

A Counterfactual Analysis of the Impact of Remittances on Poverty in Kosovo

- An Empirical Perspective



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Author: Arbëresha Loxha*

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Group for Legal and Political Studies
"Rexhep Luci" str. 10/5
Prishtina 10 000, Kosovo
Web-site: www.legalpoliticalstudies.org
E-mail: office@legalpoliticalstudies.org
Tel/fax.: +381 38 227 944

* Research Fellow, Group for Legal and Political Studies, Prishtinë

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A COUNTERFACTUAL ANALYSIS OF THE IMPACT OF REMITTANCES ON POVERTY IN KOSOVO – AN EMIRICAL PERSPECTIVE

I. Introduction

During the last decade, Kosovo's economic growth has been solid, growing at double-digit rates during the early years of the post-conflict period and an average of 3.4 percent since 2008. The growth was mainly attributed to donor-funded reconstruction efforts and international transfers.¹ Nevertheless, Kosovo remains one of the poorest countries in Europe and the South-East Europe (SEE) region, with 29.7 percent of the Kosovar population living below the national poverty line, and an estimated 10.2 percent reported as extremely poor. Moreover, disparities in poverty rates are evident amongst regions. The impact of economic performance on the standard of living is considered to have been small as households are reported to spend the majority of their budget on food (38 percent) and shelter (31 percent).² At the same time, Kosovo has recorded persistently high unemployment rates of above 40 percent during the last decade and 30 percent of working age individuals (15-64) are reported to be unemployed in 2013³. In this context, migration and remittances have been an effective mechanism for mitigating poverty in Kosovo, as well as a coping mechanism for disadvantaged households with no or little employment and earning opportunities. The high dependence of households on remittances suggests that poverty rates would be much higher without the safety net provided through migration and remittances.

Remittances are known for the potential important role they can play in terms of supporting the development efforts of recipient countries; however, their effect on development, to a large extent, depends on the sending country's context, migration selectivity and the recipient's use of such income.⁴ In countries with high poverty—as is the case for Kosovo—remittances have proven to alleviate poverty amongst recipient households.⁵ However, migrants may not come from the lowest quintiles of the income distribution; therefore, remittances may not flow towards the poorest. In such cases, it is not expected that remittances would have a large effect on poverty.⁶ Moreover, they can increase inequality amongst households in different regions, as migration may be only affordable to the better-off households.⁷ Remittances can contribute to higher

1 World Bank (2010) KOSOVO Unlocking Growth Potential: Strategies, Policies, Actions A Country Economic Memorandum. Poverty Reduction and Economic Management Unit Europe and Central Asia Region. Report No. 53185-XK

2 World Bank and Statistical Institute of Kosovo (SOK) (2011). Consumption Poverty in the Republic of Kosovo in 2009. Available at: http://siteresources.worldbank.org/INTKOSOVO/Resources/Kosovo_Poverty_for_web_eng.pdf

3 For more detailed information see Labour Force Survey results over years available at: http://esk.rks-gov.net/ENG/publikimet/cat_view/16-labour-market

4 de Haas, H. (2009). 'Mobility and Human Development', Research Paper, No. 2009/01, pp. 24-26 (United Nations Development Programme, Human Development Reports, April 2009). Available from http://hdr.undp.org/en/reports/global/hdr2009/papers/HDRP_2009_01_rev.pdf

5 UNDP (2012). Kosovo Remittance Study. Available at: http://www.ks.undp.org/repository/docs/KRS2012_English_858929.pdf

6Acosta, P. Fajnzylber, P. and Lopez, H. (2007). The Impact of Remittances on Poverty and Human Capital: Evidence from Latin American Household Surveys. World Bank Policy Research Working Paper 4247

7 UNDP (2012). Kosovo Remittance Study. Available at:

investment in human and physical capital, and thus may also have a positive impact on sustainable human development as they improve the earning prospect of the new generation.⁸ However, remittances may create dependency and subsequently increase reservation wages; thus, negatively affecting the labour supply of recipients.⁹

With the above taken into account, considering the potential offsetting effects linked with an increased flow in remittances, it may be quite challenging to determine not only the magnitude of the potential development impact of remittances but also even the direction of such impact. Therefore, empirical evidence is necessary in order to determine the signs and magnitude of the different economic effects of the flow of remittances. The existing empirical evidence on the various development impacts of remittances is, however, still somewhat limited for Kosovo. Owing to the high dependence of Kosovo on remittances, it is of considerable importance for there to be a policy analysis studying the welfare implications of these flows. Havolli (2009) analyzed the determinants of remittances in Kosovo using migration survey gathered by Riinvest in 2006.¹⁰ That paper found that, amongst others, the motive to invest and the various perceptions surrounding the business environment are significant determinants of remittances. Shaorshadze and Miyata (2010)¹¹ have analyzed the effects of remittances and migration on consumption, poverty and inequality amongst households in Kosovo. Amongst others, the study found that private transfers had significant effects in terms of improving welfare in Kosovo, and were allocated predominantly towards individuals with a truly low welfare level.¹²

This study adds to previous literature by estimating the effect of international migration and remittances on poverty by constructing/performing a counterfactual scenario. The aim of this model is centred on the construction of counterfactual consumption expenditure in hypothetical cases without remittances. This estimation will enable comparison between the observed and predicted poverty rates in Kosovo and also across regions. The rest of the study is organised as follows: Section 2 provides a background on migration and remittances on Kosovo; Section 3 presents the data used in the study, as well as some useful descriptive statistics of the variables to be used in the empirical estimation. An explanation of the empirical methodology and the stages of implementation and respective requirements, adjustments and assumption are discussed in Section 4; the results of the regression estimation are presented in Section 5; Section 6 provides a conclusion and a list of recommendations.

