Research Article

IMPACT OF EDUCATION TAX ON RESEARCH AND DEVELOPMENT IN TERTIARRY INSTITUTIONS IN NIGERIA

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A R T I C L E   I N F O

A B S T R A C T

The aim of the study is to empirically examine the impact of education tax on research and development in tertiary institutions in Nigeria. The study adopts an ex-post facto research design and secondary data sourced from the Tertiary Education Trust Fund (TETFUND) and the Bureau of Statistics covering the period from 2008-2017. The study employed the Ordinary least squares regression technique for the estimation of the data. The trend performance of funding for research and development in tertiary institutions using Education tax for the period under review as depicted by the graph shows a pattern suggesting significant points of highs and lows over the period cycle. The findings reveal that the performance of Research and development and its growth rate is characterized by upward and downward movements indicative of instability. Education tax, on the other hand, was experiencing year on year growth, The regression result reveals that though education tax has a positive effect on Research and development, it is, however statistically insignificant at 5%. This was attributed to the fact that funds allocated to tertiary institutions were under accessed due to the institutions' inability to meet conditions set by Tetfund for continuous access. The study recommends that all academic staff should develop skills, more interest in research and apply for the fund in accordance with stipulated formats provided by Tetfund. Indeed tertiary institutions should be determined to access and collect fully allocated research grants by setting up a viable committee with a specific goal at ensuring that spelled out conditions are fulfilled and grants obtained.

INTRODUCTION

Research and development is very important for every tertiary Institution and it is indeed one of the reasons for the establishment and operation of tertiary institutions across most countries of the world, The quality of tertiary institutions could also be adjudged on the premise of their research standards and practices, hence government provides necessary funding to tertiary institutions to encourage its conduct of research that will have impact on the economy as a whole. In Nigeria for instance, apart from statutory provisions of fund made available to tertiary institutions by federal government through budgetary allocation, there is also the establishments of other interventionist apparatus such as the Tertiary Education Tax Fund (Tetfund) by government to ensure that the sector is given adequate funding in order for it to run optimally without itches.

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This presupposes that any shortfall arising from government statutory provisions would be augmented by interventionist agencies as the case may be.

Tertiary Education Tax Fund (Tetfund) is the current statutory agency of government that has been so established by relevant laws to assist tertiary institutions in this regard, and it is envisaged that revenue accruing from Tetfund by way of Tertiary Education Tax (T.E.T) will serve this purpose. .T.E.T came into being after series of legislations and amendments to Education Tax; Education Tax Fund (ETF) was established by the Education Tax Act No. 7 of 1993, amended by Act No. 40 of (22nd December) 1998 and subsequently repealed by Tertiary Education Trust Fund (Tetfund) Act, 2011. The Act provides that 2 percent rate shall be charged on the assessable profits of all registered companies and organisations in Nigeria, and the assessable profits shall be as determined by the relevant applicable tax laws either in the Companies Income Tax Act or the Petroleum Profits Tax Act as the case may be. Tertiary Education Trust Fund (Tetfund) Act, 2011 which is the legal framework for administering Tertiary

Education Tax (T.E.T) tends to narrow down the beneficiary of proceeds accruing from this tax to tertiary institutions as against the provisions of ETF that was for the intervention and development of all levels of education from basic up to university level.

The extent to which revenue accruing from T.E.T have been able to satisfy its interventionist functions in addressing the inherent challenges of financial deficit among tertiary education in Nigeria is still debatable owing to lingering industrial crisis between university unions and government over the years which is largely premised on varieties of factors such as: infrastructural deficit, inability of university graduates to effectively and efficiently defend their degrees, poor research and development funding facility, shortfall in the quality of education, and limited resources in carrying out training and retraining of staff to mention but a few. Ajayi (2018) opined that the history of tertiary education funding in Nigeria can be traced back to 1948 when University College Ibadan (UCI) Nigeria was created following the recommendation of the Elliot Commission, with its funding coming from two sources; the financing of UCI as at the time was 70% by Nigeria government and 30% by the British government. These dual sources of fund in the case financing of UCI in its formative years could be suggestive of the fact that the issue of funding challenges is as old as the existence of tertiary education in Nigeria.

