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**Public Spending Effectiveness
and Distribution of Education
and Health Services Benefits
in Nigeria**

Research Paper **9**

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Public Spending Effectiveness and Distribution of Education and Health Services Benefits in Nigeria

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LIST OF ACRONYMS

ACRONYMS	MEANING
ASUU	Academic Staff Union of the Universities
BECANS	Business Environment and Competitiveness across Nigerian States
CBN	Central Bank of Nigeria
CHEWs	Community Health Extension Workers
CSAE	Centre for the Study of African Economies
CSOs	Civil Society Organisations
DMO	Debt Management Office
ECCD	Early Child Care Development
FCT	Federal Capital Territory
FRM	Federal Republic of Nigeria
GDP	Gross Domestic Product
GMC	General Medical Council
HNLSS	Harmonized Nigeria Living Standard Survey
JAE	Journal of African Economies
LGAs	Local Government Areas
MDGs	Millennium Development Goals
NBS	National Bureau of Statistics
NBTE	National Board for Technical Education
NCCoE	National Commission for Colleges of Education
NGO	Non-Governmental Organisation
NLSS	Nigerian Living Standard Survey
NUC	Nigerian University Commission
OOP	Out-Of-Pocket
PPA	Public Procurement Act

PPP	Purchasing Power Parity
PPSMB	Post Primary School Management Board
SHMB	State Hospital Management Boards
SPHDA	States Primary Health Development Agencies
SSCE	Senior School Certificate Examination
SUBEBs	States Universal Basic Education Boards
UBE	Universal Basic Education
UK	United Kingdom
UPE	Universal Primary Education
WDI	World Development Indicators

ABSTRACT

A direct relationship should exist between consistency and compliance of Government Agencies with the development agenda a nation adopts, and the level of socio-economic development it attains for public spending to be effective. The level of socio-economic development in Nigeria over the past decade has not been in tandem with the distributive outcome targets set by the 2004 reforms despite the continuous scaling up of funding in two key sectors (education and health). The study employed a welfare distribution analysis conducting several dominance tests to ascertain who has benefited from public spending in these sectors and found that apart from public primary education and healthcare for urban residents, no other level of social service was absolutely progressive generally, by gender or by location with tertiary level of both services regressive in 2010. These results weren't better than the results of 2004 before these sectoral reforms. The study recommends that strengthening policies should be followed by institutional intensification and other several interrelated areas to attain effectiveness of public spending.

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ABOUT AfriHeritage RESEARCH PAPER SERIES

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The papers bear the names of the authors and should be used and cited accordingly. The findings, conclusions and interpretations expressed in this series are those of the authors and do not necessarily represent those of AfriHeritage or of the co-sponsoring organization. By emphasizing policy-relevant and evidence-based research, the series seeks to promote scientific and intellectual discourse on crucial developmental questions and enhance understanding of policy issues.

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1.0 INTRODUCTION

1.1 *Background, Conundrum and Objectives*

Modern efficiency and effectiveness measurement dated back to 1957 when Farrell came up with some indicators and tools highlighting why it matters to economic policy makers though the efficiency and effectiveness tackled was basically for industry. Industrial efficiency is different from public spending because of the later multiplicity of objectives which has made it remain a conceptual challenge. Such problem of efficiency and effectiveness measurement in public spending following the arguments of Mandl, Dierx & Ilzkovitz (2008) arose from the fact that public sector outputs are not frequently sold in the market hence price data may not be available making it difficult to quantify the outputs. The trio also opined that outcome is often linked to welfare or growth objectives and therefore may be influenced by multiple factors (including outputs but also exogenous 'environment' factors). Effectiveness is more difficult to assess than efficiency, since outcomes which determines if public spending is effective can be influenced by political factors and choices.

Efficiency and effectiveness in public finance may simply refer to the analysis of relationships between inputs, outputs and final outcomes. This study defines efficiency as what outputs will be produced given some quantities of inputs implying that the greater the output resulting from a *given* input the more efficient public spending can said to be and vice versa. Likewise effectiveness here relates the input or the output to the final outcome and in this case the *distributive outcomes* that were the target. Such outcome targets refer to the benefits that accrue to different household groups (population quintiles) through public spending to the citizenry.

Public spending effectiveness in some developing countries including Nigeria has fallen short in terms of achieving the outcome targets. This is contrary to the words of **van de Walle (1995)** that public spending should promote efficiency (by correcting for various market failures) and equity (by improving the distribution of economic welfare). If the above holds, it is important to ask some questions in a country like Nigeria that has spent significant amount of her resources/wealth (between 36% and 58% of GDP as consolidated² spending in the last 20 years) but could not come nearer to achieving efficiency and equity targets (reduction in poverty and inequality) in the production and distribution of public goods.

The distribution of functions across the tiers/levels of government in Nigeria is shaped by the kind of public goods in question. In line with the public good argument, the Federal Government of Nigeria currently provides national public goods whose spatial incidence of externalities (positive or negative) covers the entire country, e.g. defence, immigration, education, healthcare, infrastructures, etc. Extending the reasoning, the State and Local Governments are providing local public goods whose spatial incidence of benefits is limited to a state or local area and conform to a unique taste or preference pattern and that includes education, healthcare, infrastructure, etc. Sometimes, these local public goods may provide substantial economies of scale and externalities. In such situations, efficiency objectives would be promoted if the public good is provided by the federal (central) government rather than by the sub-national levels of government (Musgrave and Musgrave, 1989, Jimoh, 2003).

According to Heltberg, Simler & Tarp (2003), reduction in poverty and inequality usually requires a combination of well distributed economic growth and increased

²Consolidated spending here means spending by all tiers or levels of government (the federal, state and the local government)

investment in human capital. Some key areas for such investment are education, healthcare and infrastructure and in Nigeria, the State (federal, state and local governments) is the major service provider to these sectors because they are in the concurrent list of the 1999 Nigerian Constitution as amended. The assignment of responsibilities and functions to the tiers or levels of government is stipulated by the Nigerian Constitution, 1999 with the Exclusive List containing the functions reserved for the Federal Government only; the Concurrent List, both the Federal and State governments could function, however, when there is a conflict, the Federal Government shall prevail; while the functions reserved for the States are found in the Residual List which are functions not assigned to Local Governments and neither contained in the Exclusive and Concurrent Lists.

If it is believed that investment in education and healthcare through public spending which have been tackled by all tiers of Nigerian government helps to improve the welfare of the poor then there is the need to evaluate who has benefited from public spending (the rich or the poor) expended on these crucial sectors. Results from such studies will aid better targeting of public spending towards poverty and inequality reduction for equity reasons. In the Nigeria case, previous studies by different authors (Amakom 2011, Eboh 2009, Ichoku 2008, etc) have found that this has not been the case though these studies using the pre-reform survey data. These studies as well as others found that the direction of most of the little benefits experienced (far below expectations) from these spending have been skewed to the rich instead of the poor and is being concurred by the results of yet another latest household survey which shows increase in both absolute and relative poverty as well as inequality. With the introduction of education and health care reforms in 2004 which has as its aim “correction of distributional imbalance”, one should expect some significant

investment in human capital. Some key areas for such investment are education, healthcare and infrastructure and in Nigeria, the State (federal, state and local governments) is the major service provider to these sectors because they are in the concurrent list of the 1999 Nigerian Constitution as amended. The assignment of responsibilities and functions to the tiers or levels of government is stipulated by the Nigerian Constitution, 1999 with the Exclusive List containing the functions reserved for the Federal Government only; the Concurrent List, both the Federal and State governments could function, however, when there is a conflict, the Federal Government shall prevail; while the functions reserved for the States are found in the Residual List which are functions not assigned to Local Governments and neither contained in the Exclusive and Concurrent Lists.

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³Here, Poverty is defined in terms of the minimal requirements necessary to afford minimal standards of food, clothing, healthcare and shelter. This method considers both food expenditure and non- food expenditure using the per capita expenditure approach. This method is otherwise known as Food Energy Intake measure of poverty.

⁴Relative poverty as used here refers by reference to the living standards of majority in a given society and separates the poor from the non-poor.

With the introduction of education and health care reforms in 2004 which has as its aim “correction of distributional imbalance”, one should expect some significant changes in some key education, healthcare, poverty and inequality indicators in subsequent years.

Results from the 2010 Harmonized Nigeria Living Standard Survey (HNLSS) show increase in absolute poverty from 54.7% in 2004 to 60.9% in 2010 and relative poverty from 54.4% in 2004 to 69% in 2010. The result also suggests rising income inequality as measured by the Gini-coefficient from 0.429 in 2004 to 0.447 in 2010. In addition to the inequality finding is more shift in favour of the rich in consumption expenditure distribution where the top 10% income earners was responsible for about 43% of total consumption expenditure, the top 20% about 59% while the top 40% about 80% of total consumption expenditure. This implies that the other 60% of the population was responsible for only 20% of consumption expenditure in 2010 a further drop from 29% witnessed in 2004.

The situation is more worrisome when one remembers that this same period witnessed a combination of high increase in the price of oil in the international market which is the major source of income for the country; a depletion of Nigerian foreign reserves at a time of oil export boom; and the fastest rate of debt accumulation in Nigeria's history⁵. The excuse given for these ironical occurrences has been more public spending to boost education, healthcare and infrastructure by policy makers. Education and health statistics for the period have not improved either as depicted in Table 1 below which shows mixed results for most selected

⁵Total public debt according to the Debt Management Office (DMO) stands \$48 billion (domestic N6.5 trillion and \$6.5billion for external debt)

indicators in favour of the opposite performance with lower net primary enrolment rate, higher number of children out of school, lower primary completion rate and higher consolidated expenditure in education and healthcare.

Table 1: Selected Basic Social and Economic Statistics

Indicators	2003	2007	2010
Poverty Incidence	65.60	54.40	60.90
Real GDP Growth Rate (%)	2.6	6.3	6.9
Education	2003	2007	2010
Net enrolment rate, primary (% of primary school age children)	65.60	65.09	57.55
Children out of school, primary	7,122,520	7,974,015	10,542,105
Children out of school, primary, female	3,985,190	4,342,730	5,487,901
Children out of school, primary, male	3,137,330	3,631,279	5,054,204
Literacy rate, adult total (15 and above)	54.77	60.15	61.34
Primary completion rate, total (% of relevant age group)	77.23	81.10	74.36
Consolidated Education expenditure, total (% of GDP)	8.94	11.32	12.78
Health	2003	2007	2010
Health expenditure per capita (PPP US\$)	109.23	120.10	141.36
Consolidated Health expenditure, total (% of GDP)	8.55	7.98	10.07
Life expectancy at birth, total (years)	47.92	50.00	51.41
Mortality rate, infant (per 1,000 live births)	102.10	89.30	80.80
Nurses and midwives (per 1,000 people)	1.70		1.61

Indicators	2003	2007	2010
Physicians (per 1,000 people)	0.28		0.40
Population growth (annual %)	2.46	2.49	2.52
Population, total	133,067,097	146,951,477	158,423,182
	7	7	2

Source: National Bureau of Statistics (NBS) & World Development Indicators (WDI)

In Nigeria just as any other developing country, the government plays a key role in the provision of public services particularly inputs to human capital development such as basic schooling and healthcare which are important condiments for poverty and inequality reduction. The two sectors are instruments of excellence that liberate people from poverty and ignorance and hence when an investment is not made or is made ineffectively, the society suffers a loss".

Since provision of these services are expensive that justifies the need for hard policy choices to come to the fore and such information on distributional outcomes (effectiveness) particularly the extent to which the poorest quintile (strata) benefit can help in making those choices.

