this as time inconsistency of preferences. This policy is driven by the probability of a regime change. Optimum bias is a systematic overestimation of the economic significance of fiscal forecasts, whereas, at some later period, the performance deviation is likely to be blamed on external and unexpected shocks. In enclave budgeting, policymakers establish special funds that are extra-budgetary in nature to protect preferential projects.

According to Baunsgaard et al. (2012), the long-term fiscal sustainability can be assessed within the permanent income hypothesis (PIH) framework. PIH dictates a simple benchmark that is consistent with a constant primary balance over time. Within the PIH framework, the intertemporal budget constraint in a resource-risk country is satisfied when yearly spending is limited to the perpetuity value of resource wealth. Baunsgaard et al.'s holistic approach for fiscal sustainability involves the derivation of a long-term fiscal path which is consistent with the intertemporal budget constraint. They postulate that this overall fiscal balance is defined as:

$$OB_t = NRT_t - E_t + RT_t + k_t A_{t-1} - r_t D_{t-1} \quad (1)$$

where $OB_t$ is overall fiscal balance, $NRT_t$ is non-resource revenue, $E_t$ is primary public expenditure, $RT_t$ is resource revenue, $A_{t-1}$ is initial stock of financial asset, $D_{t-1}$ is initial stock of debt, $k_t$ is interest rate earned on financial asset and $r_t$ is interest rate paid on debt.

Equation 1 states that the overall fiscal balance in a resource-endowed country can be decomposed into resource revenue, non-resource revenue, primary expenditure, income from initial stock of financial assets and interest paid on initial stock of debt. The overall fiscal balance is the change in net financial assets, namely:

$$OB_t = \Delta (A_t - D_t) \quad (2)$$

The non-resource primary balance (NRPB) on the other hand is defined as

$$NRPB_t \equiv NRT_t - E_t \quad (3)$$

During resource-revenue booms, resource-endowed countries run overall fiscal surpluses and thus are able to accumulate large stock of financial assets. Therefore, the intertemporal budget constraint requires that the initial stock of net financial assets be equal to the present value of cumulative future primary balances. If we assume that *r* = *k* and no-Ponzi scheme holds, one obtains

$$A_{t-1} - D_{t-1} = -\sum_{s=t}^{\infty} \frac{NRPB_s}{(1+i)^{s-t+1}} - \sum_{s=t}^{N} \frac{RT_s}{(1+i)^{s-t+1}} \quad (4)$$

Equation 4 which defines the net financial assets includes the presence of exhaustible resources whose life span is N periods. The assets held by the government in the form of natural resources are derived from the present value of the future path of resource wealth. The natural resources asset in the ground is represented by the last term in (4). The net wealth ($W_{t-1}$) of the government is defined as

$$W_{t-1} \equiv A_{t-1} - D_{t-1} + \sum_{s=t}^{N} \frac{RT_s}{(1+i)^{s-t+1}} = -\sum_{s=t}^{\infty} \frac{NRPB_s}{(1+i)^{s-t+1}} \quad (5)$$

Baunsgaard et al. (2012) argue that there are alternative paths for NRPB that are consistent with intertemporal constraint. They assert that sustainability, however, over a relatively long period of time means that the annual level of primary balance is no greater that the inflation-adjusted return on net wealth. In other words, real spending per capita can be kept constant as a share of non-resource gross domestic product (GDP).

Fasano (2000) studies sovereign funds in Norway, Chile, Venezuela, Kuwait, Oman and Alaska and concludes that the effect of funds on fiscal discipline is mixed. According to the author, stabilization schemes are more successful in economies with a strong commitment to fiscal discipline and sound macroeconomic management. Consequently, the establishment of stabilization funds cannot replace the existence of fiscal discipline. Davis, Ossowski, Daniel and Barnett (2001) conclude that sovereign funds do not have an identifiable impact on government spending. They also note that government spending is less related to oil revenue in countries with funds than those without. More importantly, though is that Davis et al.'s results indicate that countries with more prudent expenditure policies tend to set up sovereign funds rather than funds that lead to a restraint on spending. Clemente, Faris and Puente (2002) address the question of the extent to which a stabilization fund reduces macroeconomic volatility in Venezuela. The results indicate that with positive oil price shock, the actual stabilization fund does little to reduce volatility. However, the stabilization fund performs well in reducing volatility in the face of negative oil price shocks. Using panel data for 71 countries during the years from 1970 through 2000, Crain and Devlin (2003) report that resource funds are correlated with reduced government expenditure as a percentage of GDP and higher investment shares. However, the results also suggest that as fund size increases, the impact on budget surplus may be negative.

Ossowski, Villafuerte, Medas and Thomas (2008), using three measures of fiscal outcomes: non-oil primary balance, growth in government expenditures and ratio of changes in expenditures and oil revenue, report results indicating that fiscal outcomes are not due to the introduction of oil funds and fiscal rules. Villafuerte and López-Murphy (2010) analyse a sample of 31 oil-exporting countries and report results which indicate that fiscal policy in most of those countries was procyclical during rising oil prices, and oftentimes procyclical even when the average price of oil fell by as much as a third of its

value, resulting in many economies going into recession. It was observed that these fiscal strategies exacerbated fluctuations in economic activity.