It appears the perceived problem of financial deficit is still prevalent among tertiary institutions in Nigeria till date despite the existence of interventionist funding mechanisms like T.E.T. This assertion is corroborated by a study in 2010 by the World Bank which exposes the fact that the challenge of higher education funding is well pronounced in the African region than the entire world (Ajayi, 2018). In a similar development, the inability of successive government in Nigeria to meet the budgetary benchmark of the United Nations Educational Scientific and Cultural Organization (UNESCO) recommendation of 26% of the local budget allocation to Education Sector is a sufficient justification for the establishment of T.E.T (Ajayi & Ekundayo, 2006). However, determining whether T.E.T has an impact on tertiary educational research and development in Nigeria appears like a puzzle, judging by the claims of the low quality of research conducted in Nigeria universities hence the focus of this study. The specific objective is to; examine the impact of education tax on research and development in Tertiary Institutions in Nigeria.

Research and development constitute an expenditure unit in any tertiary institutions and the quality of research is largely a function of the funding available depending on the circumstance. The problems of limited financial resources usually impede the progress of carrying out research in Nigerian universities, and in an attempt to mitigate such challenges among others, TETFUND was established. Despite this innovation of TETFUND, it is yet unclear if the problem of research funding in Tertiary Institutions has been addressed head-on, as empirical intuition and findings from existing empirical studies seem not to be in agreement, which is a major motivation informing the conduct of this study. Some studies carried out in this area include Udu and Nkwede (2014), Adavbiele (2016), and Agha and Udu (2019).Adavbiele (2016) identified problems of internal control, poor accounting systems, and bad administrative

tendencies are responsible for Tertiary Education Tax (TET) inability to achieve its sets out objectives. The inherent limitation of Adavbiele (2016) study just like some other studies is that it didn't address the impact of T.E.T. on specific tertiary educational attributes such as research and Publications, infrastructure development, training, and capacity building, library development.

Secondly, the study relied on the use of questionnaires without recourse to quantitative data; hence fail to bring in the accounting figures of education tax against that of the variable of interest. Consequently, this study will make an attempt to address this gap.

Udu and Nkwede (2014) examined the impact of Tetfund Interventions in Nigerian Universities and its implications for sustainable development with special attention on Ebonyi State University. Their study adopted content analytical approach while data were sourced from documentary contributions. The findings showed positive impact of tax deployment on research and development.

The study of Udu and Nkwede was limited to a state in Nigeria and just one Institution. It lacked statistical evaluation making the findings subjective. This has made an empirical study based on statistical instruments covering the entire nation absolutely necessary. The findings from the study of Agha and Chidozie (2016) on the impact of Tetfund intervention on quality and relevance of educational research (2010-2015) in Southeast Nigeria indicated a positive impact of Tertiary Education tax on research was limited to a geopolitical zone in Nigeria out of six hence the result obtained may not give a fair assessment of the entire Country.

The works of Shuaibu Ibrahim (2017) of Nigerian Defence Academy Kaduna on Tetfun dintervention in Tertiary Institutions's research and the study of Akpochafo (2009) of Delta State University on development and Revitalizing research in Nigerian universities for National development adopted conceptual literature and focused on challenges and recommendations. The studies reviewed papers on funding of research but lacked any statistical or empirical analysis. The several deficiencies in the studies carried out which includes but not limited to inadequacy of data, lack of statistical test of data obtained limitations in geographical spread of studies, lack of empirical analysis ,and inadequacy of years of coverage for the research as a basis of determining fair assessment of impact of Education tax on research and development. This study hopes to address this gap.

H_{01}: There is no significant relationship between education tax and research and development in tertiary Institutions in Nigeria.

One of the significance of this study is that it will fill the gap identified in the literatures on impact of education tax on research and development of tertiary institutions. The study will also contribute to growing literatures on the topic under consideration and serve as a motivation for future researchers. Thus the scope of the study covered all Nigerian tertiary institutions and the period covered was limited to 2008-2017.

Concept of Research and Development

Osuala (2005) defined research as a process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data.

Umoru (2013) asserted that research is a systematic investigation towards increasing the sum of human knowledge. Similarly, Umoru(2010) also noted that the most important tool often used to understand a problem, delineate issues relating to it and resolving conflicts surrounding it, is research. According to Akpochafo (2009) Nigeria and other African countries, especially the sub-Saharan Africa are not unaware of the importance of Research and Development and in view of this, the Organization of African Unity (OAU) which held a meeting in Lagos came up with Plan of Action for the economic development of Africa in 1980 and urged member states "to improve on existing and also create new funding mechanisms to provide funds for the development of their scientific and technological capabilities". The Lagos Plan of Action also recommended the expenditure of at least one percent (1%) of the GNP on Science and Technology activitiesby1990. Siyanbola, Isola, Egbetokun, and Adelowo (2011) sees research and development (R&D)as a post-World War II phenomenon, which is largely funded in the developed economy of the world, and are usually conducted by researchers in higher educational institutions (HEIs), public and private research institutes, and industrial firms. According to the Organisation for Economic Cooperation and Development (OECD) (2002). Research and development comprises of three main activities: (1) basic research, (2) applied research, and (3) experimental development. OECD pointed out that R&D comprises creative work undertaken on a systematic basis in order to increase the stockof knowledge, including knowledge of individuals, culture and society, and the use of this stock to devise new applications

