

# The Dynamics of Poverty and Income Distribution: Is The Nigerian Middle Class Statistically Or Economically Growing?

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## Abstract

The study attempted to characterize, define and ascertain the dynamics of the Nigerian middle class using the General Household Survey (GHS) of 1996, Nigeria Living Standard Survey (NLSS) of 2004 and the 2009/2010 Harmonized Nigeria Living Standard Survey (HNLSS). Cluster analyses and MLogit model were used to estimate the size and determinants of the middle class respectively. The study among other things shows that middle class is a dynamic and relative concept whose meaning is derived from the economic conditions of a given period. Thus, given the trends in welfare metrics, the present sets of middle class in Nigeria are worse-off relative to the periods 2004 and 1996. Although there is statistical middle class, economically they are living a lie because the macroeconomic fundamentals and other metrics of consumer welfare are not supportive of their existence and sustenance.

**Keywords:** Nigeria, poverty and income distribution, middle class, cluster algorithm, multinomial logit

## 1. Introduction

In line with the Keynesian paradigm, private consumption is ascribed an important role to reduce unemployment, and propel growth. Of the social strata that constitute private consumption, middle class was highlighted in a study by (Solimano, 2008) as being very important; in essence, the primary focus of economic policy should be to reduce poverty through series of systematic policy decisions that will positively build a strong middle class. Many studies like (Easterly, 2001); (Pressman, 2010); (Kharas, 2010); (Chun, Hasan, & Ulubasoglu, 2011); and (Martinez & Parent, 2012) also highlighted the importance of middle class as having a stabilizing effect, prerequisite for stronger, more sustainable economic growth and development. Nonetheless, what constitute this middle class is theoretically contentious and arguably one of the most controversial areas in social research (W.Cashell, 2007); (Kharas & Gertz, 2010); (Li, 2006); and (Rodriguez, 1996).

Few studies like (NBS, 2007); (Robertson, Ndebele, & Mhango, 2011), and the study of Africa's (including Nigeria) middle class by (AfDB, 2011) have attempted to study the Nigerian middle class. Consensually they supported the emergence of new set of middle class – though silent on whether they are consuming or statistical middle class. But observing the socioeconomic developments over the three decades of military rule and its attendant nose-dived economic growth, and the non-inclusive growth posture since it returned to democratic rule in 1997, clearly something very fundamental have severely affected the dynamics and pattern of income distribution in Nigeria.

In spite of the progress made in the telecommunications and banking sector, the oil-based economy suffers from varying degrees of economic stress (which potentially could extinguish the middle class) arising to a very large extent, from Dutch Disease Syndrome (DDS) of over dependence on oil wealth. The decline of other economic sectors like agriculture and manufacturing, as well as corruption had led to increasingly widespread poverty, “income and corruption inequality”, collapse of basic infrastructure and social services. While the oil sector remains the focus of successive regimes, agriculture and manufacturing have suffered from years of mismanagement, inconsistent and poorly conceived government policies, and lack of basic infrastructure (USADoS, 2012). The cumulative effect of these is low productivity in the largely subsistence agricultural sector and economic distortions making Nigeria an import-dependent economy. As such continually about 80% of government expenditures is recycled into foreign exchange, and coupled with excessively high domestic production costs partly resulting from erratic electricity and fuel supply, have reduced industrial capacity utilization to less than 30% (USADoS, 2012). Despite the focus on oil, it contributes only about 10% to GDP growth, while agriculture accounts for 47% of GDP and two-thirds of employment (NBS, 2012). As it is, Nigeria's hope of becoming one of the twenty largest economies in the world by the year 2020 is unrealizable (Joseph, 2009).

The weak economy is in turn compounded by poor governance and acute state failures. Given significant governance deficits in Nigeria and in most of the component states, political economy factors also present a major challenge. The economy suffers from a severe policy strangulation arising from government abdication of

its responsibility in the fields of health and education, does not control fiscal over-shooting, particularly recurrent spending, increases in the prices of inputs like fuel and power; and above all, its leaders and officials indulge in unbridled corruption, disposable incomes of the working classes drastically reduce. Today out-of-pocket expenditure on health accounts for about 76% of total health spending in Nigeria (World Bank, 2012).

Why ascribe segmented growth/non-inclusive growth and poor governance in Nigeria as having the potentials of cutting down drastically on the size of the middle class as well as facilitating the less influence of the Nigerian middle class? Economic transformation and boosting of developmental governance must go hand-in-hand with the transformation of day-to-day institutional practice (Joseph, 2009). Moreover, economic growth and governance are very vital factors that drive the size of the middle class; as such the middle class arises from the observation that stable, higher-income democracies often have a strong middle class and relatively low levels of inequality. In contrast, countries with highly unequal patterns of income distribution and stratified social structures often have a weak middle class that may be less influential in shaping political preferences. Skewed and unequal social strata often contribute to social conflict and populist politics. Thus a stronger and more stable middle class is often considered as a stabilizing factor in politics and economics (Solimano, 2008).

