



**EXTERNAL FINANCING, FLYPAPER EFFECT AND OUTPUT IN NIGERIA**

**\*Wilson, A. D., Adofu, I. and Alhassan, A.**

Department of Economics, Faculty of Social Sciences, Federal University of Lafia

**\*Corresponding Authors' Email:** [Talk2wilsondaniel@yahoo.com](mailto:Talk2wilsondaniel@yahoo.com)

**ABSTRACT**

This study examined the flypaper effect of on the nexus between external financing and output in Nigeria over the period 1970-2022. The Augmented Dickey-Fuller, Philips-Perron unit root tests as well as the Bayer-Hanck Co-integration tests and the Dynamic Simulated Autoregressive Distributed Lags (DARDL) model were used for analysis in this study to examine flypaper effect of on the nexus between both foreign aid (grant) and external debt on income per capita. The finding shows that the variables exhibit mixed order of integration and there is a long-run equilibrium relationship between external financing (debt and aid) and real GDP per capita in Nigeria. Furthermore, the result indicates that a 1% change increase in personal income will result in about 11% increase in real GDP, while 1% decline in ED will lead to 0.3% increase in real GDP in Nigeria. This indicates that there is a flypaper effect on the nexus between external financing (both debt and aids) and real output in Nigeria in the long run. This implied that the impact of personal income on real income per capita is more than the effect of external debt and foreign aid on per capita income. It means, external debt and foreign aid are not spent on the areas or purposes for which they are needed or meant for in Nigeria. Thus, the external financing should be directed to projects and programmes that have direct impact on the well-being of the people rather than sponsoring the budget. That is, foreign aid and external debt should be spent directly on people-oriented programmes and projects.

**Keywords:** Aids, External, Financing, Grant, Output and Productivity

**INTRODUCTION**

Basically, most governments across the world often desire economic growth in order to advance the wellbeing of their citizens and enhance the growth and development of their nations. In their pursuit to achieve this growth through investment, governments formulate and implement policies and programmes which encourage or create an enabling investment environment for local and international investors in the industrial sector. Besides, governments can also directly undertake investment in their economies which is largely dictated by their foreign exchange earnings (Mukui *et al.*, 2020). Such investments include infrastructures and social services such as roads, rails, air ports and services as health, education and social-securities. However, the demand for development coupled with the shortage or scarcity of capital makes many nations to rely more heavily on external funding, such as grants, external borrowing, and oil revenues, to support development projects. However, there is tendency that such funds that are meant to be allocated to specific purpose get stuck in other programmes or projects instead of being distributed to other areas where they are most needed (Collier and Dollar, 2002). This is known as the “Flypaper Effect”. The flypaper effect is a common challenge faced by government for economic development projects.

The flypaper effect is a common challenge faced by governments and organizations that provide aid and grants for economic development projects. It is especially problematic in developing countries where institutions may be weak, and there may be a lack of transparency and accountability in the management of public funds (Ahuru, 2019). In these cases, the flypaper effect can limit the effectiveness of aid and grants in promoting economic development and reducing



poverty (Alexiou, 2009). Flypaper Effect can have different implications for government revenue and economic growth in different countries, and those policymakers should carefully consider the potential consequences of intergovernmental grants on local government spending and economic outcomes (Afolabi and Adesina, 2018).

In Nigeria, the public sector has experienced an increase in the use of non-tax-based funding sources. The inflow of external cash grants, Net official development assistance (ODA) and official aid received (OA) in Nigeria was reported at US\$3.5 million in 2020, according to the World Bank collection of development indicators, compiled from officially recognized sources (World Bank, 2022). Similarly, between 2001 and 2018, the Net rate of ODA and OA was US\$18.55 million, and it fell to US\$35.99 million in 2002. Nigeria received loans and grants from various countries for development purposes. Japan granted the country over US\$9.35 million, or 57.9 percent, India with US\$5.0 million and France with US\$1.9 million in 2019 (CBN, 2022).