Therefore, this study aims to find answers to the following questions:

1. Are the distributive objectives in the two sectors (education and healthcare) being met by current spending practices? In other words can we confirm dominance in the right direction?
2. Can we conclude there have been improvements in distributional outcomes which were the core issue that led to the 2004 education and healthcare reforms?
3. Are there rooms for improvement or is there any need for an entirely new spending arrangement or major overhaul of the existing pact to be able to achieve the objectives?

1.2 A Snap Shot at Nigeria's Education and Health Polices after the 2004 Reforms

The current Nigeria's National Policy on Education is anchored on Nigeria's philosophy on education as enunciated through the nation's objectives including: a free and democratic society; a just and egalitarian society; a united strong and self-reliant nation; a great and dynamic economy; and a land of bright and full opportunities for all citizens (FRN, 1999). All these are enshrined in the curriculum of the 6-3-3-4 educational system modelled after the American system of 6 years of primary education, 3 years of junior secondary school, 3 years of senior secondary school, and 4 years of university education (Nwagwu, 2007). The education policy dealt heavily on Universal Basic Education (UBE) which started in 1976 as Universal Primary Education (UPE). Due to the ineffectiveness of the straight 6-3-3-4 educational system, the current UBE programme has the first nine years collapsed under Basic Development (Early Childhood Care and Development, Primary & Junior Secondary) before the 3 years of senior secondary school, and 4 years of university education. In other words, a 9-3-4 system that provides free and compulsory education to every Nigerian child for nine (9) years continuously and a meal daily for the primary pupils (first 6 years). This implies a direct subsidy for all children within the age range for nine years instead of six years. The goals here are the provision of functional literacy and numeracy, cultivation of positive attitudes, leading to cooperation, community and continuous learning that support national development (Woolman, 2001, Federal Republic of Nigeria, 2004).

The senior secondary school is of three years duration, and is for adolescents aged between 15 and 18 years old entirely financed and managed by the States' government except for the unity secondary schools financed and managed by the Federal Ministry of Education. The tertiary aspect of the policy has been revised to

accommodate changes in the direction of education brought about by technological development and as such has proposals that entail admissions into universities be based on 60% science based programmes and 40% humanities in an effort to move the country in the direction of technological and industrialized nation. Also contained in the policy are various programmes like the nomadic education for the education of the migrant ethnic groups such as the nomadic cattle rearing Fulani and Ijaw fishermen. The 2004 edition of the education policy which looks more dynamic than the previous versions stipulated an inclusive education to take care of children recognized as having special needs (special education) as well as adult education. This system is a result of the reform in the sector, with the objective of making education more functional and enable outputs employable and self-reliant and above all, give the poor and down trodden the opportunity to benefit from the wealth of the nation. It is also to encourage vocational and technical education that would be relevant to the needs of the society. The reform led to the passage of the compulsory, free Universal Basic Education (UBE) Act into law in 2004 that represents government's strategy to fight illiteracy and extend basic education opportunities to all children in the country.

Nigeria's Health Policy goal is to establish a comprehensive healthcare system, based on primary healthcare that is promotive, protective, preventive, restorative and rehabilitative to every citizen of the country with the available resources so that individuals and communities are assured of productivity, social wellbeing and enjoyment of living. It has social justice and equity, ideals of freedom and opportunity that have been affirmed in the 1999 Constitution of the Federal Republic of Nigeria as her underlining principles and values. It has the goal of a national health system that will be able to provide effective, efficient quality, accessible and affordable health services that will improve the health status of Nigerians with same targets as the health targets of the Millennium Development Goals (MDGs).

The health policy recognizes that primary healthcare is the key to attaining the goal of health for all people and refers to it as an essential healthcare based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full involvement and at a cost that the community and state can afford to maintain at every stage of their development in the spirit of self-reliance. All levels of government are in agreement to co-operate among themselves in a spirit of partnership and service to ensure primary health care for all citizens. Like the education policy, the National Healthcare System is developed at three levels: Primary, Secondary and Tertiary.

Primary Healthcare is expected to provide general health services of preventive, curative, promotive and rehabilitative nature to the population as the entry point of the healthcare system. The provision of care at this level is largely the responsibility of Local Governments with the support of State Ministries of Health and within the overall national health policy. Private sector practitioners shall also provide healthcare at this level.

The policy stipulation on secondary healthcare is that it should provide specialized services to patients referred from the primary health care level through out-patient and in-patient services of hospitals for general medical, surgical, paediatrics, obstetrics and gynaecology patients and community health services. It shall also serve as administrative headquarters supervising healthcare activities of the peripheral units. Secondary healthcare should be available at the district, division and zonal levels as defined by the authorities of the State. Adequate specialized supportive services such as laboratory, diagnostic, blood bank, rehabilitation, and physiotherapy shall be provided.

The tertiary healthcare, which consists of highly specialized services according to the health policy, is expected to be provided by teaching hospitals and other special hospitals for specific disease conditions or specific group of patients. Care should be taken to ensure that these are evenly distributed geographically. Appropriate supporting services shall be incorporated into the development of these tertiary facilities to provide effective referral services. Selected centres shall be encouraged to develop special expertise in the advanced modern technology thereby serving as a resource for evaluating and adapting these new developments in the context of local needs and opportunities.

2.0 BRIEF LITERATURE REVIEW

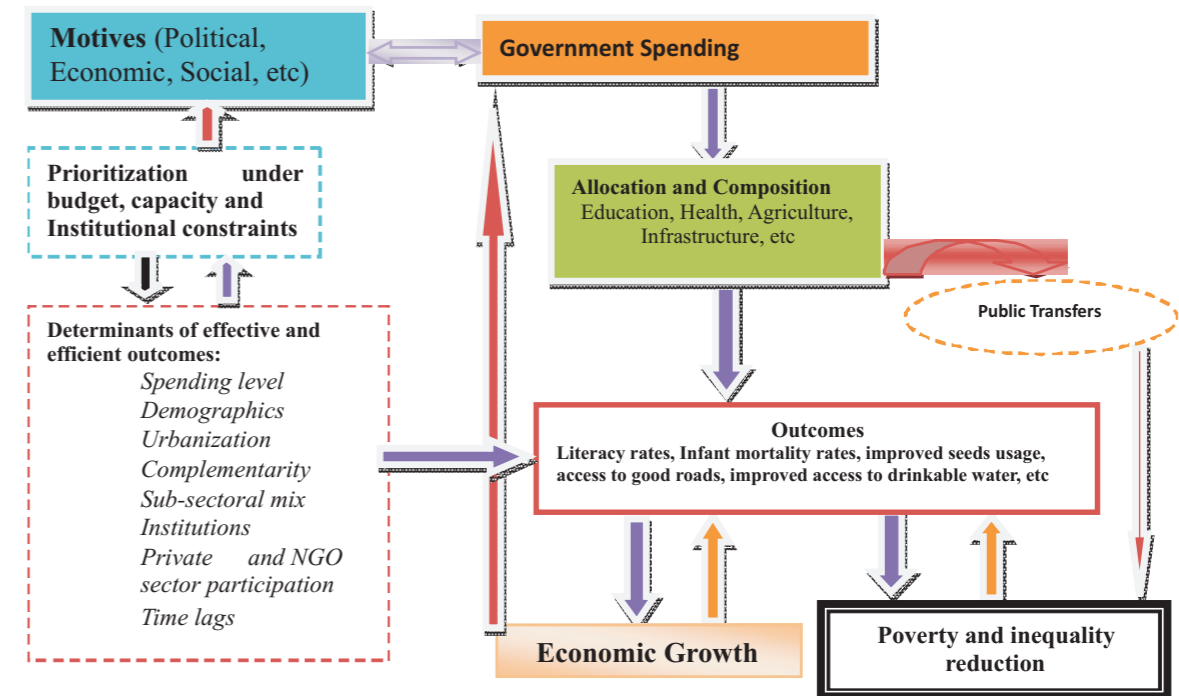
2.1 *Linking Public Spending with Poverty Reduction (Stylized facts and Evidence)*

Government spending is driven by the objective to positively affect growth and/or poverty reduction as a result of improved provision of social services, public goods spending in agriculture, and infrastructure access (Wilhelm and Fiestas 2005). To achieve this objective largely depends on some specific issues and conditions within a country. Literature suggests that outstanding variables which could hamper or improve public spending outcome is the role of regulatory framework and private sector interventions because of their effect on service provision level to the poor.

There are divided opinions and findings on the relationship between public spending and economic performance though most economists are in agreement that there exists circumstances in which lower government spending would enhance economic growth and other circumstances in which higher government spending would be sought-after. Therefore, the connection between economic growth and government spending runs in both directions, particularly with growth and sectoral

outcomes, in that higher growth leads to improved sectoral outcomes (better schools, health indicators, road access, etc.) while enhanced sectoral outcomes will correspondingly lead to superior growth (in particular investment in education and infrastructure is associated with higher growth rates). Looking at the theoretical underpinnings of public spending effects, it is necessary first to look at the drive or motive and its linkages with economic growth, poverty and inequality reduction for it to have the desired effect on distributional outcome. Such linkage is presented in diagram 1 below which shows that motives (political, economic, social, etc.) have effects on public spending while prioritization under budget including available capacity and institutional constraints do affect motives behind public spending. The diagram also shows that effective and efficient outcomes could be determined by spending level; country/state demographics; level of urbanization; Complementarity; sub-sectoral mix; strength of institutions; the level of participation for private and NGO sector as well as time lags.

Diagram 1: Public Spending Motives, Determinants and Linkage with Growth and Poverty Reduction



Source: Adapted from Wilhelm and Fiestas 2005

• Empirical studies using welfare distribution tool like benefit incidence analysis have assessed the theoretical assertion between public spending in social services and infrastructure and improvement in social outcomes and have found mixed results in different countries especially the developing and less developed countries. In some of these countries public spending in social services improves social outcomes while in some the reverse is the case. Looking at these different studies Wilhelm and Fiestas (2005) as well as other studies summarized what explains the variable impact of spending on outcomes as follows:

- Good governance both with respect to budgetary planning and execution is

- essential to increasing the impact of public expenditures on sector outcomes and more broadly on growth and poverty reduction;*
- *A possible explanation determining the link between public spending and development outcomes is the importance of complementarity and sequencing of spending packages;*
 - *Spending priorities may also change over time, as intermediate outcomes are achieved; and*
- It has to be kept in mind that factors other than spending can affect public service provision and delivery.*

On the other hand, three main agreements in the literature has great concern for distributional outcomes of public spending stems from three main sources:

1. Dissatisfaction with distributional outcomes in the absence of intervention. But even a well-functioning market economy can result in too much poverty and inequality according to prevailing social norms.
2. The lack of alternative policy instruments. In developed countries, the tax system provides an additional redistributive device to promote equity. In developing countries, where comprehensive income taxes are generally not a viable option, the tax system is much less useful in this task and hence public spending's role in redistribution becomes much more vital.
3. The need for fiscal restraint and the sharp trade-offs which make governments face

