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THE IMPACT OF REMITTANCES ON CONSUMPTION PATTERNS OF KYRGYZ MIGRANT HOUSEHOLDS: PANEL DATA ANALYSIS

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Abstract: This paper analyses whether remittances affect household consumption expenditure in Kyrgyzstan using Life in Kyrgyzstan Survey datasets collected during 2010-2016. We employ a measure of remittance as families who received remittance for the past 12 months and consumption is measured as both food and non-food expenditure separately. A remittance gravity model is estimated using panel data and a Two Stage Least Squares method was employed to tackle double endogeneity issue. We conclude that foreign remittances have an important role in making consumption decisions for Kyrgyz households. Moreover, this study supports the permanent income theory, which states that families accept remittances as permanent income and do not consider sources of income while making food and non-food expenditure decisions. Therefore, we provide evidence from Kyrgyzstan with policies intended to support remittance inflows which can in turn improve household consumption.

Key words: Consumption Patterns, Developing Countries, Expenditure, Household, International Migration, Kyrgyzstan, Remittance Flows.

1. INTRODUCTION

Money sent back by migrant workers abroad, known as international remittances have become an essential aspect of the ongoing economic globalization. In economic terms, remittances are the great source of foreign exchange earnings for both low- and middle- income countries (LMICs). There is a five-fold growth in remittance flow value since 2000, meaning one in seven people is involved in remitting, either by sending or receiving money (Yoshino et al., 2019). According to the World Bank (2020), there is a tremendous growth in the recorded remittance flows from USD 342 billion in 2010 up to USD 540 billion in 2020, which surpassed the flows of overseas development aid (ODA) and foreign direct investment (FDI) by 3 and 2 times respectively in LMICs.

In developing nations, poorer households often face lack of effective social insurance programs and binding borrowing constraints. As a result, the money sent back home, whether it is from urban or rural areas, is often consumed, saved or invested. In that context, remittance inflows have a great potential to involve positive change in household consumption patterns and stabilize income levels over time

(Ebeke, 2011). Moreover, having a migrant member exposes the households to change their lifestyles and consumption behavior. The remittance transfers result in various patterns of food, education, health and living expenditures (Dhakal and Oli, 2020). The stability of remitted money leads to better economic conditions, less borrowing costs in capital markets, better credit rating of the home country and stable source of foreign currency that reduces investor panic (IFAD, 2017). In addition, since most of the remittance-receiving nations allow, migrants a number of tax-free goods and equipment to their home countries, which further strengthens the ties between two countries (Siddiqui and Abrar, 2003).

Regarding the target country, Kyrgyzstan, labor migration has emerged after the collapse of the Soviet Union and the transformation process from centrally planned economy into market economy. Like other post-Soviet countries, Kyrgyz Republic faced high levels of inflation and unemployment rates with the poverty rate going up to 63% in 2000. As the best solution to reduce high unemployment, inflation and poverty rates, Kyrgyzstan has become one of the main suppliers of migrant workers for the Russian Federation who was facing labor shortage due to substantial growth of the economy from the beginning of the 21st century (Mogilevsky and Omorova, 2011). Nowadays, the number of Kyrgyz migrants leaving the country equals to 950 thousand with the remittances reaching to 242.10 USD Million in 2021 making the country the second most remittance-dependent one in the world (Ratha, 2021). Kyrgyz migrants usually choose Russia or Kazakhstan to move in and diversify their income. The rise in migrants' remittances inflow to Kyrgyzstan might be due to the following three factors. First, according to the World Bank Group (2018) estimates, migration trend to developing nations from developed ones would increase significantly in upcoming 20 years, from 2006 to 2026. Second, there is a considerable reduction in transaction costs due to technological improvements in the banking system. Finally, easy visa system, traditional similarities and common language in Russia attracted a lot of migrants of the Kyrgyz Republic. Moreover, the economy of Kyrgyzstan has become highly dependent on remittances, which accounts for 32 per cent of Kyrgyz GDP (The World Bank, 2020). However, the impacts of money remitted on the consumption categories of Kyrgyz households still remains controversial. This lack of information hinders the ability of government and financial institutions to respond to remittance flows and policy changes.

This study analyzes the average impacts of remittances on household budgets by measuring changes in budget shares across food and non-food consumption categories in Kyrgyzstan for the years of 2010, 2011, 2012, 2013 and 2016. Moreover, this research has a huge methodological contribution to the previous literature by using better measurement variables for remittance and consumption, and by applying an effective Instrumental Variable (IV) technique to reach proper final remarks. In addition, it serves as the only research work assessing the impact of remittance inflows on direct household consumption patterns of Kyrgyzstan.

