
Sovereign Wealth Fund and Fiscal Performance: A Case of Nigeria in the Midst of Other Natural Resources Rich Countries in Africa

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Abstract

In spite of several postulations that sovereign wealth fund's stabilization fund promotes smoothness in the fiscal performance of nations, there are contrary views that it does not. This study investigates the impact of sovereign wealth fund on fiscal performance using Nigeria and 21 other natural resources rich countries in Africa with data spinning from 2003 to 2018. The study made use of Two-Step System GMM and found that sovereign wealth funds have about 0.8 percent positive insignificant impact on the fiscal performance implying that having a sovereign wealth fund in place improves nation's fiscal performance. Consequently, the study recommends that the governments and the management of the various existing funds in Africa should put in more efforts in improving sovereign wealth fund performance; natural resources rich Africa countries without sovereign wealth fund should consider establishing theirs; and the control of corruption, strengthen of financial institutions, reduction in the cost of oil production and increase in general revenue should be taken seriously as they enhance fiscal performance.

Keywords: Sovereign Wealth Fund, Fiscal Performance, Natural Resources, Two-Step SGMM

JEL Classification: E62

1. Introduction

Countries that depend mainly on revenue from the exportation of crude oil and other natural resources face a lot of uncertainties due to its erratic prices in the international market that can lead to poor fiscal performance. However, there are numerous benefits from the resource endowment if sound measures are put in place to stabilize revenue and expenditure of the government. During a positive shock in government revenue

occasioned by a boom in natural resources price, government discretionary spending tends to increase more than the proportional increase in government revenue as borrowing becomes easier, and when there is a negative shock, it results in increase debts accumulation, increase borrowing costs and more than proportionate cut in government expenditure. The instability in government expenditure associated with this pro-cyclical fiscal policy as against an optimal counter-cyclical fiscal policy has much implications for economic growth mostly in developing countries (Al-Hassan, Papaioannou, Skancke & Sung, 2013). If expansionary fiscal policies in good times are not fully offset in bad times, it will produce a large deficit that can lead to unsustainable debt and general economic instability. The volatile boom and bust cycle of the natural resources revenue create pro-cyclical fiscal policies which are welfare damaging, raise macroeconomic volatility, depress investment in real and human capital, hamper growth, and harm the poor (IMF, 2005). One of the means being used by countries that are in this kind of situation is to curtail the instability through the establishment of the Sovereign Wealth Fund (Ali and Gutierrez, 2023). Sovereign wealth fund is a state-owned investment fund commonly established from receipts of natural resource exports, balance of payments surpluses, proceeds of privatizations, governmental transfer payments, and/or fiscal surpluses with the aim of acting as stabilization funds, savings funds for future generations, reserve investment, development funds, and contingent pension reserve funds (Rozanov, 2005; Zhang & He, 2009, Sovereign Wealth Fund Institute, 2020.). Sovereign wealth fund (SWF) can strengthen and grow the economy by providing a mechanism for better fiscal management, acting as self-insurance to accumulate resources and smooth expenditure, and investments to boost economic growth and development (Alberola & Serena, 2008).

In spite of several postulations articulating the importance of engaging sovereign wealth fund's stabilization fund as a tool in promoting smoothness in fiscal performance of the government, there are contrary views that sovereign wealth fund's stabilization fund does not work in practice as a cushion against volatility in government fiscal performance. One of the schools of thought is of the view that having a stabilization fund in itself does not address the issue of expenditure smoothing. This view holds that the SWFs could be used to bypass parliamentary scrutiny of spending, resulting in inefficient and fragmented public investment programmes (Černohorský and Tesnerová, 2021). In addition, the government's consideration of SWFs assets as free fiscal resources to be used ad hoc may make them liquidate long-term assets on short notice bringing losses to the SWFs (Bacon & Tordo, 2006; Le Borgne & Medas, 2007). To another school of thought, SWFs simply do not have the institutional capacity to effectively manage a portfolio of high-risk and high-return investments, and the pressures for-profits may encourage them to pursue high-risk and high-return

investments without adequate capacity to handle such risk (Ahmadov, Tsani, and Aslanli, 2011). Apart from that, there are other inherent risks of wasteful expenditure, budget fragmentation, political capture, and lack of coordination with fiscal policy. Additional argument against the establishment of SWF is that if a resource-rich country maintains sound and appropriate fiscal and monetary policies to manage its natural resources, the country might not need to establish a stabilization fund to separate revenue and expenditure cycles (Fasano, 2000). Furthermore, another school of thought is of the view that even if the fund is good for advanced countries with their aging populations, it may not be appropriate for developing countries. This school of thought contends that developing countries rather increase public spending in human and physical capital in order to increase their economies non- natural resource productive base which would generate economic growth even when the natural resource is depleted rather than establishing SWF (Royal Institute of International Affairs, 2016).

