Original Article

EDUCATIONAL PROGRESS IN RIVERS STATE: A STUDY OF FISCAL FEDERALISM AND SUSTAINABLE DEVELOPMENT (2015–2022)

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Abstract: This study examined the interplay between fiscal federalism and sustainable development in Rivers State, Nigeria, with a specific focus on infrastructural, educational development, technological development, and healthcare delivery. The theoretical framework of the study drew on fiscal federalism theory and systems theory, highlighting the importance of resource allocation and interconnectedness in achieving sustainable development goals. A descriptive survey research design was employed, and primary data were collected through structured questionnaires from a purposive sample of 400 respondents. Pearson Product Correlation Coefficient analysis was conducted to analyze the data. The findings indicate a significant and positive relationship between fiscal federalism and sustainable development in Nigeria. Specifically, the level of financial responsibility and autonomy accorded to state and local governments significantly influenced infrastructural and educational development. The study concludes that fiscal Federalism structures and transparent governance mechanisms are crucial for promoting sustainable development. It recommends enhancing fiscal transparency, integrating sustainable development goals into fiscal policies, allocating a significant portion of resources to critical infrastructure development, and decentralizing fiscal responsibilities to sub-national governments. Strengthening fiscal institutions and promoting accountability in resource allocation are also important factors. These findings contribute to the understanding of the role of fiscal federalism in sustainable development and provide insights for policymakers and stakeholders in Rivers State and other similar contexts.

Keywords: fiscal federalism, sustainable development, educational development.

Introduction

In the intricate tapestry of Nigeria's political landscape, the interplay between fiscal federalism and sustainable development stands as a focal point of scholarly inquiry. Fiscal federalism has often become part of a worldwide reform agenda supported by the Bretton Woods institutions such as the World Bank and the International

Monetary Fund (IMF), and several international institutions such as the United States Agency for International Development (USAID) and Asian Development Bank (Wang, Zhao Gong & Ji, 2019). It is generally viewed as an integral part of economic development and governance in developing and transitional economies Linz (2017). Thus, the culture (political and economic) of a federal system vis-à-vis its values and facts of governance can be diametrically opposed to the goals of the federating units and individuals, depending on the nature and features of the federal state.

Fiscal federalism therefore focuses on government taxation and government spending to assist government operations at any level especially when the central or national government uses tax revenue to share with the lower levels of regional and municipal governments (Ewetan, Osabohien, Matthew, Babajide & Urhie, 2020). Fiscal decentralization and the desire for local discretion and devolution of power is often seen by the World Bank as a vehicle to promote governance and development in developing countries such as Nigeria. The Federal Government often do this through revenue allocation, grants or transfer payments. This may explain Linz (2017) position that federalism can only assure that nobody could be fully unhappy, but certainly not that everybody will be happy with the outcome of such federal goals. Be that as it may, when a sheer patrimonial federal logic only makes state officials and cronies happy, many others could be fully unhappy, and development could hardly occur in such a federal state, even if the state officials and their cronies cut across regional, ethnic, religious and gender divisions.

On the other hand, sustainable development is the type of development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Barbier and Burgess, 2020). Thus, the challenges and expectations of sustainable development is a function of institutional mechanism and principles entrenched in the process of fiscal governance in response to the fundamental will of the state towards sustainable development. Therefore, federalism is a decentralized democracy structured in jurisdictional powers and responsibilities encouraging relations and interactions between governance structures within the spheres of independence. Nigeria as a developing economy has semblance of federalism amid constraining challenges which ensured relations between the levels of authorities over resources and wealth vital to governance and development (Ukachikara, 2019). In the light of the above, the issues of resource control, revenue allocation and fiscal federalism have dominated discussions at various levels of Nigeria’s political debate. Fiscal federalism has remained a contentious issue among the three tiers of government in Nigeria (Sam, Olusanya, Ajide, Afees & Akinola, 2015). Like most federal systems, Nigeria has a revenue distribution system in which the federal government shares revenue with the states and local governments. Different formulas at different times have been adopted.

Similarly, at different times, ad hoc commissions have been set up to determine the allocation formulae and criteria. Between 1946 and 1979, there were eight of such commissions on revenue allocation. These were: Phillipson in 1946, Hicks-Phillipson in 1951, Chick in 1953, Raisman in 1958, Binns in 1964, Dina in 1968, Aboyade in 1977 and Okigbo in 1980. It was not until 1988 that a permanent body was created to monitor, review, and advise the federal government on Revenue Mobilisation and Allocation (RMA) on a continuing basis (Sam, Olusanya, Ajide, Afees & Akinola, 2015). The new body, called the Revenue Mobilization and Allocation Fiscal Commission (rmafc.gov.ng)**,** represents a structured attempt to replace the ad hoc approaches to effecting changes in revenue allocation for the country.

The importance of fiscal federal in strengthening sustainable development in Nigeria becomes glaringly apparent as the nation marked by its cultural diversity, regional disparities, and economic complexities, requires a comprehensive understanding of the intricate relationships between fiscal policies and sustainable development to foster informed decision-making. Kayode, Beatrice & Josine (2022) opined that the issue of fiscal federalism extends beyond academic curiosity; it is grounded in the recognition that effective fiscal federalism is indispensable for the equitable distribution of resources and the promotion of sustainable development at the sub-national level. Thus, Rivers State, as a microcosm of the broader Nigerian landscape, encapsulates the challenges and opportunities inherent in the decentralized fiscal structure and creating the potential to unravel the specific nuances shaping the fiscal landscape of Rivers State and, by extension, revealing valuable insights to the broader discourse on Nigeria's development trajectory and sustainability conundrum. Against this backdrop, this study aimed to assess the effect of fiscal federalism on sustainable development in Nigeria: a study of Rivers State, 2015 – 2022.

Statement of the Problem

The goals of federalism as well as federal institutions are designed to particularly meet the unique needs of the federating State. The situation in Nigeria is, however, different especially when addressing the nation's sustainable development paradigm. The paradox of Nigeria's fiscal system is that it focuses more attention on 'sharing' than 'generating'. In other words, increased revenue generation has attracted less attention than revenue sharing. This is because oil remains the highest contributor to the distributable pool of the federation. In fact, the over-dependence on oil has become a propelling wind of regional agitations instead of energizing efforts towards diversification of the economic base for a virile and durable economy. For instance, the crisis in the Niger Delta has been traced to inequitable fiscal systems among others. In the Nigerian federation, struggles between federal and state governments remain significant obstacles to the realization of the sustainable development goals under the aegis of National Economic Empowerment and Development Strategy (NEEDS). Therefore, in analyzing fiscal federalism in Nigeria, it is important to view the federal government of Nigeria as one, with both centralized and decentralized levels of decision-making in which choices made at each level concerning the provision of public services are determined mainly by the demands for those services by those residing in the respective jurisdiction.

Also, in a Federating State like Nigeria, public finance departments are usually involved in the sharing of fiscal resources between three levels of government i.e. federal, state and local governments and as such their credibility in this national role are often in doubt. The approaches to revenue sharing require an examination of the extent to which the important principles of horizontal equity and efficient allocation of resources are fulfilled in the context of fiscal federalism in Nigeria. That is to say that much as federalism seem to have succeeded in bringing several nationalities within the Nigerian state together, federal practice has not succeeded in developing and keeping them happily together, owing to the undemocratic disposition of the Nigerian state.

Furthermore, one of the major problems of Nigeria fiscal relation is that the Central government is too powerful which has led to a continues growth of weak, frail and scrawling states which do not in any way contribute to resource control. The nature and practiced of Nigeria fiscal federalism has discouraged internal revenue generation. as most states in the country struggle to pay salaries and embarked on meaningful development programmes that will aid their sustainable development needs.

