NEXUS BETWEEN FOREIGN REMITTANCES AND POVERTY REDUCTION: EMPIRICAL EVIDENCE FROM PAKISTAN

Kashif Manzoor*
Graduate Student, Department of Economics, University of Sargodha, Pakistan
kashifmanzoor853@gmail.com

Safana Shaheen
Professor, Higher Education Department Punjab, Pakistan
safanashaheen40@gmail.com

Muhammad Waqas
Assistant Professor, Department of Economics, University of Sargodha, Pakistan
muhammad.waqas@uos.edu.pk

ABSTRACT
This study explored the effect of foreign remittances on the household poverty in case of Pakistan. The data has been taken from Pakistan social and living standard measurement (pslm) survey for the year of 2018-2019. In order to check the impact of foreign remittances towards household poverty probit regression has been utilized. Household poverty has been used as a binary variable having its two values poor and non-poor. While independent variables used in it are family size (hh size), foreign remittances (rem), number of employed persons in a household (no. of workers) and region rural/urban (area). The findings of probit regression revealed that family size (hh size) have its positive and significant impacts on household poverty while foreign remittances (rem), no. of employed persons in a household (no. of workers) and region rural/urban (area) have significant but negative impact on household poverty. At last findings purposed that there is a need to start such soft immigrations plans and policies with the consent of embassies of other countries through which people can easily get migrated. There is a need to create an awareness program through which every person can easily find employment opportunities according to their skills. There is a need to launch awareness programs about the negative impacts of high population among people. There is a dire need to take initiative for people of rural area to provide jobs. Establishing rural non-farm economy can be helpful.

Keywords: Remittances, Poverty, Cross-Sectional Data

INTRODUCTION
The economics of migration emphasizes the hopes of a greater earnings overseas as the primary motivator for emigration decisions. Other factors, like war, ethnic discrimination, and political persecution at home, also have a important impact on migration decisions (Ahmad et al., 2008). The presence of a circle of family and friends who have previously migrated to a specific country was also frequently influencing the choice of destination (Solimano, 2002).

The large number of economic workforce travelled to the Middle East during the 1980s decade. In many ways, the migration of Pakistani workers to the Middle East was unique. For starters, the majority of migrants were teenagers who sent the majority of their earnings back to their family members in Pakistan. Second, because they were low-skilled employees from poor backgrounds, the migrants dramatically raised the standard of living for their families by enabling them to launch small companies and purchase real estate. But in the early 1990s, the Middle Eastern development boom stalled (Economic Survey, 2001-02). For individuals who went to these nations in pursuit of better pay, this led to a decline in international work options Sial and colleagues (2008).

Migration across borders is a fact. However, the idea of migration is not new; people have always relocated to other cities, states, and nations (Perez et al., 2006). The formation and construction of national borders in the modern era, as well as the "imagination" of nation-states, are what are "new"
Manzoor, Shaheen, & Waqas

(Marr 1986). These ideological practices "internationalise" migration, complicated those striving to better their life's natural behaviour (Perez et al., 2006).

Remittances may aid in a nation's development by fostering its physical and human resources and reducing economic disparity. Remittances help to reduce poverty by raising income levels, enabling larger investments in material possessions, education, and health, as well as more approach to a wide variety of information. This proposes that while remittances may have a substantial negative impact on poverty, they may also have a significant beneficial impact on income or consumption (Mehedintu et al., 2019). Remittances cannot, therefore, enter the nation of origin for free. Due to the movement patterns of certain household members that contribute remittances, the income provided by inhabitants may occasionally be decreased. On the other hand, the rest of the members can make several investments that can promote economic development in the relevant community. Remittances often reduced when the host country's economy worsens or as the migrant group feels more safe in their new country of residence. Relying heavily on remittances causes households to overlook their families' productive activities, while at the neighbourhood and local level, it increases disparity among those who do and those who do not get remittances. It also causes the economy to expand more quickly (Mehedintu et al., 2019). The study tried to explore the relationship between foreign remittances and poverty in case of Pakistan by using PSLM data for 2018-2019.

