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Tajikistan's Labour Migrants in Russia**

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1. Introduction

Tajikistan's dependency on remittance inflows is well known. Annual remittances increased from \$78.5 million in 2002 to \$1.69 billion in 2007, thereby making Tajikistan the top remittance-dependent economy in the world. The size of remittances was enormous in terms of the small and open economy of Tajikistan: equal to 45.5% of GDP in 2007. This increasing tendency continued in the ensuing years. Remittances were equal to 49.3% of GDP in 2008¹.

Labour migration from Tajikistan to Russia was a precondition for the increase in inward remittances. In the 2000s, the net cumulative annual number of migrants abroad was estimated to be between 600,000 to 1.5 million people, equal to 20% of the permanent population of Tajikistan and 30% of its labour resources.

The long duration of migration² is one of the main reasons for the immense cumulative net migration from, and increased remittances to, Tajikistan. The migration issues are widely addressed in the literature; however the duration of migration has received less attention. A number of researchers, such as Sjaastad (1962), Harris and Todaro (1970), Stark (1992), Waldorf (1995), Carrington et al. (1996), and Dustman (2001), have investigated the duration of migration. They have used a variety of approaches, and their empirical results do not have much in common. While some researchers have attempted to highlight wage differentials as the motive for migration and its further continuance (Sjaastad, 1962; Harris and Todaro, 1970), others have found that higher wage differences have an insignificant impact (Carrington et al., 1996) and may even decrease the duration of migration (Dustmann, 2001).

¹ The World Bank (2011).

² In this paper, duration of migration refers to the duration of Tajikistan's labour migrants' stay abroad.

In this paper, applying regression analysis and data from the Tajikistan Living Standards Measurement Survey (TLSS2007), we define the determinants of the migration duration of Tajikistan's labour migrants. The TLSS2007 was conducted by the World Bank in Tajikistan between September and November 2007. The estimations include the migrants who have already returned to their home country, as well as those who remain abroad. Duration of migration for the migrants abroad encompasses the period from the month of departure to October 2007.

2. Methodology

We hypothesise that the duration of migration is related to the migrant's economic and social environment in the host and home countries. Our hypothesis implies that the migrant's duration of stay in the host country is a function of his or her net income available in the host country, age, gender, being the household head in the home country, type of job (skilled or unskilled) in the host country and legal entry to the host country.

To conduct a proper analysis, two sets of data containing information about people with international migration experience are prepared. All the variables of the model are tested for normality. The observations with inappropriate information are omitted from the data. Using the adjusted data, the duration of migration is regressed on explanatory variables. The regression results are tested for the presence of heteroskedasticity using the Breusch-Pagan/Cook-Weisberg test³. If heteroskedasticity is detected in a regression, we correct it using robust standard errors, examine the residuals, and identify a solution. The Ramsey Regression Equation Specification Error Test (RESET)⁴ is used to examine the equations in the model for misspecification problems.

3. Data specification

Our calculations are based on the TLSS2007, which includes cross-sectional data for 4,860 households with 30,139 individuals. Among all the living standards

³ Breusch and Pagan (1979).

⁴ Ramsey (1969).

measurement surveys performed for Tajikistan (in 1999, 2003, 2007, and 2009), the TLSS2007 was the most comprehensive and informative. This paper focuses on migration issues, and the sample size used in the calculations is rather small.

Table 1: Summary statistics of data for former migrants

Variables	Observations	Mean	Standard deviation	Min.	Max.
Duration of migration, months	539	10.0	7.8	1	40
Monthly income, \$	539	314.0	184.6	40	1000
Age, years	539	34.1	9.5	16	59
Gender (Male)	539	0.94	0.25	0	1
Head of household	539	0.43	0.50	0	1
Employed in skilled job	539	0.81	0.39	0	1
Host country is Russia	539	0.94	0.23	0	1
Entered the country legally	539	0.61	0.49	0	1

Source: The author’s calculations are based on the TLSS2007.

Note: Gender, head of household, employed in skilled job, host country is Russia and entered the country legally are used as dummy variables.

The summary statistics for the variables used in the analysis are provided in Tables 1 and 2. Table 1 contains information on migrants who have migrated for a period of at least one month since January 1, 2004 and returned to Tajikistan before November 2007. To create more flexible identification criteria for this group, we use the term “former migrants” to refer to those within it. Table 2 contains information on migrants who have migrated before October 2007 and have not yet returned at the time of the survey. We use the term “migrants abroad” for this group.

