

Self-Funding by Public Universities in a Recessed Economy: The Nigerian Experience

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Abstract

The funding pattern of university education in Nigeria can at best be described as faulty. This is worsened by the present downturn in the prices of crude oil, leading to economic recession. It is very obvious that no education enterprise can flourish without adequate funding. No matter how lofty and impeccable an educational plan, it cannot be effectively executed if not adequately funded. Studies have consistently indicated that increased investment in university education is a key to rapid economic growth and development since university education is associated with improved economic performance of both individuals and societies. This paper revealed the conventional sources of funding, public universities in Nigeria which included government grants, and subventions, ETF/TETFund intervention, endowments, alumni mobilization and income generating activities. Public university's funding has continued to decline inspite of these efforts. The paper therefore proposed a model for self-funding which included appropriate payments of tuition by students, research and innovation, investment and business, the Triple Helix, Foreign Direct Investment and Foreign donations. It was therefore suggested that appropriate tuition should be paid by students, overhead costs should be reduced through rationalization of administrative staff, a market-oriented approach should be adopted in delivering essential services and measures to commercialize research results should be put in place.

Keywords: Self-funding, Public universities, Recessed economy, Nigerian Experience.

INTRODUCTION

Education in Nigeria is regarded as the largest industry, the biggest employer of labour as well as one of the largest consumers of national resources. As a result, any shock on the national economy easily affects it. The economy therefore, to a large extent, determines the extent of development and provision of infrastructural facilities in the education sector. Adesina (1990, p. 35) succinctly put it this way:

The economy of a nation can influence its education system in several ways depending on whether the economy is poor or healthy: it can necessitate adjustments in the nation's educational programmes. A highly productive and stable economy would ensure the education of the people. By contrast, an unstable economy would normally hesitate to expand the educational system or introduce expensive innovation into it

On attainment of independence in 1960, Nigeria enjoyed a fairly viable economy with sources of revenue diversified. Exploration and exploitation of her natural resources with agricultural activities were the bases of her foreign exchange. Oil was not certainly a dependable source of wealth. Nigeria was so prosperous and popular in the export of palm produce that Malaysia had to import palm seedlings from Nigeria to develop an export base in palm produce (Azubuike, 2013). The 1970's were the period of economic boom where money was not the problem but how to spend it. The economy expanded and with it, came rapid growth and development of the education sector. But this was short lived as the economy went into comatose from the eighties (1980's). This decline came with low spending on education. The Structural Adjustment Programme (SAP) introduced to stabilize the economy dealt a deadly blow on the country's economic resources as government could no longer meet her financial needs. Massive depreciation of the naira was the fallout of SAP introduced in 1986. Since then, according to Ukeje (1998) the education sector has been in the limbo. The function of education by the state and federal governments has become a story of woes, characterized by chronic underfunding. The present economic reality pointed to the fact that government alone cannot adequately fund university education hence the need for self-funding. Any wonder the penultimate president of Nigeria, Dr Goodluck Jonathan (2012) called on university administrators to diversify their funding base to enable universities meet their statutory obligations.

Self-funding could mean the ability to develop avenues, means or areas of raising money other than the conventional means. Self-funding involves careful planning and process aimed at getting incomes from specific activities, individuals or corporate bodies. Self-funding would require identification of more substantive sources, the planning and process of raising funds from identified sources to finance university development (Okejim, Uche and Obasi, 2016). Most universities in advanced countries of the world no longer depend on government for funding. They apply the strategy of self-funding in addition to the conventional sources. According to (Okejim *et al*, 2016), the conventional sources account for lower percentage of their total income. Examples of universities that have generated much incomes from commercialisation of research findings, manpower development programmes, mobilization of Alumni associations, and have developed other funding initiatives according to Bello (2017) are found in the United States of America, (USA), United Kingdom (UK), China, Isreal, Italy and Japan. This would serve as an eye opener to Nigeria universities to overcome the challenges of poor funding of programmes and activities.

HISTORICAL DEVELOPMENT OF UNIVERSITY FUNDING

Awareness of the importance of university education led to increased demand for it. In response, the Federal Government, in the third Development Plan (1975-1980) provided for the establishment of seven more universities which were located in states where none existed at the time. These are referred to as the second generation universities. They include:

- The University of Calabar, which began as the Calabar Campus of University of Nigeria, Nsukka in 1973.
- The University of Jos, founded at the University of Ibadan in 1971.
- The University of Maiduguri, 1975.
- The University of Sokoto, 1975.

