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The Nigerian Experience

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Impacts of Price Changes on Poverty: The Nigerian Experience

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Abstract

Poverty reduction is seen as a fundamental objective of Millennium Development Goals (MDGs). However, recent concern on meeting the MDGs has brought to the fore the importance of focusing on pro-poor growth and policies through reduction in prices of commodities. In this study, attempts were made to address these important issues using the methodologically simple yet data-intensive approach of calculating the short-run impacts on households' income and costs of living following the changes in commodity prices. Thus, a methodological approach that was based on consumer demand theory with three major additive measures of poverty was applied. The study's findings among other things showed that poverty in Nigeria is more accentuated by changes in the price of commodities. Price changes appear to have affected the consumption pattern of the people both rural and urban dwellers. Also, it was established that poverty in Nigeria is more of rural than urban. The results further revealed that people differ in terms of their needs and consumption pattern as a result; the effect of the price changes will also be different from one individual to another. Therefore, the paper suggested that it is important to note that there is an urgent need for government to put in place policies (macro and micro) that will stem down the prices of commodities especially on food items.

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INTRODUCTION

1.1   Research Issues

Poverty reduction is a fundamental objective of Millennium Development Goals (MDGs). The proportion of people living in extreme poverty especially in Nigeria fell marginally between 1990 and 2006. Thus, Nigeria is not yet on track to reach the goal of reducing poverty by half by 2015. However, recent concern on meeting the MDGs has brought to the fore the importance of focusing on pro-poor growth and policies through reduction in prices of commodities. The predominant literature in this area focuses on getting the prices right and creating conducive environment for business—achieving macroeconomic stability, freeing the market of impediments so that market forces direct economic activity, etc. These policies generally involve improvements in measures of economic freedom and have been part of the primary policy menu prescribed to developing countries by international development institutions and donor countries. Policies such as liberalization and structural adjustments are all meant to align prices with the expectation that such reforms would lead to increased market activity, economic growth and overall development.

However, developing-country experiences with such adjustment policies in regard to the well-being of the poor, and in fact to sustain economic growth, has been disappointing. To a large extent, market reforms as instituted in the 1970s and 1980s tended to result in increased poverty. While in many cases those reforms did in fact result in economic growth, the gains from growth did not trickle down sufficiently enough to reduce poverty and instead resulted in increased inequality.

Even more of concern are cases whereby market reforms did not result in sustained economic growth and instead the outcome was slow growth and increased poverty. There is no question that market reforms are necessary to achieve economic growth and that economic growth is necessary for poverty reduction. However, economic growth is itself not sufficient for poverty reduction.

Since 2005, the world has experienced a dramatic surge in prices of commodities especially the price of many staple food commodities. For instance the price of maize increased by 80 percent between 2005 and 2007, and has since risen further. Many other commodity prices also rose sharply over this period: milk powder by 90 percent, wheat by 70 percent and rice by about 25 percent (FAO, 2008; World Bank 2008a).

Clearly, such large increases in prices may have tremendous impacts on the real incomes of poor households in developing countries and Nigeria in particular. Despite widespread concern about the impacts of high prices (especially on food items) on poor people and on social stability, little hard information appears to be available on actual impacts on poor people. The overall impact on poverty rates in poor countries depends on whether the gains to poor net producers outweigh the adverse impacts on poor consumers.

Whether higher prices improve or worsen the situation of particular households depends importantly on the products involved; the patterns of household incomes and expenditures; and the policy responses of governments (World Bank 2008b).

Existing analyses tell us that the impacts of higher prices on poverty are likely to be very diverse, depending upon the reasons for the price change and on the structure of the economy. A great deal depends on the distribution of net buyers and net sellers of food among low-income households (William E. James, 2008). Only with careful examination of outcomes at the household level is it possible to tell whether changes in the prices of specific staple foods will help or hurt poor people.

From the foregoing however, the research question is that – does price changes have implications for poverty in Nigeria? What is the connection between price changes and poverty in Nigeria? In this study, attempts will be made to address these important issues using the methodologically simple yet data-intensive approach of calculating the short-run impacts on households' income and costs of living following the changes in commodity prices.

1.2   Objectives of the Study

The primary objective of this proposal is to systematically capture the impact of price changes on poverty in Nigeria. Specifically, this study aims to:
   a. Evaluate the connection between price changes and poverty in Nigeria;
   b. Determine whether price changes are pro-poor or anti-poor.
   c. Deduce policy implications for poverty reduction in Nigeria.

1.3   Rationale for the Study

A particular reason for concern about the impacts of high food prices on poor countries arises from the fact that the poorest people spend roughly three quarters of the incomes on staple foods. On the other hand, the incomes of farm households - frequently one of the poorest groups in low-income countries-may be increased by higher commodity prices. These assertions are really true to the Nigerian case. Therefore, there is a need for an empirical analysis to show the direct impact of price changes on poverty in Nigeria. This is the focus of this proposed study.

However, it is noted in the literature that the benefits of higher food prices to poor farm households may be less than they might at first appear, since these benefits depends not on what they produce, but on their net sales of these goods. This statement will also be ascertained in the Nigerian situation.

It is also confirmed in the empirical literature that changes in relative prices can have a large impact on poverty (Son and Kwakwani, 2006), but most studies do not address the issue of relative prices. Besides, most of these studies appear to be insensitive to the distributional effects of price changes. This proposed study aims to measure the distributional impacts of price changes on poverty in Nigeria.

The knowledge of the possible impacts of changes in commodity prices on income distribution and poverty is very important for policy design in Nigeria especially in her drive to attain the MDGs in 2015. Such knowledge has not been properly articulated by previous studies. This is the gap in literature that this present study would address.

1.4 Structure of the Study

This study is made up of six sections. After the introduction in section one, section two presents a brief poverty profile and government interventions in Nigeria. While section three of the study contains literature review and theoretical framework, section four presents the methodology and scope of the study. The empirical results of the study as well as the discussions are contained in section five. Section six presents the summary, conclusion and policy implications of the study.

POVERTY PROFILE AND PAST GOVERNMENT INTERVENTIONS IN NIGERIA

2.1   Poverty Profile

Nigeria has a complex social and political history that has, for the most part, impacted adversely on the population and has worsened income distribution. The exploitation of the nation's oil resources, and the management of oil windfalls, have dominated the progress and decline of Nigeria's economy over the past two decades, and have significantly influenced evolution and perception of poverty. The economy is currently characterized by a large rural, mostly agricultural based, traditional sector, which comprises about two-thirds of the poor, and by a smaller urban capital intensive sector, which has benefited most from the exploitation of the country's resources and from the provision of services that successive governments have provided.

A poverty line of 395 naira (1985 prices) per annum per capita was selected as the poverty line that could consume minimum FAO recommended calories per person per day and a minimal basket of non-food items. This line resulted in 43 percent of poor in 1985 and 34 percent in 1992, showing a decline of 9 percentage points in headcount over a seven year period. However, due to high population growth rates this resulted only in one million less poor people. There were significantly different trends in rural and urban areas; the number of poor in rural areas sharply fell from 26.3 million to 22.8 million, while urban poverty rose from 9.7 million to 11.9 million. Extreme poverty increased nationally from 10 million to 14 million, with a tripling of headcount in urban areas. Income distribution also worsened. If not for worsening income distribution national poverty would have declined by 13.6 percent rather than 8.9 percent. Growth was not equally shared by different parts of the country; growth was fastest in southern and middle agroclimatic zones, with much slower growth in northern states. This resulted in the largest number of poor people in northern regions. Apart from regional characteristics, poverty is strongly influenced by education, age and nature of employment. 79 percent of extreme urban poor and 95 percent of rural poor had only primary schooling or less. Participatory Poverty Assessment (PPA) conducted by the National Bureau of Statistics indicates that poor children increasingly do not attend school as they consider quality of education weak and consider education increasing employment prospects minimal. Of all households, polygamous households experience the greatest depth of poverty, with majority of them in northern and middle zones. Majority of the poor in Nigeria are concentrated in poor communities rather than scattered around.

Many significant events before 1985 affected the economy in general and poverty situation in particular. The exceptionally high oil prices brought a huge inflow of oil revenues that drove the per capita income from $1,300 in 1972 to $2,900 in 1980. After 1980 oil revenues collapsed and real per capita income, expenditure, and consumption dropped precipitously. However, public expenditures on capital intensive projects

continued -- increasingly financed by external borrowing -- to the detriment of investments in human capital. The modest overall changes in per capita private consumption during the past two decades suggest that the majority of Nigerians did not benefit from the dramatic changes in average per capita incomes over the period. After 1980 other than falling oil prices, the slow and even negative growth in the economy and especially in agriculture, and adverse relative price changes encouraged imports and stifled non-oil production, all of which resulting in distorted policies and increasing poverty. Thus the mismanagement of oil resources accentuated the terms of trade disparities between the urban and rural sectors, increased poverty in the rural areas because of choked-off agricultural production, and also increased income disparities in urban areas, where those who could capture the benefits of distorted policies fared better than others.

Although oil revenues remained low and government debts accumulated after 1985, other sectors such as agriculture and domestic manufacturing that had languished during the oil boom years, began to grow again following the improvements in real effective exchange rate after the economic reform program in 1986. Hence in contrast to the average decline of 1.8 percent per annum between 1981 and 1987, Nigeria's real GDP per capita grew by 5.4 percent per annum between 1986 and 1992. Events since 1992 have eroded many of the positive changes that took place. Real GDP and consumption per capita fell by 5 percent between 1992 and 94, and inflation increased from 49 percent in 1992 to 1977 percent in 1994. Most Nigerians, therefore, feel and are worse off than three or four years ago. IT also needs to be recognized that despite all of the intervening changes, in real terms both per capita income and private consumption in 1995 were lower than in early 1970s, before the oil boom. Thus, the perception of many Nigerians today that poverty has been continuous and worsening is totally realistic.

Few public resources are devoted directly to providing social services to the poor. The problem is partly a lack of resources but also how these resources are allocated and managed. In 1990, estimated public expenditures on education and health services at all levels of government were about 15 percent of total government expenditures and 4.5 percent of GDP (CBN, 1990). Although these funds are not low compared with other developing countries, government funds have been erratic, fluctuating largely with oil revenues. More importantly resources have not been used efficiently, resulting in serious deterioration in the quantity and quality of services and minimized benefits to the poor. Tertiary services absorb disproportionately large portion of government financing both in recurrent and capital budget in health and education. Also a very high proportion of recurrent budget is absorbed by personnel costs leaving very little for much needs inputs, such as drugs and books. There is also very little transparency and accountability for the use of funds for social services at all levels of government. The roles of different levels of government in the provision of services, overlapping responsibilities and constant shifts of functions between one level of government and another have further compounded fiscal inefficiencies and make it difficult to assess total expenditures in social sectors.

Currently there are very few successful safety net programs. So called safety nets are inefficiently managed and do not reach the intended beneficiaries. Also large over head

costs in administering them make then less desirable. Federally operated safety net programs have not been successful as they have failed to include intended beneficiary communities in the design and execution of the safety net programs. Large amounts of resources have been dissipated in ineffective safety net programs in the last two decades. Government can target the delivery of some services and resources to reach poor areas and communities building on existing community based organizations where possible.

2.2   Past Government Efforts to Poverty Reduction in Nigeria

Reduction of inequality and poverty through government interventions is not a recent phenomenon. Government had at one time or the other embarked on one policy or the other in order to intervene on the poor/masses so that they could contribute to the development of the nation. Some of the empowerment programmes initiated by the government in one time or the other are reviewed in what follows.

2.2.1   Pre-Structural Adjustment Programme

Before the period of Structural Adjustment Programme (SAP), some empowerment programmes were put in place to alleviate the suffering of the people as well as mitigating the effects of economic distortions that was ravaging the nation during that period. The empowerment programmes the provision of basic amenities such as social and economic infrastructure to generate employment, enhance income earnings, increase productivity and those targeted at more equitable distribution of income (NBS, 2005). Others include increased production and supply of food, increased economic activities. These programmes were aimed at meeting the needs of the poor.

2.2.2   The Structural Adjustment Programme

The SAP stressed greater realization of the need for policies and programmes to alleviate poverty and provide safety nets for the poor. The programme failed because it had no human face in its implementation and it did not emphasize on human development which thereby aggravated socio-economic problems of income inequality, unequal access to food, shelter, education, health and other necessities of life. It ended up aggravating poverty especially among the vulnerable. Government efforts then could be categorized into nine groups: These were Agricultural Sector Programmes; Health Sector Programmes; Nutrition-related Programme; Education Sector Programmes; Transport Sector Programmes; Housing Sector Programmes; Financial Sector Programmes; Manufacturing Sector Programmes and Cross-Cutting Programmes.

2.2.3   Post- Structural Adjustment Programme to Date

Consequent upon the experiences of the past, the civilian government initiated a number of programmes and policies directed at reducing poverty. The first programme was the Poverty Alleviation Programme (PAP) which was targeted at correcting the deficiencies of the past efforts at alleviating poverty through the overall objective of providing direct jobs for 200,000 unemployed persons and hence stimulate production within a period of

one year. This programme later metamorphosed into the Poverty Eradication Programme (PEP) because of the need to improve participatory approach for sustainability, for effective coordination at all levels of government and proper focusing of the programme. The core programmes of Poverty Eradication Programme were Youth Employment Scheme; Social Welfare Services Scheme; Rural Infrastructure Development Scheme and Natural Resource Development and Conservation Scheme.

The World Bank (2001/2002) later had to assist Nigeria in formulating poverty strategy programmes and policies through Interim Poverty Reduction Strategy Paper (IPRSP) with the aim of building on the gains of the earlier efforts on poverty programmes (PAP and PEP).

In the face of the growing concern to sustain the gains of the poverty efforts, the present government came up with a comprehensive home-grown poverty reduction strategy known as *National Economic Empowerment and Development Strategy (NEEDS)* in 2004. The NEEDS also builds on the earlier two years' efforts to produce the interim PRSP. The NEEDS as conceptualized is a medium term strategy (2003-2007) which derives from the country's long term goals of poverty reduction, wealth creation, employment generation and value re-orientation. The NEEDS is a national coordinated framework of action in close collaboration with the state and local governments and other stakeholders. The equivalent of NEEDS at State and Local Government levels are State Economic Empowerment and Development Strategy (SEEDS) and Local Government Economic Empowerment and Development Strategy (LEEDS). The NEEDS, in collaboration with the SEEDS will mobilize the people around the core values, principles and programmes of the NEEDS and SEEDS. A coordinated implementation of both programmes will reduce unemployment, reduce poverty and lay good foundation for sustained development.

