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Poverty Transitions in Rural South West Nigeria

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Abstract - Poverty dynamics enables a better appreciation of the extent of poverty over time by distinguishing between households exiting and entering into poverty, those never poor and the persistently poor. However, it has not received much attention in the poverty literature in Nigeria, largely due to the lack of nationally representative panel data that track the poverty status of households over time. The dynamics of poverty in rural SouthWest Nigeria (SWN) was therefore investigated using regional panel data. Results showed that 49.5 percent of the households were non-poor while 28.2 percent were poor in both periods respectively. On the other hand, 22.3 percent of the households moved in and out of poverty between the two periods indicating a higher level of chronic poverty in rural South Western Nigeria. However, of the transient poor, while 6.8 percent exited poverty, a larger proportion (15.5 percent) moved into poverty. Results also revealed an overlap between the determinants of chronic and transient poverty as vulnerability aggravated both chronic and transient poverty in the region by increasing the odds of remaining and moving into poverty of poor and non poor households respectively. However, there were a few factors such as primary education of household head, membership of local group or association, access to remittance and credit associated with chronic but not transient poverty and vice versa. The study suggests adoption of mixed policies to poverty reduction and taking into account the factors that prevent the poor from slipping into poverty while giving due attention to the factors that help them overcome poverty in the targeting of the various anti-poverty programmes of government.

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POVERTY TRANSITIONS IN RURALSOUTH WEST NIGERIA

Strictly as per the compliance and regulations of:

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I. Introduction

In Nigeria, as in most other developing countries, the poverty situation is a daunting challenge especially in the rural areas. For instance, 54.4 percent of the population was below the poverty line in 2004 out of which 36.6 percent of the total population were living in extreme poverty (NBS, 2005). Findings of a 2006 Core Welfare Indicator Questionnaire (CWIQ) survey conducted by the National Bureau of Statistics also revealed that 67 per cent or two-thirds of Nigeria's rural population were poor compared to 57.9 per cent in urban areas. However, for informing policies and in the design of various poverty reduction strategies and programmes, cross-sectional household survey data are still being employed. In spite of these various policies, strategies and programmes (such as Green Revolution, National Fadama Development Project I, II and III, National Poverty Eradication Programme (NAPEP), National Economic Empowerment Development Strategy (NEEDS), Seven Point Agenda, Vision 20-2020 among others) aimed at improving the conditions of the poor, the number of poor people continues to increase. This could be owing to the fact that in using static poverty measures based on cross-sectional data, generally expressed by indicators such as the headcount ratio and the poverty gap, identifying the poor is based on how far consumption, expenditure or income lies below the poverty line. However, poverty measured at a particular point in time usually does not take into account the future prospects of household welfare which depends not only on its present income or consumption, but also on the risks or shocks it faces (Zhang and Wan, 2008). In other words, poverty is viewed as a static rather than a dynamic phenomenon. Hence, targeting currently poor households do not take into account households whose welfare decline sharply in the event of shocks.

The dynamic nature of poverty, adds an important aspect to the analysis of poverty as some households experience poverty for long periods of time, while others only experience it on a temporary basis due to negative shocks that result into a sudden loss of welfare. This indicates that today's poor may not be tomorrow's poor and has led to the increasing recognition in the past few years that there are considerable flows into and out of the poverty pool (Baulch and Hoddinott, 2000). For instance, Baulch and McCulloch (1998) observed that a high percentage of households in Pakistan moved into poverty due to temporary shocks (such as illness or loss of employment) that were reversed just one or two years later. Also, many of the people who escaped poverty only succeeded in doing so for one or two years before a reverse in their circumstances forced them back below the poverty line. This brings to the fore the importance of the analysis of poverty transitions in the prescription of potent poverty policies as well as in the design and targeting of anti-poverty programmes.

The analysis of changes of a household's welfare over time distinguish between the chronically poor and the temporarily poor and why some households remain poor over extended periods of time (Atasoy et al., 2008). Also, evidence from research on poverty dynamics has shown that the factors influencing chronic poverty may differ from those of transient poverty. Thus, the characteristics and needs of the transiently and chronically poor households are likely to differ implying that in targeting these households, alternative policies may be required (Jalan and Ravallion, 2000). Although, in the design of policies,

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chronic poverty usually causes more concern among policymakers and scholars than transitory poverty, it is nevertheless important to understand movements in and out of poverty over time and factors associated with transitions, since they have relevance for poverty persistence (Gamba and Mghenyi, 2004). Recent research has also established that for assessing the well-being of poor households and for devising effective strategies of poverty reduction in developing countries, the need for measures that take into account the dynamic nature of poverty phenomena is imperative (Hardewag et al., 2007). In line with the recent trend, this paper examines the dynamics of poverty in rural Southwest Nigeria with a view to assisting in isolating effective strategies for poverty reduction.