2. Migration and Remittances in Kosovo: A background Analysis

Migration and remittances have been of considerable importance to the economy of Kosovo since the late 1960s. The literature on the Kosovar migration culture/history highlights four specific phases:¹³

http://www.ks.undp.org/repository/docs/KRS2012_English_858929.pdf

8 UNDP (2012). Kosovo Remittance Study. Available at: http://www.ks.undp.org/repository/docs/KRS2012_English_858929.pdf; Acosta, P. Fajnzylber, P. and Lopez, H. Acosta, P. Fajnzylber, P. and Lopez, H (2007). The Impact of Remittances on Poverty and Human Capital: Evidence from Latin American Household Surveys. World Bank Policy Research Working Paper 4247.

9 Ibid

10 Havolli, S. (2009). Determinants of Remittances: The Case of Kosovo. Central Bank of Kosovo, Working Paper No. 3

11 Shaorshadze, I. and Miyata, S. (2010). Foreign Remittances and Poverty Reduction in Kosovo. World Bank and UKAID Conference Western Balkans Poverty and Inclusion December 14th-15th, 2010, Brussels.

12 For more studies on the impact of remittances on poverty see: Acosta et al (2007); Shehaj, E (2012)

13 Riinvest (2007). Diaspora and Migration Policies. Prepared for Forum 2015. pp. 27. Available at:

- a) the first phase was characterised by the migration of Kosovar guest workers, who were unskilled, poorly educated/trained and from rural areas, mainly towards Germany and Switzerland based on special contracts on a temporary basis;
- b) the second phase, spanning 1989–1997, was characterised by the migration of better-educated and skilled young men, from both urban and rural areas, mainly with the motive of escaping the Yugoslav army services, specifically during the 1992–1995 Balkan wars, whilst the lay-off from jobs of many Kosovar citizens, resulting from the abolition of the autonomous status of Kosova in 1989, was recognised as another driver to migration;
- c) ; the third phase was the forced migration as a result of the massive population displacement with the 1998/99 war in Kosovo, during which time individuals mainly migrated to the neighbouring countries, such as Albania, Macedonia and Montenegro;
- d) finally, migration after 1999 characterises the current phase of migration.

During the post-conflict period, immigration policies towards Kosovars were more restrictive given the political stability recognised within Kosovo; therefore, migration during this period was mainly characterised by :a) asylum-seeking/illegal migration driven mainly by the motives of finding better economic and employment opportunities given the post-conflict socio-economic situation in Kosovo; b) migration for family reunification purposes; and c) the legal migration of highly skilled and highly educated individuals for temporary study or work arrangements.

It is recognised widely that the Kosovar economy relies heavily on remittance flows from migrants, with 25 percent of households reporting reliance on remittances.¹⁴ To note, remittances are considered to represent the second largest source of income for remittance-receiving households, highlighting the crucial role they have had in helping a significant number of households to meet their basic consumption needs.¹⁵ The Diaspora is of key importance for stimulating growth and reducing macroeconomic imbalances in Kosovo. Kosovo ranks in top-10 percent of countries with high share of migrant remittances as a share of GDP, with remittances in 2011 accounting for 18 percent of GDP¹⁶ whereas currently for 13 percent. Remittances have been one of the most important components of the balance of payments of Kosovo, and by December 2013 amounted to 620.8 million Euro (see Table 1), marking an annual increase of 2.6 percent.¹⁷

Remittance use is largely geared towards basic consumption amongst recipients, with more than 90 percent spent on basic items, such as food, clothing, housing, durable goods,

<http://www.riinvestinstitute.org/publikimet/pdf/50.pdf>; UNDP (2012). Kosovo Remittance Study 2012.

14 UNDP (2012). Kosovo Remittance Study. Available at: http://www.ks.undp.org/repository/docs/KRS2012_English_858929.pdf;

15Ibid

16 World Bank (2012). Migration and Development Brief no. 19. Migration and Remittance Unit, Development Prospects Group. Available at: <http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1288990760745/MigrationDevelopmentBrief19.pdf>

17 Central Bank of Kosovo (2014). Quarterly Assessment of the Economy. No.6/Q1.2014 Available at: <http://bqk-kos.org/repository/docs/2014/TM1%202014.pdf>

health and education.¹⁸ According to CBK (2013), remittances were acknowledged as one of the most important components in the financing of consumption in the country;¹⁹ however, government authorities report only limited direct investments by the Kosovar Diaspora. Regardless of the earned income of recipients or the profile of migrants, it is important to mention that remittances increase the gross income level of recipients, which subsequently increases the demand for consumption of products and services, normally resulting in an increase in the demand for local labour. Nevertheless, remittances can spoil recipient households, thus negatively affecting the labour market supply by increasing reservation wages.²⁰ This may be one factor, amongst other reasons, explaining the large percentage of inactive individuals within the Kosovo population.²¹

Table 1.

Remittances during period 2004–2012

Source: Central Bank of Kosovo, Annual Report, December 2012

Year	(mil €)
2004	357.0
2005	418.0
2006	467.1
2007	515.6
2008	608.7
2009	585.7
2010	584.3
2011	584.8
2012	605.6
2013	620.8

18 UNDP (2012). Kosovo Remittance Study 2012. Available at: http://www.ks.undp.org/repository/docs/KRS2012_English_858929.pdf;

19 Central Bank of Kosovo (2013). Balance of Payments Bulletin no.12

20 Rodriguez, E. and E. Tiongson (2001). Temporary Migration Overseas and Household Labor Supply: Evidence from Urban Philippines. *International Migration Review*, 35, 1185-204.

21 For more detailed information see Labour Force Survey results over years available at: http://esk.rks-gov.net/ENG/publikimet/cat_view/16-labour-market

3. Data and Descriptive Statistics

This study utilised data from the 2011 Household Budget Survey (HBS). HBS collects household consumption data, as well as household and individual characteristics. The survey is representative of the population of Kosovo, with the sample stratified on seven main regions, urban and rural areas. A total of 2,267 households (13,172 individuals) were interviewed.