- The University of Ilorin, a former campus of U.I but became a full-fledged university in 1977.
- The University of Port Harcourt which took off as a university college in 1975, and was affiliated to UNILAG, but become full-fledged in 1977.
- The Bayero University, Kano, which became Bayero University College of ABU in 1962, and a full-fledged university in 1977.

The Federal Government in addition during this same period, took over the four regional universities that were established in the first generation such as (UNN, OAU, ABU and UNIBEN) by the Eastern, Western, Northern and Mid-western regional governments respectively. Funding of all these thirteen universities at the time was the responsibility of the Federal Government. Four other federal universities of Technology in Owerri, Akure, Yola and Minna were established between 1980-1982. This was followed by the establishment of three Universities of Agriculture at Makurdi, Abeokuta and Umuahia and another four federal universities between 1988-1991 at Bauchi, Abuja, Awka and Uyo. These are referred to as third Generation Universities.

Since education is on the concurrent list, state governments were allowed to establish their own universities. Therefore, between 1979-1983, eight state universities were established. Generally called third generation universities, they include:

- Bendel State University, Ekpoma, 1980.
- Anambra State University of Technology, Enugu, 1980.
- Imo State University, Okigwe, 1981.
- Rivers State University of Science and Technology, Port Harcourt, 1981.
- Ondo State University, Ado-Ekiti, 1982.
- Ogun State University, Ago-Iwoye, 1982.
- Lagos State University, Ojo, 1983.
- Cross River State University, Uyo, 1984.

Therefore, more universities were established. These included more state universities, the National Open University of Nigeria and Private Universities. With the approval and establishment of nine additional universities in 2015 by the last civilian administration of Goodluck Jonathan, today Nigeria has a total of 143 universities (40 Federal, 42 State, and 61 Private) enrolling over 1.45 million students (Bello, 2017). The resources to fund these universities of various generations remained constant while student's enrolment increased at geometric progression. These developments were summarised in tables 1a & 1b below:

Table 1a: Increase in students enrolment between 2012-2016

Year	Universities			Polytechnics			College of Education		
	Applicants	Admitted	%	Applicant	Admitted	%	Applicant	Admitted	%
2016	1,543,739	N/A	-	17,504	N/A	-	17,673	N/A	-
2015	1,424,628	384,442	27.0	30,349	17,154	56.5	18,722	13,447	71.8
2014	1,576,257	359,599	22.8	29,833	23,592	79.1	26,033	16,768	64.4
2013	1,668,314	262,510	15.7	38,583	64,606	16.7	29,912	73,153	24.5
2012	1,452,874	386,308	25.4	16,072	11,929	74.2	24,987	11,920	47.7

Source: JAMB (2012)

Table 1b: Approved Universities in Nigeria as at 2016

S/N	Type	Federal	State	Private	Total
1	Conventional	29	31	58	118
2	Science and Technology	54	04	02	06
3	Technology	03	03	01	08
4	Agriculture	01	-	-	03
5	Nigerian Defence Academy	01	-	-	01
6	Nigerian Police Academy	01	-	-	01
7	Open University	01	-	-	01
8	Petroleum Resources	01	-	-	01
9	Education	-	02	-	02
10	Technical	-	01	-	01
11	Medical Sciences	-	01	-	01
Total		40	42	61	143

Source: Okorosaye-Orubite (2017)

Any wonder funding became very poor. Funding was adequate in the first generation universities, and this reflected directly in quality of products of Nigeria universities then. Anya (2013) boasted that standards and performances of universities as at then compared favourably with others (the best universities) in the world.

FUNDING NEEDS OF UNIVERSITIES IN NIGERIA

Inadequate funding of Nigeria universities have become a major challenge, particularly in a recessed economy with depreciating naira value and galloping inflation. In Nigeria, most university campuses are littered with uncompleted projects and the maintenance of buildings and facilities has come to a virtual halt. Broken or worn-out tools buildings and other infrastructure are hardly replaced or maintained. Staff salaries are paid in arrears. Subventions for recurrent expenditure are low to cover salary payment. Most universities operate in their temporary sites while those in permanent sites have uncompleted buildings, lack infrastructures such as electricity, laboratories, good libraries, decent hostels and classrooms, drinking water, telephone and internet services. Inadequate funding resulted in decrepit infrastructure, financial asphyxiation that affected research efforts of academics, inadequate learning facilities, poor remuneration for lecturers and non-teaching staff.