There have been few empirical studies on the dynamics of poverty in Nigeria (e.g. Alayande and Alayande, 2004; Oni and Yusuf, 2006; Oyekale and Oyekale, 2007 and Oluwatayo, 2007). These studies, apart from using cross sectional data which involves the exclusive reliance on the strong assumption of the ability of cross-sectional variability to capture temporal variability, did not investigate poverty transitions and the factors associated with movements into and out of poverty. The problem of distinguishing between chronic and transitory poverty, and investigating the factors that determine if a household will remain poor or move out of poverty with time has not received much attention in the poverty literature in Nigeria, largely due to the lack of nationally representative panel data that track the poverty status of households over time. The attendant cost of collecting such data at the national level and the need to demonstrate the usefulness of panel data justifies the choice of South Western Nigeria. It is also clear that an understanding of the factors that determine poverty transitions has important implications for the design of cost effective poverty reduction strategies (Kirimi and Sindi, 2006) particularly for rural communities in Nigeria where poverty rates are disproportionately high. Therefore, this study, apart from contributing to scarce literature on poverty transitions will also examine the factors associated with poverty transitions to allow for effective targeting of vulnerable groups in Nigeria.

II. Review of Empirical Studies on Poverty Dynamics

Empirical works on poverty dynamics date back to Bane and Ellwood (1983) which used panel data of income dynamics (PSID) for United States (US). Various methods that have been used in the study of poverty dynamics were reviewed. They posited that poverty dynamics can only be properly understood if it is defined in terms of poverty spells because the degree to which the poor fall into and out of poverty due to changes in income and family structure can be estimated. Results showed that while less than 40 percent of the poverty spells began due to decreases in the income of the household head about three-fifths of the spells ended due to increases in the household head's earnings. Also, majority of the poor were found to experience longer spells of poverty.

Findings from the reviewed literature on poverty transition in the United Kingdom showed that people who have experienced poverty in the past are at more risk of entering poverty than those who have not been in poverty, and that the longer someone stays poor the less likely they are to escape poverty for instance, Jenkins et al. (2001) found that about 30 per cent of those leaving poverty became poor again within a year. For those in poverty, the chances of escaping decrease over time. They suggest even less mobility: while over half of poverty entrants left after a year and a third after two years, the exit rate declined sharply so that, of those poor for seven years, only 19 per cent had left poverty the following year.

Jalan and Ravallion (1998) differentiated the poor into the chronically and transiently poor using China panel data and the 'component' approach. In this approach, those with "time-mean consumption" below poverty line over a given time period were classified as the chronically poor while the total expected poor were those with the inter-temporal consumption below poverty line. The difference between total expected poverty and chronic poverty was then measured as transient poverty. They also investigated the determinants of chronic and transient poverty using the censored conditional quintile regression method. Results of their analysis showed that while physical assets were important determinants of transient poverty, chronic poverty was highly influenced by demographic characteristics of the household. Generally they found that the determinants of chronic and transient poverty differ although there were some factors that were associated with both types of poverty. They suggested consumption variability mechanisms such as seasonal public works, credit schemes, buffer stocks and insurance options as effective poverty reduction tools.

In the same vein, McCulloch and Baulch (1999) using a five-wave panel data for Pakistan distinguished the chronically, transitorily and never poor households. They examined the characteristics influencing these categories of household employing both an ordered and a multinomial logit model. The results showed that between 21 per cent and 29 per cent of households had incomes below the poverty line In each year of the survey, but 46 per cent to 51 per cent of poor households' moved out of poverty from one year to the next while only 3 per cent of households were poor in all five years of the panel. Furthermore, the correlates of entries and exits from poverty were found to be different from those of poverty status. The policy implications of their findings give the indication that if anti-poverty policies are targeted using the characteristics of the currently poor, it will miss a significant proportion of

households who slip into poverty when faced with shocks. They recommend that if governments care primarily about reducing the poverty headcount, they should focus their efforts on increasing exits from and decreasing entries into poverty.

