DOES ASSET OWNERSHIP REDUCE CHRONIC POVERTY?

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Abstract

Assets play an important role in the understanding of chronic poverty. This study was conducted in southern Nigeria to quantitatively assess the poverty level of households with respect to ownership of assets. Using the multistage sampling technique, primary data were obtained from 150 households with the aid of questionnaire. Data were subjected to analyses using the Foster Greer Thorbecke weighted poverty index and stochastic dominance analysis. Results indicate that poverty incidence, depth and severity was lower for households who own certain assets as land, houses, cars, motorcycles and sewing machines. The δ-value of the difference in the two sub-groups' poverty incidences is significant ($P < 0.01$). Findings reveal that asset portfolio of majority of households was substantially low as more than 70 percent owned assets valued less than ₦100,000. Results of stochastic dominance analysis reveal that there was first order stochastic dominance. Result underscores the need to focus on poverty reduction policies that will increase the asset portfolio of rural households who are mostly dependent in farming for their income and food supplies.

Keywords: Asset, ownership, chronic, poverty

Introduction

Accumulation of assets is an important means by which people can move out of poverty and improve their livelihood (McKay, 2009). Having more assets also potentially plays an important role in providing and indicating social status, and potentially benefitting more from public policy interventions. On the other hand, those losing assets – perhaps as the result of a health shock may be pushed into poverty. And those lacking assets to begin with risk being caught in a poverty trap (Carter and Barrett, 2006). One of the merits of an asset approach to the study of poverty is that whereas income and expenditure are both flow variables, assets constitute a stock

(Deere and Unidos, 2010). Flow variables are usually measured at one point of time, providing a snapshot of poverty levels. Stocks, on the other hand, are accumulated over time and hence gives a more dynamic picture. Stocks are therefore considered to be more stable and dependable than either income or expenditure measures. Asset ownership thus provides a better picture of the capacity of people to manage their vulnerability to poverty. As reported by Carter (2007), assets can give an insight to the nature of poverty whether or not the poor are structurally or stochastically poor. Arguments are advanced in favour of the view that assets will help reduce poverty. According to Deere and Unidos (2010), one rational is that asset-ownership yields an independent "asset-effect". This is because owning an asset encourage people to save more for their own future and act in a more responsible manner. Paxton (2002) however, noted that this leads people to take steps to prevent onset of welfare problems, rather than try to alleviate these difficulties once they have already emerged. Ownership of physical and financial asset constitutes one of the main means of generating income and hence expenditures and consumption. This is evident in the case of land and agricultural production, but equally relevant in the case of the informal sector where ownership of consumer durables (such as a sewing machine, stove or refrigerator) may constitute business assets and make possible a series of income-generating activities (Deere and Unidos, 2010). Assets constitute an important buffer during emergencies, since they can be pawned or sold (Antonopoulous and Floro, 2005). They are a source of potential current consumption to the extent that they can be converted to cash and thus are an important indicator of a household's potential vulnerability to shocks and whether a household falls into chronic poverty (Addison *et al.*, 2008). In addition, assets may serve as collateral for loans. Moreover, they are a store of wealth that can be passed and to future generations. They also generate status and social advantage (Deere and Doss, 2006) and play a key role in the understanding of poverty (McKay, 2009). Without some emphasis on assets people will be given the maximum opportunity to realize their potential and escape poverty (Sherraden, 2002). Asset-ownership yields an independent "asset-effect" i.e owning an asset encourages people to save more for their own future and act in a more responsible manner. It is important to be reminded that poor people by the fact of their poverty have limited asset base and often more highly reliant on natural resources (Arun, 2008).