Aim and Objectives of the Study

The aim of the study was to examine fiscal federalism and sustainable development in Nigeria: A study of Rivers State. The specific objectives are to;

i. Determine the effect of fiscal federalism on infrastructural development in Rivers State.

ii. Examine the impact of fiscal federalism on educational development in Rivers State.

Research Questions

The study focused on the following research questions:

i. To what extent does fiscal federalism affect infrastructural development in Rivers State?

ii. How does fiscal federalism affect educational development in Rivers State?

Research Hypotheses

The following research hypotheses was formulated to serve as searchlight to the study.

Ho_1: There is no significant relationship between fiscal federalism and infrastructural development in Rivers State.

Ho_2: Fiscal federalism does not significantly affect educational development in Rivers State.

THEORETICAL FRAMEWORK

Fiscal Federalism Theory: The theory of fiscal federalism was principally developed by economists Richard Musgrave and Wallace E. Oates in their book "The Theory of Public Finance: A Study in Public Economy," which was originally published in 1959. Richard Musgrave, an American economist, was born in 1910 and passed away in 2007. He was a professor at Harvard University and made significant contributions to the field of public finance. Musgrave's work focused on the role of government in the economy, taxation, and fiscal policy. Wallace E. Oates, also an American economist, was born in 1937 and is recognized as one of the foremost authorities on fiscal federalism. He served as a professor at the University of Maryland and was a prolific scholar in the field of public economics. Oates extensively researched and wrote about fiscal decentralization, intergovernmental fiscal relations, and the economics of local governments.

Together, Musgrave and Oates laid the foundation for the theory of fiscal federalism with their seminal work. Their book, "The Theory of Public Finance," proposed principles and frameworks for the allocation of fiscal responsibilities and resources in federal systems. Since its publication in 1959, the theory of fiscal federalism has undergone further development and refinements by various scholars. It has become a widely recognized and influential framework for analyzing fiscal governance, revenue sharing, and the relationship between different levels of government in federal systems around the world. The theory of fiscal federalism operates on several key assumptions. These assumptions provide the foundational principles and concepts for analyzing fiscal governance in federal systems. The basic assumptions of this theory include: Fiscal Autonomy, Intergovernmental Relationships: Vertical Fiscal Imbalance, Horizontal Fiscal Imbalance, Efficiency and Equity, Subsidiarity.

The application of the theory of fiscal federalism to the study of fiscal federalism and sustainable development in Nigeria, specifically focusing on Rivers State, allows for a comprehensive analysis of how fiscal governance mechanisms and intergovernmental relationships impact sustainable development outcomes. It provides a framework for examining revenue allocation, intergovernmental transfers, decision-making processes, and fiscal autonomy in relation to infrastructure, education, technology, and healthcare in Rivers State. By applying this theory, the study can assess the extent to which fiscal federalism contributes to or hinders sustainable development efforts in the state, shedding light on key factors that influence equitable resource distribution, effective governance, and the promotion of sustainable development goals.

System Theory: Another important theory that this research is anchored on is the David Easton System Theory. The Theory was propounded by David Easton in 1965. David Easton is credited as being the first academia to attempt to analyze politics from the standpoint of systems in his renowned work political system, which was published in 1965. System theory is a conceptual framework that views complex phenomena as interconnected systems with interdependent components. The theory's key assumptions are that government is viewed as a system with input from the people in the form of demands for economic and social well-being, as well as the provision of basic requirements of life by the government for the benefit of the population as a whole. The government acts as a processing unit, taking in inputs in the form of requests, processing them, and sending out outputs in the form of authoritative choices in the form of policy initiatives aimed at solving a problem (David 1965).

The theory operates on several assumptions that help analyze the relationships, dynamics, and feedback loops within a system. When related to the current topic of fiscal federalism and sustainable development in Rivers State, Nigeria, the following assumptions are particularly relevant: Holism, Interdependence, Feedback Loops, Emergence, Hierarchy, Boundaries.

CONCEPTUAL REVIEW Concept of Federalism

Federalism is derived from the Latin word "foedus" meaning covenant (Wikipaedia, 2023). It is a political concept in which a group of members are bound together by covenant with a governing representative head (Megbowon, Aderoju & Gbenga 2022). The term is also used to describe a system of the government in which sovereignty is constitutionally divided between a central governing authority and constitutional political units (like states or provinces). Where (1963) referred to as the father of federalism, offered a classic definition of federalism; that federalism is method of dividing socio-economic powers in such a way that the central and regional governments are each within its sphere coordinate and independent. Building on Wheare's foundation, Tamuno (2014) posited that federalism is a particular form of government where the component units of a given political organization participatory share functions and powers in a cooperative manner. This arrangement subsists where the twin factors of cultural diversity and ethnic pluralism, among other things, tend to pull the people of a state apart.

Mengba (2018) perspective places emphasis on the intricacies of federalism and identified two broad areas of cooperation in federalism. The first relates to capacity of citizens, as individuals and groups, to relate to each other federally, that is as partners respectful of each other's integrity while cooperating for the common good in every aspect of life, not just in the political realm. The second area views federalism as a social phenomenon which emphasizes the existence of essentially permanent religious, ethnic, cultural or social groups, camps or pillars around which a polity is organized. Dziobek *et al*. (2017) stressed that federalism is a system of governance that comprises of multi-ordered government levels (local government, state government and central government) which make-up the general government, with a certain degree of independence of the government units. In this system of governance, power, duties, rights, privileges and decision making responsibilities regarding generation, allocation and utilization of financial resources, and the provision and distribution of public goods according to are shared among each of the governance units (Agyeman-Duah *et al*., 2018).

Fiscal Federalism

Fiscal federalism relates to the revenue and expenditure relationship between the central and lower-level governments wherein national rules and standards are enforced by governments, using fiscal powers (Robinson

& Udeorah, 2018). Fiscal federalism reflects the level of financial responsibility and autonomy accorded to the various sub-national governments. Fiscal federalism can be explained as an arrangement that involves intergovernmental fiscal relations mostly in contemporary federations. Nevertheless, it is not a peculiarity of federal states alone; its elements are also noticed in most of the unitary states as well. The concept of fiscal federalism is not to be associated with fiscal decentralization in officially declared federations only; it is applicable even to non-federal states (having no formal federal constitutional arrangement) in the sense that they encompass different levels of government which have de facto decision-making authority (Adamolekun, 2014). This however, does not mean that all forms of governments are fiscally federal; it only means that fiscal federalism is a set of principles that can be applied to all countries attempting 'fiscal decentralization'. In fact, fiscal federalism is a general normative framework for assignment of functions to the different levels of government and appropriate fiscal instruments for carrying out these functions (Kayode, Beatrice & Josine, 2022).

It will suffice to quickly observe here that fiscal federalism, as a concept, is also applied and relevant to other forms of government, other than federal unitary and con-federal. In other words, the concept is not to be confused with fiscal decentralization in federations alone. It also applies to non-federal states which have no formalized federal constitutional arrangements. This is because every form of state encompasses distinct levels of government that have various decision-making authorities. However, this does not, in any way, suggest that all forms of government are fiscally federal. Rather, fiscal federalism is just a set of principles that are applicable to any country of the world trying out what may be referred here to as fiscal decentralization of any magnitude (Olabanji, Ewetan, Oluwatoyin, Matthew, Abiola, Romanus & Ese, 2020). In succinct terms, Ukachikara (2019) explained fiscal federalism in terms of general normative framework for assignment of functions to the different levels of government, including appropriate and corresponding fiscal instruments for carrying out these functions.

