

# The link between remittances and poverty in Albania

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# Introduction

- ▶ Remittances and migration are important for developing countries. They affect many aspects of the economy and are crucial for economic development (Ratha 2007)
- ▶ In 2000, 107 million migrants were recorded, but by 2020 this number is projected to reach 281 million. By end-2021, remittances are estimated to reach 713 billion dollars, representing a stable income stream for developing countries.
- ▶ WB(2021,ab) showed that even during the crisis caused by Covid-19, remittance flows remained stable and served as an important source of income for households
- ▶ Given the importance of remittances, especially for developing countries, there is a large body of literature on the role of remittances in poverty reduction and inequality. (Stark et al 1986, Adams Page 2003, 2005; Acosta et al, 2006 Cox-Edwards Oreggia 2009; Gupta, et al, 2007; Lokshin et al 2010; Ratha et al , 2011 López-Videla Razhuraitch 2014,.)

# Introduction II

- ▶ Albania is a special case: 1.21 million Albanians (42.7 percent of the population) live abroad (WB/2021a,b). Over the last two decades, remittances have been an important foreign exchange flow, fluctuating at 1.16 billion euro or 11.4 percent of GDP. AHWS provides comprehensive data on Albanian households (Dushku, 2023).
- ▶ Most studies on remittances in Albania focus on migrants and their motives, not on the link with poverty. (Gëdeshi 2002, Zanger Sigele 2007, Frashëri 2007; Abazaj 2011, Gëdeshi Jorgoni 2012; Gëdeshi Xhaferaj 2016, Gëdeshi King, 2018). WB (2003, 2007). WB (2003, 2007) analysed remittances and poverty using LSMS data for 2002 and 2005, showing that migration contributes to poverty reduction and has a positive impact on household consumption.
- ▶ This study examines the relationship between remittances and poverty in Albania using new household-level data from AHWS and propensity score matching techniques.

## Literature review

- ▶ The first approach assumes that migration reduces poverty by moving the population from low-income rural areas to high-income urban areas or abroad. Furthermore, remittances can reduce the poverty of these households (Acosta et al. (2006)).
- ▶ The second approach shows that migration does not reduce poverty. This approach argues that poor households lack liquid assets, making international migration costly. Only middle- and high-income households would benefit from migration. Low-income and poor households would benefit if migration costs decreased (Acosta et al., 2006).

## Literature review II

- ▶ Adams (2011) based on a comprehensive review of empirical works on the casual link between remittances and poverty have evidenced four methodological problems, that we have to account on migration studies, such us: simultaneity, selection bias, reverse causality, and omitted variables bias (McKenzie Sasin, 2007).
- ▶ To address the selection bias problem, which results mainly from the use of survey data, which are non-experimental data some authors (i.e. see Cox-Edwards and Rodriguez-Oreggia 2009; Esquivel and Huerta-Pineda 2007; López- Videla Machuca, 2014) suggested the use of counterfactual situation, mainly propensity score matching estimator (Rosenbaun and Rubin, 1983). This method, correcting for selection bias, gives us efficient estimates to assess the impact of remittances on poverty.

## Empirical Strategy-Data

- ▶ Albanian Household Wealth Survey (AHWS), represent the first survey on Albanian household wealth based on HFCS (Household Finance and Consumption Survey) methodology.
- ▶ The main aim of AHWS is to obtain detailed information on 2,500 households, in terms of income, expenditures, real and financial assets of households, employment status and education level of all household members, etc.
- ▶ Instat- Household sample, F-F interviews, March-April 2019  
Sample design- random probability sampling, Sampling frame  
-National population register Stratification criteria- Region, population size
- ▶ Main questions in AHWS: Did you or any family member receive workers or migrant remittances during 2018? What was the amount of workers or migrant remittances that you or your family received in 2018?

# Empirical Strategy-Data

<i>Poverty indicators: monthly income per capita (absolute poverty line)</i>			
Headcount ratio (FGT(0): proportion poor)	14.34%	27.60%	24.22%
Poverty gap (FGT(1): average normalized poverty gap)	5.17%	10.87%	9.42%
Severity of poverty (FGT(2): average squared normalized poverty gap)	2.66%	6.30%	5.37%
<i>Poverty indicators: monthly income per capita (relative poverty line)</i>			
Headcount ratio (FGT(0): proportion poor)	16.39%	30.78%	27.11%
Poverty gap (FGT(1): average normalized poverty gap)	6.25%	12.88%	11.19%
Severity of poverty (FGT(2): average squared normalized poverty gap)	3.28%	7.43%	6.37%
<i>Poverty indicators monthly expenditure per capita (absolute poverty line)</i>			
Headcount ratio (FGT(0): proportion poor)	50.1%	55.3%	54.0%
Poverty gap (FGT(1): average normalized poverty gap)	14.9%	19.6%	18.4%
Severity of poverty (FGT(2): average squared normalized poverty gap)	6.4%	9.4%	11.1%
<i>Poverty indicators: monthly expenditure per capita (relative poverty line)</i>			
Headcount ratio (FGT(0): proportion poor)	56.4%	61.4%	60.2%
Poverty gap (FGT(1): average normalized poverty gap)	19.1%	23.8%	22.6%
Severity of poverty (FGT(2): average squared normalized poverty gap)	8.5%	11.9%	6.4%
Share of household receiving remittances %	25.50 %	74.50 %	
Total number of households	537	1 569	2 106