National research agenda and Institutional research

Since independence, national governments have continued to acknowledge the role of the higher education system in supporting economic and social development objectives. The Nigerian Educational Research and Development Council, established in 1988 by an enabling Decree No. 53 (now Act No. 53), was aimed at building and sustaining a culture of strategic educational research and development that would sustain the formulation and effective implementation of policies in education and in other related sectors of the economy. Research priorities have mainly comprised engineering, agriculture; education and social sciences (Okebukola, 2006). However there seem to be lack of strong alignment between institutional research activity and the national agenda. Banji (2005) reported in his study that the bulk of the research engaged in by Nigerian universities is neither related to nor responded to the economic or societal demands of the nation. This is in agreement with Sijuwola (2010), who in his research identified systematic underfunding and disconnected research from the nations needs as key challenges to the higher education sector. Kayode (2016) points to the frequent power changes and politicisation as an obstacle, resulting in the lack of a consistent definition or philosophy behind the national development and research agenda. In this context, the National Assembly of the Federal Republic of Nigeria enacted a bill in 2016 known as the National Research and Innovation Bill 2016. It provides for the establishment of the National Research and Innovation Council (NRIC) as well as the National Research and Innovation Foundation (NRIF). The functions of the NRIC, among others, is to set national priorities on research, innovation and development; and set directions to co-ordinate

research and innovations generally (including research and development) in line with national priorities.

The NRIF was established to draw up a national research agenda based on the needs of the nation, make grants from the research fund and constitute a Research Proposals Evaluation Committee to process and approve applications, for is hoped that it may provide more clear and specific co-ordination of research grants in accordance with the national research policy. it is also hoped that university education expenditure can be mobilised more easily for targeted research areas

Tertiary Education in Nigeria

The establishment of University College Ibadan (UCI) in 1948 from the relics of Yaba Higher College marked the beginning of full fledged higher educational institutions in Nigeria. Historically, the role of universities in Nigeria's development agenda has been acknowledged explicitly. Prior to independence in 1960, the Ashby Commission of 1959 had been tasked with reviewing Nigeria's higher education sector needs, and the commission recommended the establishment of additional universities to provide human resources for all sectors of the economy. With the increase in demand for university education, additional universities were established in the years that followed. By 1962 there were two universities owned by the federal government (Ibadan and Lagos) and three regional universities (Nsukka University, Ahmadu Bello University, Zaria, and University of Ife). The University of Benin was later established in 1972 by the then Mid-West Region, bringing the total number to six. These are known as the first-generation universities.

From six universities in the early 1970s, the number of Nigerian higher education institutions grew to 16 in1980 and 51 by 2005. This phenomenal growth was partly supported by the wealth generated from the oil boom of that period and the directives of the authoritarian military regimes that characterised most of that period. By 2017, the number of universities according to the National Universities Commission (NUC) had grown to 40 federal universities, 44 state universities and 68 private universities (WES, 2017a).

The Tertiary Education Trust Fund (Tetfund) was built up as an Intervention Agency under the Education Tax Act No. 7 of 1993. Tertiary Education Trust Fund (Establishment, Etc) Act, 2011replaces the Education Tax Act Cap. E4, laws of the Federation of Nigeria, 2004 and Education Tax Fund Act No. 17, 2003 and sets up the Tertiary Education Trust Fund mandated with the duty regarding overseeing, dispensing and observing the education tax to government-owned tertiary institutions in Nigeria. TETFund generates its revenue by enabling legislation; the TETFund Act, 2011 which imposes 2% Education Tax on the assessable profit of companies that fall within the tax bracket. The Federal Inland Revenue Service (FIRS) is engaged by the Act to evaluate and collect Education Tax while Tetfund manages the tax and dispenses to tertiary educational establishments at Federal and State levels. It equally screens the projects executed by recipients with the funds dispensed.

