Relevance of Fiscal Illusion Proposition and Wagner Theory to Nigerian Budget Performance (Nexus among Fiscal Illusion Index, Recurrent and Capital Budget)

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Abstract

This paper presents an empirical analysis of the consequences of fiscal illusion for public spending outcomes in a developing country context, specifically Nigeria, over the period 1993-2022. The presence of fiscal illusion and its main indicators are identified (measured here through deficit illusion, and degree of tax visibility, where the real burden of taxation is underrepresented to the citizen-voter). We find that the Nigerian economy reveals significant fiscal illusion as measured in above terms. Also, fiscal illusion is found to have major and positive impact on the demand for government capital expenditure and government recurrent expenditure and consequently, on real government expenditure in the economy over the chosen time period. This work demonstrated that the controversial question involving the role of fiscal illusion practices on public finances is not recent, but can be thought of as deriving from the discussion invoked by Puviani (1903) and substantially enriched by Buchanan (1960). In spite of the fact that the 'Fiscal Illusion' School of Buchanan and Wagner (1977) identifies higher levels of fiscal illusion promoting increasing increments in the size of the public sector, this work developed a model that predicts higher levels of fiscal illusion also decrease national economic growth rates. The government additionally creates the false illusion that public expenditures are lower than they are in reality and for this reason it is easier to maintain the illusive fiscal discipline. On the one hand, the government may cut expenditures in an ostensible way and step towards reducing the budget deficit. On the other hand, without additional procedures the government may introduce new public expenditures outside the budget and, consequently, without any special control of the law-making arm of government.

1.0 Introduction

The issue of fiscal illusion is highly significant from the policy implications aspect—as the perception on the tax-payers'/ citizen-voters' part about the actual resources being commandeered by the government has significant bearing on potential taxation policies to be adopted by fiscal authorities, as also the methods of financing expenditure. Our analysis of the relatively under-researched phenomenon of fiscal illusion in the Nigerian context suggests that fiscal illusion has been a strong explanatory factor for the growth in central government spending in India over 1993-2022. Fiscal illusion in our analysis is approximated by deficit financing and lower visibility of taxes. Our results indicate that higher the share of deficit finance relative to spending, the more would be the possibility that voters underestimate the true cost of government spending and demand higher spending by government. The same applies to less visible sources in government tax revenue, viz.; higher the share of less visible taxes in government revenues, higher is the level of government spending demanded by voter-taxpayers.

This article is about illusory fiscal practices that governments use in periods of budgetary stress-a topic that is generally referred to as "fiscal illusion" in the public finance literature. In its most direct implication, the theory of fiscal illusion suggests that the size of a government's budget will be larger than it would otherwise be because citizens face illusions regarding the tax price of public goods. In a climate of fiscal austerity, it is tempting for elected officials and public managers to defer difficult decisions by adopting strategies that are inconsistent with some fundamental principles in public finance. This article describes the methods governments sometimes use to disguise budgetary problems and argues that, as politically expedient as it may seem, the use of illusory practices undermines long-term financial stability and citizen confidence in government.

In spite of all the criticism of Wagner's Law, it will continue to play an important role in the study of fiscal policy (public expenditure behaviours). According to Wagner's Law, there is a functional relation between the growth of an economy and the government fiscal activities with the result that the government sector grows faster than the economy. Most developing and developed countries today use public expenditure to improve income distribution, direct the allocation of resources in desired areas, and influence the composition of national income (Assi*et al.*, 2019; Vtyurina, 2020)

According to Obi (2020), In every mixed economic system, government performs two main functions; economic (allocation, redistribution, regulation and stabilization) and non-economic functions (defense, security, law and order). Government also exists so as to provide basic services such as health, education, communication, transportation, among others, through expenditures which have an impact on the wellbeing of citizens and business environment for the private sector (Aladejare, 2019; Jibir & Aluthge, 2019b).

Public spending in Nigeria continues to grow due to the huge income from the production and sale of crude oil and the increasing demand for public (utility) commodities such as roads, telecommunications, energy, education and health. There is a growing need for human and national security both inside and outside the country. Available records show that total government spending and its components have continued to grow over the last three decades.

Nigerian recurrent expenditure stood at N4.85billion in 1981, increased to ₦36.22 billion in 1990, then ₦127.63 billion in 1995. It was ₦178.10 billion in 1998. Then on return to democracy in 1999, there was astronomical rise to ₦449.66 billion. In 2003, it stood at ₦984.3 billion to

₦1110.64 billion in 2004, and then almost doubled the figure in 2008 with ₦2117.36 billion. In 2012, it started with ₦4004.46 billion to ₦4892.36 billion in 2015, rose to ₦5762.7 billion in 2016, then up to ₦7138.7 billion in 2017 then up to ₦10138.7 billion in 2022 (CBN, 2022).

In the most common form, the fiscal illusion can be interpreted as a condition of the systematic misunderstanding of the benefits and costs of government activities by taxpayers (the public). Then this systematic misunderstanding affects regional spending in certain fiscal jurisdictions which will continue to increase but remain cheap. Oates (2008) concluded that the phenomenon of fiscal illusion can occur through: (1) Complexity of tax structures; (2) Property tax (property or rent); (3) Income elasticity and tax rate; (4) Debt illusions; and (5) effect flypaper.

The most appropriate type of fiscal illusion to explain the response of regional governments to transfers and PAD in fulfilling the regional budget is a flypaper effect (Kusuma, 2017). Flypaper effect is the response of the regional government to grant or transfers from the central government that is used to increase expenditure on public goods and services that exceed PAD in certain jurisdictions (Nugroho, 2017).

