

EFFECT OF EDUCATION TAX ON THE INFRASTRUCTURAL DEVELOPMENT OF POLYTECHNICS IN NIGERIA

Okoror, Justina. A. (PhD)

Department of Taxation
Faculty of Social and Management Sciences
Prime University
Kuje - Abuja
Email: justinagreat@yahoo.com

Cross Ogohi D. (PhD)

Associate Professor
Department of Business Administration
Faculty of Social and Management Sciences
Prime University
Kuje - Abuja

Jiya Ndalo S. (PhD)

Department of Business Administration
Faculty of Social and Management Sciences
Prime University
Kuje - Abuja

&

Samuel Atta Aku (PhD)

Department of Business Administration
Faculty of Social and Management Sciences
Prime University
Kuje - Abuja

ABSTRACT

The broad objective of this study is to examine the relationship between education tax and infrastructural development of polytechnics in Nigeria. Secondary data covering the period from 1999-2018 were sourced from Tertiary education trust fund, and Bureau of statistics. The study adopted the Ordinary Least Square estimations technique for data analysis. The result of the empirical analysis shows that on the average, there is a significant relationship between education tax and infrastructural development of polytechnics in Nigeria. It is therefore recommended that relevant government agencies should put appropriate strategies in place to ensure that monies meant for infrastructural development in polytechnics are not misappropriated for other purpose thereof.

I. INTRODUCTION

Globally, Tertiary Institution's development has experienced huge challenges ranging from lack of funds for the construction and maintenance of infrastructure, affordability and accessibility, financial austerity, faculty recruitment and retention. While these challenges pose a serious threat to the development of quality tertiary education, there is no other challenge that affects the core of institutions than that posed by financial stringency (Johnstone, 1998). The decline in government spendings on tertiary education has been a worldwide crisis. China and other countries witnessed low public education expenditure to GDP of less than the 4.64% recommended by Organisation of economic and cultural development (OECD). The seriousness of this problem is addressed in a report issued by the United Nations Educational Scientific and Cultural Organisation (UNESCO) through World bank (2010), which posits, "The lack of sustainable financing therefore continues to limit enrolment growth and to skew tertiary education toward low-cost, low-quality programs"

In the most advanced countries, there has been an upsurge in the demand for policy restructuring to reduce the over-reliance on the federal and States governments to financing tertiary education. There has been a gradual shift from the provision of free higher education in some countries like United States of America, Britain, Australia, New Zealand, Botswana, Jamaica and Hungary. to a system of cost sharing where students contribute towards their education. However, the situation is quite different in most developing nations "particularly Africa and some developed nations such as Finland, Denmark, Norway and Sweden., where the financing of higher education had been the overriding responsibility of the government. Convinced of the rationale for the reduced role of the state in funding higher education, most countries have inflicted serious cuts in public budgets for tertiary education in some or all of the following areas: total public expenditure on higher education per student, total government budgeted expenditure, and allocations in absolute and relative terms to important programs that include research, scholarships, and so on.

As government subsidies for education have declined alternative mechanisms must be explored to support institutions. The increase demand for tertiary education coupled with the rate of population growth in most African countries, without any expansion and improvement of physical facilities such as lecture halls, residential facilities, laboratory equipments, library developments has hindered the enhancement of an effective and efficient system of tertiary education. (Atuahene, F.2006, 2015.). The question of funding education has led some countries to earmark percentage of earnings from a specific tax to fund education and other social facility.

Earmarking which is also referred to as 'hypothecation'-denotes diverse things to diverse persons. In an unambiguous term, it means that all income generated from a specific tax is set apart from consolidated revenue and can only be utilised for a specified government expenditure programme and fully funds that programme. Government often evaluates the preference of the people on type of social amenities and services desired. Statistics have shown that there is a large preference for health care and Education. This explains the reason some countries have dedicated account to health and education. In United Kingdom and Europe for example, contribution by employees for national insurance goes directly to the National Insurance Fund from which the benefits are paid. Also, taxes from tobacco is set aside or earmarked to support the health care system, as smoking is considered a serious threat. The revenue earned from these taxes are used in Egypt to cover health insurance and offer

prevention and therapy for students. Besides the United Kingdom and Egypt, hypothecation helps to finance health care in many countries including the Republic of Korea, Finland, Portugal, Thailand and Belgium and El-Salvador. In Ghana, 2,5% of the 17.5% VAT charged is set aside specifically for education while South American Countries like Argentina, Brazil, Costa Rica, Dominican Republic, Panama, Paraguay and Peru has some percentage of their total annual expenditure set aside for education. India, Jamaica, Nepal, and Nigeria impose a form of Education tax or levy Education tax.

The several deficiencies in the studies carried out includes inadequacy of data, lack of a statistical test of data obtained, limitations in the geographical spread of studies, lack of empirical analysis, and inadequacy of years of coverage for the infrastructures, research and publications, academic staff training and library development constitutes the gaps which has necessitated the basis for determining the fair assessment of the impact of Education tax on Educational development of tertiary Institutions in Nigeria. The inability of the studies carried out to situate the impact of education tax fund on educational development especially in core tertiary education attributes such as research and publications, infrastructure development, academic training and development and library development, constitutes a huge gap which this study will fill. It is pertinent to note that research to explain the nexus between education tax fund and the development of infrastructure, library, academic training and research is scarce in Nigeria. This study hopes to address this gap. Education tax fund intervention has gone on for some years now, and it is therefore expedient to critically examine the impact of such intervention not only in a tertiary Institution within a geopolitical zone but in tertiary Institutions that cut across the six geopolitical zones in Nigeria. The objective of this study is to contribute to the growing empirical literature on the impact of education tax fund on infrastructural development in polytechnics in Nigeria.

