

THE IMPACT OF REMITTANCES ON DOMESTIC INVESTMENT AND CONSUMPTION EXPENDITURES: THE CASE OF NORTH MACEDONIA

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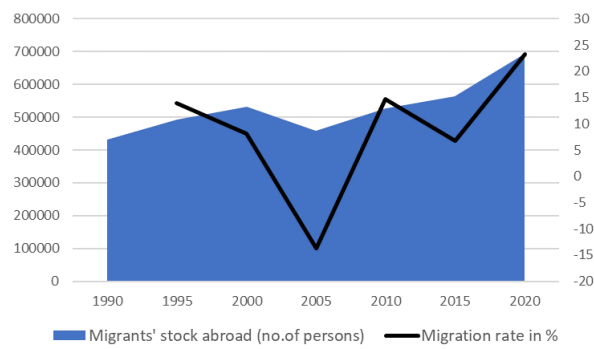
EXTENDED ABSTRACT

Purpose Remittances are a significant source of household income and foreign exchange inflows for the Republic of North Macedonia (MKD) due to the relatively large share of workers who have emigrated, mostly to the EU. This paper analyses data from a survey of almost 2000 households that receive remittances to investigate how households use the income. Although remittances are mostly used for consumption spending, a specific focus of the analysis is on the almost 20% of households that invest or save the money. What are the characteristics of these households, and the determinants of the amount and share invested or saved? The paper then estimates the macroeconomic impact of remittances in terms of the effect on consumption, investment, and saving.

Design/methodology/approach This paper makes use of a survey of almost 2000 households receiving remittances in North Macedonia (MKD) in 2021 to empirically investigate how the income is used and if this is related to characteristics of the migrants and households. Unfortunately, the survey was only for receiving households (it is not possible to compare with non-receiving households), data on household characteristics are limited, and it is only a cross-section (although some retrospective questions were included). The decision of how to use remittances received is analyzed by a set of discrete choice models. On the one hand, we have considered the characteristics of the households receiving the remittances (family income, employment, age, gender, ethnicity, settlement type, place of residence), and on the other hand, we have considered factors like: i) remittance timing, ii) trends, and iii) migrant's home country attachment. For robustness checks, we have used PPLM regressions like $I/S/C (\%)*total\ RR$ and the Zero-inflated Model.

Findings North Macedonia is facing a growing trend of migration, which, if not addressed, can potentially cause significant socio-economic disruptions in the country going forward. The stock of migrant population to total population ratio stood at 37 percent in 2020, which is the third highest in the region after Albania and Bosnia and Herzegovina, and well above the average for developing countries. Most of the migrants go to the EU (mostly Germany and Italy) or Switzerland, as well as to Turkey. Finally, migrants from North Macedonia tend to be young people in their most productive years, which may pose serious challenges to development going forward.

Figure 1: Stock of migrants from North Macedonia and migration rate



Note: data refers to the foreign-born population
(Source: United Nations Population Division and authors' calculations)

Figure 2: First-time residence permits issued by the EU-27 countries

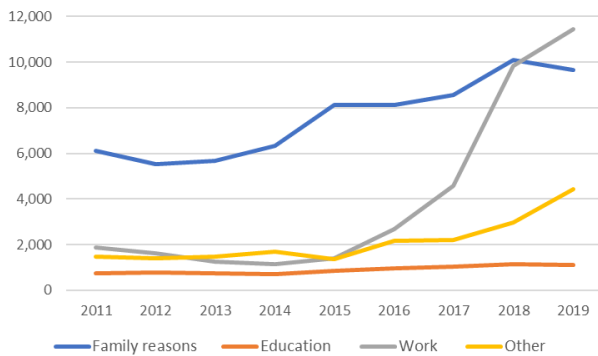
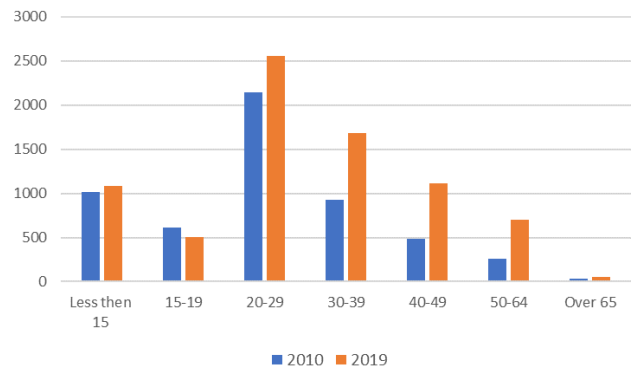


