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Impact of International Migration and Remittances on Household Income Sources: Case Study of Nangarhar Province, Afghanistan
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Keywords: Migration, Remittances, Households

Abstract

The main objective of this study was to explore the impact of migration and remittances on household income sources in Afghanistan. Similar studies in other countries have shown that remittances have a positive impact on investment, agriculture, self-employment and other income sources. Four hundred households in eastern Nangarhar province, Afghanistan were interviewed for this study. The data was collected by two survey teams. The first team worked in an urban area (Jalalabad city) and the second worked in the rural area. Each team interviewed two hundred families who had at least one family member in Europe. The same specially designed questionnaire was used in both areas. The New Economics of Labor Migration model, which is now well-known across the world, was used to analyze the data. The results show that remittances have a positive effect on agriculture, self-employment or business, and total investment. Larger families, especially those in urban areas, were more likely to send a second and third person to European countries. The study showed that family size, children and livestock are not positively correlated with remittance.

Description of Data

The aim of the study was to understand the impact of remittances and migration on household income sources. Four hundred households which had at least one member living in Europe were surveyed. The data were collected from both urban and rural areas, with the aim of understanding the impact of migration and remittances in both areas. One survey team collected 200 samples from the rural districts of Kama, Behsood, Rodaat, Surkhrood and Kuz Kunar. The other team collected 200 samples from the city of Jalalabad, the capital of Nangarhar province. Jalalabad is divided into eight zones. The 2nd, 4th, 6th and 7th zones were randomly selected for data collection.

The specially designed questionnaire had two parts. The first part contained questions on general information like number of family members, children under 19 years, number of children in school, number of employed people and number of members who had migrated abroad. In the second part, the questions were about different economic activities such as agriculture, self-employment, livestock, investments and savings. Participants were asked about their investments in all
activities, their profits, and the portion of their remittances spent on investments to find out about their sources of income. Furthermore, there were asked about the number of government employees in the family and their incomes to investigate the relationship between this and migration and remittance.

**Research Question/Theoretical Contextualization**

Migration from less developed countries to more developed ones has increased dramatically in recent years. International migration has recently emerged as a factor in globalization and global economic development. It has affected individuals, households, communities and countries. In some countries, it is considered a difficult political issue (Dhungana and Pandit, 2014; Rivera, 2005).

The number of international migrants was 258 million in 2017, up from 220 million in 2010 and 173 million in 2000. Asia and Europe have the largest number of international migrants, with 80 million in Asia and 78 million in Europe. North America, with 58 million, has the third most, while Africa has 25 million, followed by Latin America and the Caribbean with 10 million each, and Oceana with 8 million (United Nations, 2017). However, the increase in international migration slowed in the last half of the 20th century. For example, between 1965 and 1995 the number of migrants increased from 75 to 125 million (UNDP, 1999). In 2017, 67% of all international migrants were living in 20 countries. The United States of America hosted the largest number of international migrants with 50 million. Saudi Arabia was second, Germany third and Russia fourth, each with about 12 million international migrants (UN, 2017).

Over the last four decades, the poor security situation and the war in Afghanistan have forced millions of Afghans to immigrate to various countries. Pakistan hosts the most Afghans, followed by Iran (Marchand et al, 2014; Abbasi-Shavazi et al, 2005). As well as the security issues, political instabilities, economic hardship and natural disasters have also forced Afghans to leave their homes and migrate both within the country and internationally (IRC, 2016). About 4.8 million Afghans currently live outside the country, creating a huge workforce for the international market (World Bank, 2018). At the same time, however, the World Bank Group estimated that there were 5.1 million Afghan migrants in 2017, some of whom earn money for their families (KNOMAD, 2018).

In developing countries, remittances play an important role in households' income sources and financing (IMF, 1999). Migrants send money to their home countries to support their families who have remained there, which helps families and friends to reduce their daily hardships. In recent decades, overall remittances have increased rapidly from $126 billion in 2000 to $575 billion in
2016 (IOM, 2018). Afghan migrants, like the world's other migrants, make money by working and send it to their home country.

The decision to migrate can have a direct impact on a household’s, a society’s and a country’s economic and social welfare (Azam et al, 2006). Migrants benefit both their country of origin and their destination country. The receiving country can gain from the effect of migrants on the labor market, as they can increase employment, production and GDP, and may import innovations (Ortega et al, 2009). In their country of origin, a migrant’s remittances can help increase their household’s income and availability of financial resources (Toxopeus et al, 2007).