2.2 Conceptual and Analytical Framework

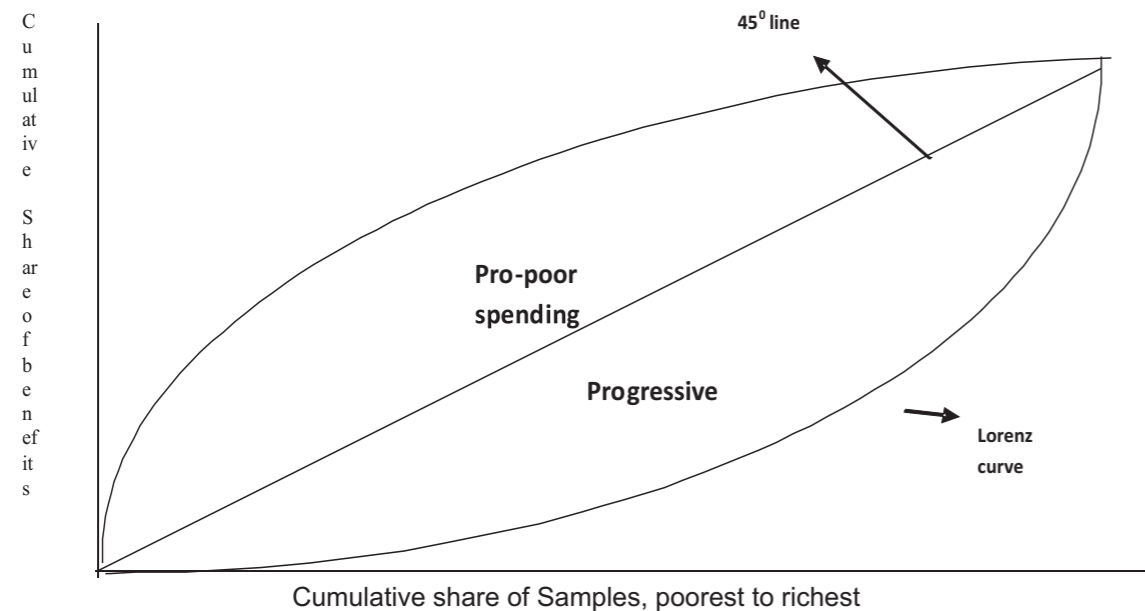
Welfare distribution analysis is always defined in terms of the financial subsidy received from public resources, as distinct from volume of services delivered (education, health, etc.) or some other form of output measure and has been successful in determining the progressive or regressive nature of government

spending. It always looks at the targeting of public spending and the study by Davoodi, Tiongson, and Asawanuchit (2010) as well as Chakraborty, Singh and Jacob (2013) using concentration curves provides a framework for public spending benefit analysis and targeting which is adopted by the present study. According to Davoodi, Tiongson, and Asawanuchit (2010), benefit incidence brings together the elements of the supply of and demand for public services and can provide valuable information on the inefficiencies and inequities in government allocation of resources for social services and on the public utilization of these services. Targeting is a means of increasing the efficiency of a program by increasing the benefits that accrue to the poor with a fixed program budget (Coady *et al* 2004).

The combination of the cumulative plots of net fiscal incidence on a y-axis against the cumulative plots of per capita consumption-based population quintiles on an x-axis give rise to a concentration curve and the progressivity or regressivity of public spending could be interpreted by comparing the different benefit concentration curves. Comparing the concentration curves can indicate absolutely progressive or pro-poor when it is above the 45° line (inequality reducing); per capita progressive (or just progressive) meaning that households at the lower (upper) end of the income distribution receive at least an equal level of benefit as upper (lower) income households; regressive or not pro-poor i.e. if benefits are distributed more unequally (i.e. the concentration curve lies below the Lorenz curve). The neutrality in the benefit incidence is represented by the diagonal line (the 45° line). It captures the perfect equality in the distribution of benefits. When curves cross the diagonal line, no determination of progressivity or regressivity can be made using the Lorenz criterion.⁶ See figure 1 below for details.

⁶In such situations, one could resort to other criteria such as the Gini coefficient, Atkinson index, or generalized entropy measures for a complete ordering.

Figure 1: Concentration Curves and Public Spending Benefit Incidence



Analyzing effectiveness of public spending using welfare distribution tools is identical to testing fiscal policy performance with respect to reduction in poverty and inequality. A number of reasons can be cited as to why distributional outcomes from public resources are important for Nigerian government. Increasingly, the government is resorting to spending discretions to alleviate poverty and address equity objectives. In this respect the Nigerian governments at different levels have come up with continuous increase in the amount of public resources channeled towards social and community services and establishing social investment funds for Universal Basic Education (UBE) and the National Health Insurance Scheme (NHIS).

Another factor that justifies welfare distribution analysis in Nigeria is that households diverge in terms of their abilities to access and utilize social services. Most times it is

households in the upper income echelons which may reap larger benefits from public spending programs. Such variations could stem from wide ranging factors as state derivation⁷ formula, the so called social capital that is ripe and thriving in Nigeria, urban bias in concentration of public services to possible tremendous opportunity costs incurred by poor households, say, in sending a child to a school or visiting a health centre.

Furthermore, the poor often are not sufficiently insulated from the adverse effects of budgetary cut backs. When reductions in total public sector budgets become a must due to situations as structural adjustments or shocks⁸ to the economy, social sector programs that mostly serve the poor tend to shrink more. This point is stressed by Ravallion (2002) who pinpoints the need for safety net measures to alleviate the negative incidence impacts.

Hence, the social welfare functions for Nigeria could be conceptualized as developmental challenges that aim to maximize a composite good of improved distributional outcomes that will help reduce poverty and boost growth with fiscal policy, among others, entering as a right-hand side argument. A mathematical representation of such types of social welfare functions can be defined using the Gini coefficient of inequality (G_y):

⁷In Nigeria different states and local governments get different allocation from the federation account (52.68 to the federal, 26.72 to the state and 20.60 to the local government.

⁸A notable shock in Nigeria comes from her overdependence in oil revenue

$$G_y = \frac{2 \text{cov } Y, F(y)}{\bar{y}} \quad (1)$$

Where \bar{y} = mean income

F_y = normalized rank of a household in the distribution of income

Combining the Gini coefficient with mean income, the social welfare is then defined as:

$$W = \bar{Y}(1 - G_y) \quad (2)$$

As such it can be readily shown that increases in average levels of income and reductions in inequality help improve social welfare. Since it affects both these variables, public sector spending impact on social welfare is obvious. The inverse relationships between inequality and social welfare have been established empirically by Sen (1976) and Yitzhaki (1982).

The social welfare function identified in equation (2) does have contextual relevance to Nigeria, perhaps expressed more so in its current economic blue print Vision 20:2020 “*Encouraging massive investments in infrastructure and human capital*”. The country's fiscal policy has been serving these objectives in a number of ways. First, government is working hard to contain budgetary deficit at a lower rate to the GDP and by avoiding practice of deficit monetization to help create stable macroeconomic environment needed for sustained growth. Secondly, functional budgetary allocations is being rearranged⁹ improving to a large extent the shares of spending going to social services (education and healthcare in particular) and physical infrastructures. Third, decentralizing fiscal powers¹⁰ to state and local governments would improve public sector efficiency by enabling the economy to capitalize on local entities' informational edge.

⁹There is what is called a conditional grant transfers that allows state to apply for funding relating to social sectors and other MDGs activities. Every state is expected to provide some matching funds equivalent of whatever amount they applied annually. Education, healthcare, water and sanitation, etc are the main activities such funds can be used to finance.

¹⁰An ongoing issue with the parliament trying to amend the constitution to enable the last tier of government (local) have financial autonomy.

3.0 METHODOLOGY

3.1 *Benefit Incidence Methodology*

This study follows the Demery (2000) four basic steps which include: users' identification; users' aggregation into groups; unit cost estimation; and the calculation of benefit incidence as product of unit cost and unit utilized.

Users' Identification: This was done through a household survey and service use data. The availability of the Nigerian Living Standard Survey (NLSS) 2004 and the Harmonized Nigerian Living Standard Survey (HNLSS) 2010 served the purpose of the household data and some service use data. Other service use data were enrollment data from schools for education and number of visits to hospitals. For primary schools, the respective States Universal Basic Education Boards (SUBEBs) provided the data; for secondary schools such information were provided by the Post Primary School Management Board (PPSMB); tertiary data were provided by National Commission for Colleges of Education (NCCoE), National Board for Technical Education (NBTE) and the Nigerian University Commission (NUC) while primary healthcare data were sourced through the various States Primary Health Development Agencies (SPHDA); secondary healthcare data from State Hospital Management Boards (SHMB) of respective states and the Federal Ministry of Health for tertiary healthcare. These set of data were collated by the National Bureau of Statistics (NBS). Potential biases in household data that occur due to survey design, questionnaire structure, the wording used, sample limit, etc, were taken cognizance of and the study matched the two data sets based on the knowledge of the institutions and situations.

Aggregation into Groups: The welfare indicator used here is total household consumption per capita¹¹. Using the NLSS and HNLSS household data sets, the study ranked individuals by this benefit and it was important since it is the distribution of welfare indicator that applied in the absence of the in-kind transfer embodied in the government subsidy. The study therefore aggregated individuals ranked according to welfare measures into group of equal size (population quintiles). Further disaggregation into location (rural and urban), and gender (male and female) groupings were done along with consumption based groupings. These are relevant for poverty assessment since the weak targeting of government spending to the poor is closely related to location and gender biases in the use of government services.

Unit Cost Estimation: This was taken to be the unit cost of service provision, disaggregated by types (education and healthcare) and levels of social service (primary, secondary and tertiary), location (urban and rural), and gender (male and female). This was realised by dividing government spending on the service (net of any cost-recovery fees and out-of-pocket expenses by the users) by the total number of users of the service.

Calculation of Benefit Incidence as Product of Unit Cost and Unit Utilized: Benefit incidence is computed by combining information about the *unit costs* of providing the publicly provided good with information on the *use* of these public goods. Mathematically, benefit incidence is estimated by the following formula:

¹¹Total consumption here is the sum of food and nonfood consumption expenditures, using standard definitions (see, for example, World Bank 2000). Food consumption includes all items consumed by the household (from purchase, own production, wages in kind, or transfers). Nonfood consumption includes all nonfood items, such as clothing, house rents, cooking fuel, transport, education, etc., as well as imputed values for rents if the household lives in owner-occupied housing, and imputed use values of household durable goods.

$$X_j \equiv \sum_i U_{ij} (S_i / U_i) \equiv \sum_i (U_{ij} / U_i) S_i \equiv \sum_i e_{ij} S_i \dots\dots\dots 3$$

where X_j = sector specific subsidy enjoyed by group j ;
 U_{ij} = utilization of service i by group j ;
 U_i = utilization of service i by all groups combined;
 S_i = government net expenditure on service i ; and
 e_{ij} = group j 's share of utilization of service i .

Using the unit cost, the study calculated the benefit incidence and graphed concentration curves that show the cumulative distribution of total consumption plotted against cumulative participation in public education and healthcare services nationally across quintiles as well as by location (rural and urban) and by gender (male and female). The concentration curves are compared to the cumulative distribution of total consumption (often referred to as the Lorenz curve) as well as the 45 degrees line (the line of equality). The Lorenz curve at p for a population

$$L(k, p) = \frac{\sum_{i=1}^n SW_i^k y_i I(y_i \leq Q(k, p))}{\sum_{i=1}^n SW_i^k y_i}$$

where $I(y_i \leq Q(k, p)) = 1$ if $y_i \leq Q(k, p)$ and 0 otherwise and $Q(k, p)$ is the p -quantile of the subgroup k .

$$C_T(k, p) = \frac{\sum_{i=1}^n SW_i^k T_i I(y_i \leq Q(k, p))}{\sum_{i=1}^n SW_i^k T_i}$$

where $I(y_i \leq Q(k, p)) = 1$ if $y_i \leq Q(k, p)$ and 0 otherwise at $Q(k, p)$ is the p -quantile of y for the subgroup k .