Literature on fiscal federalism and economic growth implicitly assumes that fiscal federalism affects growth through three mechanisms which include efficiency, income redistribution and macroeconomic stability. According to Bodman (2018), the case is whether or not changes in efficiency, macroeconomic stability and income redistribution resulting from increased (or decreased) fiscal decentralization have a significant impact on economic growth. As an approach to governance, fiscal federalism is seen to have guaranteed development and civilization across nations, especially in countries where federalism is adopted as a form of government. In such countries, devolution of both tax assignment and responsibilities between the centre and the subnational units enhance the improved performance of the public sector. Since fiscal federalism may be seen, mainly, as a distribution concept, it is about the allocation of resources and by extension taxing power to the various tiers of government (Edet and Harrison, 2021). Thus, the clamor for ‘true federalism’ is generally underpinned by the quest for equitable distribution and control over resources arising from the gross imbalances in resource management. It is further fueled by the outcry over the issue of marginalization, which seems to be reflected in the central government’s inability to deliver quality services equitably. Fiscal federalism can therefore, be summarized as a system of government that is fiscally decentralized to achieve development exigencies.

Key Dimensions of Fiscal Federalism

The forms or dimensions of fiscal Federalism highlighted below represent the various ways in which these responsibilities and powers are allocated and exercised. The key dimensions include: Revenue Assignment, Expenditure Assignment, Fiscal Transfers, Borrowing and Debt Management, Intergovernmental Relations, Macro-Fiscal Discipline, Subsidiarity.

Original Article

Sustainable Development

In 1987, the Brundtland Commission issued its report on the state of the world's environment and development, in which it used the term 'sustainable development' for the first time. The commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[i] Michael Needham goes beyond this definition to say; sustainable development is the ability to meet the needs of the present while contributing to (meeting) the future generations' needs. Therefore, sustainable development could be defined as a pattern of economic growth in which resource use aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come (Mohammed, 2018).

The UN declaration of the 2005 World Summit refers to the interdependent and mutually reinforcing pillars of sustainable development as economic development, social development, and environmental protection. However, the concept of social development is often referred to as 'human development.' Yet these pillars have largely been treated as separate spheres of life; an issue that need to be addressed to improve our chances of achieving sustainable development. More-so, the concept of sustainable development is based on a set of requirements. It must allow the basic needs of present and future generations to be fulfilled with regard to demographic constraints, such as: access to water, education, health, employment, and the fight against hunger (Jin, H. & Martinez-Vasquez, 2021). The Brundland report argues further that development should aim to improve the quality of life, which involves easier access to medical care, social services and culture. In addition, the report states; "respect for rights and freedoms and the promotion of new forms of renewable energy such as wind, solar, and geothermal power, are important aspects of sustainable development." The report argues further that sustainable development also involves narrowing the gaps between rich and poor countries, because these gaps, if maintained or accentuated, could cause violent conflicts, which by their very nature led to regression rather than development.

As a rule, modern literature uses the concept of sustainable development, which is given in the book "Our Common Future": "That sustainable development is the development that meets the needs of the present, but does not compromise the ability of future generations to meet their own needs." A broader definition, suitable for all spheres of human activity, not only the socioeconomic and environmental ones, is given in the same book: "Sustainable Development Strategy aims to achieve the harmony between human beings and their society and nature" (Dubinskii and Jafari, 2017). Sustainable development must be directed in the same amount to the survival of humanity and the preservation of nature. The first one is the ability to constantly maintain a balanced development in which our descendants would have no less opportunity than the present generation to meet its needs for natural resources. The second one is the preservation of the biosphere as the natural basis of all life on earth, maintaining its stability and natural evolution. The new strategy of the civilization development comes not of priorities of our today's life, but makes an attempt to put them on one step, to equate those terms of their ability to meet vital needs. It is about shaping the future socio-natural system that can allow a set of contradictions that would be manifested in our time as a result of globalization. Among them - the contradiction between the restricted abilities of nature and the needs of the rapid growth of the human community, between developed and developing countries, the global requirements of the transition to the sustainable development and national interests (Wang, Zhao Gong & Ji, 2019).

The transition to sustainable development requires a radical transformation in the center of which the ecologisation (greening) of the main activities of mankind, the man himself, changing his mind and the creation of a new "sustainable society" as the sphere of mind, first of all. Such changes shall occur not spontaneously but deliberately, consciously, and one of the main mechanisms for managing this process can become moral, humane mind united humanity, using all the possible socio-economic, political and technical means. Furthermore, since one of the major goals of sustainable development is to put people first, the way to achieve this goal presents an obstacle to reaching an international consensus on sustainability. Different nations tend to view human rights differently; and needs and expectations of people vary greatly from state to state, according to their cultures and levels of development (Mohammed, 2018). In fact, one nation's needs could be another nation's luxuries. Helen Clark, administrator of the United Nations Development Program, said in 2012, "If the way in which both rich and poor nations develop is destructive of the very ecosystems on which life on this planet depends, then the burden will fall disproportionately on the poorest and most vulnerable people who depend the most on healthy ecosystems for their survival and have the least means to adapt to the challenges brought by environmental degradation (Mohammed, 2018).

As national development agencies strive to achieve sustainable development, they tend to treat sustainability as a largely domestic rather than an international endeavor. But sustainable development is unattainable except at the global level, because many nations have access to nonrenewable resources like water and natural gas to waste, and rivers and seas to pollute without giving much consideration to the needs and interests of other nations that depend on the same resources. Therefore, fairness and reality dictate that sustainability must be treated as a global endeavor; and sacrifices needed to accomplish sustainability and benefits generated by it should be shared by all nations. "In order to be sustainable, development must also be harmonious. At least a certain amount of social cohesion must exist on a planetary scale in order to create the conditions for the peace we need (Kayode, Beatrice & Josine, 2022).

It is the "sustainable development" that reflects the reality of the required relationship of a human to the reality around him. The only way to be saved from extinction - is to accept the "rules of the game" of the world, not the one that has been invented by us, but the real one, the accuracy of which is mathematically understood by modern science. Therefore, sustainable development involves more than growth; it requires a change in the content of growth, to make it less material- and energy-intensive and more equitable in its impact (Barbier and Burgess, 2020). These changes are required in all countries as part of a package of measures to maintain the stock of ecological capital, to improve the distribution of income, and to reduce the degree of vulnerability to economic crises. Sustainable development involves the simultaneous pursuit of environmental quality, economic prosperity, human development, social equity, freedom, human values, and cultural diversity. If pursued as such, sustainable development would be able to protect the environment, enable all people to meet their basic needs, achieve social justice and peace, and liberate women and men from political and cultural chains that undermine their potentials. It should also undermine the capacity of corporations to use the sustainability issue to protect their interests while preventing poor nations from developing their economies. Therefore, the way to achieve sustainability is to integrate economic, cultural, environmental, and social policies, including the development of human resources and the issue of population growth (Jin, H. & Martinez-Vasquez, 2021). Such a sustainability effort will go a long way to improve the conditions of many lakes, rivers and forests around the world, which means that 'environmental sustainability will seem to be on the right track.

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Measures of Sustainable Development

The measures of sustainable development adopted for this study are infrastructural development, educational development, technological development and healthcare delivery. Infrastructural Development, Educational Development**.**

The Nature of Fiscal Federalism in Nigeria

Any federal system's continued existence depends critically on the type and character of its financial relationships. Fiscal policies in Nigeria, they have typically taken on political, religious, and social aspects. By the same logic, it deals with the outcomes of the allocative process and the conditions under which it breeds crisis (Ewetan *et al*., 2020). According to Dunmoye (2012), four interrelated factors can initiate or ruin a viable federation. These are the issue of political power sharing or representativeness especially at the centre; the problem of equitable employment to members of all sectors or all constituent units in the federation; location of industries or infrastructures and projects especially those funded by the federal government and the sharing of resources or what is known in Nigeria as revenue allocation. Each of these four is related to the whole gamut of the nature of fiscal federalism in Nigeria. Any lapse in one or more of these factors can mar any federal system especially a fragile federation with a dependent capitalist polity like Nigeria.