Despite these significant amounts of loans, grants, and aid received over the years, key sectors such as health, education, and other areas of the economy have underperformed massively (OECD, 2009). For instance, in the education sector, empirical evidence suggests that the literacy level in Nigeria has decreased comparatively. Similarly, in the health sector, increased government expenditure has not led to improved life expectancy. This has led to concerns about the effectiveness of government expenditure and the economic performance of the country (Babatunde *et al.*, 2016). This phenomenon describes the tendency of funds that are meant to be allocated for specific purposes to stick to the recipient and not be distributed to other areas where they are most needed. Could it be because of the flypaper effect or that government spending in these sectors has not been effectively utilized to improve the standard of living and economic growth in the country (Asongu, and Jellal, 2016). Then it is important to examine the flypaper effect of transfer of foreign grants on productivity output in Nigeria will be examine with the view to estimating the flypaper effect., this is the noval.

For the government, this study is significant as it provides valuable insights on the contribution of external financing, and its impact on economic performance in Nigeria. The findings of this study can help policymakers to design effective policies to increase revenue and promote economic growth. The study on the Flypaper effect, Government Revenue and economic performance in Nigeria is also of great significance to various stakeholders.

### **Conceptual Issues**

The flypaper effect is a concept in economics that describes the tendency of funds that are meant to be allocated for specific purposes to stick to the recipient and not be distributed to other areas where they are most needed. For this study, we are adopting the definition from the works of Alghamdi (2017) he defined "flypaper" as the idea that funds that are intended to be transferred from one area to another are more likely to stick in the original area, just like flies get stuck on flypaper.

Flypaper effect shows situation where a grants, foreign aid and other nontax-based revenue accruing to the public sector tend to stick with budgetary use rather as an avenue to increase the income of households in the community via tax reduction. As opined by Alghamdi (2017), who christened the phenomenon, the funds in question "stick where they hit" meaning that, since the funds in question will have to get to the hand of the public sector first then the funds must stick in the hands of the public sector (Inman, 2008). In the parlance of Knight (2002) the flypaper effect implies that federal grants crowd in local spending thus implying that grants and other non-tax based revenue have expansionary influence on the level of public expenditure or public sector size.



World Bank (2018) however refers the concept of “flypaper effect”, as the term used in public choice to describe situations where a central government grant has the effect of increasing local (or lower tier) government expenditure by more than the amount of the grant indicating that the issuance of grants tends to increase public spending beyond the level of revenues generated from taxes.

### **Theoretical framework**

The Wagners law or theory is adopted because it offers a good theoretical explanation for the analysis between Federal Government expenditure and National income expansion of not just Nigerian Economy but other world economies. There is serious empirical evidence of Wagner’s theory in developing economies as Nigeria finds itself to be one. The other objective of adopting this theory is because of its explicit explanation of the relationship between Government expenditure, effects of introduced foreign aid and its influence on the tax payers in the long run when the foreign loan or aid is removed from the equation, thus causing the famous “Flypaper Effect”. The theory equally justified reasons for the expansion in Government Expenditures, giving clear reasons why government ought to increase her budget in the first place. The theory through it fiscal illusion hypothesis also shows the relationship between the increased government expenditure and the tax burden on the citizens (Gatsi *et al.*, 2019). It established that the median voter tax payer would bear the burden for a time and later revoke or protest the heavy or increased tax burden in them, leading to a further crisis situation in the economy.

Solows growth model argued that the critical elements in development thread are investment in technical progress (technology), increased and improved labour supply and capital accumulation. The theory dwells more on the relationship of capital accumulation and savings as he states that assuming that there is a technological progress, implying that there is serious investment in the process, there is possibility that the economy will reach a “Steady –State Equilibrium” where per capita income and capital are constant. This theory is further important in justifying the increased government expenditure but argued that the increased government expenditure but on development related sectors like Technology, human capital development, Poverty reduction, Human development index related sectors, as this investments in the long run would not only increase the per capita income of the society but equally increase the revenue of the government without grudges in the advent in the increase in taxation, this study studies the effect of government expenditures in key sectors as it limits the flypaper effects and revenue of the economy.

The theory also helps in explaining the probability of developing countries in increasing their expenditure budgets in the wrong sectors and later returning to its previous state, in Nigeria, it is evident that the drive of most Government Projects is to chase clots and political coverage instead of targeting long run capital projects that would lead to increased revenue and usher in better economic performance.

### **Empirical Review**

Lee *et al.* (2019) investigated the influence of the government’s fiscal on regional expenditure as well as flypaper effect on the regional expenditure in Kalimantan using pooled least square (PLS). The study revealed that intergovernmental fiscal revenue has a significant relationship with expenditure in Kalimantan Indonesia. Their study further revealed the presence of flypaper effect in regional expenditure, which means that districts and cities in Kalimantan are unable to maximize their respective regional income, that is, they still depend on the central government to finance regional expenditures.