Section 7 (1) (a) to (e) of the TET Fund Act, 2011 provides that it is to oversee and dispense the amount in the fund to Federal and State tertiary educational institutions, especially for the provision and upkeep of the following:1) Important physical infrastructure for educating and learning;2)

Instructional material and equipment; 3) Research and publication; 4) Academic and Non-teaching Staff Training and Development;5) Any other need which, in the opinion of the Board of Trustees, is basic and needed for the upkeep of quality and maintenance of standards in the institutions of higher learning (Tetfund Act, 2011).

Ajayi (2018) opined that Tetfund provides alternative sources of funds to tertiary institutions and that the activities include: 1. Liaise with FIRS to oversee the accumulation of education tax;2. Provide dynamic assistance for education tax collections by the FIRS; 3. Embark on intermittent tax drives to prepare payment of education tax by organizations;4. Embark on joint reconciliation visits in Tax offices of the FIRS;5. Disburse Funds to various levels of public educational institutions;6. Receive proposals on aspects of intervention from the beneficiaries;7. Receive proposals by experts to evaluate their significance to enhancing the quality of teaching and learning; 8. Funds investment in suitable and safe securities; 9.Update Federal government of its activities and progress through yearly report;10. Progress review and propose improvement within the provision of the Act.11. Do different things as are vital or incidental to the objectives of the Fund under the Act or as might be doled out by the Federal Government;12. Formulate and issue rule, every now and then, to all recipients on payment from the agency on the use of funds gotten from the Fund; 13. Manage the project, application, and disbursement of funds from the agency under the act;14. Projectmonitoring being executed by recipients; and 15. Organising occasional workshops/seminars all over the nation to enable partners and recipients to make contributions to future intervention policies.

Section 7(5) of the Tetfund Act (2011) mandates disbursements to the various tiers of education using the following ratio: Universities 2, Polytechnics 1, and Colleges of Education 1.

The Board has the power to give consideration to the peculiarities of each geopolitical zone in the dispensing and administration of the tax forced by this Act between the different tiers of tertiary education. Prior to the declaration of the empowering Act, distributions to the different tiers of education were at the accompanying rates: For Education Tax Fund. The rates are Universities 25%, Polytechnics 12.5%, Colleges of Education 12.5%, Secondary school Education 20%, and Primary Education 30%. However, the new TETFUND Act which took effect from June 2011 prescribes 50% to Universities, 25% to Polytechnics and 25% to Colleges of Education. The available Fund for each category of beneficiary institutions is evenly distributed among all the institutions in the category. Liabilities with respect to unaccessed funds on approved projects are not recognized in the agency's financial statements. Excess Funds are invested in secured securities to create more income and the principal sum and earned interests returned back to the agency. Demand for grants is sent by the prospective recipients (institutions). These solicitations are assessed on their legitimacy, having respects to the arrangements of the empowering Act, and endorsed by the Board of Trustees. Payments are made in light of the palatable execution of the phases of the task as concurred/affirmed (TETFund Act, 2011). Routine overseeing, evaluation and inspection visits on the executed projects are being done by the Monitoring and Evaluation Department of the agency to ensure objectives of the fund are achieved.

The disbursement of T.E.T to stakeholders over the years appears not to have solved the problems of funding among tertiary institutions as Ugwuanyi (2014) pointed out the fact that ETF largely depends on resources/revenues from the profits of companies which are not doing too well due to several years of government neglect. The real challenges, therefore, are a. Ability to equitably manage the available funds to meet the yearnings of stakeholders; b. Ability and capability to ensure the judicious use of the meager resources available; c. Ability to make sufficient impact in the intervention sector to encourage the payers of tax to continue to support the programme; d. Ability to influence decisions to enhance and boost teachers' morale to such a level as to positively rekindle interest in teaching and learning; e. Ability to sufficiently sensitize and collaborate effectively with the Federal Inland Revenue Service to ensure and build maximum revenue base from tax collected.

Ahmad, Farley, and Naidoo (2012) in examining of the funding crisis in higher education institutions (HEIs) opined that Government funding may come in different forms either as grants or loans that are normally used for fundingoperational costs or development projects in HEIs. They suggested that in England, for example60 percent of funds for higher education come from the government while the rest is madeup of other sources such as tuition fees from students. Nowadays, tuition fees have become an increasingly popular and important source of funds for HEIs.