## Empirical Strategy–Methodology

- ▶ Propensity score matching (by Rosenbaun and Rubin (1983)) is based on the construction of a counterfactual outcome, which is about estimating the impact of a certain policy in the absence of a treatment. By comparing households that receive remittances (or treated households) with those that do not receive remittances (no-treated households), it becomes possible to assess the effect that remittances have on poverty. Propensity score was defined as the conditional probability of receiving treatment given pretreatment characteristics
- ▶  $P(X) = \Pr(D=1/X) = E(D/X)$
- ▶ Where  $D$  is a binary treatment indicator taking the value of 1 if individual receives treatment and 0 otherwise, while  $X$  is the multidimensional vector of pretreatment characteristics. The impact of a treatment effect in an individual  $i$ , note as  $t_j$  is given as the difference between potential outcome in case of treatment  $Y_i(1)$  and potential outcome without treatment  $Y_i(0)$  (Caliendo and Kopeinig, (2008)).



# Empirical Strategy–Methodology

- ▶ Rosenbaum and Rubin (1983), proposed the propensity score estimator for ATT assuming that both conditional independence assumption and overlap conditions are satisfied.

$$\tau_{ATT}^{PSM} = E_{P(X)|D=1}\{E[Y(1)|D=1, P(X)] - E[Y(0)|D=0, P(X)]\}$$

- ▶ Nearest-neighbour matching(NN), consist on the selection of a household from comparison group, as a matching partner for a treated household, which has the closed propensity score with the treated household.
- ▶ Radius matching caliper perform matching within the specified radius given by caliper(Caliendo and Kopeinig, 2008).
- ▶ Kernel matching estimator is a non-parametric algorithm that uses the weighted average of all households in the control group to construct the counterfactual outcome of treated households Khandker et al.(2010).

# Propensity score matching

- ▶ Estimating the PSM using a logit or probit model based on variables determining participation and the outcome, but not affected by the treatment.
- ▶ After evaluating the propensity score, the predicted probabilities were calculated.
- ▶ Select the matching algorithm based on the propensity score. We then check for overlap and assess the match.
- ▶ Estimating the effects as the average treatment effect of the treated (ATT) and the average treatment effect (ATE) (Caliendo and Kopeinig, (2008), Heinrich et al. (2010)).

# Results based on a propensity score matching

	Coefficients	p-value
<i>Characteristics of the household head</i>		
Age	0.020	0.215
Age squared	-0.000	0.453
Education	0.033	0.308
Education squared	-0.003	0.118
Female	0.110	0.210
Married	0.059	0.548
Unemployed	0.294	0.001
<i>Characteristics of the household</i>		
Household size	-0.213	0.000
Number of children under 5 years	-0.051	0.537
Mean number of members aged 15+ with primary education	0.020	0.431
Mean number of males aged 15+	-0.062	0.092
Mean number of females aged 15+	0.056	0.118
House surface (m <sup>2</sup> ) per capita		0.002
	0.002	
Cities dummy	0.199	0.005
Number of obs	2102	
LR chi2(12) = 144.68, Prob > chi2 = 0.0000,		
Pseudo R2 = 0.06		

## Results based on propensity score matching

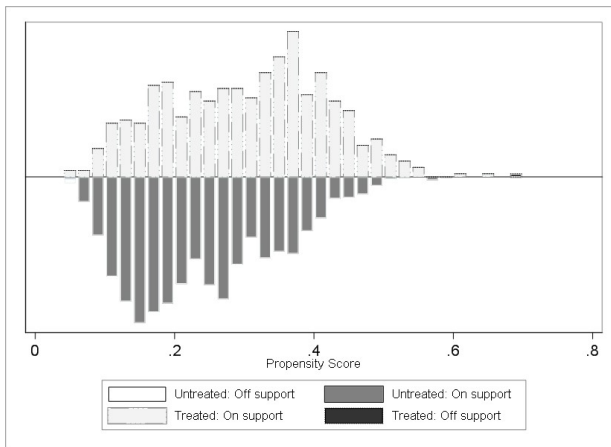


Figure 3: Overlap condition

There is sufficient overlap in propensity score between the treated and untreated groups, ensuring comparability.

# Results based on propensity score matching



Figure 4: Densities of propensity scores before and after matching

The treatment assignment is independent of the outcome, given the observed co variates.