REVIEW OF LITERATURE

Azizi (2020) current study’s motive is to identify the effects of foreign remittances on financial development in developing countries. Panel data has been used for this study of 124 developing nations from 1990 to 2015. Instrumental Variable fixed effect model has been used to draw conclusions. Outcomes obtained from this research confirm the positive effect of remittances on financial development. As it raises the living standards of the remittance due to which remittance recipient household’s consumption level increases which brings the long-term positive effects for the developing nations. All this also helps to reduce the poverty for developing nations.

Sutradhar (2020) explored the influence of remittances on economic growth of four South Asian nations. For its occurrence they gathered the balanced panel data for 39 years from 1977 to 2016. For Estimation they get support from Pooled Ordinary Least square regression, fixed effects, random effects, and dummy variable interaction models have been used. Study gives different results like it shows the adverse impact of remittances on economic growth for Bangladesh, Pakistan and Sri Lanka while on the other hand it shows positive link among remittances and economic growth for India. But still plus point of remittance is it enhances the current consumption of these South Asian Countries which helps to alleviate the poverty level.

Raza et al. (2019) tried to dig out the occurrence of remittances on the betterment of higher education of economies that receives higher number of remittances. Uses time series data from 1994 to 2013 for major 8 middle income countries. Panel Co-integration and panel ARDL methods have been adopted to capture the valuable results from the calculations. Findings confirm the link between development of higher education and remittances but in long run. While adopting Pooled Mean group methodology it also throws the same results which panel co-integration and panel ARDL gives.

Fromentin and Leon (2019) explored the effects of remittances on credit for 30 developing countries including lower- and middle-income countries along with 27 developed high-income countries for the period of 2000 to 2014. Current study’s uniqueness is that this explains the effect of remittances on credit for short and long both time periods. For its analysis they uses Pooled Mean Group (PMG) estimator which was used to differentiate among long run and short run. Further they added the either remittances provided on credit basis inspire the households or to the firms. Findings explains the positive effect of remittances provided on credit basis in long run and have no effect in short run and also commits those remittances on credit basis provided to household have robust impact than the remittances provided to firm on credit basis and remittances encourage credit provision through firm credit in developed countries.

Fernando et al. (2019) current study added shows the effect of migration and remittances on poverty and inequality for the families of people living in villages. For this purpose, they gathered data for 2009 and 2010 from the department of Census and Statistics Sri Lanka. For their empirical analysis they used Ordinary Least Square criterion which depends upon two stage logit selection control model. Findings for their study confirms that Poverty Headcount ratio, Poverty Gap Index and squared poverty
gap index for the families who lived in villages decreased by 1.85%, 0.37%, 0.02% correspondingly while inequality has been expanded by 5.41%. Lastly study also claims and confirms that remittances are the adequate cause of earning income for the Sri Lankan families who lived in villages. While study also advised to the officials that they should pay serious consideration for the betterment of suitable actions for the alleviation of inequality.

Islam et al., (2019) investigated the connection among foreign remittances and economic growth for Bangladesh. Remittances have occupied the significant consideration to encourage the economic development as compared to other origins of capital inflows like aids, foreign loan and foreign direct investment. As Bangladesh is considered in the list of top 10 remittances receiving country in the whole world. But in the past few years’ direction has been disturbed because of the geopolitics and Middle East Crisis. Findings reveal that link between foreign remittances and economic growth is comprehensive but unclear for direct and indirect transmission channels through the presence of other variables such as financial development, investment, trade, consumption and poverty alleviation.

Sun et al., (2019) tried to capture the reasons that why labor thinks to migrate from their home country to other countries and how the remittance helps to create or accumulate the wealth for small farm households? They used 3- stage least squares method to get their answers. Results revealed that the households having wealthier life have comparatively less chance of migration as compare to the households that have no employment or the village where there is more unemployed labor is living. Further it explains that income received in terms of remittances is used to increase the capital like land and livestock holdings. It has positive developmental impacts on the households with different types of migration.


DATA AND METHODOLOGY

Variable Construction

In order to investigate the nexus between foreign remittances and poverty reduction the study developed the following econometric models.