However, only a total of 2,214 households have reported income more precisely, 2.6 percent did not respond on this question. Therefore, it is not clear whether they did not receive any of the specified sources of income or that they refused to respond. Around 32 percent of such households are classified as poor, thus given we are concerned with poverty in this study, in order to avoid dropping these observations we will assume that such households did not receive remittances. 16.4 percent of households in the sample received in-kind and/or cash remittances from members and non-members of the household during the last month before the survey

This section aims to provide descriptive statistics of the variables used in the empirical analysis and accordingly to test for differences in these variables between the remittance recipient and non-recipient households. Figure 1 shows the share of households that receive remittances by regions. In two regions, Gjakova and Peja, the share is close to 20 percent, while in other regions it varies around 12 percent.

It is largely households with 10 or less members that receive remittances (95%) and despite the fact that there are only about 0.4 percent of households with 20 or more members, none of them receives remittances. Moreover, it is generally households with 1 to 3 members that consist for the highest share of recipient households. More precisely, 36.4, 42.4 and 22.5 percent of households with 1, 2 and 3 members, respectively, received remittances. This could be due to these households being composed of (single) parents of the migrant and thus they may send remittances for altruism but also for inheritance motives. The amount of remittances generally ranges from 45 to 400 Euros and in most cases they amount for a relatively large share of total income and in particular if remittances are high. An examination of the incidence of remittance by age shows that around 29 percent of households with older heads (65 years old and over) received international remittances.

Figure 1:

Share of households in the sample that receive remittances across regions (%).

Source: Household Budget Survey 2011 and author's calculation

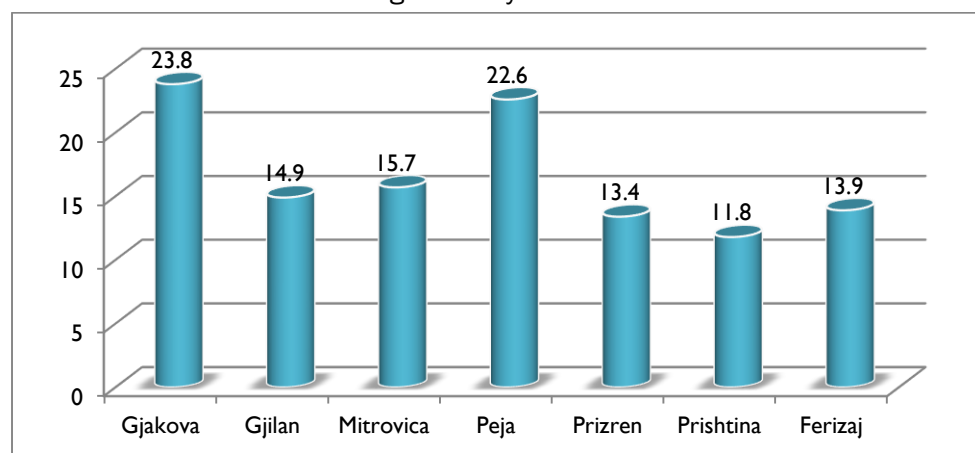


Table 2.

Share of remittances* in total household income in 2011

Source: Household Budget Survey 2011 and authors calculations

Region	Mean
Gjakova	74.5
Gjilan	72.3
Mitrovica	71.1
Peja	68.1
Prizreni	71.4
Pristina	70.5
Ferizaj	69.9
Totali	71.1

*Remittances = Sent in cash and/or in kind by family and non family members

Table 2 shows the distribution of remittances on total household income by regions for recipient households. On average, remittances are 71.1 percent of recipient households' income at the national level. The share of remittances in total income shows a pattern similar for the seven regions, with Peja showing the lowest share of 68 percent and Gjakova the highest with 74.5 percent. The figures indicate that the remittance recipient households have a relatively high dependence on remittances; however, it should be noted that the income sent home by migrants is likely to over-estimate the real contribution of remittances as some migrants if they had stayed at home would have had a job. Figure 2 presents the distribution of households that receive remittances across the 10 consumption quintiles. The graph suggests that most of the households that receive remittances belong to the highest quintiles.

Figure 2:

Distribution of households that receive remittances across per adult equivalent consumption quintiles (%)

Source: Housholds Budget Survey 2011 dhand author's findings

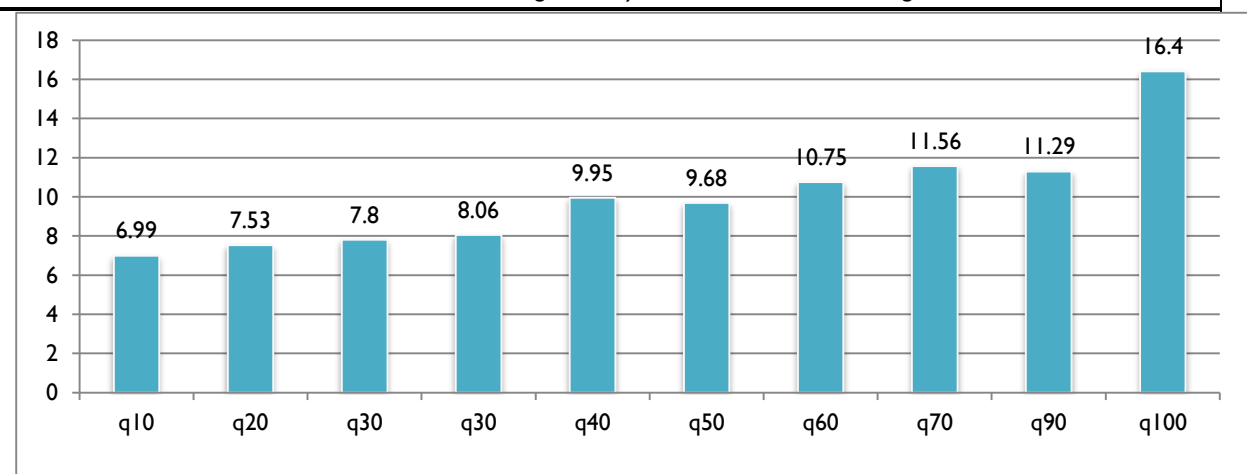


Table 3.