According to Akanni (2003), less than 10 percent of the universities have video conferencing facilities; less than 20 percent use interactive boards; more than 50 percent do not use public address system in overcrowded lecture halls/theatres; internet services are non-existent; library resources are out-dated and manually operated. Bookshelves have become homes to rats/cockroaches and no public university library in Nigeria is fully automated while less than 35 percent are partially automated. On lecture/student ratio, Akanni (2013) further indicated that the National Open University of Nigeria (NOUN) has 1:363, University of Abuja 1:122 and Lagos State University, 1:111, when compared with Harvard that boasts of 1:4, MIT 1:9, Yale 1:4 and Cambridge 1:3 and Technician 1:15. Universities in Nigeria present a sorry education sector that will produce surgeons that will operate on the sick, civil engineers that will build our skyscrapers and bridges and politicians that will lead the rest of us.

In the opinion of Bello (2017), the funding needs of universities can be recurrent or capital. For recurrent needs, the following are taken care of: staff emolument, cost of running programmes such as laboratories, teaching materials, workshops, projects, travel and tours and

others as may be needed for a programme, overhead (administrative expenditure such as office runs and travels), maintenance costs for both academic and non-teaching infrastructure; research and library services. Capital expenditures on the other hand include expansion of facilities, replacement/renewal of infrastructure and other projects necessary to keep the university up-to-date. These funding needs could be taken care of by adequate funding. This can be done through appropriately determining the costs of university education. At least a basic minimum cost (BMCOST) should be established, and this can be technically determined. For recurrent needs, according to Bello (2017), the Basic Minimum Academic standard (BMAS) for each programme could be used to determine the minimum number of academics needed to run such a programme, utilizing the full-time equivalents of the courses in its content. Then by utilizing the National Universities Commission (NUC) ratio for grades of academic staff, a minimum qualitative staff structure could be determined and staff emolument approximately established.

The cost of running each programme could be readily established by listing out the basic needs/requirements of each course. Once these are established, all other recurrent costs can be put as percentages of either staff emoluments or cost of running the programme. For capital needs, a given amount could be fixed as development fee and spread over projects. It should however be enough to account for the depreciation reserves for all infrastructures and some kept for new projects and their upgrades. Once all these are determined, the basic minimum cost (BMCOST) of training a student in each programme can be established irrespective of locations, the minimum number of students per each programme could be stated or determined on a business model to break even and the peculiarities of location, status, challenges can be taken into consideration for variability.

Conventional Sources of Funding Universities

The major sources of fund for public universities in Nigeria according to Okejim et al (2016) are government subsidy, research grants, donations and endowments. Conventionally, public universities in Nigeria derive their funds from government grants and subventions, ETF/TETFUND interventions. But in the opinions of Azubuike (2013) and Taiwo (2012), conventional sources of funding university education in Nigeria include; Government grants/subvention, school fees, donations and endowments, levies, Education Trust Fund, Loans, Alumni mobilization, Parent’s Forum and Community Efforts, external aids and income generating activities. In spite of three conventional sources, funding had continued to decline. The picture below shows the decline in total receipts from internal sources of public universities in Nigeria between 2008/2009 -2012-2013 academic session.

Table 2: Internal Sources of Funding Public Universities.

Year/Session	Receipts from Charges	Receipts from Investment	Total
2008/2009	1,742,209,495	117,568,913	1,859,778,808
2009/2010	1,192,522,486	92,869,969	1,285,392,455
2010/2011	1,948,600,332	569,969,026	2,518,569,358
2011/2012	1,792,908,073	37,716,858	1,830,624,931
2012/2013	1,367,795,318	6,131,728	1,373,927,046

Source: Okejim et al. (2014)

Table 2 above indicated that receipt from charges declined from N1.746 in 2008/2009 academic session to N1.376 in 2012/2013 while receipts from investments fell from N117.6m to N6.1m in the period under review. But Bello (2017) noted that fund released from government and expenditure has been on the increase as depicted in table 3 below. From N5,383,026,900.03 in 2009, it rose to N8,791,092,383.33 in 2011, N8,513,869,814.98 in 2012 and N9,900,539,332.99 in 2013 (Bellow, 2017). The three basic components of the fund disbursed from government are personnel costs, overhead and capital costs.