The ownership of certain assets by the poor including the chronically poor is relatively low (McKay, 2009) and the poorest are those with less land, fewer livestock, less production and transport equipment, and less consumer durables (Ahmed et al., 2007). The predominant occupation of most rural communities in Akwa Ibom State, Southern Nigeria is farming (Etim, 2007). Despite the participation of rural households in farming and

off-farming activities, their incomes and ownership of certain assets is relatively low. This has however worsen their condition of living and thus manifesting in poverty. Consequently, for these households to increase their incomes and asset portfolio, the poverty situation has to be curbed. Since asset ownership plays a key role in the understanding of poverty, poverty reduction policy should therefore focus on the assets owned by the poor as much as what they lack (Moser, 1998), and should seek to help them accumulate assets and manage more effectively what they have. McKay (2009) noted that the limited level of assets owned by households, plus severe constraints in being able to manage these effectively is a major contributor to high levels of vulnerability as well as persistent poverty. Therefore, to formulate policies and develop programmes aimed at reducing poverty, an understanding of the role asset ownership in poverty reduction is imperative. This study was conducted to provide a quantitative poverty assessment of farming households through asset ownership using cross sectional data.

Methodology

Study Area, Sampling and Data Collection Procedure

This study was conducted in Akwa Ibom State, Niger Delta, Nigeria. The state is located at latitude $4^{\circ}33'$ and $5^{\circ}53'$ and longitude $7^{\circ}25'$ and $8^{\circ}25'$ East and occupies a total land area of 7,246km^2. With an estimated population of about 3.9million (NPC, 2006), the state is bounded to the North by Abia State, to the East by Cross River State, to the West by Rivers State and to the South by the Atlantic Ocean. Administratively, the state is divided into 31 Local Government Areas and has 6 Agricultural Development Project (ADP) Zones viz: Oron, Abak, Ikot Ekpene, Etinan, Eket and Uyo.

The study area is in the rainforest zone and has two distinct seasons viz: the rainy and the short dry season. The annual precipitation ranges from 2000 – 3000mm per annum. Most of the inhabitants of rural communities in the study area are farmers and the crops commonly cultivated include cassava, oil palm, yam, cocoyam, fluted pumpkin, okra, waterleaf, bitter-leaf, etc. In addition, some micro livestock are usually raised at backyards of most homesteads.

Primary data were used for this study. Farm-level intensive itinerary survey provided the basic cross-sectional data from 150 rural farming households in the study area. Data were collected from farm households using well structured questionnaire. Primary data included data on household income and expenditure, socio-economic characteristics of households and their heads, farm, specific variables.

Multistage sampling technique was used for selecting the representative farm households that were used for this study. The first stage was the random selection of 3 out of the 6 Agricultural Development Project Zones in Akwa Ibom State. The second stage sampling was the random selection of 5 villages per ADP zone to make a total of 15 villages. Furthermore, a total of 10 households were randomly selected to make a total of 150 farming households.

Analytical Techniques

There are many poverty measures. The head count ratio or index is otherwise called poverty incidence. This type of application would be useful in testing the effectiveness, overtime, space or sub-group of policies intended to alleviate the relative number of poor people. If the percentage of the population in poverty decreases, then poverty is said to decline and vice versa. A major problem with the head count ratio is that it does not indicate the extent of poverty intensity. Another short coming of the head count index is that it implies that the distribution of income/expenditure is homogenous.

The poverty gap measure otherwise called poverty depth has a useful interpretation as the average fraction of the poverty-line income that would be required to be distributed in order to eradicate poverty under the assumption of perfect targeting. It shows the degree of immiseration. The short fall of the poverty depth as a measure is that it does not indicate the severity of the poverty problem in terms of the number of people who suffer. It also does not show income distribution among the poor.

The sen index has a major draw back: it is more responsive to improvements in the headcount than it is to reductions in the income gap or to improvements in the distribution of income among the poor. That is, the index indicates that the efficient way to reduce poverty is to help the least needy first and the most needy last. This is antithetical to egalitarianism.

The Foster, Greer and Thorbecke (FGT) weighted poverty index was used for the quantitative poverty assessment (Foster *et al*, 1984). The reason for this choice is due to its decomposability of the overall population into mutually exclusive sub-populations. This allows for comparison of poverty over the various mutually exclusive sub-groups. United Nations UN (2001) noted that the most important purpose of a poverty measure is to enable poverty comparisons.