Krahasimi i mesatareve të ponderuara të karakteristikave të ekonomive familjare që pranojnë (Yes) dhe nuk pranojnë remittance (No)

Variables		Mean	Std. Deviation
Annual consumption per adult equivalent	Yes	952.5	608.9
	No	899.7	538.5
Size of the household	Yes	7.07	3.7
	No	7.5	3.8
Median age of adult members	Yes	37.4	12.2
	No	35.1	9.7
Share of adult members	Yes	71.96	20.7
	No	72.9	19.3
Dependency Ratio	Yes	65.8	52.2
	No	59.2	52.5
Male ratio	Yes	38.4	19.1
	No	44.5	16.3
Share of employed household members	Yes	10.7	14.3
	No	28.4	20.0

With regard to the composition of households Table 3 and 4, it can be seen that the recipient households have a lower number of members, adults and children, as well as a lower dependency ratio, when compared with non-recipients. The proportion of female-headed households is higher amongst recipient households, which may be the result of higher male migration. The number of full-time employed members is higher among the non-recipient households. Regarding the highest level of education in the family, the percentage of households with lower levels of education is higher among households that receive remittances, while the percentage of those with a higher level of education is higher among those households who do not receive remittances. This suggests that less educated household heads are more likely to receive remittances or to send someone abroad

Table 4.

Proportion of categorical variables for recipient (yes) and non-recipient (no) households

Variables	Percentage (%)	
	Recipient Households	Non-recipient Households
Remittance Receipt	16.4	83.6
Female Headed Households	20.2	7.2

Maximum level in education in a household is:		
Less than primary	24.5	11.4
Primary	15.9	14.7
Secondary	47.8	47.8
Tertiary	11.8	21.0
Household resides in rural areas	42.7	57.1
Region:		
Gjakova	19.9	12.5
Gjilan	12.1	13.61
Mitrovica	13.4	14.1
Peja	18.9	12.6
Prizren	12.6	16.0
Prishtina	12.1	17.8
Ferizaj	11.0	13.4

The Chi-square test was used to test for differences in the proportions of the binary variables between the groups of recipient and non-recipient households, and shows statistically significant differences, except for primary maximum level of education (Table 5). For continuous variables, a t-test of differences between the means of recipient and non-recipient households is significant for every variable, except for dependency ratio variable (Table 6). These results indicate that the households receiving remittances on average display significantly different characteristics from those that do not receive remittances.

Table 5.

Comparison and tests of proportions of categorical variables between recipient and non-recipient of remittance households

Variables	Non- Accepting Families	Accepting Families	Prob>Chi2
Female headed households	0.202	0.072	0.000
Maximum level of education in the household in less than primary	0.245	0.114	0.000
Maximum level of education in the household is primary	0.159	0.147	0.555
Maximum level of education in the household is secondary	0.478	0.529	0.075
Maximum level of education in the household is tertiary	0.118	0.210	0.000
Households resides in rural area	0.427	0.571	0.000

Table 6.

T-test for comparison of means between recipient and non-recipient households

Variables	t	df	Signif.	Mean Difference	Std. Error Difference	95% Conf. Interval	
lcons	3.943	2272	0.000	0.117	0.029	0.059	lcons
hhszise	-5.699	2272	0.000	-0.933	0.164	-1.254	hhszise
meadianage	7.105	2272	0.000	4.876	0.686	3.530	meadianage
shareAdults	3.398	2272	0.000	3.949	1.162	1.670	shareAdults
dependencyr	-0.062	2272	0.950	-0.182	2.930	-5.928	dependencyr
maleratio	-7.853	2272	0.000	-8.619	1.098	-10.772	maleratio

It should be noted that across regions, the poverty rates observed amongst households receiving remittances tend to be lower than those found in the general population, with the exception of Prishtina—although only slightly higher (Table 7).

Table 7.

Distribution of the poor among recipient and non-recipient households across regions

Region	Non-recipient	Recipient
Gjakova	38.9	37.3
Gjilan	22.3	4.1
Mitrovica	44.5	38.4
Peja	31.9	24.1
Prizren	26.7	20.7
Prishtina	15.2	15.6
Ferizaj	53.4	42.1
Total	30.3	25.9

4. Methodology

This section discusses the methodology used in this study in terms of performing a counterfactual analysis of the impact of remittances on poverty in Kosovo. The present work follows a three-step approach. First, we estimate household per adult equivalent consumption equations from observed values (initially estimating the probability of not being a remittance recipient which is then used to construct the Inverse Mill's Ratio). Second, we use the consumption equations to simulate what household consumption would have been if the household did not receive remittances. Third, through the use of predicted consumption, predicted poverty rates are calculated, which are then compared with observed ones. Accordingly, the analysis aims to test/assess the significance of the following given hypotheses:

- 1) The total household consumption of the remittance-recipient households is higher when receiving remittances compared with the counterfactual scenario if the migrant stayed and worked in Kosovo.
- 2) The additional income from remittances decreases the incidence of poverty in Kosovo and across its regions.

The general approach for the construction of these counterfactuals would be to impute the prior-migration consumption using the coefficients from the estimation of the determinants of annual consumption per adult equivalent of households that do not receive remittances and apply the estimated coefficients to the households that do receive remittances. In line with the Statistical Office of Kosovo, which produces poverty figures on regular basis, we use annual consumption per adult equivalent in household (henceforth consumption) in our regressions compared to per capita consumption, which is mainly used in other studies. The adult equivalences reflect the lower needs of children and also accounts for economies of scale. However, wide ranges of adult equivalence indicators exist in literature and all weights are arbitrary to a degree (Deaton, 1997). Another drawback of this approach relates to the consumption of non-food items being not closely linked with age or gender. A drawback of per capita consumption on the other hand is the assumption that the needs of everyone in the household are the same and everyone receives an equal allocation of items consumed irrespective of age or gender. In addition, it ignores economies of scale. The steps involved in the estimation of the counterfactual consumption are presented below. If these two groups of households are selected randomly from the population, OLS estimation then may be used to establish the estimates, but it is expected that this is not the case.