II. LITERATURE REVIEW

Education Tax Fund and the Development of Tertiary Institutions in Nigeria

Education Tax Fund was established by Education Tax Act No. 7 of 1993, (Ugwuanyi (2014). The Act was later repealed and replaced with Act No 40 of 1998 which established the Fund as a Trust Fund and renamed it from Education tax fund to Education Trust Fund.(Somorin 2012).The 1998 amendment changed the disbursement of the fund to 50% (Tertiary education); 30% (Primary education) and 20% (Secondary education). At the advent of a civilian regime in Nigeria this decree was renamed the Education Tax Cap.E4 laws of the Federation of Nigeria (2004).

The focus of the Fund as provided in Section 5(1) (a) to (g) of the Act No. 7 1993 as amended is to administer and disburse the amount in the Fund to Federal, State, and Local Government Educational Institutions, including primary and secondary schools, or any other matter ancillary thereto, but specifically to the following: Work centres and prototype development; Staff development and conference attendance; Library systems at the different levels of education, Research, equipment procurement and maintenance and Higher Education Book Development Fund;It is pertinent to mention that though the Fund was established in 1993, it only commenced operations in 1998 following the inauguration of its 1st Board of Trustees (BOT) by the then military government.

However, Tertiary Education Trust Fund Act (2011) was established to replace and repeal both Acts of 2003 and 2004 mentioned above. Consequently, the Tertiary Education Trust Fund was given the mandate for the restoration, rehabilitation and consolidation of Tertiary education in Nigeria from a 2 percent annual education tax on the assessable profits of all registered limited liability companies in Nigeria. (Bogoro, 2015), TETFund was established based on the outcome of a series of negotiations between the Federal Government of Nigeria, representatives of the Academic Staff Union of Universities and the private sector. The change from Education tax fund (which provided developmental assistance to primary, secondary and tertiary sectors) to TETFund was absolutely expedient as the quantum of disbursements from the Fund to the Education Sector was insufficient. Indeed. Its interventions were thinly spread across all levels of the education sector. Hence, with this new Act limiting disbursement to tertiary education sector, the fund is now repositioned for higher and meaningful impact in the Tertiary Education sub-sector.

The Fund was established to curb the deteriorating infrastructure and structure of the country's education sector. Hence, it administers the tax imposed by the Act, and disburses the amounts to educational institutions at federal and state levels. It also monitors the projects executed with the funds allocated to beneficiaries. As enshrined in its enabling Act, the Fund is managed and administered by a board of trustees comprising a chairman and 6 others drawn from each of the geo-political zone of the country. The distribution for tertiary education is to be shared as between universities, polytechnics and Colleges of Education in the ratio of 2:1:1 OR 25%:12.5%:12.5%.

For an institution to be a beneficiary of the Fund it has to meet the standard guidelines established by the Board of Trustees of the Fund for enlistment. However, such institution must be a public tertiary institution owned by either the Federal or State Government as specified in the Fund's enabling law. The Board of Trustees resolved to expend in any one year only what was collected in the previous year.

Concept of Tax

Ogundele (1999) defined tax as the procedure or hardware by which networks or gatherings of people are made to support in some agreed quantum for the sole aim of developing and managing the Society. This implies that the citizens defray some cost that ought to have been incurred by the government in providing the needs of Society. Yet another definition by Ogundele (1999) tax as the compulsory contributions by the citizens to a public authority with a tax jurisdiction. According to Onairobi, (1994); Taxes are generally charged on two major categories. A direct tax is charged on actual earnings from salary or profit on trade while an indirect tax is deducted at source when there is a payment transaction or at point of incurring expenses. Direct taxes include but not limited to Personal income tax, company income tax, capital gain tax, petroleum [profit tax and company Income Tax. Indirect taxes include sales tax, value added tax, excise duties, export duties and import duties.

Nigeria focuses on direct taxes to boost the tax -based revenue profile. Direct taxes contributed an average of 67% to the total tax revenue for the period under consideration. From 1999-2016, there was a drop in the percentage contribution of direct taxes to an average of 58%. From the year 2008, there is a noticeable reduction in the percentage contribution of direct tax to total tax revenue. The reason for this may not be unconnected with the Niger Delta crisis. There was however a slight improvement in the year 2009 which may be attributable to the federal

government amnesty programme which restored peace in the Niger Delta region. Thereafter, there was an increase to 72% in 2010 and about 81% in 2011. and from 2012 to 2016; it had been on the average of 80%.

Infrastructural Development

The highest level of human capital development is trained at the apex of the educational system known as the university. The quality and efficiency of this human capital depends on the quality and quantity of infrastructural development in such institutions. Physical infrastructure is the bedrock of any university whether in developed or developing countries, for effective teaching and learning. The major essence of infrastructure in the education of students in higher institutions is to increase relevance, aesthetics, and staff motivation as well as improve on the academic achievement of students. Infrastructural development in higher education is complex and cost-intensive. Thus, ensuring their quality and maintenance up to the global standard is very challenging. Provision of stimulating learning environment and safety is a major consideration in infrastructural development (Uche, Okoli and Ahunanya, 2011).

In order to improve on the infrastructural status in Nigeria's educational institutions, a national donor agency known as Tertiary Education Trust Fund (TETFUND) became the substantial source of financial assistance to various educational institutions especially in the construction, completion or rehabilitation of capital projects embarked upon by those institutions. Due to the commitment of the Federal government in revamping the higher education sector, most of the recent capital development projects in Nigerian institutions have been sponsored or financed by the fund and this is facilitated by the increasing inflow of funds over the years due to the efficiency of the Federal Inland Revenue Services (FIRS) in collecting the education tax fund.