Bigsten and Shimeles (2003) and Swanepoel (2005) analyzed the dynamics of poverty using spells and component approach for ERHS 1994-1997. Results revealed that while most households in the rural areas were transiently poor, factors such as age of the head of the household, dependency ratio within the household greatly affected the odds of moving into poverty. Similarly, the review work by Baulch and Hoddinott (2000) on ten developing countries revealed that poverty in developing countries is more of transient than being chronic.

Using panel data from Egypt for 1997-1999, Haddad and Ahmed (2002) investigated poverty transitions using both the transition matrix and the components approach. Findings showed that poverty was largely chronic while those who moved into poverty were over twice those who exited poverty. They investigated the determinants of chronic and transient poverty and found out that there were factors such as average years of schooling of household members that inversely affected both types of poverty but had a stronger effect on chronic poverty. They concluded that poverty alleviation policies should focus on improving the asset accumulation process since majority of the households were found to be chronically poor. Similarly, employing a three year panel data set of rural households in the Tigray region of northern Ethiopia, Nega et al.(2008) examined the dynamics of poverty and the impact of two intervention measures – the food for work (FFW) and the food security package (FSP) programs – upon poverty by disaggregating total poverty into its transient and chronic components. Findings from their study revealed that poverty in the region is predominantly chronic. Results of matching estimators indicate that the FSP program has a significant negative effect on total and chronic poverty, but not on transient poverty and that households involved in the program have on average lower levels of total and chronic poverty than households not involved in the program. The FFW on the other hand does not significantly influence any of the three forms of poverty. Tertile regressions, however, reveal that the FFW benefits households in the richest and the middle tertiles.

Okidi and Mckay (2003) and Lawson et al. (2006) in the 1990s examined the dynamics of poverty and factors influencing the dynamics in Uganda employing different econometric approaches Lawson et al (2006) investigated the correlates of the never poor, those moving in and moving out of poverty. They found lack of education and assets important factors influencing chronic poverty.

Oleksiy Ivaschenko and Cem Mete (2008) in their study showed that the factors which make households move out of poverty are different from the factors which make them fall back into poverty. The study used panel data analysis for Tajikistan and showed that, in such a transitory economy, the mobility of households from and into poverty is quite high.

From the above literature, it is evident that the class of decomposable poverty measures of FGT was used in measuring poverty and the decomposition of poverty was done using either the spells or the component approach. To investigate the factors influencing total, chronic and transient poverty, different econometric models such as multinomial logistic, probit, mutinomial probit, tobit and quantile regression were used by different authors. In this study, the much simpler "spells approach" was adopted in decomposing poverty into its chronic and transient components (McKay and Lawson, 2003) and the factors associated with total, chronic and transient poverty were examined using the probit and multinomial logistic regression method respectively. In addition, in the case of Africa, there are few studies of poverty dynamics despite the rampant poverty in the region. This may be due to the demanding nature of the data in analyzing the dynamics of poverty. Only few countries (Cote d'Ivoire, Ethiopia, Egypt, South Africa, Uganda, Kenya, Ghana and Zimbabwe) to the best of my knowledge have household-level panel data. Therefore, this study will be quite an immeasurable contribution to the body of knowledge on poverty dynamics in Nigeria and Africa as a whole.

III. Materials and Methods

The geographical location of South West Nigeria covers about 114, 271 kilometer square that is, approximately 12 percent of Nigeria's total land mass (see Adepoju et al., 2011). The total population is 27,581,992 and predominantly agrarian. The vegetation is typically rainforest; however climatic changes over the years have turned some parts of the rain forest to derived savannah. The cultivation systems mostly practiced are mixed farming and mixed cropping. Depending on the prevailing vegetation, soil and weather conditions, notable food crops cultivated include cassava, maize, yam, cowpea while cash crops include cocoa, kolanut, coffee and oil palm (NPC, 2006). Non-farm activities of the households include trading, carpentry, bricklaying as well as government employment.

Primary data employed in this study were collected from a two-wave panel survey undertaken at 5-months interval to allow measurement of seasonal variation in behaviour and outcome and to balance both the cross-sectional and time series requirements of panel data. The two periods correspond to the lean and harvesting seasons of 2009. Data were collected (from

the same households in the two rounds) on demographic characteristics, education, employment, housing and housing conditions, social capital, income, consumption expenditure as well as the economic infrastructure available to the community.