The overall model is as follows

\[ Pr(Y = 1) = (\beta_o + \beta_1 Rem + \beta_2 HH Size + \beta_3 Area + \beta_4 No. of Workers + \mu) \]

Here

Where Pr denotes probability and Φ is the Cumulative Distribution Function (CDF) of the standard normal distribution. The parameters β are typically estimated by maximum likelihood.

Y = Poverty Status

β_o = Intercept

Rem. = Foreign Remittances

HH Size = Household Size

Area = Region (Rural, Urban)

No. of Workers = No. of Employed persons in a Household

μ = Stochastic error term

The brief description of all variables, their unit of measurement as well as data source of variables has been shown in the following table 3.1.
Table No. 1 Variables Measurement

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition of Variables</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Remittances (Rem.)</td>
<td>Either the Household Received the foreign remittances or not?</td>
<td>Yes = 1, No = 0</td>
</tr>
<tr>
<td>Household Size (HH Size)</td>
<td>How many members the household have?</td>
<td>Continuous Variable</td>
</tr>
<tr>
<td>No. of Employed Persons</td>
<td>How many workers are there in a household?</td>
<td>Continuous Variable</td>
</tr>
<tr>
<td>Area</td>
<td>Either the Household belongs to rural area or to Urban Area?</td>
<td>Rural = 1, Urban = 2</td>
</tr>
</tbody>
</table>


Empirical Methodology: Probit regression

In addition to Bliss' work from 1935, Ronald Fisher suggested a quick approach for calculating maximum likelihood estimates for the probit model. In a probit model, the dependent variable can only have one of two possible values, such as absence or presence, yes or no, male or female, married or single, 0 or 1, etc. The term, which combines probability and unit, is a combination. The model's objective is to calculate probability that an observation will a specified set of structures would decrease into a certain category; furthermore, categorizing observations according to their expected possibilities is a kind of dual cataloging model. A common description for a binary reply model is the Probit model. As an outcome, it employs approaches comparable to those used in logistic regression to address the equivalent set of problems. The probit model uses a probit association function when examined within the context of a comprehensive linear model. Most frequently, it is appraised with the highest likelihood method, and this type of estimation is known as a probit regression.

RESULTS AND DISCUSSIONS

4.1.1. Beneficiary Information

The descriptive examination is used to explore the household characteristics of sample respondents of Pakistan Social and Living Standard Measurement (PSLM) data 2018-19 which is presented in Table 4.1. The PSLM data 2018-19 shows the bifurcation of area with respect of rural and urban. The descriptive of area shows that 63% respondents belong to rural side while 37% belongs to rural side. Province wise distribution of area is presented in Table 4.1. In which distribution shows that 12.8% of population is that which belongs to the rural side of Khyber Pakhtunkhwa while 6.8% of population is that which belongs to the rural side of Khyber Pakhtunkhwa same as 28.3% of population from Punjab, 13.8% of population from Sindh, 7.5% of population from Baluchistan belongs to the rural side while 15.5% of population from Punjab, 11.6% of population from Sindh and 3.8% of population belongs to the urban side.

Table No. 2 Beneficiary Information

<table>
<thead>
<tr>
<th>Information</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>37</td>
</tr>
<tr>
<td>Rural</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Urban in all Provinces</td>
<td></td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>6.8</td>
</tr>
<tr>
<td>Punjab</td>
<td>15.5</td>
</tr>
<tr>
<td>Sindh</td>
<td>11.6</td>
</tr>
<tr>
<td>Baluchistan</td>
<td>3.8</td>
</tr>
<tr>
<td>Rural in all Provinces</td>
<td></td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>12.8</td>
</tr>
<tr>
<td>Punjab</td>
<td>28.3</td>
</tr>
</tbody>
</table>
Nexus Between Foreign Remittances and Poverty Reduction

Sindh 13.8
Baluchistan 7.5
Total 100

**Source:** Authors’ Own Calculation

Table 3 shows the average family size of the sample beneficiary that is 8 household members followed by the maximum and minimum family size consist of 56 and 2 family members respectively. It also shows the Provincial distribution of a family size from which maximum no. of family members in a household is 56 and minimum is 2 in Khyber Pakhtunkhwa, similarly in Punjab, Sindh, Baluchistan maximum no. of households in a family are 26, 29 and 36 while minimum is 2 in all provinces respectively.