The contradictory theoretical prepositions have led to previous empirical studies such as Asik, (2017) who used a sample of 29 oil-rich countries from Africa, Middle East, Asia, and Europe; Sugawara (2014) Using a panel data set of 68 resource-rich countries over 1988–2012; Elbadawi, Soto & Youssef (2018) using 120 countries in the period 1985-2015; Aslanli (2015) on the impact in Azerbaijan. These studies concentrate on countries that established SWF earlier than Nigeria leaving only Ayadi, Hyman, Williams & Desselle (2018); and Akinde (2019) on Nigeria. Findings from these studies are mixed and inconclusive and thus give rise to the question of whether the Nigerian sovereign wealth funds (NSWF) have assisted in improving fiscal performance between oil windfalls and downturns and to what extent. Secondly, do the African resources-rich nations have the institutional capacity to effectively manage the fund saved during windfall and invest in a portfolio of high-return but high-risk investments that will provide funds for government spending in raining days? In spite of the relevance of these issues for fiscal and monetary policy formulations, there has not been any study that systematically focuses on the case of Nigeria in the midst of other African countries. This is underscored by the fact that the findings obtained from large samples of oil depending countries may not necessarily apply to Nigeria and other Africa countries because the general structure and economic relationships in African countries are different from those that characterized the rest of the world. Given this scenario and in a bid to contribute to the existing literature, this study focuses on the determination of the extent to which SWF has helped in improving the fiscal performance in Nigeria in the midst of other natural resources rich countries in Africa. Findings from the study will assist in policy formation and reformation that will improve the performance of the sovereign wealth funds, and encourage or otherwise other African countries to establishing sovereign wealth funds.

2. Literature Review

Sovereign Wealth Fund in Africa

The history of sovereign wealth fund dated back to 1953 when the first sovereign wealth fund was formed in Kuwait, since then other countries mostly natural resources-rich economies have established their own SWFs mainly for the purposes of savings and economic stabilization. Globally, as of 2017, there are about 79 sovereign wealth funds, managing assets with an estimated value of US\$7.31 trillion. Thirteen of these funds are in Africa with an approximately estimated value of US\$ 159 billion (Konfidants 2018 and Chelsea, 2020). Majority of the funds were established between the year 2000 and 2012 mostly by oil-producing nations due to large surpluses on their current account occasioned by a spike in oil prices with the aim of smoothening expenditure during falling oil prices.

In 1994, Botswana became the first African nation to establish the sovereign wealth fund under the name “Pula Fund” which was to serve as a short-term stabilization fund. Other African nations after Botswana were Algeria (200), Equatorial Guinea and Sudan (2002), Nigeria (2004), Congo (2005), Libya and Mauritania (2006) while other nations such as Chad, Mauritius, Papua New Guinea, Angola, Gabon, Ghana established theirs between 2008 to 2012 (see appendix 1). As at 2023, there were **25 state-owned investment** SWFs in African and the Nigeria Sovereign Investment Authority (NSIA) is the most active of them (El Fihri, Chetty, Ivers, Loughridge, Omary, and Sheridan, 2023).

In 2011, in an effort to protect government expenditure against the volatility of crude oil prices, the Nigerian government established the Nigerian Sovereign Wealth Fund (NSWF) after experimenting with the Excess Crude Account (ECA) in 2004. The Fund is made up of three distinct portfolios namely; the Economic Stabilization Fund, the Nigeria Infrastructure Fund, and the Future Generations Fund (BudgIT, 2022). The fund is being managed by the Nigerian Sovereign Investment Authority (NSIA). The Economic Stabilization Fund component of the Nigerian Sovereign Wealth Fund just like any other SWF’s stabilization fund is aimed at ensuring fiscal counter-cyclicality by saving during windfall and to act as a last-resort source of finance during a period of fiscal deficit to protect the integrity of the budget and ensure smooth government expenditure. It started with a seed capital of US\$1billion transferred to it from the Excess Crude Account (NSIA, 2018).