Mukui *et al.* (2020) analyze flypaper effect in East Java regencies and Municipalities from 2005 to 2012 using pooled least square (PLS) and found evidence to suggest the presence of flypaper effect occurring during the period under study. They observed that the flypaper effect was due to regional expenditure as the response against special allocation fund which is higher than regional expenditure as the response against regional own source of revenue. This indicates that local government's high dependency towards financial transfer from the central government. The studies are criticized for not providing a clear theoretical framework to explain the flypaper effect, making it difficult to understand the causal mechanisms behind the relationship between intergovernmental fiscal revenue and regional expenditure, and for focusing only on a specific region in Indonesia and relying on cross-sectional data, limiting the generalizability of the findings and the ability to establish causality between the variables.

Steven and Craig (2014) empirically investigated the asymmetries in Wisconsin Municipalities' responses to unconditional aid. Using a model that allows for the identification of structure shifts in Wisconsin United State and found evidence of a flypaper effect and that the relationship tends to be asymmetrical. They further posited that the way local governments treat intergovernmental aid is different between periods of increases and decreases in aid. One criticism of the study by Steven and Craig (2014) is that it only focuses on a specific geographic area (Wisconsin) in the United States, which may limit the generalizability of the findings to other regions or countries. Additionally, while the study uses a model that allows for the identification of structural shifts, it still relies on observational data, which makes it difficult to establish causality between the variables of interest. Furthermore, the study does not provide a clear theoretical framework to explain the asymmetries in municipalities' responses to unconditional aid, which could limit the interpretability of the results. Finally, the study does not take into account other factors that could be affecting the relationship between intergovernmental aid and local government expenditure, such as local economic conditions and political factors.

Another study conducted by Okonkwo and Nwosu (2020), with the objective to detect the existence and investigate the causes of the flypaper effect in the Brazilian states. Panel data evidence from 27 Brazilian states from 1985 to 2010 indicates the existence of a large flypaper effect, with an estimated impact of grants on public expenditures. Considering there are some ways to calculate MCF proxies, first, an autonomous index was used as a proxy of the marginal cost of public funds (MCF), because it represents how much the municipality can survive by itself, representing the municipalities' independency to federal grants. Second, the MCF was calculated by the derivation of Proper Tax Revenue to the Total Revenues. The results show that the simulative effect of grants on public spending increases with the MCF in both proxies, but it was stronger in the autonomous index proxy, in convergence to results of Canadian provincial data. Russell, and

George, (2012) examines how federal grants to states affect state spending (or taxes). Muh (2017) examines the impact of flypaper effect and soft budget on fiscal sustainability of local government in Nigeria, using two-stage least square regression and correlation matrix. While the study's findings indicate that flypaper effect and soft budget loan have a profound impact on the expenditure profile of the local government in Nigeria, there are several criticisms that are raised. These include a lack of clarity in a limited generalizability due to a focus on a specific context or population, potential issues with data quality and reliability, a failure to account for confounding variables.



Nwanne (2014) examined the determinants of tax buoyancy of 25 developing countries by using the cross section data for the year 1998 to 2008 and pooled least square method for result analysis. In Nigeria, the prudent utilization of oil revenues has remained elusive for policymakers over time. While the country has earned sizeable oil revenues from its natural endowment, poverty and income inequality have been persistent. For instance, Brautigam, and Knack (2004) have obtained a result showing that larger government spending on the military slows down economic growth in the cases of Syria, Egypt, and Israel. In addition, some studies have also come up with the findings that no causal relationship exists between government spending and economic growth such as the work of Oates (1979) for some West African countries. Oyinlola, and Ayodele (2016) from their study obtained a result showing that public expenditure has no impact on economic growth in Nigeria. However, their findings further support the existence of a long-run relationship between public expenditure and economic growth in the country.