The FGT measure for the subgroup $_i$th $P\alpha_i$ is given as:

$$P\alpha_i = n^{-i} \sum_{j=1}^{qi} \left(\frac{z - Yji}{z, O\max} \right)^{\alpha} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \; 1$$

Where $P\alpha_i$ is the weighted poverty index for the $_i$th subgroup; n_i is the total number of households in the $_i$th subgroup households in poverty; Y_{ji}

is the per adult equivalent expenditure of household j in sub group $_{ij}$, z is the poverty line and α is the degree of concern.

When α is equal to zero, it implies no concern and the equation gives the head count ratio for the incidence of poverty (the proportion of the farming households that are poor).

When α is equal to 1, it shows uniform concern and equation becomes

$$P_{1_i} = ni^{-i}\sum_{j=1}^{qi}\left(\frac{z - Yji}{z, O\max}\right)^1 \quad \text{..... 2}$$

This measures the depth of poverty (the proportion of expenditure shortfall from the poverty line) according to Hall and Patrinos (2005), it is otherwise called the poverty gap the average difference between the income of the poor and the poverty line.

When α is equal to 2, distinction is made between the poor and the poorest (Foster *et al*, 1984; Assadzadeh and Paul, 2003). The equation become

$$P_{2_i} = ni^{-1}\sum_{j=1}^{qi}\left(\frac{z - Yji}{z, O\max}\right)^2 \quad \text{..... 3}$$

The equation gives a distribution sensitive FGT index called the severity of poverty. It tells us the extent of the distribution of expenditure among the poor.

The FGT measure for the whole group or population was obtained using:

$$P_\alpha = \sum_{i=1}^{m}\frac{P\alpha_i n_i}{n} \quad \text{..... 4}$$

Where Pα is the weighted poverty index for the whole group, m is the number of subgroups while n and n_i are the total number of households in the whole group and the $_i$th subgroup respectively.

The contribution (C_i) of each subgroups weighted poverty measure to the whole groups weighted poverty measure was determined using;

$$C_i = \frac{n_i P\alpha_i}{nP\alpha} \quad \text{..... 5}$$

The test of significance of Pα_i (subgroup poverty measure) relative to the Pα (whole group poverty measure) was given according to Kakwani (1993) by:

$$t = \frac{P_{\alpha i} - P_\alpha}{SE(P_{\alpha i})} \quad \text{..... 6}$$

The above was used to test if significant difference exist between the Pα measures of a subgroup i with another j.

The weighted poverty measures (Pα) and their corresponding standard errors were calculated using the Microsoft Excel Package.

The stochastic dominance analysis was used to test the robustness of poverty to small changes in the location of the poverty line.

Results and Discussion

With respect to asset ownership, farm households were decomposed on whether or not they possess certain assets as land, houses, cars, motorcycles, sewing machine, etc. Result reveals that 61 percent of households without these assets were poor while 43 percent of asset owning households are poor. Their respective contributions to whole group poverty incidence are 21 and 79 percent. The t-value of the poverty incidence is significant for only those households without these assets ($p<.05$) relative to that of the whole group's poverty incidence. The δ-value of the difference in the two sub-groups' poverty incidences is significant ($p<0.01$). Hence, assets ownership has a sizeable effect on poverty incidence. The depth and severity of poverty and their contributions to whole group poverty follow similar pattern like the poverty incidence as shown in 2. There is no significant difference ($p>0.1$) in between the poverty depth and severity. Poverty is more prevalent in households without assets than asset owning ones. This implies that households who own assets commercialize or sell them and thus converts them into cash during periods of hardship to generate additional income to households. Finding is synonymous with earlier results of Antonopoulous and Floro (2005); Etim (2007) and Addison *et al.* (2008) who reported that assets are important buffers during emergences and difficulties as they can be sold or pawned.

Table 1: Comparison of Poverty by Asset Ownership

Asset Ownership	P_0	P_1	P_2	Contribution to		
				P_0	P_1	P_2
Yes	0.43	0.23	0.23	0.21	0.11	0.15
	(-0.50)	(-0.28)	(-0.29)			
No	0.61	0.37	0.26	0.79	0.89	0.85
	(2.33)**	(-0.08)	(-1.83)*			
All	0.57	0.48	0.44	1.00	1.00	1.00
δvalue	-9.00**	1.40	-0.04			

Figures in parentheses are t-values of Pα *significant at 10%

Figure 1 shows the value of assets owned by farm households. It reveals that 108 farming households owned assets valued between ₦1 – ₦100,000 whereas only 5 farming households owned assets valued between ₦200,001 – ₦300,000. The fact that majority of farming households owned assets valued at less than ₦100,000 implies that poor households owned low or fewer assets. Result is synonymous with earlier empirical findings of

Ahmed *et al* (2007); Etim (2007) and McKay (2009) who found in their respective studies that the ownership of assets by the poor are relatively low.