Detecting fiscal illusions can be done by analyzing both the revenue side and the expenditure side. If there is an asymmetric response related to revenue or expenditure, it can indicate a fiscal illusion. Some concept approaches to detect fiscal illusions can be done through revenue enhancement, expenditure manipulation, debt utilization. Detect fiscal illusion with revenue enhancement approach has the assumption that each income will be positively correlated to regional expenditure, because regional revenue and expenditure are one and the same function unit (Dyahningtyas et al., 2019). Expenditure manipulation approach detecting fiscal illusions by looking at the role of the regional revenue share that has a positive relationship with increasing PAD budgeting in the following year. Detection fiscal illusion through the debt utilization approach, according to Barro (1974) in Yoduke (2018) states that a simple measurement of fiscal illusion can be done by comparing the use of debt with PAD to regional expenditure. The dominant use of debt compared to the contribution of PAD in regional expenditure shows the illusion of debt.

Experience tells us that under the incentive structure of fiscal federalism, deficits at top of the food chain will trickle down to the bottom levels. As the federal government struggles with its projected deficits, it is likely that grant funding will be cut to state and local levels and unfunded mandates imposed, adding insult to injury. State and local governments, in turn, ratchet back into a "fixation on short-term gapsmanship" by balancing budgets one year at a time. The "first wave" of retrenchment steps often involves the use of budgetary reserves, postponement of major capital projects, and cutbacks to some programs and services. The "second wave" of actions—such as across the board cuts, overtime reductions and freezes in hiring, purchasing and travel—has more of a symbolic impact than a fiscal one.

In Nigeria for instance, despite the huge amount of public expenditures, there is still an insignificant level of development witnessed. Public expenditure on all sectors of the Nigerian economy is expected to lead to economic growth in the sense that capital and recurrent expenditure will boost the productive base of the economy which in turn will lead to growth. The interest by economists in Nigeria and other jurisdictions on the role of government expenditure is still inconclusive. Barro (1990) endogenize government spending in a growth model and analyze the relationship between size of government and rates of growth and saving. He

concluded that an increase in resources devoted to non-productive government services is associated with lower per capita growth. Therefore, government expenditure which enhances economic growth should be tailored towards productive services.

1.1   Statement of Problems

The identification and appraisal of the extent of fiscal illusion in the public expenditure seems essential to ensure the transparency of government activity. A lack of transparency of all the operations using public funds decreases budget expenditure and revenues, may adversely affect the balance of government budgets or even lead to increasing the fiscal burdens on all taxpayers. Furthermore, making capital and recurrent expenditures outside the budget process is related to a lack of control, which is particularly important from the point of view of the efficiency and effectiveness of these capital and recurrent expenditures. Recurrent and capital expenditures, being components of direct public expenditures, serve as an example of this type of activity undertaken by the government. The lack of effective control of expenditures in this category may constitute an incentive to use these instruments in order to escape from conventional spending, which is considerably more transparent.

The protection function of the government consists of the creation of the rule of law and enforcement of rights which help minimize risk of criminality and external aggression. Under the provision of basic infrastructure/amenities, the function includes the provision of good health facilities, education, power, agriculture, and transportation, build bridges, road. performing both functions, the government is required to spend huge amount of resources, especially in nations where the level of these infrastructure/amenities is low like in Nigeria. The Nigeria government operates a cash budget system where expenditure proposal are anchored on projected revenue.

In a period of 30 years (1993-2022), Nigeria gained about ₦103,748 billion (72.2% of total revenue), oil revenue, however, this did not make a meaningful impact on the economy. Federal Government total expenditure increased from ₦1.9 billion in 1993 to about ₦10, 302 billion in 2022 (Central Bank of Nigeria Annual Statistical Bulletin-CBN, Various issues). The share of recurrent expenditure in total expenditure was about 78% to 86% in the review period. While capital expenditure used for financing development projects was just about 28% and 12% in the same period. The declining share of capital expenditure is a reflection of the country's bulging population vis-à-vis the size of its civil service. This concern as further shown by the share of government expenditures to GDP, which was between 1.03% for the recurrent expenditure and 0.14% for the capital expenditure in 2022. Unfortunately, increasing government expenditure has not resulted in significant growth and development, and Nigeria continues to be one of the world's most impoverished nations. Despite the advancement of technology, Nigerians continue to live in abysmal poverty, with more than half of the population subsisting on less than $1 per day. As a consequence of failing infrastructures, such as electricity supply and roads, many companies have failed, resulting in a rise in unemployment, and elephant projects have been abandoned.

In Nigeria, some academics believe that the connection between fiscal illusion, public capital and recurrent are weak or non-existent, while others argue that the relationship has varying

degrees of causality in their ties among these variables (Jideofor, N. J., Okafor, M. C., & Nmesirionye, J. A. (2021)).

1.2   Research Objectives

The main objective of this study is to examine the effect of fiscal illusion on government spending in Nigeria. The specific objectives include, to:

i.   Examine the effect of deficit fiscal illusion index on government recurrent expenditure in Nigeria.
ii.   Evaluate the effect of deficit fiscal illusion index on government capital expenditure in Nigeria.
iii.   Determine the effect of revenue enhancements illusion index on government recurrent expenditure in Nigeria.
iv.   Evaluate the effect of revenue enhancements illusion index on government capital expenditure in Nigeria

1.3   Research Hypotheses

The hypotheses formulated for this study are in line with the objectives and are all stated in null form; they are:

H_{01}: Deficit fiscal illusion index has no significant effect on government recurrent expenditure in Nigeria.

H_{02}: Deficit fiscal illusion index has no significant effect on government capital expenditure in Nigeria.