## MATERIALS AND METHODS

The model specification is based on the theoretical framework of Wagner' Theory of Increasing State Activity and Solow's Growth. The reason for adopting this theory is because of its explicit explanation of the relationship between Government expenditure, effects of introduced foreign aid and its influence on the tax payers in the long run when the foreign loan or aid is removed from the equation, thus causing the famous "Flypaper Effect". To accomplish the objectives of this study, our model focus on flypaper effect in the impact of loans and grants on output. This Study adopts the work of Maharashtra *et al.* (2008) and Muhamad (2018) in using Maximum likelihood estimation (MLE) and SEM and PLS model to measure the flypaper effect of urban local government in Indian state and examine whether flypaper effect is still detected at local expenditure in Indonesia respectively. The study also adopts the model of Solarin *et al.* (2021) to measure the extent of flypaper effect on economic performance in Nigeria. Assuming that the country is a linear non-progressive income tax system and a single decision maker (Pettersson, 2020) Demands for E is a function of  $\gamma+L$  and a Vector of the Taste Variabels Z in empirical application then:

$$E = \alpha(\gamma + L) + \beta Z \quad \dots(1)$$

Where  $\alpha$  and  $\beta$  are parameters; to study the effect of flypaper effect, the effect of L is to be greater than the effect of  $\gamma$ , then the Model can be re-written as

$$E = \alpha_1\gamma + \alpha_2L + \beta Z \quad \dots(2)$$

Based on the objective of this study, it led to the expansion of this model by the inclusion of variables like external debt and external aids and personal income. The functional form of the equation becomes:

$$GDP_t = f(L, K, ED_t^{\beta_1} EA_t^{\beta_2} PI_t^{\beta_3}) \quad \dots(3)$$

There natural logs, we have thus:

$$\ln GDP_t = \beta_0 + \beta_1 \ln L + \beta_2 K + \beta_3 \ln ED + \beta_4 \ln EA + \beta_5 \ln PI + \mu_t \quad \dots(4)$$

Where:

GDP is the representation of output,  $\ln ED$  stands for aggregate of Foreign Loans and EA for external grants in a year, and PI represents Personal Income(as proxy for house hold final consumption), in the economy at that given period.

## RESULTS AND DISCUSSION

The result in the Table 1 reveals that the mean value of all the variables are positive and CAP has the highest average value of 60527.43 followed by ED with the value of 31052.43. The table also shows that Nigeria has experience consistent flypaper effect of external financing and output within the period of the study as indicated by the maximum overall ED of 76214.59 and a minimum value of 11445.5 with all the variables showing a positive sign. This implies that all the variables have been on increase over time. The table also revealed that ED has the highest standard deviations of 14349.72 follow by CAP with 13868.69. This implies that CAP and ED are the most volatile factors among the variables while others are relatively less volatile.

**Table 1 Summary statistics**

Variable	Obs	Mean	Std. dev.	Min	Max
Rgdppc	42	1908.922	463.5384	1408.209	2679.555
Cap	41	60527.43	13868.69	39723.57	110643.2
Lab	33	49.48991	11.7735	31.93658	73.27235
Ed	41	31052.43	14349.72	11445.5	76214.59
Ea	41	969.4971	1925.945	16.31	10970.39
Pi	41	1482.142	452.4151	871.4839	2196.42

## Unit Root Tests

Result from the Table 2 shows that all the variables except CAP have unit root at level and became stationary after first difference I(1) while CAP is stationary at level I(0). This is established by comparing the PP value with their respective critical value at 5% level of significant, which show that almost all the variable of the PP statistic value is greater than their respective critical value at 5% level. Judging by the order of integration I(0) and I(1) its suggest that there may be existence of long-run relationship between the variables. Thus, Bayer-Hanck Test for Co-integration Test is employed to ascertain the existence of long-run relationship between the variables in the model. The bound test method is used because it has an advantage over the conventional co integration testing approaches because it can be used with mixture of I(0) and I(1) and it also involve single equation set up, making it simple to implement and interpret.