4.1 Estimation of per adult equivalent to consumption of non-recipient households

Considering that information on the characteristics of migrants is not available in the data utilised in this study, it is necessary to make some basic assumptions concerning the number and demographics of migrants. Similar to Acosta et al. (2007), it is assumed that remittances are sent by a single adult family member employed in the home country. Moreover, we assume that education of the migrant is equal to the maximum level of education in the household.

If non-recipient households are not selected randomly from the pool of households but rather are self-selected, estimates based on the sample of households without migrants could

suffer from selection bias unless corrected.²² This could be the case if the sub-sample of non-recipient households were not randomly drawn from the population but rather were self-selected on the basis of the identified determinants of non-remittance income/consumption. This leads to a non-zero mean of the error term of the outcome equation; thus, inconsistent estimates. In order to control for the potential selection bias, following Acosta et al. (2007), the Heckman two-step estimation was adopted.

This approach is similar to the case of addressing sample selection bias when the dependent variable is observed only for a restricted non-random sample. Although the consumption levels of the households are observed for all households in the sample, to estimate the counterfactual of the situation without remittances, only households that do not receive remittances are used.

Heckman’s Two-Step Procedure: This process involves an estimation of two equations: the selection equation (Equation 1) and the outcome equation (Equation 2). The first stage of the approach is the specification of a selection equation that estimates the probability that a household does not receive remittances. Thus, in this equation, the dependent variable is a binary variable indicating whether or not the household does not receive remittances, estimated by probit.

$$M_i^* = \alpha_1 + \beta_1 X_i + \gamma_1 H_i + \omega_1 Z_i + v_i^* \quad (1)$$

(no-remittances selection rule)

$$\text{Log} Y_i = \alpha_2 + \beta_2 X_i + \gamma_2 H_i + \theta \lambda_i + \varepsilon_2 \quad (2)$$

(outcome equation for non-recipient households)

The identification of this model requires at least one variable Z_i , which is related to the migration and remittances choice but which does not directly affect the consumption/earnings for non-recipient households. It is usual practice to include all the other variables (the X s and H s) that are in the outcome equation in the selection equation to reduce the possibility of misspecification.

This estimation of the probability of being a non-recipient is then followed by the construction of the inverse Mill’s ratio (λ_i), derived from estimates of the probit regression. In the second step this ratio is included as an independent variable in the outcome Equation 2, which is estimated by OLS, thus allowing the remaining unexplained component ε_i to have the usual independently identically distributed (i.i.d.) properties. Assuming that the selection equation is specified correctly, the non-significance of this coefficient indicates there is no evidence that selection bias would have been present in straightforward one-stage OLS estimates.

The variable included in the non-remittances selection equation but excluded from the outcome equation in this study is the migrant network. Since we are unable to calculate county

²²Acosta, P. Fajnzylber, P. and Lopez, H. (2007). The Impact of Remittances on Poverty and Human Capital: Evidence from Latin American Household Surveys. World Bank Policy Research Working Paper 4247

level indicators, we include a measure of the percentage of households with migrants which is measured at the regional level. More precisely, it is defined as the percentage of households that receive remittances in the respective region in 2009 (a proxy for the presence of migrant networks), interacted with the number of adult males (15-34 years), as it is found to be most likely to migrate by the EUPK 2012 survey²³ and also will ensure variability at the household level.²⁴ The use of network proxy draws from migration network theory. We use the interaction between migrant networks with household assets or the number of adult males to allow for a different effect of migrant networks on households with different predispositions to migrate. In this respect, households with a larger number of adult males are more likely to send members abroad whereas the same holds true for those with more assets, who have a higher likelihood to afford the costs of migration. The estimated coefficients and the set of characteristics of the remittance non-recipient households are used to calculate the counterfactual non-remittance per adult equivalent consumption for the recipient households. These estimates and the actual values for non-remittance receiving households are used to calculate the levels of poverty that would have prevailed had no household received remittances in Kosovo. The descriptions of the variables to be used in the analysis are presented in Table 8.

Table 8. Description of variables used in regressions

VariableName	Description
Dependent Variables	
Lcons	Natural logarithm of annual consumption per adult equivalent
Recipient	1 if household does not receive in cash or in kind remittances from anyone; 0 otherwise
Independent variables	
<i>Households Characteristics</i>	
Hhsize	Number of members in household
Hhsize2	Number of Members in household
shareAdults	Share of members in household 15 years and older in total household members
Medianage	Median age of adult members of the household
Medianage2	Squared term of the median age
	Dependency ratio

²³This has been suggested by the findings of “European Perspective in Kosovo 2012” survey given the data show that respectively, 25.2 and 29.7 percent of those aged 15 to 24 and 25 to 34 would like to permanently settle in an EU country.

²⁴ The survey provides information on several assets purchased during the last 12 months, however, the information are available only for a small number of households. Therefore, we decided to interact the migrant network with the number of adult males in the household.

Dependencyr	1 if household head is female; 0 if male
Femalehead	
<i>Edukimi</i>	
LessPrimary	1 if household head has less than primary education; 0 otherwise
Primary	1 if household head has primary education; 0 otherwise
Secondary	1 if household head has secondary education; 0 otherwise
Tertiary	1 if household head has tertiary education; 0 otherwise. Base category.
shareofEmpl	Share of employed members in total household size
Maleratio	Percentage of male members in total adults (Number of adult males/adults)*100
UrbanRural	1 if the household head resides in urban area, and 0 if in rural
Networkprox	Percentage of migrants in the region*the number of males in the household aged 15–65 years
<i>Region</i>	
Gjakova	1 if the household head resides in Gjakova; 0 otherwise (base group)
Gjilan	1 if the household head resides in Gjilan; 0 otherwise (base group)
Mitrovica	1 if the household head resides in Mitrovica; 0 otherwise (base group)
Peja	1 if the household head resides in Peja; 0 otherwise (base group)
Prizren	1 if the household head resides in Prizren; 0 otherwise (base group)
Prishtina	1 if the household head resides in Prishtina; 0 otherwise (base group)
Ferizaj	1 if the household head resides in Ferizaj; 0 otherwise (base group)