Box 1: Testing for Differences in Concentration Curves (Dominance Tests)

Dominance test in this study was primarily based on ranking the progressivity of benefits of categories of social expenditure (education and healthcare) across all levels (primary, secondary and tertiary). The tests evaluated the distribution of expenditure against two benchmarks looking at whether they are absolutely progressive (i.e. inequality reducing relative to welfare benchmark which is the 45° line), and if they are per capita progressive meaning that households at the lower (upper) end of the income distribution receive at least an equal level of benefit as upper (lower) income households. These tests were necessary because concentration curves are estimated from survey data and are therefore subject to sampling variability hence the need for statistical comparisons. It is true that visual inspection of a concentration curve in comparison with the 45° line or another concentration curve like the Lorenz curve (per capita expenditure/consumption) may give an impression of whether there is dominance but clearly this inspection may not be sufficient to conclude whether or not dominance is statistically significant. In order to make inferences about dominance, the standard errors of the concentration curve ordinates must be computed in addition to their point estimates.

Several approaches have been applied by various authors in testing for differences in concentration curves or dominance tests depending on the interest of analyst. If the interest is to test dominance of a concentration curve(s) against the Lorenz curve of expenditure/consumption or against another concentration curve estimated from the same sample, then the standard errors for the differences between curve ordinates must be computed. It has been observed that this process is complicated by the fact that, in such cases, the curves are dependent. An appropriate variance-covariance matrix which allows for

dependence between curves was derived by Bishop *et al.* (1994) and Davidson & Duclos (1997) to help overcome the problem. Davidson & Duclos (1997) thus derived an estimator which is a distribution-free standard error for the difference between two concentration curves that may be dependent. Such estimator was used to establish a confidence interval around the estimated concentration curves and then tested for significant differences between them with the null hypothesis that the ordinates of two concentration curves are equal at each of 19 evenly spaced abscissa. According to Howes (1996), the null hypothesis of equality will be rejected if all 19 ordinate pairs are significantly different.

Dominance tests in this study followed the above as applied by Sahn and Younger (1999, 2000) and O'Donnell *et al* (2007) but in addition to accounting for the possible dependence between concentration curves, the current study used the covariance matrix for the ordinates estimates which was also used by Sahn and Younger (1999). This was to avoid the fact that statistical tests using only t-tests for the difference between ordinates of two concentration curves at several abscissa (usually 0.1 to 0.9) leading to the rejection of the null hypothesis of non-dominance when one of the ordinates differs statistically in the direction of dominance as long as none of the other pairs indicates a statistically significant result in the opposite direction. This has happened commonly leading to the acceptance of the null hypothesis quite often and in effect has resulted to very little to conclude about the progressivity of categories of not only expenditures/consumption but taxes.

However, according to Sahn & Younger (1999), bounding the size of test at the risk of low power is consistent with standard econometric but failure to reject the null hypothesis leads to indeterminate result unless there is an establishment that the two curves cross and can be revealed by two significant differences in

ordinates of opposite signs.

Besides the decision rule, the study noted that it is important to choose the number of quantile points at which ordinates are to be compared. If the number of comparison points is too restricted, then dominance across the full range of the distribution is not being tested. According to Howes (1996) it is difficult to find dominance at the extremes of distributions. With reasonably large samples, a popular choice has been to test for differences at 19 evenly spaced quantiles from 0.05 to 0.95¹² as applied by (Sahn and Younger 2000; Sahn *et al.* 2000 and O'Donnell *et al* 2007). Therefore the decision rule will be thus: Using 19 equally spaced ordinates from 0.05 to 0.95, the null hypothesis (non-dominance) is rejected in favour of dominance if all t-statistics are greater than the critical value and of the same sign; or the null is rejected in favour of crossing if there are at least two significant t-statistics with opposite signs. This means that rejecting the null on non-dominance using the above procedure implies that one distribution is preferred to the other under any social welfare function that favours progressivity¹³.

Source: Amakom, U. 2013. "Public Spending and Poverty Reduction in Nigeria: A Benefit Incidence Analysis in Education and Health" *AERC Research Paper 254*, African Economic Research Consortium, Nairobi, Kenya, January 2013

¹²See the cited papers for details.

¹³This method used is a demanding criterion especially in the light of low power of the test hence effort should be made to explore alternative like the use of extended Gini coefficients as an alternative means for stochastic dominance as used by Sahn and Younger 2000.

3.2 Data and Sources

The survey data for the study was primarily drawn from the NLSS 2003/2004, a welfare monitoring survey collected by the NBS in collaboration with the European Union and the World Bank. The data has 19,158 households with complete information out of the 22,000 households in the sample. The second wave of the household survey called the Harmonized Nigeria Living Standard Survey (HNLSS) 2009/2010 an enlarged scope of previous National Consumer Surveys and also a follow-up to the Nigeria Living Standard Survey (NLSS) 2003/2004 was used for the study. The scope of the HNLSS 2009/2010 was enlarged to include: Demography; Health and Fertility behaviour; Education and Skills/Training; Employment and Time-use; Housing and Housing Condition; Social Capital; Agriculture; Household Income & consumption, and Expenditure. The two waves of survey were used to graph the concentration curves employed in comparing if there has been a change in the distributional impact of public spending.

Information from the surveys were also collected on individual basis for education and healthcare issues and further disaggregated by gender in 2004 and 2010 waves.

Here access to education and healthcare were chosen for analysis taking into account their close correlation with welfare status of households. The data contained information on households' total expenditure and households' expenditure on education and healthcare. Data from the survey was disaggregated into gender (male and female) and location (rural and urban) for both waves. Brief descriptive statistics of key variables for the two waves are presented in table 2 below.

Table 2: Descriptive Statistics

Variable	Number of Observation	Mean(N)	Std. Dev.
2003/2004			
Household size	19,158	4.83	2.908539
Per capita expenditure	19,158	31,894.75	40538.26
Urban	4,646		
Rural	14,512		
2009/2010			
Household size	73,329	6.02	1.061198
Per capita expenditure	73,329	53,533.12	22460.69
Urban	20,035		
Rural	53,294		

Source: Author's

There were some inconsistencies in the data and to partially overcome this data problem, the study assumes that service access rates for each household group (quintile) in a specific zone overlaps with corresponding rural or urban patterns. This was certain to compromise the degree of analytical insights and policy derivations, which otherwise would have been achieved, by masking existing access differences among local administrations. Apart from the two waves of the survey data, the following data from secondary sources such as the total actual revenue and expenditures on education and health across local government, states and the federal levels sourced from the Federal Ministry of Finance, the Central Bank of Nigeria (CBN) and the National Bureau of Statistics were also helpful.

4.0 RESULTS, FINDINGS AND DISCUSSION

4.1 Results and Findings

Concentration curves were graphed using the method highlighted above and these curves were subjected to dominance tests following the enumerated approach to ascertain statistical significance of these curves (dominance). The ordinates of these curves were used for the welfare dominance tests. All used concentration curves are presented in the annexes as figures 2a-b (primary education and healthcare); 3a-b (secondary education and healthcare); 4a-b (tertiary education and healthcare); 5a-f (primary and secondary education and healthcare by gender); 6a-b (primary education and healthcare by location); 7a-b (secondary education and healthcare by location); and 8a-b (adult and special education). A visual inspection of the concentration curves may have said something differently from the statistically tested results. Table 3 below shows the dominance tests results for social services (education and healthcare) relative to the Lorenz curve and the 45-degree line in Nigeria nationally and by gender, and location.

Table 3: Dominance Tests Results for Social Services (Education and Healthcare) Relative to the Lorenz Curve and the 45-degrees line in Nigeria (2003/2004 and 2009/2010 Household data sets)

Primary Education (1)	Primary Healthcare (2)	Secondary Education (1)	Secondary Healthcare (2)	Tertiary Education (1)	Tertiary Healthcare (2)	Adult education (1)	Special Education (2)
2003/2004							
+	+	x	x	--	x	--	NA
+	+	x	x	--	x	--	NA
+	+	x	+	x	--	--	NA
2009/2010							
National	+	x	+	--	+	--	+
Male	+	--	+	x	--	+	NA
Female	+	x	+	--	+	--	x
Rural	+	x	+	x	+	--	+
Urban	+	+	+	+	+	--	+

Notes:

- (1) compares the column's concentration curve with the Lorenz curve for per capita household expenditure
- (2) compares the column's concentration curve with the 45-degree line
- '+' indicates that the benefits from the column's service are more concentrated among the poor than per capita expenditure (Lorenz curve) **(for (1))** or an equal per capita distribution **(for (2))**
- '--' indicates that the service is less concentrated among the poor
- 'x' indicates that the concentration curves cross
- 'NA' indicates Not Available

If the curves are statistically insignificant from one another, the corresponding cell is blank

Source: Author's

The above dominance tests results is for Nigeria using the two household data sets (2003/2004 and 2009/2010) following the process and method explained above to ascertain whether social services (education and healthcare) at different levels (primary, secondary and tertiary) by gender and location were:

- a. Absolutely progressive (i.e. the concentration curve is above 45 degrees line implying that the poor receive more benefits than the rich (pro-poor distribution));
- b. Progressive (i.e. the concentration curve is above the expenditure distribution (Lorenz curve), implying that the poor benefit more in relative terms);
- c. Regressive (i.e. the concentration curve is below both the 45 degrees line and the Lorenz curve, implying that the rich benefit more than the poor; and
- d. Whether there has been any significant changes made over the period 2004-2010.

Discussion of results followed levels and types of social services.

4.2 *Primary Education and Healthcare*

Primary education in Nigeria is provided by elementary schools across the country. This is the foundation laying stage for education and includes the Early Child Care Development (ECCD) and primary education. Likewise, primary healthcare services are provided by health centers, clinics, dispensaries, maternities, etc. At this lower level, the states and LGAs share responsibility for education and healthcare. The LGAs provide basic health services and manage the primary healthcare facilities which are normally the first contact with the health system. Nigeria has about 54,434 public primary schools with 24,422,918 pupils in all the primary schools (13,302,269 or 54.5% males and 11,302,269 or 45.5% females) in 2010. There were about 2.02 million children in pre-primary schools and approximately 16,723 public primary healthcare and 9,000 private primary healthcare centres across the country.

Study results and findings as shown in table 3 above suggests that the direction of benefit for primary education was absolutely progressive for urban residents in 2010 contrary to absolutely progressivity for national and both sexes (male and female) in 2004. Similarly, primary healthcare findings suggest that the direction of benefit was absolutely progressive for only urban residents while the direction of benefit for both sexes, national and rural residents were just progressive implying that the poor benefits equally with the rich or the poor benefit more in relative terms than the rich. The drop from absolute progressivity in 2004 to just progressive in 2010 for primary education is worrisome considering the total resource that have been committed to the UBE program by the different tiers of government though one needs not be surprised given the drop in net primary enrolment from 65.60% in 2003 to 57.55% in 2010¹⁴ and drop in primary completion rates from 77.23% to 74.36%. Most of these

¹⁴Data for net primary enrolment, children out of school as well as primary completion rates are from World Development Indicators (WDI) assessed on February 14, 2013.

children of primary school age who are out of school [about 5,487,901 females and 5,045,204 males (10,542,105 in totals)] are from the poorest households that live in rural communities across Nigeria.

It is noteworthy that the absolute progressivity of urban primary education and healthcare as portrayed by the result says nothing about quality or standard of services provided just as it fails to capture anything about households' choices. It is possible that richer urban households' may not have benefited much from public primary education and healthcare because they consider these services sub-standard and hence may have turned attention to private primary schools and healthcare outfits for an improved services for their different families.

The above findings using the 2010 survey data though in line with the results of Yuki (2003) for Yemen for primary education and healthcare run contrary to the findings from the study by Heltberg, Simler & Tarp (2003) in Mozambique where public primary education and healthcare services provision were found to be absolutely progressive and an exceptional case for many other African countries. The findings for Nigeria may also suggest poor targeting of public resources all other things remaining constant and not cheery news for the education reform program.