Empirical review

Education tax and Research and Development

Juris, Lucija, Sandra, Zane, Juris, Biruta, Janis, and Kristin (2006) examined funding systems and their effects on higher education systems in Latvia using qualitative research methods. Views of different groups of stakeholders were analyzed on the basis of survey data, interviews and focus group discussion results. A survey was performed among the members of the Latvian Rectors, Council and board of the Latvian Professors 'Association. 41 questionnaires were Obtained including 34 from representatives of state higher education institutions and 7 from Private higher education institutions. 29 of the respondents were rectors and vice rectors, nine were department heads and three professors. A stakeholders in the study were grouped as Follows: -

Ministry of Finance and commercial banks, Ministry of Education and Science, Ministry of Economics, Ministry of Regional Development and Local Government; - Higher Education Council, Rectors' Council's representatives of employers and students. The result shows that the rapid growth of the higher education sector in Latvia became possible due to growing demand for higher education, the increase in number and type of educational facilities including private and regional institutions of higher education, and tuition fee programs. All of these factors contributed to the formation of a higher education market. State and private institutions activity in this market stimulates the development of the higher education system Makerere, Etuk, Eyo and Emah (2009) carried out a research on Improving Research Capabilities of Tertiary Educational Institutions in the Third World Countries for Sustainable Development. The study which adopted the historical research design analysed secondary sources like academic journals, books, the print and the electronic media. Twenty-one (21) out of 105 articles

contained in 13 sources were analyzed for information. Two research questions which guided the study centred on factors responsible for the low level of academic research in the Third World academia and on measures for curbing those factors. Information collected were analyzed using frequency counts and percentages. Findings of the study include but not limited to lack of collaboration between fellow tertiary educational institutions; no collaboration with research institutes and no collaboration with institutions overseas, which have strong industry grade research bases; poor dissemination of research results and lack of harmonized database. Other factors mentioned included low quality of education; lack of human and material resources including poor and inadequate funding arrangements, and focusing research efforts away from the life and economic activities of the people.

Kyambogo, Mbarara, Busitema, Gulu, Muni, Soroti, and Kabale (2013) with the research carried out at the two oldest public Universities namely: Makerere University (MAK) and Mbarara University of Science and Technology (MUST). The specific objectives of the study were to: (1) investigate the sources of funding for academic staff research;(2) evaluate the extent of funding available; and (3) explore alternative sources of funding for academic staff research Questionaires were applied to academic staff and students of the school. The study revealed that research is grossly underfunded.

Udu and Nkwede (2014) carried out a study on the impact of Tetfund Interventions in Nigerian Universities and its implications for sustainable development using Ebonyi state university (EBSU), Abakaliki as a case study. The study used data sourced from documentary instrument, direct observation and oral interviews with relevant officers and academic staff of Ebonyi State University who have direct connection with the Tetfund disbursements and fund utilization in the University using content analyses, the study finds that Tetfund Interventions in Nigerian Universities particularly EBSU have impacted positively on the infrastructural and human development of the institutions; thus having a positive influence on the sustainable development. The researcher utilized the questionnaire Kyaligonza, Kimoga, and Nabayego (2015) conducted a study on the funding of academic staff's research in public Universities in Uganda. The study used qualitative and quantitative secondary data from relevant university publications: annual reports, abstracts and yearbooks, while Interview guide and documentary analysis guide were used for generating data for the study with a population comprising all the seven Public Universities in the country. Result also confirmed poor funding.

Akudolu and Adeyemo (2017) examined Research and PhD Capacities in Sub-Saharan Africa using a cross-section of diverse higher education institution types, ten institutions were selected for the study. The resulting sample comprised six federal and four state universities. To ensure diversity, the sampling criteria included institutional type (federal state or private), urban or rural location religious or secular, and relative age(first generation or new). Consideration was also given to the different geopolitical zones in Nigeria. Findings for this study suggest that quality still remains a major challengeas suggested by interviews with the NUC and with institutional leaders. Internal quality-assurance mechanisms will need to be strengthened.

Nigerian universities had strong international partnerships that could be used to strengthen research and doctoral training.

Nagbiand Micah (2019) examined the nexus between tertiary education trust fund and development of tertiary institutions in Nigeria for the period 2009 - 2017. The ex-post facto research design was adopted in the study, while the study relied on secondary data sourced from Tetfund websites, the National Bureau of Statistics and Central Bank of Nigeria. Using basic descriptive, Pearson product-moment correlation and simple regression model as estimation techniques, it was revealed that tertiary education trust fund has a positive and significant relationship with staff training, and tertiary trust fund has positive and insignificant nexus with project development, research &journal publications, and library development.