Theoretical Review

The theoretically foundations behind the formation, operations, and management of sovereign wealth fund for fiscal stabilization hinge on the theories of financial management within the international economic system based on permanent income

hypothesis, and the steward theory. The application of the sovereign wealth fund as a stabilization fund is based on the Permanent Income Hypothesis. According to the Permanent Income Hypothesis by Friedman (1957), an agent saves in anticipation of possible future declines in income and for precautionary reasons (Campbell, 1987). The hypothesis stems from the basic intuition that people would generally like to smoothen their consumption and not let it fluctuate with short-run fluctuations in income. The hypothesis prescribes a simple benchmark of income defined as permanent income that is consistent with a constant primary balance over time as against transitory income which is not enduring and stable. Based on this framework, the government's fiscal performance in a volatile oil revenue dependent country is largely dependent on its oil revenue.

The Modern Portfolio Management Theory of financial management provides the theoretical background for SWFs investment strategy. The theory postulates that countries strive to earn returns from the foreign exchange reserves kept to maintain macroeconomic stability by allocating investments in different types of assets to create a balanced portfolio (Daniel, Hirshleifer & Subrahmanyam, 2001). The management of the fund by an independent fund-manager (in this case the Nigerian Sovereign Wealth Fund Authority) is explained by the Stewardship Management Theory. According to the theory, managers are stewards of the owner, and they act with due responsibilities as if they are the real owners of the assets under their management (Davis, Schoorman & Donaldson, 1997). In this regard both the owner and the steward share a common goal which is the performance of the organization. With that, the owners play only supportive roles by empowering the managers through training, monitoring, and shared decision making with the view of increasing the managers' potentials for higher performance (Sundaramurthy & Lewis, 2003).

Empirical Literature Review

The existing studies on sovereign wealth's stabilization fund and the fiscal outcome are limited in number. However, this section reviewed the empirical works relevant to this study. These studies include; Asik (2017) who determines the effectiveness of stabilization funds in reducing fiscal volatility and ensuring a counter-cyclical using a sample of 29 oil-rich countries from Africa, Middle East, Asia, and Europe over the period of 2005-2008. The study made use of Two-Stage Least Square (2SLS) estimations technique and it was found that SWF's stabilization funds reduce fiscal volatility and pro-cyclicality of fiscal policy. Similarly, using a panel data set of 68 resource-rich countries in non-renewable natural resources over the period of 1988–2012, Sugawara (2014) examined the effect of stabilization funds on the volatility of government expenditure for which a corrected standard errors panel Ordinary Least Squares (OLS) estimation technique was employed. The study outcome disclosed that

the existence of stabilization funds contributes to smoothing government expenditure. The study further disclosed that political institutions and fiscal rules are significant factors in reducing expenditure volatility.

A study by Elbadawi, Soto & Youssef (2018) on sovereign wealth funds as a macroeconomic stabilization tool reveals that SWF's fund has a robust stabilizing role against fiscal instability and has also been a strong contributor to the sustainability of fiscal balance. This outcome was obtained when the researchers employed the Instrumental Variable (IV) technique for 119 countries spanning from 1985-2015. For Ayadi, Hyman, Williams & Desselle (2018) the stabilization fund has a positive impact on fiscal balance, but no moderating effect on government spending behavior. This result was obtained when they examined the effectiveness of resource stabilization fund in a mono-product economy (Nigeria) by employing the quantile regression covering the time frame of 1980–2013. Similarly, Monday, George and Diepiriye (2021) investigated the impact of sovereign wealth fund on public financial management and economic sustainability in Nigeria. Descriptive research design approach was used for the study. The study reveals that sovereign wealth funds can be helpful to the nation especially in the time of economic crisis as it could be used to minimize government revenues volatility rate as well as to build up the level of savings for future generation.

Contrary, to the findings by Asik, (2017), Sugawara (2014), Elbadawi, Soto & Youssef (2018) and Ayadi, Hyman, Williams & Desselle (2018) and Monday, George and Diepiriye (2021) that sovereign wealth fund stabilization reduces fiscal instability, Aslanli (2015) studied the impact of the state oil fund on fiscal sustainability in Azerbaijan economy. By employing a descriptive technique, the study found that unlimited and unconditional transfers from the State Oil Fund of the Azerbaijan Republic (SOFAZ) to the state budget threatened fiscal sustainability. Corroborating the finding of no significant impact of SWF stabilization fund on fiscal stability is Adinde (2019) finding from the study on the political economy of oil stabilization fund in Nigeria. The study also made use of descriptive technique and discovered that stabilization fund on its own is not a panacea for fiscal stability and that the stabilization fund was not having expected success due to declining oil revenues coupled with pressures on the fund to spend from the fund resulted in a sharp decline in its available resources to fall upon during fiscal instability.