## Nigeria's Fiscal Management and Sustainability

For Nigeria, a country with a high reliance on a mono-product with inherent volatility in both earnings and costs, one might expect that current budget deficits will be addressed with future tax increases or spending decreases. Consequently, well-fashioned financial management is critical for not only maintaining economic but also for ensuring the effective and efficient use of all natural resources (ACCA, 2010). Nonetheless, a number of studies show that Nigeria's political obstacles and over-reliance on its oil revenue streams continue to impede prudent fiscal management (Akanbi, 2015; Ayinde, 2014; Olajide & Adekoya, 2012; Onuorah & Akujuobi, 2012; Shuaibu & Mohammed, 2014). Although in June 1986, the Nigerian Government adopted a comprehensive SAP to restructure and diversify its economic base to achieve fiscal viability over the medium-term, and promote non-inflationary economic growth (Agu, Okwo, Ugwunta & Idike, 2015), the country has failed to implement a fiscal policy capable of promoting strong and sustainable growth (Onuorah & Akujuobi, 2012). Fiscal management in Nigeria is confronted with the continuing challenge of budget imbalances. While the tendency is to dismiss the strategic implication of fiscal imbalance by considering it to be a short- to medium-term phenomenon with little to no relationship to successful fiscal management, a hallmark for predicting sustainable returns in macroeconomic growth, research shows that fiscal balance is a strategic component affecting long-term growth and development. Specifically, Tabellini and Alesina (1990), as well as Persson and Svensson (1989) report that government budget imbalances influence election choices which impact the strategic development of a country and its macroeconomic factors. Moreover, empirical testing by Lambertini (2003) fails to refute Tabellini and Alesina, and Persson and Svensson strategic models. Nwadiubu and Onwuka (2014) argue that a leader will be more inclined to save for the future if assured that future leaders will be amendable to prudence and transparency. For example, President Obasanjo and subsequent presidents withdrew funds from the ECA in an ad hoc, discretionary manner. The spending pattern was not consistent with a long-term growth and development agenda. These authors conclude that the number of withdrawals from ECA and the flimsiness of their justification were more pronounced as the 2007 elections approached, when President Obasanjo was facing re-election. Looking at the impact of budget regimes and internal governance on the sustainability of fiscal management, Mounts and Sowell (2005) conclude that the nature of intertemporal budget balance reflects the regime dictating fiscal policy and that fiscal policy remains consistent with sustainability.

The OECD (2009) states that fiscal sustainability encompasses continued stable economic growth along with government solvency and stable taxes. Further, OECD states that the difference between primary revenue and primary expenses, known as fiscal balance, is a useful indicator of fiscal sustainability. Economists (National Academies Press [NAP], 2010) call fiscal policy unsustainable if a country's debt is

growing faster than its gross domestic product (GDP) and that revenues and spending must remain closely aligned over a long-time horizon. As such, the usefulness of fiscal balance in understanding fiscal sustainability is confirmed. Fasoranti and Amasoma (2013) find fiscal deficits lead to long-run deterioration in external reserves and negatively impact exchange rates. Specifically, they recommend that fiscal deficits should be minimized to avoid negative impacts on Nigeria's non-oil sector in the long run. Research examining the effect of fiscal deficits on economic growth in Nigeria from 1970 through 2006 shows that fiscal deficits negatively impact economic growth. While few would argue that when public expenditures are used to invest in infrastructure and other productive activities, they ought to contribute to a country's growth (Anyanwu, 1997; Bhartia, 2004; Maku, 2009), Onuorah and Akujuobi (2012), however, state this argument cannot hold true for Nigeria primarily because public expenditures, recurrent and capital, have continued to rise for decades and have not been transformed into economic growth for the country. Oyeleke and Ajilore (2014) conclude that Nigeria's budget deficit will explode over the long run since they believe that it is not possible for the government to continue generating stable debt-to GDP ratio without sudden fiscal adjustments which may prove detrimental to the economic stability of the country.

# Data

In order to explore the role of stabilization funds in the fiscal management of the Nigerian economy, an econometric framework that explains both government spending and fiscal balance as a share of GDP while controlling for a set of economic and demographic variables are applied on time series data. The time series data from 1980 through 2013 on the relevant variables were collected from the Central Bank of Nigeria Statistical Bulletin and the International Monetary Fund's World Economic Outlook database. The series are described in Table 1 and include fiscal balance as a percentage of GDP, government expenditure as a percentage of GDP, trade as a percentage of GDP and value of oil exports as a percentage of GDP. The other series are age dependency ratio and population. The data sources are usually the reliable sources of macroeconomic data used by researchers.

# Empirical Analysis

The approach employed to investigate the determinant of government expenditure as a share of GDP is based on the model used in Crain and Devlin (2003) and Etemad (2014). Within the model, the impact of SWF is assessed. While the aforementioned studies used a panel data approach, this paper applies quantile regression based on a country study.