### *1.1 Statement of Problem*

The Nigeria economy is awash with what (Chen, 2012) called rumours of a rising Chinese middle class. However, the evidence supporting these claims remains conflicting, given that the supposed indicators and macroeconomic fundamentals that should drive the middle class are not looking up. An economy struggling to reduce poverty substantially, which obviously is unlikely to meet the MDGs official target of 2015 cannot pride itself or be hopeful of having a substantial and sustainable middle class to drive the future path of her economy. The argument is not necessarily that there is no middle class in Nigeria or that they cannot emerge, but that given the current economic situation as evidence from development indicators, the existing middle class might not be as substantial and juicy as to assume the ideal role of middle class. The definition of middle class goes beyond income and expenditure metrics derived from statistical numeric. Many socioeconomic and political factors such as: dwelling, assets (including financial assets), urbanization, political bargaining power and positions, health and education, professional disposition, employment, lifestyle, aspiration better governance, low ethnicity, better infrastructure and economic policy, less political instability, less civil war, economic growth and poverty reduction are associated with the emergence of middle class. The tendency that this set of economic group will emerge and be sustained depend on these factors (Easterly, 2001); (AfDB, 2011); and (Smith, 2012). The caveat to these also, is that these factors supposedly will lead to the rise of the middle class, if they bring about reduction in poverty so that people can move up the ladder – a distributive kind of growth. But where these factors and poverty are world-apart (like the case of Nigeria), leading to growth-poverty paradox and economic growth conundrum situation, changes in any of the aforementioned will rarely produce a consuming middle class. This perhaps accounted for the result generated in the study by (AfDB, 2011) where it was concluded that Africa's middle class clusters around those in a vulnerable position who face the possibility of dropping back into the poor category in the event of any exogenous shocks.

The forgoing presents countries like Nigeria with a serious challenge which left them with no option, but to seek to create the enabling environment that can help boost economic development through good planning and entrepreneurship, instead of worrying about the size of the middle class (Zaidi, 2012) – “that is to say, seek the kingdom of economic development and more middle class shall be added unto the economy”. But as it is today, the Nigerian economy is at a cross road which produces a conflict between the emergence of “statistical middle class” and the economic realities. The current study is an attempt to present a broader picture of the Nigerian Middle class.

### *1.2 Objectives of study and Research problem*

Given the poor performance of welfare and macroeconomic indicators that supposedly should drive the middle class, is the Nigeria middle class actually growing? Do we have consuming middle class or a statistical median income group? What is the Nigerian middle class worth internationally with regards to the internationally defined poverty line? Is the current Nigerian middle class better-off or worse-off relative to the periods 2004 and 1996? How has the dynamism in poverty and income distribution re-shaped the Nigerian middle class?

To address these questions the general objective of this study is to identify, characterise and define the Nigeria middle class with reference to certain socioeconomic indicators. Specifically, the study addresses: (1) the determinants of middle class in Nigeria; (2) analysis of the middle in 2010 relative to 2004 and 1996 vis-à-vis trends in socioeconomic and macroeconomic indicators; (3) evaluate the expenditure correlates of the middle class, and (4) examine the dynamics of poverty and income distribution as it affects the middle class.

## 2. Brief review of trends in poverty and income distribution in Nigeria

Poverty and inequality in Nigeria is multi-faceted ranging from deprivation, marginalization, and inequality even at crime and corruption. The last four decades saw several attempts made to engage in poverty reduction policies. They include the National Accelerated Food Production Programme (NAFPP); the “Go-Back-to-Land. Programme (GBLP)”; Directorate of Food, Roads and Rural Infrastructure (DFRRI), the Peoples Bank programme; the Family Support Programme and the Family Economic Advancement Programme. Currently, the government has introduced the Conditional Cash transfer (CCT) in 27 states. The programme is targeted at families headed by poor and aged widows, physically challenged, and under aged persons.

Despite agricultural potentials, oil wealth and material resources, poverty remains a challenge as the country is continually classified as low income economy in various UNDP human development report. Available economic data indicate that poverty and inequality in Nigeria have evolved over time starting from 1970, twelve years after the discovery of oil in commercial quantity. The lowest poverty rate of about 27.2% was recorded in 1980; and since then, the economy has witnessed persistent rising poverty and inequality; from about 46.3% in 1985 to 42.8% and 65.6% in 1992 and 1996 respectively. There was a very sharp decline in 2004 to about 54.4%, but rose astronomically again in 2010 and 2011. The NBS report shows that about 112.6 million Nigerians out of the estimated population of 163 million live in relative poverty, a staggering 69% which is 15% higher than 54.4% estimated in 2004; while the preliminary estimate by NBS shows that if the current consumption pattern continues; poverty astronomically will hit 71.5% in 2011.

A cursory look at official statistics is a confirmation that poverty in Nigeria is a rural phenomenon. In 1980, the rural poor population was about 28.3% and increased to 69.8% in 1996 a drop from 46% in 1992. But the current poverty report revealed the pervasive nature of poverty cutting across urban and rural areas. The (NBS, 2011) report shows that rural poverty increased to 73.2% in 2010, 9.1% higher than 2004 estimate; while urban poverty increase from 35.4% in 2004 to about 61.8% in 2010. Poverty in the rural area is further aggravated by long years of neglect in the areas of infrastructure, investment in health, and education; and about half the population lack access to safe drinking water (IFAD-Nigeria, 2009).

Over this period the distribution of social resources also worsened. Income inequality measured by the Gini index also rose consistently. From 38.7% in 1985, the Gini index increased to 46.5% in 1996 and to 58% in 2007. Currently, prevalence of income inequality is about 45% from 43% in 2004 (NBS, 2011).