4.3 *Secondary Education and Healthcare*

States largely operate secondary education which include: grammar schools, community schools, technical colleges and special science schools as well as secondary health facilities which include: general hospitals and comprehensive health centres, providing mostly secondary care and serving as referral level for the essential elements of primary healthcare. Operationally, the decentralized health structures of the federal government are in the states, while those of states are in the LGAs. Secondary schools are divided into the junior secondary and the senior

secondary schools. In 2010, there were 7,129 public junior secondary schools (separate) with a total of 3,266,780 students (55% males and 45% females). There are about 18,238 public secondary schools in operation as well as 1,245 public secondary healthcare and 5,000 private secondary healthcare centres across the country.

Results and findings from the 2010 household data set suggest that the direction of benefits from secondary education and healthcare were at least progressive implying that the poor receives equal benefits as the rich or better still the poor benefit more in relative terms than the rich. This result was same for all location (rural and urban) as well as gender (male and female) with the exception of male for secondary education which is statistically insignificant. This is an improvement from the results and findings of 2004 which showed absolute progressivity for female secondary education only; significant crosses for national and male secondary education and healthcare; and statistically insignificant results for female secondary healthcare. On the other hand, it may not be the best of news for female secondary education for the fact that in 2004 the direction of benefit was absolutely progressive but just progressive in 2010.

The 2010 benefits direction of progressive for secondary education and healthcare can be attributed to the efforts of different states government especially in the healthcare sector. It is on record that publication of the first Business Environment and Competitiveness across Nigerian States (BECANS) in 2007 and other state benchmarking comparisons reports by different organisations in Nigeria with damning states specific education and healthcare indicators values led to lots of effort towards correcting the anomaly by different state governments because of the call for accountability by different action groups including Civil Society Organisations (CSOs). The educational improvement can also be attributed to the

strengthening of the junior secondary component of the UBE programme. The free three years has encouraged most poor parents to endure through the senior secondary level. Also it has been observed that some of the state governments in Nigeria have extended the tuition free to the senior level including a payment free Senior School Certificate Examination (SSCE). Most of the states in the north have done that to encourage high enrolment and improvement in female literacy rate.

The state governments are totally in-charge of secondary education and healthcare with interventions from the federal government in unity schools only which is about 1% of the entire secondary education facilities and outfits in the country. There is no intervention of another tier of government in secondary healthcare. Though the direction of benefits shows no absolute progressivity for secondary education and healthcare but the improvement is a good step in the right direction. Juxtaposing the outcome with WDI (2013) data reveals that secondary students-teacher ratio improved from 40.61 in 2003 to 33.08 in 2010 though net secondary enrolment rates increased from 31.86% in 2003 to 44.05% in 2010 with the enrolment rate for the female folk increasing from 28.02% in 2003 to 41.20% in 2010. Male enrolment rates decreased from 38.08% in 2003 to 35.56% in 2010 corroborating the findings that only male secondary education was not as progressive as others.

Similarly, several WDI basic healthcare indicators improved within the period and they include: teenage mothers (% of women ages 15-19 who have had children or are currently pregnant) improved from 25.2 to 21.9; the use of insecticide-treated bed nets (% of under-5 population) grew from 1.2% to 29.1%; physicians (per 1,000 people) increased from 0.28 to 0.395; Infant mortality rate (per 1,000 live births) improved from 102.1 to 80.8; and life expectancy at birth, total (years) increased

from 47.92 to 51.41 with male increasing from 47.17 to 50.63 while females improved from 48.69 to 52.28 from 2003 to 2010 respectively.

It is equally noteworthy to highlight the fact that since 2004, major donors' intervention has been centered on immunization and preventive medicare and most of them are rural friendly. This may also be one of the reasons; the direction of benefits in the secondary healthcare has improved. Study by van de Walle & Nead (1995) for thirteen developing countries have similar findings.

4.4 Adult and Special Education

Adult and non-formal (special) education has been neglected after the implementation of the Third National Development Plan (1975-1980) in Nigeria. Successive administrations felt the process of revitalising adult and non-formal education will be tedious and complicated hence the continuous neglect until the 2004 educational reforms. The latest reform sees adult and non-formal education as processes of national development that will get the adults, either as individuals or as a group, to learn and through learning have attitudinal and behavioural changes. The resultant of the reforms was to put in place several programs including: the basic literacy program¹⁵; post literacy program¹⁶; women adult education program¹⁷; distance education program¹⁸; sandwich program¹⁹; and nomadic education

¹⁵A one-month programme organised and financed by some Local Government Councils in some states of the Federation and held under the co-ordination and supervision of the States' Ministries of Education

¹⁶This is organised by the Ministry of Education in some States of the Federation for completers of Basic Literacy Programmes and drop outs from formal primary schools to upgrade their knowledge to the level of first school leaving certificates.

¹⁷This is organised by Christian Missionaries and Local Government Councils. The Ministry of Education grants aid to the voluntary organisations to reduce costs. The course is solely designed to improve the services of literate and illiterate women in the society

¹⁸This is organised by the States' Ministries of Education and some institutions of higher education designed for those who because of the nature of their age are unable to enroll in the regular or formal educational system. The medium of instruction is by correspondence, radio or television. The federal distance education program is the National Open University (NOU)

¹⁹This is organised by various institutions of higher education in the country for adults who stay in other commitments for most of the year and come into residence in their various schools when they can afford it.

program²⁰. About 500,000 illiterate adults are currently enrolled in non-formal education and 450,000 children in nomadic schools received lectures in 2010.

Findings from this study indicate progressive benefits for adult education nationally and gender (male and female) as well as progressive for non-formal (special) education nationally. This may be good news considering the fact that this was neglected for decades but one has to be careful in jumping to conclusion because the results say nothing about the quality and standard of education being received through the revitalised adult and non-formal (special) education. Be that as it may, it is very interesting to see the direction of benefits move towards progressive because of the level of illiteracy among those who are no longer within the school age range. Adult and non-formal education can have a huge influence on the quantity and quality of education in the formal system if done properly and is very necessary in ensuring a pool of enlightened government and citizenry. Efforts geared towards this will dramatically improve peoples' reasoning and orientation which will ultimately affect their insights, activities and decisions towards the achievement of national goals.

4.5 Tertiary Education and Healthcare

The tertiary education in Nigeria include: Universities, Colleges of Education, Monotechnics, Polytechnics and Colleges of Technology, Universities of Science and Technology, Universities of Agriculture while the health tertiary institutions include: the Federal Medical Centers, Specialist Hospitals, University Teaching Hospitals and Colleges of Medicine. Some states build and operate tertiary facilities

²⁰Nigerian nomads are mostly cattle rearers who do not settle in a place because they have to follow their herds of cattle around in search of grazable pasture. They do not receive formal education. Mobile Education Programme has been established to take care of this unfortunate situation.

or specialist hospitals. While the Federal Government is responsible for the management of teaching hospitals and medical schools for the training of doctors, the states are responsible for training nurses, midwives and Community Health Extension Workers (CHEWs). In 2010, there were about 107 universities (80 public and 27 private); 95 Colleges of Education, 58 (Monotechnics, Polytechnics and Colleges of Technology); 73 public tertiary health care centres; and 6 private tertiary healthcare centres across the country.

John Gardner, the British educator, public official and political reformer whose belief in society's potential was his guiding force said thus "In questions of mind, there is no medium term: either we look for the best or we live with the worst." To simply put, the Nigerian tertiary education and healthcare system and her institutions have failed to look for the best and hence settled for the worst if the results and study findings for both years (2004 and 2010) is anything to go by. The duo results recorded a regressive direction of benefits. The results and findings of regressivity or not pro poor direction of benefits in tertiary education and healthcare have corroborated findings of other studies from developing countries such as Castro-Leal (1999) for seven Sub-Saharan African countries; Ajay, Singh and Afridi (2000) for India and its principal states; Sahn & Younger (2000) for eight Sub-Saharan African countries; Rannan-Eliya et al (2001) for Bangladesh; etc.

In Nigeria, there is tremendous capital flight for the search of better tertiary education due to the dilapidated nature of the so called tertiary institutions across the country. The Academic Staff Union of the Universities (ASUU) in Nigeria estimates that over US\$1 billion is spent privately from Nigerian parents to send their children/wards to tertiary educational institutions in Ghana alone annually. The capital flight - without comparable human knowledge transfer to Nigeria - is even worse for statistics regarding Nigerian students in schools in Europe and the United

States. In the United Kingdom alone, *Daily Vanguard* reported that in 2010, Nigerians fuelled the UK education sector to the tune of N246 billion or approximately one billion British Pounds Sterling.

Evidence in Nigeria from different studies (Ichoku 2008) has shown that in the health sector, the nature of the tertiary healthcare which includes tertiary facilities like teaching hospitals, medical colleges and specialist hospitals are in shambles and hence has been a boost for health tourism in favour of other countries with better health facilities. In the health sector for example, most households across some states are already incurring catastrophic expenditure as they spend 40% or more of their discretionary (non-food) on healthcare.

Amakom and Ezenekwe (2012) analysed whether there is positive association between a household's poverty shortfall and its health out-of-pocket budget share from two stand points. First from the expenditure distribution vis-à-vis the poverty line before out of pocket and second from the expenditure distribution vis-à-vis the poverty line after out of pocket. The results reveal a sharp pull downwards from different quintiles of the economy due to high out of pocket (OOP) healthcare spending. This is a telling indicator that though there may be some benefits accruing to these households; these benefits are still very low hence public spending in healthcare in Nigeria is neither effective nor enough. The study further found that high out of pocket (OOP) in healthcare has succeeded in changing the poverty situation (pushing households below poverty line) even households who were originally on or above the poverty line including some of the households that were originally in the 4th and 5th quintiles.

Data from WDI seem to concur with the above findings as it suggests that out-of-pocket health expenditure (% of private expenditure on health) was 95.34% in 2010

while the Nigerian Medical Association (NMA) in 2012 opined that over 5,000 Nigerians travel to India and other countries monthly for medical treatment implying that the country spends between \$1bn and \$2bn in medical tourism annually. In 2011, the United Kingdom General Medical Council (GMC) blacklisted medical graduates from nine (9) Nigerian universities because they no longer meet the required standards for practice in the UK. That's a harbinger for a broken (failed) healthcare system.

4.6 *Summary of Findings and Brief Discussion*

The study results in comparison to the 45° line, the t-tests for the differences between ordinates of two concentration curves at 19 abscissa as interpreted and presented in Table 3 above, revealed that with the exception of primary education and healthcare services for urban residents, no other service(s) level across gender and location was absolutely progressive nationally in 2010 unlike 2004 where the direction of benefits for primary education were absolutely progressive for the national and for male and female. In 2010, the direction of benefits for primary education and healthcare were progressive for national, for both sexes (male and female), and for rural residents. This is a diminuendo to the primary education services but a crescendo for primary healthcare service for the urban residents. Based on the above findings, the study can reject the null of non-dominance between public primary education and healthcare (national, gender and location) and Lorenz curve. These findings show that public primary education and healthcare were progressive than the distribution of expenditure hence can be adjudged progressive only.

At the secondary education and healthcare level as well as the adult and special education, based on the results in comparison to the 45° line, the t-tests for the differences between ordinates of two concentration curves at 19 abscissa, the

direction of benefits for both secondary education and healthcare were progressive by national, gender (male and female), and across location (rural and urban), as well as adult and special education in 2010. This was quite an improvement from what obtained in 2004 where only female secondary education was progressive. With these findings, the study can reject the null of non-dominance between public secondary education and healthcare (national, gender and location) and Lorenz curve. These findings show that public secondary education and public secondary healthcare as well as adult and special education were progressive than the distribution of expenditure (Lorenz curve) hence can be adjudged progressive only. Findings of the study revealed regressivity of the tertiary education and tertiary healthcare (negative statistically dominating social services where the poorer households receive less benefit in per capita terms than households at the upper end of the expenditure distribution).