Infrastructure in the context of this paper includes all physical facilities and materials, which facilitate and stimulate classroom teaching and learning aimed at achieving the stated educational objectives. The influence of physical infrastructure cannot be underestimated as any university with well qualified and adequate teaching and non-teaching staff that lacks the much-needed infrastructure will not be able to achieve its stated objectives as such inadequacy will lead to loss of interest on the path of both staff and students due to poor learning environment.

Educational infrastructure constitutes an important factor in the proper functioning of any educational system and its availability to the students can influence their academic achievement. Ehiamezor (2001) sees infrastructure as the operational inputs of every instructional programme and constitutes elements that are necessary for teaching and learning. Hornby (2006) defines infrastructure as the basic systems and services that are necessary for an organization to run smoothly which include buildings, transport, water and power supplies.

The world development report by the World Bank (1994) holds strongly the role of infrastructure towards development while the growth commission report suggests that countries that spend more of their budget on public investment tend to grow faster in comparison with countries that invest less (UNCTAD, 2006).

Fourie (2006b) opines that infrastructure can be defined in two basic ways; first by describing it based on its characteristics, while the other is by putting together all the existing infrastructure available which provide outputs and also render services such as water supply, transport, education, energy and communication. In the first method, Hirschman (1958) as cited by Fourie (2006) defines infrastructure as a form of capital which provide services usable by everyone. Often time, the features of infrastructure could be similar with those of public goods, (Fedderke and Garlick, 2008). However, these may not necessarily apply to all categories of infrastructure, especially when we look at such as infrastructure that include public goods examples being military equipment, or in another case being non-public goods which are infrastructure – an example could be privately owned transport infrastructure (Fourie, 2006a).

Srinivasu and Srinivasa- Rao (2013) define infrastructure as comprising of basic facilities and capital equipment which are necessary for economic activity and appropriate performance of a nation. As a concept, it is useful in describing several activities and is also referred to as “Economic Overheads”, “Basic Economic Facilities”, “Social Overheads Capital” and “Overhead Capital” (Snieska & Simkunaite, 2009; Srinivasu & Srinivasa- Rao, 2013; World Bank. (1994),. It is argued by Hirschman (1958) that action could be seen as a component of an infrastructure if, amongst other things, it cannot be imported, it serves as a basis for several other productive and social activities to also take place, it is built or provided by the government, or on the other hand by private companies where some level of government control is also involved. Finally, it must also be difficult for it to be divisible technically (Srinivasu & Srinivasa- Rao, 2013). Although no general way exists, yet a shared component of every definition is referring to infrastructure as capital goods made available with a long-term aspect(Snieska & Simkunaite, 2009).

Oftentimes we find out that it appears that economist and urban planners tend to have a perspective in relation to the issue of what comprises of infrastructure. They see it from two angles, namely, “economic and social infrastructure” (Fourie, 2006b; Snieska & Simkunaite, 2009). In this context, economic infrastructure, they define it to be a form of infrastructure with the aim of promoting economic activity and examples includes “roads, highways, electrical lines, railroads, airports, seaports, telecommunications, electricity, water supply and sanitation” (Fourie, 2006). While social infrastructure, on the other hand, involves the human capital aspect of an economy. A certain ideology suggests that this aspect has to do with the well-being of the citizenry such as in terms of health, education and other social dimensions that generally improve human well-being (Fedderke & Garlick (2008).

According to the Economic Institute (2012), infrastructural development improves the country’s capital stock by investing in core essential physical infrastructure such as rail lines, roads, airports, bridges, and water distribution), human capacity development, green investments (clean power sources and weatherization). All of these investments ultimately result in improving a country’s productive capacity and living standards. The classical reason justifying public provision of infrastructure is traceable to the idea of public goods and market failures. The argument is that markets may not find the motivation to engage in the supply of socially beneficial public good because it is non-rival and non-excludable. Probable under-provision of infrastructure also occurs where services display network effects, positive externalities, or natural monopoly characteristics.

According to IMF (2015), infrastructural investment is defined as the gross fixed capital formation (GFCF) of the government and consists of all government purchase of assets that are

fixed in nature over time though in an accounting sense, we can look at a given accounting year or fiscal period. The government in this sense includes central and sub-national governments, but does not include other public bodies, such as those enterprises owned by the state and those that involve a collaboration between government and the private business organisations. In addition, IMF also goes further to define public capital stock as the sun total value of public investment looking at it over time, with adjustments made for depreciation and in the production of public infrastructure remains a primary input.

The IMF (2015) notes further that after thirty years of continuous decline, infrastructural investment as having a part of GDP has started gaining ground in some nations. For advanced economies (AEs), records show a continuous fall in average public investment has fallen to a little above 3 per cent of Gross domestic product in 2012 from a point little below 5 per cent of GDP at the latter end of 1960s Whereas, for emerging markets (EMs) and low-income developing countries (LIDCs), the public investment rates stood at over 8 per cent of GDP in the late 1970s/early 1980s, later dropped to around 4-5 percent of GDP in the mid-2000s, but have since improved and bounced back to about 6-7 percent of GDP. So, in general, rates of public investment in AEs have lingered.

Truger (2015) discussing within the framework of the golden rule of public investment referred to infrastructural spending as those public finance that have good effect on the economy. Nonetheless, this meaning could be viewed in some respect as being quite narrow to what a standard definition of government spending. Olufemi, (2012) described infrastructure as generally a combination of structural parts. Available infrastructure will make people to be creative, innovative, gainfully employed, self-reliant, wealth creators and will ensure security.