The main strategies of NEEDS are anchored on a tripod: Empowering People (Social Charter or Human Development Agenda); Promoting Private Enterprise and Changing the Way the Government Does Its Work (Reform Government and Institutions). However, the social charter underpins the NEEDS programme. It is aimed at all aspects of the people's socio-economic life with the aim of reducing poverty and inequality. Despite her great natural wealth, Nigeria is still considered poor and social development is limited. If the present trends continue, the country is not likely to meet the Millennium Development Goals. Under NEEDS, reforms are ongoing in the key sectors of the economy with the objective of poverty reduction through anti-poverty programmes and policies. The positive effects of the reforms are gradually impacting on the people and efforts should therefore be continued for their sustainability and continuity. The findings of the Poverty Profile for Nigeria Report (2003/2004) from the Nigeria Living Standard Survey 2003/2004 conducted by the National Bureau of Statistics (NBS) showed the positive impact of the recent government anti-poverty reforms. The findings showed declining poverty rates compared with past figures. Nevertheless, anti- poverty efforts must be sustained and accelerated for their impact to be felt.

In summary, various strategies have been adopted by Government of Nigeria over the years. Poverty alleviation has been an integral component of the country's development plans. Specialized agencies were established to promote the objective of poverty reduction. These include Agricultural Development Programmes, Nigerian Agricultural and Cooperative Bank (now NACRDB), National Agricultural Insurance Scheme, National Directorate of Employment, National Primary Health Care Agency, Peoples Bank, Urban Mass Transit, National Agricultural Land Development Agency, National Directorate for Food, Roads and Rural Development, and National Economic Reconstruction Fund.

Others are Better Life Programme, and Family Employment and Advancement Programme. In 1994, the Poverty Alleviation Programme Development Committee was established, which produced the Community Action Programme for Poverty Alleviation (CAPPA). As stated earlier, in 1999, the Poverty Alleviation Programme (PAP) was established, with the objective of creating 200,000 jobs annually. The programme, however, failed to have any appreciable impact on poverty reduction in the country, due to "state capture" and leakages, among other reasons. It was replaced in 2003 by the National Poverty Eradication Programme (NAPEP), with five main programme areas, as shown in Table 2.1. It is observed from the table that four of the programmes have employment components. It is estimated that since inception, NAPEP has been able to train 130,000 youths and engaged 216, 000 persons who are attached to various establishments (Olaniyan et al, 2005).

However, like the PAP, beneficiaries are largely non-poor. The conclusion from the foregoing is that in spite of the various programmes implemented to date, the incidence of poverty is still high and unemployment problem remains discouraging.

Table 2.1: Intervention Programmes of NAPEP

S/n	Programmes	Objectives	Target Groups
1	Capacity Acquisition Programmes	To train pry/secondary school leavers in vocational trades, to settle some prog. Graduates with micro credit	Pry. & sec. school leavers; disabled youths
2	Mandatory Attachment Programme	To attach graduates of tertiary institutions to public/private sector establishments for 2 years to enable them practice their profession and to enhance their employability in the labour market.	Graduates of tertiary institutions
3	Credit Delivery Programme	Give cash micro-credit to small scale entrepreneurs	Unemployed youths
4	Keke NAPEP	- Cerdit employment for drivers - Improved urban mass transit - Create market for spare parts dealers - Create jobs for mechanics	Drivers andunemployed youths
5	Vesico vaginal fistalae (VVF) Programme	- Treatment of VVF patents - Create awareness for prevention - Establish skill acquisition centers for VVF patents	Women

Source: Adapted from Aigbokan, 2008.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

3.1   Review of Related Literatures

A lot of studies have been done in the poverty measurement, as well as on poverty and its adjustment in developing countries. Some authors have argued that adjustment programmes have resulted in the reduction of poverty (Ravallion and Huppi 1991; Squire (1991), while others have argued that adjustment has increased the poverty level amongst the poor and other vulnerable groups. According to the World Bank (1990), poverty is the inability to attain a minimum standard of living and housing. The report maintained that whereas poverty is concerned with the absolute standard of living of a part of society, inequality refers to relative standards of living across the whole strata of society. Studies that measure poverty use household income and expenditures per capita as efficient yardstick for the standard of living as long as these include home production. In measuring poverty, it is usual to define a standard of consumption (poverty line) which must be reached if a person is not to be deemed poor (Ali, 1992). The most common approach in defining an absolute poverty line is to estimate the cost of a bundle of goods that is estimated to ensure that basic consumption needs are met. Ravillion (1992) contended that basically the most important component of the basic needs poverty line is the food expenditure necessary to attain the recommended food energy intake. This is then augmented by a modest allowance for non-food goods. This definition of a poverty line consists of two major elements: the expenditure necessary to buy a minimum standard of nutrition and other basic necessities, and a further amount that varies from country to country reflecting the cost of participating in the everyday life of society. The cost of minimum adequate calorie intakes and other necessities can be calculated by looking at the prices of the food that make up the diet of the poor.

Sen (1981) developed the entitlement approach to measure the average level of deprivation of the poor. This approach could be seen as concerned with the ability of people to command food, clothing and shelter through the legal means available in the society, including the use of production possibilities, trade opportunities, and entitlement compared with the state or other methods of acquiring the relevant commodity bundle that satisfies the desired minimum standard of living (Ali, 1992). The most important aspects of entitlement include exchange entitlement – the set of all alternative commodities bundles that can be acquired in exchange for what is owned. A person is deemed poor if the exchange entitlement set actually owned by him does not contain any feasible bundle which satisfies the required minimal standard of living. Also, if given ownership, the exchange entitlement can be shown to depend on earned income, asset income, prices of consumption goods, prices of producer goods, prices of inputs used and the government's social programmes and fiscal operations.

In understanding general poverty, it is necessary to look at both ownership structure and exchange entitlement, and the forces that lie behind them, since ownership depends on the economic class structure, as well as the modes of production in the economy. In line

with the World Bank (1990) definition of poverty, several studies have explored the relationship between poverty and adjustment. This has taken the form of constructing poverty lines before and after adjustment.

Ravallion and Huppi (1991), used the methodologies proposed by Kanbur (1987) and Kakwani (1990) to analyse changes in the incidence of poverty during an adjustment period in Indonesia. Using household survey data for the period 1984 to 1987, they found that aggregate poverty in Indonesia had decreased for both rural and urban areas, according to the analysis of both income distribution and consumption. They further concluded that the sectoral decomposition of the change in aggregate poverty indicate that gains to the rural sector were very important, whereas gains to the urban sector population shifts from the rural to the urban sector, increases in average real consumption and improvement in overall equity contribute to poverty alleviation. They attributed Indonesia's success in poverty alleviation during an adjustment period to the fact that although government consumption was cut, programmes which were of greatest benefit to the poor were protected. In addition, because of the predominance of poverty in the rural areas, the gains to the rural farm sector were crucial, and therefore, policy adjustments that favour that sector were important. Lastly, Indonesia's economic history was said to have created favourable conditions for maintaining the country's success in reducing poverty during an adjustment period; provided that modest and equitable growth in private per capita consumption could be maintained.

However, studies by Ali (1992), Kakwani (1990) and Killick (1995) obtained contrary findings. Ali (1992) attempted to establish the relationship between structural adjustment programmes and poverty creation in Sudan. He contends that there is increasing evidence that a negative relationship does not exist between poverty and adjustment. Using household survey data for the periods, 1968, 1978, and 1986, he used a modified version of Kanbur (1987) and Kakwani (1990) to investigate the impact of adjustment policies on poverty. He found that, during the period 1978-1986, poverty increased at fairly high rates which he attributes to the 'colossal undermining of the entitlements of the poor'. This is brought about as a result of trying to get prices right, resulting in the deepening and widening of poverty. He concluded that, in the context of adjustment policies, poverty alleviation is perhaps an impossibility' given that the implementation of poverty sensitive macroeconomic policies have been consistently sabotaged by uncooperative international organisation.

Ali (1995), however, extends the same methodology employed by Ali (1992) to investigate the challenge of poverty alleviation in Sub-Saharan Africa. He notes that information is lacking on the causation between structural adjustment and poverty on one hand, and the effect of economic growth on poverty on the other. He shows that estimates reported in the study do not exactly reflect the incidence, depth and the behaviour of poverty; and thus the effort required on the policy front to alleviate poverty. His results show that poverty in sub-Saharan Africa is a very serious problem as evidenced by the extremely low per capita incomes of the poor; that the majority of Africans are in poverty; and that the lot of the poor have worsened over time. He contended that the observed levels of poverty in the region are incremental to the secular

levels. Therefore a medium-term objective of any credible poverty alleviation policy should enable the region to regain its 1970 secular poverty levels. Such a strategy may, or may not be consistent with the currently dominant policy orientation of macroeconomic stabilization and adjustment.

Kakwani (1990) developed a methodology to measure separately the impact of changes in average income and income inequality on poverty. He applied this methodology to provide a link between structural adjustment policies and poverty in the context of the adjustment experience of Cote d'Ivoire, using living measurements survey data. The results showed poverty to be highly sensitive to economic growth and to decrease faster than the economic growth rate provided the growth process does not lead to an increase in income inequality. He also found that the core poor are considerably more affected by the changes in income inequality than by changes in mean income and that changing the terms of trade in favour of agriculture reduced poverty in the initial phase of adjustment. However, during the final phase of the adjustment period, (1986-1990), the poor bore the substantial cost of adjustment, as total poverty increased at an annual rate of 3.63 per cent. He also showed that with the same poverty budget, targeting can reduce the total poverty by more than 8 per cent compared with 10 per cent when there is no targeting.

Kellick (1995) argues that in spite of the many data and methodological problems, there are a few simple generalization about the effects of the adjustment programme on poverty. For instance, poverty groups, especially the urban working poor, are often harmed by adjustment programmes, but there has been a tendency to over-emphasize the outcome. The living standard of the poor can be eroded by the measures which raise the prices of consumer goods and services – devaluation, deregulations of prices and reductions in government subsidies for food and other items. Increases in indirect taxes introduced to reduce budget deficits are passed on in higher final prices, although the extent to which this affects the poor depends critically on the items on which taxes are increased. He cited studies that have found conflicting results. For instance, Indonesia and Malaysia exemplify adjustment accompanied by continued reductions in poverty. In Morocco, existing evidence indicates a beneficial effect on rural poverty and a worsening for many of the urban poor. In Tanzania, adjustment measures are claimed to have had the effect of narrowing the urban-rural income gap, with the urban poor bearing much of the burden. He concluded that to the extent that adjustment is associated with a worsening in poverty, this may be due to selection biases, motivated by a concern for the welfare of the vulnerable. In the long run, adjustment is essential for poverty eradication.

Demery and squire (1996) examined the relationship between macroeconomic adjustment and poverty in several African countries. They used results of previous studies to illustrate the relationship between poverty and growth on one hand and between poverty and inequality on the other hand. Their results indicate that changes in inequality and changes in mean income (economic growth) have worked in opposite directions in creating poverty. For almost all countries, the effects of changes in economic growth are negative, while the effect of changes in inequality on poverty is positive. They contend that the poor as a whole may benefit from growth despite worsening inequality, but the

bottom decile may see their incomes decline. It is also possible that changes in inequality protect the bottom decile when mean income is declining. They conclude that their analyses provide the most convincing evidence to date that economic reform is consistent with a decline in overall poverty and that a failure to reform is associated with increased poverty at the rate of population growth. They found a generally rising poverty incidence in both Latin America and Africa but a generally falling incidence in Asia.

Addison and Demery (1987) in their review of programmes that have tried to help the poor under structural adjustment argued that adjustment policies adversely affect the poor through reduction in real incomes and consumption as well as their influence on the distribution of incomes. They identified five broad approaches to assisting the poor namely: (a) raising their returns on assets; (b) improving their employment opportunities; (c) ensuring their access to education; (d) ensuring term access; and (e) supplementing their resources with transfers. The first four seek to improve the primary claims of the poor, while the last improves their secondary claims. They pointed out that, 'the advantage of a strategy that seeks to alleviate poverty by improving primary claims is that it can be broadly consistent with the objectives of structural adjustment' otherwise conflicts may arise. They conclude that the problems of the poor are likely to be exacerbated if measures to deal with the underlying causes of economic imbalances are postponed or if too much reliance is placed on further extension of trade and price controls. In addition, income distribution will inevitably change during adjustment.

Several studies have attempted to link adjustment, poverty and growth in developing countries. This is often done by regressing poverty on changes in mean income and comparing results for periods before and after adjustment. Ravallion and Datt (1996) assessed the importance of the sectoral composition of economic growth to India's poor. They used three measures to relate economic growth to poverty; (i) the mean consumption per person as estimated by the national sample survey organization data, (ii) the mean consumption per person as estimated by the national accounts; population census; and (iii) the mean income per person (from national accounts and census).

Elasticities of poverty measures with respect to these measures of economic growth were estimated by regressing the difference of the log poverty measure against the first difference of log mean consumption (or income). Their result showed that national poverty measures responded to all three measures of economic growth. They concluded that the relative effect of growth within and between each sector reinforced the importance of rural economic growth to national poverty reduction in India. Both the urban and rural poor gained from the rural sector growth while urban growth had adverse distributional effects within urban areas, which militated against the gains to the urban poor. Urban growth had no discernable impact on rural poverty. To reduce poverty in India it is essential to foster conditions for growth in the rural economy.

Ravallion and Datt (1995) used 20 household surveys for rural India for the years 1958-1990 to measure the impact of growth on poverty. They regressed poverty measures against mean consumption in order to test whether the poor shared in growth. Their results indicate that measures of absolute rural poverty responded elastically to change in

mean consumption. Agricultural growth had no discernable impact on the share of total consumption of the poor. For the rural poor, they attributed the long-term gains from growth to higher average farm yields, which benefited poor people both directly and through higher real agricultural wages. Both the non-poor and the poorest also benefited from the higher yields.

Kakwani (1990) examined the relationship between poverty and economic growth using living standards survey data from Cote d'Ivoire. He argued that the relationship between change in poverty and economic growth has not been thoroughly investigated, but evidence reveals that countries with a high concentration of the poor have also experienced lower growth rates. He investigated the impact of economic growth on poverty empirically through separately measuring the impact of changes in average income and income inequality on poverty. He used elasticities of various poverty measures of the impact of growth on poverty when the distribution of income does not change. His results showed that poverty is highly sensitive to economic growth and should decrease faster than the economic growth rate, provided the growth process does not lead to an increase in income inequality. If inequality deteriorates during the course of a country's economic growth, then poverty may even increase because the poverty measures were found to be considerably more elastic for changes in inequality.