**Table 2 UNIT ROOT TESTS**

PP at Level	LNRGDPPC	LNCAP	LNLAB	LNED	LNEA	LNPI
Constant	-0.4787	-3.4834**	0.0315	-1.4589	-1.5585	-0.9203
Constant and Trend	-3.1023	-5.1605***	-1.5592	-1.6787	-2.4995	-3.7101
None	0.6459	-0.4780	9.8865	1.5687	0.8971	0.6277
<u>At First Difference</u>						
Constant	-4.1008***	-5.8663***	-3.1768**	-4.6023***	-4.9682***	-7.7204***
Constant and Trend	-3.9958**	-6.0633***	-3.1056*	-4.5344***	-4.9048***	-7.6882***
None	-3.8768***	-5.9554***	-0.8527*	-4.4508***	-4.9318***	-7.2423***
ADF at Level	LNRGDPPC	LNCAP	LNLAB	LNED	LNEA	LNPI
Constant	-1.1240	-2.2500	0.1763	-1.8893	-1.4980	-1.0501
Constant and Trend	0.6966	0.1929	0.9663	0.3337	0.5244	0.7258
None	-1.9392	-7.0415***	-2.7024	-1.4500	-2.9811	-3.7043
Constant	1.7863	-0.0645	3.8035	1.5687	0.8823	0.4334
<u>At First Difference</u>						
Constant	-4.1008***	-5.1963***	-4.0459***	-4.6608***	-5.1487***	-6.9961***
Constant and Trend	-3.9958**	-5.3729***	-3.9752**	-4.5993***	-5.0832***	-6.9810***
None	-3.9884***	-5.2822	-1.1948	-4.4993***	-5.0605***	-7.0209***

Notes: (\*)Significant at the 10%; (\*\*)Significant at the 5%; (\*\*\*) Significant at the 1%. and (no) Not Significant

### **Bayer-Hanck Test for Co-integration**

The results of the Bayer-Hanck Test for Co-integration showed that the F-statistic value of all the variables are greater than the critical value of the EG-J of 10.576 and EG-J-B-BDM of 20.143, which implies that there is the existence of long run relationship at 5% level of significance. This means that the Null Hypothesis will be rejected, thereby accepting the alternative; thus, implying that there is existence of long-run relationship between flypaper effect of external financing and output in Nigeria. Therefore, we employed the Long-run Dynamic simulated ARDL estimate to ascertain the relationship between the variables which is presented in Table 3.

**Table 3: Bayer-Hanck Test for Co-integration**

Model specification	Fisher statistics		
	EG-J	EG-J-B-BDM	Co-integration
$\ln rgdppc = f(\ln cap \ln lab \ln ed \ln pi)$	55.285985	110.7865	Yes
$\ln rgdppc = f(\ln cap \ln lab \ln ea \ln pi)$	55.280527	110.57422	Yes
$\ln rgdppc = f(\ln cap \ln lab \ln ed \ln ea \ln pi)$	14.094173	81.505907	Yes
5% critical value	10.576	20.143	

*Note: EG-J = Engle-Granger, EG-J-B-BDM = Engle-Granger, Johansen-Banerjee-Boswijk while 'Yes' denotes presence of Co-integration*

### **Dynamic simulated ARDL long-run estimates**

The result in Table 4 revealed a mixed relationship result in the Long-run while labour force (LAB) and personal income (PI) are positively signed but statistically insignificant in the long run, because their respective probability value is greater than 0.05% and Capital formation (CAP) and external debt (ED) are negatively signed. The result also shows that both PI and ED are statistically significant in affecting real GDP in the long-run at 5% level of significant, this is by comparing the probability value stated in the parenthesis which is less than 0.05%. Indicating that a 1% change increase in PI will result to 11% increase in real GDP, and 1% decline in ED will lead to 03% increase in real GDP in Nigeria. This implies that PI and ED have the potential of impacting positively on real GDP in the long run, if fully utilized in the long run. This could be as a result of the corruption of the highly placed elites withholding the external finances meant for developmental project for their personal gains which post a treat to the country productive output. This indicates that there is a flypaper effect of external financing (debt and aids) variables can significantly on real output in Nigeria in the long-run.

The result in Table 4 also revealed the flypaper effect of all variables on real GDP, from the result personal income PI value (0.1073) has positive relation with external debt and is greater than external debt ED (-0.03436). The different between PI and ED value is 0.07294 showing the level of flypaper effect in the model 1. Indicating that external debt in Nigeria is not achieving its desired result, either due deviation from its major objectives or the debt is stocked at the federal level without direct reaching out or affecting personal income of its citizen. The finding in model 2 with external aids shows that, the value of the PI is 0.1279 which is greater than ED value of 0.002894 with the difference of 0.125006. Indicating that, the effect of external aids is more on personal income than the aids it is meant to address which is also indicated by the difference between the PI and ED value. These represent the flypaper effect of external aid on real GDP in Nigeria,