Table3: The Personnel Component of Released Fund

No	Items	2009	%	2010	%	2011	%	2012	%	2013	%
1	Personnel	5,015,065	93.17	8,397,737	95.92	7,481,037	95.60	8,126,813	95.45	9,424,448	95.10
2	Overhead	104,486	1.98	102,913	1.17	157,843	2.01	138,425	1.17	115,267	1.17
3	Capital	263,475	4.85	290,440	3.31	186,491	2.39	248,631	3.64	360,823	3.64
Total		5,383,026		8,791,092		7,825,371		8,513,869		9,900,539	

Source: Bello (2013)

As depicted in table 3, the personnel component of the fund released by government was in the order of 90-95 percent of the total released. Meaning that only 1-2 percent and 2.39-4.85 percent are released for overhead and capital expenditures, respectively. This trend is the same for all public universities in Nigeria. The very little components of funding released for overheads and capital allocation accounted for the decay in infrastructure and little capital projects to take care of the ever growing population of staff and students. This ridiculously low fund released for overhead expenditure which would take care of running the offices, the municipal services, environment, maintenance and security services makes it imperative for public universities to seek for alternative sources of funding to defray the cost of some of its obligations and commitments. For instance, the monthly electricity bill at the university if Lagos according to Bello (2013) is averagely N45 million, less cost of diesel, as against N7-10 million released annually by government for this purpose.

THE CHALLENGES OF THE CURRENT MODE OF FUNDING UNIVERSITY EDUCATION

Funding of public universities in Nigeria has left much to be desired and this has greatly jeopardized the goals for which they were established. Azubuike (2013) and Bello (2017) have listed the following as challenges (Obstacles) in financing public universities in Nigeria: Inadequate national income, insufficient fund allocation to education, population explosion, dearth of statistical data, governance structure and management, poverty level and right to education, and research, innovation, entrepreneurship and other resource-generating activities.

Inadequate National Income

Most of Nigeria's other natural resources have remained unharnessed with the nation's attention all channeled towards the exploration and marketing of petroleum products and its derivatives. This has minimized the national income particularly in this period of low price of oil. The overdependence on oil has negatively affected investment on university education. The recessed economic situation in Nigeria has not been favourable to educational development as the era of

huge financial allocation to universities is gone. Parents are not even spared as their salaries are no longer sufficient to provide essential services to their immediate families and pay their children school fees. This has accounted for high rate of dropouts and premature withdrawals in public universities.

Insufficient Fund Allocation to Education

Fund allocation in Nigeria does not favour education. Education does not enjoy priority among Nigeria leaders. Allocation to education had never gone near the UNESCO standard of 26 percent of the national budget. It is only Nigeria that does not boast of at least 10 percent of budgetary allocation to education in the whole of sub-Saharan African (Azubuike, 2013). This shallow funding affects the educational sector with its calamitous consequences on research and teaching on public universities.

Population Explosion

When Nigeria was with a moderate population size of about 55 million at independence (Azubuike, 2013), it was much easier to plan and execute educational programmes without much financial impediments. However, with the increase in university enrolment, accommodation requirements, teacher supply and infrastructure demand progressed the need for more budgetary allocation to public universities. This has however not been the case as governments response was very poor resulting in many challenges towards the realization of education goals.

Poverty Level and Right to Education

The exclusion of bright indigent students due to their inability to pay is a very big challenge. Insufficient funding of any public university should not limit access of qualified students to education. Structures should be put in place to avoid dis-enfranchisement of any citizen. Collection of appropriate tuition from students to take care of its needs would place the institutions out of the problems of fluctuating fortunes of government in a recessed economy. This does not stop the free education or subsidized education policies of governments. Loans and bursary schemes could be revived for indigent students. Loan beneficiaries can easily be traced through the personalized Banking Verification Number (BVN).

Government Structure and Management

The fear of the various governments and the general public about prudent management of fund if Universities are granted financial autonomy is another serious challenge. The university system has greatly suffered mismanagement of funds in recent times as funds meant for particular programmes are diverted to other projects or even to personal use. In order to forestall mismanagement, the university governing council is expected to be strictly involved in the supervision of university development thereby ensuring prudent use of resources. As a result, a governing council with men of high integrity and appropriate pedigree, experienced and knowledgeable, who will not compromise political patronage and ethnic balancing should be constituted.

Inappropriate Funding of Research Activities

Funding of research activities has long been relegated to the background as a source of funding in Nigeria universities due to inadequate funding and anxieties over provisions for basic needs such as salaries, equipment, and facilities. But in the opinion of Bello (2017), applied research contributed as much as 27.7 and 14.8 percent income for UK and US universities respectively. The most critical aspects are innovations, spin-off research and the evolving entrepreneurships which form the funding bases of frontline universities particularly in the US. Any adequately funded university would devote enough funds to applied research which in turn will engender attraction of research grants and contracts.