In the literatures, there is a consensus among many authors such as Son and Kakwani (2006), Christopher Muller (2006), that people differ in terms of needs and that prices play an important role in individual consumption pattern. Changes in prices of goods affect purchasing power of the poor, notably in less developed countries where most of the poor live and where price dispersion can be large. Generally, price change has been emphasized as an important factor that influences the level of undernourishment in the world, and particularly in Sub-Saharan Africa, South Asia and China where there are four out of every five under-nourished people in the developing world. The 2008 UNDP report revealed that Africa continent with a population of 900million people now has 315 million people currently living on less than $1 a day. According to Williams et al (2008) different groups will be affected differently by rising food prices. The net effect of food price increases on poverty would be negative. There is a clear and present danger that rising food prices will push large numbers of households back below the poverty line. Higher prices will put upward pressure on the cost of living and thus lower the overall standard of living. If food prices increased and people's nominal expenditure had not changed, then the number of poor would increase. Increases in prices would reduce people's real expenditure and thus increase the number of poor.

Son and Kakwani (2006a) developed a methodology to measure the impact of price changes on poverty in Brazil covering the period 1999 to 2006. The impact was measured by an entire class of additive separable poverty measures. They captured impact of price changes on poverty by means of price elasticity of poverty. Total effect of changes in prices on poverty was explained in terms of two components. The first component is the income effect of the changes in price and the second is the distribution effect which was captured by price changes. It is the distribution effect which determines whether the price changes benefit the poor proportionally more or less than the non-poor. The authors also

derived a new price index for the poor (PIP). While this index can be captured for any poverty, empirical analysis by the authors was applied to Brazil and it was based on three poverty measures, the headcount ratio, the poverty gap ratio and the severity of poverty. Hyun H.S. and N. Kakwani (2006a) found that price changes in Brazil during the 1999 to 2006 period have occurred in a way that favours the non-poor proportionally more than the poor. Nevertheless, during the last 2-3 years, the price changes have favoured the poor relative to the non-poor. The methodology for the study was based on consumer demand theory.

Similarly, Son and Kakwani (2006b) developed another methodology to compute social cost of living indices. These indices indicate whether or not price changes have a favourable (or unfavourable) impact on the welfare of the poor. The indices are derived on the basis of two alternative classes of social welfare functions. The methodology developed was applied to compute social cost of living indices for Thailand and Korea. The empirical results show that changes in prices have generally affected the poor more adversely than the non-poor.

Azzoni et al (2006) provided an empirical estimate of the impacts of changes in international prices of agricultural commodities on income distribution and poverty in Brazil. The Authors postulated that impacts of agricultural policy and structural reforms leading to changes in prices of goods and services are expected to be differentiated across households and producers, depending on how they are involved in the circular flow of goods and services within the country of residence.

Considering the supply side, units producing commodities facing price increases in the markets will benefit, since their product will become more valuable; those using imported inputs whose prices increased as a result of structural reforms will lose. As for households, those working in sectors with increased market prices could experience income gains, and those working in other sectors could be unaffected in terms of income. However, since some prices would rise, households not working for gaining sectors could suffer a decrease in real income. A general price increase could also result, thus affecting all sorts of households. Therefore, changes in market prices are expected to produce important changes in income distribution in countries involved in international trade. On the basis of the foregoing, Carlos Azzoni et al (2006), applied a Social Accounting Matrix, using the Leontief-Miyazawa model framework to estimate impacts of changes in international prices of agricultural commodities on income distribution and poverty in Brazil. A 38-sector Input –Output Table was used, highlighting 19 food products, 17 agricultural; 12 manufactured. Households were allocated to 10 groups, 6 agricultural (4 types of family farmers, commercial farmers, and agricultural labor), and 4 urban (income quartiles). Demand elasticities for food products were considered, as well as limitations on the supply of agricultural inputs (input supply elasticities).

Azzoni et al (2006), confirmed that family farmers will suffer higher drops in production value than commercial farmers in Brazil. Poor urban households will suffer the highest income decrease, even higher than the poorest family farmers. Given a 5% decrease in the internal prices of rice and beans, total real income will increase by 0.07% in the case of rice, and .04% in the case of beans. In general, the impacts of changing the price of

rice are higher than for beans, given its higher share in household budgets. The impacts are clearly differentiated across household types. For beans, urban household benefit the most, but for rice the rural ones are better off. Commercial farmers have their income decreased by lower selling prices, and since they consume a small amount of their budgets on rice and beans and food in general, their benefits in reduced buying prices do not compensate their losses in production

In Uganda, Bussolo et al (2006) carried out an impact analysis of commodity price changes on rural households with particular emphasis on the case of coffee. Using data from three household surveys covering the 1990s, these authors confirmed a strong correlation between changes in coffee prices in a liberalized market and poverty reduction. This was clearly highlighted by comparing the performance of different households grouped according to their dependence on coffee farming. Regression analysis based on pooled data from three surveys of consumption expenditure on coffee-related variables, other controls and time fixed effects, corroborates that correlation between price changes and poverty is not spurious. They also found that while both poor and rich farmers enter the coffee sector, the price boom benefits relatively more the poorer households, whereas the liberalization seems to create more opportunities for richer farmers. Notwithstanding the importance of the coffee price boom, the agricultural policy framework and the thorough structural reforms in which the coffee market liberalization was embedded have certainly played a role in triggering overall agricultural growth in Uganda. These factors appear to matter especially in the second half of the 1990s when prices went down but poverty reduction continued in the country.

Most government policies have a direct and indirect impact on the prices of different commodities. For instance, in many countries, the government provides services in the areas of health, education, utilities and transportation, for which charges are made to private users. In the formulation of such price policies, it is important to know how changes in the prices of these services have an impact on the poor. *The knowledge of the possible impacts of changes in commodity prices on income distribution and poverty is very important for policy design within Nigeria where such knowledge has not been properly articulated by previous studies. This is the gap in literatures that this present study would address. Accurate knowledge and understanding of the actual impacts of price changes on poverty in Nigeria is important so as to provide guidance to policy makers and implementers on designing cushioning policies that would reduce poverty in the country.*

Therefore in this proposed study we would apply a pro-poor price index developed by Son and Kakwani (2006) which would help us to understand how changes in the price of each consumption item would affect the distribution of income. This index would be useful in the formulation of governments' price policies to have the least adverse impact on the poor in Nigeria. According to Son and Kakwani (2006), the percentage change in poverty due to price changes can be decomposed into two components, income and distribution effects. The income effect measures the change in poverty when all prices increase uniformly, whereas the distribution effect captures the 'change in poverty because of changes in relative prices. The distribution effect reveals how the changes in

relative prices have affected the poor relative to the non-poor. To measure trends in poverty, a common method is to update the poverty line over time using the Laspeyres price index, which uses the average budget shares as the weights. This index is not relevant to determining the price changes of goods and services bought by the poor. This study would adapt a price index for the poor (PIP), which captures systematically the consumption patterns of the poor by means of price elasticity of poverty. The level of government assistance rendered to the poor, as well as poverty rates, would be expected different if it used a price index specifically designed to reflect the spending patterns of the poor.

3.2 Theoretical/Conceptual Framework

3.2.1 Review of Relevant Theories

Emphasis on poverty alleviation through increased output and enhanced income that existed in the past has over the years been downplayed for the more critical basic needs satisfaction. The basic needs approach emphasizes the importance of separating generalized increases in income from the more significant attainment of the requirements for a permanent reduction of poverty. The requirements for a permanent reduction in poverty include improvements in health, regular access to nutritional food, more education, and better and affordable shelter. The importance of the basic needs approach to economic growth and poverty alleviation hinges on the fact that the poor are neither producers nor direct income earners, and most importantly, they are unable to finance their basic needs requirements. Such needs have to be financed through public expenditure before the beneficiaries are empowered through appropriate policies to generate enough income to enable them move above the poverty level and contribute to economic growth. The issue of basic needs concerns finding a solution to mass deprivation. This approach is necessary for the improvement of the income earning capacity of the poor, and also to ensure that public services reach the poor and that the flow of goods and services satisfy the needs of all household members.

Earlier schools of thought on economic development were based on the theory that with growth, poverty will be alleviated. The so called U-shaped Kuznets curve was based on income inequity at the take-off stage of economic growth. The basic needs approach is an attempt to address the income problem, with a heavy reliance on the trickle-down effect of economic growth to determine the poverty level of the society. The most significant attack on the income approach is that there are certain basic needs like education and health that cannot be efficiently provided without public sector support.

3.2.2 Concepts and Measurement of Poverty

Poverty is multi-faceted. It is characterized by a lack of purchasing power, exposure to risk, insufficient access to social and economic services and limited opportunities for income generation. Apparently, no single indicator can measure adequately all

dimensions of the hardship people in poverty face. Measurement of poverty has been one of the controversial issues treated in the existing literature on poverty alleviation. The pioneer study undertaken by Sen (1976), has shown the progress that has evidently been made in developing indices that meet certain ethically accepted properties. The measurement of poverty and its conceptualization are strongly linked. If poverty is viewed as the problem of the poor alone, and as having nothing to do with the well-being of the non-poor, then the measurement of poverty is expected to be invariant with the status of the non-poor (see Sen, 1981). Similarly, the specific index chosen usually reflects the view of the researcher on a certain aspect of poverty. Sen's (1976) index of poverty is further considered below.

An income distribution pattern, defined as, Y, of individual i in a given group such that:

$$(Y_1 = Y_2 \quad .. \quad = Z_q = Y_{(q+1)} \quad = Y_n) \qquad (1)$$

Where, Z is defined as the poverty line income, which is used to draw a line between individuals that are poor and those that are non-poor. In general, group poverty can be measured using alternative properties which are also able to capture the attributes of the poor. The earliest measure of poverty identified is the head count ratio which is defined as:

$$H = q/n \qquad (2)$$

H defines the proportion of the people whose income level is below the poverty line, Z. This measure only tells us how many poor there are in the group, it does not tell us their level of poverty. This aspect of poverty is effectively captured by what is known as the income-gap ratio. It is defined as:

$$(3)$$

$$I = \sum_{i=1}^{q} \frac{(Z - Y)}{Z}$$

The poverty indices given by (2) and (3) have certain limitations in that they indicate only how many poor there are in a community and how much poverty exists. If used separately, these measures miss a significant amount of information that might be expected to capture poverty in full. If, in addition, one wishes to include the extent of deprivation amongst the poor, then, both H and I cease to be appropriate poverty indices. These limitations of H and I initiated further study by Sen (1976), which suggested a poverty measure given by:

$$S = H (I + (1 - I) G) \qquad (4)$$

Where, G is the Gini coefficient of the income distribution among the poor. Thus, S includes information on the number of poor people, and the measure of absolute poverty that exists, as well as the measure of relative deprivation among the poor. Subsequent to

A poverty index that has generated an immense amount of interest and has been extensively applied in recent studies is one that belongs to a class of decomposable, sub-groups consistent poverty indices as suggested by Foster, Greer and Thorbecke (1984). The general form is given by:

$$P = \frac{q}{n} \sum_{i=1}^{q} \frac{(Z-Y)}{Z} a \qquad (5)$$

In analyzing poverty, particularly in the quantitative realm, it has become customary to use the P-alpha measures proposed by Foster, Greer and Thorbecke (1984).
The Foster-Greer- Thorbecke (FGT) Index is based on a single mathematical formulation as follows:

$$Pa = \frac{1}{n} \sum_{i=1}^{q} \frac{(Z-Yi)}{Z} a$$

Where:
    Z = the poverty line
    q = the number of individuals below the poverty line
    N = the total number of individuals in the reference population
    Yi = the expenditure of the household in which individual i lives
    a = 0 the FGT index (takes on the values 0,1,2…)

This is a comprehensive measures of poverty because of its reliance on both quantitative and qualitative measures. This contains three types of measurement – the number of poor people, the gap between rich and poor and the severity of poverty. These are called the head count index, PO, the poverty gap index, P1, and the poverty severity index, P2. These measures relate to different dimensions of poverty by assigning different weights to the degree to which a household or individual in a country falls below the poverty line. *The poverty line based on a money metric approach is the total income (expenditure) that is sufficient to sustain basic subsistence (food and non food). It is measurable in absolute and relative terms. (Canagarajah et. al.,1997). The measures in aggregate denote the incidence of poverty, i.e., the prevalence of poverty, the depth of poverty, and the severity of poverty respectively.*

Decomposability of a poverty index implies that if there are 'n' mutually exclusive groups of people, it is then possible to measure poverty in each sub-group and to compute the magnitude of poverty contributed by each sub-group to the total level of poverty. This property of a poverty index has been a major contributor to its popularity. If a value of 1 is assigned to a, then the FGT measure of poverty reduces to H and H1 measures of poverty discussed earlier.   In terms of interpretation, H measures the incidence of

poverty, H1 measures its intensity and the FGT for a = 2 measures the severity of poverty (Ravallion, 1992).

In terms of the dynamics of poverty over time, Datt and Ravallion (1991) also proposed a simple decomposition for any change in measured poverty which allows one to rigorously quantify the relative importance of growth versus redistribution. The change in poverty is decomposed as the sum of a growth component (the change in poverty that would have been observed if the Lorenz curve had not shifted), a redistribution component (the change that would have been observed if the mean had not shifted), and a residual (the interaction between growth and redistribution effects).

The change in poverty between period 1 and 2 is decomposed as follows:

$$P_2 - P_1 = G(1,2;r) + D(1,2;r) + R(1,2;r)$$
$$\text{Growth} \qquad \text{redistribution} \qquad \text{residual}$$
$$\text{component} \qquad \text{component}$$

In which the growth and redistribution components are defined by:

$$G(1,2;r) = P(z/ \mu2, Lr) - P(z/ \mu1, Lr)$$
$$G(1,2;r) = P(z/ \mu r, L2) - P(z/ \mu r, L1)$$

where:

Z	=	the poverty line
μ	=	the mean of the distribution on which poverty is measured
L	=	list of parameters fully describing the Lorenz curve of that distribution,
r	=	the reference date with respect to which the observed change in poverty is decomposed

This analysis is useful for isolating how much of a change in poverty can be attributed to changes in the distribution of living standards as distinct from growth in average living standards. This is also of interest in view of the growing debate on poverty, growth and equity.

An acceptable measure for international comparison of poverty is purchasing power parity (PPP). It is recognized that the different countries have defined poverty differently and therefore comparison between countries can be difficult. For instance, people at local poverty lines tend to have higher purchasing power in rich countries than in poor countries, where more generous standards are used. The real value of the poverty line set as $1 a person per day in 1985 international prices and adjusted to local currency using exchange rates aimed at assuring purchasing power parity for consumption. Currency conversion, cost of living differentials, choice between income and consumption, household size and composition and valuation of own produced goods and services are some of the issues/problems in the international comparison of poverty data.