Agha and Udu (2019) carried out a study on the impact of Tertiary Education Trust Fund (TETFund) intervention on quality and relevance of educational research in Nigeria for the period covering 2010-2015, with southeast Nigeria as the scope of the study. The study adopted a descriptive survey research design, why the theoretical foundation was based on the African political economy model and resource - based model. Five tertiary institutions in the South East were considered and the total population of seven thousand three hundred and eighty (7,380), while carefully structured questionnaire was administered to chosen sample of four hundred and eighty (481). Using three hundred and eighty six (386) valid copies of questionnaire retrieved for data analyses and test of hypothesis with the aid of one - way ANOVA at 0.05 level of significance, the estimation found out that Tetfund intervention to a high extent has no significant impact on quality and relevant research by employees of state-owned universities in southeast Nigeria. The study adduced the reason for the findings to be premised on the fact that institutions find it difficult to access the fund and where it is accessed, the fund is diverted into personal needs other than using it for the designated purpose.

There is little support from the industrial sector for research, and universities give little attention to research in their budgetary allocations. This study builds on the theoretical review of research and development in tertiary institutions and T.E.T in Nigeria through the use of public goods theory by Samuelson (1994) in providing an g explanation for the nexus between research and development in tertiary institutions and T.E.T.

Theoretical framework

Public Goods Theory

One of the most widely cited theoretical framework in studies relating to education is Public Goods Theory. Public Goods Theory was developed by Samuelson (1954) on the premise of two fundamental assumptions which are:(i) a good once produced for same consumers can be consumed by additional consumers at no additional cost; and (ii) there is non-excludability which means that it is difficult to keep people from consuming the good, once it has been produced. Samuelson argued that goods with these features are less likely to be produced in the organised private sector, hence government imposes compulsory levy on taxable characters in the economy with a view to using the proceeds in the creating of these goods for public consumption. Education is a public goods and government could raise money from T.E.T to fund

research and development, the output of such quality research can be of immense benefit to the public in general, thus justify the relevance of the public goods theory to this study.

METHODOLOGY

This study adopts the ex-post facto research design. Secondary data obtained from the Nigeria Bureau of Statistics and Tertiary Education Trust Fund were utilised. The data cover the period 2008 -2017. The population of the study is all tertiary institutions in Nigeria. For the estimation of models, the method of data analysis that will be employed in this study is the co-integrated regression.

Model Specification

The model for the study examines the impact of Tertiary Education Tax on Research and development in Tertiary Institutions in Nigeria. The model for the study is presented below.

$RD = \lambda_0 + \lambda_1 TET\mu + \mu$ -------------- (1)

Where:

RD= Research and Development

TET= Tertiary Education Tax measured using actual fund disbursement

$\lambda_0 + \lambda_1 =$ Regression coefficients

μ = Error term

RESULTS AND DISCUSSIONS

The models specified have been estimated and the results obtained form the bedrock of the hypotheses testing and the subsequent conclusions and recommendations that will be provided. The descriptive statistics result is first presented and next the OLS regression results is also presented and analyzed. Where

| Year	Education Tax Collected	
	Independent Variable	Disbursement Dependent Variable
2008	50,530,000,000	-
2009	55,550,000,000	-
2010	137,570,000,000	381,206,000
2011	88,970,000,000	276,118,000
2012	128,520,000,000	957,548,000
2013	188,360,000,000	303,589,000
2014	189,610,000,000	491,585,000
2015	206,400,000,000	1,175,943,000
2016	130,120,000,000	865,628,000
2017	154,960,000,000	464,518,424
	1,330,590,000,000	4,916,135,424
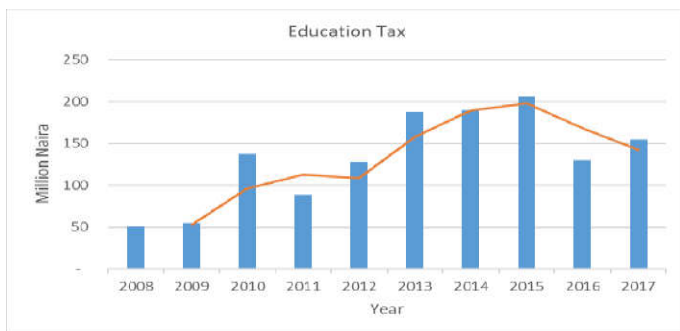
Figure 1 Trend of Education tax in 2012, 46.56% year on year increase in 2013 to 188bn and 0.6% increase from the previous year amounting to 189bn in 2014 and culminating at 206bn in 2015 representing an 8.8% year on year increase. In 2016, it declined by 46.95% to 130bn and the moved up to in 2017 to 154.9b
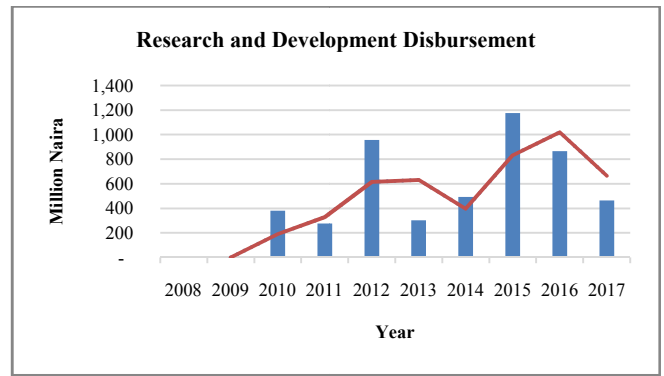