While the government agenda on poverty reduction are mainly targeted on being pro-poor, little attention is paid on creating a sustainable and virile middle class, knowing that it is difficult to eradicate poverty without the effort from the middle class who according to (Virola, Addawe, & Ivy, 2008) have the knowledge, the skill and resources to foster growth as well as create jobs for the poor. Thus, the strategic needs of building and expanding the middle class may be more effective in achieving the MDGs objective to halve poverty by 2015. Moreover, the government faces an enormous challenge of non-inclusive growth as the strong economic growth the country has experienced in recent years has not served to substantially reduce poverty, inequality or instability (Holmes, Akinrimisi, Morgan, & Buck, 2011). Though the economy grew on average by above 6% through the last decade, increasing poverty and inequality show clearly that growth has not been inclusive of large segments of the population.

## 3. Methodology

Without prejudice to the existing definition of middle class in Nigeria, the current study used cluster analysis following (Virola, Addawe, & Ivy, 2008) and multinomial logit model to re-examine and profiled the Nigerian middle class using data from the NHS (1996), NLSS (2004), and the HNLSS (2009/2010). Assets, dwelling, location (rural-urban), occupational status, education and health, and spending pattern were incorporated in addition to the traditional income and expenditure metrics as input into the Expectation Maximization (EM) algorithm in line with works of (Hastie, Tibshirani, & Friedman, 2009); (Fosgerau & Hess, 2007); and (Bajari, Benkard, & Levin, 2007) to generate the likelihood that an individual will belong to a particular threshold – lower class, middle class, or upper class when certain socioeconomic characteristics are fulfilled; and hierarchical exclusive cluster analysis which makes use of Expectations Maximization Algorithm (EMA) based on the individual and household data to determine a priori grouping of individuals, as well as disaggregate data (respondents) into non-overlapping subsets – lower class, middle class and upper class. The middle class is further disaggregated into three hierarchy namely, lower-middle class, middle-middle and upper-middle class. This apart from helping in characterizing and stratifying the middle class, also checkmates data and information consistencies of respondents. Moreover, the use of asset aspect of consumption behaviour to define the classes and the EM approach enables us to estimate the size and characteristics of the components classes in the population by delineating their different patterns of asset ownership. In addition it helps in descriptive analysis of other class specific characteristics such as education level; type and sector of employment, professional

qualification, demographic and housing characteristics. The grouping is done by minimizing the sum of squares of distances between data and the corresponding cluster centroid. The algorithm aims at minimizing an objective function, in this case a squared error function. The objective function is specified as:

$$j = \sum_{i=1}^k \sum_{j=1}^k \|x_i^{(j)} - c_j\|^2 \quad (1)$$

The distance between a data point ( $x_i^{(j)}$ ) and the cluster centre ( $c_j$ ) is defined as:

$$\|x_i^{(j)} - c_j\|^2 \quad (2)$$

The distance described in equation (2) is an indicator of the distance of the ‘‘N’’ data points from their respective cluster centers, while the k is the means of cluster algorithm defined in the following steps: (1) start with k randomly chosen points to define the centers of the k clusters (2) assign each item to the closest point (3) calculate the mean (centroid) of each cluster (4) use the k-means to define the centers of k new clusters and then reassign each item to the cluster with the closest center and (5) the previous two steps are repeated until convergence is achieved, that is until there is no change in the nature of cluster between steps.

### 3.1 Modelling the predictors of middle class

Middle class as categorized here is polytomous in nature with ordinal responses, comprising the lower-middle class, the middle-middle class, and the upper-middle class. To account for this, multinomial logit (mlogit) model is used to estimate the predictors, as well as the expenditure correlates on the middle class (MC). In modelling the determinants, the lower-middle class (LMC) is used as the reference category for both the middle-middle MMC and upper-middle class UMC categories by evaluating the probability of the predictors of member in MMC and UMC compared to the probability of in LMC category as in (3).

$$P(m c_i = x) = \frac{\exp(Y_{hi})}{1 + \sum_{h=2}^x \exp(Y_{hi})} \quad (3)$$

Where ‘‘x’’ is the number of categories aside the LMC, in our case the second and third categories (MMC and UMC); ‘‘mc’’ is vector of the two middle class categories (middle-middle and upper-middle class); while ‘‘Y’’ is the vector of the ungrouped predictors of the middle class, urbanization, occupational status, sex (male), age, household size, health expenditure, education expenditure, rent, and non-food expenditure. For the reference category, lower-middle class (LMC), the model is specified as in equation (4).

$$P(m c_i = 1) = \frac{1}{1 + \sum_{h=2}^x \exp(Y_{hi})} \quad (4)$$

## 4. Presentation and discussion of result

### 4.1 Identifying the Nigerian middle class

One important observation in the analysis of the Nigerian middle class from 1996-2010 (table 1 appendix A) is that middle class is a dynamic phenomenon. What constitute the middle class is period specific and defined by certain socioeconomic metrics in the periods under consideration. For example the per capita expenditure which defines the Nigeria middle class varies across these periods; and how comfortable a middle class member was in these periods are determined by the associated economic conditions in the said period- middle class is a relative concept whose meaning is derived from the existing economic conditions.