METHODOLOGY AND SCOPE OF THE STUDY

4.1 Methodology

In this study, the methodology to be adopted is coined and modified from the methodology adopted by Son and Kwakwani (2006) to analyse the impact of price changes on poverty in Brazil. In their study, an entire class of additive separable poverty measures was used to measure the impact of price changes on poverty. These additive separable poverty measures are - head-count ratio, poverty gap ratio and severity of poverty. The impact of price changes on poverty is captured through these three additive variables.

4.1.1 Poverty Measures

Suppose income x of an individual is a random variable with density function f(x) and if z is the poverty line of this individual, then a class of (additive separable poverty measures can be written as

$$\theta = \int_o^z p(z, x)f(x)dx \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

where P(z, x) can be interpreted as the deprivation suffered by an individual with income x, which takes the value of zero if x= z and positive otherwise. This suggests that an individual suffers deprivation only if his or her income is below the poverty line. The poverty measure θ is the average deprivation suffered by the whole society.

According to Son and Kwakwani (2006), Foster, Greer and Thorbecke's (1984) class of poverty measures are obtained when we

substitute $P(z.x) = \left[\dfrac{z-x}{z}\right]$ in (1), then it yields:

$$\theta a = \int_o^z \left[\frac{z-x}{z}\right]^a f(x)dx \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

where a is the parameter of inequality aversion. When a = 0, $\theta_0 =$ **H**, the head-count measure. This measure gives equal weight to all poor irrespective of the intensity of poverty suffered by them. When a = 1, each poor individual is weighed by his or her income shortfall from the poverty line. This measure is called the poverty gap ratio. For a = 2, the weight given to each poor person is proportional to the square of the income shortfall of the poor from the poverty line. This is called the 'severity of poverty measure'. We shall attempt to calculate the impact of price changes on these three poverty measures in Nigeria.

4.1.2 Price Elasticity of Individual Money Metric Utility

Suppose that $\mathbf{p}$ is a m x l price vector in the base year, which changes to the price vector $\mathbf{p'}$ in the terminal period.

Following that, we want to know how this change will affect an individual's real income (or expenditure). To answer this question, we consider the expenditure function e (u, $\mathbf{p}$), which is the expenditure required to obtain u level of utility when the price vector is $\mathbf{p}$. The real income of the individual with income x will change by:

$$?x = - [e\,(u,\,\mathbf{p^*})\text{-}e\,(u,\,\mathbf{p})] \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

which on using Taylor expansion gives:

$$? x = - \sum_{i=1}^{m} (p_i{}^*\text{- } p_i)\, q_i\,(x) = ?\sum_{i=1}^{m} ?\, p_i q_i(x) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

where $q_i\,(x) = \dfrac{?e(u,\,p)}{?p_i}$ is the demand for the *i*th commodity by the individual with

income x.

This equation implies that the change in money metric individual welfare is equal to the change in the cost of the consumption basket due to the change in prices. It is easy to show from (4) that the elasticity of the individual money metric utility with respect to the *i*th price is given by

$$\frac{?x}{?p_i}\ \frac{p_i)}{x}\ = -\ \frac{p_i\, q_i(x)}{x}\ = -w_i(x)\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(5)$$

where $w_i\,(x)$ is the budget share of the *i*th commodity at income level x. This equation implies that if the price of the *i*th commodity increases by 1 percent, the real income (money metric individual utility) x will decline by $w_i\,(x)$ percent. This result will be used in the next section to derive the poverty elasticity with respect to prices.

4.1.3 Price Elasticity of Poverty

To begin with, we derive the elasticity of the head-count ratio with respect to the *i*th price. The head-count ratio can be written as

$$H = \int_{o}^{z} ?(x)\, dx\ = F(z) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..(6)$$

where F(z) is the probability distribution function at the income level equal to the poverty line z.

Suppose _u is the utility level enjoyed by a person with income equal to the poverty line z when the price vector is **p**.

Following that, we can write

$$z = e\,(\_u, p) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(7)$$

which on differentiating with respect to p_i gives

$$\frac{?z}{?p_i}\ \frac{p_i}{z}\ = -p_i\, q_i(z) = w_i(z) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(8)$$

where $w_i(z)$ is the budget share of the *i*th commodity at the poverty line. On differentiating (6) with respect to p_i, we obtain the elasticity of the head-count ratio with respect to p_i as

$$p_H = -\frac{?H}{?p_i}\ \frac{p_i}{H}\ = zf(z)w_i(z)\ \frac{}{H}\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(9)$$

The interpretation of this elasticity is that if the price of the *i*th commodity increases by 1 percent, the head-count ratio H will increase by p_H percent. If all prices increase by one percent, then H will increase by p_H percent, where p_H is given by

$$p_H = \sum_{i=I}^{m} p_{Hi} = z\frac{f(z)}{H}\ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(10)$$

p_H may be called the total head-count elasticity. This measures the impact of the head-count ratio when all prices increase by 1 percent.

Next, we derive the price elasticity of poverty for the entire class of poverty measures defined in (1). Differentiating (1) with respect to p_i and using (5), we obtain

$$p_{\theta i} = \frac{?\theta}{?p_i}\ \frac{p_i}{\theta}\ = -\frac{1}{\theta}\int_o^z\ \frac{?P}{?x}\ xw_i(x)\, f(x)\, dx \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(11)$$

This elasticity has a similar interpretation as the elasticity of the head-count ratio: if the price of the *i*th commodity increases by 1 percent, the poverty measured by θ will increase by $p\theta$ percent. If all prices increase by one percent, then θ will increase by $p\theta$ percent, where $p\theta$ is given by

$$p_{\theta i} = \sum_{i=1}^{m} p_{qi} = -\frac{1}{\theta} \int_0^z \frac{\partial P}{\partial x} \, xf(x)\, dx \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (12)$$

which is the total poverty elasticity and where m is the total number of commodities.

Substituting $p(z, x) = \left[\dfrac{(z - x)}{x}\right]^a$ into (11), the poverty elasticity of the FGT class of

poverty measures is given by

$$p_{a i} = \frac{\partial \theta_a}{\partial p_i} = \frac{a}{\theta} \frac{p}{\theta_a} \left[\int_0^z \left(\frac{z-x}{z}\right)^{a-1} w_i(x)\, f(x)\, dx - \int_0^z \left(\frac{z-x}{z}\right)^a w_i(x) f(x)\, dx \right] \dots\dots\dots (13)$$

for a $\geq$ 0. Summing over all commodities, this equation gives the total elasticity of the FGT measures as

$$h_a = \sum_{i=1}^{m} h_{\Theta i} = \frac{a}{\Theta_a}\left[\Theta_{a-1} - \Theta_a\right] \qquad (14)$$

4.1.4 Measuring the Impact of Prices on Poverty

Since x = e(u, **p**), the poverty measure in (1) can be written as

$$\theta(p) = \int_0^z p(z, e(u, \mathbf{p}))\, f(e(u, \mathbf{p}))\, de(u, p)$$

which shows that $\theta(p)$ is a function of price vector **p**. When the price vector **p** changes to **p'**, the poverty measure $\theta(\mathbf{p})$ will change to $\theta(\mathbf{p^*})$. Accordingly, the proportional change in poverty due to the change in prices will be given by $\dfrac{\Theta(p^*) - \Theta(p)}{\Theta(p)}$ which on applying Taylor expansion can be approximated as:

$$\frac{\Theta(p^*) - \Theta(p)}{\Theta(p)} = \sum_{i=1}^{n} \left(\frac{P_i^* - P_i}{P_i}\right) h_{\Theta i} \qquad (15)$$

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where pa is the elasticity of θ with respect to the price of the ith commodity as defined in (11). The term on the right hand side of (15) measures the impact of the change in prices on poverty.

How can we measure whether changes in prices are pro-poor or anti-poor? To answer this question, we decompose the elasticity pa into the sum of two components:

$$h_{\Theta i} = \bar{w} h_{\Theta} + (h_{\Theta i} - \bar{w} h_{\Theta}) \qquad (16)$$

where

$$\bar{w} = \frac{\int\limits_{0}^{\infty} x w_i(x)\, f(x) dx}{\int\limits_{0}^{\infty} x f(x) dx}$$

is the average budget share of the ith commodity. The first term on the right hand side of (16) is the income effect of the ith price change, which is always positive. The second term on the right hand side of (16) is the distribution effect of the ith price change, which can be either negative or positive. It is the distribution effect that tells us whether an increase in the ith price redistributes income in favor of the poor or the non-poor. If the distribution effect is negative (or positive), the increase in the ith price redistributes income in favor of the poor (or non-poor). This leads us to propose a pro-poor price index as

$$j_i = \frac{h_{\Theta i}}{\bar{w} h_0} \qquad (17)$$

If T_i is less than 1, an increase in the ith price hurts the poor proportionally less than the non-poor, that is, the price increase in the ith commodity is pro-poor. Similarly, if T_i is greater than 1, then the ith price increase is anti-poor. Thus, T_i can be used to analyze how changes in the prices of different commodities would affect poverty.

To measure the impact of prices on poverty, we substitute (16) into (15). This leads to the total effect of the changes in prices on poverty, which is the sum of two components:

$$\sum_{i=1}^{m} \left(\frac{P_i^* - P_i}{P_i} \right) h_{\Theta i} = \sum_{i=1}^{m} \left(\frac{P_i^* - P_i}{P_i} \right) \bar{w} h_{\Theta} + \sum_{i=1}^{n} \left(\frac{P_i^* - P_i}{P_i} \right) \left(h_{\Theta i} - \bar{w}_i h_{\Theta} \right) \quad (18)$$

The first term on the right hand side of (18) measures the impact of prices on poverty under a counter-factual situation when all prices had increased at the same rate. The second term on the right hand side of (18) measures the impact of changes in relative

prices on poverty. The relative changes in prices are pro-poor (or anti-poor) if the second term on the right hand side of (18) is negative (or positive).

4.2   Estimation Techniques and Data Requirements

This study covers all the various classes of consumers as well as different types of goods consumed (necessities and luxuries). In particular, household data from the Annual Household Survey from the National Bureau of Statistics was used. The analysis covers incomes and consumption expenditures of the household. Nigeria's statistical agency, National Bureau of Statistics, has conducted several households' survey. The more nationally representative surveys were conducted in 1980, 1985/86, 1992/93, and 1996/97. The latest is the living standard survey 2003/2004. Data on poverty analysed in this report are based on these surveys and from other reports such as the Mid Point Assessment of the MDGs in Nigeria prepared by the Nigerian Institute of Social and Economic Research (NISER) and the Central Bank of Nigeria Statistical Bulletin. The six goe-political zones were covered. These zones are – Northeast, Northwest, Northcentral, Southeast, Southwest and Southsouth.

The data were used to compute the both price changes and changes in the level of poverty. Also, the price elasticicity of poverty was computed using these data set. Already the consumer price index was computed by the NBS. The computed price index is decomposed into food and non-food as well as rural and urban. This computed price index is analysed to ascertain whether changes in price is pro-poor or not. The commodity groups is broken into food and non –food items.

4.3   Scope of the Study

The scope of the study covers the period 1980 to 2006. The period is limited to 2006 because of data limitation. The available data stops in 2006.

EMPIRICAL ANALYSIS AND DISCUSSION

5.1   Introduction

In this section, a comprehensive empirical analysis is presented. All the three additive measures of poverty are analysed as computed by the NBS. These measures are the Incidence of Poverty (frequently termed as P_0), poverty gap (P_1) and poverty severity (P_2). P_1 is a measure of the average expenditure of those below the poverty line. P_2 focuses on the degree of dispersion in the distribution of the individuals lying below a pre-determined poverty line "P_o" for a given mean "P_1" for a given mean expenditure. Further, an empirical analysis of the price elasticity of poverty is carried out to show how changes in price affect the level of poverty in Nigeria. The analyses also cover the effects of price changes on consumption.

5.2   National Poverty Trends

Based on the underlying data from the NBS, the national poverty rates computed for the five different years are as follows: 28.1percent (1980), 46.3 per cent (1985), 42.76 per cent (1992), 65.6 per cent (1996) and 54.4 per cent for 2004. Poverty incidence in the country recorded increases between the period 1980 and 1985 and between 1992 and 1996. The results also show appreciable decrease in poverty rates between 1985 and 1992 and between 1996 and 2004. Even with the drop in poverty rates, the population in poverty has maintained a steady increase from 17.7 million in 1980 to 68.7 million in 2004 (NBS, 2004).   Figure 5.1 illustrates the trends in poverty during this period.

Table 5.1: Spread and Trend in Poverty Levels

Levels	1980	1985	1992	1996	2004
NATIONAL	**27.2**	**46.3**	**42.7**	**65.6**	**54.4**
Urban	17.2	37.8	37.5	58.2	43.2
Rural	28.3	51.4	46.0	69.3	63.3
ZONE					
South- South	13.2	45.7	40.8	58.2	35.1
South East	12.9	30.4	41.0	53.5	26.7
South West	13.4	38.6	43.1	60.9	43.0
Nort h Central	32.2	50.8	46.0	64.7	67.0
North East	35.6	54.9	54.0	70.1	72.2
North West	37.7	52.1	36.5	77.2	71.2
SIZE OF HOUSEHOLD					
1	0.2	9.7	2.9	13.1	12.6
2 – 4	8.8	19.3	19.5	51.5	39.3
5 – 9	30.0	50.5	45.4	74.8	57.9
10 – 20	51.0	71.3	66.1	88.5	73.3
20+	80.9	74.9	93.3	93.6	90.7
EDUCATIONAL LEVEL					
HOUSEHOLD HEAD					
No Education	30.2	51.3	46.4	72.6	68.7
Primary	21.3	40.6	43.3	54.4	48.7
Secondary	7.6	27.2	30.3	52.0	44.3
Higher than Secondary	24.3	24.2	25.8	49.2	26.3

Source: *Underlying Data from (NBS)*

Table 5.2: Trends in Poverty Levels 1980-2004

Year	Poverty Incidence	Estimated Total Population	Population in Poverty
1980	28.1	65 m	18.26 m
1985	46.3	75 m	34.73 m
1992	42.7	91.5 m	39.07 m
1996	65.6	102.3 m	67.11 m
2004	54.4	126.3 m	68.70 m

Source: *Underlying Data from (NBS)*

Figure 5.1: Trends in Poverty Levels (1980-2004)

An extension of the analysis to a two level analysis shows that the proportion of the core poor increased from 6.2 per cent in 1980 to 29.3 per cent in 1996 and then came down to 21.8 per cent in 2004. For the moderately poor the picture is quite different as the proportion recorded increased between 1980 and 1985 from 21.0 per cent, 34.2 per cent, and 1992 and 1996 28.9 per cent to 36.5 per cent but decreased during the periods 1985 and 1992 from 34.2 per cent to 28.9 per cent and 1996-2004 from 36.3 per cent to 32.4 per cent.