Anderson, de Renzio and Levy (2006) defined infrastructural spending to be public expenditure which increases the level of the physical capital owned by the government and it covers such areas as roads construction, the building of schools, hospitals etc and this view is in tandem with the way the national accounts record public investment data. They opine that the desire to meet the millennium development goals is one factor that has led to huge investment in infrastructure which is no doubt needed to drive developmental efforts. However, Vålilä and Mehrotra (2005) opined that a form of confusion lies in the expressions” public investment and “investment for infrastructure”. As much as it has been proven that a lot of government expenditure is in the area of infrastructural investment, not all infrastructural investments are public investment, and this is logically so because there exists several infrastructure investments that are carried out by commercial entities and are most often mistakenly believed to be public investment. The authors reveal that the only forms of investment that qualify to be public investment are those that are financed by the government budget.

Infrastructure is the basic physical and organizational structures required for the proper running of education that is creating and establishing industries, buildings, health services, power supply, roads and railroads, telecommunications, etc. It is the enterprise or products, services and facilities necessary for an economy to function, (Sullivan & Sheffrin,2003). In the same vein, consequently, this explains that infrastructure is a vital element that brings about quality educational development in a society.

Tertiary Education System in Nigeria

The function of education in a person's advancement cannot be overemphasized. It makes man to enlarge at a greater speed than other living beings hence education is a vital tool in the society. Education is the foundation for all sectors of human lives such as – agricultural, industrial, political, medical, and security (Idogho & Imonike, 2012). Education in Nigeria is focused on self-realization, human association, nationwide competence, valuable citizenship, public consciousness, unity, social, economic, cultural, political, scientific and technological progress (Federal Government of Nigeria, 2004).

Nigeria education is divided into three sectors, which are basic, post-basic/senior secondary and tertiary education. In the words of Omojomite (2010), the Nigerian Education sector has passed through the phase of rapid growth expansion – (1980); and the phase of rapid growth decline in the sector (1981 – 2009). There is an indication that the trend of events may still remain the same with the later period to date (Obi & Obi, 2014). The universities, polytechnics, institute of technology, and colleges of education constitute tertiary education in Nigeria. The universities are also categorized as Federal or State Universities, and subsequently as first, second, or third-generation universities (Hartnett, 2000). The federal government owns and funds Federal universities while the State Governments own and fund state universities.

Tertiary Institutions in Nigeria can be further broken down into the public or private, and the university or non-university sectors. Public universities, owned by the federal and state governments, dominate the higher education system. The non-university sector is composed of polytechnics, institutions of technology, colleges of education, and professional institutions. Indeed, most of the non-University institutions are affiliated with universities hence there is no sharp distinction between the university and the non-university sectors. The Institutions of learning have regulatory bodies governing their affairs. These are National Universities Commission (NUC) for Universities, the National Board for Technical Education (NBTE) for Polytechnics and Colleges of Technology, National Commission for colleges of Education regulates colleges of Education. More often than not, the government funds the activities of the tertiary Institutions through the regulatory bodies. In the recent time Government through the National Universities Commission made it mandatory for all Federal Universities to generate 10% of their annual funds internally.

According to reports of Okojie (2010) all federal universities funds are released to them by Federal Government through the National Universities Commission (NUC) and it is differentiated into capital and recurrent grants with the recurrent grant to be disbursed based on NUC funding criteria of 60% on personnel cost and 40% on overhead cost, out of which library cost, research cost and capacity building cost are allocated 10%, 5% and 1% respectively. The Federal, State and Local Governments share the role of directing the education sector in Nigeria. The Federal government is empowered to formulate policy for the education sector, regulate all Educational sectors and ensure reliable quality control. It is worthy of note that Education is on the concurrent list of the Constitution hence each tier of government focus on a specific type of education. The Federal government deals with post-secondary education. The states manage secondary the local government takes care of primary education. However, to enhance the quality of education in the country the Federal government is expected to assist the state and local governments on counterpart funding.

Tertiary education is being supervised by commissions set up by law and which operate as parastatals of the Federal Ministry of Education. The Commissions play the role of ensuring quality standard of education through regular accreditation programs. They also formulate

policies for smooth running of the institutions, distributes and monitor the spending of government funds released and the appointment of members of governing councils, . The federal government is confronted with the task taking care of federal universities. According to Okebukola (2008) the discouraging quality of education in Nigeria has been explained in part by the insufficient funding of the system. The fate of the educational system in Nigeria is, perhaps, at a bottom level. It has been discovered that most of the problems of universities in Nigeria are traceable to inadequate funding (Ajayi & Adeniji 2009). There has been a constant lowering of the system in the last two.

Bamiro and Adedeji (2010) observed that the Nigerian governments spend about 1.3.1% to 2% on education sector. This has consequences for growth because education remains the catalyst for growth of any nation. Therefore, appropriate financial funding is the driving force behind academics and research. The implication of inadequate release of funds for the sector are visible in our higher Institutions. Institutional research projects have been deserted, laboratories and libraries are ill-equipped, lack of conference attendance by employees while the local and international award of study grants has been vehemently reduced.

Tertiary Education Development in Africa

Higher education in Africa is as old as the pyramids of Egypt, the obelisks of Ethiopia and the Kingdom of Timbuktu. The oldest university still existing in the world is Egypt's Al-Azhar, founded as and stills the major seat of Islamic learning (Teffer & Altbach, 2004, p.3).The development of higher education in Africa cannot be separated from the past and present political developments of the continent. Colonization and the quest for power by the British, Spaniards, Belgians, Germans, Portuguese, the Dutch and Italians, influenced the development of modern universities in Africa. However, prior to Africa's contact with European colonizers, Africa had developed its own traditional and ancient universities, responsible for the production of knowledge. Even though, there are concerns about the relevance of those ancient institutions, they served as pacesetters of higher education development in the continent. For example, the Library of Alexandria, with its museum and library complex became the hub of knowledge and resource across the world (Lulat, 2003).