**Table 4: Dynamic simulated ARDL long-run estimates**

Independent variables	Dependent variable: real GDP per capita(log) – lnrgdppc		
	(1) With external debt	(2) With external aid	(3) With external debt and aid
L1_ lnrgdppc(ECT)	-0.2339*** (0.06404)	-0.2256*** (0.07374)	-0.2366*** (0.06805)
Capital formation(log)_ lncap	-0.1114* (0.06191)	-0.1058 (0.06889)	-0.1123* (0.06348)
Labour force (log)_ lnlab	0.1818*** (0.06167)	0.1254* (0.06318)	0.1823*** (0.06301)
Personal income(log)_ lnpi	0.1073** (0.04443)	0.1279** (0.04977)	0.1057** (0.04678)
External debt(log)_ lned	-0.03436** (0.01407)		-0.03404** (0.01451)
External aid (log)_ lnea		0.002894 (0.006274)	8.401e-04 (0.005841)
Flypaper effect (debt)	0.07294		0.07166
Flypaper effect (aid)		0.125006	0.104859
Constant	1.3796 (1.1481)	1.1368 (1.2776)	1.4018 (1.1815)
Observations	42	42	42
R-squared	0.563	0.463	0.563

Standard errors in parentheses\*\*\* p<0.01, \*\* p<0.05, \* p<0.

## CONCLUSION AND RECOMMENDATIONS

Based on the findings of the Dynamic simulated ARDL long-run estimates, the result shows that both personal income (PI) and external debt (ED) are statistically significant in affecting real GDP in the long-run at 5% level of significant, which implies that PI and ED have the potential of impacting positively on real GDP in the long run, if fully utilized in the long run. This indicates that there is a flypaper effect of external financing (debt and aids) on real output in the long-run, shown by the difference of PI and ED.

Based on the findings in the study, recommendations were made on some measures that could be put in place to ensure that the wasteful effects of the flypaper effect are avoided and the advantageous portions of the flypaper effect are maintained.

- The government should put in place measure to ensure that the public sector carries out its activities in accordance with the dictates of the aims external debt and one of the most veritable measures would be to develop the democratic systems in the country to ensure that the dictates of the objectives of all aids are not just adhered to but that the preferences are aligned with those of the public sector.
- The possibility that there could be divergence in the preference pattern of both the policy makers and the country citizens and the tendency that external financing funds can be used for other purposes other than that determined by the dictates of the objectives makes it necessary that certain polices be put in place to ensure that some section of the economy does not exploit the position of the public sector to bring about a perverse distribution of public provision of public goods and services. Thirdly, government should acquire external debt largely for economic reasons rather than social or political reasons. This would increase the productivity output of the nation.





## REFERENCES

- Afolabi, J. A. and Adesina, O. J. (2018). Inclusive growth and poverty reduction in Nigeria. *Cogent Economics and Finance*, **6**(1):14-39. <https://doi.org/10.1080/23322039.2018.1447839>
- Ahuru, R. R. and James, U. E. (2019). Testing the solow model in Nigeria's economy. Retrieved from [www.transcampus.org/journal](http://www.transcampus.org/journal)
- Alexiou, C. (2009). Government spending and economic growth: Econometric evidence from the South Eastern Europe (SEE). *Journal of Economic and social research*, **11**(1):1-16.
- Alghamdi, M. A. (2017). Does foreign aid promote growth? Evidence from Africa. Retrieved from <https://thekeep.eiu.edu/theses/2513>.
- Asongu, S. and Jellal, M. (2016). Foreign Aid Fiscal Policy: Theory and Evidence. *Comparative Economic Studies*, **58**(2):279–314. <https://doi.org/10.1057/ces.2016.7>
- Babatunde, O. A., Oluwatobi, A. I. and Ogundajo, G. O. (2016). Taxation revenue and economic growth in Africa. *Journal of Accounting and Taxation*, **9**(2):11-22.
- Brautigam, D. A. and Knack, S. (2004). Foreign aid, institutions, and governance in sub-Saharan Africa. *International Studies Quarterly*, **48**(1):251-277.
- CBN (2020) *Annual Statistical Bulletin* Retrieved from <https://www.cbn.gov.ng/documents/Statbulletin.asp>
- CBN (2021) *Annual Statistical Bulletin* Retrieved from <https://www.cbn.gov.ng/documents/Statbulletin.asp>
- Central Bank of Nigeria. (2021). *Economic and financial review*. Retrieved from [https://www.cbn.gov.ng/out/2021/rsd/economic\\_and\\_financial\\_review\\_2020.pdf](https://www.cbn.gov.ng/out/2021/rsd/economic_and_financial_review_2020.pdf)
- Collier, P. and Dollar, D. (2002). Aid allocation and poverty reduction. *European Economic Review*, **46**(8):1475-1500.
- Gatsi, J. G., Appiah, M. O. and Gyan, J. A. (2019). A test of Wagner's hypothesis for the Ghanaian economy. *Cogent Business and Management*, **6**(1):1-12. <https://doi.org/10.1080/23311975.2019.1647773>
- Ghali, K. H. (1999). Government size and economic growth: Evidence from a multivariate Co-integration analysis. *Applied Economics*, **31**(8):975–987. <https://doi.org/10.1080/000368499323698>
- Inman, R. (2008). *The flypaper effect*. National Bureau of Economic Research, Cambridge. Working Paper 14579. Retrieved from [www.nber.org/papers/w14579](http://www.nber.org/papers/w14579)
- International Monetary Fund. (2019). *Nigeria: 2019 Article IV Consultation*. Retrieved from <https://www.imf.org/en/Publications/CR/Issues/2019/03/28/Nigeria-2019-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-47114>
- Knight, B. (2002). Endogenous federal grants and crowd-out of state government spending: Theory and evidence from the federal highway aid program. *American Economic Review*, **92**, 71-92
- Lee, J. C., Won, Y. J. and Jei, S. Y. (2019). Study of the relationship between government expenditures and economic growth for China and Korea. *Sustainability (Switzerland)*, **11**(22):1-11. <https://doi.org/10.3390/su11226344>
- Muhamad, A. (2018). Local taxes and spending: Estimating the flypaper effect using a discontinuous grant rule. *Published paper on the internet*.
- Muh, R. N. (2017). Flypaper effect of regional expenditure in Yogyakarta. *Journal of Economics and Business*, **2**(3):2503-4243.