The debate on Nigeria's fiscal federalism and relations hinges on the fundamental question of who gets what of the national cake, when and how (Megbowon, Aderoju & Gbenga 2022). This is fundamental given that Nigeria as a monolithic economy gets over 80% of its revenue from crude oil, by virtue of the constitutional provision, this revenue must be disbursed to the three tiers of government. It also explains why the formula for revenue allocation has continued to be at the heart of public debate and why public office holders are hardly held accountable for the misuse of revenues derived from the national oil wealth (Ejeh and Orokpo, 2014). It is obvious that the nature and conditions of the financial relations in any federal system of government is crucial to the survival of such a system. A major source of inter-governmental disputes in Nigeria under a federal system centre on the problems of securing adequate financial resources on the part of the lower levels of government (the State Government) to discharge essential political and constitutional responsibilities.

By and large, the nature of fiscal federalism in Nigeria strikes at the very basis of the existence of the Nigerian federation and the incessant clamour for resource control and the cacophonous calls (Olabanji, Ewetan, Oluwatoyin, Matthew, Abiola, Romanus & Ese, 2020). These concerns have been addressed towards restructuring of the polity attest to the veracity of the argument that the country's fiscal federalism is bedeviled by series of contradictions which need urgent attention to avoid a disintegration of the polity. The reforms in the national sharing of resources between 1967 and 1975 effectively neglected the politics of the dominant class because oil formed substantial revenue base of the country (Obi; 2008).

This explains the reason why Obi (2008) posits that the Federal Government as the very vortex of power thus becomes the ultimate factor in politics and all attention shifted to the centre for access to power and the capacity to authoritatively allocate resource at the centre. This centralization of power and resources is antithetical to true fiscal federalism. The concentration on oil revenue also militates against the improvement of other sectors of the economy. In Nigeria revenue allocation largely implies the allocation of oil revenue, therefore, oil is central to the politics of intergovernmental fiscal relations thus the contending forces over power and access to oil, extraction and accumulation of resources constitute the major conceptual issues that must be objectively confronted in seeking to understand the political economy of fiscal federalism in Nigeria (Sherif, 2018). In fact, the over-dependence on oil revenue has impacted negatively and posed serious challenges to the issues of fiscal federalism in the country. It has with time led to the evolving of a leech syndrome among the component units of the federation (Ejeh and Orokpo, 2014). Inevitably, it made the states dependent on the hand-outs from the Federation Account. The leech nature of most of the states makes them an economic appendage of the central government and has eroded the autonomy of the federating units. This, in a way, established a master-servant relationship between the Federal Government and the component units.

EMPIRICAL REVIEW

Olabanji, Ewetan, Oluwatoyin, Matthew., Abiola, Romanus & Ese U (2020) study examined the impact of fiscal federalism on economic development in Nigeria for the period 1981–2017 using the auto-regressive distributed lag approach. The data for the study were sourced from various issues of Central Bank of Nigeria Statistical Bulletin and International Country Risk Guide. It was found that revenue decentralization with a coefficient of −2.15 significantly retarded economic development at 5%, while expenditure decentralization with a coefficient of 2.935 significantly increased economic development at 5%. The overall decentralization indicator, captured as simultaneity measure with a coefficient of 4.264 significantly increased economic development at 1%.

Kayode, Beatrice and Josine (2022). Using the NSDI as welfare proxy and employing the difference and system generalized method of moments techniques, this study revealed that fiscal federalism has no significant impact on aggregate sustainable development, environmental and natural resource development index, and social development index, but has a positive impact on economic development index. Hence, fiscal federalism discourse among policy decision-makers in most countries seems to have been based on economic development considerations, leaving out other important dimensions of sustainable development. Therefore, in designing a fiscal federalism apparatus, policy decision-makers should consider proper coordination of the three dimensions of sustainable development if the development-enhancing role of fiscal federalism is to be sustainably achieved.

Odigwe (2015) examined fiscal Federalism and infrastructural development in Nigeria. They found that the pattern of fiscal federalism the military imposed on the nation has no regard for the source of production and revenue generation. This is so through the power bestowed upon the federal government by the constitution which gave the federal government power over taxation and payment collection, the same constitution also vested the power of ownership of natural resources in any part of the country on the central government, and this has gone a long way to balkanized revenue generation effort and made infrastructural development Epileptic and subjecting states as agents to the federal government.

Ewetan, Ike and Ige (2015) examined such issues as principles of fiscal federalism, decentralization and assignment of revenue from natural resources, decentralization and corruption, decentralization, regional disparities and national unity. The study found that the practice of fiscal federalism has been contentious in Nigeria due to overbearing influence of the federal government, unevenly distribution of endowment of natural resources, the sharing of which often puts considerable strains on national unity, and also tends to generate rivalries between the constituent units of the Nigerian state. The paper concludes that if the country can establish the institutions that will make decentralization work with a reasonable degree of efficiency, then decentralization can be a good policy.

Ecoma and Ecoma (2018) evaluated fiscal federalism and good governance in Nigeria since Independence. Since it is fundamentally true that the challenges of fiscal federalism are enormous in Nigeria, the paper attempted to look into the importance of fiscal federalism for good governance in Nigeria. The study noticed that the principle of fiscal autonomy and fiscal integrity are paramount aspects of the survival and continued existence of a truly federating system of government. The paper also revealed that the contending issues and challenges of fiscal federalism could be in form of a mismatch between revenue sources and functions of the various tiers of government. The paper concluded by arguing that there is the prospect of a stable federation if anchored on arrangements rooted in equity, fairness and justice.

METHODOLOGY

Research Design

The research design used in this study was the survey research design. The survey design was adopted mainly because the researcher intended to collect primary data from respondents with the use of questionnaire instrument. Primary data was collected with the use of structured questionnaires on Fiscal federalism and sustainable development in Nigeria: a study of Rivers State. The instrument for the collection of primary data included questionnaire instrument designed in a close-ended format. Data analysis involved multiple regression. Pearson correlation coefficient the aid of the statistical package for social science (SPSS) was employed for the analyses. The SPSS is computer software designed especially for the analysis of social science data (Ngaiah & Ayyanar, 2016). The advantage of using the SPSS is that it enables the researchers to score and analyze quantitative data very quickly and, in many ways, (Bryman & Grammer 2001). The test of hypotheses was strictly based on Pearson correlation coefficient and all tests were conducted at 5% (0.05) level of significance. Moreover, the independent variable, fiscal federalism and the dependent variable, sustainable development (with its dimensions) were measured at 4- points ordinal Likert scale ranking as follows: 4 = Strongly Agree (SA); 3 = Agree (A); 2 = Disagree (D); 1 = Strongly Disagree (SD).

Analysis of Data

<u>Table 1: Mean Ratings on Fiscal Federalism in Rivers State.</u>

Questionnaire Item	Total	SA	A	D	SD	Mean	STD	Decision
					2	4(X)	3 1	
1. The form of fiscal federalism practiced in Nigeria reflects the level of financial responsibility and autonomy accorded to the various State and local governments	388	74	124	23	167	2.64	0.85	Agreed
2. Fiscal powers of the federal government is too enormous and thus undermines the effectiveness of fiscal federalism in Nigeria.	388	178	127	51	32	3.16	0.95	Agreed

3. The current vertical allocation sharing formula (Federal Government - 52.68%, State Government - 26.72% and Local Government - 20.60%) should be reviewed.	388	238	119	24	7	3.52	0.69	Agreed
4. The clamour for true federalism is generally underpinned by the quest for equitable distribution and control over resources arising from the gross imbalances in infrastructural development across Nigeria.	388	127	115	78	68	2.78	1.09	Agreed
5. The outcry over the issue of marginalization in	388	204	125	35	24	3.31	0.86	Average

Nigeria can be attributed to the federal government’s inability to deliver on fiscal federalism.
6. The financial 388 199 135 35 19 3.32 0.83 Agreed hegemony enjoyed by the Federal Government over the thirty-six (36) states and seven hundred and seventy-four (774) local governments has created disaffection in the Nigerian federation.

