Migrant Remittances and Household Expenditure Patterns: Case Study of Enugu and Anambra States of Nigeria

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Abstract: High international migrant remittance inflows to Nigeria is plausible, however, understanding its end-use illuminates its effect on the economy. This study assesses the expenditure patterns of international remittances; comparing between remittance recipient households and non-recipient households in Nigeria with case study of Enugu and Anambra states. Household data was sourced from Anambra and Enugu states of Nigeria in November 2011 for the study. Using the working lesser model, this study finds that remittance into Nigeria has a stabilizing effect on its expenditure, as the marginal difference between remittance recipient households and non-recipient households is not significant for most of the expenditure types. However, remittance expenditures on shares/stock market investments are relatively lower than in non-recipient households. Meanwhile remittance expenditures on buildings, funerals and family subsistence are relatively higher than non-recipient household’s expenditure. This study concludes that expenditure patterns of Nigeria does not follow the pessimistic hypotheses and so, is highly recommended.

Key words: Migrant remittance · Expenditure patterns and household

INTRODUCTION

The twentieth century massive publications on remittances were alarming as the concept of “Brain Drain” of the 1970’s and 1980’s began to give way to “Brain Gain”. International migration of individuals either voluntarily or obligatorily, later turned out to benefit their home countries owing to the increasingly huge inflows of migrant remittances. Most migrants can now assist their relatives through the transfer of cash, investments, properties and knowledge. Remittance flows have a great potential to improve the welfare of households in receiving countries, as it is evident in many developing countries. Empirical evidence shows that international remittance has a positive marginal effect on overall human development in the long run [1-4]. The inflow of remittance to Nigeria is impressively high and of recent, increases at an increasing rate. According to the World Bank statistics, Nigeria’s international remittances inflow was about US$10 billion in 2010 and increased to about US$20 billion in 2016. This 100 percent increase between 2010 and 2016 makes Nigerian the largest receiver of international remittances in African and currently, the sixth in the World. In fact, as contained in [5, 6, 7, 8], Nigeria received 82% of the total remittance inflow to West African Countries in 2015, while [9, 10] show that remittances inflow to Nigeria is currently celebrated as exceeding all non-oil receipts in the country, including official development assistance, foreign direct investment, portfolio capital inflows and non-oil exports.

The dramatic and continuous increase in international remittance creates a call for concern as the monetary flow can affect series of economic issues including, labour market decisions, school retention levels, export sector competitiveness and can also, create moral hazard problems [11-13]. Combes and Ebeke [14] argues, that the increased income can certainly contribute to household livelihood strategies, allowing better access to local goods and services and the possibility of accumulating assets. In response to this, some researchers has tried to find out the effect of this flow on both the recipient households and the economy at large. At the micro level, works like that of [14-16] show that international remittances benefits the receiving households in...
Nigeria as it improves their welfare. At the macro level however, the effect of international remittances is still not conclusive. Some reports like that of [16], reports that remittances have negative impact on economic growth. On the other hand, [17, 18] show reports that remittances can enhance economic growth of the receiving country. Balancing these opposing views, [20] reports remittances will have a growth effect on the economy if a significant portion is used for investment and human capital development.

There is therefore, the need to investigate the end-use of remittances by the receiving households as the expenditure patterns of remittance recipient households determine the marginal gain of this income source to the economy at large. Consequently, studies seeking to unravel the end-use of remittances in different countries include: [21] in Ghana; [22] in Kyrgyz republic and [23] in Ethiopia; as well as others studies in Indonesia, Philippines, Malawi, Pakistan and some other countries. However, such a study has not been conducted in Nigeria. This forms the core of our point of departure from empirical literature on remittance in Nigeria. It is on this premise that this study examines the expenditure pattern of remittance recipient households in Enugu and Anambra states of Nigeria.

**Objectives of the Study:** Migrant remittance into Nigeria has become the largest in Sub-Saharan Africa and several studies have investigated its effects on financial deepening, poverty reduction and ultimately, economic growth. Exploring the effects of remittances on major macroeconomic variables are plausible. However, these effects are dependent upon the expenditure patterns of remittance recipient households. The objectives of this study therefore are;

- To evaluate the inflow of international remittances to Enugu and Anambra states in Nigeria
- To examine the expenditure patterns of international remittances by remittance recipient and non-recipient households in Enugu and Anambra states of Nigeria.