At the same time, the spread of Islam was accompanied by development of higher education in pre-colonial Africa. Institutions such as Ez-Zituona Madrassa were created in 732 B.C. in Tunis, Quarouyine Mosques University was established in Fez in 859 B.C, Azhar Mosque University developed in 969 B.C. at Cairo and Sankore Mosque University founded in twelfth century in Timbuktu, Mali, (Lulat, 2003). But what differentiated these institutions from modern ones was that "...the curriculum was narrow and heavily religious in orientation, and their approach to knowledge lacked the secular method of rationalism and scientific inquiry" (p.16).Following the pre-colonial institutions were those institutions that thrived in Arabic Africa. The first modern university, the University of Rabat, was created in 1957 (Lulat, 2003). This new development witnessed serious political struggles among different colonial powers, especially the struggle between France and Spain for the possession of colonies form part of the type of higher education they created in their respective protectorates. In 1882, the British found their way to Arabic Africa in honour of a request for help to "quell a 23 mutinous army" by Tawfik Pasha's government (Lulat, 2003). University of Cairo, an institution rated among the largest in Africa with over 77,000 student population was then established in 1908 (Lulat, 2003).

Although, the British played a role in higher education development in Africa, her colonial policy has no clearly defined higher education policies for her colonies. As remarked by Lulat (2003), “[i]n the early years of British colonialism, direct government involvements in the provision of formal education was minimal, restricted by and large to providing subventions to educational institutions founded and run by missionaries” (p. 18). In the same vein Ashby (1996) as cited by Lulat (2003), also noted that the British government did not have formal policy of higher education for the colonies prior to the First World War .Such restrictive colonial policies instituted in Africa, particularly sub-Saharan Africa greatly impacted on the development of higher education programs, until the end the late 1940s. In West African countries such as Ghana, Nigeria and Sierra Leone the creation of commissions as a result of nationalists struggles paved way for the creation of commissions that considered the possibility of establishing tertiary education.

Empirical Review

Impact of Education Tax on Infrastructural development of Universities in Nigeria

Nagbi and Micah (2019) carried out a study on the Tertiary Education Trust Fund and Development of Higher Institutions in Nigeria. The objective of the study is to find out the relationship between Tertiary Education fund and Infrastructural development in the Universities. Expost facto research design was adopted. Secondary data were collected from Tetfund, Bureau of statistics and Central Bank of Nigeria. Serial Correlation and simple regression tool were utilized for the analysis.. The study accepted the null hypotheses and concluded that there is no significant relationship between tertiary education trust fund and library development in tertiary institutions in Nigeria within the period of this study. This finding was not in line with the findings of Adeyemi (2011) that investigated the funding of Nigerian public higher institutions and found significant relationship between tertiary education trust fund and development of Nigerian higher institutions. The period covered in this study was five years and the test carried out did not cover sufficient years to form an opinion on the contribution of education tax on the development of tertiary institutions in Nigeria. . Moreover, the study was limited to Federal Universities in Nigeria which may not be adequate to form an opinion about tertiary institutions in Nigeria.

Afolayan (2015) carried out a study on Funding Higher Education in Nigeria. He analysed the trend of disbursements from Federal Ministry of Education through National Universities Commission to Federal Universities in the area of Capital expenditures, direct teaching and laboratory cost and teaching and research equipments from 2009 to 2013. Further trend analysis of disbursements through Tetfund to Universities, Polytechnics and colleges of education for Projects, Library developments, Academic staff training and developments and Research and developments covering the period 2009 to 2013. The paper observed some gaps in the funding particularly the noticeable difference between the allocated fund and what has been accessed by the tertiary institutions resulting in insufficient funding.. The study concluded that Tetfund intervention is inadequate to meet up the needs of tertiary institutions and the resultant effect is brain drain, poor educational facilities in Nigeria, the rate decadence of Nigerian universities are rapidly alarming. He further decried the effect of limited number of hostels, library space, theatre halls, laboratories and books. The study cover a period of five years which may not be adequate to draw conclusion regarding funding of higher education in Nigeria.

Agha (2014) undertook a study on Funding University Education in Nigeria: Implications on Institutional Performance. The study adopted African political economy model to explain the Nigerian Universities financial State and The Resource–Based model is adopted for this study as a strategy for sustaining financing of universities. The study analysed funds injected by Federal Government into Federal Universities from 1988 to 1998 as well as the interventions of Tetfund in Infrastructural development, Library development, training and research from 2000 to 2006. Findings revealed that although the Federal Government provides about 90 percent funds, it has not been able to successfully finance the system and this had had effect of limited laboratories and equipments, reduction in number of conferences attended, dwindling number of books purchased for the library, embargo on employment, limited admission. The consequence is that the goals of university education in Nigeria are yet to be achieved. This study principally utilised literatures and lacked empirical test and this implies that the findings are subjective.

Udu and Nkwede (2014) carried out a study anchored on tertiary education trust fund interventions and sustainable development in Nigerian universities: Evidence from Ebonyi State University. This study adopted content analytical approach. Data were collected using documentary instruments, physical observations and interviewing university officers that deals directly with Tetfund and familiar with the process of disbursement and utilisation of fund. The Interventions of Tetfund in infrastructures, Library development, Academic staff training, research and development, conference attendance were analysed in details to show the impact of Tetfund in Ebonyi State University. The study concluded from its findings that TETFUND interventions in Nigeria universities particularly in Ebonyi State University impacted positively on infrastructural development while the implications for sustainable development were also positive.

Ugwoke (2013) in his paper on tax law and administration in Nigeria examines the administration of the ETD of 1993 as amended by Act No 40 of 1988. It concludes that with improved transparency and accountability, rigorous training and retraining of the staff of the fund in tax audit and monitoring of project implementation, encouragement of the beneficiaries of the fund to shun their current lackadaisical attitude to the accessing and utilization of the Education Trust Fund money, the Education Tax Act will survive the present onslaught by the organized private sector who is recently very vocal about and against multiple taxation in the economy.