**Table 1**. Data Description (1980–2013)

| Variable | Description |
|---|---|
| FBAL | Fiscal balance as a percentage of GDP |
| EXPE | Government expenditure as a percentage of GDP |
| TRD | Trade (imports plus exports) as a percentage of GDP |
| GDPC | Real GDP per capita |
| AGE | Age dependency ratio (number of dependents to working age population |
| OILE | Value of oil exports as a percentage of GDP |
| LPOP | Logarithm of population |
| SWF | Dummy variable for years with stabilization fund |

**Source:** Prepared by the authors.

The ordinary least squares (OLS) regression is applied to study the determinants of government spending as a percentage of GDP (EXPE) as well as fiscal balance as a percentage of GDP (FBAL). The control variables are TRD (Trade as a percentage of GDP), GDPC (Real GDP per capita), AGE (Age dependency ratio), OILE (Value of oil exports as a percentage of GDP) and LPOP (Logarithm of population) and SWF (Table 1). In this model, the SWF is a dummy variable with the value of '0' representing each year without a stabilization fund and a value of '1' representing each year Nigeria had a stabilization fund. Quantile regression is also employed for further exploration of the aforementioned relationship. According to Koenker and Hallock (2001), quantile regression is employed to estimate functional relations between dependent and independent variables for all portions of probability distributions.

The usual standard regression method summarizes the average relationship between a response variable and one or more independent explanatory variables. Thus, standard regression method gives only a partial view of the aforementioned relationship. Quantile regression method was introduced by Koenker and Bassett (1978) as an extension of the linear model, and it is a powerful tool employed to uncover heteroscedasticity. It is a semiparametric method in the sense that the error term is not assumed to take a parametric probability distribution. It allows its user to describe the relationship between the dependent variable ( $y$) and independent variable ($x$) at different points in the conditional distribution of the dependent variable. Therefore, quantile regression is more robust to outliers. Cade and Noon (2003) note that quantile regression is rich in the characterization of the data, given that it is

invariant to a monotonic transformation of the data. More importantly, quantile regression is a relatively flexible tool which makes no assumption about the distribution of the error term.

One notable observation is that none of the time series data is normally distributed at the conventional 5 per cent level. In order to determine the stationarity property of the time series, the Phillips–Perron test was applied. Both FBAL and EXPE are found to be stationary while TRD, GDPC, AGE, OILE and LPOP possess unit roots. To achieve stationarity, these non-stationary series are differenced once. In Table 2 and Table 3, '1st Diff' is used to indicate the first difference of the series.

Table 2 holds the results of OLS test as well as the quantile regression test. The statistically significant results in the OLS tests indicate a negative relationship between government expenditure and foreign trade. Moreover, there is also a negative relationship between government spending and oil exports. These results imply that government spending goes up whenever foreign trade and/or oil exports go down. These results do not tally with observed boom and bust cycles in government spending. The expected positive relationship between government spending and foreign trade should reflect the impact of an open economy on a larger public sector. The quantile regression results indicate that at lower level of government expenditure, age dependency is statistically significant but not at the highest level of government spending. The lack of statistical significance of SWF is an indication that the establishment of SWF has no moderating effect on the spending behaviour of the government. This result is consistent with Etemad (2014) who argues that the government can influence aggregate demand in order to smoothen economic cycles by drawing down SWF assets to increase spending. More specifically, it is reported earlier that withdrawals from the ECA were discretionary and on an ad hoc basis. Davis et al. (2001) argument on the subject is not contradicted by this result. According to Asik (2013), the establishment of a resource fund may be associated with the beginning of economic boom in a country. Therefore, expenditures may go up and track high oil revenues, which will bring about a high association between government expenditure and oil revenue.

**Table 2**. Determinants of Government Spending

| Control Variables | OLS Dep. Var.: EXPE | Quantile Reg. (Tau=0.25) Dep. Var.: EXPE | Quantile Reg. (Tau=0.50) Dep. Var.: EXPE | Quantile Reg. (Tau=0.75) Dep. Var.: EXPE |
|---|---|---|---|---|
| Coefficient (Prob) | Coefficient (Prob) | Coefficient (Prob) | Coefficient (Prob) | |
| **Constant** | 143.834 (0.029)** | 150.280 (0.060)*** | 146.063 (0.073)*** | 234.326 (0.134) |
| **GDPC 1st Diff** | –0.044 (0.232) | –0.016 (0.751) | –0.028 (0.576) | –0.087 (0.218) |

| Control Variables | OLS Dep. Var.: EXPE | Quantile Reg. (Tau=0.25) Dep. Var.: EXPE | Quantile Reg. (Tau=0.50) Dep. Var.: EXPE | Quantile Reg. (Tau=0.75) Dep. Var.: EXPE |
|---|---|---|---|---|
| **LPOP 1st Diff** | –2075.683 (0.401) | –2441.311 (0.420) | –2213.243 (0.475) | –5452.950 (0.364) |
| **AGE 1st Diff** | 5.554 (0.135) | 10.133 (0.049)** | 7.249 (0.195) | 5.531 (0.488) |
| **TRD 1st Diff** | –0.244 (0.037)** | –0.238 (0.135) | –0.200 (0.277) | –0.174 (0.519) |
| **OILE 1st Diff** | –0.281 (0.077)*** | –0.483 (0.103) | –0.344 (0.313) | –0.214 (0.532) |
| **SWF** | 0.326 (0.950) | –6.036 (0.387) | –0.869 (0.898) | 9.421 (0.417) |
| R-squared | 0.446 | 0.382 | 0.240 | 0.197 |
| Adj. R-sq | 0.318 | 0.239 | 0.065 | 0.011 |
| *F*-Statistic | 3.489 | – | – | – |
| Prob (F-stat) | 0.012** | – | – | – |
| Quasi-LR stat | – | 16.246 | 9.292 | 6.724 |
| Prob(LR-stat) | – | 0.012** | 0.158 | 0.347 |

**Source:** Authors' Calculations.
**Note:** * Indicates significance at 1%, ** at 5% and *** at 10%. 1st Diff indicates first difference.