MODEL FOR SELF-FUNDING BY UNIVERSITIES

Tuition Fees: An appropriately determined tuition fee for universities should be instituted for sustainable running of universities. Meanwhile, federal universities are tuition-free. This is unrealistic in the face of a recessed economy. For state-owned universities, the situation is slightly different. The situation ranges from being tuition-free to partially subsidized in most cases, where some paltry amount is charged as fees. For private institutions, tuition is charged full. However, the concern of this paper is not whether tuition should be free or not but that universities should be adequately funded with the equivalent of tuition fee for the number of students admitted. NUC should determine the Minimum Basic Cost (BMCOST) for each university, which should be the basis to determine tuition fee to be charged. The NUC in 2005 according to Okojie (2007) computed the cost of educating undergraduates in Nigerian universities for different programmes as depicted in table 4 below:

Table 4: Estimated Cost of Training a Student Per Faculty

No.	Faculty	Estimated Cost
1	Arts	345,000 =
2	Basic Medical Sciences	680,000 =
3	Business Administration	345,000 =
4	Clinical Sciences	680,000 =
5	Dental Sciences.	680,000 =
6	Education	345,000 =
7	Engineering	680,000 =
8	Environmental Sciences	680,000 =
9	Law	345,000 =
10	Pharmacy	680,000 =
11	Sciences	450,000 =
12	Social Sciences	345,000 =

Source: Okojie (2007)

Table 5: Tuition Fees Charged in some State and Private Universities in 2015/2016 in Nigeria

State Universities		
No	Name of Universities	Tuition Fee
1	Akwa Ibom State University	30,000 =
2	Anambra State University (ANSU)	120,000 =
3	Ekiti State University (EKSU)	92,000 =
4	Lagos State University (LASU)	25,000 =
5	Ladoke Akintola University of Technology (LAUTECH)	110,000 =
6	Nasarrawa State University (NSUK)	29,000 =
7	Olabisi Onabanjo University (OOU)	110,000 =
8	Ondo State University of Sc. and Tech. (OSUTECH)	150,000 =
9	Rivers State University of Sc. and Tech. (UNITECH)	50,000 =
10	Tai Solarin University of Education (TASUED)	94,000 =
11	Osun State University (UNIOSUN)	95,000 =
Private Universities		
12	Abti American University of Nigeria	1,590,000 =
13	Achievers University	420,000 =
14	Adeleke University	350,000 =
15	Babcock University	815,000 =
16	Bells University	550,000 =
17	Bowen University	750,000 =
18	Covenant University	433,500 =
19	Crawford University	500,000 =
20	Igbinedion University	643,350 =
21	Joseph Ayo Babalola University	436,000 =
22	Lead city University	590,000 =
23	Oduduwa University	370,000 =
24	Redeemer University	575,000 =
25	Rhema University	325,000 =

Source: Bello (2017)

Alumni Associations Mobilization

Ex-students of universities otherwise called alumni usually come together to form associations for the sake of their welfare and those of their former universities. Employees, business partners/contractors and friends of the institution are expected to become members. University management usually encourages and supports graduates to form such association, taking cognize of the benefits to the university. In recent times, alumni associations according to Okejim *et al* (2016) have become veritable sources of funding universities where they have been mobilized, motivated and harnessed. It has been estimated that an alumnus of Kentucky University in USA on the average contributed at least \$10,000 per annum. Assuming an association had about 10,000 on the membership list, it translated to \$1.00 million per annum for the university (Okejim *et al* 2016). It was discovered that Alumni Associations were more reliable donors to universities than other sources. NAPA in Okejim *et al* (2016) noted that the traditional methods of generating resources included annual dues, service fees, foundation funding, annual fund support and affinity relations.

Endowments

Endowments are usually major sources of funds for executing developments in universities. Amongst the various forms of endowments, alumni makes a significant contribution and this can be large enough for old universities if aggressively pursued and targeted. Old universities in developed countries deploy resources from their alumni to develop new technologies or infrastructure in the names of the alumni. Other forms of endowments include contributions by staff members and other stake holders, philanthropic donations, bequeathals, and other forms of donations towards research and scholarships.