2. LITERATURE REVIEW

A number of researches have been carried out to study the relationship between remittance inflows and its influence on household consumption patterns, most of which found the effect to be positive: when money of a migrant is sent back home, the household members increase their consumption levels (Tabuga (2008); Waqas (2017); Dhakal and Oli (2020); and etc). From an economic point of view, researchers found remittances to be spent more on consumption goods rather than saved or invested. As Shelburne and Palacine (2007), Clement (2011), and Waqas (2017) indicated, both additional funds for the development and consumption expenditures for poverty reduction highly depend on migrant remittances. As is obvious, spending on more and better- quality food results in food security and better nutrition. A recent empirical analysis by Dhakal and Oli (2020) used Ordinary Least Squares (OLS) method and demonstrated that Nepali households increase their consumption as the migrant member sends money back home. Futhermore, one of the mostly used econometric techniques employed by researchers is propensity score matching and the positive outcomes of consumption and remittance. This impact is found to be the strongest among the developing countries, such as Bangladesh, Pakistan and Ethiopia (Waqas, 2017).

The change in household consumption patterns does not only depend on the amount of remittance sent, but also on the socioeconomic profile of households with migrant. Dhungana and Pandit (2014) argued that the perceived social status of the migrant household after the migration period is better than it was before the migration. Remittance inflows serve as a short- term coping strategy, which helps dependent households to acquire smooth income and basic consumption levels (Shelburne and Palacine, 2007). Essentially, the migrant household's perception plays a crucial role in accepting the money of a migrant as transitory or permanent income. In the former case, the effect of remittance on consumption will be less since households prefer to take advantage of temporary rise in income by investing in physical or human capital rather than consuming. Based on permanent income hypothesis, if remittance inflow is treated as other sources of income, which is continuing, households would spend it as any other income source. Consequently, in permanent remittance case, there is no difference in the propensity to consume between migrant and non-migrant families (Mondal and Khanam, 2018).

In turn, a few numbers of research works have examined the link between remittance and economic growth in the case of Kyrgyzstan. Since their data has been at a macro level, the technique employed was the Vector Auto regression Approach (VAR). Atabaev et al., (2014) concluded that remitted money has a positive impact on import and output levels, but it lasts only for two months and negative effect on exchange rate. Moreover, Atamanov and Van den Berg (2012) found a positive link between remittance and crop production of rural Kyrgyz housholds, while Atabaev et al., (2014) proved that Kyrgyz households from rural areas always rely on animal husbandry and remittance inflows to sustain their livelihoods. However, Kyrgyzstan was the first study site, where labour-migration led to negative occupational decisions of the left-behind youth. Kyrgyz youth were found to engage in unpaid family work in

agriculture when there is a migrant in the household. In addition, migration in Kyrgyzstan is associated with malnutrition and less school enrolment among children (Wang et al., 2019).

Theoretical Framework

The main theory the paper follows is that migration and remittances are the source for households to smooth their consumption. Households main aim is to maximize per capita consumption over their lifetimes; specifically, when and where to send migrants.Total utility U for household h comes from a two-stage model where households maximize consumption levels in both stages.

$$U_h = \sum_{i=0}^{m} \ln c_i^1 + \sum_{i=0}^{m} \ln c_i^2$$

C stands for consumption for household member i in periods 1 and 2. In the first stage, households decide when and where to send the migrant and incur a cost of x (travel cost) for each migrant. It is also a premium fee for the migrant to guarantee to send the remittances back. In the second stage, we assume that people send abroad earn equal to or more than their average per capita earnings in home country and send remittances so that the households they live in might decrease incomeinequality and increase overall utility (Teele, et.al.(2009)).

3. METHODOLOGY

In this research paper, secondary panel data is used for Kyrgyzstan for 5-year time span, starting from 2010 to 2013 and 2016. The data come from Life in Kyrgyzstan (LiK) survey, which is considered as open-access, multi-topic longitudinal survey of individuals and households of Kyrgyz Republic. This study relies on households who receive remittances and the changes they have in their spending patterns over time. Therefore, the sample selected for the analysis includes families who received remittance at least once for the last 12 months. Regarding the method, instrumental variable regressions are used in this study to compare the outcomes and to address double endogeneity issues.

The empirical strategy of IV regression involves two steps. In the first stage, we estimate a log- odds (logit) regression for the decision to remit.

$$Remittance_j = \mu_j\ Distance_j + \pi_j\ X_j\ u_j$$

Where Xj is control variables for household j.

$$Consumption_{ij} = \alpha_i + \pi_i X_j\ ,(\ Remittance_j = \mu_j\ Distance_j + \pi_j\ X_j) + u_{ij}$$

In the second stage, we estimate the consumption expenditure function using two-stage least squares (2SLS) regression above, where the dependent variable food or non-food expenditure depends on chosen control variables, remittance and specific error term u.