In several countries, such as in India, Pakistan, Morocco and Mediterranean countries, the results of some studies show that remittances have a positive effect on investment (Meyer and Shera, 2016). The results of studies in Mexico, the Philippines and other countries by Lucas (1986), Taylor (1992), Wyatt (1996), Wooruff & Zenteno (2001), Adams (2006) and Yang (2008) indicate that remittances cause an increase in investment in small businesses, promote self-employment and provide financing for farming and agriculture (Mohapatra et al, 2010). A study from central Kyrgyzstan indicates that remittances are the main source of income for migrants’ households. They spend this income on many things, and remittances invested in their livestock help to create income. The study further states that migration solved the problem of unemployment and underemployment in central Kyrgyzstan by creating jobs (Sagynbekova, 2017). Another study in Kyrgyzstan found a positive relationship between remittances and improvements in the standard of living, but it also found that migration has some negative impacts on the socio-economic situation in Kyrgyzstan. For example, the constant emigration led to a “brain drain” in the long term, there were social and psychological consequences to family separation, and the availability of labor in the villages was reduced (Schmidt and Sagynbekova, 2008). In addition, a study in Albania and five neighboring countries explored the impact of workers’ remittances on economic growth. Data from 1999 to 2013 was analyzed, and remittances were found to have had a significant and important role in economic growth (Meyer and Shera, 2016). A comparative study on the impact of remittances on households’ economic situation was conducted in two small countries, Fiji and Tonga, in 2007. In Fiji, remittance is mostly a recent phenomenon, while in Tonga it has a long history. No significant results were found regarding the effect of migration or remittances on income from agricultural activities in either country. In Tonga, remittances were found to have had a positive impact on the starting of new businesses by households. In Fiji, remittances positively affected the wage income of households (Brown and Leeves, 2007). Ratha found that remittances increase the spending of households in rural areas, and that they are therefore more likely to consume domestic products, which increases domestic production and consumption (Ratha, 2003). In other words, remittances do not have a positive impact on every part of the economy. Chami, Fullenkamp and Jahjah explored the impact of remittances on growth per capita and found that it is not significantly positive. They reported three findings. Firstly,
consumption accounts for the largest portion of spending from remittances. Secondly, only a tiny part of remittances goes into investments and savings, and thirdly, the ways in which remittances are saved or invested, such as jewelry, land and housing, are not very productive (Chami, Fullenkamp and Jahjah, 2003).

According to a World Bank report, about 5.1 million Afghans live outside of the country (KNOMAD, 2018). Those who are employed in foreign countries send some of their earnings, after caring for their own expenses, back to their home country. Job opportunities in Afghanistan are scarce, and it is not easy for everyone to find one. Therefore, remittances are the main source of income for families who have someone working in another country.

This study will examine the impact of remittances and migration on households' income sources. These income sources include livestock, government transfers, self-employment, agriculture and others. In most studies, the results show that migration and remittances have a positive effect on income sources. However, the hypothesis of this study is based on the NELM (New Economics of Labor Migration) model, which states that remittances have a positive effect on households' sources of income. Based on this, the hypothesis of this study is:

H0: Remittances have a positive effect on households' sources of income.

This study will answer some important questions regarding remittances:

- What is done with the received amounts?
- Are the remittances they receive sufficient for households’ expenses?
- Do their remittances help households to increase their investments, savings, income from self-employment or agricultural activities?

Field Research Design/ Methods of Data Collection

The remittances sent by migrants have various impacts on households' daily activities. Therefore, the main purpose of this study was to examine the impact of remittances and migration on households’ income sources.

Primary data was collected from households through a specially designed questionnaire. The same questionnaire was used in both urban and rural areas. Four hundred households in Nangarhar province were surveyed. Nangarhar province is located in the eastern part of Afghanistan. It has 23 districts and the capital Jalalabad is divided into eight zones. The population of Nangarhar province is 1,635,872 (CSO, 2018). In the urban area (Jalalabad), 200 households were interviewed. The data were collected from four of the eight zones. The remaining 200 households interviewed were in rural areas. These data were collected from Kama, Rodaat, Behsood, Surkhrood and Kuz Kunar districts. The survey teams targeted only those families with
at least one migrant member in Europe. In recent years, many young Afghans have migrated to Europe, and there were also some Afghans already living in Europe. Therefore, it was necessary to explore the impact of these migrants on their country of origin.