Following Barham and Boucher (1998) we add a simulated error component to adjust the artificially lower variance for migrant families due to the use of predicted values. Barham and Boucher (1998) proposed drawing a random error component with the same mean and standard deviation with the actual residuals of the model and add it to the predicted household income. In this study a survey bootstrap procedure is followed, and estimations take into account the population weights therefore the design of the survey and drawing 500 times. The unobserved components are taken into account and included in the imputation of consumption counterfactuals, consequently providing a more appropriate non-remittance income.²⁵

²⁵Shehaj, E. (2012). The Impact of International Migration and Remittances on Poverty in The Coastal and Mountain Region of Albania. PhD thesis Staffordshire University

5. Results

This section presents the estimates of the counterfactual scenario with no remittances. This section is initiated by reviewing the estimates corresponding with the two-step model described in equations 1 and 2, as reported in Table 9. The study found that λ (lambda) is positive and insignificant – an indication that the sub-sample of remittance recipient households can be considered as a random draw from the population. These results suggest that the use of the Heckman model with selection controls is inappropriate and that OLS estimation will provide unbiased coefficients. Also, overall the results establish that this seems an appropriate model. The presence of migrant networks also seems to be negatively and significantly correlated with the likelihood of being a non-remittance recipient at convenient significant levels. The result and diagnostics of the estimation of the OLS regression are presented in Table 10.

The Ramsey's test of functional form indicates that we cannot reject the null hypothesis of correct functional form specification. Heteroscedasticity-robust standard errors were used instead of the usual standard errors. The normality test indicates that the errors are not normally distributed. Since our sample is relatively large, we appeal to the Central Limit Theorem which states that OLS estimators satisfy asymptotic normality in large samples which enables us to use the t and F statistics²⁶. Moreover, when using positively skewed variables such as consumption or wages and the use of the natural logarithm of consumption helps in normalizing such variables. The reported R-squared is 0.31 which can be considered reasonable for cross-sectional survey data.

5.1. OLS Results

In the consumption equation most of the variables are significant and have the expected sign. The human capital variables, indicating the maximum level of education of the adults, have the expected sign and are highly significant. This is in line with human capital theory as well as salary figures according to education attainment: the average salary increases for higher attained levels of education, particularly for tertiary education attainment.²⁷ More precisely, holding other variables constant, households where maximum level of education attained is primary, secondary and tertiary have a 15.9, 22.6 and 41.8 percent, respectively, higher level of consumption as compared to households with less than primary education.

The median age variable is significant and has the expected sign however the squared term appears as insignificant. The share of the adults in the household is found to have a significant positive effect on the household consumption. Other things being equal, a 1 percentage point increase in the former is expected to increase consumption by 0.24 percent. The employment of household members has the expected sign, ceteris paribus a 1 percentage point increase, significantly increases consumption per additional working member on average by around one percent. Most of the region dummies appear significant. Ceteris paribus, compared to those in Gjakova, households residing in Gjilan and Prishtina have a higher level of consumption, 13.2 and 15.9 percent, respectively. The opposite holds for those residing in Mitrovica and Ferizaj, as households residing in these regions, respectively, have 8.5 and 14.9

²⁶Wooldridge, J. M. (2009). *Introductory Econometrics-A modern approach*. 4rd edition, Thomson, pp. 174 and 759

²⁷UNDP (2012) Kosovo Human Development Report 2012. Private sector and employment

percent lower consumption level as compared to Gjakova. Location (urban/rural area), the dependency ratio, male ratio, female head and household size variables are not significant predictors of household consumption.

Table 9. Heckman Two Step Selection Model estimation results

	Outcome Equation (real monthly consumption per adult equivalent)	Selection Equation (non-recipient)
Variables	Coefficient (Bootstrap Std.Err)	Coefficient (Bootstrap Std.Err)
hhsiz	0.0007** (0.015)	0.113*** (0.038)
hhsiz2	0.00008 (0.007)	-0.004** (0.002)
femalehead	-0.0155 (0.053)	-0.459*** (0.129)
medianage	0.0136** (0.006)	0.0009 (0.015)
medianage2	-0.0001 (0.000)	-0.0001 (0.000)
shareAdults	0.0024* (0.001)	0.0150*** (0.0044)
dependencyr	-0.0007 (0.0005)	0.0055*** (0.002)
maleratio	-0.0007 (0.0007)	0.0035* (0.002)
primaryM	0.160*** (0.054)	0.127 (0.135)
secondaryM	0.227*** (0.048)	0.000 (0.113)
tertiaryM	0.418*** (0.050)	-0.054 (0.133)
shareofEmpl	0.009*** (0.001)	0.029*** (0.002)
urbanrural	-0.022 (0.033)	0.212** (0.083)
Gjilan	0.133** (0.055)	0.446*** (0.139)
Mitrovica	-0.084 (0.067)	0.481*** (0.137)
Peja	0.060 (0.051)	0.027 (0.118)
	0.006	

Prizren	(0.053) 0.160*** (0.056) 0.149**	0.413***
Prishtina	(0.071)	(0.115) 0.452***
Ferizaj		(0.146) 0.482***
Networkprox		(0.155) -0.0191**
Lambda		(0.009) 0.008 (0.136)
Konstantja	5.71*** (0.281)	-1.183*** (0.632)
Observation Number	2274	
Censored Observations	1902	

***, **, * Significant at 1%, 5% and 10% respectively

Table 10. OLS regression results for estimation of per adult equivalent consumption on the sub-sample of non-recipient households