Source: Researchers Field Survey, (2024).

Based on the data presented in Table 4.3 on the mean ratings of fiscal federalism in Rivers State,

Based on the data presented in Table 1 on the mean ratings of fiscal federalism in Rivers State, the analysis and interpretation are as follows:

1. The form of fiscal federalism practiced in Nigeria reflects the level of financial responsibility and autonomy accorded to the various State and local governments: The majority (43.02%) disagreed with this statement, while 31.90% agreed and 19.17% strongly agreed. The mean rating was 2.64 with a standard deviation of 0.85 The decision is agreed, indicating that respondents generally feel that the form of fiscal federalism practiced in Nigeria does not adequately reflect financial responsibility and autonomy at the state and local government levels.
2. Fiscal powers of the federal government are too enormous and thus undermine the effectiveness of fiscal federalism in Nigeria: The majority (45.88%) strongly agreed with this statement, while 32.73% agreed and 13.26% disagreed. The mean rating was 3.16 with a standard deviation of 0.95. The decision is agreed, suggesting that respondents believe that the overwhelming fiscal powers of the federal government undermine the effectiveness of fiscal federalism in Nigeria.

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3. The current vertical allocation sharing formula should be reviewed: The majority (61.34%) strongly agreed that the current vertical allocation sharing formula (Federal Government - 52.68%, State Government - 26.72%, and Local Government - 20.60%) should be reviewed, while 30.68% agreed. The mean rating was 3.52 with a standard deviation of 0.69. The decision is agreed, indicating that respondents believe that the current allocation formula requires review.
4. The clamor for true federalism is generally underpinned by the quest for equitable distribution and control over resources arising from the gross imbalances in infrastructural development across Nigeria: The majority (33.12%) strongly agreed with this statement, while 29.45% agreed and 20.00% disagreed. The mean rating was 2.78 with a standard deviation of 1.09. The decision is agreed, suggesting that respondents believe that the call for true federalism is motivated by the desire for equitable distribution and control over resources, addressing imbalances in infrastructure development across Nigeria.
5. The outcry over the issue of marginalization in Nigeria can be attributed to the federal government's inability to deliver on fiscal federalism: The majority (52.74%) strongly agreed with this statement, while 32.10% agreed and 8.90% disagreed. The mean rating was 3.31 with a standard deviation of 0.86. The decision is average, indicating that respondents, on average, believe that the outcry over marginalization in Nigeria can be attributed to the federal government's inability to deliver on fiscal federalism.
6. The financial hegemony enjoyed by the Federal Government over the 36 states and 774 local governments has created disaffection in the Nigerian federation: The majority (51.22%) strongly agreed with this statement, while 34.69% agreed and 9.14% disagreed. The mean rating was 3.32 with a standard deviation of 0.83. The decision is agreed, suggesting that respondents believe that the financial hegemony of the Federal Government over the states and local governments has resulted in disaffection within the Nigerian federation.

Table 2: Mean Ratings on Fiscal Federalism and Infrastructural Development in Rivers State

Questionnaire Item	Total	SA f(%) 4	A f(%) 3	D f(%) 2	SD f(%) 1	Mean (X)	STD	Decision
7. There is the prospect of a huge infrastructural development in Nigeria if anchored on arrangements rooted in equitable allocation of resources, fairness and justice.	388	134	103	55	96	2.71	1.39	Agreed
8. One of the major goals of sustainable infrastructural development is to put people first, the way to achieve this goal presents an obstacle to reaching a national consensus on sustainability in Nigeria.	388	125	138	98	27	2.93	0.92	Agreed
9. The devolution of both tax assignment and responsibilities between the federal and the sub-national governments has improved	388	200	122	37	29	3.27	0.91	Agreed

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infrastructural development in Nigeria.								
10. The infrastructural development stride in Nigeria should be is not designed to meet the basic needs of present and future generations and overcome demographic constraints, such as: access to water, education, health etc.	388	103	94	75	116	2.47	1.17	Disagreed

Source: Researchers field Survey, (2024).

Based on the data presented in Table 2 on the mean ratings of fiscal federalism and infrastructural development in Rivers State, the analysis and interpretation are as follows:

7. There is the prospect of a huge infrastructural development in Nigeria if anchored on arrangements rooted in equitable allocation of resources, fairness, and justice: The majority (34.63%) strongly agreed with this statement, while 26.65% agreed and 24.74% strongly disagreed. The mean rating was 2.71 with a standard deviation of 1.39. The decision is agreed, indicating that respondents generally believe that there is the potential for significant infrastructural development in Nigeria if resource allocation is equitable and based on fairness and justice.

8. One of the major goals of sustainable infrastructural development is to put people first, the way to achieve this goal presents an obstacle to reaching a national consensus on sustainability in Nigeria: The majority (35.48%) agreed with this statement, while 32.30% strongly agreed and 7.00% strongly disagreed. The mean rating was 2.93 with a standard deviation of 0.92. The decision is agreed, suggesting that respondents generally feel that achieving the goal of sustainable infrastructural development with a people-centric approach presents challenges when it comes to reaching a national consensus on sustainability in Nigeria.

9. The devolution of both tax assignment and responsibilities between the federal and the subnational governments has improved infrastructural development in Nigeria:

The majority (51.43%) strongly agreed with this statement, while 31.44% agreed and 7.47% strongly disagreed. The mean rating was 3.27 with a standard deviation of 0.91. The decision is agreed, indicating that respondents generally believe that the devolution of tax assignment and responsibilities between the federal government and sub-national governments has led to improvements in infrastructural development in Nigeria.

10. The infrastructural development stride in Nigeria should not be designed to meet the basic needs of present and future generations and overcome demographic constraints, such as access to water, education, health, etc.: The majority (30.15%) strongly disagreed with this statement, while 26.42% disagreed and 24.22% agreed. The mean rating was 2.47 with a standard deviation of 1.17. The decision is disagreed, suggesting that respondents generally believe that infrastructural development in Nigeria should be designed to meet the basic needs of present and future generations and address demographic constraints.

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Table 3: Mean Ratings of the impact of fiscal federalism on educational development in Rivers State.

Questionnaire Item	Total	SA 4	A 3	D 2	SD 1	Mean (X)	STD	Decision
11. The agitations for resource control will continue as long as the federal government does not allow for sufficient educational empowerment to guarantee auto-centric development in the component units.	388	163	128	56	41	3.06	0.99	Agreed
12. Local authorities should not be allowed to take responsibility for implementing policy for state controlled public education and state schools at regional levels.	388	179	141	41	27	3.22	0.89	Agreed
13. The quality and standard of education in Nigeria has witnessed a geometric drop in the past eight years due misplaced objectives in resource allocation.	388	270	77	25	16	3.55	0.79	Agreed
14. The approach of the government towards sustainable development in Nigeria is capable of meeting the educational needs of the present and will not compromise the ability of future generations to meet their own educational needs.	388	194	143	29	22	3.31	0.84	Agreed

Source: Researchers Field Survey, (2024).