Table 5.3: Percentage Distribution of the Population in Poverty (using two boundaries)

Year	Core Poor	Moderately Poor	Non-Poor
1980	6.2	21.0	72.8
1985	12.1	34.2	53.7
1992	13.9	28.9	57.3
1996	29.3	36.3	34.4
2004	22.0	32.4	43.3

Source: *Underlying Data from (NBS)*

5.3   Poverty Measures in Nigeria
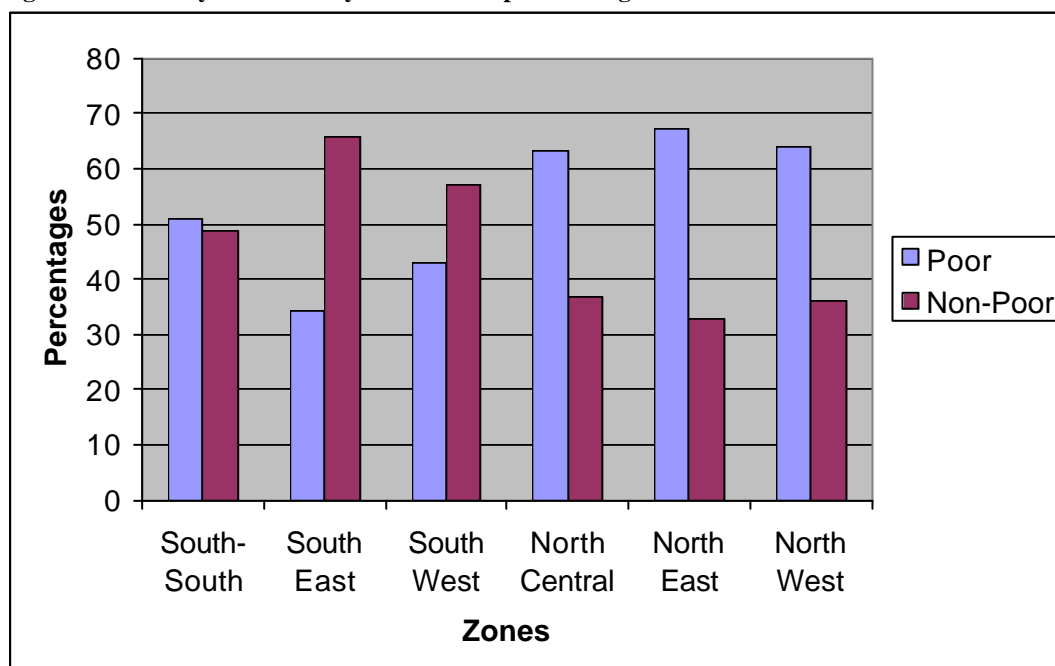
5.3.1   Poverty Incidence

The table and the graph below illustrate the incidence of poverty by urban/rural sector and geographic zone. The results show that, on a zonal basis, Northeast zone had the highest poverty incidence with 67.3 per cent followed by the Northwest with 63.9 per cent while the lowest poverty rates were recorded for Southeast at 34.2 per cent followed by Southwest with 43.0 per cent. Poverty rates for the Southern states fell below the national average. The northern zones clearly have poverty incidence above the national rate.

Table 5.4:   Poverty Incidence by Sector and Zone

	Poor	Non-Poor
Sector		
Urban	43.1	56.9
Rural	63.8	36.2
Total	**54.7**	**45.3**
Zone		
South-South	51.1	48.9
South East	34.2	65.8
South West	43.0	57.0
North Central	63.3	36.7
North East	67.3	32.7
North West	63.9	36.1
Total	**54.7**	**45.3**

Source: *Underlying Data from (NBS)*

Figure 5.2: Poverty Incidence by Zone due to price changes

At the national level the poverty rate was given as 51.6 per cent, while 48.5 per cent was non-poor. In the urban the rate of poverty was calculated to be 40.1 per cent while in the rural areas, the incidence of poverty was 60.6 per cent.

The results of the analysis as presented in Table 5.5 shows that the Northeast zone had a higher incidence of poverty as a result of price changes. The Northeast zone is followed by Northwest and Northcentral zones. For the Southern zone, poverty incidence increased from 1980 to 1996, but dropped in 2004, apart from the South-south zone that had a drop in 1992.

Table 5.5: Trends in Poverty Level by Zones Due to Price Changes, (1980-2004)

Zone	1980	1985	1992	1996	2004
South South	13.2	45.7	40.8	58.2	35.1
South East	12.9	30.4	41.0	53.5	26.7
South West	13.4	38.6	43.1	60.9	43.0
North Central	32.2	50.8	46.0	64.7	67.0
North East	35.6	54.9	54.0	70.1	72.2
North West	37.7	52.1	36.5	77.2	71.2

Source: *Underlying Data from (NBS)*

Table 5.6: Double Poverty Line Table by Zone Due to Price Changes

| Zone	Core Poor		Moderate Poor		Non-Poor	
	1996	2004	1996	2004	1996	2004
South South	23.4	17.0	34.8	18.1	41.8	64.9
South East	18.2	7.8	35.3	19.0	46.5	73.3
South West	27.5	18.9	33.4	24.2	39.1	57.0
North Central	28.0	29.8	36.7	37.2	35.4	33.1
North East	34.4	27.9	35.7	44.3	29.9	27.8
North West	37.3	26.8	39.9	44.4	22.8	28.8

Source: *Underlying Data from (NBS)*

Table 5.7: Dollar per day based on PPP by sector and zone Due to price changes

Sector	Poor	Non-Poor
Urban	40.1	59.9
Rural	60.6	39.4
Total	**51.6**	**48.5**
Zone		
South-South	47.6	52.4
South East	31.2	68.8
South West	40.2	57.8
North Central	58.6	41.4
North East	64.8	35.2
North West	61.2	38.8
Total	**51.6**	**48.4**

Source: *Underlying Data from (NBS)*

Figure 5.3: Dollar per day based on PPP by zone
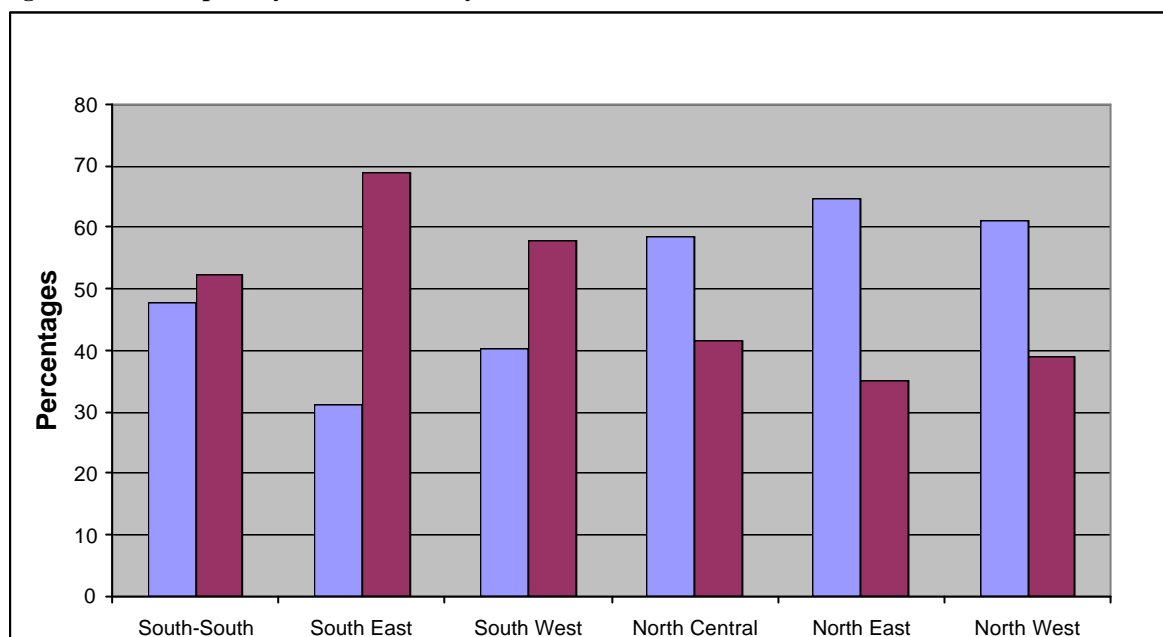
As in the previous analysis, the zones display the same patterns. The Northeast recorded the highest poverty incidence as a result of price changes with 64.8 per cent followed by Northwest 61.2 per cent. The Southeast recorded the lowest poverty rate with 31.2 per cent followed by Southwest with 40.2 per cent.

Sectoral analysis of incidence of poverty is illustrated in Table 5.8. It can be seen that for each year, poverty incidence has predominated in the rural areas. This finding of this study is in support of earlier findings that poverty in Nigeria is more of rural than urban. Further, taking all the years together, there has been cyclical pattern of movement of poverty incidence in both urban and rural areas, in the period 1980-2004. Though the fall in poverty in the urban areas for the period, 1985 and 1992, was not significant (37.8 per cent, 37.5 per cent), it was quite significant for the rural sector (51.4 per cent and 46.0 per cent during the same periods, 1985 and 1992).

Table 5.8: Relative Poverty Incidence by Sector (1980-2004)

Year	Urban	Rural
1980	17.2	28.3
1985	37.8	51.4
1992	37.5	46.0
1996	58.2	69.3
2004	43.2	63.3

Source: *Underlying Data from (NBS)*

Table 5.9: Relative Poverty by Sector (Urban and Rural)

Year	Urban			Rural		
	Core Poor	*Moderately Poor*	*Non-Poor*	*Core Poor*	*Moderately Poor*	*Non- Poor*
1980	3.0	14.2	82.8	6.5	21.8	71.7
1985	7.5	30.3	62.2	14.8	36.6	48.6
1992	10.7	26.8	62.5	15.8	30.2	54.0
1996	25.2	33.0	41.8	31.6	38.2	30.7
2004	15.7	27.5	56.8	27.1	36.2	36.7

Source: *Underlying Data from (NBS)*

A further analysis of incidence of poverty by different sizes of households shows that poverty incidence increases with the size of the household in Nigeria. Households with less than five members are likely not to be in poverty despite price changes. This poverty incidence was less than the national average. A direct correlation exists between the size of the household and poverty for all years resulting from price changes especially on food (Table 5.10).

Table 5.10: Relative Poverty Incidence by Size of Household

	Poverty Head Count				
	1980	*1985*	*1992*	*1996*	*2004*
1	0.2	9.7	2.9	13.1	12.6
2-4	8.8	19.3	19.5	51.5	39.3
5-9	30.0	50.5	45.4	74.8	57.9
10-20	51.0	71.3	66.1	88.5	73.3
20+	80.9	74.9	93.3	93.6	90.7
All Nigeria	27.2	46.3	42.7	65.6	54.4

Source: *Underlying Data from (NBS)*

The consequences of rising prices especially on food items in Nigeria differ across households. There are some households that benefits from higher prices. These are the net producers. This is because; increase in prices of commodities is a signal as well as an incentive for any profit oriented household to produce more so as to make more profits. There are also some households that are adversely affected especially the core poor. These are the net consumers. In this context, different groups will be affected differently by rising prices of goods and services especially that of food. Therefore, the net effect of price increases on poverty especially food is negative.

It should be noted at this juncture that there is a clear indication that the rising prices of commodities especially food prices has pushed large numbers of households back below the poverty line in Nigeria. Higher prices have put upward pressure on the cost of living and thus lower the overall standard of living. In a situation where prices increase especially food prices and people's nominal income remains the same, then the number

of poor would increase. This is the experience in Nigeria presently. Increases in prices have reduced people's real income and thus increased the number of poor.

It is also important to note that over the medium term, persistent food price increases will induce supply-side responses as resources are reallocated across sectors in response to changes in relative returns. This response will moderate the effect of shocks coming from external food price increases.

Figure 5.4: Poverty Incidence by Occupational Group

Table 5.11: Relative Poverty Incidence by Occupational Group

	Poverty Classification			
Occupational Group	*Core Poor*	*Moderately Poor*	*Non- Poor*	*Total*
Agricultural Occupation	25.15	37.45	37.40	100.00
Non-Agricultural Occupation	20.28	33.66	46.06	100.00
Total	**21.33**	**34.48**	**44.19**	**100.00**

Source: *Underlying Data from (NBS)*

Table 5.11 shows that poor households are more in agricultural occupation (62 per cent) than in non-agricultural occupation (54 per cent). The gap in poverty levels of farm households and non-farming households was at 9 per cent.

Table 5.12: Agriculture Population by Sector and Relative Poverty Incidence

| | Poverty Classification | | | |
| | Core Poor | Moderately Poor | Non-Poor | Total |
Sector				
Urban	18.03	38.06	43.91	100.00
Rural	26.27	37.35	36.38	100.00
Total	25.15	37.45	37.40	100.00

Source: *Underlying Data from (NBS)*

Table 5.12 indicates that about 56 per cent of farmers living in the urban areas were poor, while about 63 per cent of those in the rural areas were poor.

Table 5.13: Agriculture Population by Zone and Relative Incidence

| | Poverty Classification | | | |
Zone	Core Poor	Moderately Poor	Non-Poor	Total
South South	9.65	46.61	43.73	100.00
South East	5.90	31.82	62.28	100.00
South West	7.39	31.78	60.83	100.00
North Central	29.01	33.96	37.03	100.00
North East	34.33	41.78	23.90	100.00
North West	42.54	36.68	20.79	100.00
Total	**25.15**	**37.45**	**37.40**	**100.00**

Source: *Underlying Data from (NBS)*

The table above shows that there were more poor farmers in the northern zones than in the southern zones. While the south east had the lowest proportion of farmers (37 per cent), the northwest had the highest proportion (96 per cent). The moderately poor were evenly distributed among the zones, while the southern zones had the lowest core poor.

Table 5.14: Agriculture Population by Sex and Relative Incidence

| | Poverty Classification | | | |
| | Core Poor | Moderately Poor | Non-Poor | Total |
Sector				
Male	29.21	37.30	33.49	100.00
Female	17.68	37.71	44.61	100.00
Total	**25.15**	**37.45**	**37.40**	**100.00**

Source: *Underlying Data from (NBS)*

By gender close to 67 per cent of male holders were poor, while about 56 per cent of female holders were poor. The proportion of core poor among the female holders was lower than that among male holders.

It is instructive to note that on a general term, rural household are likely to benefit from the improved agricultural terms of trade. The largest welfare gains are likely to be associated with agriculture-specialized rural households. Rural households may enjoy a significant reduction in the incidence of poverty. The food crops sub-sector would expand while other agriculture sub-sectors would contract .The worst hit households would be rural low-income and landless farmers. Rural low-income and landless farmers will increase.