**Table 3**. Determinants of Fiscal Balance

| Control Variables | OLS Dep. Var.: FBAL | Quantile Reg. (Tau=0.25) Dep. Var.: FBAL | Quantile Reg. (Tau=0.50) Dep. Var.: FBAL | Quantile Reg. (Tau=0.75) Dep. Var.: FBAL |
|---|---|---|---|---|
| Coefficient (Prob) | Coefficient (Prob) | Coefficient (Prob) | Coefficient (Prob) | |

| Control Variables | OLS Dep. Var.: FBAL | Quantile Reg. (Tau=0.25) Dep. Var.: FBAL | Quantile Reg. (Tau=0.50) Dep. Var.: FBAL | Quantile Reg. (Tau=0.75) Dep. Var.: FBAL |
|---|---|---|---|---|
| **Constant** | 52.099 (0.115) | 63.800 (0.295) | 50.034 (0.194) | 65.582 (0.115) |
| **GDPC 1st Diff** | 0.021 (0.266) | 0.040 (0.065)*** | 0.014 (0.546) | 0.009 (0.752) |
| **LPOP 1st Diff** | –2282.963 (0.080)*** | –2409.087 (0.231) | –2195.045 (0.146) | –2751.337 (0.063)*** |
| **AGE 1st Diff** | 2.101 (0.268) | 4.369 (0.094)*** | 2.995 (0.352) | 2.020 (0.560) |
| **TRD 1st Diff** | 0.151 (0.014)** | 0.164 (0.059)*** | 0.118 (0.143) | 0.172 (0.077)*** |
| **OILE 1st Diff** | –0.125 (0.125) | –0.123 (0.322) | –0.150 (0.314) | –0.109 (0.524) |
| **SWF** | 6.357 (0.024)** | 3.575 (0.246) | 5.456 (0.101) | 8.607 (0.063)*** |
| R-squared | 0.456 | 0.320 | 0.322 | 0.331 |
| Adj. R-sq | 0.331 | 0.163 | 0.165 | 0.177 |
| *F*-Statistic | 3.637 | – | – | – |
| Prob (F-stat) | 0.009* | – | – | – |
| Quasi-LR stat | – | 14.337 | 14.120 | 13.607 |
| Prob(LR-stat) | – | 0.026** | 0.028** | 0.034** |

**Source:** Authors' Calculations.
**Note:** * Indicates significance at 1%, ** at 5% and *** at 10%. 1st Diff indicates first difference.

It is true that primary objective for setting up the ECA was to separate government expenditures from oil revenues in order to insulate the economy from external shocks. The savings in the ECA was $5.1 billion in 2005 and rose to $20 billion in 2008. However, by June 2010, the ECA had been depleted to less than $4 billion due to budget deficits recorded by all levels of government in the face of declining oil prices. By December 2014, the ECA had been drawn down to $3.1 billion. At some time during in the life of the ECA, all the state governors (36) dragged the federal government to court in order for them to get funds out of the ECA (Chiejina, 2015). Chiejina (2015) notes that the huge withdrawals from the

ECA did not increase the quality or quantity of infrastructure even when the withdrawals were made to fund infrastructure. According to this author, over $14 billion was channelled into power supply, but power generation stood below 4,000 megawatts at a time when demand was in excess of 10,000 megawatts.

Table 3 shows the results of the determinants of fiscal balance in Nigeria from 1980 through 2013. Unfortunately, none of the variables are statistically significant for the 25th quantile regression results. The OLS results reveal a negative relationship between fiscal balance and population size. Foreign trade is positively related to fiscal balance indicating that the economy becoming more open to the international market causes trade balance to increase.

More importantly, the introduction of sovereign wealth in Nigeria has a positive impact on fiscal balance. A cursory view of this result may reveal a contradiction with a result reported about government spending. It should be noted that the introduction of stabilization funds in Nigeria is associated with fiscal rules that placed limits on borrowing. For example, the Investment and Securities Act of 2007 sets a limit on total loans outstanding to not exceed 50 per cent of the actual revenue of an entity in the previous 12 months. Moreover, the FRA of 2007 prescribed that fiscal deficit should not exceed 3 per cent of GDP. Therefore, it is logical for fiscal balance to be positively affected by the introduction of SWF.

The 25th quantile regression results show that the growth rate in per capita income, age dependency and foreign trade represent positive determinants of fiscal balance. However, the 75th quantile regression results show that the introduction of SWF and foreign trade have a positive effect on fiscal balance while population size exerts a negative effect. At the 95 per cent confidence interval, the 75th quantile regression coefficient for SWF is not statistically different from the OLS coefficient. Both indicate a positive relationship between fiscal balance and stabilization fund, SWF.