Based on the data presented in Table 3 on the mean ratings of the impact of fiscal federalism on educational development in Rivers State, the analysis and interpretation are as follows:

11. The agitations for resource control will continue as long as the federal government does not allow for sufficient educational empowerment to guarantee auto-centric development in the component units: The majority (42.00%) strongly agreed with this statement, while 32.99% agreed and 10.64% strongly disagreed. The mean rating was 3.06 with a standard deviation of 0.99. The decision is agreed, indicating that respondents generally believe that agitations for resource control will persist unless the federal government provides sufficient educational empowerment to ensure self-sustained development in the component units.

12. Local authorities should not be allowed to take responsibility for implementing policy for statecontrolled public education and state schools at regional levels: The majority (46.17%) strongly agreed with this statement, while 36.27% agreed and 6.99% strongly disagreed. The mean rating was 3.22 with a standard deviation of 0.89. The decision is agreed, suggesting that respondents generally believe that local authorities should not be entrusted with implementing policies for state-controlled public education and state schools at regional levels.

13. The quality and standard of education in Nigeria have witnessed a geometric drop in the past eight years due to misplaced objectives in resource allocation: The majority (69.48%) strongly agreed with this statement, while 19.81% agreed and 4.19% strongly disagreed. The mean rating was 3.55 with a standard deviation of 0.79. The decision is agreed, indicating that respondents generally believe that the quality and standard of education in Nigeria have significantly declined over the past eight years due to misplaced objectives in resource allocation.

14. The approach of the government towards sustainable development in Nigeria is capable of meeting the educational needs of the present and will not compromise the ability of future generations to meet their own educational needs: The majority (49.88%) strongly agreed with this statement, while 36.88% agreed and 5.85%

strongly disagreed. The mean rating was 3.31 with a standard deviation of 0.84. The decision is agreed, suggesting that respondents generally believe that the government's approach to sustainable development in Nigeria can meet the educational needs of the present without compromising the ability of future generations to meet their own educational needs.

Test of Hypotheses

Table 4: Descriptive Statistics on all the Variables of the Study

		Infrastructural Development	Educational Development
N	Valid	380	380
	Missing	0	0
Mean		2.94	2.97
Std. Deviation		1.400	1.394
Sum		587	593

Source: SPSS Statistics Output (2023)

Table 4 represented the descriptive Statistics of all variables of the study. It was shown that: infrastructural development had a mean value of 2.94 and a standard deviation of 1.400; educational development had a mean value of 2.97 and a standard deviation of 1.394; The mean of all the variables of the study were above 2.5 the required mean on a 4-point Likert scale given as: 1+2+3+4/4 = 2.5. Therefore, the researcher upheld the prevalence of the variable.

Table 5: Descriptive Statistics of Responses on fiscal federalism on infrastructural development in Nigeria.

Descriptive Statistics

	Mean	Std. Deviation	N
Fiscal federalism	24.39	2.001	388
Infrastructural development	16.88	2.675	388

Source: SPSS Statistics Output (2023)

Table 5 above revealed that 388 persons responded to the items of the questionnaires on fiscal federalism and infrastructural development in Nigeria. Scores on fiscal federalism had a mean and standard deviation of 24.39 and 2.001 respectively while scores on infrastructural development had a mean of 16.88 and a standard deviation of 2.675.

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Table 6: Descriptive Statistics of Responses on Fiscal federalism and Educational Development in Nigeria. Descriptive Statistics

	Mean	Std. Deviation	N
Fiscal federalism	25.61	3.724	388
Educational Development	28.53	2.462	388

Source: SPSS Statistics Output (2023)

Table 6 above showed that 388 persons responded to the items of the questionnaires on Fiscal federalism and educational development in Nigeria. From the above result, scores on Fiscal federalism had a mean of 25.61 and a standard deviation of 3.724 while scores on educational development had a mean 28.53 and a standard deviation of 2.462.

Table 7: Correlation Analysis on the Extent and Direction of the Relationship between Fiscal Federalism and Sustainable Development

		Fiscal Federalism	Sustainable Development
Fiscal Federalism	Pearson Correlation	1	.801**
	Sig. (1-tailed)		.000
	N	388	388
Sustainable Development	Pearson Correlation	.801**	1
	Sig. (1-tailed)	.000	
	N	388	388

**. Correlation is significant at the 0.01 level (1-tailed).

Source: SPSS Statistics Output (2023)

Table 7 shows the correlation analysis on the extent and direction of the relationship between Fiscal federalism and sustainable development in Nigeria. It showed the correlation coefficient of $r = 0.801^{**}$ with the significant/probability value of $0.000<0.05$ (critical value). From the result in table 4.8, the value is very strong, indicating a strong relationship between Fiscal federalism and sustainable development. Also, the correlation coefficient is positive which indicates that effective Fiscal federalism is associated with an increase in sustainable development. Therefore, the study affirmed that there is a strong and positive significant relationship between Fiscal Federalism and Sustainable Development in Nigeria.

Test of Hypothesis 1

Ho_1: There is no significant relationship between fiscal federalism and infrastructural development in Nigeria.

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Table 8: Correlation Analysis on the Extent and Direction of the relationship between Fiscal Federalism and Infrastructural Development

N 388 388

Fiscal Federalism	Pearson Correlation	1	.694**
	Sig. (1-tailed)		.000
	N	388	388
Infrastructural Development	Pearson Correlation Sig. (1-tailed)	.694** .000	1
		Fiscal Federalism	Infrastructural Development

. Correlation is significant at the 0.01 level (1-tailed). **Source: SPSS Statistics Output (2023).

Table 8 shows the correlation analysis on the extent and direction on the relationship between fiscal federalism and infrastructural development in Nigeria. The table showed a correlation coefficient of r = 0.694** with a corresponding significant/probability value of 0.000. From the classification of r value in table 4.9, the value is strong. Since the Significant/Probability Value (PV) 0.000 < 0.05 (critical value), the researcher therefore rejects the null hypothesis and concluded a significant relationship between fiscal federalism and infrastructural development. Also, the correlation coefficient is positive which indicate that an improvement in fiscal federalism is associated with proportionate increase in infrastructural development.

Converting r-value (Correlation Coefficient) to t-value Coefficient = $r \sqrt{N - 2}/\sqrt{1-r^2}$ where t = tvalue, r = Correlation Coefficient (r-value), N = Sample Size, Therefore.

Using the formula:

$T = r * \sqrt{(n-2)} / \sqrt{(1-r^2)}$

Where r = 0.694 and n = 388, we get:

$T = 0.694 \times \sqrt{(388-2)} / \sqrt{(1-0.694^2)}$

$T = 0.694 \times \sqrt{386} / \sqrt{(1-0.4816)}$

$T = 0.694 \times \sqrt{386} / \sqrt{0.5184}$

$T = 0.694 \times 19.65 / 0.7120$

$T = 19.15$

So, the t-value corresponding to the given r-value of 0.694 with a sample size of 388 is approximately 19.15.

With a calculated t-value of 19.15 and 386 degrees of freedom (df), we can check the t-distribution table for the critical value. According to the table, for df = 386 and an alpha level of 0.05, the critical t-value is: T(0.05, 386) = 1.967. Since the calculated t-value (19.15) is greater than the critical t-value (1.967), reject the null hypothesis. This indicates that the correlation coefficient (r = 0.694) is statistically significant at the 0.05 level, suggesting a significant linear relationship between the variables.

Test of Hypothesis 2

Ho_2: There is no significant relationship between Fiscal Federalism and Educational development in Nigeria.