The frame for the study was the demarcated Enumeration Area (EA) maps produced by National Population Commission for the 2006 Housing and Population Census (see Adepoju et al., 2011 for details).

a) Specification of the Models

i. *The Poverty Threshold*

There is now recognition in literature that poverty is complex in nature and that consumption-based poverty measures are usually more stable than those of income (Lipton and Ravallion, 1995). This is because consumption tends to fluctuate less than income (which can even go to zero in certain months due to seasonality), making it a better indicator of living standards. Unlike income, consumption also reflects the ability of a household to borrow or mobilize other resources in time of economic stress (Grosh et al., 2008). Therefore, in line with most poverty studies (Dercon and Krishnan, 2000; Goh et al., 2001; Haddad and Ahmed, 2003; Gaiha et al., 2007), per capita household consumption expenditure was used as a proxy for per capita household income. A relative poverty line was constructed based on the Mean Per Capita Household Expenditure (MPCHHE) of the sampled respondents. Poverty categories were then established using the relative poverty lines for each of the periods following Baulch and McCulloch (1998); Gamba and Mghenyi (2004) and Gaiha et al., (2007). Those who spent less than two-thirds of their MPCHHE were classified as poor (moderately) while (non-poor) are those who spend two-thirds or more of their MPCHHE (NBS, 2005).

The poverty measure that was used in this analysis is the class of decomposable poverty measures by Foster, Greer and Thorbecke (FGT). They are widely used because they are consistent and additively decomposable (Foster et al., 1984).
The FGT index is given by

$$P_\alpha = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{z - y_i}{z}\right)^\alpha \qquad (1)$$

Where;

Z is the poverty line defined as 2/3 MPCHHE, yi is the value of poverty indicator/welfare index per capita in this case per capita expenditure in increasing order for all households; q is the number of poor people in the population of size n, and α is the poverty aversion parameter that takes values of zero, one or two.

In operationalising the concepts of chronic and transient poverty, household poverty status in the different years of the panel was employed. A common approach is the decomposition of total poverty, defined as an inter-temporal average poverty measure, into its chronic and transient components (Jalan and Ravallion ,1998). This approach however, relies on the computation of inter-temporal mean of consumption which cannot be properly captured using only two waves of panel data (McKay and Lawson, 2003). Hence, in this study, the "spells approach" in which a household that is poor in only one period is classified as transient poor, while a household that is poor in both periods is considered to be chronically poor is adopted.
To examine the movements of households in and out of poverty and to understand the relationship between poverty entry and exits, poverty transition matrix and the simple-first order Markov model were employed.

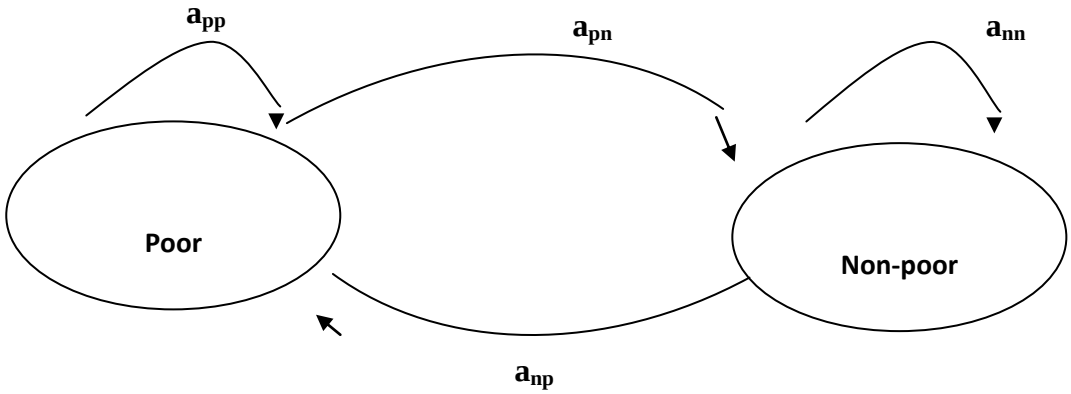

Figure1 : Markov Model of Poverty Transitions.