#### 4.1.1 Attempting to define the Nigerian middle

Given the results in table 1 (appendix A), middle class in Nigeria may be defined as a particular income group with a minimum annual per capita expenditure of ₦88 295.5 (\$585.5) and maximum of ₦135 457.80 (\$898.3) in 2010 prices - approximately \$1.6 (lower-middle class) to \$2.5 (upper-middle class) a day. Detailed analysis shows that the lower-middle class comprise income group with per capita expenditure from ₦88 295.5 (\$585.5) to ₦92 160.8 (\$611.1); the middle-middle class is ₦106 450.1 (\$705.9) to ₦114 044.3 (\$756.3); while the upper middle class ranges from ₦120 867.1 (\$801.5) to ₦135 457.8 (\$898.3) per capita expenditure. Going by this definition, about 22.6 million out of the 158.4 million FAO population estimate in 2010, representing 14.3% are in the middle class. This represents about 40% and 32% decline compared to 2004 and 1996 (table 2 appendix A) respectively. But does the ability to spend approximately \$1.6 to \$2.5 daily sufficiently justify the middle class? One way of addressing this question is by looking at the expenditure pattern of the middle class vis-à-vis changes in certain economic indicators, as well as the internationally defined poverty line of the developing countries.

#### 4.1.2 The Nigerian Middle class and Poverty line

The NBS definition of poverty line<sup>1</sup> substantially shielded, particularly the middle-middle and the upper-middle from negative economic shocks. But could same be said of the international definition of poverty line,

considering that the economy is heavily import-dependent? The mean consumption per capita for fifteen poorest countries in the world is about \$1.25 while for the richest 15 countries it is \$25 a day (Ravallion, 2010). By this definition the upper-middle class (the stable class) is \$1.05 away from poverty line; while the middle-middle and the lower-middle class are \$0.75 and \$0.35 respectively away from it. The implication of this is that the middle class in Nigeria is on the brink; which also puts the NBS defined poverty line which uses food energy intake (FEI) and cost of basic need (CBN) from where a borderline is drawn to profile the middle class to a serious challenge. According to (Ravallion, 2010) these methods can give radically different results even for the same country and date.

#### 4.1.3 Welfare metrics and middle class

In table 2 (appendix A) trends in welfare and macroeconomic indicators such as poverty (relative and absolute), income inequality, inflation and unemployment rate, real income, and exchange rate show that all, but income are not good story as to warrant the touted rising profile of the middle class. For instance, irrespective of the 7.9% real GDP growth rate posted in 2010, poverty is still prevalence. In the same period, cost of living rose to approximately 33%; while inequality rose to 49% from 43% in 2004 and 47% in 1996 respectively - a rising middle class in such a situation could as well be said to be living a lie since there are documented evidence in literature that these factors have dampening effects on the size of the middle class.

#### 4.2 The Dynamics of the Nigerian Middle class

Emphatically, (Knowledge@Wharton, 2008) opined that the rising middle class from the emerging economies, interestingly is not stable on a global and country-by-country or even region-by-region basis. It further cautioned that while statistically there is emerging middle class, there is need to look carefully at the various indicators on a more refined basis so as not to miss the variability. In this section, the focus is to evaluate how the middle class in Nigeria has evolved from 1996 to 2010.

##### 4.2.1 Poverty and the Middle class

Table 2 (appendix A) indicates that a change in poverty alters income distribution and causes a cross over from one income stratum to another. In 2004 the size of lower middle class declined by 59% as poverty declined from 66.5% to 54.4%, while middle-middle class and upper-middle class increased by 129.6% and 65% cent respectively. In 2010, the size of the lower-middle rose, while middle-middle and upper-middle class declined simultaneously as poverty rose to 69% resulting to about 30.5% increase in size of lower-middle class and 61% and 51.5% decline in middle-middle and upper-middle class respectively, compared with 2004. Perhaps a negative shock within the periods forced some people down from the upper-middle to middle-middle and to lower-middle, while some sizeable fraction fell back to poverty, hence the increase in poverty by about 15% (2010) and 17% (2011).

In 1996 the middle-middle class and the upper-middle class constitutes about 76% of the entire middle, with 54% being in the middle-middle class, while the lower-middle class constitute about 24%. The size of the middle-middle class further improved to about 84% in 2004 reflecting the decline in poverty and a crossover effect to middle-middle class. But currently the middle class are predominantly in the lower middle class accounting for about 47.3% of the total middle class in 2010 as against 23.7% in 2004. The predominance of the lower middle class commonly referred to as the vulnerable middle class because they share a borderline with poor (lower class) in the society is an indication of a large statistical economic-malnourished middle class. The implication is that negative economic shocks have the potentials of sending shockwaves that could easily push them back to poverty.

##### 4.2.2 Changes in macroeconomic fundamentals

Table 1 (appendix A) reflects the effects of exchange rate, general price level and cost of living on an import-dependent economy like Nigeria with 63% of consumption expenditure directed to food out of which more than 43% is imported. When we isolate the domestic currency, it is obvious that the middle class in Nigeria was better-off in 1996 compared with 2004 and 2010. The per capita expenditure of the middle class in 1996 ranged from about \$2 129.6 to \$4 047.3 as against (\$499.8-\$913.7) in 2004 and (\$585.5 - \$898.3) in 2010. In fact the minimum per capita expenditure of the lower-middle class in 1996 is about 23 times the maximum per capita expenditure of the upper-middle class in 2004 and 2010. It is also insightful that the daily per capita of the Nigerian middle class in 1996 is almost three times higher than the mean consumption per capita of the 15 richest countries in 2010, while that of the upper-middle class in 2004 is comparable with the 15 richest countries in 2010.