Adeyemi (2011) reviewed education funding in Nigeria; A study of the finances on education from inception of formal education in the country. The study shows the total income earned by the Federal Government and the amount of fund allocated to education sector over a number of years covering infrastructures and recurrent expenditures. The outcome of the study shows that less than 17% has been utilised to fund education contrary to UNESCO minimum standard of 26% of national budget. The researcher, therefore made suggestions on how to effectively fund education in the country and recommended other sources of funding education for future development.

Ekundayo and Ajayi (2009) examined the myriads of problems militating against the effective management of the Nigeria university education system. According to their study, these include worsening financial situation, bad social amenities, purse of jobs outside Nigeria, removal of university autonomy, graduate unemployment, militancy among student's activism, secret cults, sexual intimidation and exam malpractices. The study found out that there are insufficient

infrastructures, and this has negatively affected education and the major aims of turning out top-level manpower for national development for which the university education is meant are not being realised as a result of the numerous challenges holding down the governance of the university system. This study focused on literature review without any empirical analysis. The findings may therefore be subjective.

Theoretical Framework

Public Goods Theory

Public Goods Theory by was propounded by Samuelson (1954). The theory was developed on the premise of two principal postulations. (i) A good that is manufactured for specific consumers can be used up at no marginal cost by other consumers. (ii) There is non-prohibitability which implies that people cannot be stopped from using the good that has already been manufactured. In the words of Samuelson, Private sectors may manufacture less of such goods or may not even be willing to produce 1 goods with the above descriptions at all. Consequently, it becomes imperative for government to compel persons or entities to give to the making of public goods so as to enhance economic efficiency and allow every citizen to used them. A public good is a good made by the State for the overall gain and accessibility of her nationals. The explanation provided by Narain (1986) yields a better understanding to the public goods analysis. For Narain (1986), there are three features of “publicness” (a) Public purpose (b) Public ownership, and (c) Public control.

For this study, education is regarded as a public good. The public goods theory gives credence to the huge spendings in education. Considering the variety of externalities associated with education, it can be safely assumed that only Government can successfully provide education services to the nationals. The polytechnics are public enterprises possessed and run by the government in the interest of the public hence, accountability is required from the polytechnics authorities. Obviously, the allocation and disbursement of TETFund projects into various tertiary institutions like Universities, Polytechnics, and College of Education is to ensure that goods (education) with the public –goods features are supplied judiciously. In doing so, education as “public good will be accessible for most of the citizens at a minimum or affordable cost and also promote mutual benefit for government and relevant stakeholders. The relevant of this theory to the study is that it offers a mechanism and structure for education to be recognized as the public goods, and which is the sole responsibility of the government to give appropriate allocation to the sector in every year financial appropriation.

III. METHODOLOGY

The technique used in analysing and estimating the time series data collected is Linear Regression using the ordinary least squares regression techniques. (OLS) the study is interested in cause-and-effect relationship and since secondary data is available, regression is best suited for the analysis.

$$\text{INFDEVPOL} = f(\text{TETFUND})$$

$$\text{INFDEVPOL}_t = \beta_0 + \beta_1 \text{TETFUND}_t + \varepsilon$$

Where:

INFDEVPOL = Infrastructural Development of Polytechnic

TETFUND = Tertiary Education Tax fund

β_1 = Coefficient of the predictor variables

ε = error term

t = time covered by the study (1999 to 2018)

Data Analyses and interpretation

Table 1: Descriptive statistics

	INFDEVPOL	TETFUND
Mean	4.22E+09	8.29E+10
Median	1.75E+09	5.30E+10
Maximum	1.74E+10	2.06E+11
Minimum	4.50E+08	5.63E+09
Std. Dev.	5.01E+09	7.58E+10
Skewness	1.369819	0.444725
Kurtosis	3.624033	1.580629
Jarque-Bera	6.579199	2.338113
Probability	0.037269	0.310660
Sum	8.44E+10	1.66E+12
Sum Sq. Dev.	4.78E+20	1.09E+23
Observations	20	20

Source: Researcher' computation (2022) Using Eviews 8.0

The result of the descriptive statistics in Table 1 shows the statistics of twenty (20) recorded observations from Tetfund official data of revenue generation and releases for academic development. It shows that TETFUND has a mean value of 8.29E+10, while its standard deviation is 7.58E+10, it has a Jarque- Bera value of 2.338113. INFDEVPOL which is the main variable of interest as it is the dependent variable, has mean value of 4.22E+09 and a standard deviation of 5.01E+09. Both variables exhibited positive skewness.

Table 2: Correlation matrix
Covariance Analysis: Ordinary
Date: 11/22/22 Time: 08:58
Sample: 1999 2018
Included observations: 20

Covariance		
Correlation	INFDEVPO	
	L	TETFUND
INFDEVPOL	2.39E+19 1.000000	
TETFUND	2.28E+20 0.630914	5.45E+21 1.000000

Source: Researcher' computation (2022) Using Eviews 8.0

Table 2 above shows the association among the variables employed in this study. It shows that the TETFUND has a high positive correlation with INFDEVPOL with correlation coefficient value of 0.630914.

