Impact of Foreign Remittances on Quality of Life: A Case Study of District Lower Dir, Pakistan

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Abstract   *This research study examines the impact of remittances on quality of life. In order to accomplish the objectives, the study uses primary data which are collected from 403 households of District Dir Lower, Pakistan. Results summarized that incoming foreign remittances have a positive effect on education. Foreign remittances improve the household income level, this income is further utilized for different educational expenses. Therefore, remittance recipient families spend more than that of non-receiving families on education. In addition, remittances also increase the probability of children's enrollment in schools. On the other hand, remittances are positively associated with family health status. The results revealed that 83% of the remittance recipient families have the ability to access basic healthcare needs, whereas 64% of non-receiving households have no access to basic health facilities. Additionally, remittances receiving families mostly prefer a private doctor and private hospitals, whereas non-receiving household usually uses government hospital facilities.*

Key Words
Remittances, Education and Health, OLS, Logit and Probit, Dir Pakistan

Introduction

Background

The inflow of foreign remittances boosts economic growth, decreases poverty, increases the income level of the remittance recipient economy, improves the health facilities, lifts the quality of education and enhances the investment opportunities (Siddique, 2012). Remittance inflow to Pakistan been provided a significant source for foreign exchange reserves from 1970-2012. Pakistan receives a substantial quantity of foreign reserves through foreign remittances. These inflows to the country are contributing considerably to economic growth, welfare, current account and balance of payment status (Javid, 2012).

The remittances inflow upturned sharply to Pakistan after the year 2000 from the amount of US$1075 to US$ 6000 million in the period of 2000 to 2008 (World Bank, 2015). In a period of five years (i.e. 2011-2015) Pakistan received US$ 15 billion of remittances average per year. The contribution of foreign remittances to GDP was about 5% for a time period of 1975-2015, it has significant importancefor the Pakistan economy (World Bank, 2015). The quantity of oversees emigrants has been increasing over the period: nearly 3 million of the labor force have migrated during the period 1970-2002 and this figure rose in the year 2015 up to 9 million (BEOE, 2015). The upturn in overseas migrant numbers increases the size of remittances. This effective increase in foreign remittances contributes to foreign exchange reserves, exchange rate stabilization, declines in poverty, and decreases the current account deficit (Iqbal, 2010).

The most important impact of foreign remittances is to support the consumption needs of migrant families. This is the micro-level impact of foreign remittances, which improves income strength of remittances receiving households and alleviates poverty at the household level. It is argued that a 25% portion of foreign remittances is utilized for food, health and education expenditures and almost 30% share of remittances is used for the repayments of loans, marriages, and durable goods. A major share, almost 40% of incoming remittances is used for real estate

businesses, saving and investment. All other sectors like agriculture, services, and industrial sectors are positively affected (Rehman, 2017).

Cross country migration of labor improves cultural and social diversity in various regions. People migrate from one country to another for decent employment opportunities, higher income earnings and for the betterment of their social life. Being a developing country, Pakistan faces several problems in which the most important are the poverty level, unemployment rate, lack of capital, the weak balance of payments position, the high growth rate of population and debt burden. Foreign migration shows a dynamic role in contributing to addressing these difficulties to some amount and reduces the burden on the whole economy.

The World Bank (WB) report (WB, 2015) considers remittances as one of the stable and essential sources for less developed countries. Foreign remittances provide a huge amount of foreign reserves for developing nations, which is helpful in attaining a sustainable balance of payments position. The wider market of foreign remittances affects both high and low level of income countries. The higher wage rate and higher per capita income of rich countries is five times greater than that of countries with low income. This difference in average wage rate attracts migrants from low-income countries. Migrants earn higher wages in these industrialized rich countries and remit their wages to home countries. This inflow of remittances to home countries enhance wealth and consumption power.

Global migration has increased speedily in the period of the last 15 years (United Nations, 2016). In the year 2001, 173 million individuals migrated from one country to another. This quantity of migrants enlarged to 191 million in the year 2005 and further increased to 222 million in 2010. Finally, this figure extended to 244 million in the year 2015. International immigration grew at a rate of 2% per year from 2000 to 2005. This rate increased to 3% per year during the period of 2005 to 2010. However, from 2010 to 2015 the growth rate of international migration decreased to 1.9 % per year. A major share of almost 70% of the total international migration is accommodated by rich countries (UN, 2016).