**Global Evidence on Remittance and End-use:** Empirical works on end-use of remittance could be classified into three categories; dependent on their outcomes. There are three competing viewpoints; the optimistic view, pessimistic and substitutive view. The authors with the optimistic view believe that a significant proportion of the majority of remittances are spent on savings and investment, while little is spent on consumption. Among these authors, include [24] who used data from the Malawian Integrated Household Survey from November 1997 to October 1998 covering a total of 2,046 households to analyse the mental accounting and remittances in Malawi. Simon used the Ordinary Least Square (OLS) method to estimate income elasticity and the Inverse Mill’s Ratio (IMR) to control for selection bias and his findings revealed that households in a developing country like Malawi choose to allocate income differently out of equally liquid forms of income. The findings support the implicit assumption in many studies of remittances that households regard this flow of income as distinct from others. Also, the work of [25] found that, when compared to non-recipient households, remittance receiving households in Albania spend 4.5% lower on food but spend as much as 25% higher on consumer durables. At about the same period, [26] analysed the implications of migration and remittances to households’ welfare and income distribution as well as how these characteristics relate to remittances by exploring the socioeconomic characteristics of oversea Filipino workers. Using the Engel’s Curve framework, results from their Engel equations revealed that international remittance-receiving households spent much more for all non-food consumption categories except for medical care. Also, [27] posit that households that benefited from international remittances had the highest expenditure for education and recreation.

In search of a global evidence, [28] used a panel of 115 developing countries in 2007 and found that households generally spend less (of their remittance receipt) at the margin on consumption goods like food and more on investment good like education and housing as well as entrepreneurial activities. Studies such as [29] all used cross-country analysis to infer that remittances are used more on savings and investment than on other consumptions. Then, [30] explored the impact of remittances on the economic wellbeing of the households in Indian states with data from the 64th round of National Sample Survey in 2008 covering 125, 578 households using both descriptive and multivariate analysis. Results from their analysis reveal that remittance receiving Indian households’ expenditure pattern is in favour of productive investments such as human capital and education. Likewise, using two alternative approaches such as Seemingly Unrelated Regression (SUR) and Propensity Score Matching [31] analysed the impact of remittances and expenditure patterns of households in the...
Kyrgyz republic. Results from both approaches show that remittances increase the share of expenditure on durable goods such as human capital investment and construction. The SUR result shows that a unit increase in the share of remittance in a household’s income caused a 0.3% increase in construction expenditure while the PSM result indicates that remittance receiving households spend smaller share of their total expenditure on food and public utilities.

The pessimistic view infers that a significant proportion of the majority of remittances are spent on consumption and little on savings and investment. This view has been severally supported by some empirical evidence. In this category of studies is [32] who used panel data from the Indonesian Family Life Survey conducted between the year 2000 and 2007 and found that households who received remittances in 2007 spent more at the margin on one key consumption good (food) compared to what they would have spent on this good without the receipt of remittances. They also found that remittance receiving households in 2007 spent less at the margin on at least one important investment good (housing) compared with what they would have spent on this good without remittances. Also, in Tajikistan, using a Propensity Score Matching Method, [32] found that neither internal nor external remittances have a positive effect on investment expenditures. Likewise, [33] assessed the impact of Migrant remittances on the expenditure patterns of rural households in Ethiopia with data from Ethiopia Rural Household Survey (ERHS) using the Two-part model (or Hurdle model) within Engel’s Curve framework. Results from his first part model reveal the absence of any strong link between remittance income and investment expenditure. However, results from the second part model reveal that remittance income has a positive and robust link with consumption expenditure. From his study, emerges a support to the claim that a greater share of remittance income are spent on immediate consumption and barely used in productive investment decisions.

Further, [34] studied remittance inflow and household expenditure pattern in Kenya using a Fixed Effect (FE) model on a panel of 295 households. Analytical results from his model support the claim that large shares of remittance in Kenya are used mainly for the payment of immediate consumption such as food and public utilities. In Burkina Faso, [34] analysed the impact of remittances on household expenditures with data from the 2010 cross-sectional survey using a Latent Class Model (LCM). Empirical results from his study suggest that remittance is positively and significantly linked to expenditures on food and other immediate utilities. However, remittance is not significant in most of the equations of expenditures on productive investment such as education, health. Likewise, in Ethiopia, [30] investigated the impact of remittances on household welfare with a sample of 1, 282 randomly selected households using a Propensity Score Matching (PSM) approach. Results that emerged from his analysis reveal that remittance is positively linked to expenditures on goods that improve the immediate welfare of the households (such as food and public utilities) but, has no impact on productive investment expenditure. More so, using data from the Ghana Living Standard Survey (GLSS), [30] investigated the relationship between migrant remittances and households’ expenditure pattern. Results from their Tobit Regression Model reveal that remittance income decreases the budget share of human capital and most investment goods but increases housing expenditure. This result lends credence to the claim that remittances are mostly used for non-productive expenditures.