The same analysis can be extended to cost of living measured with misery index (summation of inflation and unemployment rate). High misery index (table 2 appendix A) is an indication of high cost of living; and it is evident that cost of living was higher in 2010 relative to other two periods; while 1996 was marginally higher than in 2004 by about 0.6%. It is also true that the general price level was higher in 2004 (129.7) relative to 1996 (51.5) – this may as well neutralize this marginal difference in cost of living.

#### 4.2.3 Pattern of spending

Food and non-food composition of household spending could also be a pointer to evaluating the dynamics of the middle class. The spending pattern of the middle class is expected to tilt towards durables as indication of living above basic need, however the Nigerian middle class seems to run contrary to these theoretical and intuitive reasoning (table 1 appendix A). In 1996 food expenditure of the Nigerian middle class constitute about 63% of the total spending, about 13% more than 2004 and 2010 respectively. There is however a significant improvement in 2004 and 2010; but spending about 47% on food is still very much on the high side. Although the high spending on food is expected since affluence in Nigeria is associated with high dependants. The average number of household for the lower-middle class is about four, while for the upper middle class it is about six.

#### 4.3 Characterizing the Nigerian Middle class

This section identifies a number of variables that are theoretically suggested as plausible predictors of certain middle class characteristics including their expenditures, as well as the predictors of the probability that a given household with certain characteristics will be in the middle class. Such predictors or determinants will yield important information as the movements in these predictor variables are likely to suggest expansion or contraction of the middle class. These include household food expenditure as a fraction of total household expenditure, ownership of appliances, and utilities among others. Table 4 (appendix A) shows the probability prediction of the link between different (Lower-middle, Middle-middle and Upper-middle) middle class and its determinants and the Relative Risk Ratio (RRR). In table 5 (appendix A) we show two levels of results: correlates of expenditure of the Middle-class at the national level and across the six regions in Nigeria, namely North-central, North-east, North-west, South-east, South-south, and South-west.

#### 4.4 Predictors of the size of the Middle class

It is noteworthy to emphasize that in the analysis, whereas there are 3 categories – lower-middle class, middle-middle class and upper-middle class - the results display outcomes for only two of these categories: the middle-middle class and the upper-middle class table 4 (appendix A). The results of only two categories are displayed because the third (lower-middle class) category is used as a reference base category. In other words, the coefficients of the middle-middle class and the upper-middle class are interpreted relative to the coefficient of the lower-middle class.

##### 4.4.1 Urbanization

Urbanization is an attractor of middle class as shown in table 4 (appendix A). The probability of an individual in the middle-middle and upper-middle class living in the urban area is higher, but the probability is higher for those in the upper-middle class (in terms of the estimated coefficient) with the coefficient value of about 1.28. Similarly, the probability of middle-middle income individual living in urban area is also positive and higher than that of lower-middle class individual, although this difference is not statistically different. What this means is that as we move down the ladder of income distribution, from upper class down to upper-middle class and to the lower class (the poor) the probability that one will live in the urban areas decreases.

##### 4.4.2 Occupational status

Likewise, the occupational status of individual has significant influence in determining inclusion in middle-middle class relative to the lower middle class, although it is not significant for the upper middle class. What this result shows is that, perhaps the middle –middle class who are standing between the vulnerable and the comfortable class have a higher probability of being defined by their occupational status than the lower class, while it is not relevance for those in the upper-middle class who may likely be in the employer category. Moreover, majority (54%) of Nigerians are self-employed who are not necessarily high flyer professional especially in the South-east and the Northern region who are predominantly traders and farmers respectively. In 1996 and 2004 the Nigerian middle class are sparsely distributed across different occupational group with hardly any known pattern. This however changed in 2010 as the middle class predominantly clustered around the agriculture sector, from about 14.6% in 1996 to all time high of 55.2% in 2010 as shown in table 3 (appendix A). Although agriculture is the dominant sector in the country, it is the least rewarding as a result employment in the sector is declining as youths migrate to cities in search of better jobs. This precariously fueled the high urbanization rate in the country and over-stretching the already lapidated social amenities. The FAO population estimates shows that by the year 2020 the agricultural population will decline to about 6.2%, while urban population will be about 56.8%.

##### 4.4.3 Health and Education

Health is a strong predictor of middle class in Nigeria. Health services come from public and private providers with public providers (governments) charging user fees in both cases while private providers operate fee-for-service. In most cases the quality of services by both the private and public providers are markedly different. But private providers generally provide higher quality services at higher costs and therefore are

patronized by richer persons. Little surprise therefore, that the middle-middle and upper middle class spend relatively more on health than the lower-middle class.

For education, the NLSS 2004 report shows that majority of core poor (55.3%) and moderately poor (20%) Nigerians attend Government schools because they are relatively more accessible; but generally our estimate suggests that the UMC and the MMC are more probable to spend more on education (private and public) than the lower middle class (LMC).