The study area of this research study also has significant importance concerning remittances and migrant numbers. District Dir Lower is registered as one of the highest districts in Pakistan in respect of the volume of incoming remittances and migrant numbers. The total registered Pakistani migrant workers with (BEOE) from 1981-2018 are about 10 million. District Lowe Dir is on the top of the list in the province of Khyber Pakhtunkhwa districts, which contributed 0.352 million (i.e. 352503) migrants to the country directory and followed by Mardan (0.213975) million and Peshawar (0.205453). Additionally, in Pakistan, Lower Dir is ranked 5th largest migrants producing district after Karachi (0.531109), Sialkot (0.443756), Lahore (0.385801) and Rawalpindi (0.374992) respectively in the year 2018 (BEOE, 2018).

After close analysis of existing literature, there are some research studies at local levels and national levels that have worked in different directions and different aspects of foreign migration. But this research study differentiates the existing literature with respect to sample size, comprehensive and up to date review of literature, descriptive statistics, and empirical analysis. We have used three different econometric models (OLS, Logit & Probit) for regression analysis. This is the first time for District Lower Dir to which is considered for a comprehensive research study in one of the top migrant producing districts.

This paper is organized as follows. In section 2 the relevant literature review are discussed, Section 3 describes the methodology and Section 4 describes the results. Finally, Section 5 concludes this research work and also gives policy implication.

Literature Review

The review of literature is organized on the basss of progressive views of investigators related to remittances and its impact on the quality of life. As we are focusing on two indicators (i.e. education and health) of quality of life, we analyzed the literature where the impact of remittances on these two indicators has been studied. The researchers have contended that inflows of remittances have a significant positive contribution to the household quality of life, especially on children's school enrollment and on the health status of the household.

Quartey (2006) opined that foreign remittance increased the welfare of the family considerably. It was found, that a 1% increase in remittance leads to contribute 0.23% to the welfare of the family. Remittance is the most important external financial source which is contributing well during crises and shocks. In addition, the educational level of the family head was positively associated with welfare. On the contrary, the age status of the household head was negatively related to household welfare. Similarly, household size had a negative effect on household welfare due to lower per capita household income.

Rossi (2008) argued that remittances increased school attendance for boys and girls of 11 to 14 years of age. However, for older members of the household, he found no significant relationship. In addition, migration had a

progressive influence on health standing. Migration improves the income level of the household, which allows them to spend more on health facilities.

Siddiqui (2012) concluded that global migration alleviated poverty for a shorter period of time. The consumption part of health facilities and education was high in total foreign remittances. Migration increased charity and alleviated the poverty of the community. In order to support the claim that in a short period of time global migration has decreased the incidence of poverty at the country level, evidence was specified from Africa, Latin America, and Asia.

Research Methodology

The research methodology is explained in this section. Lower Dir district has been considered for the research study. This study uses a primary source of data and through the questionnaire the data are collected. The sample size of four hundred three (403) households is used for this research study, which is visited during the years 2013 and 2014. Two different econometric models (linear and nonlinear) are considered for regression analysis.

Sampling

A method of the primary data source is adopted for this research work with the help of a total sample size of 403 households. An equal share is given to both of the household the type i.e. remittance recipient families and non-recipient families in total sample size. In order to get the relevant information, 403 households were investigated through a questionnaire in the year 2014. Total 35 villages from seven tehsils are considered for the survey. Stratified random sampling method has been used for both types of families on the bases of their presence.

The Model

The existing literature and model are adopted for this study. The model which are already used for remittances or migration and its relationship with household welfare by (Mekenzie, 2007), (Orbeta, 2008) and (Mughal, 2010).

$$Y_i = \beta_0 + \beta_1 \, REM + \beta_3 \, X_i + \varepsilon_i$$

Where the two dependent variables that are the family's educational and health status represented by Y_i, REM represents a household's remittances (i.e. a family receive remittance or not), and X_i represents the list of other control variables that are family income, income earners in household, agriculture & livestock details, parents education level, children 5 to 18 years old, family size and monthly food consumption and ε_i is the error terms.

The OLS (ordinary least squares) model is used for education. OLS is the best option because the relationship between the variables is linear and it is simple in nature and justifies the OLS properties. The household health has a binary (0, 1) response, which shows that a family can access the needs of health care or not. A non-linear relationship and binary response of the dependent variable Logit and Probit regression technique is adopted for family health status.

Results and Discussion

The result analysis is divided into two steps that are summary statistics and empirical analysis.
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Summary Statistics

This section presents the summary statistics in tables. We have made a comparative analysis and separate statistics of both families (i.e. remittances receiving and non-receiving) are presented in the following tables.

The average educational level of remittance recipient households and non-recipient is presented in Table 1. The first row presents average male and female children of age 5 to 18 years per household. The second and the third row describe average and percentage enrollment in school respectively. The last row gives information about the average monthly educational expenditures. Average school enrollment is higher for remittances receiving households than that of non-receiving households. Male school enrollment is 2.13 out of 2.24 while female school enrollment is 1.55 out of 1.82. In comparison, average school enrollment of children belonging to non-receiving households is 1.64 male children out of a total of 1.86 and 1.1 female out of 1.31. These figures are considerably lower than those of remittance-receiving families. The percentage proportion of children enrollment describes the outcome more obvious where male children show 95% presence and female children shows 85% presence which is enrolled in school belong to remittances receiving families. Male and female school enrollment for non-receiving households is 88% and 84% respectively.