3. Methodology

Following the theoretical and empirical review, this study adopts and augments a model used by Ayadi, Hyman, Williams, & Desselle (2018) to investigate the impact of sovereign wealth fund on fiscal performance of natural resource-rich nations in Africa from 2003-2018. The econometric form of the model is stated as;

$$FSBL_{it} = \alpha + \delta SOWF_{it} + \beta Z_{it} + \lambda_i + \varepsilon_{it} \dots\dots\dots 1$$

Where i = ith country, t = time, α = country specific intercept, δ and, β = parameter estimates. λ_i = individual country fixed effect, ε_{it} = error term. The *FSBL* stands for fiscal balance, a measure of fiscal performance it is the differences between government total revenue and its total expenditure. *SOWF* stands for sovereign wealth fund, it is a dummy variable taking a value of 1 in a year that there was stabilization fund and 0 for years without stabilization fund in place, it is expected to exact positive effect on the fiscal balances. Z_{it} is a set of other regressors that are considered standard determinants of the fiscal balances, it includes; Oil rents (*ORTS*); this is used to measure the impact of oil price and its cost of production on fiscal balances, our a priori expectation in regards to this variable is positive coefficient. Secondly, Log of government revenue (% of GDP) (*lnGRGDP*); this is used to measure the impact of government revenue on fiscal balance, its impact is expected to be positive. Thirdly, Log of government expenditure (% of GDP) (*lnGEGDP*); this is used to measure the impact of government expenditure on fiscal balance; its impact is expected to be negative. Fourthly, control of corruption (*CCOP*); this is a measure of corruption, it is expected to exact positive impact on fiscal balances. Lastly, financial institutions index (*FINS*); is a measure of quality of financial institutions and financial markets, it is expected to exact positive effect on the fiscal balance. Since our model as stated in equation 1 above is estimated using the GMM technique, thus under the GMM framework the model is however restated as follow

$$FSBL_{it} - FSBL_{it-1} = \alpha FSBL_{it-1} + \delta SOWF_{it} + \beta Z_{it} + \lambda_i + \varepsilon_{it} \dots\dots\dots 2$$

Where $FSBL_{it-1}$ is the first lag of the dependent variable. The goal is to obtain consistent estimates with $T < N$, and the possible existence of $Cov(X_{it}, \varepsilon_{it}) \neq 0$ i.e. some regressors may be endogenous, meaning they are correlated with past and possibly current realizations of the error.

Note: we took the log of government revenue (% of GDP) and government expenditure (% of GDP) because they contain large values, and this can however also help to remove any heteroscedasticity problem from our model.

Table 1: Variable Description and Source

Variable	Description	Source
Fiscal balance	This is computed by subtracting the general government expenditure from the general government revenue, if the balance is positive it implies fiscal surplus if otherwise it is a deficit	Author compilation
General government revenue(% of GDP)	This includes cash receipts from taxes, fines, fees, rent, and income from sales and social contributions	IMF
General government expenditure(% of GDP)	This includes all government current expenditures for purchases of goods and services (including compensation of employees)	IMF
Sovereign wealth fund	This is a state-owned investment fund usually established from receipts of natural resource exports	Author
Oil rents (% of GDP)	This is the difference between the value of crude oil production at world prices and total costs of its production	WDI
Control of Corruption	This reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests	WGI
Financial Institutions Index	The estimate ranges from approximately -2.5 (weak) to 2.5 (strong) This summarize how developed financial institutions and financial markets are in terms of their depth, access and efficiency	IMF

Source: Authors' compilation

Estimation Technique and Endogeneity Problem

The model specification as presented in Equation 2 poses some challenges for estimation. The first is the possible existence of autocorrelation and heteroscedasticity. The second is the possibility of endogeneity and simultaneity. That is, it is possible that sovereign wealth fund and fiscal balances tend to be determined simultaneously in our model. In other words, as we assumed that the existence of sovereign wealth fund exact influence on fiscal balances it is quite possible that the establishment of sovereign wealth fund is also dependent on the nations' fiscal balances. If this is the case, the main variable of interest (sovereign wealth fund) is thus not strictly exogenous in our

model and as such required an estimation technique that takes in to account the possible existence of endogeneity.

