DO MIGRANT REMITTANCES REDUCE RURAL POVERTY?

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ABSTRACT
The contribution of portions of migrants’ earnings to poverty reduction in rural Nigeria cannot be overlooked. Although information on the role of remittances in rural poverty reduction is limited, this study attempts to fill this lacuna by measuring the contribution of remittances to poverty reduction using the Foster, Greer and Thorbecke weighted poverty measure. Through the multistage sampling procedure, cross sectional data were obtained from 150 rural households using questionnaire. Results reveal that poverty incidence, poverty gap, and squared-poverty gap were lower for households who receive remittances. Findings further reveal that the contribution of remittances to the whole group’s reduction in poverty incidence are 81 and 19 percent. Also, the poverty incidence was significant (P<0.1) for households without access to remittances. Results of stochastic dominance analysis suggest clearly that households with access to migrant remittance have lower incidence, depth and severity of poverty. These results underscore the importance of remittances as a vehicle for poverty reduction since they are targeted to meet specific and felt needs of recipients. Policies should be designed to ensure the sustainability of remittance flows.

Keywords: Remittances, rural, poverty, Nigeria.

INTRODUCTION
Remittances are a portion of the earnings migrant sends to relatives back home. They are typically transfer of migrant earnings either in form of cash or goods to support the families. They are targeted to meet specific needs of the recipients and thus tend to reduce poverty (Ratha, 2005). According to Lopez and Seligson (1991) and Ahlburg and Brown (1998), remittances by migrant workers to their home countries are made for personal (e.g. to relatives) or for business-related purposes, perhaps in preparation of their eventual return. Remittance flows have been growing quite rapidly in the last decades, reflecting the increasing flows of migrant around the world. Global remittances amounted to about US$172 billion. In 1990, developing countries received about US$29 billion; in 2004 they received over US$116 billion, with an annual rate of growth of over 8 percent (United Nations, 2005). Regionally, in 2003 Latin America and the Caribbean received 30 percent of total remittance flows, the highest share of all regions, with absolute numbers well over US$42 billion today. Although Sub-Saharan Africa has a low share in global remittance flows, just slightly over 5 percent, it has been growing very rapidly in recent years -22 percent growth rate per year (Ratha and Vijayalakshmi, 2004; Solimano, 2005). In Nigeria and other Sub-Saharan countries, remittance flows are smaller owing to a large extent to transmission through informal channels, which are thus
officially unrecorded. But, from the perspective of poor migrant households, remittances may be a vehicle through which to reduce poverty levels by spending on improving nutrition, financing children’s schooling or basic health care, or constructing their own home (Stahl and Habib, 1989; Adams, 1998; Cox and Ureta, 2003; Kapur, 2004). The relationship between migrant remittances and household welfare using cross sectional data has not been empirically investigated in Akwa Ibom State and this forms the focus of this study. This study therefore specifically aims at estimating the relationship between remittances and poverty reduction at micro level.

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°33’ and 5°53’ and longitude 7°25’ and 8°25’ East and occupies a total land area of 7,246km². 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 drawback: 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 \(P_{i\alpha}\) is given as:

\[
P_{i\alpha} = n^{-1} \sum_{j=1}^{n_i} \left( \frac{z - Y_{ji}}{z, O_{\text{max}}} \right)^{\alpha} \quad \text{……………………………………………… 1}
\]

Where \(P_{i\alpha}\) 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 subgroup \(ij\); \(z\) is the poverty line and \(\alpha\) is the degree of concern.

When \(\alpha\) 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).

The poverty line used for this study is defined as the two-thirds of mean household expenditure adult equivalent. Adult equivalents were generated following Nathan and Lawrence (2005) as follows:

\[
AE = 1 + 0.7 (N_1 - 1) + 0.5N_2 \quad \text{………………………………………………… 2}
\]

Where AE = Adult Equivalent

\(N_1 = \) Number of adults aged 15 and above
\(N_2 = \) Number of children aged less than 15

That is

\[
P_{i\alpha} = n^{-1} \sum_{j=1}^{n_i} \left( \frac{z - Y_{ji}}{z, O_{\text{max}}} \right)^{\alpha} = \frac{q_i}{n_i} \quad \text{…………………………………………………………... 3}
\]

When \(\alpha\) is equal to 1, it shows uniform concern and equation becomes

\[
P_{i1} = n^{-1} \sum_{j=1}^{n_i} \left( \frac{z - Y_{ji}}{z, O_{\text{max}}} \right)^{1} \quad \text{…………………………………………………… 4}
\]

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

\[
P_{i2} = n^{-1} \sum_{j=1}^{n_i} \left( \frac{z - Y_{ji}}{z, O_{\text{max}}} \right)^{2} \quad \text{…………………………………………………… 5}
\]

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:

\[
P_{\alpha} = \sum_{i=1}^{m} \frac{P_{i\alpha} n_i}{n} \quad \text{…………………………………………………………... 6}
\]
Where $P\alpha$ 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:

$$C_i = \frac{n_i P\alpha}{nP\alpha}$$ \hspace{2cm} 7

The test of significance of $P\alpha_i$ (subgroup poverty measure) relative to the $P\alpha$ (whole group poverty measure) was given according to Kakwani (1993) by:

$$t = \frac{P_{a_i} - P_a}{SE(P_{a_i})}$$ \hspace{2cm} 8

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

The weighted poverty measures ($P\alpha$) 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