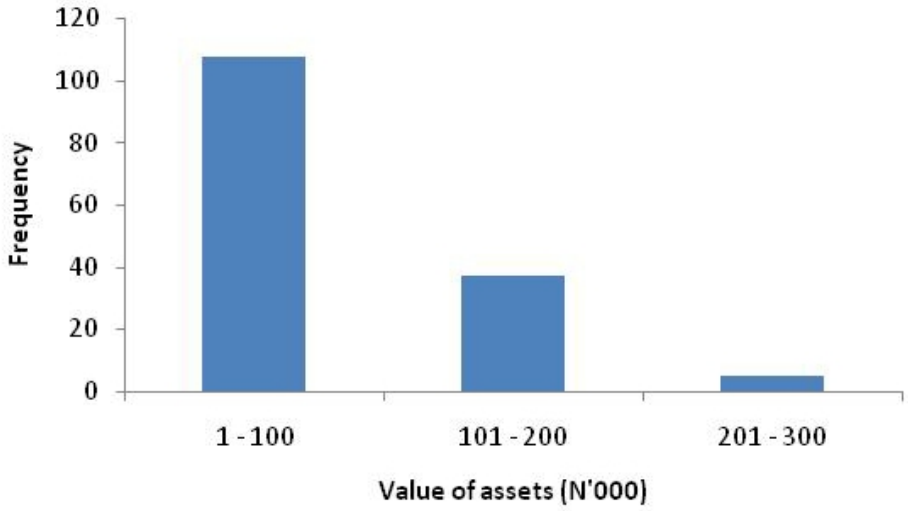

Fig. 1: Value of assets owned by households

The cumulative density function (CDF) of assets owning household's lie below the cumulative density function (CDF) of households who do not own assets as seen in Figure 2. Hence, there is first order stochastic dominance. This means that farming households without assets will be poorer than those with assets with respect to poverty incidence, depth and severity.

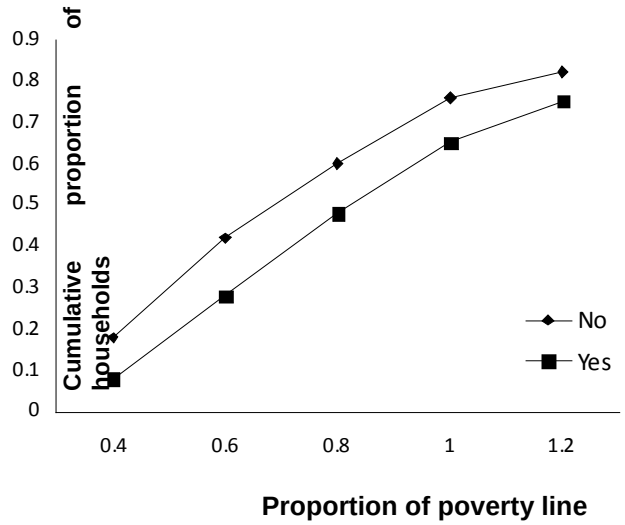

Fig. 2: CDFs of individual PAEE by asset ownership

Conclusion

The study quantitatively assessed the poverty level of households. Through decomposition of the whole group into sub-groups using FGT weighted poverty measure, poverty incidence, depth and severity were more for households without assets. Result of stochastic dominance analysis confirms that the percentage of the poor was higher among households without assets. Results further indicate that the ownership of certain assets by the households was low as majority of households owned assets valued at less than ₦100,000. Findings underscore the need for appropriate policy intervention to encourage the ownership of certain assets. Owning assets will not only provide buffer against idio-syncratic and covariant risk but is a very critical determinant of social status.

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