Urban households would experience losses in real income because of higher food expenditure. Urban households at lower income levels would lose more owing to their larger proportion of food consumption in total expenditure. The worst hit households would be urban low-income. Urban low-income people will increase. Urban households may be hit harder from higher food prices than rural households.

5.3.2 Poverty- Gap (Depth of Poverty-Poverty Gap)

The need to identify the poor for measurement or policy purposes on the basis of a single poverty line threshold implies that all poor people are treated equally regardless of how much their expenditure level is below the poverty line. In Nigeria where the incidence of poverty is high (54.4 per cent), this approach may not be satisfactory because in practice it will not be possible to targe t all the poor at once.

For this reason, it is desirable to do an in-depth analysis of poverty by estimating the depth of poverty such as the poverty gap. The measure incorporates the extent to which a poor person's expenditure level falls below the pove rty line. This makes it possible to distinguish, for example, between States, zones and sectors that have high poverty incidence but shallow poverty gap from those with lower poverty incidence but deeper poverty. The latter region may have to receive higher priority for allocation of resources and poverty interventions by the government.

Table 5.15: States with Highest Incidence of Poverty

State	Incidence of Poverty P_o	Poverty Gap P_1
Jigawa	92.1	0.4967
Kebbi	90.4	0.4322
Kogi	88.6	0.5713
Bauchi	82.2	0.3573
Yobe	81.1	0.3563
Kwara	79.3	0.4413

Source: *Underlying Data from (NBS)*

From the above table, it can be seen that though Kogi State is not the poorest, it has the deepest poverty gap, hence should be given poverty interventions first, followed by Jigawa.

Table 5.16: 6 States with Lowest Incidence of Poverty

State	Incidence of Poverty P_o	Poverty Gap P_1
Oyo	23.2	0.0652
Osun	28.8	0.0807
Imo	30.8	0.0954
Bayelsa	32.4	0.1148
Abia	33.2	0.1041
Ogun	35.0	0.1093

Source: *Underlying Data from (NBS)*

In this group the poverty gap for Bayelsa is seen to be deeper than the other states in the group even though poverty incidence is not the highest. The State should be considered first for poverty interventions in the group, followed by Ogun.

5.3.2 Poverty Severity

Poverty severity focuses on the degree of dispersion in the distribution of the individuals lying below a pre-determined poverty line for a given average expenditure of the poor. The results presented in Table 5.17 reveal that poverty is more severe in the rural sector (0.14) than the urban sector (0.09). Furthermore, poverty is most severe in the North Central Zone with the highest severity indicator of about 0.17 compared to other geopolitical zones. Poverty severity by state as shown by the same Table reveals that Kogi sate recorded the most severity of poverty (0.36) followed by Kwara (0.28) and Jigawa(0.26).

Contribution to poverty (C_o) evaluates the proportion of the poor relative to the total population of the poor. It examines the relative density of the poor across regions. This allows us to identify areas that are disproportionately affected by the poor population for policy intervention. Table 5.17 presents the results on the relative contribution of each sector and zone as well as states to national poverty. The contribution of the urban sector to national poverty is 35 per cent, while that of the rural sector is 65 per cent showing that poverty is more predominant in the rural sector. Going by the data in the same Table 5.14, Northwest made the highest contribution of 33.6 per cent to national poverty. This was followed by NorthEast17.7 per cent and Northcentral 17.7 per cent. In this case, both Northcentral and Northeast contribute equally, yet they have different poverty incidences. This would mean although the poverty incidence is higher in the Northeast, proportionately, there are the same number of poor in each zone. Southeast made the least contribution to national poverty.

Gini-coefficient is used for measuring inequality in income distribution. The closer the Gini-coefficient to zero, the more equitable is the distribution of welfare while the higher the Gini-coefficient the least equitable is the distribution of welfare. As shown by Table 5.17, inequality in income distribution persists in the country as reflected by Gini coefficient of 0.49. Inequality in income distribution is more pronounced in urban areas (0.54) than the rural areas (0.52). It is highest in the South West and least in the North West.

Table 5.17: Poverty Figures by Sector, Zone and State

	Percentage pop.	ofIncidence Poverty P0	ofPoverty Gap P1	Poverty Severity P2	Welfare P1/P0	GapC0 Contribution	Gini
National	**100.00%**	**54.41%**	**0.2180**	**0.1191**	**0.4006**	**100.00%**	**0.4882**
Urban	44.10%	43.19%	0.1670	0.0918	0.3868	35.00%	0.5441
Rural	55.90%	63.27%	0.2582	0.1406	0.4080	65.00%	0.5187
South South	14.98%	35.06%	0.1696	0.0903	0.4837	9.66%	0.5072
South East	12.08%	26.74%	0.0996	0.0455	0.3724	5.94%	0.4494
South West	19.55%	43.01%	0.1821	0.1024	0.4234	15.45%	0.5538
North Central	14.37%	66.97%	0.2832	0.1685	0.4229	17.69%	0.3934
North East	13.36%	72.16%	0.2743	0.1434	0.3801	17.71%	0.4590
North West	25.65%	71.17%	0.2567	0.1374	0.3607	33.55%	0.3711
State							
Abia	2.62%	22.27%	0.0904	0.0424	0.4059	1.07%	0.4693
Adamawa	2.36%	71.73%	0.3149	0.1768	0.4390	3.11%	0.4696
Akwa Ibom	2.70%	34.82%	0.1584	0.0843	0.4548	1.73%	0.5003
Anambra	3.14%	20.11%	0.0768	0.0324	0.3820	1.16%	0.4819
Bauchi	3.21%	86.29%	0.3220	0.1676	0.3731	5.09%	0.4782
Bayelsa	1.08%	19.98%	0.0994	0.0557	0.4977	0.40%	0.4757
Benue	3.09%	55.33%	0.1543	0.0691	0.2789	3.14%	0.5450
Borno	2.86%	53.63%	0.1889	0.0891	0.3522	2.81%	0.3947
Cross River	2.14%	41.61%	0.1969	0.1039	0.4731	1.64%	0.5046
Delta	2.91%	45.35%	0.2222	0.1157	0.4899	2.42%	0.4650
Ebonyi	1.25%	43.33%	0.1806	0.0917	0.4169	0.99%	0.4092
Edo	2.44%	33.09%	0.1568	0.0804	0.4739	1.48%	0.4585
Ekiti	1.33%	42.27%	0.1181	0.0479	0.2795	1.03%	0.5074
Enugu	2.29%	31.12%	0.1118	0.0512	0.3591	1.31%	0.4435
Gombe	1.67%	77.01%	0.2936	0.1568	0.3812	2.36%	0.4343
Imo	2.79%	27.39%	0.0871	0.0373	0.3179	1.40%	0.5125
Jigawa	3.22%	95.07%	0.4413	0.2643	0.4641	5.63%	0.4397
Kaduna	4.41%	50.24%	0.1155	0.0516	0.2300	4.08%	0.4226
Kano	6.52%	61.29%	0.1530	0.0778	0.2497	7.34%	0.4318
Katsina	4.21%	71.06%	0.2351	0.1155	0.3308	5.50%	0.4110
Kebbi	2.32%	89.65%	0.3968	0.2135	0.4426	3.82%	0.4104
Kogi	2.41%	88.55%	0.5346	0.3619	0.6037	3.92%	0.5555
Kwara	1.74%	85.22%	0.4236	0.2778	0.4971	2.72%	0.4783
Lagos	6.41%	63.58%	0.3473	0.2200	0.5462	7.49%	0.6429
Nassarawa	1.44%	61.59%	0.1582	0.0734	0.2568	1.63%	0.4665
Niger	2.72%	63.90%	0.2099	0.1006	0.3284	3.19%	0.4619
Ogun	2.62%	31.73%	0.1023	0.0422	0.3224	1.53%	0.5251
Ondo	2.92%	42.14%	0.1539	0.0694	0.3652	2.26%	0.5038
Osun	2.42%	32.35%	0.0757	0.0332	0.2339	1.44%	0.5031
Oyo	3.86%	24.08%	0.0585	0.0244	0.2431	1.71%	0.4315
Plateau	2.27%	60.37%	0.2003	0.1082	0.3317	2.52%	0.4390
Rivers	3.71%	29.09%	0.1498	0.0840	0.5150	1.99%	0.4792
Sokoto	2.71%	76.81%	0.3333	0.1839	0.4339	3.83%	0.3253
Taraba	1.69%	62.15%	0.2112	0.1022	0.3399	1.93%	0.5118
Yobe	1.57%	83.25%	0.3178	0.1723	0.3817	2.40%	0.4503
Zamfara	2.26%	80.93%	0.3264	0.1752	0.4032	3.36%	0.3366
FCT	0.71%	43.32%	0.1787	0.0898	0.4126	0.56%	0.4368

Source: *Underlying Data from (NBS)*

5.4 Effects of Price Changes on Consumption Expenditure

In this section, we examine the effects of price changes on consumption by computing the per capita expenditure of consumers' both on food and non-food sectors vis-à-vis price changes between 2003 and 2004. This enables us to evaluate whether the effect of the price changes is pro-poor or anti-poor.

5.4.1 Per Capita Expenditure on Food and Non-Food by Sector

The results as demonstrated in Table 5.18 show rural per capita expenditure on food as N10,905, while that of non-food per capita expenditure is N12,723 in the year 2003. In the same year, urban per capita food expenditure is N14,251 and per capita non-food expenditure N24,007. When these figures are compared with the 2004 figures, it shows a marked increase. For instance, rural food per capita expenditure increases from N10,905 to as high as N16,491. The same thing is obtained with respect to the urban which experience an increase in the food per capita expenditure from N14,251 in 2003 to N17,824 in 2004. The trends in the per capita non-food expenditure also follow the same pattern. Although, there is paucity of data to substantiate this trend, this has been the experience from 2004 to date.

Table 5.18a: Household per Capita Expenditure on Food and Non-Food by Sector

	Per Capita Food Expenditure	Per Capita Non-Food Expenditure	Total Per Capita Expenditure	Per Capita Food Expenditure	Per Capita Non-Food Expenditure	Total Per Capita Expenditure
	2003			**2004**		
Urban	14,251	24,007	38,258	17,824	25,101	42,925
Rural	10,905	12,723	23,628	16,491	13,058	41,004
Total	**14,063**	**16,960**	**31,023**	**17,094**	**18,506**	**35,600**

Source: *Computed from the Underlying Data from (NBS)*

As expected and indicative of urban and rural consumption patterns, the tables show that urban areas spend proportionally more on non-food than food (58percent against 32 percent)in the rural areas). Comparing the per capita expenditure of the rural consumers for food and non-food shows that the rural dwellers spend more on food arising from price changes. It is clear that majority of the expenditure of the poorest 20 per cent is on food. As a result, the poorer population subgroups are more vulnerable to rising food prices. A rise in the price of food is expected to inflict havoc among lower-income groups. In particular, it can be expected to increase the misery of those who are already living below the poverty line, and can be expected to drive others into poverty.

However, comparing the percentage change in price with the percentage change in per capita expenditure as reflected in Table 18b clearly reinforced our earlier observation that the rural dwellers spend more on food as price changes. For instance, when the price of food in the rural sector changes by about 19.0 per cent, the per capita expenditure of the rural dwellers changes rapidly and it was as high as 51.23 per cent between 2003 and 2004. The change in rural non-food expenditure was so negligible (2.63 per cent) to a 6.0 per cent change in price in the same period. As stated earlier, the present experience

shows that the trend may likely not change from 2004 to date. This further indicates that as a result of food price increases, the rural food expenditure was much higher than their expenditure on non-food. There is no doubt from the figures display on the Table that as the prices of both food and non-food items (whether rural or urban or both) increase, the total expenditure increases rapidly. However, with the sticky nature of income in Nigeria, as the prices increase and the income remains the same, the real income and standard of living of the people will automatically fall thereby increasing the level of poverty. Based on this assertion, it could be deduced that poverty in Nigeria is as a result of price changes.

Table 5.18 b: Change in Per Capita Expenditure and Prices of Food and Non-Food by Sectors

	Percentage change in per capita Expenditure			Percentage change in Price		
	Food	*Non Food*	*Total*	*Food*	*Non Food*	*Total*
Urban	25.07	4.56	12.19	23.92	15.61	17.11
Rural	51.23	2.63	73.54	18.57	5.90	10.28
Total	**21.55**	**9.16**	**14.75**	**16.47**	**7.52**	**9.12**

Source: *Computed from Table 5.18a and the Underlying Data from (NBS)*

Available evidence by the National Bureau of statistics in her study conducted in 2007 on the Determinants and Characteristics of the Middle class in Nigeria revealed that the working population de-saved approximately N18,385 annually or 18.38 per cent of their annual income. When total expenditure exceeds total income, without any wage increase, one of the implications is that high and rising food prices would erode the purchasing power of the working population and force them to borrow more money for consumption. Thus, there is evidence that price changes is anti-poor in Nigeria since empirical evidence has shown that poverty are more predominant in the rural areas.

The zonal analysis of the per capita expenditure on both food and non-food is presented in Table 5.19. The Table shows some salient features that must be understood in the light of the previous evaluation of expenditure by sector. The southeast had mean total per capita expenditure of N45,216 that was well above the national average. A breakdown into food and non-food provides a different picture. Once again, the southwest shows predominantly urban patterns of consumption which is mostly on non-food items.