The substitutive view of the end-use of remittances emerges from the works of authors who argue that remittances are spent more or less like any other income source. Among these works include [25] which used a panel data from rural Pakistan to investigate the risk aversion level of households. His results suggest that remittances have little effect on a household’s portfolio selection and that remittances do not affect a household’s risk aversion level. This therefore, leads to a nearly identical portfolio allocation and risk levels for both remittance and non-remittance receiving household groups. In the Philippines, [25] investigated the impact of international remittances on households’ spending behaviour with a cross-sectional analysis of the 2003 Family Income and Expenditure Survey (FIES) using both Censored Probit Model and Quantile Regression Technique. The study found that remittance income is spent just like any other income from other sources. He concluded that while remittance receiving households consume more of consumer items, they also spend more on productive investments goods such as education, health and other durable goods. In the same stream of thoughts, [27] using a new nationally-representative household survey from Ghana within a rigorously derived econometric framework, analysed how the receipts of internal remittances and international remittances affect the marginal spending behaviour of household on a broad range of consumption and investment goods; including
food, education and housing. Their findings show that households receiving remittances in Ghana do not spend more at the margin on food, education and housing than households with similar income levels and characteristics that do not receive remittances.

To sum up, the impact of remittances on the expenditure patterns of households (especially, in developing economies such as Nigeria) is country specific. It largely depends upon several factors that define expenditure in each country such as differences in culture, taste, skills, motivation, background and fashion. The dynamism of the impact of remittances on expenditure patterns dictates the effects of this source of income both on the households and the economy at large. This buttresses the relevance of such a study in Nigeria. However, available studies on remittances in Nigeria have concentrated more on its impact on poverty rate, labour supply, inequality and generally, economic growth [16].

There seldom exists empirical works that quantitatively estimate the dynamics of the end-use of international remittances in Nigeria. None of those that exist are based on the Nigerian economy. Closest works in this direction have concentrated on one expenditure category. For instance, Osili (2004) investigated the impact of remittances on housing investments; neglecting other expenditure categories. This therefore constitutes our point of departure.

**MATERIALS AND METHODS**

**Model Specification:** To explain the first objective the study employs the use of means, standard deviation and a pie chart to ascertain the volume and share of expenditure for each expenditure type. Meanwhile, the second objective shall be estimated with the aid of the Working–Leser model. The Working-Leser model provides a good statistical fit that allows for changing or constant marginal propensities. According to [4], it conforms to the additive property wherein, the sum of the marginal propensities for all goods must equal unity.

The model is built on the theoretical system of Engel Curves proposed by [15] Assuming prices are fixed, an Engel curve describes the functional relationship between a consumer’s purchases of goods and the consumer’s total resources such as income (in this case; including international remittance) or total expenditure. An Engel Curve defines the expenditure patterns of different households and provides a ground for welfare comparisons using income elasticity. Here, it describes how changes in a household’s expenditure on certain commodities or services occur as a result of changes in their total income.

Given prices, assuming that a household’s total income from where it finances its expenditure on goods and services is represented by \( y \) and the quantity demanded of commodity \( x \) is \( q_x \) while \( \mathbf{\alpha} \) is a vector of several other demographic variables such as size, taste and age that influence the expenditure pattern of the household. Then,

\[
q_x = f(x, \mathbf{\alpha})
\]  

(1)

The above expression implies the determination of the Engel curve of commodity \( x \) and its share from the total expenditure. The Working-Lesser model relates budget shares linearly to the logarithm of total expenditure. The original form of the working-Lesser model is discussed in Working (1943) and Lesser (1963). We shall therefore use a modified version of the Working-Lesser model as the basic form for our analysis.

This is shown below:

\[
\frac{C_i}{EXP} = \beta_i + \alpha_i/EXP + \gamma_i(\log EXP)
\]

(2)

where \( C_i/EXP \) is the share of expenditures on total expenditure \( (EXP) \) for each expenditure type.