Furthermore, the study found statistically significant crossings for primary education (national, female and rural) primary healthcare (male and rural) and for secondary healthcare (urban and female) with the 45° line. Based on the foregoing statistically insignificant absolute progressivity for social services at all levels (except for primary education and healthcare for the urban residents) and across all quintiles in 2010 contrary to absolute progressivity for primary education (national, male and female) in 2004, the study may not agree that the distributive outcome objective in the two sectors (education and healthcare) have been met by current spending practices hence not effective. However, with improvements recorded in the distribution objectives in 2010 as against 2004 in the secondary level of education and healthcare, it is possible to attain effectiveness of public spending in these sectors all other things remaining constant.

In finding out if there is a considerable improvement in education, the study mapped

out the literacy rate of the country across states by gender (male and female) before and after the reform and is presented as figures 9 (Male) and 10 (Female) below.

Figure 9: Male Literacy rates across Nigerian states 2004 and 2010

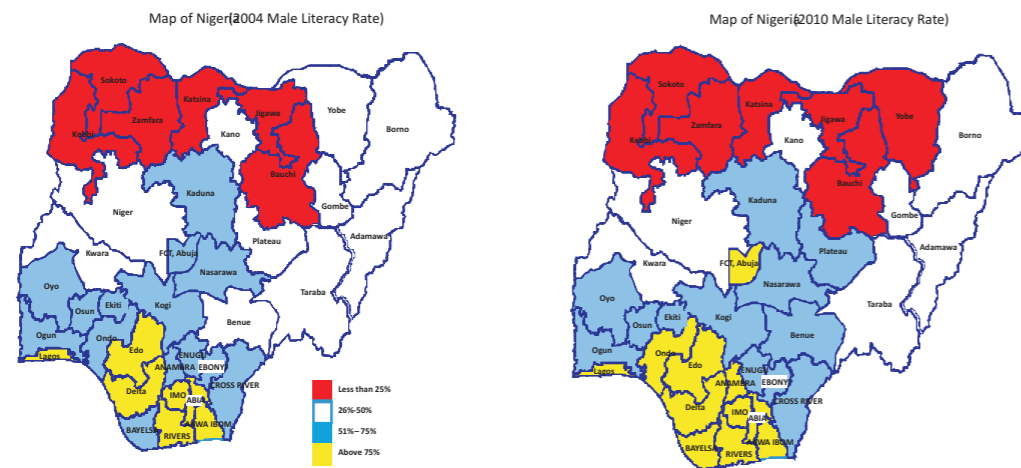
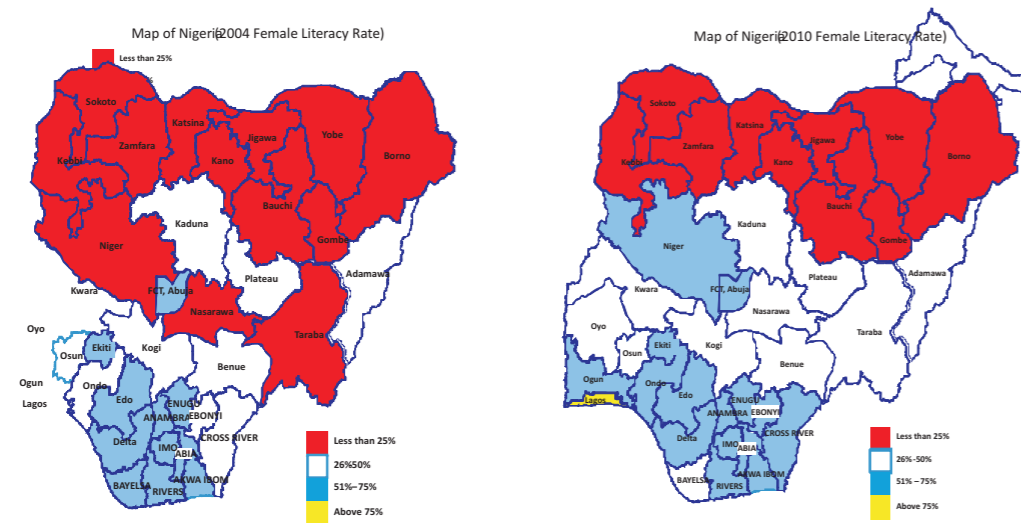


Figure 10: Female Literacy rates across Nigerian states 2004 and 2010



The above maps (figure 9) show an increase in the number of states with less than 25% male literacy rates from 6 in 2004 to 7 in 2010. Yobe State is the additional state to the original six states of Kebbi, Sokoto, Zamfara, Katsina, Jigawa and Bauchi. On the other hand, three additional states (Ondo, Anambra and Bayelsa) as well as the Federal Capital Territory (FCT) joined the league of states with above 75% male literacy rates. On the female side, out of the 12 states that recorded less than 25% literacy rate in 2004, 3 (Niger, Nasarawa and Taraba) have improved in 2010 with Niger State recording a rapid improvement from less than 25% to over 50% in 2010 while Lagos state became the first state to record over 75% female literacy rate in 2010.

On the health front improvement, the study looked at health conditions especially preventive health (vaccinations), post-natal care, pre-natal care and malaria incidence to ascertain if there are differences since the reforms. This is because health is a key determinant of household welfare. The vaccination of children is meant to prevent five childhood diseases, namely: tuberculosis, diphtheria, whooping cough, measles and polio which is subsequently expected to reduce infant and under-five morbidity and mortality. In 2004, the results showed only 63.84% of children had received any form of recommended vaccination against the listed preventable five childhood diseases but improved to 75.3% in 2010. For post-natal care²¹, in 2004, less than one-fourth, 22.12 %, of women who gave birth received post-natal care within 48 hours of childbirth. In terms of malaria which was by far the most common disease reported by the respondents, more than half (50.89%) of Nigerians reported that they suffered from malaria in 2004 and this

²¹ Postnatal period falls between the delivery of the baby and six weeks after. The first 48 hours are critical to the mother and the baby because most maternal and neonatal deaths occur during this period.

increased to 91.6% in 2010.

5.0 POLICY IMPLICATIONS AND CONCLUSIONS

The argument of spending more or less is enshrined in what Tinbergen (1952) noted that the theory of **economic policy** involves the theory of **economic reform**, and economic policy should be directed at the “*maximalisation of the ordinary ophelimity functions*”. In simple terms the author means the maximization of the behaviour of different groups bearing in mind that the **choice** of the instruments which should be used to execute the maximization cannot be separated from the targets and hence from the form of the indicator. In the case of Nigeria and some other developing countries, public spending is one instrument that has been chosen to maximize satisfaction of different groups but achieving the targets has been difficult. It should be noted that the size of government expenditure (public spending) has a major impact on economic performance, but it is just one of many important variables. *The Index of Economic Freedom*, published annually by The Heritage Foundation and *The Wall Street Journal*, in 2005 thoroughly examined the factors that are correlated with prosperity, finding that other policy choices also have important effects independent of the level of government spending. It is true that a developing country like Nigeria needs to spend more on education and healthcare at least to what she can afford. That should not undermine the importance of efficiency and effectiveness of spending if the overall goal of these spending is to be realised at the end of the day.

Wagstaff and Claeson (2004) noted that strengthening policies and institutions in the sectors requires working across several interrelated areas. This brings to the fore the fact that reforming and increasing government spending requires strong institutions (which is in doubt if they are in Nigeria currently) that work across several interrelated areas. The duo continued by suggesting that stronger polices and better

institutions require lowering financial and non-financial barriers that households face in the dual roles as producers and users of these facilities. Therefore, for policy to be complete and inclusive, the provision of public services should be viewed as collaboration between governments, on the one hand, and the households on the other with a two-way flow of information, with governments constantly 'listening' to households and households, in turn, being informed of government's objectives and their rights under explicit contracts or covenants. The big concern here is with one dimension of the information flow: how can governments be informed about the needs and behaviour of their clients, especially the poor? Who indeed benefits from public spending? The finding from this study is suggesting that those that benefited from the spending so far to a large extent are not the target population hence public spending in these two sectors (education and health) cannot be adjudged effective.

The recent discovery of 45,000 *ghost* workers through the deployment of the Integrated Payroll and Personnel Information System (IPPIIS) across key sectors shows that over 40% of these sectors annual budget which goes to personnel cost is over-bloated, not meant for real and existing human beings and considering the remuneration of these *ghosts* with the fat emoluments of political office holders, says a lot towards achieving efficiency and making any form of progress. Onyekpere (2013) opined that with such situations and several other Nigerian issues even the little that is available (which is less than the personnel cost every year) for such development will still be subject to the grand old corruption and inefficiencies which reduce it further to a pittance.

Education and healthcare reforms in Nigeria may not have been effective as expected because the focus was on policy without looking at the strength of the sectors institutions and other several interrelated areas including the priorities in the funding pack. The study by Amakom & Onyekpere (2013) has noted no synergy

between government plans and budgets (expenditure) in several dimensions and hence recommended that projects that have been identified must be justifiable as priorities under the Development Agenda. This implies that budget crafting in the executive and legislature must be guided by relevant documentation.

It has become imperative for the legislature at all levels of governance in Nigeria to start matching the number of capital projects going into the budget with the available resources. This will reduce waste in the number of abandoned projects and facilitate quick delivery of capital budgets. In subsequent years, the legislature must seek to secure an early agreement with the executive, based on national priorities, on the number and exact projects to be approved in the annual budget. This is no longer the case now.

Project costs should be realistic and not inflated as evidenced by several reviews. As at the time project timeframes are determined, planners should take cognizance of weather and other natural conditions. These will help reduce time overruns for projects.

Presently, there are no standard codified rules and guidelines regulating the relationship between government agencies and contractors in contract execution. The legislature may consider the enactment of a *Contract Execution Act* which will detail the general rules and guidelines for contract execution and guides the relationship between agencies and contractors and service providers. The Public Procurement Act (PPA) appears to regulate proceedings up to the award of contract and thereafter, the parties are left to their respective agreements which most times is skewed against the government.