Source : Adapted from Baulch and McCulloch (1998)
Where p denotes poor and n denotes non-poor, thus
app = probability of staying poor
ann = probability of staying non-poor
apn = probability of exiting poverty
anp = probability of entering poverty

ii. *Multinomial Logit Model*

The multinomial logit model (following Gaiha et al., 2007; Bigsten et al., 2003; Bhatta and Sharma, 2006; Haddad and Ahmed, 2003; Baulch and Hoddinott, 2000) was used to analyze the shift of poverty status between the two periods (Harvesting and Lean periods). The relative probability of $Y_i = j$ in relation to the base category $Y = 0$ is given by the Relative Risk Ratio (RRR) or odds ratio.

$$\Pr(Y_i = j) = \frac{e^{(X_{ij}\lambda + \tau \hat{VEP}_{ijt-1})}}{\sum_{k=0}^{3} e^{(X_{ij}\lambda + \tau \hat{VEP}_{ijt-1})}}, \quad j = 0,1,2,3 \qquad (2)$$

The parameter estimates measure the impact of a unit increase in the relevant explanatory variable on the log odds ratio of the particular state in relation to the base line category [1].

The MNL model is explicitly expressed as

$$Y_1 = \alpha_1 + B_{11}X_1 + B_{21}X_2 + \ldots\ldots\ldots\ldots B_nX_n + \epsilon_i \qquad \text{----------(3)}$$

$$Y_2 = \alpha_2 + B_{12}X_1 + B_{22}X_2 + \ldots\ldots\ldots\ldots B_nX_n + \epsilon_i \qquad \text{----------(4)}$$

$$Y_3 = \alpha_3 + B_{13}X_1 + B_{23}X_2 + \ldots\ldots\ldots\ldots B_nX_n + \epsilon_i \qquad \text{----------(5)}$$

$$Y_o = \alpha_o + B_{10}X_1 + B_{20}X_2 + \ldots\ldots\ldots\ldots B_nX_n + \epsilon_i \qquad \text{----------(6)}$$

Where Yi represents 4 unordered categories of poverty transition:

Y_1 = those who were poor in both periods (i.e. chronically poor)

Y_2 = those who were poor in the first period, but non-poor in the second period (i.e. transitory poor)

Y_3 = those who were non-poor in the first period, but poor in the second period (i.e. transitory poor)

Y_0 = those who were non-poor in both periods (i.e. always non-poor) (which is the reference case where it was assumed that $\lambda_0 = \tau_0 = 0$ Hence, the results for the base will not appear).

X_1 - - X_n represent vector of the explanatory variables where n = 1 …22

B_1 - - B_{22} represent the parameter coefficients.

ϵ_i = represents the independently distributed error terms.

$\alpha_0 - \alpha_3$ shows the intercept or constant terms.

To measure the promotional and protective effects, following Greene (2000), equation (2) was normalized by setting.

$$\Pr(Y_i = j) = \frac{e^{(X_i\lambda_j)}}{1 + \sum_{k=1}^{3} e^{(X_i\lambda_k + \tau_k \hat{VEP}_i)}}, \quad j = 1,2,3 \qquad (7)$$

(8)

$$\Pr(Y_i = 0) = \frac{1}{1 + \sum_{k=1}^{3} e^{(X_i\lambda_k + \tau_k \hat{VEP}_i)}}, \quad j = 0$$

Probabilities for four different choices were then obtained from equations (7) and (8). Upon normalization, the 'protective effect' (i.e. the effect of preventing the non-poor from falling into poverty), and the 'promotional effect' (i.e. the effect associated with helping the poor escape poverty in a dynamic framework) were then identified (see Gaiha et al., 2007 for details).

Chi-square (X^2) distributions and log – likelihood function was used to test the goodness of fit of the overall model.

IV. Results and Discussion

a) Poverty Transition and Decomposition (Spells Approach)

The mean per capita household expenditure for the study area in the harvesting and lean periods was ₦4970.36 and ₦ 6140.43 respectively from where poverty lines of ₦ 3313.57 and ₦ 4093.21 equivalent to two-thirds of the mean per capita household expenditure (MPCHHE) were obtained. This gave poverty incidence of 35 percent and 43.6 percent for the harvesting and lean periods respectively. The poverty transition matrix in table 1 shows that 49.5 percent of the households were non-poor in both periods implying that a significant proportion of the respondents were non-poor in the 2 periods (65.0 percent and 56.4 percent respectively). This corroborates the findings of NBS (2005) in which Osun and Oyo states had relatively lower poverty incidence (32.35 percent and 24.08 percent respectively) when compared with other states in the South West zone. On the other hand, the percentage of households that were poor in both periods was 28.2 percent indicating that, approximately 78% of the households did not change their poverty status between the two periods. Table 2 shows the percentage of households in each poverty category based on the spells approach of poverty decomposition.