The review of the literature indicated great support for the use of Differenced Generalized Method of Moments (DGMM) estimator developed by Arellano and Bond (1991) and System Generalized Method of Moments (SGMM) developed by Arellano & Bover (1995) and Blundel & Bond (1998) in estimating a model suspected with endogeneity problem. However, the DGMM is not suitable for unbalanced panel and does not accommodate time-invariant regressors, while the SGMM on the other hand is an improvement over the DGMM, it is used to overcome many of the disappointing features of the DGMM estimator (Blundell, et al. 2000). According to Windmeijer (2005), the two-step SGMM performs somewhat better than one-step SGMM, however, the standard errors of the SGMM are severely downward biased in small samples and as such needs to be corrected. Given the stated scenario, it becomes appropriate for this study to employ the two-step SGMM with Windmeijer corrected standard errors.

4. Result

Descriptive Statistics

The descriptive statistic on the variables employed for the study is presented in Table 2.

Table 2: Data Description

Variable	Obs	Mean	Min	Max
FSBL	352	-3.5649	-34.4264	31.01536
ORTS	328	10.0481	0	58.12406
GRGDP	352	20.0216	4.944074	54.80165
GEGDP	352	23.5865	7.450821	61.71258
CCOP	352	-0.7609	-1.82636	0.568105
FINS	330	0.25871	0.065361	0.738624

Notes: The sample comprises of 22 African countries from the period of 2003-2022.

Source: Authors' computation using data sourced

As presented in Table 2, the average value of the Fiscal Balances (FSBL) is negative (-3.5649) which can be attributed to the fact that across the sample period (2003-2022) majority of the sampled nations experienced budget deficit and this can further be shown with the average value of General Government Expenditure (GRGDP) being greater than its revenue (GEGDP). The average value of the Oil Rents (ORTS) is shown to be positive (10.0481), this can be attributed to the fact that in virtually all the sample periods the value of crude oil production at world prices is greater than its total costs of production. The Control of Corruption (CCOP) is shown to have a negative average value (-0.7609) implying poor performance in terms of corruption control.

Finally, the average value of Financial Institutions Index (FINS) is positive (0.25871) implying relatively strong financial institutions.

Two-Step System GMM Estimation

The results of the two-step system GMM estimation are presented in Table 3.

Table 3: Two-Step System GMM, Dependent Variable: Fiscal Balances

Regressors	Coef.	Robust Std. Err.	P-Value
FSBL Lag 1	0.0715842	0.0433012	0.098*
SOWF	0.8028174	0.6930582	0.247
ORTS	0.0953196	0.0538906	0.077*
lnGRGDP	21.5222	2.345936	0.000***
lnGEGDP	-27.55447	3.177232	0.000***
CCOP	3.001286	1.156946	0.009***
FINS	1.134184	2.240759	0.613
CONS	20.00631	5.113055	0.000***
Instruments			108
F-test p-value		353.74	0.000***
AR(1) p-value		-2.29	0.022**
AR(2) p-value		-0.87	0.384
Hansen test		16.61	1.000

Note: *, **, and *** represent 10, 5 and 1 percent significance levels, respectively, Windmeijer finite-sample correction was used to correct the standard errors

The results of the two-step system GMM estimation as shown in Table 3 indicates that the main variable of interest [i.e. sovereign wealth funds (SOWF)] has a positive insignificant impact on the fiscal balances. In other words, the coefficient of sovereign wealth fund (SOWF) is found to be positive as expected but insignificant. This implies that having a sovereign wealth fund in place improves the fiscal balances with about 0.8 percent. Other control variables as included in the model such as ORTS, GRGDP, CCOP, and FINS also exact positive impact on the fiscal balances except for GEGDP which has a negative coefficient.

Robustness and Consistency Check of Result

For the SGMM result to be reliable it is required that following conditions should be satisfied, existence of significant fixed effect in the model, the first-order serial correlation should be present while the second-order serial correlation should not, and the full instrument set are should be jointly valid.

The fixed effect is tested using the F-test, the first and second-order serial correlation are tested using the AR (1) and AR (2) respectively, while the validity of the instrument

is tested using the Sargan test or the Hansen test. In this study, the Hansen test is most preferred because it is unaffected by heteroscedasticity and autocorrelation.