H_{03}: revenue enhancements fiscal illusion index have no significant effect on government recurrent expenditure in Nigeria.

H_{04}: revenue enhancements fiscal illusion index have no significant effect on government capital expenditure index in Nigeria.

2.0   Literature Review

2.1   Conceptual Review

2.1.1   Recurrent Expenditure

Recurrent expenditure refers to all payments other than for capital assets, made on goods and services which include wages and salaries, employer contributions, interest payments, subsidies and transfers (Adepeju, S. (2018)). Government recurrent expenditure on goods and services is expenditure, which does not result in the creation or acquisition of fixed assets (new or second-hand). It consists mainly of expenditure on wages, salaries and supplements, purchases of goods and services and consumption of fixed capital. So government recurrent Expenditures or Government final consumption expenditure on goods and

services for current use is to directly satisfy individual or collective needs of the members of the community (Adepeju, S. (2018)).

Recurrent expenditure on goods and services is expenditure, which does not result in the creation or acquisition of fixed assets (new or second-hand). It consists mainly of expenditure on wages, salaries and supplements, purchases of goods and services and consumption of fixed capital (depreciation). In this seminal paper, total recurrent government expenditure rate will be proxied by total recurrent government expenditure divided by gross domestic product. The rate indicates a reflection of government recurrent expenditure that goes into enhancing economic

growth in Nigeria.

Recurrent expenditure in Nigeria can be disaggregated into four; administration, Social and Community Services(SCS), Economic Service (ES) and transfers, classified under economic functions/obligations of government, while Administration (Defense, internal security and general administration) is classified as non-economic function/obligation of government. The components of expenditure on SCS, ES and Transfers. SCS is composed of recurrent expenditure on education, health, and other services. ES, composed of expenditure on agriculture, roads and construction, transport and communication, among others, while transfer includes domestic and foreign debt servicing, pension and gratuities, subventions and contingencies, FCT, among others.

2.1.2 Capital Government Expenditure

Capital expenditure is spending on assets. It is the purchase of items that will last and will be used time and time again in the provision of a good or service. In the case of the government, examples would be the building of a new hospital, the purchase of new computer equipment or networks, building new roads and so on. Government expenditure (like expenditure by private sector firms) can be categorised into either current expenditure or capital expenditure. Current expenditure is recurring spending or, in other words, spending on items that are consumed and only last a limited period of time. They are items that are used up in the process of providing a good or service. In the case of the government, current expenditure would include wages and salaries and expenditure on consumables - stationery, drugs for health service, bandages and so on. By contrast, capital expenditure is spending on assets. It is the purchase of items that will last and will be used time and time again in the provision of a good or service. In the case of the government, examples would be the building of a new hospital, the purchase of new computer equipment or networks, building new roads and so on.

In this paper, government expenditure will be proxied by total capital government expenditure and total recurrent government expenditure in Nigeria.

2.2 Theoretical Review

2.2.1 Fiscal Illusion Theory

"It is true that you may fool all the people some of the time; you can even fool some of the people all the time; but you can't fool all of the people all the time." Whether Abraham Lincoln actually said this is a matter for historians to decide. What's is well known though is that elected officials and administrators make budgeting decisions strategically by considering citizen

reaction to tax and service issues. Fiscal illusion refers to tax and spending mechanisms that distort the citizen's assessment and choices regarding the costs and benefits of government programs.

The original theory has been attributed to the Italian scholar Amilcare Puviani who wrote on the topic at the turn of the last century. Puviani asked the question "If the ruling group desires to minimize taxpayer resistance for any given level of revenues collected, how will it set out to organize the fiscal system?

The theory of fiscal illusion originates from the work of Puviani (1903) (as cited in Mourao, 2008) and with additional impetus from Buchanan (1967). Fiscal illusion is about the misperception of fiscal parameters. According to Oates (1985), fiscal illusion implies persistent views and biases about public budgetary decisions in any direction based on imperfect information. Afonso (2014) argues that the benefits of government programmes appear to be remote and unrecognised by citizens, while citizens feel more directly the impact of sources of financing the budget, such as taxes. The essence of the theory is to expose the fact that sometimes the real programme of government is concealed to accommodate unnecessary spending. Tis theory is relevant to this study because the real benefits of infrastructure spending may not necessarily translate into economic growth in the same expectation because of the element of illusion in the system. Oates (1985) argues that the misconception of fiscal parameters could considerably distort economic choices. Tis study explains the findings based on this theory as an opportunity to show the direction of fiscal illusion in the cost and benefits analysis of government spending on infrastructure towards

the ideology of economic growth.

Scholars that have examined the concept have cited five general ways that fiscal illusion is promoted: (1) Revenue Enhancements, (2) Expenditure Manipulations, (3) Liability Recognition, (4) Debt Utilization, and (5) Budgeting and Financial Reporting Practices.

Expenditure Manipulations. Fiscal illusion can also result from manipulating the expenditure side of the budgetary equation. The cost of programs and activities can be made to look cheaper through mechanisms such as off-budget spending. Citizens and legislators may demand more of the public good, increasing spending in those areas. Examples of expenditure manipulations are not hard to find. The original sense of Puviani's ideas suggested fiscal illusion as a solution to a prior question: how can resistance to governmental actions be diminished from the perspective of taxpayers?1 According to Buchanan (1967), the solution mainly studies fiscal illusion in the revenue side of a budget. Illusion can be inserted into revenues in many ways: obscuration of the individual shares in the opportunity cost of public outlays; utilization of institutions of payments that are planned to bind the requirement to a time period or an occurrence which the taxpayer seems likely to consider cheering; charging explicit fees for nominal services provided upon the occurrence of impressive or pleasant events; levying taxes that will capitalize on the sentiments of social fear, making the burden appear less than might otherwise be the case; use of 'scare tactics' that have a propensity to make the alternatives to particular tax proposals seem worse than they are; fragmentation of the total tax weight on an entity into numerous small levies; and opacity of the final incidence of the tax. The final result of this illusion is always gathering higher amounts of public revenues with a minimum of electorate resistance.