**Table No. 3: Household Information of Beneficiary**

<table>
<thead>
<tr>
<th>Information</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Size</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>8</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>56</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>56</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Punjab</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>26</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Sindh</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>29</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Baluchistan</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>36</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
</tbody>
</table>

**Source:** Authors’ Own Calculation

**Beneficiary for Foreign Remittances**

After explaining household characteristics Table 4.3 explains the statistics of respondent beneficiary’s that are receiving Foreign Remittances. The family type statistics shows that 14.1% respondent received Foreign Remittances while 85.9% respondents or anyone from respondent household does not received Remittance. Furthermore, it also explains the share of foreign remittance as area wise in which 9.2% of population from rural side and 4.2% of population from urban side are those who receives remittances while 56.3% from rural side and 29.5% of population from urban side are those who didn’t receives foreign remittances. Among total respondents 13.8% of respondents from Khyber Pakhtunkhwa are those who receive foreign remittances and 86.2% of households are those who didn’t receive. Similarly in Punjab, Sindh and Baluchistan 13.3%, 16.2%, 17.1% households are those who receive while 86.7%, 83.8% and 82.9% households are those who didn’t receives foreign remittances respectively. There are more than 50% chances that this figure will also increase in next upcoming years if we compare the current percentage with the percentages of previous years.

**Table No. 4 Beneficiary for Foreign Remittances**

<table>
<thead>
<tr>
<th>Information</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received foreign remittances (overall)</td>
<td></td>
</tr>
<tr>
<td>Received</td>
<td>14.1</td>
</tr>
<tr>
<td>Not received</td>
<td>85.9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Received (Rural/ Urban)</td>
<td>9.6 / 4.5</td>
</tr>
<tr>
<td>Not received (Rural/ Urban)</td>
<td>56.4 / 29.5</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td></td>
</tr>
<tr>
<td>Received</td>
<td>13.8</td>
</tr>
<tr>
<td>Not received</td>
<td>86.2</td>
</tr>
</tbody>
</table>
Following table 5 shows the household level poverty status in which 35.6% of population is poor and 64.4% of population is non-Poor. It also shows the Area wise Household level Poverty Status. In Rural 28.2% of population is poor and 34.8% of population is non-poor while in Urban 7.4% of population is Poor and 29.6% of population is non-poor respectively.

**Table 5:**

<table>
<thead>
<tr>
<th>Information</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received foreign remittances (overall)</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>35.6</td>
</tr>
<tr>
<td>Non Poor</td>
<td>64.4</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Poor (Rural)</td>
<td>28.2</td>
</tr>
<tr>
<td>Poor (Urban)</td>
<td>7.4</td>
</tr>
<tr>
<td>Non Poor (Rural)</td>
<td>34.8</td>
</tr>
<tr>
<td>Non Poor (Urban)</td>
<td>29.6</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

**Source:** Authors Own Calculation

**Beneficiary for No. of Employed Persons in a Household**

Table 6 shows the maximum no. of Employed persons in a family is 10 and minimum no. is 0. “0” is used for that household who receives remittances. Furthermore, it also explains the provincial distribution of employed persons in a family in which 6 no. of people are employed in Khyber Pakhtunkhwa, 10 in Punjab, 8 in Sindh and 9 in Baluchistan while minimum no. is 0 in all provinces means they are receiving foreign remittances.

**Table No. 6**

<table>
<thead>
<tr>
<th>Information</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Employed Persons in a Household(overall)</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>10</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>6</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Punjab</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>8</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Sindh</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>10</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Baluchistan</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>9</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
</tbody>
</table>

**Source:** Authors’ Own Calculation
Results of Probit Regression

A Probit regression is used to explore the link between Foreign Remittances towards Poverty Reduction of households by using (PSLM) survey data of 2018-19 of Pakistan. The outcome variable Household Poverty is binary in nature, with two values “Poor” and “Non-Poor”, household receive remittance through Foreign, household didn’t receive remittance through foreign respectively.