Figure 2 Trend of Research and Development

Source: Tetfund

The trend performance of funding for research and development (R and D) in tertiary institutions from Tetfund for the period under review began actually in 2010. Precisely, in 2010, funding for research and development at tertiary institutions stood at 381mn and rose to a high point of 957mn in 2012 and then declines down in 2013 at 303mn and then in 2015 another high point is observed at 118,000mn and then a decline sets in again. It appears that the behaviour of funding for research and development in tertiary institutions is very unstable showing a curvilinear distribution pattern

Table 3 Descriptive Statistics

	EDUTAX	RD
Mean	133bn	615mn
Median	134bn	478mn
Maximum	206bn	1.18bn
Minimum	50.5bn	276mn
Std. Dev.	54.7bn	338mn
Skewness	-0.2565	0.579672
Kurtosis	1.8619	1.795389
Jarque-Bera	0.6493	0.931723
Probability	0.7227	0.627594

Source: Researchers compilation (2019)

The descriptive statistics for the variables shows that the mean for EduTax stood at 133bn while that of R&D stood at 615mn. The maximum and minimum for EduTax stood at 206bn and 50.5bn while that for R&D stood at 1.18bn and 276mn respectively. The Jacque-bera test for normality of the stood at 0.6493 with p-value of 0.7227 for EduTax, 0.9317 with p-value of 0.627 for R&D The p-values suggest that the presence of outliers is unlikely and the variables follow a normal distribution.

Table 4 Regression Result

	Aprori sign	Coefficient	Std. Error	t-stat	Prob
R&D		22.184	12.1959	1.8189	0.1286
LOG(EduTax)	+	0.3465	0.2781	-1.2459	0.2680

R^2= 0.371. *Adjusted R^2*= 0.1200, *f-statistics*= 11.477, *Prob*= 0.00, D.W= 2.2

Source: Researchers compilation (2019)

The regression diagnostics are presented in the table above and the Breush-Goffery LM test for serial correlation test for the presence of stochastic dependence between the errors across time and as can be observed, the probability value of the F-stat (0.2245) confirms that the null hypothesis of no serial correlation in the residuals is accepted at 5% level. The white test for Heteroskedasticity also shows that the p-value is (0.6250) while the F-stat (0.265) confirms that the null hypothesis of homoscedastic errors is accepted at a 5% level and finally, the Ramsey specification test also confirms the appropriateness of the functional specification of the model. The regression result confirms that the impact of Tertiary education tax on research and development is insignificant at 5

% level. This could be attributed to poor funding of research and dwindling interest in research by academic staff. The result corroborates with the findings of Akudolu and Adeyemo (2016), Etuk, Eyo and Emah (2009) in their studies which also includes poor research network, lack of coordinated efforts by tertiary institutions, poor funding and limited dissemination of research results