#### 4.4.5 Gender

The result suggests that men are less likely to be found in the upper-middle and middle-middle class than in the lower-middle class. Corollary to it is that more women are likely to be found in the middle-middle and upper-middle class than men. This result may likely require further scrutiny because the patriarchal nature of the Nigerian society and its effect on socioeconomic conditions of females was expected to play out in the regression result. Females suffer many cultural restrictions and stereotype requirements (especially in the northern region) for accessing credit, getting loan guarantees, assets ownership and inheritance rights. These disadvantages inherently hamper the economic potentials and earning capabilities of women and girls, particularly the widows, the divorced and separated. Moreover the percentage of female headed homes in Nigeria constitutes about 14.4% (2004) and 16.3% (2009) with average household size of three (NBS, 2009). The low female-headed household further underscores the under-privileged social, cultural and economic conditions of women in the Nigerian society.

#### 4.4.6 Household size

The econometric result in table 3 (appendix A) shows that the Nigerian middle class runs contrary to the notion that poor people are more likely to be polygamists and have more children and hence large families. The upper-middle and middle-middle class are more probable to have larger household than the lower-middle class. This is further re-enforced by our estimates which shows that average household size among the upper middle-class is about 5 persons while it is 4 and 3 persons among the middle-middle class and the lower-middle class respectively. Thus affluence in Nigeria is associated with extended families and numerous employees such as, gatemen, gardeners, house-keepers and drivers. All these classes of people also have their own families and are in most cases surveyed as household members of their employers

#### 4.4.7 Non-Food expenditure and Dwelling

The middle-middle and upper-middle class are more likely to spend more on non-food than the lower-middle class. That is the probability that one spends more on durables increases as one transit from lower to upper class. A common feature which emerges from the expenditure distribution pattern across the middle class in table 1 is a swing in their expenditure pattern from food to non-food items. From 1996 to 2010, an average of 16.4% of total expenditure was redirected from the consumption of food to non-food items, thus raising argument in favor of the emergence of the middle class in Nigeria. However, comparing 2004 and 2010, six years after, there is no significant improvement in the spending pattern as average spending on food stabilized at 47%, while the non-food spending was about 53% – argument in favor of the declining profile of the middle. The result also shows that standard and choice of dwelling (rent) increases as one move up the ladder of middle class table 4 (appendix A).

#### 4.5 Expenditure correlates of the Middle class

A more important indicator of middle class status is consumption pattern; alas what is important is not just a rising middle class, but a rising consuming middle class. In this section the study attempted to evaluate the consumption pattern of the Nigerian middle class considering their expenditure correlates.

Food and non-food spending takes a positive correlates, but food takes a considerable proportion (highest expenditure coefficient of about 0.35) in the total middle class spending, while non-food takes the second highest expenditure of about 0.3, table 1 (appendix A). The fact that food expenditure constitutes a higher household spending among the middle class reflects the low discretionary spending power of majority of those in the Nigerian middle class. Rent takes higher proportion of middle class spending (0.1), next to food (0.35) and non-food (0.3). Because of high dependants they also spend high proportion of their income on house maintenance such as paying for stewards (main cook), private provision of electricity (source light), and drinking water. This is also expected given that Nigeria has long years of infrastructure decay and most people rely on out-off pocket provision of amenities. In terms of water, borehole, rain water, streams and pond are the major sources water in Nigeria.

## 5. Conclusion and Policy implication

### 5.1 Conclusion

The study used cluster analysis and multinomial logit model to profile and characterize the Nigerian middle class by incorporating, in addition to expenditure metrics predictors of middle class such as individual ownership of

assets, household out-of-pocket health spending, education, food and non-food, sources of water supply, location, and occupational status. It also evaluated the expenditure correlates of the middle class as well as the dynamics of the middle class in the period 1996 to 2010 vis-à-vis economic and welfare indicators.

Using household data 1996, 2004, and 2010, the study concluded that the definition of middle class is a dynamic concept whose outcome depends on movements in certain socioeconomic parameters. As these parameters change, what constitute the middle class also changes. Food and non-food spending, health and education expenditure, urbanization, and occupational status are predictors of middle class. Considering the trends in economic and welfare indicators such as misery index (cost of living), exchange rate, consumer price index, unemployment, income, inequality, and poverty the 1996 and 2004 middle class were better-off relative to the current middle class. Furthermore the level of vulnerability of the present middle class is such that they share almost the same characteristics with the poor; hence any slightest negative shock in the economy could force them down the poverty line.

### 5.2 Policy implication

When the economy witnesses severe stress and policy strangulation arising from government abdication of its responsibility in the fields of health and education, does not control non-development expenditure, increases in the prices of inputs like fuel and power (without steady supply) and, above all, its leaders and officials indulge in unbridled corruption, erosion of disposable incomes produces as statistical middle class who economically live a lie.

The per capita expenditure which defines the Nigerian class as those with daily per capita expenditure ranging from \$1.6 -\$2.5, almost a borderline with internationally defined mean per capita consumption of the 15 poorest countries in the world puts the poverty line used by NBS to a serious test because poverty line is sensitive to exchange rate movement. In essence the size of the middle class cannot be said to be increased if the determinants of such increase are looking downwards. While considering the movements in and out of a particular income group it is also important to ascertain if the economic policies are supportive enough to facilitate increase in the size of economically empowered middle class.