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Table 9: Correlation Analysis on the Extent and Direction of Relationship between Fiscal Federalism and Educational Development

		Fiscal Federalism	Educational Development
Fiscal Federalism	Pearson Correlation	1	.773**
	Sig. (1-tailed)		.004
	N	388	388
Educational Development	Pearson Correlation	.773**	1
	Sig. (1-tailed)	.004	
	N	388	388

**. Correlation is significant at the 0.01 level (1-tailed).

Source: SPSS Statistics Output (2023)

Table 9 shows the correlation analysis on the extent and direction of the relationship between Fiscal federalism and educational development in Nigeria. The table showed a correlation coefficient of r = 0.773** with a correspondents significant/probability value of 0.004 from the classification of r value in table 4.10 the value indicates a strong relationship between Fiscal federalism and educational development. Since the Significant/Probability Value (PV) 0.004 < 0.05 (critical value), the researcher therefore rejects the null hypothesis and concluded that there is significant relationship between Fiscal federalism and educational development in Nigeria. Since the correlation coefficient is positive, the implication is that an improvement in Fiscal federalism would trigger an increase in educational development.

Converting r-value to t-value Using the formula:

$T = r \times \sqrt{(n-2)} / \sqrt{(1-r^2)}$

Where r = 0.773 and n = 388, we get:

$T = 0.773 \times \sqrt{(388-2)} / \sqrt{(1-0.773^2)}$

$T = 0.773 \times \sqrt{386} / \sqrt{(1-0.597529}$

$T = 0.773 \times 19.65/ 0.6344$

$T = 0.773 \times 30.97$

$T = 23.94$

So, the t-value corresponding to the given r-value of 0.773 with a sample size of 388 is indeed approximately 23.94.

Since the calculated t-value is 23.94, and alpha level of 0.05, checking the t-distribution table for the critical t-value. For 386 degrees of freedom (df = n – 2 = 388 – 2) and an alpha level of 0.05, the critical t-value is approximately:

$T(0.05, 386) = 1.967$

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Since the calculated t-value (23.94) is greater than the critical t-value (1.967), reject the null hypothesis. This indicates that the correlation coefficient (r = 0.773) is statistically significant at the 0.05 level, suggesting a strong and significant linear relationship between the variables.

Table 10: Regression Analysis Summary of the Effect of Fiscal Federalism on Sustainable Development

Variables	Coef	t-cal	t-tab (0.05,225)	sig. T	R	R^2	F-cal	F-tab (0.05,1,226)	sig f
Constants	.103	2.258		0.00 0	0.79 4	0.72 9	4027.12 5	3.16	0.000
PP	0.972	70.924	1.27	0.000					

Dependent Variable: Sustainable Development

Source: SPSS Statistics Output (2023)

Table 10 was concerned about the summary of regression analysis on the effect of fiscal federalism on sustainable development. The table showed the Pearson's correlation coefficient of 0.801 on the relationship between fiscal federalism and sustainable development. The value of r is high indicating that a significant relationship exists between fiscal federalism and sustainable development. The coefficient of determination (R^2) = 0.729, this implies that 72.9% variations on Sustainable Development is explained by the changes in fiscal federalism, thus the remaining 24.4% is explained by other variables not included in the model. The F-calculated of 3.16 had a significant F-value 0.000 which indicate the usefulness of the model.

Conventionally, F-cal = 4027.125 > F-tab $_{(0.05,\ 1,225)}$ = 3.16 hence the conclusion of a good model utility is upheld. Also, Fiscal Federalism had a calculated t-value of |70.924| >t-tab (0.05, 225) = 1.27 and a corresponding significant/probability of 0.00 < 0.05 level of significance, hence the researcher conclude that Fiscal federalism statistically affect sustainable development.

Table 11: **Regression Analysis Summary of the effect of Infrastructural Development and Educational Development on Sustainable Development**

Variables	Coef	t-cal	t-tab (0.05,227)	sig. T	R	R^2	F-cal	F-tab (0.05,2,226)	sig f
Constants	0.001	2.019		0.025					
INFD	0.000	1.316		-0.03					
			1.30		0.639	0.548	0.712	3.09	0.000
EDUD	0.000	1.735		0.182					

Dependent Variable: Sustainable Development

Source: SPSS Statistics Output (2023)

Table 11 depicted the regression analysis summary on the effect of fiscal federalism on infrastructural development, educational development. The table showed the Pearson's correlation coefficient of 0.001 on the relationship between the predictor variables and the dependent variable indicating that a moderately weak relationship exists between the predictor variables and the dependent variable. The coefficient of determination (R^2) = 0.548, which implies that 54.8% variation on fiscal federalism is explained by the changes in the predictor variables, thus the remaining 45.2% is explained by other variables not included in the model. The F-statistics had a calculated value of 0.712 which indicate the usefulness of the model. Conventionally, F-cal = 71.200> F-tab $_{(0.05,\ 2,226)}$ = 3.09. Hence, the conclusion of a good model utility is upheld. Infrastructural development had a calculated t-value of |1.316|>t-tab $_{(0.05,227)}$ = 1.30 and a corresponding significant probability value (PV) of 0.00< 0.05 level of significance, hence the researcher conclude that fiscal federalism statistically affects sustainable development in Nigeria.

Educational development had a calculated t-value of |1.735|>t-tab $_{(0.05,227)}$ = 1.30 and a corresponding significant probability value (PV) of 0.00< 0.05 level of significance, hence the researcher conclude that fiscal federalism statistically affects educational development in Nigeria.

Discussion of Findings

The test of hypotheses was carried out using primary data obtained from the questionnaire items administered to the respondents to test the impact of fiscal federalism on sustainable development in Nigeria. The tests were done to determine the extent and direction of the relationship between the independent variable (Fiscal federalism) measures of the dependent variable (infrastructural development and educational development, this section discussed the findings and relate them to the literature reviewed in chapter two.

Fiscal Federalism and Sustainable Development

Table 10 analyzed the extent and direction of the relationship between fiscal federalism and Sustainable Development using transformation test. Results from the analysis indicated a positive and strong significant relationship between fiscal federalism and sustainable development. Thus, fiscal federalism statistically affects sustainable development in Nigeria. Also, table 4.16 showed the regression coefficient of r = 0.794 and coefficient of determination R^2 = 0.729 which indicate that a 72.9% variation on Sustainable Development is explained by fiscal federalism. Also, Fiscal Federalism had a calculated t-value of |70.924| >t-tab (0.05, 225) = 1.27 and a corresponding significant/probability of 0.000 < 0.05 level of significance, hence the result indicated a significant relationship between fiscal Federalism and sustainable development.

This finding is in line with the fiscal decentralization theory as propounded by Richard Musgrave (1959). The theory is anchored on the stabilization and distribution functions. The theory suggests that this fiscal function should be assigned to the national or federal government. This therefore means that national or federal government must have a broad-based tax suitable for the role (Musgrave, 1959). On the other hand, the distribution function involves the role of government in changing the distribution of income, wealth or other indicators of economic wellbeing to make them more equitable than otherwise be the case. The theory further shows that the case for regional and local redistributive functions rest on the fact that subnational levels of government provide the services most used by low-income families (Musgrave, 1959). This theory is consistent with this work because Nigeria obviously a federal state with lower levels (local governments) who do not have adequate taxing powers to meet fiscal responsibilities. The truth remains that fiscal responsibility and taxing power are still considerably centralized with the federal government, giving rise to over-reliance on the Federation Account and dominant of Federal Government in the revenue sharing.

The result of the current study however questions the opinion of Kayode., Beatrice and Josine, (2022) who revealed that fiscal federalism has no significant impact on aggregate sustainable development, environmental and natural resource development index, and social development index, but has a positive impact on economic development index. Kayode *et al*. (2022) stressed that fiscal federalism discourse among policy decision-makers in most countries seems to have been based on economic development considerations, leaving out other important dimensions of sustainable development.