Table No. 7 Regression Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Type</td>
<td>.244</td>
<td>.000</td>
<td>1.277</td>
</tr>
<tr>
<td>Remittances</td>
<td>-.167</td>
<td>.000</td>
<td>.935</td>
</tr>
<tr>
<td>Employed persons</td>
<td>-1.1796</td>
<td>.000</td>
<td>.166</td>
</tr>
<tr>
<td>Region</td>
<td>-1.328</td>
<td>.000</td>
<td>.265</td>
</tr>
<tr>
<td>Constant</td>
<td>1.942</td>
<td>.000</td>
<td>6.971</td>
</tr>
</tbody>
</table>

Source: Authors Own Calculation

\[
Pr (Y = 1 | X) = \Phi(X\beta)
\]

\[
= (\beta_0 + \beta_1 Remi + \beta_2 HH Sizei + \beta_3 Areai + \beta_4 No.of Workersi + \mu_i)
\]

The empirical results of Probit Model are illustrated in Table 4.6. The findings imply that Households who receives foreign remittances have more chances that it emits poverty than who didn’t receive. The results reveal that all the variables Family Size (HH Size), Foreign Remittances (Rem), No. of Employed persons in a household (No. of Workers) and Region (Area) are found to be significant because probability values (p<0.05).

Exp(β) for the Family Size explains that holding all other variables constant, increase in Family Size will increase the probability of a Household to be a poor by 127.7%. These Results are in line with following studies Aniceto C. Orbeta, Jr (2005), Lanjuow and Ravallian (1995), Bouoiyour & Miftah (2014), Chaudhary et al., (2019).

Exp(β) for remittance says that, holding HH Size, No. of Workers and Area at fixed value increase in Foreign Remittance will decrease the probability of a household to be a poor by 93.5% than the household who didn’t receives Foreign Remittances. These Findings are also supported by the following studies Pratomo and Kankesu (2018), Apsara Karki (2015), Zhu and Luo (2008), Miligan and Bohara (2007), Adams Jr et al., (2008), Antwi et al., (2013).

Exp(β) for the Employed person explains that holding HH Size, Remittances and Area constant, increase in employed persons will decrease the chances of a household to be a poor by 16.6%. These results are also same with following studies Zhu and Luo (2008), Dharmadasa et al., (2019), Koczan and Loyala (2019),

Exp(β) reveals that holding all other variables constant, the persons who belongs to the rural area have more chances to be a poor by 27% than the person who belongs to urban area. These results are also confirmed by the following studies Amin et al., (2022), Asif Iqbal, (2013), Drinka Pekovic, (2017).

CONCLUSION AND POLICY IMPLICATIONS

The aim of this study is to explore the nexus between foreign remittances and poverty reduction: empirical evidence from Pakistan. The study uses cross-sectional data of Pakistan Social and Living Standard Measurement (PSLM) for the period of 2018-19 of Punjab, Pakistan.

The PSLM data set gives complete information about household characteristics as well as Social & Economic indicators in the alternate years at provincial and district level. In order to analyze the influence of Foreign Remittances towards the Poverty Reduction this research uses the Probit Regression as empirical methodology. As the “Household Poverty” is used as a binary outcome variable having two values; Poor and Non-Poor. The independent variables utilize in the study to analyze the household poverty status are Family Size (HH Size), Remittances (Rem), No. of Employed Persons (No. of Workers) and Region (Area).

The results of the Probit regression depict that Household Poverty have positive impact on Family Size and marginally significant influence on it as well while has a negative and significant
impact on foreign remittances (Rem) and has a negative significant impact on No. of Employed Workers (No. of Workers) while considering it also have negative and significant influence on region.

As a policy proposition, there is a need to expand the flow of Foreign Remittances to increase its overall competence and impacts. The following policies are suggested on the essence of empirical results of the study to improve the role of foreign remittances to eradicate the household poverty. There is a need to start such soft immigrations plans and policies with the consent of Embassies of other countries through which people can easily get migrated. There is a need to create an awareness program through which every person can easily find employment opportunities according to their skills.

REFERENCES