# Conclusion

This article sets out to investigate the determinants of both government expenditure and fiscal balance as a share of GDP based on a model employed in Crain and Devlin (2003) and Etemad (2014). Within the model, the impact of an SWF on government spending and fiscal balance is assessed. The major issue at stake here is the effectiveness of SWF in arresting the fiscal boom–bust cycles of Nigeria. The results indicate that the Nigerian SWF has had no impact on moderating government spending. Gillies (2010) notes that a successful fund is one whose balance is protected from short-term political pressures to spend. Nwadiubu and Onwuka (2014) report that the rules associated with the establishment of ECA did not bind the hands of the political leaders. Thus, President Obasanjo withdrew funds from the ECA in an ad hoc and discretionary manner. His spending pattern was not a component of a long-term growth and development agenda. Therefore, the establishment of a stabilization fund has no moderating effect on the spending behaviour of the government. However, the creation of the SWF has had some impact on the country's fiscal balance during its short period of

existence. The impact of an SWF on fiscal balance is not widely supported by all test results. The quantile regression results indicate that the existence of a stabilization fund has impact only at a higher level of fiscal balance. This conclusion is consistent with Ossowski et al. (2008) and Etemad (2014). According to Ossowski et al. (2008), funds are ineffective because they do not possess requisite characteristics such as quality of funds and an appropriate institutional framework.

The results reported in this paper indicate that authorities in Nigeria lack the fiscal discipline which leads them to conduct fiscal policy in a haphazard way. The FRA of 2007 and the Procurement Act of 2007 prescribe a fiscal framework, which is not yet followed. This is noted in an IMF 2010 Article IV Consultation which states:

> Going forward, the overall fiscal strategy will seek to: (i) promote fiscal discipline and diversification in revenue sources, (ii) outline fiscal policy which will work in consonance with monetary policies to create an environment of macroeconomic stability, (iii) adhere to prudent limits for expenditure to ensure relatively low fiscal deficits with little public sector borrowing and sustain levels of public debt; and (iv) create a framework within which public funds can be allocated optimally.

However, it should be noted that the IMF prescriptions to many developing countries are controversial because they are said to be non-developmental. Thus, these analyses and prescriptions should not be adopted uncritically. A developmental model which seeks to adhere to prudent limits for expenditure to ensure relatively low fiscal deficits with little public sector borrowing and sustained levels of public debt is one which can keep developing countries in perpetual developmental slow motion but guarantee that there are sufficient funds always available to repay international creditors. Once again, it must be stressed that the fact that the Abacha and several other regimes have been unable to distinguish between the government treasury and the private bank accounts of their leading members and their families does not absolve economic analysts of their need to avoid the pitfalls of IMF prescriptions and ways of assessing performance. Fiscal analysis must be firmly married with an effective theory of economic development, one not driven by the interests of the Paris Club, the IMF or the G-7. What the extraordinary growth and development of Japan, South Korea, Singapore, Malaysia, and more recently, China, reveal is the absolutely critical role of the State, acting in many ways entrepreneurially. In cases where the policy is not one of direct state-ownership, the State has still provided considerable sums for the use of its private sector entrepreneurs and even many times provided guidance and incentives for them, in determining their investment decisions.

Ekong and Effiong (2015) report that Nigeria expends its oil windfalls on importation of refined petroleum and consumer durables. This has resulted in stagnation of the economy's productive capacity. Corral, Molini and Oseni (2015) also report that the percentage of Nigerians above the threshold of 3 dollars per capita per day (middle class) is roughly 20 per cent. They conclude that the

proportion of the population that qualify as middle class is small and that poverty reduction is slower than expected. Aregbeyen and Kolawole (2015) conclude that for many years the size of Nigeria's recurrent expenditure has been in excess of 70 per cent. This is indicative of a lack of attention to capital projects that can bring about increased production. The authors note that this budgetary situation can only result a mild nominal non-inclusive growth in Nigeria. All these support the conclusion of fiscal mismanagement in Nigeria.

# Managerial Implications

As noted earlier in this paper, public expenditures are made on an ad hoc basis. Little wonder that the control variables that are reported in the literature are statistically not significant in the case of Nigeria. The fiscal rules dictated by the FRA, Procurement Act and the SWF Investment Act are not followed. As such, the main implication of this study suggests a lack of fiscal discipline demonstrated by the fiscal rascality of a number of successive government regimes in Nigeria. The solution may be to require that government, at all levels, follow fiscal rules and be transparent in doing so. The limitation of this recommendation is in terms of identifying a responsible party to ensure that this occurs and in a sustained way over successive governments in the future. This seems to be outside of the competence of economists and economic theory.

The management of the SWF should be revisited to comply with the Santiago Principles agreed upon by the International Working Group of Sovereign Wealth Funds (IWG-SWFs) under the IMF in 2008. The Santiago Principles are based on 24 voluntary 'best practice' guidelines for managing SWFs. The Santiago Principles are based on four guiding principles which include first, compliance with all regulatory and disclosure requirements in the countries where SWFs invest. The second is that SWF investments should be on a basis of economic and financial risk–return trade-off. The third emphasizes transparency, accountability with operational control. Finally, the fourth guiding principle stresses the maintenance of a stable global financial system that supports the flow of capital (see IMF, 2012). One should bear in mind that the Santiago Principles and especially their four guiding principles obscure more than reveal the underlying developmental goals of an SWF. Even the principle closest to that of seeing things in terms of economic investments in productive capacity building defines the problem too narrowly, as one of economic and financial risk–return trade-off. However, it is still critical that the principle of risk–return trade-off be observed in the management of resources in an SWF.