The study used the New Economics of Labor Migration (NELM) model, which is now the most well-known model used for migrants’ economic activities.

The NELM model has more dimensions than the older neoclassical migration model. The neoclassical model does not take studies of migrants’ families’ and migrants’ revenue transfer back to their countries of origin into account. The NELM model, in contrast, does consider the impact of migration and remittances on the countries of origin as well as on the destination countries. The NELM model suggests that if migrants play the role of financial intermediaries, then the impact of migration and remittances should be not null. This is the hypothesis proposed by Stark and Bloom (1985), Lucas (1987), Stark et al. (1986), Taylor (1992) Rozelle et al. (1999) and Taylor et al. (2003). Therefore, it seems that remittance and migration can impact on migrants’ households in their countries of origin (Rivera, 2005). Our study estimated the impact of migration and remittance on households in Afghanistan. It focused on the impact of migration and remittance on households in Nangarhar province, Afghanistan, and attempted to find the effects of migration and remittance on agriculture, self-employment, wage income, government transfers, livestock and other income sources of households in rural and urban areas. In Afghanistan the rural economy is mostly based on agriculture and livestock, while urban households have their own business activities, work for the government or work in the private sector. This study focused on both rural and urban households to see how much migration and remittances affect the standard of living in both regions. The study also compared the households in both areas to see how remittances affect their economic status.

Econometric Model:

If the total income of a household is defined as $\bar{Y}_k$, then we have an equation from the model that describes the increase in income for each household:

$$\bar{Y}_k = \gamma_{0k} + \gamma_{1k} R_v + \gamma_{2k} R_u + \gamma_{3k} M_v + \gamma_{4k} M_u + \gamma_{5k} Z_k + \varepsilon_k ; \quad k = s, l, g, a, o$$ (1)

The income sources are self-employment income ($Y_s$), income from livestock ($Y_l$), government employees’ income ($Y_g$), agricultural income ($Y_a$) and other income sources ($Y_o$).

R indicates remittances; M, migration; and Z, other characteristics of the household that affect its income. Furthermore, v indicates rural areas and u indicates urban areas (Rivera, 2005).

The remittances are earned by household members who have migrated, but not all migrants send remittances to their families. In equation 2, M is the average remittance per migrant. Furthermore,
the characteristics of a household’s human capital (Z_R) also influence the amount of remittance earned and sent.

Furthermore, the characteristics of human capital (ZR) is another factor that influence the amount of earnt and sent remittances.

\[ R_i = a_{0i} + a_{1i}M_i + a_{2i}Z_{Ri} + \epsilon_{Ri} \quad i = v, u \]  

(2)

Migration, also a function of individual, household and community characteristics Z_M, is defined in general as follows:

\[ M_j = g_j(\beta; Z_M) + \epsilon_M \quad j = v, u \]  

(3)

To consistently estimate the system of equations defined by equations (1) and (3), a functional form of equation (3) was chosen. It should not be thought that the migrants are never negative in function (3). The estimate is complicated by the fact that in the NELM, migration and remittances are endogenous with other income sources in equation (1). Instruments which can identify both migration and remittances are required to control this problem of endogeneity.

Selectivity bias is also a problem, because not all households which send out migrants receive remittances, and also not all households' income comes from the same activities. Furthermore, remittances and other income sources could both experience the same types of shocks, which would lead to contemporary correlations in the equations. (Taylor et al, 2001; Brown and Leeves, 2007; Rivera, 2005).

**Results**

To give robust results, 400 households were interviewed in this study. The criterion for selecting a household was that it must have at least one migrant in Europe. The interviewed households had an average of 1.2 persons living in Europe, with 1.16 of them employed. Of these, almost one person per household sent money to Afghanistan. The results of the survey indicate an average of 13.72 members per household, which is relatively high compared to the national level. On average, over 5 members were less than 19 years old and 3.5 members were enrolled in school. An average of 3.53 members were employed either inside or outside the country.

The survey found that on average, households invested 9.43% of received remittances in business, 5.28% in livestock and only 3.3% in agriculture, while they reported that only 12.31% of their remittances were saved and the remaining 69.68% were used for daily expenses and other livelihood-related aspects.