This warning for observing "rulers" and "ruled" groups was first enunciated by Puviani (1903), the pioneer of the Fiscal Illusion debate. Some years after the Scottish enlightenment in Italy, Amilcare Puviani (1903) attempted to answer the question "How can a politician best use his powers of the purse to promote his political projects?" with his work The Theory of Fiscal Illusion. Puviani (1903) introduced the hypothesis of "Fiscal Illusion" as an observable answer to his question. With these terms, Puviani (1903) wanted to point out the opacity that could be imposed by public decision-makers in the levying of taxes or in public spending management. These kinds of illusions are the product of a relationship between electors and rulers; therefore, they can be studied only by considering both sides.

Puviani himself did not present a clear definition for Fiscal Illusion, nor do the most recent authors arrive at a consensus for defining it (as denounced by Mourao 2007). However, for operationality, I think that a non-polemical definition accurately describes Fiscal Illusion as a wrong perception of budget aggregates from the voters' and taxpayers' perspectives.

2.2.2 Wagner's Law

The law was propounded by a German Economist named Adolf Wagner in 1893. He conducted an empirical research into the rising expenditure of Germany and other European nations in the 19th century. According to his findings, he proposed legislation entitled "An Act to Increase Public Participatory Government Activity". Wagner stated that as economic develops due to increased industrialization and urbanization, the volume of public expenditure increases as a result of increased function of the government. Wagner indicated that government expenditure is occasioned by increased economic growth.

Wagner identified three factors that can cause an increase in government spending, namely: as population grows and the level of industrialization and urbanization increased, the government expenditure would increase because of the need for government to provide both administrative and protective services; as the economy gets urbanized and industrialized, the need for government to provide social and welfare services increase; as the country gets industrialized the level of science and technology would advance and this would lead to higher government spending on various project.

Wagner argued that "there are inherent tendencies for the activities of the different layers of the government (such as central and state government) to increase both extensively and intensively" (Bhatia, 2012). What is now referred to, as Wagner's law of Increasing State Activity, was the pioneering work of Adolph Wagner, a German economist, who attempted to scientifically explain the share of GNP taken up by the public sector in some European Countries. Wagner, as cited by Bhatia (1967) postulated that there existed a functional relationship between the growth of an economy and the growth of government activities. Although not expressed in rigorous or objective terms, Wagner's law suggested that, an increase in the relative size of the public sector arise because of rising per capita income, which would induce greater spending(Hartle:1976). But because Wagner never indicated whether his findings were either in absolute or relative terms, Musgrave (1989) chose to interpret Wagner's law in relative terms as an expression of the growth of the relative size of the public sector. This suggested that as per capita income in an economy grows, the public sector size would also grow in tandem. Peacock and Wiseman (1961) hypothesis, which was based on the political

theory of public expenditure determination, stated that governments like to spend more money, that citizens do not want to pay more taxes, and that government needs to pay more attention to the wishes of their citizens with the assumption that a tolerable level of taxation which according to the authors, acts as a constraint on government behaviour.

According to Wagner, the operations of different tiers of government, such as the federal and state governments, have an intrinsic propensity to expand and intensify. As time passes, successive levels of government take on additional responsibilities. This implies that the scope of public-sector operations has been broadened. Extensive growth in government services may be defined as the process of introducing new operations. Intensive expansion in public activity, on the other hand, refers to governments' inclination to fulfill both existing and new tasks more effectively and thoroughly (Jaén-Garca, 2018). Wagner explains three reasons why state engagement in the economy is increasing: a) increasing the complexity of legal relation and communications; increased urbanization and population density; substitution for the public service for a portion of private sector activities; b) increasing demand for education, leisure, more equal distribution of revenue and more public services; c) state neutralization of private monopolies and, in some cases, the creation of monopolies by the state itself (Jaén-García, 2018).

The criticism of Wagner's law was based on the argument that Wagner was contemplating long run tendency rather instead of short run variations in government spending. That since his study was relied on chronological knowledge, the exact quantitative association between the magnitude of rise in state outlay and the duration taken was not determined logically (Eze, 2016). According to Dutt and Ghosh (1997), Wagner did not present any mathematical form in order to examine his hypothesis and he also was not explicit in the formulation of his hypothesis. Another criticism of the Wagner's theory is that it did not contain a well-articulated theory of public choice (Bird., 1971).

The identification and appraisal of the extent of fiscal illusion in the public expenditure seems essential to ensure the transparency of government activity. A lack of transparency of all the operations using public funds decreases budget expenditure and revenues, may adversely affect the balance of government budgets or even lead to increasing the fiscal burdens on all taxpayers. Furthermore, making capital and recurrent expenditures outside the budget process is related to a lack of control, which is particularly important from the point of view of the efficiency and effectiveness of these capital and recurrent expenditures. Recurrent and capital expenditures, being components of direct public expenditures, serve as an example of this type of activity undertaken by the government. The lack of effective control of expenditures in this category may constitute an incentive to use these instruments in order to escape from conventional spending, which is considerably more transparent.