Appendix[1] 1 shows descriptive statistics on consumption categories, remittances and additional household characteristics.

4. RESULT

	lnfexp (log food expendiure)		lnnfexp (log non-food expendiure)	
Variable	**Coefficient**	**Std. Er**	**Coefficient**	**Std. Er**
remittance	2.507***	0.16	1.671***	0.157
rural	-0.154*	0.092	-0.118	0.073
nchild	-0.056**	0.043	-0.062**	0.031
nelder	-0.149	0.093	-0.15	0.063
age_head	0.01	0.006	0.002*	0.004
ethnicity_head				
Uzbek	0.056*	0.014	0.02*	0.019
Russian	0.159**	0.142	-0.215	0.19
Dungan	0.654	0.31	-0.116	0.211
Uyghur	-0.614*	0.135	0.017	0.153
Tajik	-0.114	0.06	0.4**	0.09
Kazakh	-0.42**	0.14	0.336	0.106
Other	0.036	0.221	0.035	0.229
married_head	0.167	0.18	0.328**	0.132
gender_head	0.013	0.168	-0.046	0.127
hhmems	0.166***	0.028	0.086***	0.02
intercept	10.4***	0.325	13.03***	0.272

Table 1 below shows the results of IV estimations, using food expenditure as dependent variable. Ceteris paribus, keeping all other variables constant condition applies to all interpretations below.

Log pseudolikelihood	-2885.32		-2326.99	
Number of obs	1,413		1,356	
rho	0.772	0.029	0.773	0.044
sigma	1.531	0.029	1.112	0.028
lambda	1.182	0.058	0.86	0.065

* p < 0.05,
** p < 0.01,
*** p < 0.001

Table 4: IV Results for Food and Non-Food Expenditure Regressions

The outcomes imply that remittance-receiving households on average spend 2.5% and 1.7% more on food, and non-food items respectively at 1% significance level. Those households who live in rural areas spend 0.154% less on food expenditure compared those living in urban areas. This can be due to home-production of food items in rural areas. Moreover, the coefficient of number of children in the household is negative and significant in both regressions, meaning for each additional child under age 18 in the household, spending on food and non-food items decreases by 0.06% on average. Coming to the household head characteristics, a year increase in the age of the head leads to increased spending on non-food items by 0.002%. The rise could be triggered by more spending on healthcare and medicine as the person becomes older. Similarly, the coefficient of marital status of the household head is positive and highly significant in the non-food regression, meaning married heads are found to spend 0.328% more on non-food items compared to unmarried counterparts. Obviously, married household heads have bigger family size and are responsible to provide family members with all food and non-food items. Interestingly, ethnicity of the household head also determines his consumption expenditure patterns. To illustrate, if a household head belongs to Uzbek or Russian ethnicity, he spends 0.06% and 0.16% more on food expenditurethan heads of Kyrgyz ethnicity. Conversely, family heads of Uyghur and Kazakh ethnicities are found to spend 0.6% and 0.4% less on food items compared to Kyrgyz ethnicity. Finally, last variable with significant impact on both consumption categories is household size. As is expected, an additional member in the household increases food and non-food expenditures by 0.17% and 0.09% respectively, since more people in the family means more consumption. Variables, such as number of elderly, age of household head are concluded to have no impact on consumption patterns of Kyrgyz households.

5. CONCLUSION

This study examines the consumption-smoothing potential of foreign remittances in the case of Kyrgyz households for 5-year time span. It employs IV methods to compare the results and to solve the double endogeneity problem by instrumenting distance to capital variable. This paper concludes that foreign remittances are great source to smooth the consumption levels of Kyrgyz population. The positive relationship between variables of interest are similar to the findings of other researchers. We document that the conclusions of this project have strong policy recommendations for Central-Asian governments.

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APPENDICES

Appendix 1 – Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
hhmems	13,792	4.899724	2.381075	1	17
rural	13,790	.6	.4899157	0	1
gender_head	13,762	.7189362	.4495349	0	1
age_head	13,762	52.04004	13.931	16	105
married_head	13,762	.7035315	.4567167	0	1
ethnicity_~d	13,762	1.825461	1.590858	1	8
nelder	13,792	.3659368	.6331269	0	3
nchild	13,792	1.677059	1.501978	0	9
remittance	1,422	.8987342	.3017865	0	1
lnfexp	13,685	9.552155	1.339659	4.882802	13.70275
lnnfexp	13,745	12.11501	1.095998	6.907755	16.4869