There is the need to devote serious effort to surveillance, monitoring and evaluation,

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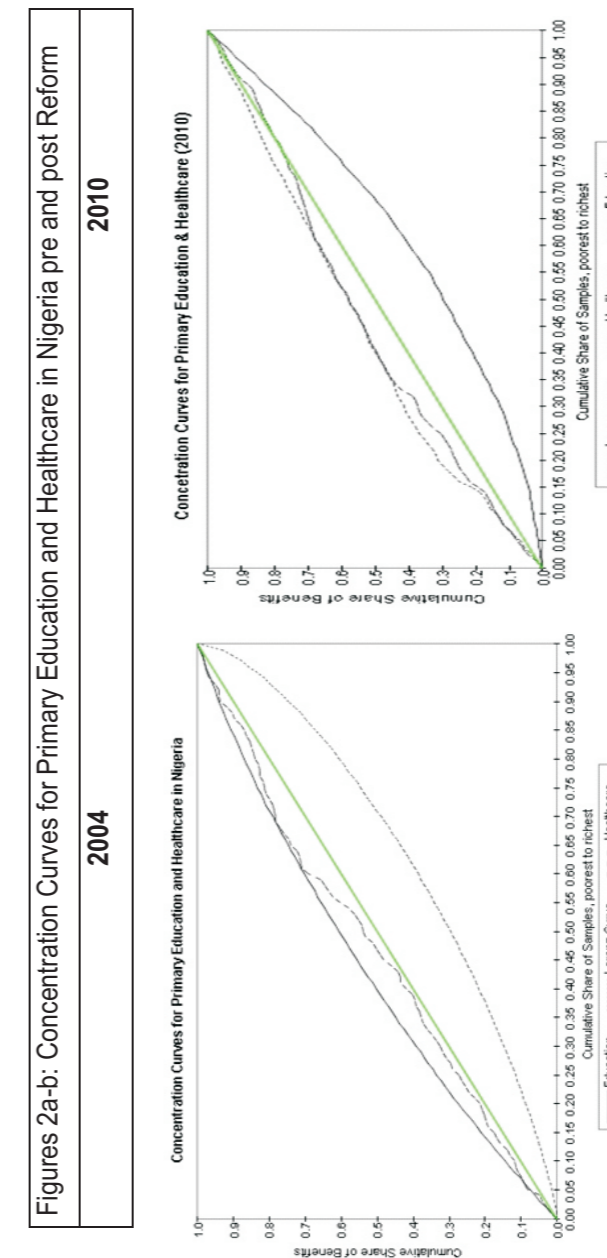
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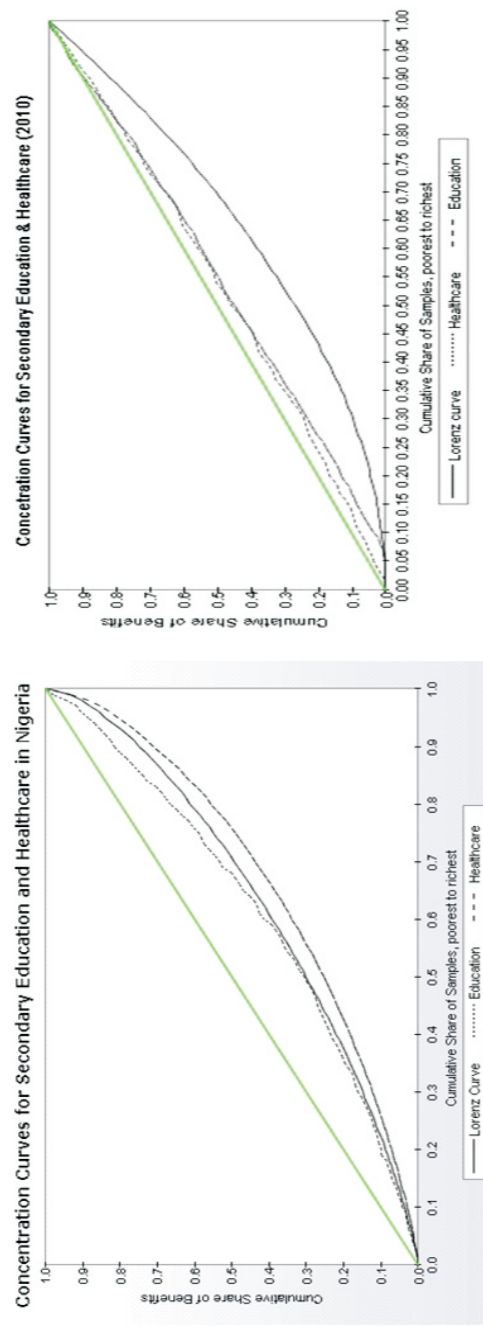
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ANNEXES



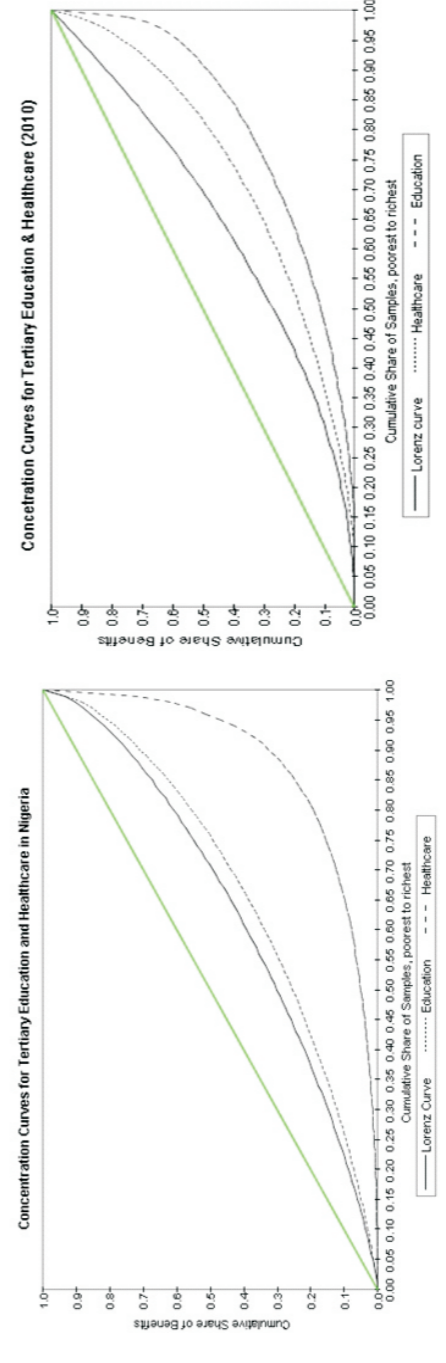
Source: Author's

Figures 3a-b: Concentration Curves for Secondary Education and Healthcare in Nigeria pre and post Reform



Source: Author's

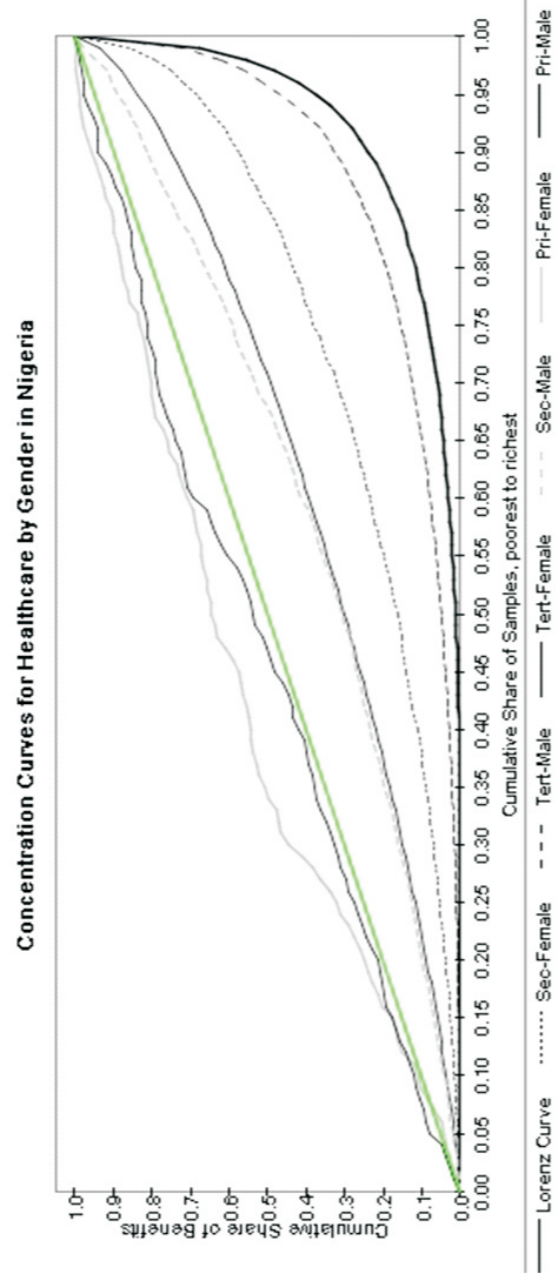
Figure 4a-b: Concentration Curves for Tertiary Education and Healthcare in Nigeria pre and post Reform



Source: Author's

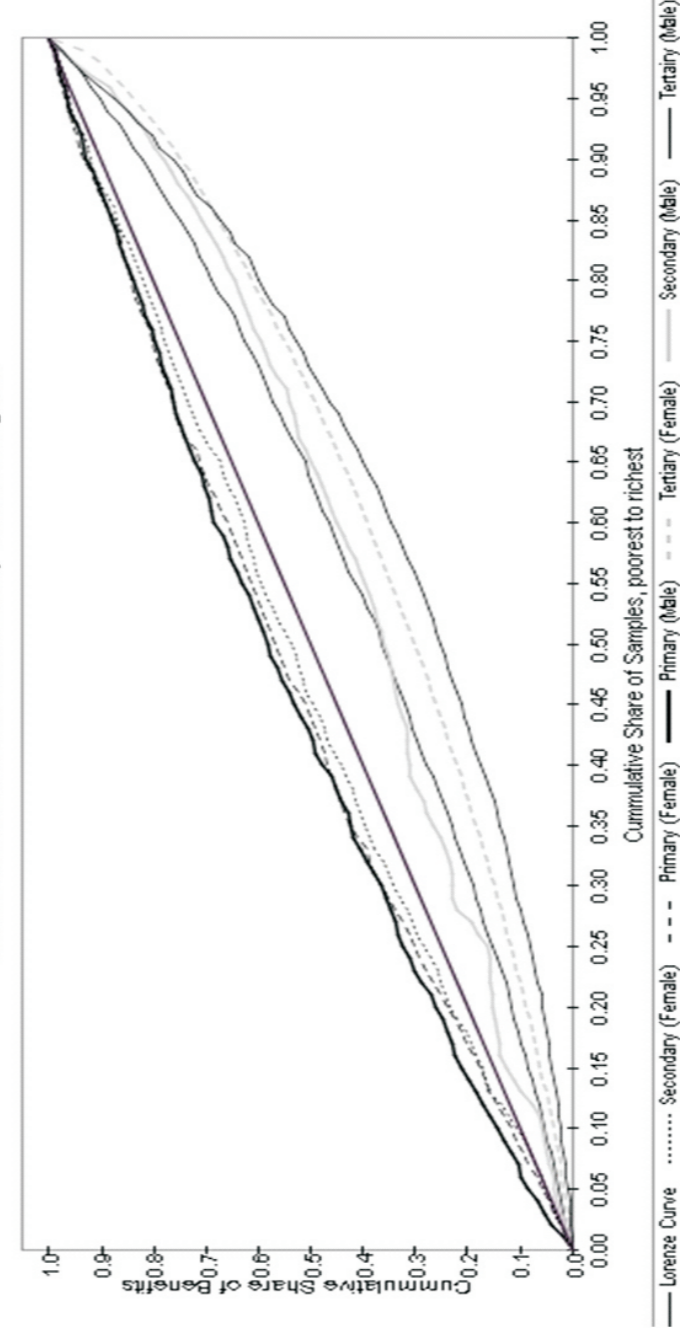
Figure 5a-f: Concentration Curves for all levels of Education and Healthcare by Gender in Nigeria pre and post Reform