Therefore, we are assuming that the total of government purchases react positively to the level of fiscal illusion, which can be viewed by incumbents as a way of wasting more public resources (Buchanan, 1960; Buchanan and Wagner, 1977). In this case, we follow the assumption of a benevolent government: this government uses all the collected effective taxation in order to stimulate the economy, not hiding values for opportunistic directions. We can state that a benevolent government can minimize the harm of fiscal illusion on the growth rates. In this case, we can no longer point out that fiscal illusion is a negative determinant of economic growth because its capability of attrition was reduced by the "benevolence" of the government, which released all monies obtained by the effective taxation into the economy.

2.3   Empirical review

Various researchers up to 2021 have tested the phenomenon of fiscal illusion in the management of local government finances in diverse countries and regions, such as research conducted by Abatemarco & Dell'Anno, 2020; Hapsoro & Yoduke, 2019; Jibir & Aluthge, 2019b; Kusuma, 2017; Meilya *et al.*, 2018; Nuţă & Nuţă, 2018; Nyayu *et al.*, 2020; Sanandaji & Wallace, 2003; Sanz & Vélasquez, 2003;Turnbull, 1992.

Nyayu *et al.* (2020) This research aims to find the tendency fiscal illusion's existence in regencies/cities of South Sumatera Province during the period 2012 – 2018. In addition to detecting fiscal illusions, the study aims to determine the factors that explain the estimated value of detected fiscal illusions. To detect fiscal illusions, the study uses 3 approaches divided into 3 models, namely revenue enhancement, expenditure manipulations, and debt utilization. The sample of this research is 15 regencies/cities in South Sumatra Province. The analytical method used is panel data regression. The results of this study show that there was a fiscal illusion detected in regencies/cities of South Sumatera Province in the 2012-2018 period through the expenditure manipulation approach. Besides that, the test results also show that all variables in the expenditure manipulation approach affect and are able to explain the detected fiscal illusion.

Hapsoro and Yoduke (2019) entitled "Detection of Fiscal Illusions and Their Effects on Economic Growth". The purpose of this study is to detect fiscal illusions in the form of Flypaper Effect and illusion of debt in local government expenditure and their effect on regional economic growth in Sulawesi. This research shows the results that there is a phenomenon of fiscal illusion in the form of Flypaper Effect and debt fiscal illusion in local government expenditure and fiscal illusion has a significant positive effect on economic growth. Dyahningtyas *et al.* (2019) conducted a study entitled "Regional Financial Performance and Detection of Fiscal Illusions in Regencies / Cities Governments of Special Region of Yogyakarta in 2010-2016". This study aims to determine the financial performance of regencies / cities in the province of DIY and detect the phenomenon of fiscal illusion in regencies / cities in the province of DIY. The results of this study indicate that the average regional independence ratio is 30.38%, consultative relationship pattern. The degree of fiscal decentralization of 17.35% means that the ability of the government in managing regional finances is still lacking and researchers found that in regencies / cities in the Province of DIY there has been a fiscal illusion on financial management.

Fiscal illusions have long been an interesting subject matter for economists, political scientists, management and administration scientists, sociologists, and psychologists. The term 'illusion' has psychological connotations and is interpreted as incomprehension, misperception, misinterpretation, or misjudgement about things, phenomena, or processes. An illusion is, therefore, a behavioural reaction that frequently arises when we are lying to ourselves or to other people, or as a form of self-defence against objective facts and circumstances (Abatemarco & Dell'Anno, 2020).

The phenomenon of fiscal illusion has been sought to be variously captured in public finance literature. Oates (1985) enumerates five sources of fiscal illusion, while Kusuma, 2017; Meilya *et al.*, 2018 have located four possible routes through which fiscal illusion could enter into the scene. The empirical literature has also found the phenomenon to be more persistent in less mature economies

Fiscal illusion is understood to follow from the incomprehension of public finance laws and mechanisms. It can affect politicians, public administration staff and public officials, as well as ordinary citizens (taxpayers, voters, and the beneficiaries of public funds). The classical literature on fiscal illusion was inspired by the new political economy and initially focused on the taxation problems (Abatemarco & Dell'Anno, 2020; Sanandaji & Wallace, 2003).

In 1967, James Buchanan signed the work Public Finance in Democratic Process: Fiscal Institutions and Individual Choice. Buchanan's chapter 10 is titled "The Fiscal Illusion". According to him, the discussion of Amilcare Puviani's (1903) main theoretical contribution – the original Illusione Finanziaria– that he had already promoted in Fiscal Theory and Political Economy, edited in 1960, remained the only available summary in English. Since Buchanan, other authors have used the term Fiscal Illusion for many purposes and in many different senses. This subsection will highlight the most prominent of these studies on Fiscal Illusion.

According to Puviani's original idea, the objective of the ruling group is to design the fiscal system so that the resistance of the dominated class is effectively minimized. Consequently, the rulers ask, "In order to minimize taxpayer resistance for any given level of revenues collected, how should the fiscal system be organized?" The answer relies on both sides of the budget— "illusions" are created through taxes and through public spending programs.

The dimensions suggested by Buchanan's lecture (1967) on Puviani (1903) generate the possibility of studying the Fiscal Illusion through analyzing some particular variables. These variables reflect the composition of public revenues (like Herfindahl indexes of public revenues; the observation of the weights of some revenues, like those generated in indirect taxes or collected from the transfers among private agents; or the relationship between indirect and direct taxes). Additionally, these variables reflect the relevance of public debt and the composition of public debt, observed as the dissuasive mechanism of voters' wrong perceptions regarding the relevance of public programs.

As observed by Lipford (2001), Twight (1994) and Alesina and Perotti (1996) outlined several ways that politicians make public budgets more opaque, thereby raising the transaction costs of checking fiscal conditions for a public subject to Fiscal Illusion or incomplete information: biased macroeconomic forecasts, biased estimates of the effects of policy changes on budgetary outcomes, strategic use of on- and off-budget expenditures and receipts, manipulation of budgetary baselines, and multi-year budgeting.