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## Appendix A: Tables used for analysis

Table 1: Per capita Expenditure of the Middle class, 1996-2011

Classification of Middle Class	2010(Applied Exchange rate:150.8/\$)			2004 (Applied Exchange rate:133.5/\$)			1996 (Applied Exchange rate: 21.9/\$)		
	Minimum Expenditure	Maximum Expenditure	Average Expenditure	Minimum Expenditure	Maximum Expenditure	Average Expenditure	Minimum Expenditure	Maximum Expenditure	Average Expenditure
<b>Annual per capita expenditure (=N=)</b>									
Upper-Middle	120867.1	135457.8	128162.5	112819.3	117399.0	115109.2	79891.0	88636.3	84263.6
Middle-Middle	106450.1	114044.3	110247.2	74736.0	93777.7	84256.9	67618.5	71145.7	69382.1
Lower-Middle	88295.5	92160.0	90227.7	66724.6	70730.3	68727.5	55364.4	64091.4	59727.9
<b>Annual household expenditure (=N=)</b>									
Upper-Middle	500854.6	578342.0	539598.3	467505.9	520791.8	494148.8	331055.9	378435.5	354745.7
Middle-Middle	350386.5	393691.9	372039.2	245997.7	323729.6	284863.6	222570.1	245601.6	234085.9
Lower-Middle	184469.0	207886.2	196177.6	139402.6	159547.0	149474.8	115668.7	144571.5	130120.1
<b>Annual per capita expenditure (\$)</b>									
Upper-Middle	801.5	898.3	849.9	845.1	879.4	862.2	3648.0	4047.3	3847.7
Middle-Middle	705.9	756.3	731.1	559.8	702.5	631.1	3087.6	3248.7	3168.1
Lower-Middle	585.5	611.1	598.3	499.8	529.8	514.8	2528.1	2926.5	2727.3
<b>Daily per capita expenditure (\$)</b>									
Upper-Middle	2.2	2.5	2.3	2.3	2.4	2.4	10.0	11.1	10.5
Middle-Middle	1.9	2.1	2.0	1.5	1.9	1.7	8.5	8.9	8.7
Lower-Middle	1.6	1.7	1.6	1.4	1.5	1.4	6.9	8.0	7.5
<b>Annual household expenditure (\$)</b>									
Upper-Middle	3321.3	3835.2	3578.2	3501.9	3901.1	3701.5	15116.7	17280.2	16198.4
Middle-Middle	2323.5	2610.7	2467.1	1842.7	2424.9	2133.8	10163.0	11214.7	10688.9
Lower-Middle	1223.3	1378.6	1300.9	1044.2	1195.1	1119.7	5281.7	6601.4	5941.6

Table 2: Size of Middle class and Trends in Selected Economic Indicators, 1996-2011

Economic Classification	2010	2004	1996
Total middle class (Million)	22.6	37.9	33.3
Lower-middle class (Million)	10.7	8.2	19.8
Middle-middle (Million)	10.3	26.4	11.5
Upper-middle class (Million)	1.6	3.3	2
Population estimates (million) <sup>1</sup>	158.4	136.4	112.6
Urban% of total population	49.8	45.4	39.6
Agricultural Population%	7.7	9	11.2
Real GDP growth rate %	7.6	10.6	5
Unemployment Rate <sup>2</sup> %	21.1	13.4	8.4
Inflation Rate <sup>3</sup> %	10.2	10	14.3
Price(Index)	114.2	129.7	54.5
National Minimum Wage <sup>4</sup> (N)	9,950	5, 500	250
Federal Minimum wage <sup>4</sup> (N)	11,132	9,950	5, 568.1
Relative Poverty <sup>4</sup> %	69	54	66.5
Inequality <sup>5</sup> (Gini Index)	48.8	42.9	46.5
Cost of living <sup>6</sup> (Misery Index)	32.7	28.9	29.5
Official Exchange Rate <sup>7</sup>	150.8	133.5	21.9

Table 3: Occupational distribution of the middle class % (1996-2010)

Occupational Group/Class	2010				2004				1996			
	Lower middle class	Middle-middle class	Upper-middle class	Total	Lower middle class	Middle-middle class	Upper-middle class	Total	Lower middle class	Middle-middle class	Upper-middle class	Total
Professional or Technical	2.4	2.5	1.7	6.6	0.4	11	2	13.4	4.2	7.4	4.2	15.8
Administration	0.1	0	0	0.1	0	3.6	2	5.6	0	0.5	0.8	1.3
Clerical	2.5	4.2	2.1	8.8	0.4	10.7	1.5	12.6	2.8	9.9	5.1	17.8
Sales and Related	5.1	3.3	1.5	9.9	0.3	12.2	1.9	14.4	2.3	7	3.2	12.5
Services and Related	3.1	2.4	2.1	7.6	0.1	10.2	1.2	11.5	6.5	10	2.1	18.6
Agriculture and Forestry	36.1	15	4.1	55.2	0.4	8.3	0.8	9.5	3.4	8.6	2.6	14.6
Production and transport	2.2	2.2	0.7	5.1	0.5	11.5	1.1	13.1	2.4	4	0.9	7.3
Manufacturing & Processing	0.5	0.1	0.5	1.1	0.3	15.3	1.8	17.4	2.2	5.3	4.0	11.5
Others	2.9	1.4	1.3	5.6	1.1	0.7	0.7	2.5	0.3	0.1	0.2	0.6
Total	54.9	31.1	14	100	3.5	83.5	13	100	24.1	52.8	23.1	100