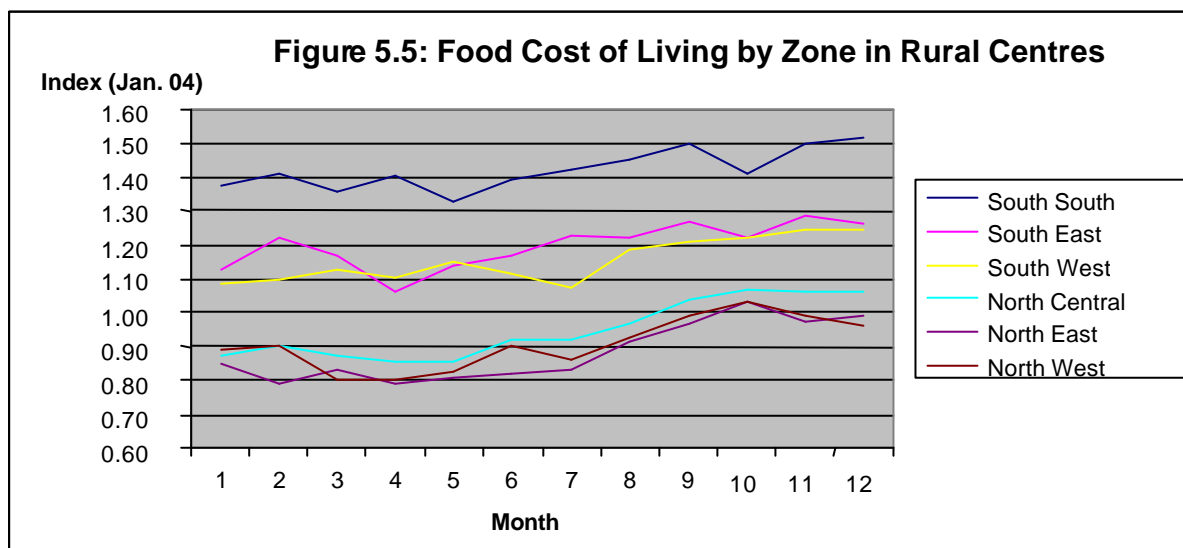**Table 5.19: Household per capita Expenditure on Food and Non-Food by Zone**

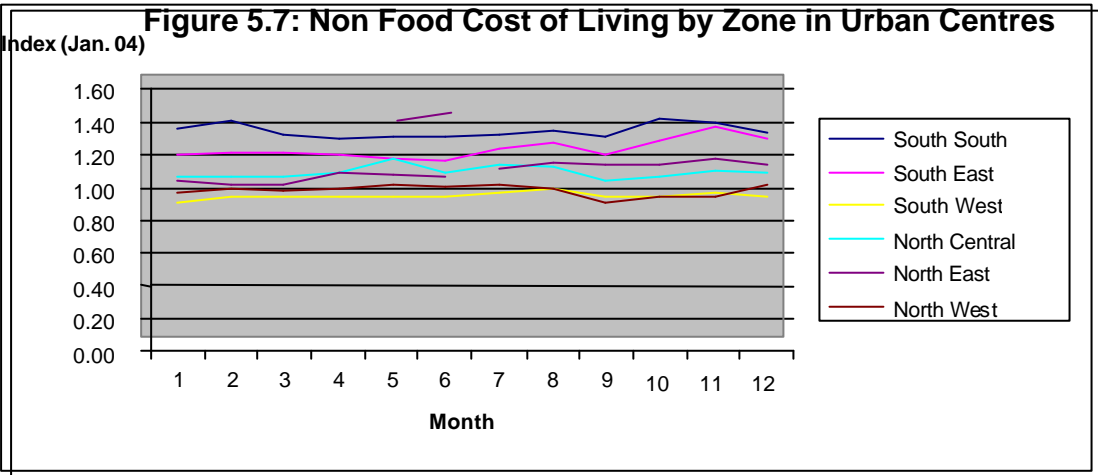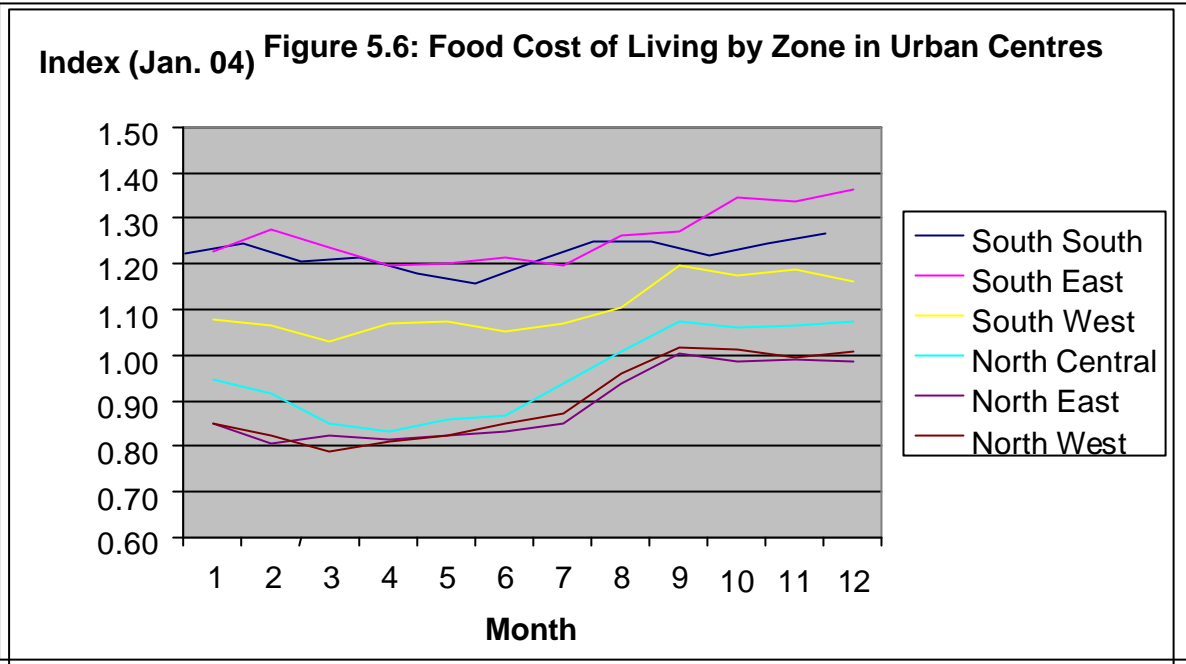| Zone	Per Capita Food Expenditure	Per Capita Non-Food Expenditure	Total Per Capita Expenditure
South South	17,287	19,199	36,486
South East	22,314	22,902	45,216
South West	16,533	26,696	43,229
North Central	14,740	15,067	29,806
North East	15,364	12,171	27,535
North West	16,907	11,176	28,083
Total	**17,094**	**18,506**	**35,600**

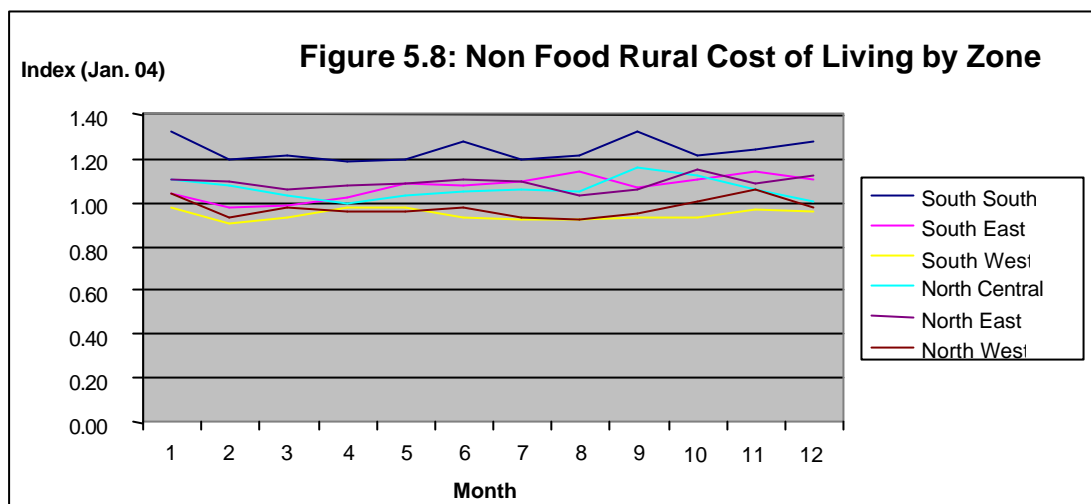**Source:** *Underlying Data from (NBS)*

5.5. Analysis of the Consumer Price Index for the Poor

Generally, a price index is the measure of the proportionate or percentage changes in a set of prices over time. Similarly, consumer price index measures changes in the prices of consumer goods and services acquired by households over time. The Consumer Price Index is a pure index because it changes purely in response to price changes, while the quantities of the goods and services in the basket remain fixed.

Prices vary across regions and time due to inflation and seasonality of supply. In order to account for these price differentials, a Standard of Living measure was computed to deflate the welfare aggregate and express the monetary measure of welfare to a reference point. In the case of this study, the reference month is January 2004 and the prices used are a national average weighted by the population share attributable to that State. CPI data was the main source of price data. In some cases, where the CPI data was inconsistent or unavailable, the price information was used from the market survey conducted by the NBS. The figures below illustrate the range of the cost of living index across geographical zones for rural food consumption(Figures 5.5 to 5.8).

Figure 5.5: Food Cost of Living by Zone in Rural Centres

Figure 5.6: Food Cost of Living by Zone in Urban Centres

Index (Jan. 04)

Legend:
- South South
- South East
- South West
- North Central
- North East
- North West

X-axis: Month (1–12)
Y-axis: 0.60 to 1.50

Figure 5.7: Non Food Cost of Living by Zone in Urban Centres

Index (Jan. 04)

Legend:
- South South
- South East
- South West
- North Central
- North East
- North West

X-axis: Month (1–12)
Y-axis: 0.00 to 1.60

Figure 5.8: Non Food Rural Cost of Living by Zone

The price index helps us to understand how price changes of each consumption items (food and non-food) would affect distribution of income and welfare. The price indices for food are greater than unity in almost all the years. This implies that an increase in the prices of food items will adversely affect the poor especially the rural poor than the non-poor (See Appendix II for details). The price index for the non-food items- including transport, health, education, communication, etc; appears to be less than unity. Considering the percentage changes in price of both the food and non-food, the result shows that the percentage change in the prices of food items is higher than that of the non-food items. This has implication for the severity of poverty analysed earlier which also indicates that the poor are severely affected by the price changes especially food prices. Overall, the changes in relative prices have adversely impacted on the poor during the entire period.

It is also instructive to note that there is an indication that fluctuation upward trend in inflation rate between 1999 and 2004 is no longer driven by food component especially farm produce. It is an uninteresting development as the emerging middle class seems to put less pressure on household goods, service and recreation.

5.6. Impact of Price Changes on Poverty

Having reviewed and analysed changes in poverty, household consumption expenditures and prices over the years across sectors and commodities, it is important to evaluate the impact of price changes on poverty. In this section however, we try to analyse how changes in price between the period of 2002 and 2006 have affected the level of poverty headcount in Nigeria. However, due to paucity of data, the analysis is done at aggregate

levels and not at commodity levels as Son and Kwakwani (2006b) did for the case of Brazil. Although, the analysis is done at aggregate level, we try to decompose both the poverty and the price data into food and non-food components so as to isolate the effects of price changes on food.

Table 5.20: Estimates of Changes in Price and Poverty in Nigeria (2002 – 2006)

Year	Change in Price		Change in Poverty	Percentage Change in Price		Percentage Change in Poverty
	Poverty Headcount					
	Food	*Non-Food*		*Food*	*Non-Food*	
2002	0.24	0.78	0.016	24.44	78.02	1.56
2003	0.01	0.12	0.026	1.00	12.01	2.65
2004	0.15	0.03	0.015	15.25	3.22	1.45
2005	0.09	0.05	0.010	9.11	4.77	0.96
2006	0.07	0.02	0.00	6.64	2.05	0.09

Source: Authors Computation

Table 5.21: Estimates of Price Elasticity of Poverty in Nigeria (2002 -2006)

Year	Food	Non-Food
	Poverty Headcount	
2002	0.06	0.02
2003	2.65	0.22
2004	0.10	0.44
2005	0.11	0.20
2006	0.01	0.04

Source: Computed from Table 5.20

Estimated changes in price and poverty for the head count ratio between the period 2002 and 2006 are presented in Table 5.20. On the basis of the results in Table 5.20, elasticity of poverty for the head-count ratio due to food and non-food price changes is calculated and the result is presented in Tables 5.21.

Figures in Table 5.20 show that changes in the level of prices has not exhibited a definite pattern unlike changes in the prices of non-food items. Percentage change in the price of food items initially went down between 2002 and 2003 and later rose up. On the other hand, the percentage change in price of non-food items decline through out the years except in 2005. This implies that changes in price of food items in Nigeria are not stable and it exerts a perceptible impact on the welfare of the people. This is an expected scenario since people are bound to consume. While it is possible to forgo some non –food items due to price increases, it is impossible to forgo that of food items.
The result displayed in Table 5.21 is highly revealing. It clearly shows that price changes have a positive effect on poverty, such that as price increases, poverty also increases. On the average, for the period between 2002 and 2006, the results show that a 10 per cent increase in the price of food results into 5.9 per cent increase in poverty. Similarly a 10 per cent increase in the price of non-food results into 1.8 per cent increase in poverty. Nonetheless, the impacts of food and non food price increases on poverty depend on

several factors. These include the initial poverty level and the number of people clustered around the poverty line, the number of net buyers or net sellers of a commodity, the share of poor people's income devoted to food and non-food, the extent of own consumption relative to market purchases and the effect of food and non-food price increases on real wages of poor people. There is clear and present danger that food and non-food price increases will push large numbers of households back below the poverty line in Nigeria because higher prices will put upward pressure on the cost of living and thus lower the overall standard of living. If prices of food and non-food items increased and people's nominal expenditure had not changed, then the number of poor would increase. Increases in prices would reduce people's real expenditure and thus increase the number of poor. Certainly the urban poor, who are food consumers and unlikely to be food producers would suffer the most from price increases in food staples because inflation would eat into their real incomes and expenditures. As a result, the poor population is more vulnerable to price increases. A rise in the price of food and non-food will be expected to inflict havoc among low-income groups. In particular, it can be expected to increase the misery of those who are already living below the poverty line, and can be expected to drive others into poverty. Most poor in urban areas are net consumers of food and as such tend to be hurt by food price increases. This effect would be much more obvious for urban households where farming is much less dominants. Regarding the manufacturing sector using more expensive intermediate inputs, demand would be lowered and output may decline due to contractions in food processing as well as in textile and wood industries. The finding is in line with the findings of Kwakwani (1990) with respect to impacts of price increases on poverty due to the introduction of Structural Adjustment Programme in Cote d'Ivoire.

Increasing food and nonfood prices would affect household consumption expenditure in both the urban and the rural sector of the economy through reduction in real incomes and consumption as well as through their influence on the distribution of income. Essentially, there are certain areas in which increasing food prices would hurt the livelihoods of the poor. Firstly, their real income would decline due to price increases; their productivity would decline due to the damping effect of rising food prices on the non-food prices especially the agricultural inputs. Arising from increasing prices of food, the proportion of the household budget share on non-food items such as education and health care would decline and this would result into low access to education and health care. In this way, living standard and welfare of the poor households would deteriorate. Therefore, for any meaningful economic growth and poverty reduction, there is dire need to assist both urban and rural household members to enhance their access to food and non-food such as social services including health and education by expanding their economic opportunities to earn higher income.