The first step in the analysis of poverty is the determination of the poverty line. As stated in the methodology, the mean household expenditure adult equivalent was used to determine this threshold. Table 1 shows the average amount expended on basic consumption items of the households. The mean per adult equivalent household expenditure is N1,652.82 and the poverty line is N1,101.88.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount (₦) per month</th>
<th>Percentage Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>1677.34</td>
<td>20.30</td>
</tr>
<tr>
<td>Clothing</td>
<td>1201.30</td>
<td>14.54</td>
</tr>
<tr>
<td>Health Care/Medication</td>
<td>1134.34</td>
<td>13.73</td>
</tr>
<tr>
<td>Education</td>
<td>2107.00</td>
<td>25.50</td>
</tr>
<tr>
<td>Food</td>
<td>2144.11</td>
<td>25.93</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8264.09</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Mean 1652.82

\(\frac{2}{3} 1,101.88\) (poverty line)

Result on table 2 reveal that 41.33 percent of farm households received money from relatives whereas 58.67 percent of households did not receive migrant remittance. The reason for the high percentage of households without migrant remittance could be that most children were not working and must have been still dependent on their parent for basic needs. It could also be attributed to the fact that most relatives and friends who were working, resided within the immediate locality.

<table>
<thead>
<tr>
<th>Remittance Access</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With remittance</td>
<td>62</td>
<td>41.33</td>
</tr>
<tr>
<td>Without remittance</td>
<td>88</td>
<td>58.67</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
A survey of recipients of migrant remittances in Akwa Ibom State indicate that the 54.84 percent used remittances for consumption purposes (living expenses, funerals and socials), 27.42 percent and 8.06 percent used remittances for children’s education and investment respectively. Findings agree with empirical work of Ratha (2005) that remittances are targeted to meet specific needs of the recipients and thus, tend to reduce poverty. The relatively significant proportion of remittances invested, vividly suggest that migrant remittances have significant long term impact on household welfare.

Table 3: Uses of Migrant Remittances

<table>
<thead>
<tr>
<th>Uses</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living expenses</td>
<td>23</td>
<td>37.10</td>
</tr>
<tr>
<td>Children’s education</td>
<td>17</td>
<td>27.42</td>
</tr>
<tr>
<td>Investment for sender</td>
<td>11</td>
<td>17.74</td>
</tr>
<tr>
<td>Funeral</td>
<td>6</td>
<td>9.68</td>
</tr>
<tr>
<td>Socials</td>
<td>5</td>
<td>8.06</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 4 shows the comparison of poverty by remittance. The whole group was decomposed into sub-groups based on whether or not a farm household has access to transfer in form of either cash or goods from a well-meaning individual or family member. The incidence of poverty for households without access to remittance is 80 percent while 45 percent of those having access to remittance are poor. Result suggests that remittances tend to reduce poverty. Findings are however consistent with Stahl and Habib (1989); Adams (1998); Cox and Ureta (2003); Kapur (2004) and Etim (2007) that remittances may be a vehicle through which to reduce poverty levels.

The contribution to whole group’s poverty incidence are 81 and 19 percent. Poverty incidence is significant (P<0.1) for only households without access to migrant remittance. The t-value for poverty depth and severity are not significant (P>0.1). Also, there is no significant difference between the two sub-groups’ poverty incidence. In general, households with access to remittance have a lower poverty level and contribution to the whole group’s poverty incidence is lower than households without access to remittance. The reason is due to the fact that remittances are additional income to farm households as they support the family and increase consumption of goods thereby improving household welfare.

Table 4: Poverty by Migrant Remittance

<table>
<thead>
<tr>
<th>Access to Migrant Remittance</th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
<th>Contribution to</th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>With remittance</td>
<td>0.45</td>
<td>0.41</td>
<td>0.12</td>
<td>0.19</td>
<td>0.23</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.29)</td>
<td>(-0.03)</td>
<td>(-1.09)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without remittance</td>
<td>0.80</td>
<td>0.45</td>
<td>0.46</td>
<td>0.81</td>
<td>0.77</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.83)*</td>
<td>(0.01)</td>
<td>(-0.15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>0.57</td>
<td>0.48</td>
<td>0.44</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>( \bar{\delta} ) value</td>
<td>0.46</td>
<td>-0.16</td>
<td>-0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figures in parentheses are t-values of \( P \). *significant at 10%

The cumulative distribution function (CDF) of households having no access to remittance is completely above the cumulative distribution function of those with access as seen in figure 1. This means that the poverty measures are robust to changes in poverty line. The implication is that households with
access to migrant remittances will have lower poverty incidence, depth and severity over the entire range of the poverty line.

![Cumulative Distribution Functions of individual PAEE by remittance](image)

**Figure 1:** Cumulative Distribution Functions of individual PAEE by remittance

**CONCLUSION AND POLICY IMPLICATIONS**

This study investigated how remittances contribute to poverty reduction by improving welfare of rural households. The FGT weighted poverty index and stochastic dominance analysis was employed. Findings revealed that welfare was improved for households who receive migrant remittances. The study suggest that policies should be designed particularly for the poorest of the poor to ensure that the cost of funds transfer to relations in Nigeria is reduced. Policy options should be formulated to enable households who receive remittances be given have conversion rate to improve their welfare. If the recent Central Bank of Nigeria policy of receiving remittances at government approved rate in naira equivalent (with a lower conversion rate) continues, farmers may be encouraged to use informal means of transferring and receiving funds.

**REFERENCES**