Table 1 : Poor/Non-Poor Transition Matrix

1st Period		2nd period		
		Non poor	Poor	Total
	Non Poor	288 (49.5)*	90 (15.5)	378 (65.0)
	Poor	40 (6.8)	164 (28.2)	204 (35.0)
	Total	328 (56.4)	254 (43.6)	582 (100)

Source : Field Survey, 2009

** Top number is cell frequency and number in parenthesis is cell percentage*

The chronic and transient poverty rates were 28.2% and 22.3% respectively indicating a higher level of chronic poverty in rural South Western Nigeria, although a significant percentage (around one fifth) of the households in the region suffered from transient poverty. However, of the transient poor, while 6.8 percent exited poverty, a larger proportion (15.5%) moved into poverty (table 2). This result is in line with other African estimates reported by Baulch and Hoddinot (2000). In sum, poverty is largely chronic in rural South Western Nigeria. Hence, poverty alleviation policies in Nigeria should focus on how to pull out the long run poor from their poverty trap, while giving due attention to the transient poor.

Table 2 : Poverty Decomposition (Spells Approach)

Poverty Status	Nos. of Households	Percentage
Always poor (chronic)	164	28.2
Sometimes poor (transient)	130	22.3
Never poor	288	49.5
Total	582	100.0

Source: Field Survey, 2009 .

b) Factors Influencing Poverty Transitions

This section presents the multinomial regression results for the correlates of poverty transitions (chronic and transient poverty) in the study area. Similar sets of explanatory variables were used in each case. The determinants of chronic and transient poverty were interpreted in terms of the odds ratio of all other response categories relative to the base category. The base category in this case is the never poor households (i.e. the non- poor state). The results also presents the relative risk ratios (RRR) associated with the different explanatory variables. The multinomial logit model (table 3) passes the minimum requirement for robustness where the likelihood ratio of 511.76 based on chi-square test for overall model is significant at 1 percent. The model also explains well given the pseudo R^2 of 0.376.

i. *Determinants of Chronic Poverty*

Table 3 shows that VEP, sex of household head, household size, years of experience in primary occupation, distance to public health facility, membership of social group or association, access to remittances, dependency burden, primary occupation of the household head, access to potable water , construction material of outside wall (Mud), primary education of household head, secondary education of household head, tertiary education of household head and access to credit are the major factors influencing chronic poverty in the study area. While vulnerability, household size, dependency burden, primary occupation of household head, construction material of outside wall, and distance to public health increased the likelihood of being chronically poor, gender of household head, years of experience in primary occupation, membership of local group, access to remittances, potable water, credit and educational attainment of the household head reduced the likelihood of chronic poverty in the study area .The human capital variables (primary, secondary and tertiary education of household head) showed a significant negative relationship with chronic poverty. Specifically, while an additional year of primary and secondary education of household head impacted negatively on the odds of being chronically poor by 0.020 and 0.411 respectively, the RRR associated with tertiary education was observed to be 0.459 implying that tertiary education of the household head decreased the odds of being chronically poor more. Such results corresponds strongly with a priori expectations that education is very likely to have a fundamental influence on a households poverty status and highlights the strong role of human capital development in raising the long term welfare of households (McCulloch and Baulch , 1999; Gaiha et al., 2007; Muyanga et al., 2007). Therefore, the factors perpetuating poverty in the study area are: larger household size, higher dependency burden, no educational attainment, primary occupation (farming), and poor housing conditions.

Table 3 : Multinomial Logit Regression Result for the Determinants of Chronic and Transient Poverty.