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# References

ACCA (2010). *Improving public sector financial management in developing countries and emerging economies: Selected papers*. London, UK: ACCA.

Go To Reference

Google Scholar

Adegbite E. O., Ayadi F. S., & Ayadi O. F. (2008). The impact of Nigeria's external debt on economic development. *International Journal of Emerging Markets*, 3(3), 285–301.

+ Show References

Google Scholar

Agu S. U., Okwo I. M., Ugwunta O. D., & Idike A. (2015). Fiscal policy and economic growth in Nigeria. SAGE *Open*, 5(4), 1–18.

Go To Reference

Google Scholar

Ajayi L. B., & Oke M. O. (2012). Effect of external debt on economic growth and development in Nigeria. *International Journal of Business and Social Science*, 3(12), 297–304.

Go To Reference

Google Scholar

Akanbi O. A. (2015). Sustainability of fiscal policy in an oil-rich economy: The case of Nigeria. *African Journal of Economic and Management Studies*, 6(4), 380–401.

Go To Reference

Google Scholar

Akinlo A. E. (2012). How important is oil in Nigeria's economic growth? *Journal of Sustainable Development*, 5(4), 165–179.

+ Show References

Google Scholar

Al-Hassan A., Papaioannou M., Skancke M., & Sung C. C. (2013). *Sovereign wealth funds: Aspects of governance structures and investment management* (IMF Working Paper WP/13/231). Washington, DC: International Monetary Fund.

Go To Reference

Google Scholar

Alesina A., & Tabellini G. (1990). A positive theory of deficits and government debt. *Review of Economic Studies*, 57(3), 403–414.

Go To Reference

Google Scholar

Anyanwu J. C. (1997). *Nigerian public finance*. Onitsha: Joanne Educational Publishers.

Go To Reference

Google Scholar

Aregbeyen O., & Kolawole B. O. (2015). Oil revenue, public spending and economic growth relationships in Nigeria. *Journal of Sustainable Development*, 8(3), 113–123.

Go To Reference

Google Scholar

Arikawe A. (2001). *Strengthening debt management system in Nigeria—The debt management office in perspective*. Paper presented at the 2001WAIFEM/UNITAR Regional Workshop, Gambia, 23–27 April.

Go To Reference

Google Scholar

Asik G. (2013). *Stabilization Funds in Oil-Rich Countries and Fiscal Policy: (A)cyclicality?* (Job Market Paper). United Kingdom: London School of Economics.

Go To Reference

Google Scholar

Ayadi F. S., Toluwase A., Ayadi O. F., & Chatterjee A. (2003). Debt overhang and trickle-down macroeconomic stability in a developing economy. In Nwankwo S., Montanheiro L., Aiyeku J., & Ogbuehi A. (Eds), *Dimensions of African business and development* (pp. 91–106). Sheffield, UK: SHU Press.

Go To Reference

Google Scholar

Ayinde O. A. (2014). Sustainable fiscal management in Nigeria—A triangulation analysis. *Journal of Economics and Development Studies*, 2(2), 271–295.

+ Show References

Google Scholar

Barsky R. B., & Kilian L. (2004). Oil and the macroeconomy since the 1970s. *Journal of Economic Perspectives*, 18(4), 115–134.

Go To Reference

Google Scholar

Bassey A. B., Alobari C. M., Naenwi M. O., Dimoji F. A., & Onwuneme L. O. (2014). Excess crude account and sovereign wealth fund as strategic tools for sustainable development in Nigeria. *Journal of Economics and Sustainable Development*, 5(2), 57–61.

Go To Reference

Google Scholar

Baunsgaard T., Villafuerte M., Poplawski-Ribeiro M., & Richmond C. (2012). *Fiscal frameworks for resource rich developing countries* (IMF Staff Discussion Note, SDN/12/04, May 16). Washington, DC: International Monetary Fund.

+ Show References

Google Scholar

Bhartia H. L. (2004). *Public finance* (13th ed.). New Delhi: Vikas Publishing House Pvt Ltd.

Go To Reference

Google Scholar

Blas J. (2013, October 10). Protecting Nigeria oil SWF is no easy task. *Financial Times*, Retrieved 23 February 2015, from http://www.ft.com/intl/cms/s/0/69325c28-2440-11e3-a8f7-00144feab7de.html#axzz3TFiEQR2D

+ Show References

Google Scholar

Cade B. S., & Noon B.R. (2003). A gentle introduction to quantile regression for ecologists. *Frontiers in Ecology and the Environment*, 1(8), 412–420.

Go To Reference

Google Scholar

Chiejina N. (2015, July 6). Excess crude account … and the controversy lingers. *The Nation*. Retrieved 12 January 2016, from http://thenationonlineng.net/excess-crude-account-and-the-controversy-lingers/

Clemente L., Faris R., & Puente A. (2002). *Natural resource dependence, volatility and economic performance in Venezuela: The role of stabilization fund* (Andrean Competitiveness Project Working Paper). Cambridge, MA: Center for International Development, Harvard University.