The first variable is the duration of migrants’ continuous stay in the host country, measured in months. The average duration of migration is 10 months for former migrants and 28 months for migrants abroad. This means that the majority of former migrants were seasonal.

Table 2: Summary statistics of data for migrants abroad

Variables	Observations	Mean	Standard deviation	Min.	Max.
Duration of migration, months	840	28.1	21.9	1	127
Monthly income, \$	840	321.5	178.6	40	1000
Age, years	840	27.9	7.5	16	53
Gender (Male)	840	0.93	0.26	0	1
Head of household	840	0.01	0.08	0	1
Employed in skilled job	840	0.78	0.41	0	1
Host country is Russia	840	0.97	0.17	0	1
Entered the country legally	840	0.60	0.49	0	1

Source: The author's calculations are based on the TLSS2007.

Note: Gender, head of household, employed in skilled job, host country is Russia and entered the country legally are used as dummy variables.

The average monthly net income of a former migrant is \$314 per month. The average monthly income of a migrant abroad is slightly higher at \$321.5.

The average age of former migrants is 34 years and for migrants abroad, it is 28 years. Of the former migrants, 94% are male, 43% constitute the head of the household, 81% work in fields in which some experience or skill is important, 94% migrated to Russia, and 61% entered the host country legally.

Of the migrants abroad, 93% are male, only 1% constitute the head the household 78% work in fields in which some experience or skill is important, 97% migrated to Russia, and 60% entered the host country legally.

4. Empirical findings

Table 3 shows the results of the regression analysis on migration duration. Age has a statistically significant impact on the former migrants' duration of stay in the host country. An increase in age increases the duration of younger former migrants' stay in the host country and decreases the duration of older former migrants' stay (the impact is statistically significant at the 5% level).

Net monthly income in the host country has a positive impact and being the head of the household has an adverse impact on the migration duration of migrants abroad. Higher net monthly income increases the duration of migration of migrants abroad (the impact is statistically significant at the 5% level) and the fact of being the head of household decreases the duration of migration of migrants abroad (the impact is statistically significant at the 5% level). Other independent variables have no statistically significant impact on the duration of migration of former migrants and migrants abroad.

Table 3: Determinants of duration of migration

Independent variables	Dependent variable	
	Duration of migration for former migrants	Duration of migration for migrants abroad
ln Monthly income, \$	-0.020 (0.059)	0.104 (0.049)**
ln Age, years	5.630 (2.806)**	3.599 (2.436)
ln Age squared, years	-0.807 (0.406)**	-0.468 (0.363)
Gender (Male)	-0.085 (0.138)	0.090 (0.103)
Head of household	-0.142 (0.098)	-0.638 (0.317)**
Employed in skilled job	0.063 (0.087)	0.079 (0.064)
Host country is Russia	0.076 (0.147)	-0.129 (0.151)
Entered the country legally	-0.048 (0.069)	-0.085 (0.053)
Constant	1.933 (0.682)***	-4.239 (4.098)
Breusch-Pagan/Cook-weisberg test Chi2 (Probe>chi2)	0.94 (0.3318)	0.82 (0.3649)
Ramsey RESET test F (Prob>F)	1.46 (0.2242)	1.67 (0.1717)
R-sq.	0.0197	0.0430
F	1.33	4.67***
Observations	539	840

Note: ***Significant at the 1% level; **significant at the 5% level; *significant at the 10% level. Standard errors are shown in parentheses.

Source: The author's calculations are based on the TLSS2007.

The results of the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity show that the chi-square value was small, indicating that heteroskedasticity was not a problem.

The RESET shows that the equations in the model are properly specified and have no omitted variables.

5. Conclusion

In this paper, we assessed the determinants of the duration of stay in the host country for former migrants and migrants abroad for the case of Tajikistan. The data analysis shows that compared to former migrants, migrants abroad have a longer duration of stay, have a higher net monthly income, and are younger. Only one percent of migrants abroad are the heads of household.

According to the results derived from the regression analysis, the duration of migration for migrants abroad is determined by their net monthly income in the host country and the fact of them being the heads of household. Former migrants' duration of migration is determined by age. Considering the presence of the heteroskedasticity, the data on former migrants and migrants abroad were processed separately.

The derived results identify the income available for migrants in the host country, migrants' age, and the fact of being the head of household as the variables that affect the duration of migration and the number of Tajikistan's migrants abroad directly and the volatility in remittance inflows to Tajikistan indirectly. The changes in the structure of these variables (net monthly income in the host country, age, and being the head of household) might be considered as means of predicting the duration of migrants' stay in the host country and the changes in remittance flows into Tajikistan.

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