	Chronic Poverty			Exiting Poverty			Moving into Poverty		
Variable	**RRR**	**Coeff.**	**z-value**	**RRR**	**Coeff.**	**z-value**	**RRR**	**Coeff.**	**z-value**
VEP	10.05	2.308	2.77***	1.621	0.483	0.48	1.802	1.820	2.22**
Sex	0.036	-3.299	- 4.52***	0.305	-1.187	-1.31	0.229	-1.471	-2.33**
Age	1.008	0.008	0.12	0.949	-0.051	-0.73	0.989	-0.010	-0.18
Age squared	1.000	0.000	0.04	1.000	0.000	0.93	0.999	-5.77E-06	-0.01
Household size	2.479	0.908	5.66***	0.017	-0.702	-3.59***	1.800	0.588	3.86***
Dep.burd.	221.371	5.399	3.52***	0.047	-4.193	-2.82***	6.026	3.968	2.15**
Household type	0.929	-0.073	- 0.16	1.264	0.234	0.41	1.225	0.203	0.46
Primary Educ.	0.020	-0.777	-1.81*	0.826	-0.190	-0.36	0.637	-0.456	-1.09
Sec. Educ.	0.411	-2.501	-3.09***	1.029	1.625	2.27**	0.659	-0.415	-0.84
Tertiary Educ.	0.459	-3.867	-3.53***	3.196	3.526	2.80***	0.910	-2.273	-2.95***
Pry Occup.	3.620	1.286	2.03**	0.889	-1.506	-2.06**	1.197	0.180	0.31
Yexp.Occup.	0.919	-0.084	-2.83***	0.929	-0.735	-1.97**	0.954	-0.046	-1.66*
Land size	1.146	0.136	0.97	0.998	-0.001	-0.01	0.700	-0.007	-1.90*
Mem. Assoc.	0.442	-0.815	-2.14**	0.522	-0.649	-1.40	0.724	-0.322	-0.86
Access to credit	0.417	-0.873	-2.23**	1.670	0.399	0.79	1.041	0.040	0.12
Access remitt.	0.640	-1.730	-2.64***	0.679	-0.387	-0.47	2.285	0.826	1.42
Dist.pub.Health	1.865	0.144	2.07**	0.826	-0.190	-1.76*	1.037	0.036	0.59
Mud	1.453	0.790	1.96**	0.874	-0.134	-0.26	0.617	-0.482	-1.26
Room ratio	0.483	-0.726	-1.14	0.284	-1.255	-1.38	0.751	-0.285	-0.62
Sanexcre	1.008	0.008	0.02	1.181	0.167	0.32	1.133	0.125	0.31
Pwater.	0.497	-0.699	-2.01**	2.799	1.071	2.56***	0.950	-0.050	-0.16
Electricity	0.941	-0.060	-0.15	2.204	0.790	1.50	0.782	-0.245	-0.62

*Source : Computed from 2009 Panel Data *** Significant at 1% , ** at 5%, * at 10% Log likelihood -425.46 Observations 582 Pseudo R. Squared 0.3756 LR Chi2 (66) = 511.76 Prob > Chi2 = 0.0000*

Dependent variable: poverty status (0=non-poor,1=chronic poor,2=poor-nonpoor,3=nonpoor-poor),with base category poverty status=0.

ii. *Determinants of Exiting Poverty (Transient Poverty) in the Study Area*

Table 3 also reveals the major factors influencing the odds of exiting poverty in the study. These are; household size, years of experience in farming, distance to public health facility, dependency burden, primary occupation (farming), access to potable water, primary and secondary education of the household head. While household size, distance to public health facility, dependency burden, primary occupation of household head decreased the odds of exiting poverty, years of experience in primary occupation, access to potable water, secondary and tertiary education impacted positively on the odds of

exiting poverty in the study area. The coefficient of vulnerability was positive but not significant for poverty exit (Lawson, 2004; Gaiha et al., 2007). However, the effect of household size and as expected, dependency burden on the likelihood of exiting poverty was negative with a RRR of 0.017 and 0.047 respectively. This indicates that an additional member of household as well as an additional dependant to the household decreased the odds of exiting poverty in the study area. This result as earlier stated might not be unconnected with the fact that increased household size decreases per capita expenditure while dependants do not contribute to household income thereby aggravating poverty in the household. This result corroborates the findings of Haddad and Ahmed (2002). Similarly, the negative effect of the variable of primary occupation on the odds of exiting poverty implies that being engaged in farming as primary source of income decreases the probability of exiting poverty. However, contrary to a priori expectations, a year increase in experience in primary occupation of household head decreased the odds of exiting poverty by 0.929. This could be attributed to the fact that as the years of experience in primary occupation increase, the age of the household heads also increase. This will consequently lead to a reduction in productivity, income and ultimately increased poverty. Distance to public health facility also had a negative impact on exiting poverty by decreasing the odds ratio that the households will exit poverty by 0.826.