Corral P., Molini V., & Oseni G. (2015). *No condition is permanent middle class in Nigeria in the last decade* (Policy Research Working Paper 7214, Poverty Global Practice Group). Washington, DC: The World Bank Group.





Crain W. M., & Devlin J. (2003). *Nonrenewable resource funds: A red herring for fiscal stability?* Paper presented at the Annual Meeting of the American Political Science Association, 27 August, Philadelphia, PA.





Davis J., Ossowski R., Daniel J., & Barnett S. (2001). *Stabilization and savings funds for nonrenewable resources: Experience and fiscal policy implications* (IMF Occasional Paper 205). Washington, DC: International Monetary Fund.





Ekong C. N., & Effiong E. L. (2015). Oil price shocks and Nigeria's macroeconomy: Disentangling the dynamics of crude oil market shocks. *Global Business Review*, 16(6), 920–935.





Erbil N. (2011). *Is fiscal policy procyclical in developing oil-producing countries?* (IMF Working Paper 11/171). Washington, DC: International Monetary Fund.

Google Scholar

Etemad A. (2014). Effectiveness of sovereign oil funds as instrument of macroeconomic stability, January 12. Retrieved 12 January 2015, from http://ssrn.com/abstract=2435836orhttp://dx.doi.org/10.2139/ssrn.2435836

+ Show References

Google Scholar

Ezeabasili V. N., Tsegba I. N., & Ezi-Herbert W. (2012). Economic growth and fiscal deficits: Empirical evidence from Nigeria. *Economics and Finance Review*, 2(6), 85–96.

+ Show References

Google Scholar

Fasano U. (2000). *Review of the experience with oil stabilization and savings funds in selected countries* (IMF Working Paper 00/112). Washington, DC: International Monetary Fund.

Go To Reference

Google Scholar

Fasoranti M. M., & Amasoma D. (2013). Analysis of the relationship between fiscal deficits and external sector performance in Nigeria. *Journal of Economics and Sustainable Development*, 4(11), 80–87.

Go To Reference

Google Scholar

Folorunso B. A., & Falade O. E. (2013). Relationship between fiscal deficit and public debt in Nigeria: An error correction approach. *Journal of Economics and Behavioral Studies*, 5(6), 346–355.

Go To Reference

Google Scholar

Gavin M., & Hausmann R. (1998). Volatility, uncertainty, institutional instability and growth. In Borner S., & Paldam M. (Eds), *The political dimension of economic growth* (pp. 97–116). UK: Palgrave Macmillan.

Go To Reference

Google Scholar

Gillies A. (2010). Sovereign wealth fund requires legal standing, binding rules and transparency. Retrieved 1 March 2015, from http://nigerianrc.org/sites/default/files/Nigeria%20SWF%20recommendations.pdf

+ Show References

Google Scholar

Gollwitzer S. (2011). Budget institutions and fiscal performance in Africa. *Journal of African Economies*, 20(1), 111–152.

+ Show References

Google Scholar

Greene J. E. (2011). *Public finance: An international perspective*. Hackensack, NJ: World Scientific Publishing.

Go To Reference

Google Scholar

Hamilton J. D., & Flavin M. A. (1986). On the limitations of government borrowing: A framework for empirical testing. *American Economic Review*, 76(4), 809–819.

Go To Reference

Google Scholar

IMF (2008, February 29). Sovereign wealth funds—A work agenda. Retrieved 20 February 2015, from www.imf.org/external/np/pp/eng/2008/022908.pdf

Go To Reference

Google Scholar

IMF (2011). Nigeria—A staff report for the 2010 Article IV consultation. January 27. Retrieved 20 February 2015, from www.imf.org

Go To Reference

Google Scholar

IMF (2012). *Macroeconomic policy frameworks for resource-rich developing countries: Backgroud Paper*, August 24. Washington, DC: International Monetary Fund, Retrieved 22 February 2015, from www.imf.org

Go To Reference

Google Scholar

Isabota K., & Odukoya T. (2013). Nigeria: Growth on the back of high commodity prices—How sustainable? July 8. Retrieved 11 September 2015, from www.dunnlorenmerrifield.com

Go To Reference

Google Scholar

Katz M., & Ojong C. (2009). *Should Nigeria establish a sovereign wealth fund?* (Working Paper #3). Abuja: Center for the Study of the Economies of Africa (CSEA).

Go To Reference

Google Scholar

Kemme D. (2012). *Sovereign wealth fund issues and the national fund(s) of Kazakhstan* (William Davidson Institute Working Paper Number 1036). Detroit, MI: University of Michigan.

Go To Reference

Google Scholar

Koenker R., & Bassett G. (1978). Regression quantiles. *Econometrica*, 46(1), 33–50.

Go To Reference

Google Scholar

Koenker R., & Hallock K. F. (2001). Quantile regression. *Journal of Economic Perspectives*, 15(4), 143–156.

Go To Reference

Google Scholar

Lambertini L. (2003). *Are budget deficits used strategically?* (pp. 1–38). Boston, MA: Boston College.

Go To Reference

Google Scholar

Maku O. E. (2009). *Does government spending spur economic growth in Nigeria?* (Munich Personal RePEc Archive, Paper No. 17941). Retrieved 18 July, from http://mpra.ub.uni-muenchen.de/17941/MPRA

Go To Reference

Google Scholar

Mauro P., Romeu R., Binder A., & Zaman A. (2013). *A modern history of fiscal prudence and profligacy* (IMF Working paper WP/13/5). Washington, DC: International Monetary Fund.