It is clear from the analysis so far that the depth of poverty measured by the poverty gap ratio is more pronounced resulting from changes in price of food and non-food items. The case of severity of poverty is likely to be worse than that of the poverty gap. This implies that the rural poor are more affected than the urban poor due to price increases. It is important to note that poverty is more pronounced in the rural sector than the urban sector which confirms our earlier submissions that poverty in Nigeria is more of a rural phenomenon. Besides, the impact of the price changes is highly reflected in the severity

of poverty than the poverty gap. This is in contrast with the findings from Son and Kakwani (2006a) who found that price changes in Brazil during the 1999 to 2006 period have occurred in a way that favours the poor proportionally more than the non-poor. According to them, during the last 2-3 years, the price changes have favoured the poor relative to the non-poor in Brazil. This implies that Nigeria has a lesson to learn from Brazil by applying some of the policies adopted so as to turn price changes in favour of the poor in Nigeria.

In general, the poor (either urban or rural) are more affected by price changes than the non-poor. Since the coefficients of price elasticities are positive, it indicates that price changes in Nigeria are anti-poor.

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

6.1   Summary of Findings

The main objective of this study is to measure empirically the impact of price changes on poverty in Nigeria. The study applies a methodological approach that is based on consumer demand theory. Three major additive measures of poverty were computed from the underlying data obtained from the NBS. These three additive measures are – head-count ratio, poverty gap ratio and severity of poverty. The consumer price index computed by the NBS using Laspeyres Price Index formula is analysed across food and non-food consumption items. The index is very relevant to determining the price changes of goods and services bought by the poor. To further ascertain the effects of price changes on poverty, per capita expenditure of the different group of consumers were estimated.

It is clear from the analysis so far that poverty in Nigeria is more accentuated by changes in the price of commodities. Price changes appear to have affected the consumption pattern of the people both rural and urban dwellers. However, revelation from the analysis of the study shows that the poor are more affected by price changes than the non-poor. Also, it is established that poverty in Nigeria is more of rural than urban. Results of the study also reveal that people differ in terms of their needs and consumption pattern (as revealed by their per capita expenditure), so the effect of the price changes will also be different from one individual to another.

Evidence from the study reveals that changes in the relative prices have affected the poor relative to non-poor. Also, the result suggests that the changes in relative prices have not been pro-poor in Nigeria. Further, the result confirms earlier findings that poverty in Nigeria is more of rural than urban.

From the analysis of the price index, the results show that the poor have generally faced higher inflation rates than the general population over the years. The per capita expenditures of both the poor and the non-poor estimated shows that total expenditure exceeds total income, without any wage increase. Thus, there is evidence that price changes is anti-poor in Nigeria since empirical evidence has shown that poverty are more predominant in the rural areas.

More importantly, findings from the study reveal that both price changes and poverty in Nigeria exhibit a positive relationship. Therefore, the high rate of poverty experienced in Nigeria could be traced to the price increases especially on food items. This is because, the results affirmed that poverty is more pronounced in the rural areas than the urban areas.

6.2   Policy Implications

Arising from our findings, it is important to note that there is an urgent need for government to put in place policies (macro and micro) that will stem down the prices of commodities especially on food items. In this regard, the following suggestions are proffered:

- To mitigate the effect of the present increase in price of commodities should put in place measures that will target net consumers. Some programmes need to be put in place by the Federal Government to provide safety nets for the poor. This could be in the form of subsidy on food and farming inputs since poverty is more pronounce in the rural sector of the economy.

- To further reduce the price of commodities especially food items, there is the need for infrastructural upgrading especially in the rural areas. This will reduce the cost of production and also stimulate productive and industrial activities in the rural areas.

- In terms of poverty alleviation, government policies should be targeted at rural development by creating an enabling economic environment that will stimulate both domestic and foreign investments in the rural areas with its positive multiplier effects on employment generation.

- Finally, empowerment programmes should be put in place to reduce the level of poverty and inequality among the people. This empowerment programme should be targeted to the vulnerable groups in the society such as women, dis-able, children, etc.

In conclusion, it is important to note that Nigeria has to learn from the Brazillian experience by putting in place policy measures that will not only stem down prices of commodities but turn changes in price of commodities in favour of the common poor in Nigeria.

Appendix I

Measurement of Variables

Poverty Indices

Generally, the poverty indices are measured as:

Po = <u>Head count/Incidence:</u> Counts the number of people with expenditure/income below the poverty line.

P1 = <u>Depth of Poverty:</u> The percentage of expenditure/income required to bring each individual below the poverty line up to the poverty line.

P2 = <u>Severity of Poverty:</u> It indicates severity of poverty by giving larger weight to the extremely (core poor). This is done by squaring the gap between their expenditures/income and the poverty line in order to increase its weight in the overall poverty measure.

It has become customary to use the so-called P. alpha measure in analysing poverty. The measure relates to different dimensions of the incidence of poverty. Po, P1 and P2 are used for head count (incidence), depth and severity of poverty respectively. The three dimensions are based on a single formula, but each index puts different weights on the degree to which a household or individual falls below the poverty line. The mathematical formulation for poverty measurements as derived from Foster, Greer and Thorbocke (1984) is:

$$Pa = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{Z - y_i}{Z} \right) a$$

where z = the poverty line

q = the number of individuals below the poverty line

N = the total number of individuals in the in which individual I lives

α = Foster-Greer-Thorbocke (FGT) index and takes on the values of 0,1 and 2.

The quantity in brackets is the proportionate shortfall of expenditure/income below the poverty line. This quantity is raised to a power α, the aversion to poverty as measured by the index is also increased.

If $\alpha = 0$, then FGT becomes:

$$Po = \frac{1}{n} q = \frac{q}{n}$$

$\frac{q}{n}$ is the proportion of the population that falls below the poverty line. This is called the head count or incidence of poverty.

If $\alpha = 1$ then FGT biomes:

$$P1 = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z-Yi}{Z}\right)^{1}$$
$$= HI$$

where $H = \frac{q}{n}$ and $I = \sum \left(\frac{Z-Yi}{Z}\right)^{1}$

If $\alpha = 2$ then FGT becomes:

$$P2 = \frac{1}{n} \sum_{i=1}^{q} \left(\frac{Z-Yi}{Z}\right)^{2}$$

Poverty Lines

Four poverty lines are applied in this study based on the outcome of the NBS survey of 2004. The first is the relative line. A second line is the measures of consumption based on an objective method. This is the absolute poverty line using the food energy in-take. The third is Dollar per day line using purchasing power parity, while the fourth is subjective on the perception of the households.

Poverty lines are the starting point for poverty analysis. They are usually based on income or expenditure data, and separate the poor from the non-poor. Those whose income/expenditure falls below the line are poor; those above it are non-poor.

Standard of Living Measure

Prices vary across regions and time due to inflation and seasonality of supply. In order to account for these price differentials, a Standard of Living measure was computed to deflate the welfare aggregate and express the monetary measure of welfare to a reference point. In the case of this study, the reference month is January 2004 and the prices used are a national average weighted by the population share attributable to that State. CPI data was the main source of price data. In some cases, where the CPI data was inconsistent or unavailable, the price information was used from the market survey conducted by NBS.

Appendix II

Table 1: Composite Consumer Price Index

				Percentage			
Description	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
All Items Index (%Change)							
Month on Month	1.10	0.40	-0.40	-0.40	1.70	1.70	-1.50
Year on year	0.20	14.50	16.50	12.20	23.80	10.00	11.60
12 Months Average	6.60	6.90	18.90	12.90	14.00	15.00	17.90
All Items Less Farm Produce (%Change)							
Month on Month	2.30	-0.80	0.30	1.40	0.80	3.40	-0.90
Year on Year	1.40	22.70	0.10	21.00	34.80	5.90	2.40
12 Month Average	15.70	13.30	6.00	12.50	27.20	15.50	8.80
Food (% Change)							
Month on Month	0.40	1.20	-0.80	0.90	3.70	1.00	-2.50
Year on Year	-0.30	-4.10	28.90	9.10	15.40	12.10	15.50
12 Month Average	1.00	-4.20	28.00	13.10	6.00	14.50	23.10

Source: National Bureau of Statistics

Table 2: Annual Average Composite Consumer Price Index (Combined Rural and Urban Centres)

Commodity	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food	2,630.70	2,940.10	3,044.43	3,074.63	3,148.88	4,031.14	4,560.73	102.28	117.17	144.15
Food & Non Alcoholic Beverage	-	-	-	-	-	-	-	102.45	117.27	143.96
Alcoholic Beverage, Tobacco And Kola	2,463.30	2,655.62	3,460.68	2,846.22	3,148.27	4,359.24	5,409.00	101.51	112.59	211.36
Clothing And Footwear	2,657.70	2,974.94	2,985.85	2,978.85	3,074.63	3,068.35	3,072.06	110.51	118.38	119.05
Housing, Water, Electricity, Gas And Other Fuel	2,394.20	2,535.87	3,475.90	4,945.50	6,067.73	6,029.09	6,502.81	116.88	141.04	158.02
Furnishing & Household Equipment Maintenance	3,464.30	3,566.52	2,886.52	3,627.08	3,821.33	3,947.35	4,059.90	106.02	112.60	125.67
Health	2,728.60	3,131.87	4,095.67	3,413.73	3,625.89	2,828.55	3,565.45	116.53	123.11	126.00
Transport	3,022.80	3,378.90	4,434.61	4,449.31	4,726.80	5,062.85	5,275.55	100.14	119.72	125.53
Communication	-	-	-	-	-	-	-	100.41	167.64	233.58
Recreation & Culture	2,878.40	3,580.00	3,856.34	4,183.66	4,650.33	5,283.15	5,811.78	111.74	123.00	119.28
Education	-	-	-	-	-	-	-	118.70	135.23	144.40
Restaurant & Hotels	-	-	-	-	-	-	-	107.99	117.82	134.10
Miscellaneous , Good & Services	2,526.70	2,775.97	3,080.67	3,703.96	4,322.25	4,948.44	5,930.05	111.05	129.40	136.73
All Items Less Farm Produce And Energy	-	-	-	-	-	-	-	107.52	121.59	134.34

Commodity	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Item Less Farm Produce	-	-	3,849.20	3,901.50	4,788.20	4,795.20	5,082.90	112.07	129.44	148.80
All Items	2,638.00	2,919.62	3,149.16	3,357.56	3,590.49	4,267.96	4,817.80	105.96	121.85	143.61

Source: National Bureau of Statistics
Note:-   The Base year for 1999 - 2002 is 1988 = 100 The Base year for 2003 is May, 2003 =100

Table 3: Annual Average Composite Consumer Price Index (All Urban Consumers)

Commodity	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food	2,680.10	2,947.27	2,944.23	2,922.58	3,060.28	4,021.30	4,546.59	104.75	120.82	150.81
Food & Non Alcoholic Beverage	-	-	-	-	-	-	-	104.54	102.64	150.39
Alcoholic Beverage, bacco and Kola	3,033.80	3,040.54	2,971.38	3,143.90	3,702.22	4,962.63	6,275.36	104.15	113.74	124.85
Clothing And Footwear	2,800.30	3,037.61	2,985.85	2,985.84	3,249.05	3,474.35	3,620.06	116.62	124.33	124.04
Housing Water, Electricity, Gas And Other Fuel	2,344.80	2,583.54	3,475.90	4,740.98	5,196.87	5,161.46	5,636.71	116.79	145.49	160.30
Furnishing & Household Equipment Maintenance	2,982.00	3,065.64	2,886.42	3,077.32	3,305.03	3,681.20	4,062.85	108.58	117.56	130.21
Health	3,332.00	3,865.35	4,095.67	3,671.59	4,139.24	3,995.80	4,129.53	111.02	123.60	128.22
Transport	4,206.60	4,572.52	5,425.45	6,373.01	6,807.67	7,585.36	8,701.24	99.53	119.97	125.66
Communication	-	-	-	-	-	-	-	98.31	166.52	244.51
Recreation & Culture	3,982.00	5,703.20	5,838.09	6,552.19	6,983.29	77342.79 *	8,576.26	96.97	108.64	118.70
Education	-	-	-	-	-	-	-	109.17	161.27	170.85
Restaurant & Hotels	-	-	-	-	-	-	-	99.14	119.34	1,472.83
Miscellaneous, Good & Services	2,953.30	3,123.06	4,288.65	6,644.78	7,499.40	8,487.49	8,643.66	104.80	126.66	141.70
All Items Less Farm Produce and Energy	-	-	-	-	-	-	-	107.18	121.28	134.02
All Item Less Farm Produce	-	-	-	-	-	-	-	110.60	131.67	143.50
All Items	2,771.00	3,053.78	3,229.68	3,489.03	3726.35	4,490.70	5,047.66	107.20	125.31	148.69

Source: National Bureau of Statistics
Note:-   The Base year for 1999 - 2002 is 1988 = 100, The Base year for 2003 is May, 2003 =100

Table 4: Annual Average Composite Consumer Price Index (All Rural Centres)

Commodity	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food	2621.4	2939.33	3063.34	3103.36	3165.6	4033	4563.4	101.67	115.98	142.06
Food & Non Alcoholic Beverage	-	-	-	-	-	-	-	93.73	116.19	141.94
Alcoholic Beverage ,Tobacco and Kola	2379.3	2598.17	2731.85	2802.31	3066.69	4187.16	5281.8	100.21	111.35	119.45
Clothing And Footwear	2631.4	2962.26	3004.53	2977.79	3043.07	2994.97	2973.07	105.8	112.13	113.85
Housing Water , Electricity, Gas And Other Fuel	2406.3	2532.44	3686.27	4995.28	6282.01	6242.32	6751.76	115.38	136.49	155.71
Furnishing & Household Equipment Maintenance	3555.3	3660.82	3604.44	3730.87	3918.84	3997.52	4064.06	104.58	109.65	123.56
Health	2590.5	2959.11	3094.59	3355.43	3508.41	3329.02	3436.55	121.25	122.72	124.28
Transport	2378.4	2727.35	3048.22	3402.03	3593.98	3441.01	3414.72	100.62	119.27	125
Communicatio n	-	-	-	-	-	-	-	102.13	168.52	224.8
Recreation & Culture	2540.9	2921.07	3249.84	3458.73	3936.71	4534.2	4967.28	121.35	132.55	119.65
Education	-	-	-	-	-	-	-	126.4	117.92	126.81
Restaurant & Hotels	-	-	-	-	-	-	-	114.15	116.8	128.3
Miscellaneous , Good & Services	2436.9	2701.18	2826.43	3084.33	3653.53	4203.28	4879.56	115.03	131.43	133.04
All Items Less Farm Produce and Energy	-	-	-	-	-	-	-	107.55	121.76	134.48
All Item Less Farm Produce	-	-	-	-	-	-	-	112.45	128.46	139.65
All Items	2612.2	2894.51	3133.52	3331.98	3564.08	3862.42	477.06	105.37	120.36	141.41

Source: National Bureau of Statistics

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