# Results based on propensity score matching

Estimators	Variable	Sample	Treated	Controls	Difference	Std.Err	t-sta
Nearest-neighbour matching	Headcount ratio	Unmatched	0.134	0.262	-0.127	0.02	-6.11
		ATT	0.135	0.215	<b>-0.08</b>	0.03	-2.79
		ATU	0.262	0.172	<b>-0.091</b>		
		ATE			<b>-0.088</b>		
Radius matching	Headcount ratio	Unmatched	0.134	0.262	-0.127	0.02	-6.11
		ATT	0.135	0.23	<b>-0.096</b>	0.02	-4.95
		ATU	0.262	0.156	<b>-0.106</b>		
		ATE			<b>-0.104</b>		
Kernel estimator	Headcount ratio	Unmatched	0.134	0.262	-0.127	0.02	-6.11
		ATT	0.135	0.228	<b>-0.093</b>	0.02	-4.7
		ATU	0.262	0.164	<b>-0.098</b>		
		ATE			<b>-0.097</b>		
Estimators	Variable	Sample	Treated	Controls	Difference	Std.Err	t-sta
Nearest-neighbour matching	monthly income per capita	Unmatched	40,892.89	26,490.51	14,402.37	1,758.67	8.19
		ATT	40,773.51	33,258.57	<b>7,514.93</b>	2,803.93	2.68
		ATU	26,479.71	31,730.45	<b>5,250.74</b>		
		ATE			<b>5,828.39</b>		
Radius matching	monthly income per capita	Unmatched	40,892.89	26,490.51	14,402.37	1,758.67	8.19
		ATT	40,773.51	30,226.74	<b>10,546.77</b>	2,093.25	5.04
		ATU	26,479.71	34,381.18	<b>7,901.47</b>		
		ATE			<b>8,576.35</b>		
Kernel estimator	monthly income per capita	Unmatched	40,892.89	26,490.51	14,402.37	1,758.67	8.19
		ATT	40,773.51	31,019.05	<b>9,754.46</b>	2,120.08	4.60
		ATU	26,479.71	33,425.27	<b>6,945.56</b>		
		ATE			<b>7,662.18</b>		
Total households	2,102	Untreated	1,566	Treated	536		

# Estimated results based on propensity score matching

<b>Absolute poverty line</b>	<b>Monthly income per capita (including remittances)</b>	<b>Monthly income per capita, (excluding remittances)</b>	<b>Change in pp (percentage point)</b>	<b>Monthly expenditure per capita (including remittances)</b>	<b>Monthly expenditure per capita (excluding remittances)</b>	<b>Change in pp (percentage point)</b>
<b>FGT(0):</b>	24.2%	27.8%	-3.6 pp	54.0%	62.5%	-8.5 pp
<b>FGT(1):</b>	9.4%	11.6%	-2.2 pp	18.4%	34.8%	-16.4 pp
<b>FGT(2):</b>	5.4%	7.1%	-1.7 pp	11.1%	89.5%	-78.4 pp
<b>Relative poverty indicators</b>	<b>Monthly income per capita (including remittances)</b>	<b>Monthly income per capita, (excluding remittances)</b>	<b>Change in pp (percentage point)</b>	<b>Monthly expenditure per capita (including remittances)</b>	<b>Monthly expenditure per capita (excluding remittances)</b>	<b>Change in pp (percentage point)</b>
<b>FGT(0):</b>	27.1%	30.8%	-3.7 pp	60.2%	67.8%	-7.6 pp
<b>FGT(1):</b>	11.2%	13.6%	-2.4 pp	22.6%	38.1%	-15.5 pp
<b>FGT(2):</b>	6.4%	8.2%	-1.9 pp	6.4%	78.7%	-72.4 pp

## Final remarks

- ▶ Empirical results show that remittances have a positive effect on households, regardless of whether they receive them. Remittances reduce the probability of being poor by 8 to 9 percent and positively affect household income by ALL 9272.
- ▶ Estimates of the average treatment effect, ATE, and the average treatment effect on the untreated, ATU, show that remittances improve household income for all households, including untreated households.
- ▶ Estimates of poverty indicators based on income data show that remittances reduced the number of people living below the poverty line by 3.7 percentage points and improved the level and severity of poverty by 2 percentage points on average.
- ▶ Estimates of poverty indicators based on per capita expenditure data also show that remittances have contributed to poverty reduction, but to a greater extent. For example, the headcount ratio improved by 8 percentage points, while the poverty gap and the squared poverty gap improved more.



## Final remarks

- ▶ Our analysis shows that remittances have a significant impact on reducing the probability of households being poor and thus on the well-being of Albanian households, in line with the optimistic view presented by Adams and Page, (2005).
- ▶ In terms of policy recommendations, it is worth paying attention to remittance policies, how to channel and use remittances to have greater impact on household well-being and the overall national economy.
- ▶ Ratha (2017) suggests using remittances to finance SMEs, education or health to boost physical and human capital and long-term growth. So if remittances are used for poverty alleviation at the micro level, they should be used as an engine for growth at the macro level.

► Thank you for your attention !