Table 3: Regression result

Dependent Variable: INFDEVPOL
Method: Least Squares
Date: 11/22/22 Time: 08:59
Sample: 1999 2018
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.56E+08	1.34E+09	0.562835	0.5805
TETFUND	0.041759	0.012104	3.450066	0.0029
R-squared	0.398053	Mean dependent var		4.22E+09
Adjusted R-squared	0.364611	S.D. dependent var		5.01E+09
S.E. of regression	4.00E+09	Akaike info criterion		47.15026
Sum squared resid	2.88E+20	Schwarz criterion		47.24983
Log likelihood	-469.5026	Hannan-Quinn criter.		47.16970
F-statistic	11.90296	Durbin-Watson stat		2.142049
Prob (F-statistic)	0.002856			

Source: Researcher' computation (2022) Using Eviews 8.0

Table 3 above shows the result of ordinary least square (OLS) regression estimate. It has an R-squared value of 0.398053,an indication that about 40% of the systematic variation of INFDEVPO Lon the average, is explained by TETFUND, while the balancing 60% is captured in the stochastic error term (ϵ). This means that the model has a low predictive power. However, after adjusting for degree of freedom, this resulted in an Adjusted R-squared value

of 0.364611; an indication that about 36% of the systematic variation of INFDEVPOL on the average, is explained by TETFUND, while the balancing 64% is captured in the stochastic error term (ϵ_t). Given an F-statistic value of 11.90296 and Prob (F-statistic) value of 0.002856 the model on the average can be said to be statistically significant at 95% confidence interval. This means that there exists a significant relationship between INFDEVPOL and TETFUND.

The results of the estimate show that TETFUND have absolute t value of 3.450066 and corresponding probability value of 0.0029, hence significant at 95% confidence interval. This means on the average, that there is a significant relationship between INFDEVPOL and TETFUND.

IV. CONCLUSION

This study is an empirical investigation of the relationship between education tax and infrastructural development of polytechnics in Nigeria. The need for infrastructural development cannot be overemphasised in Nigeria's tertiary institutions, and with the fact that the need for enhanced technical education has continually been stressed so as for the country to attain its desire for technological advancement. However, the result of our empirical analysis shows that on the average, there is a significant relationship between education tax and infrastructural development of polytechnics in Nigeria. It is therefore recommended that relevant government agencies should put appropriate strategies in place to ensure that monies meant for infrastructural development in polytechnics are not misappropriated for other purpose thereof.

REFERENCES

- Adeyemi, T.O.(2011) Financing of Education in Nigeria: an Analytical Review
- Afolayan, F.O. (2015), Funding higher education in Nigeria. *IOSR Journal of Research & Method in Education (IOSR-JRME)* e-ISSN: 2320-7388,p-ISSN: 2320-737X Volume 5, Issue 1 Ver. I (Jan - Feb. 2015), PP 63-68
- Agha, N.C. (2014). Human capital development and organisational performance. A study of selected chief executives of firms in South East of Nigeria. *EBSU Journal of Contemporary Management (1): 66-73*
- Agha, N.C & Udu G.O.C, (2016). Effects of manpower development on workers' job performance
- Agha, N. C. &Udu, G.O.C.(2019).Quality and relevance of Tertiary Education Trust Fund Intervention researches in tertiary institutions in South East Nigeria (2010-2015). *International Journal of Development and Management Review (INJODEMAR)*, 4(1), 85-95
- Ajayi, I. A.& Ekundayo, H.T. (2006). Funding initiatives in university education in Nigeria –Being a paper presented at the National Conference of Nigeria. Association for Educational Administration and Planning (NAEAP) Enugu State. University of Science and Technology, Enugu State. pp. 76-78.
- Ajayi, I. A & Ekundayo, H. T.2008. The Deregulation of University Education in Nigeria: Implications for Quality
- Ajayi, O.A. (2018). Tertiary education trust fund (TETFUND) policy in Nigeria: An Overview. *International Journal of Politics and Good Governance*, 9(3), 1-16.
- Anderson, S. (1999). The relationship between school design variables and scores on the Iowa test of basic skills. Athens, Ga: University of Georgia
- Atuahene, F, (2006)., *A policy analysis of the financing of tertiary education institutions in Ghana: An assessment of the objectives and the impact of the Ghana Education Trust Fund*, Thesis work at Ohio University. United States Of America
- Atuahene, F, (2009) Financing Higher Education through Value Added Tax: A Review of the Contribution of Ghana Education Trust Fund (GETFund) in Fulfillment of Act 581.
- Bamiro, O.A.,&Adedeji, O.S. (2010). Sustainable financing of higher education in Nigeria. *University of Ibadan Press. Ibadan, Nigeria*
- Bamiro, O.A.(2012). Tertiary education in Nigeria and the challenge of corporate governance in TETFund 2012 strategic planning workshop for benefitting institutions held at National Universities Commission Auditorium, TETFUND: Abuja, 2-16.

- Bogoro, S. E (2015) “Sustainability of Higher Education Institutions in Nigeria: Challenges and Prospects”, Being invited paper presented as Guest Speaker at the 44th Air force Institute of Technology Convocation Lecture
- Chan, T.C. (1996). Environmental impact on student learning. Valdosta, G.A Valdosta state college, school of education. (ERIC) Document reproduction service No. ED 406722
- Fedderke, J. W., & Garlick, R. (2008). Infrastructure development and economic growth in South Africa: A Review of the Accumulated Evidence. University of Cape Town, Policy Paper 12
- Fourie, J. (2006b). Economic Infrastructure: A Review of Definitions, Theory and Empirics. South African. Journal of Economics, 74(3), 530-556.
- Hornby, A.S. (2006). Oxford Advanced learners dictionary of current English (7th Edition). New York: Oxford university press.
- IMF, (2004), Public Investment and Fiscal Policy, Retrieved from <http://www.imf.org/external/np/fad/2004/pifp/eng/pifp.pdf>
- IMF, (2005b), Public Investment and Fiscal Policy - Lessons from the Pilot Country Studies, International Monetary Fund.
- IMF, (2015). The fund’s facilities and financing framework for low-income countries, SM/09/55, SM/09/55 Supplement 1, SM/09/55 Supplement 2, (Washington: International Monetary Fund).
- Johnstone, D.B., Arora, A. & Experton, W. (1998). The financing and management of higher education: *A status report on worldwide reforms*, World Bank, Human Development Network, Education
- Johnstone, O.B. (2005), The costs of higher Education. World -wide issues and trends for the 1990s paper presented at the Pennsylvania State University Sesquicentennial celebrations.
- Nagbi, Z., & Micah, L.C. (2019).Tertiary education trust fund and development of higher institutions in Nigeria. International Journal of Innovative Finance and Economics Research, 7(2):10-23.
- Narain, L. (1986). Principles and Practice of “Public Enterprises Manager”. S. Chand and Company, New Delhi, India.
- Obi, Z. C. & Obi, C. O. (2014). Impact of government expenditure on education: the Nigeria Experience International Journal of Business and Finance Management Research, 2(2104), 42-48.
- Ogundele, E.A. (1999). Elements of Taxation, Lagos Libriservices Nigeria limited , ISBN 78-2372