As presented in Table 3, the null hypothesis of the F-test and AR (1) is rejected implying that there is a significant fixed effect in the model and the first-order serial correlation is present respectively. However, the null hypothesis of AR (2) and the Hansen test were not rejected implying that the second-order serial correlation is not present and the full instrument set is jointly valid respectively.

Discussion of the Findings

The study outcome as presented in Table 3 shows that the sovereign wealth fund has not contributed significantly in improving the fiscal balances of the natural resources-rich African nations. This can probably be attributed to insufficient resources inflow to the Fund, underdeveloped organizational structures and poor management among other factors that can impede the performance of a financial institution. However, the positive influence of sovereign wealth fund on fiscal performance corresponds with the positive impact reported by Asik, (2017), Sugawara (2014), Elbadawi, Soto & Youssef (2018) and Ayadi, Hyman, Williams & Desselle (2018). Notwithstanding, our investigation is not without scholarly objections. For instance, studies such as Aslanli (2015) and Adinde (2019) argued that sovereign wealth fund does not have a positive impact on fiscal performance. Theoretically, this finding corroborates the argument put forward by the theory of permanent income hypothesis that an economic agent saves in anticipation of possible future declines in income.

5. Conclusion and Recommendations

This study investigates empirically the impact of sovereign wealth fund on fiscal balances using Nigeria and other 21 natural resources-rich African countries as sample over the period of 2003 to 2022. The study made use of a dynamic panel estimator (two-step SGMM) that account for the possible existence of endogeneity problem and found that sovereign wealth fund has a positive but insignificant impact on the fiscal balances implying that nation with sovereign wealth fund are more likely to have good budget performance. In other words, having a sovereign wealth fund improves nations' fiscal balances.

In line with the study outcomes, the study recommends the following set of measures for decision-makers. The governments and the management of the various existing funds should put more efforts in the areas of policies formation and implantations to better improve the positive impact of the sovereign wealth fund on fiscal balances as the finding shows that the coefficient of sovereign wealth fund impact on the fiscal balance is not yet significant. Natural resources rich countries of Africa without sovereign wealth fund should consider establishing one as the study's finding shows

that its presence helps in improving fiscal balance and as well can help to cushion the negative effect of fluctuation of international resources price on the fiscal outcome. There is also a need to enact policies that will help improve the control of corruption, strengthen the financial institutions, reduce the cost of oil production and increase general revenue as these variables were shown to have a desirable effect on the fiscal balances.

References

- Adinde, S. (2018). The Political Economy of Oil Stabilization Funds in Nigeria. *Research thesis; Researchgate*, 1-53.
- Ahmadov, I., Kalyuzhnova, Y., Tsani, S., Mikhailovich D. S., & Aslanli K. (2011). Sovereign wealth funds: New challenges for the Caspian countries. Revenue Watch Institute. Public Finance Monitoring Center, Azerbaijan. Khazar University, Azerbaijan.
- Alberola, E. & Serena, J. M. (2008). Sovereign external assets and the resilience of global imbalances, Documentos de Trabajo No. 0834, Banco de España.
- 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.
- Ali, A. & Gutierrez, D. A. (2023). Do sovereign wealth funds reduce fiscal policy procyclicality? new evidence using a non-parametric approach”, *IMF Working paper* 23/133. Washington, DC: International Monetary Fund.
- Arellano, M., & Bover O. (1995). Another look at the instrumental variable estimation of error-components models, *Journal of Econometrics* 68, 29-51.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58. 277 – 297.
- Asik, A. G. (2017). Effectiveness of stabilization funds in managing volatility in oil-rich countries. *TOBB Economics and Technology University*, 1-50.
- Aslanli, K. (2015), Fiscal sustainability and the state oil fund in Azerbaijan, *Journal of Eurasian Studies*, 6 (1)14 - 21
- Ayadi, F. O., Hyman, M. L., Williams, J., & Desselle, B. (2018). How effective is the resource stabilization fund in a mono-product economy? *Global Business Review* 19(4), 842–858.
- Bacon, R., & Tordo, S. (2006). Experiences with oil funds: Institutional and financial aspects, World Bank.
- Bagattini, Y. G. (2011). The political economy of stabilization funds: Measuring their success in resource-dependent countries. *Institute of development studies at the University of Sussex Brighton BN1 9RE UK*, 1-60.