On the other hand, the RRR of 1.02 for secondary education and 3.19 for tertiary education implies that while both secondary and tertiary education of the household head had strong positive influence on the likelihood of exiting poverty in the study area, the latter increased the odds of exiting poverty more. Again this corresponds to findings that education is very likely to be a strong causal influence on household poverty status (Lawson, 2004; Baulch and Mcculloch , 1999). Although not significant, the negative effect of the head having primary education on the probability of household escaping poverty may seem counter intuitive, but this is probably picking up the effect that households whose head had completed primary school were less likely to be poor to start with (Lawson ,2004; Bhatta and Sharma, 2006). This is consistent with findings of Woolard and Klasen (2005), Bigsten et al. (2003) and Lawson (2004). Similarly, access to potable water increased the odds of exiting poverty, implying that access to infrastructure such as potable water is an effective tool for poverty reduction. In summary, the poor would overcome poverty in the next period through smaller household size, access to healthcare facility, lower dependency burden, access to potable water, and education (at the secondary and tertiary levels).

iii. *Determinants of Moving into Poverty (Transient Poverty) in the study area*

Movement into poverty is a function of VEP, gender of household head, household size, land size, dependency burden, and tertiary education. While VEP, household size and dependency burden impacted positively on the movement into poverty, tertiary education, land size, years of experience in primary occupation and gender of household head had a negative impact on movement into poverty.

As shown in table 3, vulnerability impacted positively on the movement into poverty by 1.82 implying that those vulnerable and non-poor are likely to fall into poverty. This result corroborates the findings of Gaiha et al. (2007). The positive coefficient of household size and dependency burden also indicates that increases in household size and dependants in the household are strongly associated with moving into poverty (Gaiha and Imai, 2003; Haddad and Ahmed, 2003). Specifically, an additional member or dependant to the household increased the likelihood of slipping into poverty by 1.80 and 6.03 respectively. On the other hand, rural residents with higher number of years of experience in primary occupation and larger sized land were found to be less likely to fall into poverty. Similarly, male headed households decreased the odds of slipping into poverty by 0.229. Also, among all the human capital assets, only tertiary education of the head had a strong negative influence on the likelihood of a household moving into poverty. That is, tertiary education decreased the odds of slipping into poverty. This result is consistent with findings of Lawson et al. (2005) and implies that higher levels of education is crucial for sustained poverty reduction as it increases opportunity of gainful employment, access to skills which enhances productivity and consequently improves household income and welfare. Tertiary education is therefore a priority factor for moving out of poverty in the study area. Hence, the factors that prevent the non poor from slipping into poverty in the study area include: smaller household size, lower dependency burden, higher education and larger land.

c) Promotional and Protective Effects

The difference between coefficients of VEP for poor – non poor category (2) and poor – poor category (1) reflects the promotional effect (Gaiha et al., 2007) . The greater coefficient of VEP for category 1 as shown in table 3 implies that those vulnerable and poor are more likely to remain in poverty. In this wise, the promotional effect is lower. This result is consistent with findings of Gaiha et al. (2007) and corroborates previous findings in this study that those vulnerable and poor are more likely to remain in poverty. On the other hand, the positive coefficient for VEP in the non-poor–poor (category 3) relative to the base category implies that the probability of those vulnerable and non- poor slipping into poverty, relative to being non-poor is higher (protective effect is lower). This result again corroborates previous findings in this study that those vulnerable and non-poor are likely to fall into poverty. These result highlights the need for the Nigerian government to give due attention to the factors that help

the poor overcome poverty and those that prevent them from slipping into poverty for targeting of anti-poverty interventions.

V. Conclusion

Despite the various efforts of government to reduce the incidence of poverty through different poverty alleviation programmes and strategies and the quest to be one of the 20 largest economies by the year 2020, Nigeria, continues to be one of the poorest countries in the world. This high level of poverty characterising the country therefore, requires an urgent need to gain a better understanding of the persistence and dynamics of poverty at the household level in Nigeria.

In this study, poverty dynamics was studied using regional panel data and it brings to the fore that the poor are not a homogenous group but consists of households who move into and out of poverty (transient poor) as well as households that are trapped in poverty (chronic poor). Hence, to achieve the right policies that will address both types of poverty, the extent to which poverty is transient versus chronic should be an important consideration when designing policies aimed at reducing poverty (Jalan and Ravallion, 2001). Furthermore, the fact that there are more chronically poor households in the region although there is a significant proportion of transiently poor households is an indication that the government should focus on providing sustainable social protection strategies (for instance general price subsidies, cash and conditional cash transfers) to empower the households and adopt policies (such as adequate access to microfinance) that assist households in increasing their assets. In the case of the transient poor, policies are needed to help households smooth their consumption over time such as measures to encourage insurance schemes and safety nets (Haddad and Ahmed 2003).

In addition, since there is an overlap between the determinants of chronic and transient poverty, although there were a few factors associated with chronic but not transient poverty and vice versa, the targeting criteria of the various anti-poverty programmes must take into account the factors that prevent the poor from slipping into poverty while giving due attention to the factors that help them overcome poverty.

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