	OLS (real consumption per adult equivalent)
Variables	Coefficient (Robust Std.Err)
hysize	-0.001 (0.012)
hysize2	-0.0000 (0.0005)
femalehead	-0.014 (0.046)
medianage	0.0136** (0.005)
medianage2	-0.0001 (0.000)
ShareAdults	0.0024** (0.001)
Dependencyr	-0.0007

	(0.0004)
maleratio	-0.0007 (0.0006)
primary	0.159*** (0.041)
secondary	0.226*** (0.035)
tertiary	0.418*** (0.041)
ShareofEmpl	0.009*** (0.006)
urbanrural	-0.022 (0.022)
Gjilan	0.132*** (0.041)
Mitrovica	-0.085** (0.042)
Peja	0.060 (0.043)
Prizren	0.0000 (0.038)
Prishtina	0.159*** (0.039)
Ferizaj	-0.149*** (0.05)
Constant	5.721*** (0.192)
No. Of Observtions	1902
Ramsey RESET	Jarque Bera Normality test
F(3, 1879) = 1.22	Prob > chi2 = 0.000
Prob > F = 0.3001	Pr(Skewness)=0.000
	Pr(Kurtosis)=0.000

***, **, * Significant at 1%, 5% and 10% respectively

Having reviewed the results of the estimated regressions, we are now in a position to present the results of our poverty simulations, as reported in Table 11 and 12. The OLS regression of the logarithm of per annual consumption per adult equivalent is estimated with the use of the sub-sample of non-remittance recipient households, where the coefficients estimated are used to predict the consumption levels of the recipient households. In general, we find that remittances tend to reduce the poverty levels of households

Table 11 and 12 present the poverty rates, both observed and predicted, for the poverty headcount²⁸ and poverty gap measures using a poverty line set at 1.72€ per adult equivalent per day. In the scenario without migration and remittances, the estimations indicate that, if the recipient households in Kosovo did not receive remittances, poverty rates would be considerably higher for this group. The poverty headcount for the recipient households is estimated to have changed from around 26 percent observed to around 52 percent, which is an increase of 100 percent.²⁹ In general, compared with the observed situation, the poverty rates would be higher in both rural and urban areas, but more so the case of the former. More precisely, the poverty rates in the rural areas would have been roughly 27 percentage points higher, representing an increase of around 105 percent in the poverty headcount rate, highlighting the dependence of many rural households on remittances.

The poverty gap is the percentage increase in consumption necessary for households to go out of poverty. The poverty gap would increase by 2.2 percentage points for the recipient households, but for all households the rate is estimated to only marginally increase. For recipient households, the poverty gap would increase in rural and urban areas although the increase would be more pronounced in the former area, more precisely in absence of remittances the rate would be 41.7 percent higher. Moreover, contrary to the observed rates, the poverty gap rate would be similar in both areas which tends to suggest that the impact of remittances is particularly high in rural areas

Figures presented in Table 12 confirm the hypothesis that remittances decrease poverty in all regions; however, the effects are considerably different between them. The poverty results across regions indicate that the poverty levels would be considerably higher in most regions, if households were not to receive remittances or send someone abroad. The highest rise is estimated to be in Mitrovica and Gjilan where the poverty headcount would respectively increase from 38.4 percent to 74.6 percent and 4.1 percent to 57 percent for recipient households. Gjilan has the second lowest proportion of remittance recipient households, with the majority of them belonging to the two highest consumption quintiles.

However, the results are not surprising considering the large share of remittances on total household income (more than 60 percent). In Prizren and Gjakova the poverty headcount amongst remittance receivers is considerably higher in the scenario without remittances, by around 52 and 67 percentage points respectively. The findings show that the receiving of remittances widened the poverty gap amongst households in all regions except Gjakova where in

²⁸ Poverty headcount is a measure of the percentage of households which are classified as poor. The households are classified as poor if their real monthly per adult equivalent consumption falls below the poverty line.

²⁹ Following the SOK and the World Bank, we calculate poverty using the annual consumption per adults equivalent and use population weights.

fact it decreased. In the scenario with no remittances the poverty gap would increase the most in Mitrovica (9.7 percentage points) followed by Prizren (6.5 percentage points).

Table 11. Observed vs. predicted poverty headcount and poverty gap in urban and rural areas in percentages

	Poverty Measure →		
Subsample ↓	Poverty Norms ↓	Poverty Headcount	Poverty Gap
Population	Observed	29.7	7.6
	Predicted	33.5	7.9
	Difference*	↑3.8	↑0.3
Urban	Observed	26.8	7.6
	Predicted	28.7	7.2
	Difference*	↑1.9	↓0.4
Rural	Observed	31.5	7.9
	Predicted	36.4	8.3
	Difference*	↑5.9	↑0.4
EF accepted	Observed	25.9	6.4
	Predicted	51.5	8.6
	Difference*	↑25.6	↑2.2
Urban	Observed	27.6	7.6
	Predicted	49.2	8.8
	Difference*	↑21.6	↑1.2
Rural	Observed	25.4	6.0
	Predicted	52.2	8.5
	Difference*	↑26.8	↑2.5

Table 12.

Observed vs. Predicted poverty headcount, extreme poverty and poverty gap across regions in percentages

Region	Poverty Rate →	Poverty		Poverty Gap	
		All	Recipient	All	Recipient
Gjakova	Observed	38.5	37.3	10.8	11.7
	Predicted	45.5	66.7	10.6	11.4
	Difference*	↑7.0	↑29.4	↓0.2	↓0.3
Gjilani	Observed	20.3	4.1	4.8	1.5
	Predicted	25.5	41.2	5.3	6.5
	Difference*	↑5.2	↑37.1	↑0.5	↑5.0
Mitrovica	Observed	43.7	38.4	12.5	9.5
	Predicted	48.8	74.6	13.1	13.2
	Difference*	↑5.1	↑36.2	↑1.4	↑9.7
Peja	Observed	30.4	24.1	8.4	4.5
	Predicted	33.3	41.1	8.5	5.7
	Difference*	↑2.9	↑23.0	↑0.1	↑1.2
Prizreni	Observed	26.1	20.7	5.3	4.2
	Predicted	29.9	52.2	5.9	10.7
	Difference*	↑3.8	↑32.5	↑0.6	↑6.5
Prishtina	Observed	15.2	15.6	3.5	3.0
	Predicted	18.0	33.2	3.7	3.9
	Difference*	↑3.2	↑17.6	↑0.2	↑0.9
Ferizaj	Observed	51.7	42.1	13.9	11.6
	Predicted	53.2	59.2	13.6	11.7
	Difference*	↑2.5	↑17.1	↓0.3	↑0.1