Source: Author based on NHS and NLSS (1996; 2004 and 2009/2010) data

Table 4: Multinomial Logit model of predictors of the middle class

Predictor	Upper-middle class	Middle-middle class	Upper-middle class (RRR)	Middle-middle class (RRR)
Urbanisation	1.277*	0.407	1.980**	0.828*
	-2.55	-1.39	-2.85	-2.15
Occupational status	0.0287	0.161*	0.258	0.326***
	-0.25	-2.34	-1.65	-3.58
Sex(Male)	-1.815**	0.665	-1.983*	0.731
	(-3.01)	-1.86	(-2.54)	-1.64
Age	-0.0413**	-0.0152	-0.0618**	-0.0246*
	(-2.63)	(-1.61)	(-2.99)	(-2.10)
Household size	0.608***	0.380***	0.547***	0.335***
	-5.68	-5.14	-3.85	-3.52
Education Exp.	0.000273***	0.000206***	0.000299***	0.000219***
	-7.64	-6.19	-5.56	-4.31
Health Exp.	0.000181***	0.000126***	0.000198***	0.000137***
	-11.46	-8.95	-8.92	-6.91
Rent	0.000105***	0.0000766***	0.000129***	0.0000825**
	-4.81	-4.11	-3.89	-2.84
Non-food Expenditure	0.000189***	0.000116***	0.000232***	0.000147***
	-13.13	-10.52	-10.58	-8.75
_cons	-10.69***	-6.930***	-11.90***	-7.595***
	(-7.66)	(-7.52)	(-5.16)	(-5.17)
pseudo R2	0.619		0.649	
chi2	1135.6		752.4	

t statistics in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 5: Correlates of middle class expenditure

Item	National	North-central	North-east	North-west	South-east	South-south	South-west
Non-food Expenditure	0.298*** -61.74	0.323*** -9.73	0.457*** -63.14	0.345*** -25.3	0.342*** -22.22	0.396*** -62.37	0.383*** -15.31
Food Exp.	0.354*** -73.87	0.321*** -18.33	0.432*** -61.96	0.467*** -45.08	0.554*** -37.24	0.539*** -70.89	0.156*** -12.17
Rent	0.103*** -24.37	0.0941*** -4.76	0.0527*** -11.06	0.0548*** -6.16	0.00271 -0.16	0.0219** -3.03	-0.0146 (-0.83)
Health Expenditure	0.0160*** -8.54	0.0204 -1.92	-0.0026 (-0.98)	-0.0138*** (-3.49)	0.00142 -0.26	0.0145*** -5.81	-0.000399 (-0.05)
Education Expenditure	0.0618*** -27.46	0.0410*** -3.97	0.00136 -0.56	0.0121* -2.03	-0.000488 (-0.08)	-0.00281 (-0.79)	0.0221 -1.97
Gender	0.0523*** -7.48	0.0196 -0.49	0.0408*** -3.51	-0.198*** (-3.97)	-0.0196 (-1.35)	0.0303*** -3.95	-0.157*** (-5.87)
Main cook	0.0344*** -12.44	-0.0156 (-1.11)	0.00347 -1.44	0.0475*** -10.07	-0.00868 (-1.33)	0.00328 -1.04	0.0078 -0.76
Sources light	0.00933*** -4.6	0.00181 -0.22	0.0231*** -12.82	0.00842 -1.82	-0.0022 (-0.53)	-0.00481 (-1.66)	-0.00559 (-0.87)
Drinking water	0.0156*** -11.76	0.00845 -1.23	0.0250*** -19.43	0.0103** -3.2	0.00256 -0.74	-0.00746*** (-3.64)	-0.0033 (-0.57)
Sector(rural)	-0.0382*** (-7.95)	-0.0143 (-0.53)	-0.0113** (-3.24)	0.0196 -1.95	0.0067 -0.55	0.0282*** -4.11	-0.00782 (-0.38)
Household size	0.0294*** -16.24	0.0386*** -4.9	0.0189*** -9.77	0.0119*** -4.52	0.0120** -2.78	0.0268*** -10.51	0.0533*** -7.18
_cons	2.842*** -34.29	3.203*** -8.38	1.202*** -10.88	2.325*** -12.27	1.989*** -8.14	1.286*** -10.58	5.852*** -17.42
R2	0.868	0.885	0.912	0.949	0.919	0.978	0.814
adj. R2	0.868	0.877	0.911	0.948	0.916	0.978	0.808
F	3194.2	112.9	2410.5	1118.4	433	4709.9	127.3

*t* statistics in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

<sup>i</sup> The NBS defined three poverty lines, core-poor, moderately-poor, and non-poor based on mean per capita expenditure of ₦39 012 per year. One-third of ₦39 012 gave ₦13 004 as the first level (core poor) of poverty; two-third of ₦39 012 (₦26 008) gives the second level (moderately poor) of poverty, while those with more than two-third of ₦39.012 are regarded as non-poor.

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