Additionally, the analysis suggested by Twight (1994) and Alesina and Perotti (1996) presented two items as evidence. Firstly, it illustrated that budget deterioration is a final consequence of Fiscal Illusion. Secondly, it showed that it becomes easier to achieve more significant political rents when the political agents act in contexts characterized by low quality of institutions and where the success of optimistic illusions is more probable, as alternatively denounced by Keefer and Knack (1997), Jensen and Vestergaard (1999).

Von Hagen and Harden (1995) developed a framework in which there is a failure to fully internalise the true economic costs of public expenditure –another kind of Fiscal Illusion. The interests of individual spending ministers dominate over the collectivist interest of the Minister of Finances. Consensus is achieved in the cabinet because the spending ministers, either explicitly or implicitly, back each other's bids, resulting in "something for everyone" and thus a sub-optimal overall level of spending. Overall, a government with a high number of ministries (assuming that it is more influenced by external lobbies) tends to achieve less efficient results.

Therefore, the dimension of government will be included in the list of variables for analyzing Fiscal Illusion.

The opportunity to expand the assumption of (full) rationality in models of public economics prompted a reaction from several authors as synthesized in Wittman (1995). Wittman (1995) does not believe in models that assume homogeneous misinformed electors or consumers. The costs of decision making are either ignored or assumed not to distort choice.

Cohen and Percoco (2004) state that the most recent macroeconomic literature has focused on the effect of public spending contraction and has provided two alternative theories: the theory of asymmetric effects of public spending and the theory of Fiscal Illusion. In particular, fiscal adjustment can be thought of as illusory when it reduces the budget deficit but the government net worth remains unaffected. Easterly (2001) shows that under certain conditions, a government will lower the conventional deficit while leaving its path of net worth unchanged; and when required to lower its debt accumulation, the government will lower its asset accumulation or increase its hidden liability accumulation by an equal amount, which follows the structural argument from Easterly (1999). This particular evidence of Fiscal Illusion is more visible when there is an increasing trend in another variable suggested by these authors –the proportion of capital transfers in the aggregated capital outlays.

Sanz and Velasquez (2003) points out the need to observe Fiscal Illusion from the side of public expenditures. They suggest that a particular dimension should be specially checked –the dispersion of public expenditures, a determinant of political illusion in the budget aggregates. They reveal that a lower value of the Herfindahl index related to public expenditures allows a less assertive interpretation by taxpayers, and it additionally magnifies the opportunism of expenditures. Wagner (2001) also recognized that Puviani (1903) gave most of his attention to taxation, which is precisely where the term Fiscal Illusion obtains its meaning. Consequently, politicians should make taxes seem less of a burden than they really are. In his work, Wagner (2001) identifies trade taxes as a good form of taxation because they are not easily perceived by voters.

The literature lays emphasis on the fact that the activity of public authorities in this domain goes far beyond the realization of traditional "real" flows of money, i.e. the transfer of public funds for particular beneficiaries, whereas the dominating concept of public expenditures is rather incomplete. Public expenditures that "elude" the budget process are defined as off-budget and backdoor expenditures. The common attribute of the expenditures is the fact that they are made by the back door, i.e. outside the budget procedure and usually without being taken into consideration in the budget acts. There may be various reasons for making budget expenditures outside the budget and, generally, without control (at the same time they tend to be rather complex). The government, whose main objective is to guarantee success in subsequent elections, deliberately creates a "fiscal illusion", both with regard to the sum of the expenditures and the budget spending. By creating the "fiscal illusion", fiscal authorities attempt to "blur the relation between the total sum of the funds truly spent in order to acquire goods and public services"

3.0   Data and Methods

3.1   Sources and Methods of Data Collection

All the data that is used in this research come from secondary sources. Annual time series data for Nigeria will be used from 1993 to 2022. The years of coverage of 30years is crucial because it is characterized by fluctuation in capital and recurrent expenditure of the federal government of Nigeriaeconomic recessions, transitional government to democratic governance and macroeconomic instabilities and uncertainties to Nigerian budgetary system and world at large. The time series data is sourced from statistical bulletins Central Bank of Nigeria, Budget Office of the Federation and Federal Ministry of Finance.

3.2   Descriptive Statistics and Normality Tests Multivariate Time Series Data

The following descriptive statistics, mean, median, percentage, variance, standard deviation, standard error and coefficient of variation are used to summarize the data. Normality of the data will be tested by skewness, kurtosis, Shapiro-Wilk test, Kolmogorov-Smirnov test and Jarque-Bera (JB) test.

3.2.1   Inferential Statistics for Multivariate Time Series Data

3.2.1.1 Diagnostic Tests

The following diagnostic test is used to resolve the following econometric time series problems: Non-stationarity (Unit root)-Dickey Fuller(DF), Augmented-Dickey-Fuller(ADF), Phillips-Perron(PP) and Kwiatkowski–Phillips–Schmidt–Shin (KPSS) tests; Heteroscedasticity-Breusch-Pagan test, white test and Ramsey-Reset test; Autocorrelation-Durbin-Watson test; Multicollinearity.

3.2.1.2 Estimating Techniques
The following regression, cointegration and causality tests were conducted on the time series data: Regression: ARDL Bound test, Johansen approach and Error-Correction Mechanism(ECM) models. Time series regression (estimating standard error of regression(S), R-squared, adjusted R-squared and predicted R-squared) using heteroscedasticity models for prediction applying Generalised Auto-Regressive Conditional Heteroscedasticity (GARCH) model and AutoRegressive Integrated Moving average (ARIMA).