Research and Innovation

Income from research grants can be substantial for research-active institutions. For most grants, up to 25 percent of the grants can be received as administrative charges while researchers can also earn extra resources from research grants. This is apart from the contributions of the grants towards adding new equipment/facilities to the institutions. Also, from research works, patents are developed which could lead to innovations and new start-ups. With the active promotion and funding of entrepreneurship, these might constitute major sources of funding of well-managed universities in the future. However, most research projects in Nigerian universities have become mere formalities for graduation with little or no relevance to industrial or societal needs. The few with relevance ends up in the libraries of universities. This may not be the case in the industrialized world where measures are in place for commercialization of universities research results. Here, most countries have established measures and policies for commercialization of universities research results such as Technology Transfer Offices (TTOs), Technology Licensing Offices (TLOs) and National Intellectual Property Management Offices (NIPMOs) as a link between universities, government and industries which need the research results (OECD, 2013).

Investment and Business

Where universities whether public or private are looked at as enterprising entities, capable of utilizing its resources (human and physical) to generate fund, a large potential for generating resources then exist (Bello, 2017). Human development efforts, consultancies, small and medium enterprises and healthy investments can turn around the fortunes of the university. The picture of the funding and expenditure patterns of typical universities in the United Kingdom (UK) and the United State of America (USA) in tables 6a and 6b depicted the current ranking universities in these countries and in the world. The samples included those in unit rankings in their countries and in the world, those in the next 50 as well as those in the range of 501-600 in the two countries.

According to Bello (2017), in typical UK universities, tuition fee ranged from 14.6% of the total income in Cambridge University to 83.1% in De Montfort University. The equivalent of Proprietors grants made 9.7-13.1%, Research grants was as low as 1.8% for DMU and as high as 27.7% for Manchester. For universities in USA, the pattern was slightly different. Tuition ranged from 6% at Stanford University to 26.2% at Toledo University. Most of the resources in the opinion of Bello (2017) were from businesses and enterprises of the university. Only Pennsylvania State University, out of the three universities considered, received proprietor's fund directly.

Table 6a: Analysis of incomes and Expenditures of some Selected UK Universities for 2015-2016 Academic Sessions

Income Analysis in (GBP)							
S/N	Types of income	Cambridge	%	Manchester	%	De Montforter	%
1	Tuition fees & education contracts	262,800,000	14.6	423,990,000	42.9	650,781,000	83.1
2	Funding Body Grants	193,000,000	10.7	129,587,000	13.1	17,528,000	9.7
3	Research Grants a Contracts	469,000,000	26.1	273,479,000	27.7	3,368,000	1.8
4	Exceptional Income (RDEC)	1,300,000	0.1	-	-	-	-
5	Examination & Assessment Services	391,700,000	21.8	-	-	-	-
6	Publishing Services	269,000,000	14.9	-	-	-	-
7	Other Income	019,900,000	6.7	142,396,000	14.4	8,638,000	4.8
8	Investment Income	21,300,000	1.2	7,731,000	0.8	640,000	0.3
9	Donation & Endowments	71,200,000	3.9	10,052,000	1.0	472,000	0.3
Total Income		1,799,000,000	100	987,235,000	100	181,427,000	100

Source: Bello (2017)

Expenditure Analysis in (GBP)							
S/N	Types of income	Cambridge	%	Manchester	%	De Montforter	%
1	Staff Cost (Salaries & Wages)	761,500,000	43.9	504,679,000	52.5	99,006,000	58.9
2	Other Operating Expenses	862,100,000	49.7	347,622,000	36.9	52,075,000	31.0
3	Depreciation	77,100,000	4.4	60,231,000	6.4	12,368,000	7.3
4	Interest Payable	33,100,000	2.0	30,640,000	3.2	4,738,000	2.8
Total Expenditure		1,733,800,000	100	943,172,000	100	168,187,000	100

Source: Bello (2017)

Table 6b: Analysis of Income and Expenditure of some Selected US Universities for 2015/2016 Academic Session

Income Analysis in (US\$)							
S/N	Types of income	Stanford	%	Pennsylvania	%	Toledo	%
1	Tuition Fee (Net)	587,076,000	6.0	903,076,000	10.5	197,760,000	26.2
2	Commonwealth Appropriations	-	-	32,927,000	0.4	-	-
3	Sponsored programmes and Grants	1,462,867,000	14.8	904,337,000	10.5	51,268,000	6.8
4	Contributions and Donor Support	28,285,000	2.6	201,488,000	2.3	-	-
5	Investment Income	1,338,492,000	13.7	439,405,000	5.3	-	-
6	Net Patient Service Revenue/Health Services	5,264,433,000	53.7	5,319,743,000	62.0	370,131,000	49.1
7	Sales and Services of Auxiliary Enterprises	-	-	118,629,000	1.4	55,586,000	7.4
8	Other Income	711,591,000	7.3	577,691,000	6.7	78,949,000	10.5
9	Independent Operations	184,280,000	1.9	79,024,000	0.9	-	-
Total Income		9,797,292,000	100	8,576,320,000	100	753,694,000	100