Table 1. Number of Children, School Enrollment and Educational Expenditures

Variables	Remittances receiving household		Non-receiving household	
	Male children (5 to 18-year-old)	Female children (5 to 18-year-old)	Male children (5 to 18-year-old)	Female children (5 to 18-year-old)
Average children in a household	2.24	1.82	1.86	1.31
Average children enrolled in school	2.13	1.55	1.64	1.1
Percentage children enrolled in school	94.8 %	85 %	87.9 %	84 %
Average per month educational expenditures in PKR	7,904		5,311	

Table 1 presents the average monthly educational expenditures for both types of families. Average monthly educational expenditures are 7,904 PKR. However, non-receiving families spend 5,311 PKR monthly for educational purpose. This statistic defines a substantial positive association among foreign remittances and family educational expenditures.

Table 2. Household Preferencefor Medical Service

Availing Health Care Service Type in Case of Illness	Remittances Receiving Household	Remittances non-Receiving	Total
Private hospital	71%	33.0%	53%
Public hospital	22%	44.5%	33%
Local doctor/Dispenser	5%	20.9%	13%
Hakim/Homeopathic	.5%	0.0%	0.3%
Self-treatment/Self-medication	1.5%	1.6%	1.5%

Table 2 presents the type of health services. We have divided health services into five categories, private health services, public hospital, health services from the local dispenser, health services of homeopathic and self-treatment/medication. On average 45% of non-receiving households visit government hospitals. However, remittances receiving households prefer private hospital for medical treatment. On average 71% of remittances receiving households visit a private hospital. Moreover, a higher percentage of non-receiving households visit the dispenser or local doctor. It is concluded that remittances receiving families prefer private medical treatment and spend more on education. On the other side, non-receiving families prefer mostly public hospitals and spend less on health expenditures as related to others. It concludes that remittance recipient households enjoy better health facilities than non-receiving household.

Table 3. Statistics of Household Type and Health Care Fulfillment

Health Status of Household	Remittances Receiving Households	Not- Receiving Households	Total
Total monthly income to fulfill health care needs.	83 %	36 %	60 %
Monthly income which can not fulfill the health care needs.	17 %	64 %	40 %
Total	100 %	100 %	100 %

Variable household type measures whether a particular household or family is receiving remittance or not. Table 3 shows that how a remittances recipient family and non-recipient family access to basic healthcare needs. It is summarized that 83% of remittance recipient families can access their healthcare requirements. However, of non-recipient families merely 36% can fulfill the healthcare needs. The overall sample reveals that 60% of the total can access their healthcare needs. The overall percentage is calculated from the total sample collected from household

surveys. The results conclude that remittances improve family health status. If a family receives foreign remittances its chances to fulfill the healthcare needs also increase.

Regression Analysis

Results are obtained from the regression of ordinary least square (OLS) and Logit and Probit models. Thiel's Benchmark Criterion is used for regression analysis. According to this technique, all the variables which are insignificant are dropped one by one and the model is re-estimated. This estimation procedure is called a general approach to specific. The following section explains the interpretation of the results obtained from OLS and Logit and Probit models.

OLS Regression Results of Household Education

Table 2 describes the specific model which is regressed for monthly educational expenditures. Dependent variables are measured as household type i.e. a family receives remittance or not, monthly income, educational level of parents and size of household. We have included five dummy variables for parental education. The base category is no formal education, other dummies are, primary, SSC, HSSC, graduation, and master.

The variable of our interest is household type (HHT) the coefficient of this variable is positive and significant. It shows foreign remittances is positively related to educational expenses of the family. In other words, a household that received foreign remittances make more expenditures for education with respect to non-receiving. The coefficient of monthly income is also significant and positive, which shows that monthly income of household increases the educational expenses.