To quantify and make inferences about these findings, different regression models were used to estimate the impact of remittances and migration. To assess the impact of remittances separately,
four different models were estimated, for self-employment, livestock, agriculture and government employees. In addition, multiple regression analysis with OLS was used for the determinants of remittance. For the determinants of the number of migrants from each household, multinomial logistic regression analysis was used. The results of each model are reported in tables 1, 2 and 3.

The variables were defined as:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lrem</td>
<td>Log Remittance</td>
</tr>
<tr>
<td>Noemploy</td>
<td>Number of employees</td>
</tr>
</tbody>
</table>

Number of migrants in Europe (reference group = one family member). Number of family members in Europe was considered as a categorical variable, where each family was assigned to one of the following three groups:

a. one member
b. two members
c. three or more members

Two members

Three members Three or more members

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Land for agriculture</td>
</tr>
<tr>
<td>Lstock</td>
<td>Livestock</td>
</tr>
<tr>
<td>Fsize</td>
<td>Family size</td>
</tr>
<tr>
<td>Under 19 years</td>
<td></td>
</tr>
<tr>
<td>Region</td>
<td></td>
</tr>
<tr>
<td>Cons</td>
<td>Constant</td>
</tr>
</tbody>
</table>
### Table 1: Impact of remittance and migration on different income sources

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1: Total Investment</th>
<th>Model 2: Self Employment</th>
<th>Model 3: Government Employees</th>
<th>Model 4: Agriculture</th>
<th>Model 5: Livestock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remm</td>
<td>0.9900</td>
<td>0.2099</td>
<td>0.0000</td>
<td>0.4400</td>
<td>0.1639</td>
</tr>
<tr>
<td>Unemployed</td>
<td>0.3500</td>
<td>0.1065</td>
<td>0.0100</td>
<td>0.1650</td>
<td>0.0750</td>
</tr>
<tr>
<td>Number of Migrants in EU (Reference Group = 1 family member)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two Members</td>
<td>0.4244</td>
<td>0.3490</td>
<td>0.2250</td>
<td>0.1895</td>
<td>0.2451</td>
</tr>
<tr>
<td>Three Members</td>
<td>0.3416</td>
<td>1.0797</td>
<td>0.7500</td>
<td>0.0492</td>
<td>0.0534</td>
</tr>
<tr>
<td>Land</td>
<td>0.6347</td>
<td>0.0068</td>
<td>0.0420</td>
<td>0.0290</td>
<td>0.2265</td>
</tr>
<tr>
<td>Livestock</td>
<td>0.2320</td>
<td>0.2809</td>
<td>0.4060</td>
<td>0.3207</td>
<td>0.2151</td>
</tr>
<tr>
<td>Field</td>
<td>-0.0206</td>
<td>0.0478</td>
<td>0.6380</td>
<td>0.0117</td>
<td>0.0356</td>
</tr>
<tr>
<td>Under16 years</td>
<td>0.0236</td>
<td>0.0823</td>
<td>0.7710</td>
<td>-0.0526</td>
<td>0.0620</td>
</tr>
<tr>
<td>Region</td>
<td>0.0353</td>
<td>0.3193</td>
<td>0.9540</td>
<td>-0.0126</td>
<td>0.2365</td>
</tr>
<tr>
<td>.con</td>
<td>-4.1043</td>
<td>2.9977</td>
<td>0.1720</td>
<td>4.1452</td>
<td>2.3698</td>
</tr>
<tr>
<td>Observation</td>
<td>234</td>
<td>185</td>
<td>105</td>
<td>105</td>
<td>169</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0282</td>
<td>0.1602</td>
<td>0.196</td>
<td>0.2598</td>
<td>0.1061</td>
</tr>
<tr>
<td>Prob (F-statistic)</td>
<td>0.0000</td>
<td>0.0001</td>
<td>0.0112</td>
<td>0.0000</td>
<td>0.0155</td>
</tr>
</tbody>
</table>

Source: Author Estimation (Doc, 2018)
The total investment model (model 1) is significant and the model fit is relatively good (almost 28.3 percent of household investments are explained by the independent variables). The investment by households with one member in Europe compared to those with two or three and more members in Europe is insignificant, which indicates that having more members in Europe is not associated with higher investment. The relationship between remittances and investment is significant at the 0.01 level. A one percent increase in the amount of remittance received by households is associated with a more than one percent increase in their investments. The results of the total investment model indicate no significant differences between rural and urban areas. Family size, having livestock, number of children under 19 and number of children enrolled at school do not show any significant relationship with investment. As expected, the number of employed persons in a family shows a significant positive relationship with investment after controlling for other factors. Each additional employment in a household is associated with a 35 percent increase in investment. Having land has a positive relationship with investment. Households with land enjoy 63.45 percent higher investment compared to households without land. This is significant at the 0.1 level.