Source: Bello (2017)

Expenditure Analysis in (US \$)

S/N	Types of income	Stanford	%	Pennsylvania	%	Toledo	%
1	Staff Cost (Salaries Wages)	5,527,284,000	59.4	4,728,829,000	58.1	558,393,000	60.6
2	Other Operating Expenses	3,241,294,000	34.8	2,879,776,000	35.3	305,599,000	33.1
3	Depreciation	538,597,000	5.8	452,748,000	5.6	58,231,000	6.3
4	Interest Payable	-	-	78,634,000	1.0	-	-
Total Expenditure		9,307,597,000	100	8,139,987	1000	922,223,000	100

Source: Bello (2017)

Of very significant was the contribution of Health Care or Patience Services to the funding of the three institutions, ranging from 49.1-62.0 percent. Cambridge University was the only University out of the three considered in UK that made up to 36.7 percent of its revenue from business such as examinations and publishing. On expenditure, staff emoluments consumed 43.9-58.9 percent of the total expenditure by the UK universities and running expenses were between 31.0-49.7 percent of the total expenses (Bello, 2017). For universities in USA, staff emoluments were in the region of 58.1-60.6 percent, which compared favourably with their UK counterparts. Running expenses were similarly in the range of 33.1-35.3 percent. The lessons from the analysis according to Bello (2017) included the following: that irrespective of any university status, full tuition contributes significantly to her income, and this could be as much as 83 percent as was in the case of DMU, which is in the class of most Nigeria top universities, research and business activities contribute significantly to university incomes, Teaching Hospitals or Health Care Services are the largest sources of fund generation for universities in US, and personnel cost are only in the region of 43.9-60.0 percent of the total needs of effectively running a university.

THE TRIPLE HELIX

The Triple Helix according to Okejim *et al* (2016) is the interactions between the academic, industrial and governmental systems targeted at fostering technological innovations and economic growth through awareness, understanding and appreciation of the needs, roles and benefits of their inter-relationships. It can also be referred to as 'University-Industry-Government Relationship'. It is interpreted as the shift from a dominating industry-government dyad in the industrial society to a growing triadic relationship between university, industry and government in a knowledge society. A healthy tripod interaction among these organs that produce and use knowledge does not only produce and utilize knowledge, it can also foster effective fund generation and management of same. The Triple Helix concept has worked in countries where it was adopted. Examples of associations and institutes that have been established on this concept according to Santanegelo (2014) include the Triple Helix Institution (THI), Palo Alto, USA and the Triple Helix Association (THA), established, in 2009 in Turin, Italy (Santanegelo, 2014). Conferences and seminars are constantly held for university management staff, chief executives of industries and government officials for enlightenment. For instance, according to Okejim *et al* (2016), the 13th Triple Helix Conference for fast developing countries was held in Beijing, China from 21st-23rd August, 2015.

FOREIGN DIRECT INVESTMENTS/FOREIGN DONATIONS

Foreign Direct Investments/(FDI) is the development of financial resources (capital) into education sector, particularly universities by individuals, groups of persons,

companies/corporations or governments outside their countries of origin for the development of intellectual potentials, skills and aptitudes with the expectation of returns in cash or kind from such investments. It could also be in the area of infrastructural development in educational institutions, staff development, award of scholarships, training programmes, supply of educational/laboratory equipment or outright establishment of new educational institutions. From the business view point, FDI according to the World Bank (2010) is the investment to acquire a lasting management interest (usually 10 percent of voting stock) in a business enterprise operating in a country other than that of the investor(s). Cross border investment (FDI) has been induced due to globalization. Various countries of the world have resorted to different policy measures to attract FDI into the various sectors of their economies. Such measures according to Okejim *et al* (2016) include infrastructural development, liberalization of trade, assurance of national security and tax freedom (relief) for transnational corporations for some years of existence and exemption from import duties. Developing countries desire FDI much more than the developed ones but they hardly meet the requirements for FDI. Nigeria, a fast developing country with huge potentials for FDI only attracts very little Foreign Direct Investments. Education which is the fulcrum of human capital that is instrumental for overall national development receives little or no attention. The problem could be that FDI in education are not easily quantified in monetary terms.