Table 4. Results of Specific Regression Model for Household Education

Variables	Beta	t-stats
HHT (household type)	0.084	(1.614)*
TMI (total monthly income)	0.131	(2.263)**
FEP (father's education primary)	0.070	(1.489)
FEHS (father's education secondary)	0.066	(1.385)
FEG (father's education graduation)	0.048	(1.027)
FEM (father's education master)	0.187	(3.618)***
MES&HS (mother's education secondary and higher secondary)	0.051	(1.088)
MEG&M (mother's education graduate and master)	0.210	(4.179)***
HS (Household size)	0.145	(2.873)***
R^2		0.193
F-test		10.106

Parental education level also plays a vital role in explaining monthly educational expenditures. Well educated parents give more importance to education and they invest more in education. The coefficient of FEM is positive and significant which shows that the father with master's-level education, as opposed to no formal educational level of base category, spends more on children's education. The dummy variable of mother's secondary education is insignificant while for graduate and masters it is significant. It may be due to the fact that mothers with higher education are mostly employed and they contribute to household income and hence it increases monthly household educational expenditure. Positive and significant coefficients of household size shows that an increase in household size increases household monthly expenditures on education. It may be because more members in the household earn more income and hence expend more on education.

The OLS results of the model show that the impact of parental education on educational expenditure is significant and positive. Similarly, foreign remittances, monthly income, and family size also significantly increase household monthly expenditures.

Logit and Probit Regression Analysis for Household Health

Table 5 presents results of Logit and Probit models where the dependent variable is household health status. The models include household type, monthly income, parent's education, family size, and food consumption as independent variables. Parental education level is divided into three categories that are primary education, SSC & HSSC educational level, and graduation & master's level.

The dependent variable in our equation is household health status which is a dummy having value one and zero. Therefore, we estimated the probit and logit models. Marginal effects of independent variables on household health status are given in table 4.2.2. Results obtained from both models are almost the same.

Table 5. Logit and Probit Results for Household Health Status

Explanatory Variables	Logit Model	Probit Model
HHT (household type)	0.411	0.262
TMI (total monthly income)	0.001	0.001
FEP (father education primary)	0.122	0.068
FES&HS (father education secondary and higher secondary)	0.134	0.082
FEG&M (father education graduation and master)	0.225	0.142
MES&HS (mother education secondary and higher secondary)	0.347	0.208
MEG&M (mother education graduation and master)	0.312	0.173
HHS (household size)	-0.008	-0.005
FC (food consumption)	0.008	0.005
Constant	-0.330	-0.193

Coefficient of HHT shows that if a family moves from non-receiving status to receiving family the probability of good health position increase. When a family receives remittances its probability of good health position increases by 41% and 26% in the Logit and Probit models respectively. It expresses that remittance recipient families have better health facilities than non-recipient families. Coefficient of TMI is also positive which reveals that 1000 PKR increase in monthly income rises the probability of household health fulfillment by 1 percentage point in both models. It shows that household income plays a vital role in accessing good health facilities. Households having more income can fulfill the basic health-care needs easily, for example, hospital fee, cost on medicine and transportation charges, etc.

Parent's education affects the probability of health fulfillment in a positive way. Well educated parents are likely to earn more income and, therefore, they can easily fulfill the basic health care needs. Results further reveal that household size negatively affects the dependent variable. The negative coefficient of household size shows that as household size increases the household moves to a poor health status from better household status. The results show that asfood consumption of the household rises, so does the probability of better health. It is clear from the regression results that additional consumption on food leads to the better health status of a household.

Conclusion and Policy Implication

Conclusion

In this study, we have examined the effects of remittances on household welfare in the context of educational and health progress of household. The results summarize that remittances contribute positively and significantly to education. Furthermore, remittances enhance a family's income and a substantial share of remittances is utilized for educational expenses. We further conclude that households receiving foreign remittances invest more in education as related to non-recipient families. These results lead us to conclude that higher-income households allocate more expenditure to education. Moreover, school enrollment of children is significantly associated with foreign remittances. Some control variables like total monthly income andparental education also positively and significantly affect education.

This study also reveals that remittances bring improvement in the health status of a household, if a family receives remittance then its probability of fulfilling basic health care needs rises. We opined that remittances recipient families have a considerably greater probability of fulfillment of their healthcare needs than non-receiving families. This clearly shows that foreign remittances of the family play a very crucial role in the attainment of a good health position. Other control variables like monthly household income and parental education also significantly affect the health status of a household. On the other hand, family size was negatively associated with health status. When the size of a household increases the household health status start to decline.

Policy Implication

The research study reveals that remittances considerably improved the quality of life. In order to increase the benefits of income remittances, some policy implications are given. Our research study reveals that foreign

remittances positively affect education. Therefore, the government should implement policies which ensure the provision of better formal education to the youth. In order to produce a more skilled worker, the government should focus on technical education as well. Better formal education increases the skill level, capability, and productivity. If workers who go abroad are well educated and skilled then they will be more likely to get well-paid jobs. Consequently, they will remit more foreign currency and will hold better status in the host and country of origin. On the other hand, it is also analyzed that remittances contributed positively to health. As a policy, the authority should provide better health facilities to the people. This will contribute positively to producing a healthy workforce, which is the basic need for development.

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