The second model is about the impact of remittance on self-employed households. There is a statistically significant relationship between the variables in this model. The fit is relatively low (almost 16.8 percent of self-employed households' investments are explained by the independent variables). Having family members in Europe was considered as a categorical variable. There are no significant differences in investment in terms of self-employment or business between households with two members or three or more members compared to households with only one member in Europe. The relationship between remittances and household investment is significant at the 0.01 level. A one percent increase in the amount of remittance received by a household is associated with a less than one percent increase in their investments related to self-employment. There are no significant differences in the amount of investment between rural and urban regions in this model. As expected, the number of employed persons in a family has a significant positive relationship with investment after controlling for other factors. Each additional employed person in a household is associated with a 16.3 percent increase in the household's business activities.

The third model, which shows the impact of remittance and other variables on the investments of government employees, is significant only at the 0.05 level. Having family members in Europe was considered as a categorical variable. The number of government employees in households with two members or three or more members were compared to the number in households with only one member in Europe. Surprisingly, the results indicate a negative relationship, which means that families with two individuals in Europe have 38.3 percent fewer government
employees than those with only one person in Europe. This is statistically significant at the 0.1 level. For families with three or more members in Europe, the results show a further reduction, with 1.117 times fewer government employees compared to households with only one person in Europe.

Remittance has a significant relationship with the number of government employees in a household. This effect is significant at the 0.01 level. A one percent increase in the amount of remittance received by households is associated with a 0.48 percent increase in the number of government employees. However, region (rural or urban), family size, having livestock, number of children under 19 and number of children enrolled at school do not show any significant relationship with the number of government employees. As expected, the number of employed persons in a family has a significant positive relationship with the number of government employees after controlling for other factors. Each additional employed person in a household is associated with a 0.16 percent increase in the number of government employees in the household.

The fourth model is related to the impact of remittance on agricultural investments. This model is significant only at the 0.01 level and its fit is relatively low (almost 25.98 percent of households' investment in agriculture (land) is explained by the independent variables). Having family members in Europe was considered as a categorical variable. There are no significant differences in investment in agriculture between households with different numbers of migrants in Europe. The relationship between remittance and households' investment in agriculture was significant at the 0.01 level. A one percent increase in the amount of remittance received is associated with a 0.67 percent increase in investment in agriculture. Family size, region, number of children under 19, number of children enrolled at school and number of employed individuals do not show any significant relationship with the level of investment in the agricultural sector. Surprisingly, having livestock has a negative relationship with investment in agriculture that is statistically significant at the 0.1 level. This indicates that households with livestock have on average 30.34 percent less investment in agriculture compared to those without livestock after controlling for other variables.

The fifth model shows the results for investment in livestock and is significant only at the 0.05 level. The model fit is very low (only 10.81 percent of households' investment in livestock is explained by the model). Having family members in Europe was considered as a categorical variable. There are no significance differences in investment in livestock according to the number of migrants in the Europe. Remittance has a significant relationship with households’ investment in livestock. In summary, the number of household members under 19 years is the only significant variable. However, it is only marginally significant and also economically very weak. Each additional member under 19 is associated with a 2 percent decrease in investment in livestock after controlling for other variables.
Table 2: Remittances and household characteristics

| Variables                              | Coef. | Std. Err | P>|t| |
|----------------------------------------|-------|----------|-----|
| Noemploy                               | 0.1311| 0.0385   | 0.0010 |
| **Number of Migrants in EU (Reference Group = 1 family member)** |       |          |     |
| Two Members                            | 0.6446| 0.1216   | 0.0000 |
| Three Members                          | 0.8088| 0.3467   | 0.0220 |
| Land                                   | -0.0354| 0.1027 | 0.7300 |
| Lstock                                 | -0.0911| 0.0979 | 0.3530 |
| Fsize                                  | -0.0073| 0.0176 | 0.6770 |
| Under19years                           | -0.0303| 0.0302 | 0.3180 |
| Region                                 | -0.6801| 0.1041 | 0.0000 |
| .cons                                  | 13.8287| 0.2290 | 0.0000 |
| **Observation**                        |       | 277      |     |
| **R-squared**                          |       | **0.3618**|    |
| **Prob (F-statistic)**                 |       | **0.0000**|    |