CONCLUSION

The present economic recession ravaging Nigeria has complicated the poor funding of public universities. There has arisen the need for universities in Nigeria to look in-wards to identify and harness the potential sources of funding themselves. Payment of tuition fee rather than by subvention may change the game and help universities to be financially independent. This could be done with the help of NUC evaluating the true cost of educating a student in Nigerian universities. This should however not prevent brilliant indigent students from accessing university education since their fees could be defrayed through loans and bursary facilities of government. Research and innovation, investment and business, the Triple Helix and foreign Direct Investment are other sources of self-funding by public universities in Nigeria that will engender efficiency, proactiveness, scholarship and best practices.

Suggestions

From the foregoing, the following have been suggested:

- NUC should evaluate the true cost of educating a student in Nigerian university and determine appropriate tuition to be paid by students;
- Payment of tuition should be direct to public universities than indirectly through subventions to forestall disruption of academic calendars;
- Federal and state governments should diversify their sources of national income to invest enough funds in university education;
- Overhead costs in universities should be reduced through rationalization of senior administrative positions in line with global practices;

- A market-oriented approach should be adopted in delivering essential services and appropriate pricing of services such as boarding, feeding, examination and transportation should be undertaken;
- Individuals with proven integrity and initiatives who can effectively combine business acumen with professional callings should be appointed into positions of vice-chancellor and merit should be taken to consideration;
- Education Development Banks which will grant loans to universities and indigent students with low interest rates should be established;
- Public and privately-own universities should charge equal tuition as is practiced in UK where Oxford University which is government-owned and University of Kent, privately-owned charge the same tuition (Akanni, 2013);
- Measures to commercialize research results for patents and new start-ups should be quickly promoted as done in the industrialized world.

REFERENCES

- Adesina, S. (1981). Educational finance in Nigeria. In S. Adesina (Ed), *Introduction to Educational Planning*. Ile-Ife: University of IFE.
- Akanni, T. (2013). 63 reasons lecturers are on strike, *The News*, October 21st p5.
- Anya, A.O. (2013). The idea and uses of the university in the 21st century, 29th convocation lecture of the university of port Harcourt, Choba, 9th March, Thursday.
- Azubuikwe, K.O. (2013) Challenges of financing education in Nigeria. In N.M Mbajiorgu, E.M. Dawha, S.I, Efangha (Eds). *Financing Education in Nigeria*. Kano, Lagos, Warri, Onitsha: West and Solomon Publishers Coy Ltd.
- Bello, R.A. (2013). Funding of University education in Nigeria: Trends, Challenges and new direction. *Cambridge* (2016). <http://www.admin.cam.ac.uk/reporter/2016-17weekly/648/section4.shtml>.
- Bello, R.A. (2017). Self-funding by Nigerian Universities: Contemporary challenges and solutions, 29th convocation lecture of Rivers State University of Science and Technology, Nkpolu-Oroworukwo, Port Harcourt, 30th March, Thursday.
- Joint Admission and Matriculation Board (JAMB). (2012). *Unified Tertiary Matriculation Examination*. Abuja: Federal Government of Nigeria Press.
- Okejim, E.M, Uche, C.M and Obasi, F.N. (2016). Addressing the current problems of universities underfunding in the Niger Delta through strategic fund sourcing. In C.M, Uche (Ed) *African Journal of Higher Education Studies and Development (AJHESD)* 4,126-142.
- Okojie, J. A. (2007). Higher education in Nigeria. Retrieved (16/4/2016) from <http://www.nucnigeria.org>.
- Okorosaye-Orubite, A.K. (2017). Grant this our new request, 137th Inaugural lecture of University of Port Harcourt, Choba, April 27th Thursday.
- Organization for Economic Co-operation and Development (OECD) (2013). Economics, environmental and social statistics: Foreign direct investments. OECD Fact Book Retrieved (22/03/2016) from www.oecd-library.org/siles/factbook.nadex.litml.
- Santanegelo, A. (2014). Triple Helix Webinar. In H. Etzkouitz (Ed). *The Triple Helix Journal*. Posted in Events and Innovation: <http://www.triplehelixassociation.org>.

Ukeje, B.O. (1998). *Crisis in the Nigeria Education*. Nsugbe: School of Education, Nwafor Orizu College of Education.

World Bank (2010). *Financing higher education in African*. Washington D.C. The World Bank.