- Mukui, G., Onjala, J. and Awiti, J. (2020). Effect of tax and debt financed government expenditure on economic growth in Kenya. *Journal of Economics, Management and Trade*, 1-13. <https://doi.org/10.9734/jemt/2020/v26i130215>
- National Bureau of Statistics. (2021). Q1 2021 GDP report. Retrieved from <https://nigerianstat.gov.ng/download/938>
- Nwanne, T. F. I. (2014). Implication of savings and investment on economic growth in Nigeria. *International Journal of Small Business and Entrepreneurship Research*, 2(4):74-86.
- Nwosu, D. C. and Okafor, H. O. (2014). Government revenue and expenditure in Nigeria: A disaggregated analysis. *Asian Economic and Financial Review*, 4(7)68-79. Retrieved from <http://www.aessweb.com/journals/5002>
- Oates, W. E. (1979). Lump-sum intergovernmental grants have price effects. In *Fiscal Federalism and Grants-in-Aid* (pp. 23-30). Peter Mieszkowski and William Oakland (eds.). Washington, D.C.: The Urban Institute.
- Okonkwo, C. and Nwosu, C. (2020). Impact of oil price fluctuations on Nigerian government revenue. *Journal of Economics and Sustainable Development*, 11(7):77-87.
- Oyinlola, M. A., and Ayodele, A. S. (2016). Structural reforms and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, 7(6):47-56.
- Pettersson, K. (2020.). The flypaper effects A study of the flypaper effect in Swedish municipalities
- Maharashtra, R., Ajit, O. and Mala, R. (2008). Recipient country's 'policies' and the effect of foreign aid on economic growth in developing countries: Additional evidence. *Journal of International Development*, 16(2):201-211.
- Solarin, S. A., Nathaniel, S. P., Bekun, F. V. *et al.* (2021). Towards achieving environmental sustainability: environmental quality versus economic growth in a developing economy on ecological footprint via dynamic simulations of ARDL. *Environ Sci Pollut Res* 28, 17942–17959 <https://doi.org/10.1007/s11356-020-11637-8>
- Steven, C. D. and Craig, S. M. (2014). The empirical test of asymmetry response to unconditional aid in Wisconsin municipal in the United States. *Journal of Federalism*, 36(2):213-229.
- World Bank. (2020). Nigeria Overview. Retrieved from <https://www.worldbank.org/en/country/nigeria/overview>
- World Bank. (2021). World development indicators. Retrieved from <https://databank.worldbank.org/source/world-development-indicators#tab-home>
- Young, A. T. (1977). The flypaper effect: An empirical test. *Public Choice*, 29(1):3-16.