* Difference in percentage points between observed and predicted poverty rates

6. Conclusions and Policy Implications

This study estimated the impact of remittances and migration on poverty rates in the hypothetical case with no migration and remittances in Kosovo using data from the Household Budget Survey 2011. The study developed counterfactual consumption estimates for remittance recipient households through the use of econometric estimations to predict the consumption of households in the case of no remittances. A counterfactual scenario is constructed for the observed recipient households by using the estimated coefficients of the determinants of per adult equivalent annual consumption of the households that do not receive remittances from abroad. This estimation enabled us to compare the poverty rates, observed and predicted, in Kosovo and also across the regions. Due to the potential presence of selection bias, the paper uses a two-stage Heckman-type selection procedure which suggests that there is no selection bias. This means that the subsample of non-migrant households in Kosovo is randomly selected from the population.

The descriptive statistics on the dependence of households on remittances (share of remittances on total household income) provides a solid basis on the assumption that remittances considerably decrease the poverty risk of recipient households. Whilst on average, household poverty levels increased in the case of no remittances, the descriptive statistics tell that most of the recipient households belong to households in the middle- or high-income categories. Although we would expect the effect to be lower, one possible explanation for this could be the large dependence of these households on remittances (at least 60 percent of total income).

The results of the impact of remittances to households' consumption support the hypothesis that remittances increase the consumption of recipient households. The poverty rate would be higher for a considerable proportion of households in the case of no remittances. The poverty rates would increase particularly in rural areas. Results also suggest that the poverty gap would increase in the case of no remittances in rural areas, whereas in urban areas it would experience a decrease. From a regional perspective, in the case of no remittances, the poverty gap would be higher for most but not all of the regions. The figures suggest that although it decreases the poverty levels, dependence on remittance income alone is not always sufficient to alleviate a poor household from poverty. On the other hand, policy-makers still face enormous challenges in terms of finding alternative means for addressing the persisting high levels of poverty.

Given the results of this study provide evidence on the positive effect of remittances and migration in reducing poverty in Kosovo, it is of high importance to ensure long-term sustainability of this effect. The impact of remittances on reducing poverty depends mainly on who receives remittances and how they are used. Hence, it is of the utmost importance that remittances are not used only to fund personal consumption but also are directed towards useful investments, ensuring the sustainable income generation of these households. This could be a potential way of maximising the benefits of remittances whilst decreasing the dependence of households on remittances. Therefore, in order for the effect of remittances to be sustainable even in the long-run, the government must refine policy choices in an attempt to leverage remittances for economic and investment-led development. Moreover, it should assess carefully the poverty reduction strategies in accordance with the characteristics of the regions and/or targeted group of beneficiaries. In order to tackle persistently high levels of poverty, the

government and development agencies should initiate and orient social transfers and development projects to the poorest regions, including those where remittances are less prevalent. The households that are supported financially by remittances should be encouraged to invest such funds in farming, entrepreneurial activities and/or education so to ensure long-term sustainability and to reduce remittance dependency in the long term. This becomes of particular importance considering that a considerable proportion of the households that receive remittances belong to the highest quintiles (see Figure 2) and remittances constitute for a relatively high share of total income. However, remittances sent to households with low consumption levels are less likely to be utilized in feasible investments. Kosovars are no longer entitled to asylum except for extreme cases given Kosovo is not considered as a conflict country.

Moreover, to date it has signed agreements for readmission with 22 EU countries. The poverty could be reduced in the medium to long run, if the poor households or those at-risk of poverty were given the opportunity to have more access to legal seasonal migration schemes. Kosovo has only managed to sign an agreement for seasonal employment with Germany. Therefore, the government should extend current relations and opportunities, in terms of international agreements with countries especially those that require low to medium skilled labour in particular seasons of the year. This, for instance, could include the seasonal migration of individuals of households with excess labour during the periods when harvesting time is different in the home and host countries or during summer in countries where coastal/summer tourism is developed.

Moreover, in order for the schemes to be effective, government should assess the needs of these countries in terms of skills thus design and invest in professional education in those particular areas and thus equip the labour force with the required skills. This would on one hand help unemployed acquire new or improve their skills whereas, on the other hand, facilitate legal migration thus prevent illegal migration, which has a negative effect on the visa liberalization process. In addition to overall effect on reducing poverty, it would also help reduce the disparities between rural and urban location.

Moreover, fast, less costly and more secure money transfers from migrants should be facilitated in order to increase formal remittances in Kosovo. Cost is an important determinant of the likelihood to transmit remittances informally. The increased prevalence of formal remittance mechanisms could improve financial access for both remittance senders and recipients, thus providing more space for investments.

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POLICY REPORTS

Policy Reports are lengthy papers which provide a tool/forum for the thorough and systematic analysis of important policy issues, designed to offer well informed scientific and policy-based solutions for significant public policy problems. In general, Policy Reports aim to present value-oriented arguments, propose specific solutions in public policy – whereby influencing the policy debate on a particular issue – through the use of evidence as a means to push forward the comprehensive and consistent arguments of our organization. In particular, they identify key policy issues through reliable methodology which helps explore the implications on the design/structure of a policy. Policy Reports are very analytical in nature; hence, they not only offer facts or provide a description of events but also evaluate policies to develop questions for analysis, to provide arguments in response to certain policy implications and to offer policy choices/solutions in a more comprehensive perspective. Policy Reports serve as a tool for influencing decision-making and calling to action the concerned groups/stakeholders.