Source: Author Estimation (Dec, 2018)

Table 2 shows the relationships between the amount of remittance received by households and the characteristics of these households. The model is statistically very significant. The r-squared value indicates that more than 36 percent of the variation in the amount of remittance sent is explained by the independent variables. The number of employed persons in a family shows a significant positive relationship with the amount of remittance sent to the family after controlling for other factors. Surprisingly, it indicates that each additional employment in a household is associated with a 13.1 percent increase in the amount of remittance received. Having family members in Europe was considered as a categorical variable. The results indicate that families with two and three or more members in Europe receive 64.5 percent and 80.9 percent, respectively, more remittance than families with one person in Europe. The results are statistically significant at the 0.05 level. Urban households receive 68 percent less remittance than rural families, and this it is highly significant. Family size, having livestock, number of children under 19 and number of children enrolled at school do not show any significant relationship with remittances.
Finally, the results for the relationships between household characteristics and the number of migrants in Europe, using multinomial logistic regression, are reported in Table 3. The findings in Table 3 suggest that a higher employment rate in families is associated with a higher likelihood of their having sent a second person to Europe, and this is statistically significant at the 0.05 level. This finding can be explained by the fact that having more employed members provides families with the financial means for their second or third member to migrate to Europe. Larger families are also more likely to have a second or third person in Europe. Number of children under 19, owning livestock and having land do not have any significant relationship with the number of migrants in a family. Region is a substantial factor for the number of migrants in a family. The findings suggest that urban families are 1.5 times more likely to send a second member to Europe than rural families. Moreover, they are 2.8 times more likely to have three people in Europe than rural families.

**Discussion & Conclusion**

Migrants and their remittances are tough issues for today's world. People leave their houses and move to different places either within their country or in a new country for reasons such as economic conditions, unemployment, war, natural disasters and many others. Most of them work
so that they can have the basic necessities of life. In addition, they send some money to their home countries.

In the last few decades, the number of migrants has increased. In 2017, there were 258 million worldwide (United Nations, 2017). In 2016, the remittances migrants sent to their home countries reached 575$ billion (IOM, 2018). Afghanistan has the highest number of migrants, estimated to be about 5.1 million in 2017, in the world (KNOMAD, 2018).

In many countries, several studies have been conducted to explore the impact of migration and remittances. The results of studies in Morocco, India, Pakistan and Mediterranean countries showed that remittances had a positive impact on business. Some other studies, in Mexico and the Philippines, also found that remittances had a positive effect on investment in small businesses and increased self-employment and provide financing for farming and agriculture (Meyer and Shera, 2016; Mohapatra et al, 2010).

Based on the above studies, the findings of this study also show that migration and remittances have some positive effects in Afghanistan. The results show that remittance has a significant effect on households' investments. It shows that a one percent increase in the remittance received by a household is associated with a more than one percent increase in its investments. The study also found a significant relationship between remittances and the amount of investment by households related to self-employment or business. It shows that a one percent increase in the remittance received by a household is associated with a less than one percent increase in that household’s self-employment or business investments. Remittance also has a positive impact on agriculture. A one percent increase in the remittance received by families is associated with a 0.66 percent increase in agricultural investment. Having family members in Europe was considered as a categorical variable. Families with two and three members in Europe were found to receive 64.5 percent and 80.9 percent more remittance, respectively, than families with one person in Europe. The results show that families in urban areas receive 68 percent less remittance than families in rural areas. This result is highly significant. Family size, number of children under 19 and number of children enrolled at school do not show any significant relationship with remittances. Having land and owning livestock have a negative effect which is, however, not statistically significant. A higher employment rate in a family is associated with a higher likelihood of having a second person who had migrated to a European country. Larger families are more likely to have sent two or three people to Europe. Region is a significant factor for the number of migrants in a family. The results indicate that urban families are 1.5 times more likely to send a second person to Europe than rural families, and 2.8 times more likely to have three people in Europe.
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