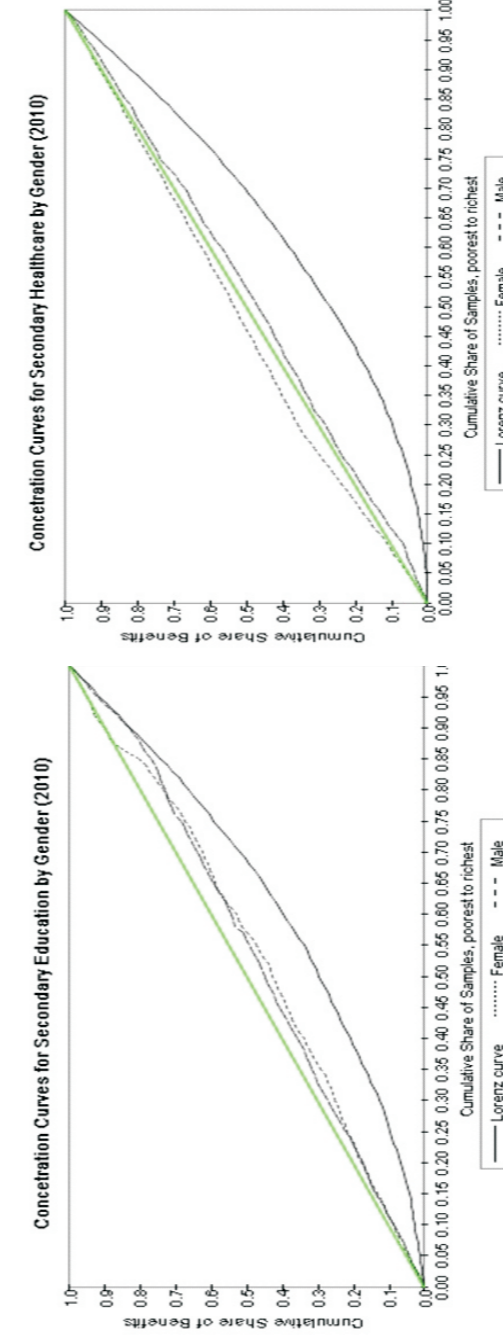
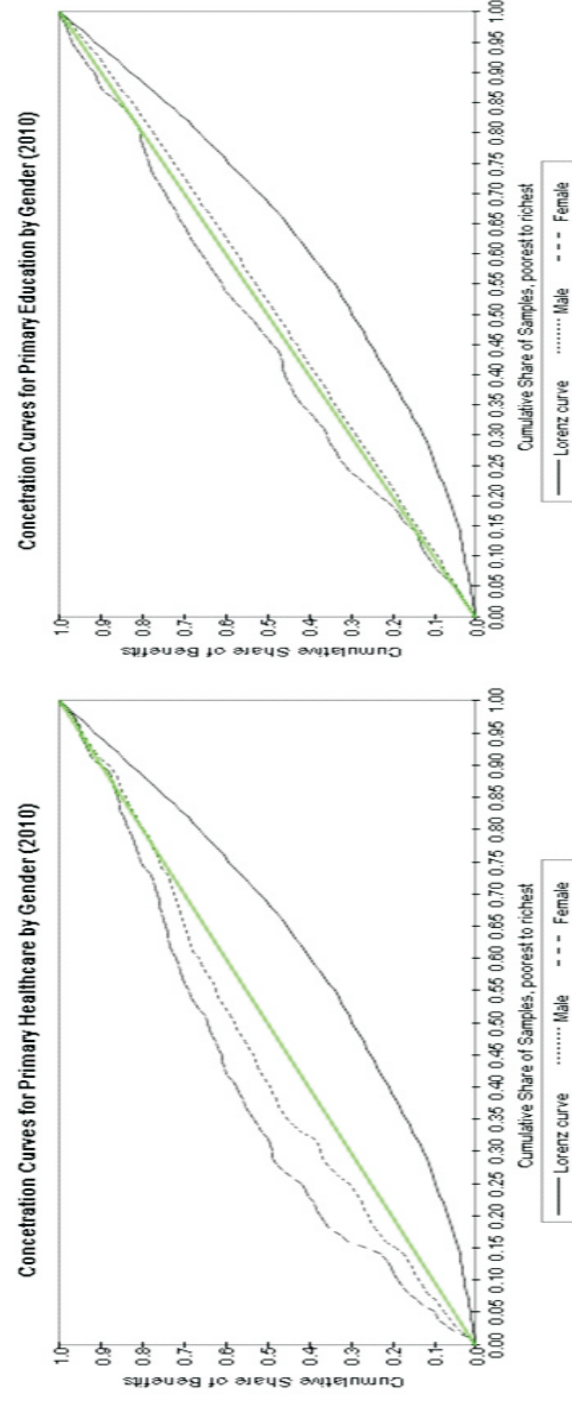
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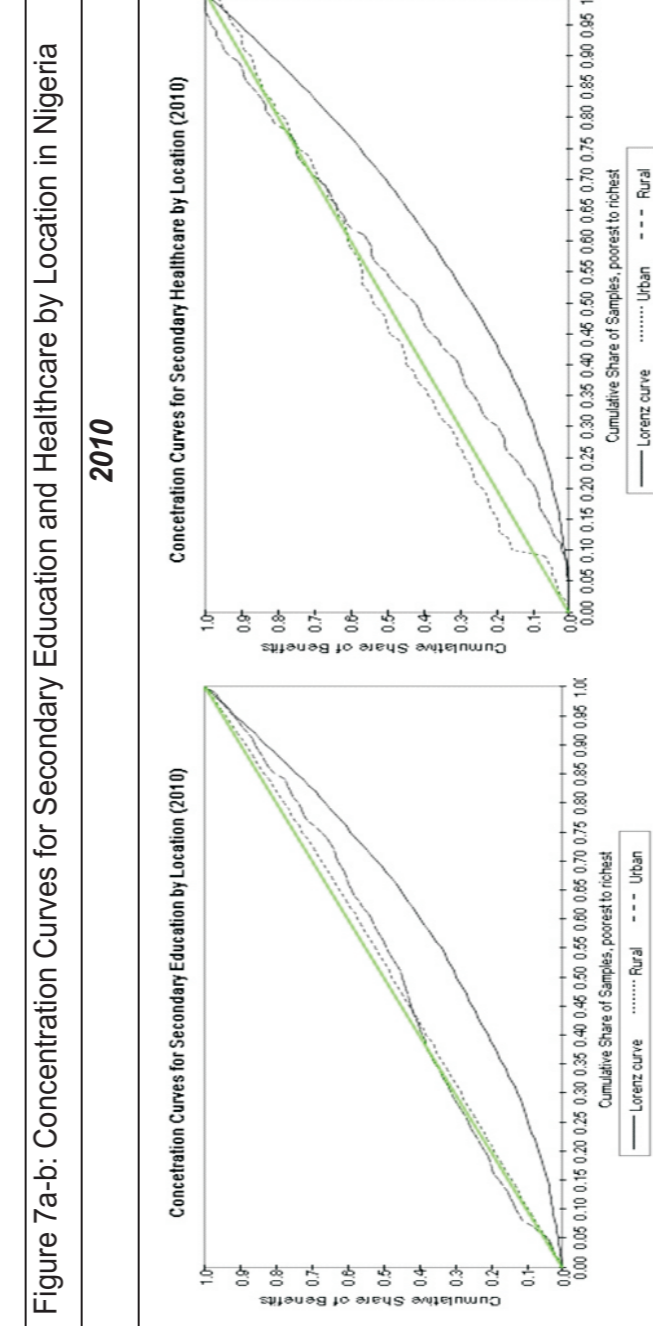
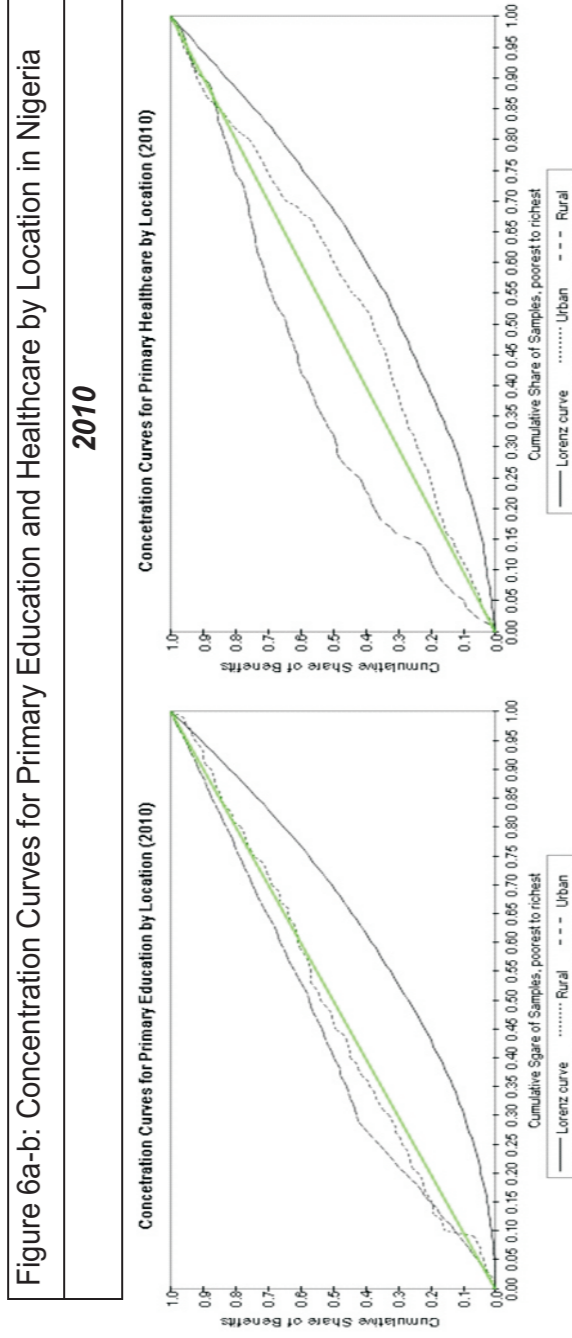
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Concentration Curves for Education by Gender in Nigeria



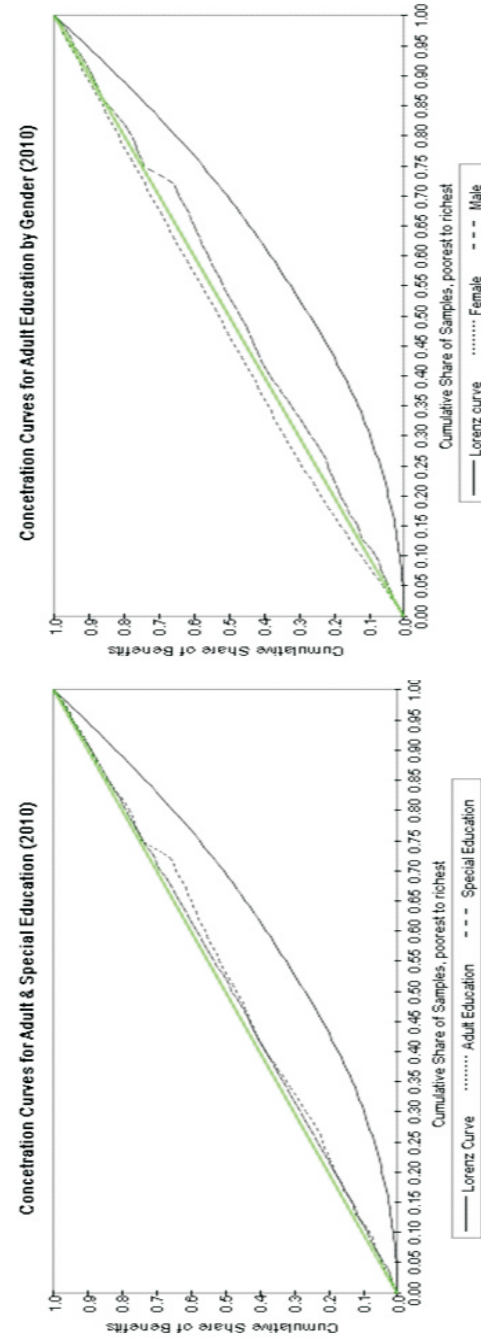


Source: Author's



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Figure 8a-b: Concentration Curves for Adult and Special Education in Nigeria
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