Sum of share requires that \( \sum C_i = EXP = 1 \) (additive property)

Equation (3) is equivalent to the Engel function:

\[
C_i = \alpha_i + \beta_i EXP + \gamma_i(\log EXP)
\]

(3)

The need to consider socioeconomic and demographic factors other than expenditure is imperative in comparing expenditure behaviour. The study therefore considers remittance volume, household size, location as well as age and educational level of the household head for explanatory variables which are demographic variables that influence household expenditure patterns. This household characteristic variable therefore needs to be included in the Engel functions in a way that allows them to shift both the intercept and the slope of the Engel functions. Let \( Z_j \) denote the \( j^\text{th} \) household characteristic variable and let \( \mu_{ij} \) and \( \lambda_{ij} \) be constants. The complete model is written as:
To rewrite it in expenditure share form, it is then equivalent to:

\[
C_i / EXP = \beta_i + \alpha_i EXP + \gamma_i (log EXP) + \sum_j \left[ (\mu_j) (Z_j) / EXP + \lambda_j (EXP) (Z_j) \right]
\]

To estimate equation (6) therefore, the various households and human capital characteristic variables should be specified and identified. Let the variables for the \(i^{th}\) household be: HS representing household size, AGE represents age of household head, TOTREM represents total remittance of the household, EDATT be the educational level of household head and LOC represent locations, which is a dummy variable for 7 different enumeration areas which are; Amakpu, Aseje, Ibite, Nkoffi, Amaunenu, Ozalla and Isu as sampled by the survey data.

The complete model to be estimated is therefore:

\[
C_i / EXP = \beta_i + \alpha_i / EXP + \gamma_i (log EXP) + \gamma_2 TOTREM + \gamma_3 (TOTREM) (log EXP) + \mu_i HS + \lambda_i HS / EXP + \mu_2 AGE + \lambda_2 AGE / EXP + \mu_3 EDATT + \lambda_3 EDATT / EXP + \delta \sum_{j=1}^{7} \lambda_j LOC + \epsilon_i
\]

where: \(C_i\) = annual per capita household expenditure on one of ten expenditure types: Education, health, consumption, business, investment on shares, investment on buildings, funeral, maintenance of other relatives, donations and savings. TOTHHEXP represents total annual per capita household expenditure. Each of these dummy variables is also interacted with the log of total annual expenditures (log EXP) in order to affect both the intercept and the slope of the Engel functions.

**Data Source:** This study implores primary data from a demographic household survey that was generated by a partnership program between the International Development Research Centre (IDRC) and the Centre for Demographic and Allied Research (CDAR) University of Nigeria, Nsukka. Data were collected through questionnaires in two main Nigerian states; Enugu and Anambra (based on their high remittance inflow as stipulated by the 2004 NLSS statistics) in November, totalling 225 households with 898 individuals. In these states, 125 households were covered for Nsukka of Enugu State and 100 households for Njikoka of Anambra state. The data was collected in November 2011 for regional study on Remittance in West Africa. This appears to be the most recent data in the public domain that has detail information of remittance expenditure on education, health, consumption, business, investment on shares, investment (large-scale), funeral, maintenance (relatives) and donations.

**Presentation and Interpretation of Results**

**Volume of Expenditure Types:** The result show that remittance is spent most on large scale investment on buildings, followed by donations, consumption and education in that order. This is not surprising as most migrants intend to retire in their home countries thereby investing in buildings. The fact that there exists a high marginal impact of remittance on donations tells us that remittance is one source of income that could easily spread around and possibly trickle down to the poor. Also we expect that consumption expenditure should be very high but it is ranked third, nevertheless it could be attributed to the fact that the areas studied are rural areas that have abundant food and may tend to channel more remittances to other expenditures like building and others. The mean for expenditure on large scale investments is the greatest, indicating that this could be the main reason why people send money back home. This therefore suggests that remittance can go a long way to improve on general infrastructure in these two states. This requires that the government should put in place policies that would facilitate the inflow of remittances especially for larger amounts.

Furthermore, recipient households spend least on hire purchase repayment with 0 mean followed by expenditures on maintaining of other relatives. This shows that remittance expenditure is not completely wasted on trivialities like funerals and weddings which have relatively little or no economic productivity.
The table shows the estimates from the descriptive analysis of mean and standard deviation.

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Mean</th>
<th>Sd</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>education expenditure</td>
<td>111407.4</td>
<td>85483.47</td>
<td>243</td>
</tr>
<tr>
<td>health expenditure</td>
<td>46641.98</td>
<td>37330.88</td>
<td>243</td>
</tr>
<tr>
<td>consumption expenditure</td>
<td>124049.4</td>
<td>50110.51</td>
<td>243</td>
</tr>
<tr>
<td>business expenditure</td>
<td>99917.7</td>
<td>143319.5</td>
<td>243</td>
</tr>
<tr>
<td>investment (on shares)</td>
<td>25349.79</td>
<td>69104.22</td>
<td>243</td>
</tr>
<tr>
<td>investment (on building project)</td>
<td>219271.6</td>
<td>374602.0</td>
<td>243</td>
</tr>
<tr>
<td>wedding/dowry expenditure</td>
<td>29135.8</td>
<td>98264.24</td>
<td>243</td>
</tr>
<tr>
<td>funeral expenditure</td>
<td>16810.7</td>
<td>59184.31</td>
<td>243</td>
</tr>
<tr>
<td>maintenance of other relatives</td>
<td>16296.3</td>
<td>89379.56</td>
<td>243</td>
</tr>
<tr>
<td>donations expenditure</td>
<td>168563.8</td>
<td>520460.6</td>
<td>243</td>
</tr>
<tr>
<td>hire purchase repayment</td>
<td>0</td>
<td>0</td>
<td>243</td>
</tr>
<tr>
<td>savings expenditure</td>
<td>45102.88</td>
<td>86268.43</td>
<td>243</td>
</tr>
</tbody>
</table>