+ Show References

Google Scholar

Mounts W. S., & Sowell C. B. (2005). Budget regimes and internal governance: Considerations for the sustainability of fiscal policy. *Economics of Governance*, 6(3), 199–209.

Go To Reference

Google Scholar

National Academies Press (2010). *Choosing the nation's fiscal future—Appendix A: Fiscal sustainability*. Washington, DC: National Academies Press.

Go To Reference

Google Scholar

Nwadiubu A., & Onwuka I. O. (2014). Sovereign wealth fund—A paradigm shift for Nigeria. *International Journal of Economics, Business and Finance*, 2(2), 1–13.

+ Show References

Google Scholar

Nwagbo J. C. D. (2000). *Third world debt trap*. Lagos: First September International.

Go To Reference

Google Scholar

OECD (2009). Governance at a glance 2009. Paris: Organization for Economic Co-operation and Development. Retrieved 14 July, from http://www.oecd-ilibrary.org/governance/government-at-a-glance-2009_9789264075061-en

Go To Reference

Google Scholar

Ogbodo J., & Ezema M. (2001). Government, creditors may clash over debt payment. *Guardian On-Line*. Retrieved 31 December, from http://ngrguardiannews.com

Go To Reference

Google Scholar

Olajide B., & Adekoya F. (2012). Economic healing: Revisiting 2012 fiscal policy. Retrieved 18 July, from http://www.nigerianbestforum.com

Go To Reference

Google Scholar

Omopariola O. (2002). *Nigeria's financial management nightmare* (Working Paper). Ile-Ife, Nigeria: Obafemi Awolowo University.

+ Show References

Google Scholar

Onuorah A. C., & Akujuobi L. E. (2012). Empirical analysis of public expenditure and economic growth in Nigeria. *Arabian Journal of Business and Management Review*, 1(11), 46–59.

+ Show References

Google Scholar

Osinubi T. S., & Olaleru O. E. (2006). Budget deficits, external debt and economic growth in Nigeria. *Applied Econometrics and International Development*, 6(3), 159–185.

+ Show References

Google Scholar

Ossowski R., Villafuerte M., Medas P., & Thomas T. (2008). *Managing the oil revenue boom: The role of fiscal institutions* (Occasional Paper 260). Washington, DC: International Monetary Fund.

+ Show References

Google Scholar

Owasanoye B. (2001). *Overview of public finance and debt management*. Paper presented at the 2001 WAIFEM UNITAR Regional Workshop, Gambia, April, pp. 23–27.

Go To Reference

Google Scholar

Oyeleke O. J., & Ajilore O. T. (2014). Analysis of fiscal deficit sustainability in Nigerian economy: An error correction approach. *Asian Economic and Financial Review*, 4(2), 199–210.

Go To Reference

Google Scholar

Papadopoulos A. P., & Sidiropoulos M. G. (1999). The sustainability of fiscal policies in the European Union. *International Advances in Economic Research*, 5(3), 289–307.

Go To Reference
Google Scholar

Persson T., & Svensson L. (1989). Why a stubborn conservative would run a deficit: Policy with time-inconsistent preferences. *Quarterly Journal of Economics*, 104(2), 325–345.

Go To Reference

Google Scholar

Shuaibu M. I., & Mohammed T. I. (2014). Determinants and sustainability of international reserves accumulation in Nigeria. *Zagreb International Review of Economics & Business*, 17(1), 27–46.

Go To Reference

Google Scholar

Sugawara N. (2014). *From volatility to stability in expenditure: Stabilization funds in resource-rich countries* (IMF Working Paper WP/14/43). Washington, DC: International Monetary Fund.

+ Show References

Google Scholar

Tabellini G., & Alesina A. (1990). Voting on the budget deficit. *American Economic Review*, 80(1), 37–49.

Go To Reference

Google Scholar

Trehan B., & Walsh C. (1988). Common trends, the government budget constraint and revenue smoothing. *Journal of Economic Dynamics and Control*, 12(2–3), 425–444.

Go To Reference

Google Scholar

Triki T., & Faye I. (2011). Africa's quest for development: Can sovereign wealth funds help? In Boubakri N., & Cosset J. C. (Eds), *Institutional investors in global capital markets* (International Finance Review, Vol.12, pp. 263–290). Bingley, England: Emerald Group Publishing Limited.

+ Show References

Google Scholar

Uctum M., & Wickens M. (1997). *Debt and deficit ceilings, and sustainability of fiscal policies: An intertemporal analysis* (CEPR Discussion Paper No. 1612). London, UK: Centre for Economic Policy Research.

Go To Reference

Google Scholar

Villafuerte M., & Lopez-Murphy P. (2010). *Fiscal policy in oil producing countries during the recent oil price cycle* (IMF Working Paper No. 10/28). Washington, DC: International Monetary Fund.

Go To Reference

Google Scholar

Wilcox D. W. (1989). The sustainability of government deficits: Implications of the present-value borrowing constraints. *Journal of Money, Credit, and Banking*, 21(3), 291–305.

Go To Reference

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