- Okebukola, P. C. (2008). Education reform: Imperatives for achieving vision 20-2020. Paper Presented at the National Summit on Education Organized by Senate Committee on Education, held at Sheraton Hotel. Abuja.
- Okojie, J. A. (2010). System and Strategy for Funding Nigerian Universities. Retrieved from <http://www.naps.org.ng/index>.
- Omojomite, B.U.(2010). Education and economic growth in Nigeria: A Granger causality analysis. African research review. An International Multi-Disciplinary Journal, Ethiopia. 4(3a):90-108.
- Organisation for Economic Cooperation and Development (OECD) (2002). Frascati Manual Proposed Standard Practice For Surveys On Research And Experimental Development OECD, Paris.
- Onairobi, (1994). Analysis of the effect of tax revenue on economic growth Osuala, E. C. (2005). Research Methodology. Enugu: New Generation Books.
- Oziegbe, S.A. & Omonkalo, B.O. (2014). An Empirical Investigation of the Functionality of Nigeria's Tertiary Education System. JORIND 12 (1) June.
- Samuelson, P. A. (1954).The pure theory of public expenditure. .Review of Economics and Statistics, 36(4), 387-389
- Snieska, V. & Simkunaite, I. (2009). Socio-Economic impact of Infrastructure investments. Journal of Engineering and Economics, 3(1).
- Somorin, T. (2012). Teju Tax Refeence on Nigerian tax system, Accounting and Taxation terms. Malthouse Press Limited, Lagos Nigeria
- Somorin, T. (2015) Concise Review of Different Tax Types, ASCO Publishers, Lagos Nigeria
- Srinivasu, B. & Rao, P. (2013). Infrastructure development and economic growth: Prospects and perspective. Journal of Business Management and Social Sciences Research, 2(1), 8191
- TETFund Act (2011).“Tertiary Education Trust Fund (Establishment Etc) Act 2011 ”.<http://www.tetfund.gov.ng/index.php/about-us/structure/tetfund-act>
- Trugger, A.(2015). Implementing the golden rule for public investment in Europe- guarding Public investment and supporting the recovery, Working Paper, -Reihe der Ak Wien
- Uche, C.M., Okoli, N.J. &Ahunanya, S. (2011). “Infrastructural development and quality assurance in Nigerian higher education” .Journal of Emerging Trends in Education Research and Policy Study.(JETERAPS), 2 (1).9-16.
- Udu, L.E, &Nkwede, J.O. (2014).Tertiary Education Trust Fund interventions and sustainable development in Nigerian universities: Evidence from Ebonyi state university, Abakaliki. Journal of Sustainable Development, 7(4), 191-205

Valila, T & Mehrotra, A (2005) Evolution and determinants of public investment in Europe No 2005/1, Economic and Financial Reports from European Investment Bank, Economics department

United Nations development report: Human Development Report, 1994, UNDP

World Bank (1995). Higher Education: The lesson of experience. Vol. 30, No. 2, Sep., 1995
Published by: Springer . <https://www.jstor.org/stable/i368366>. Washington, D. C:

World Bank IBRD, (2019) World bank paying taxes report.

World Health Organisation Earmarked tobacco taxes: lessons learnt from nine countries
ISBN978 92 4 151042 4 (NLM classification: WM 290 2016.

APPENDIX

Education tax collections

Table 1	
Year	N
1999	10,330,000,000
2000	5,630,000,000
2001	8,680,000,000
2002	16,090,000,000
2003	10,130,000,000
2004	9,440,000,000
2005	17,120,000,000
2006	21,610,000,000
2007	27,720,000,000
2008	50,530,000,000
2009	55,550,000,000
2010	137,570,000,000
2011	88,970,000,000
2012	128,520,000,000
2013	188,360,000,000
2014	189,610,000,000
2015	206,400,000,000
2016	130,120,000,000
2017	154,960,000,000
2018	201,000,000,000
Grand total	1,658,340,000,000

The above table represent data on education tax collected in the years under consideration

Source: CBN, TETFund

YEAR OF INTERVENTION	INFRASTRUCTURAL DEVELOPMENT
	POLYTECHNIC
	DISBURSEMENT (N)
1999	1,087,212,713
2000	450,000,000
2001	890,000,000

2002	1,124,365,259
2003	550,199,999
2004	574,200,000
2005	972,349,003
2006	1,014,000,000
2007	1,312,803,803
2008	2,159,096,197
2009	1,861,367,000
2010	5,828,775,000
2011	8,196,488,172
2012	10,100,775,256
2013	11,401,299,939
2014	17,411,608,445
2015	2,906,901,756
2016	12,899,910,420
2017	1,630,760,000
2018	2,006,550,000

Total 84,378,662,962

Source: Tefund (2020)