3.3   Model Specification

This study uses a research model that is used by Dyahningtyas et al. (2019) as for the model in line with Fiscal Illusion Detection Through Revenue Enhancement Approach . Barro (1974) in Yoduke (2018) states that the measurement of fiscal illusion with this approach, it can simply be done by comparing the utilization of debt with PAD to shopping areas in line with Fiscal Illusion

detection through Debt Utilization Approach . Measurements can be made using the following model Yoduke (2018):

This study proposed the evaluation of the effect of fiscal illusion on government recurrent and capital expenditure;

Fiscal illusion is segregated into fluctuation on deficit fiscal illusion and revenue enhancements fiscal illusion.

GRE=f(DFI,REF)……………………………………………………….(1)
GCE=f(DFI,REF)……………………………………………………….(2)

The proposed model is adapted from work of (Yoduke, 2018; Dyahningtyas *et al.,* 2019).

$$GRE=\beta_0+\beta_1 DFI+\beta_2 REF + \varepsilon \ \text{……………………}(3)$$

$$GCE=\beta_0+\beta_3 DFI+\beta_4 REF + \varepsilon \ \text{……………………}(4)$$

Where; GCE represents Government Capital Expenditure and GRE represents Government Recurrent Expenditure (Dependent variables); DFI represents Deficit Fiscal Illusion Index (Independent variable); REF represents Revenue Enhancements Fiscal Illusion Index (Independent variable); β_0, β_1, β_2, β_3, and β_4 are regression coefficients to be estimated and ε is rrror term.

3.4 *A-priori* Expectation

$\frac{dDFI}{dGRE} < 0$:connote that Deficit Fiscal Illusion Index is expected to exert negative or positive effect on Government Recurrent Expenditure.

$\frac{dDFI}{dGCE} < 0$: connote that Deficit Fiscal Illusion Index is expected to exert negative or positive effect on Government Recurrent Expenditure.

$\frac{dREF}{dGRE} < 0$: connote that Revenue Enhancements Fiscal Illusion Index is expected to exert negative or positive effect on Government Capital Expenditure.

$\frac{dREF}{dGCE} < 0$: connote that Revenue Enhancements Fiscal Illusion Index is negative to exert positive effect on Government Capital Expenditure.

Figure 3.1: Conceptual Framework
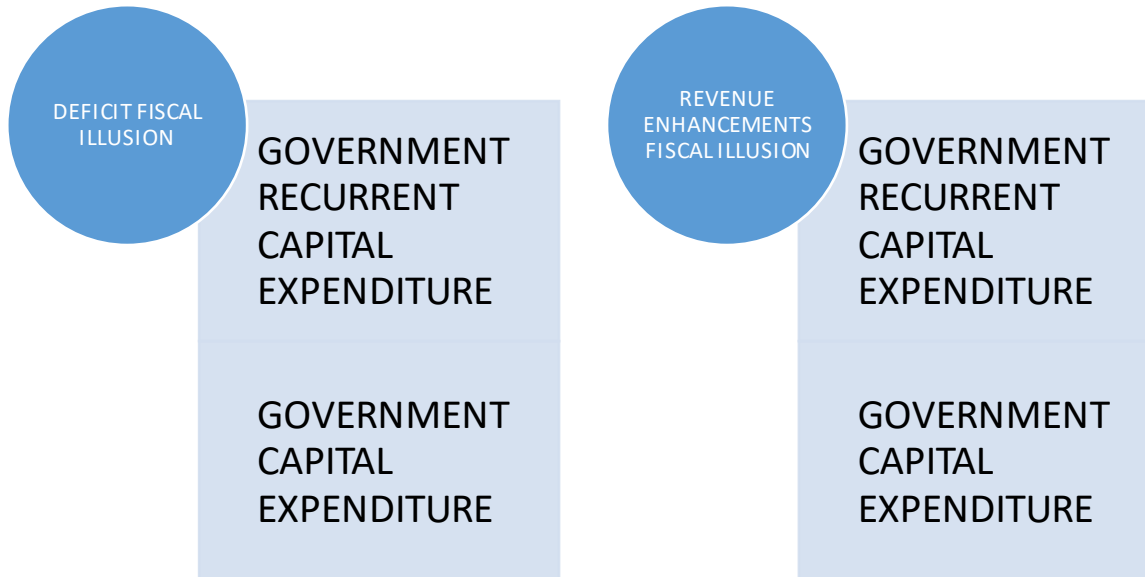
Figure 3.2: Conceptual Framework
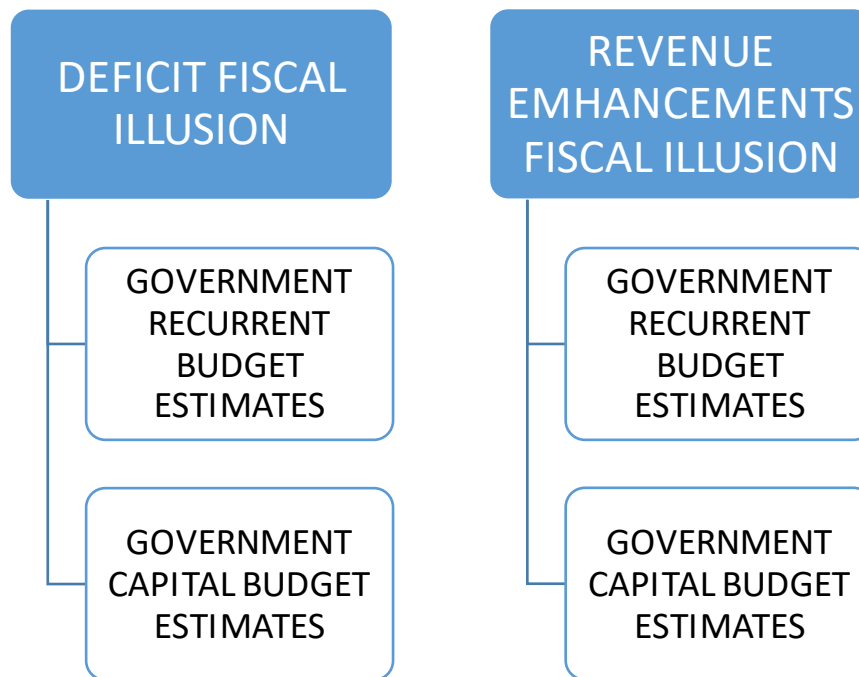
Source: Authors' Conceptualisation 2023