- Blundell, R. & S. Bond, (1998). Initial conditions and moment restrictions in dynamic panel data models, *Journal of Econometrics* 8 (7), 115-143.
- BudgIT (2022). The Sovereign Wealth Fund – Has Nigeria Lost the Chance? 16th May 2022. Inside BudgIT. Nigeria's Excess Crude Oil Account between 2015 & 2022 budgit.org <https://budgit.org> › Update
- Campbell, J. Y. (1987). Does saving anticipate declining labour income? An alternative test of the permanent income hypothesis. *Econometrica*, November, 55(6), 1249–1273.
- Černohorský, J. & Tesnerová, K. (2021). The importance and perspectives of sovereign wealth funds in the globalised economy, *Globalization and its Socio-Economic Consequences 2020 3006* <https://doi.org/10.1051/shsconf/20219203006>, SHS Web of Conferences 9 2, 0 (2021)
- Chelsea, M. (2020). Sovereign Wealth Funds in Africa: Taking Stock and Looking Forward. Johannesburg: South African Institute of International Affairs.
- Daniel, K. D., Hirshleifer, D., Subrahmanyam, A. (2001) Overconfidence, arbitrage, and equilibrium asset pricing, *Journal of Finance*, 56(3), 921– 965.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Towards a stewardship theory of management. *The Academy of Management Review*, 22(1), 20-47.
- Elbadawi, I., Schmidt-Hebbel, K. & Soto, R. (2018). Sovereign wealth funds and macroeconomic stabilization in the home economy, Working Paper 1175, The Economic Research Forum (ERF) 21 Al-Sad Al-Aaly Street Dokki, Gaza, Egypt.
- El Fihri, S. Chetty, W.; Ivers, L.; Loughridge, J.; Omary, O.; & Sheridan, B. (2023), Africa's sovereign wealth funds can spur growth and nation building, Boston Consulting Group 2023.
- Fasano, U. (2000). Review of the experience with oil stabilization and savings funds in selected countries." *IMF Working Paper* 00/112, International Monetary Fund, Washington, DC.
- Friedman, M. (1957). The permanent income hypothesis. *In A theory of the consumption function*. Princeton university press.
- International Monetary Fund (IMF, 2005). Global Financial Stability Report, World Economic and Financial Surveys (Washington, April). Available via the Internet: <http://www.imf.org/External/Pubs>
- Konfidants. (2018). African sovereign wealth funds Index. Accra: The Afrochampion Initiative.
- Le Borgne & Medas (2007) "Sovereign wealth funds in the pacific island countries: macro fiscal linkages", Working Paper 07/297, International Monetary Fund, Washington DC. T

- Monday, O. George, W.C. & Diepiriye, D. S. (2021). Sovereign wealth fund model: A tool for economic stability and public financial management: evidence from a developing country *current journal of applied science and technology* 40(32): 10-20,
- NSIA (2018), Nigeria Sovereign Investment Authority Annual Report for 2018.
- Royal Institute of International Affairs, T. (2016). Africa's Sovereign Wealth Funds Demand, Development, and Delivery. London: All Chatham House publications.
- Rozanov, A. (2005). Who holds the wealth of nations, *International Journal of Central Banking* 15(4), 52 –57.
- Sovereign Wealth Fund Institute. (2020, September 10). *World's Most Popular and Trusted Source on Institutional Investors and Global Capital*. Retrieved from: <https://www.swfinstitute.org>
- Sugawara, N. (2014). From volatility to stability in expenditure: Stabilization funds in resource-rich countries, *IMF Working Paper*, WP/14/43, Washington, DC.
- Sundaramurthy, C., & Lewis, M. (2003). Control and collaboration: Paradoxes of governances. *The Academy of Management Review* 28(3), 3-7.
- SWFI: Sovereign Wealth Fund Institute (2020). Sovereign wealth fund rankings; largest sovereign wealth funds by assets under management, Available at: <http://www.swfinstitute.org/sovereign-wealth-fund-rankings>.
- United Nation. (2018). World Economic Situation and Prospects 2018. *United Nations New York, 2018*, 1-207.
- Wills, S. E., Senbet, L. W., & Simbanegavi, W. (2016). Sovereign wealth funds and natural resource management in Africa. *Journal of African Economies* 25(2), 3-9.
- Zhang, M., & He, F. (2009). China's sovereign wealth fund: weakness and challenges, *China and World Economy*, 17(1), 101 – 116.