Though we can say that maintenance of other relatives (family subsistence) is low, yet we note that it is not their primary objective and these relatives might equally be assisted via other sources. Remittance receiving households spend a lot on donations and this could be attributed to the fact that the money received is not earned and might be considered “free money” and so may in turn freely give out.

The result also shows that educational expenditure differs significantly from the arithmetic mean for recipient households as expected. The high standard deviation might be attributed to the different educational levels and the different types of schools as well as the levels of school fees. The representative share for each expenditure type as illustrated on Fig. 1, shows that investment on building project records the highest expenditure of 24% followed by donations with 19% and consumption with 14%.

### Expenditure Patterns of Remittances

The working lesser model was estimated to ascertain the marginal expenditure pattern of international remittance in remittance receiving households as against non-remittance receiving households. The model was specified, taking into consideration each expenditure share. The expenditures represent 12 months of household expenditures as stated by the survey instrument. The results of the working lesser model are displayed on Table 1.

The table shows that, the marginal difference on most expenditure categories for households receiving remittances does not differ significantly from household without remittances in six of the ten expenditure types under consideration; education, health, consumption, business, donation and savings, given that the t-values for remittance/log expenditure is below the magnitude of 2. This implies that remittance does not significantly change expenditure patterns of the above expenditure shares.

Implying that Remittance is not only the most stabilising international inflow (relative to Foreign Direct Investment and Official Development Assistance) but it also has a stabilising effect on consumption and expenditure in Enugu and Anambra states of Nigeria.

Investments on shares create a significant negative margin on households receiving remittances as against households without remittances. That is, households that receive remittance spend far less on investment on shares.
and stock than households without remittances, which could be explained by the fact that investment on shares are medium and long term projects that could not be easily ventured without proper investigation and preparation. We note therefore that the financial market should not depend on remittance for a great impact since its recipients divert the funds received to other categories of expenditure other than to purchase shares. Consequently the results suggest that remittance might not be a very good income source for speculative motives. The study further shows that funeral expenditure and maintenance of other relatives are positively significant implying that there is a significant difference between the expenditure of households receiving remittances as against households without remittances. This is expected, given that most people could easily give out remittance for funerals and to other relatives since it is not directly out of their labour.

Remittance recipient households have a strong marginal difference on large scale investment (on building projects) expenditure than households without remittance receipts. The expenditure on large scale investments by these two states- Enugu and Anambra are higher for remittance recipients than non-recipients. This could be attributed to the fact that these two states especially Anambra is usually said to be business prone, that makes this result not to be surprising. This could also be attributed to the fact that most remitters have a long term plan to return home and more likely invest on large scale building projects.

**Summary, Conclusion and Policy Recommendations:**
Results from the empirical analysis hold some intriguing outcomes. The study shows that remittance has a significant and negative marginal effect on investment on shares but very low amounts of remittances are channelled into weddings, funerals, maintenance of other relatives and large scale investments. Nevertheless, majority of the expenditure types- six of the ten under consideration do not significantly differ in terms of remittance spent. The study therefore conclude that on the whole, there is no much significant difference in
expenditure patterns of remittances in Enugu and Anambra states for remittance recipients with respect to non-recipient households. However, the study finds that remittance receipt is positively (though not significantly) linked to some expenditure types such as building projects, donations, education and consumption. This implies that whereas there is an extent to which remittance is put to ‘current consumption’, there is also empirical evidence that the households channel the extra income from remittance into durable and productive investments, though not enough to show a significant difference.

These findings lead us to conclude that remittance income is used relatively well in these states given that the expenditure types in which remittances are channelled into are categorised more as productive investments. Following our conclusion, we recommend that the Nigerian government should implement policies that promote the inflow of remittances. Such policies should be geared towards implementing remittance friendly policies that will lead to further increase in remittance flows and may consequently be significant on some of these productive expenditure types based on the current trend.

REFERENCES