4.4   Data Analysis and Discussion of findings

Table 4.1: Augmented Dickey-Fuller Unit Root Test

Variables	lag	1st difference	1st diff. Probility	Order of Integration
LGCE	0	-5.423279	0.0001	1(1)
LDFI	0	-7.440819	0.0000	1(1)
LREF	0	-7.066199	0.0000	1(1)

The above table 4.1 shows that all the series are more negative than their 1 percent critical value and far more than that of 5 and 10 percent at first difference. This implies that the series are differenced once for them to be stationary. They are therefore said to be integrated of order one. Therefore, we proceed to determine the if long run relationship exist between government capital expenditure (GCE) and deficit fiscal illusion index and revenue enhancement fiscal illusion index variables (DFI, REF).

Table 4.2

Variables	lag	1st difference	1st diff. Probability	Order of Integration
LGRE	0	-5.423279	0.0001	1(1)
LDFI	0	-6.227349	0.0000	1(1)
LREF	0	-7.512799	0.0000	1(1)

The above table shows 4.2 that all the series are more negative than their 1 percent critical value and far more than that of 5 and 10 percent at first difference. This implies that the series are differenced once for them to be stationary. They are therefore said to be integrated of order one. Therefore, we proceed to determine the if long run relationship exist between government recurrent expenditure (GRE) and deficit fiscal illusion index and revenue enhancement fiscal illusion index variables (DFI, REF).

Table 4.3. Vector Error Correction System Equation (Long run causality)

Variables	Coefficient	t-statistics	Prob.
D(LGCE(-1))	0.168466	1.071425	0.2863
D(LGCE(-2))	-0.048751	-0.309543	0.7575
D(LDFI(-1))	0.009303	0.432768	0.6660
D(LDFI(-2))	0.024532	1.341348	0.1825

D(LREF(-1))	-0.015391	-0.537102
0.5923		
D(LREF(-2))	-0.012419	-0.551092
0.5827		

R2 = 0.713593

R-2 = 0.054813

DW = 2.00

Source: Author's regression analysis, 2023

Table 4.4. Vector Error Correction System Equation (Long run causality)

Variables	Coefficient	t-statistics
Prob.		
D(LGRE(-1))	-0.015535	-2.233078
0.0275		
D(LGRE(-2))	-0.048751	-0.309543
0.7575		
D(LDFI(-1))	0.009303	0.432768
0.6660		
D(LDFI(-2))	0.024532	1.341348
0.1825		
D(LREF(-1))	-0.015391	-0.537102
0.5923		
D(LREF(-2))	-0.012419	-0.551092
0.5827		

R2 = 0.613593

R-2 = 0.064813

DW = 2.00

Source: Author's regression analysis, 2023

The findings from the empirical analysis critically unveiled the effect of deficit fiscal illusion index and revenue enhancement fiscal illusion index on government capital expenditure and government recurrent expenditure in Nigeria. Values of the explanatory variables revealed a non-long run causality with the dependent variables. R^2 is 71% and 61%, signifying that seventy one percent and sixty one percent of the dependent variable is explained by the independent variables. Noteworthy, VECM takes all variables as endogenous and exogenous at the same time but the above explanation was done based on government capital expenditure and government recurrent expenditure as the endogenous variable.

5.0   Conclusion

This study had ascertained that the recurrent expenditure of government is significantly influenced deficit fiscal illusion index and revenue enhancement fiscal illusion index in the country. The purpose of this study is to detect fiscal illusions in the form of flypaper effects and the illusion of debt on government capital expenditure and government recurrent expenditure in Nigeria Based on the results of testing statistical empirical data so that some conclusions can be drawn as follows. First, there is a fiscal illusion in the form of a flypaper effect on district/city government spending.

Second, There is an illusion of debt in the expenditure in Nigeria. Fiscal illusions in the form of flypaper effects and debt illusions can cause information asymmetry.

5.1   Recommendation

It was recommended that government should make effort to also allot funds to capital expenditure in such a way that there would be no much significant difference between capital and recurrent spending as this would improve the lives of the citizens on the one hand, and influence the growth rate of the economy on the other. The study recommends that government should increase her spending on both recurrent and capital expenditures on social and community as well as administrative recurrent expenditure to move towards achieving vision 2030, while it should reduce the budgetary allocation to capital and recurrent expenditure on transfer, administration capital expenditure, and also reduce borrowing to reduce debt services.

Finally, the government should monitor the proper disbursement of the allocated fund, block all loopholes and ensure full implementation of the budget. The study recommends that government should increase the share of the capital expenditure especially on meaningful projects that have direct bearing on the citizen's welfare. Government should also improve the spending patterns of recurrent expenditure through careful reallocation of resources toward productive activities that would enhance human development in the country.

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