CONCLUSION AND RECOMMENDATIONS

A summary of the major findings of the study shows that Education tax does not have significant impact on research and development in Nigeria. The result provides a strong basis for tertiary institutions to appreciate the need to carry out researches that will enhance the educational development in Nigeria by fully accessing the allocated fund for research and publications. This will enhance the competitiveness of academic staff with their counterparts globally. The results revealed that despite the fact that Education tax collected has been risingsince 2008, the impact on such a key variable as research and development is insignificant he ncethe need for improvement in the area of research development..Academic staff of tertiary institutions should make it a priority to research grants from Tetfund. Based on the findings, the study recommends that there is need to increase and improve on thelevel of research funding in tertiary Institutions in Nigeria. It is obvious that there is a hugeamount of unaccessed research fund hence it has become imperative for Tetfund to eliminate unnecessary bottlenecks inhibiting Tertiary Institutions from accessing allocated research grant and embark on public enlightenment especially amongTertiary Institutions lecturers should equally be exposed to ICT knowledge and skills through formal training, through workshops and through national and international conferences.. Tertiary Institutions university staff and students should be exposed to e-learning media, Research and development (R and D) department charged with the responsibility of training and producing quality researchers. The R and D departments should liaise with international and national bodies to attract research grants to staff in their institutions.

They should establish contact with fellow research institutes and industries both nationally and Internationaly for the exchange of information and human resources. . Indeed there should be a revival of quality research among not only lecturers in tertiaryinstitutions but also students.

Research is the bane of academic Institutions hence, Tetfund should increase the yearly location for research as there are untapped discoveries awaiting the academicstaff.

References

Adavbiele, J. A. (2016). Impact of education trust fund (Etf) on tertiary institutions in Nigeria, using college of education, as case study. *IOSR Journal of Research & Method in Education, 6*(3), 18-25.DOI: 10.9790/7388-0603021825.

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), 14*(1), 85-95

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.

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.

Ahmad,A. R., Farley, A., &Naidoo, M. (2012).Funding crisis in higher education institutions: Rationale for change. *Asian Economic and Financial Review, 2*(4):562-576

Akpochafo, W. P. (2009). Revitalizing research in Nigerian universities for national development. *Educational Research and Review, 4*(5), 247-251

Akudolu and Adeyemo (2017) Research and PhD Capacities in Sub-Saharan Africa

Chapman, B. (2007). *Higher education financing in Australia*. CESifo DICE Report 2/2007

Etuk, Eyo & Emah (2009) Towards improving research capabilities of Tertiary Educational Institutions pm the third world Countries for sustainable development

Ibrahim, S. (2017).Tertiary Education Trust Fund (TETFund), research and development and Nigeria's higher education.*European Journal of Education Studies, 3*(7), 799-817.doi: 10.5281/zenodo.844096

Juris, K., Lucija, K.,Sandra, K., Zane, L., Juris, P., Biruta, S., Janis, S., &Kristine, Z.(2006). *Funding systems and their effects on higher education systems*. Country study -Latvia. OECD

Kyaligonza, R., Kimoga, J., &Nabayego, C. (2015).Funding of academic staff's research in public Universities in Uganda: Challenges and opportunities. *Makerere Journal of Higher Education, 7*(2)147-162public Universities in Uganda: Challenges and opportunities. *Makerere Journal of Higher Education, 7*(2)147-162.

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.

Organisation for Economic Cooperation and Development (OECD) (2002). Frascati Manual: Proposed Standard Practice For Surveys On Research And Experimental Development. OECD, Paris.

Osuala, E. C. (2005). Research Methodology. Enugu: New Generation Books.

Samuelson, P. A. (1954).The pure theory of public expenditure. *Review of Economics and Statistics, 36*(4), 387-389.

Siyanbola, W.O., Isola, O.O., Egbetokun, A.A., &Adelowo, C.M. (2011).R&D and the challenge of wealth creation in Nigeria.*Asian Research Policy, 2*, 20-35.

Tertiary Education Trust Fund (Establishment Etc) Act 2011. http://www.tetfund.gov.ng/index.php/about-us/structure/tetfund-act

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), 191-205Ugwuanyi, G. O. (2014).Taxation and tertiary education enhancement in Nigeria: An evaluation of the education tax fund (ETF)

between 1999-2010.*Journal of Economics and Sustainable Development, 5*(6), 131-141.

Umoru, T. A. (2010). Analysis of factors undermining the utilization of research results in business education. *Business Education, Journal, 7*(2), 70-76.

Umoru, T.A. (2013).Impediments to quality research in business education in Nigeria tertiary institutions. *World Journal of Education, 3*(6),81-86.

Wahab,B. (2018). *All the times ASUU has gone on strike since 1999. Since 1999, Nigerian Universities have been on strike for a cumulative period of three years*. Retrieved from:https://www.pulse.ng/communities/student/all-the-times-asuu-has-gone-on-strike-since-1999/5jtb8cs

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