Therefore, achieving sustainable development in Rivers State through fiscal federalism requires an equitable distribution of resources and responsibilities to address regional imbalances and promote inclusive growth. The distribution of revenue among the federal, state, and local governments significantly influences development outcomes. Historically, Nigeria has faced challenges relating to the equitable allocation of resources, leading to economic disparities between regions (Bird & Smart, 2002). The overreliance on oil revenue has also made the country vulnerable to external shocks, impacting sustainable development efforts. Fiscal decentralization is therefore the key to aspect of fiscal federalism which can empower local governments to address specific development needs (Bahl & Martinez-Vazquez, 2008). Effective intergovernmental relations are essential for coordinating development policies across different tiers of government because enhancing policy coordination is imperative to ensure that federal, state, and local governments work collaboratively to achieve sustainable development goals. This will require a well-structured fiscal federalism framework that should address sustainability goals through effective regulation and sustainable resource management strategies.

Fiscal Federalism and Infrastructural Development

Results of hypotheses one (Ho_1), proved that there is a positive and significant relationship between fiscal federalism and infrastructural development on the test of $H0_1$ as shown in the transformation test. The result showed that the t-transformation value was 11.87 which was greater than the t-critical value of $\pm$1.96 at 0.05 level of significance and 382 degrees of freedom. Since the t-trans value is greater than the t-crit, and the p-value (0.000) is less than the level of significance (0.05), the null hypothesis was hence rejected. This shows that there is a significant relationship between fiscal federalism and infrastructural development in Rivers State The positive outcome ($r = 0.694$) of the result of hypothesis one supports the System Theory which was also adopted for this study and propounded by David Easton in 1965. System theory's key assumptions are that government is viewed as a system with input from the people in the form of demands for economic, infrastructural, and social well-being, as well as the provision of basic requirements of life by the government for the benefit of the population as a whole. The government acts as a processing unit, taking in inputs in the form of requests, processing them, and sending out outputs in the form of authoritative choices and policy initiatives aimed at solving the problem of the masses. The idea demonstrates how the government responds to people's struggle in terms of providing fundamental requirements of their existence such as social amenities (David, 1965). The idea emphasizes how people's demands are communicated to government, how government acts on those demands, and how the outcome improves people's well-being. In utilizing the system approach to analyze the various components units of fiscal federalism and development in Nigeria, this approach perceived the environment as a system with component parts that is dependent on each other to function properly in order to achieve the goal set to achieve in an environment. Nonetheless, the result of this hypothesis raises doubt on the opinion of Odigwe and Aibieyi (2015) who examined fiscal Federalism and infrastructural development in Nigeria. They found that the pattern of fiscal federalism the military imposed on the nation has no regard for the source of production and revenue generation. This is as a result of the power bestowed upon the federal government by the constitution which gave the federal government power over taxation and payment collection, and this has gone a long way to balkanized revenue generation effort and made infrastructural development epileptic thereby subjecting states as agents to the federal government.

Fiscal Federalism and Educational Development

Results of hypotheses two (Ho_2), indicated a strong and positive significant relationship between Fiscal Federalism and educational development as shown in the transformation test. The analysis showed the t-transformation value was 19.70 which appears to be greater than the t-critical value of $\pm$1.96. Since the t-transformation value is greater than the t-critical value, and p-value (0.000) is less than the level of significance (0.05), the null hypothesis was rejected. Therefore, there is significant relationship between Fiscal federalism and educational development in Rivers State. The outcome of this hypothesis is consistent with the opinion of Ogbonnaya-Udo and Chukwu (2020) in their investigation of the effect of defense, education, and health expenditures of government on HDI in a panel of five West African countries for the period 2000–2018. The random effect result showed that the effect of expenditure differs, while expenditure on defense was negative and insignificant, the effect was positive for both educations.

This finding is in line with the fiscal decentralization theory as propounded by Richard Musgrave (1959). The theory is anchored on the stabilization and distribution functions. The theory suggests that this fiscal function (e.g. on educational expenditure) should be assigned to the national or federal government. This therefore means that national or federal government must have a broadbased tax suitable for the role (Musgrave, 1959). On the other hand, the distribution function involves the role of government in changing the distribution of income, wealth or other indicators of economic wellbeing to make them more equitable than otherwise be the case. The theory further shows that the case for regional and local redistributive functions rest on the fact that subnational levels of government provide the services most used by low-income families (Musgrave, 1959). This theory is consistent with this work because Nigeria obviously a federal state with lower levels (local governments) who do not have adequate taxing powers to meet educational need of the younger population. The truth remains that fiscal responsibility and taxing power are still considerably centralized with the federal government, giving rise to over-reliance on the Federation Account and dominant of federal government in the revenue sharing.

The Nexus between Fiscal Federalism and Sustainable Development in Nigeria

Evidence from literature revealed that fiscal federalism has an impact on sustainable development. The goal of fiscal federalism is to derive principles that can be applied to decide how to best distribute fiscal responsibilities among the various levels of government in a federation. However, in recent times, the application and practice of fiscal federalism is not limited to federation, as both federal and unitary countries are now embracing the design of some form of fiscal decentralization between the central and sub-national governments.

In the Nigerian case, a comparative study by Ekanade (2011) on fiscal federalism and development in Nigeria, and drawing from the Canadian experience posits that for Nigeria to successfully overcome the challenge of development, it must give prominence to principles such as autonomy of sub national units, predominance of civic culture, scientific equalization and dependence of intergovernmental relations on mutual convenience rather than on statues. In a study on fiscal federalism and economic development in Nigeria, Babalola (2015) submits that fiscal federalism did not promote economic development because of the weak intergovernmental fiscal system and non-adherence to fiscal federalism principles. In the same vein, other studies on Nigeria find that fiscal centralization, mismatch between revenue sources and expenditure responsibilities, predatory and politically motivated parameters of revenue allocation have contributed significantly to economic and social backwardness (Ewetan, 2012; Nwede *et al*., 2013).

Therefore, for fiscal federalism to promote sustainable development in Nigeria attention must be given to a number of issues. These issues include fiscal laws that will ensure legal framework for beneficial and dynamic intergovernmental fiscal relations, significant decentralization of fiscal responsibilities to sub-national government guided by the principles of fiscal federalism, and the nurturing of strong, transparent, efficient and independent fiscal institutions that will ensure accountability, and that can address proactively emerging fiscal challenges.

Conclusion/Recommendations

The imperativeness of fiscal federalism sustainable development resonates throughout this study. Rivers State stands at a critical juncture where economic growth, social equity, and environmental sustainability intersect. Fiscal federalism aims at deriving principles that can be used to determine the optimal allocation of fiscal functions among the different tiers of government in a federation. Based on existing theory, fiscal federalism is a factor influencing sustainable development. However, in recent times, the application and practice of fiscal federalism is not limited to federation like Nigeria, as both federal and unitary countries are now embracing the design of some form of fiscal decentralization between the central and sub central governments. The assessment of the relationship between fiscal federalism and sustainable development in Rivers State involves somewhat a complex tapestry of revenue allocation, policy autonomy, and intergovernmental relations. The assumptions of fiscal federalism theory, including subsidiarity, revenue assignment, and inter-jurisdictional competition, serve as guiding principles, but their implementation is nuanced, influenced by historical legacies, political dynamics, and socio-economic considerations. This study recommends that the government should; Government should enhance fiscal transparency and governance by promoting accountability in the allocation and utilization of public funds, Integrate sustainable development goals (SDGs) into fiscal policies to ensure that infrastructure projects, educational initiatives, and economic strategies contribute directly to sustainable development initiatives, Allocate a significant portion of fiscal resources to the development and maintenance of critical infrastructure such as roads, energy, water supply, health and communication networks to create a solid foundation for economic growth.

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