Figure 3: Age structure of immigration from North Macedonia to the EU, by age groups



Note: data for 2020-2021 is available but is not included because of distortions due to the COVID-19 crisis
(Source: Eurostat and author's own calculations)

This paper analyses data from a survey in 2022 of 2000 households that receive remittances to investigate how households use the income. Although remittances are mostly used for consumption spending, a specific focus of the analysis is on the almost 20% of households that invest or save the money. We try to see what the characteristics of these households and the determinants of the amount and share are invested or saved. Using several specification models and considering the heterogeneity of recipient households, our findings indicate that remittances can significantly impact the financial structure of Macedonian families, suggesting the potential for a broader macroeconomic effect as well (ongoing research). This effect is likely to be stronger when families expect sustained or increasing remittance flows and when the sender has a deep connection to their country of origin.

Table 1: Probit regressions. Binary dependent variable: Use of RR

VARIABLES	(1) Investment	(2) Saving	(3) Consumption	VARIABLES	(1) Investment	(2) Saving	(3) Consumption
log(total RR)	0.537*** (0.000)	0.373*** (0.000)	-0.098* (0.077)	RR as % of HH mid-income	0.031*** (0.000)	0.017*** (0.000)	-0.005 (0.171)
Gender (Female = 0)	-0.177** (0.032)	0.165* (0.062)	0.120 (0.274)	Gender	-0.181** (0.023)	0.139 (0.105)	0.137 (0.208)
Age	0.124*** (0.000)	0.034 (0.297)	-0.130*** (0.005)	Age	0.139*** (0.000)	0.038 (0.221)	-0.109** (0.016)
Family income	0.055 (0.128)	0.120*** (0.002)	-0.205*** (0.000)	Settlement (Small town/Village = 0)	0.266*** (0.002)	0.377*** (0.000)	-0.194* (0.091)
Settlement (Small town/Village = 0)	0.190** (0.031)	0.291*** (0.001)	-0.118 (0.297)	Ethnicity (Other = 0)			
Ethnicity (Other = 0)				- Macedonian	0.006 (0.971)	-0.179 (0.299)	-0.009 (0.966)
- Macedonian	-0.027 (0.879)	-0.223 (0.219)	0.082 (0.701)	- Albanian	-0.032 (0.858)	-0.366** (0.043)	0.482** (0.035)
- Albanian	-0.151 (0.412)	-0.493*** (0.009)	0.511** (0.028)	Employment (Not employed = 0)			
Employment (Not employed = 0)				- Employed	0.315*** (0.002)	0.026 (0.806)	-0.341** (0.034)
- Employed	0.218* (0.051)	-0.112 (0.340)	-0.155 (0.356)	- Self-employed	0.447** (0.014)	0.097 (0.629)	-0.190 (0.457)
- Self-employed	0.392** (0.036)	-0.020 (0.927)	-0.027 (0.917)	- Unemployed	-0.078 (0.527)	-0.313** (0.014)	0.053 (0.779)
- Unemployed	0.058 (0.632)	-0.199 (0.116)	-0.038 (0.842)	RR_year (From 1918 to 2009 = 0)			
RR_year (From 1981 to 2009 = 0)				- From 2010 to 2016	-0.295*** (0.003)	-0.006 (0.954)	-0.072 (0.621)
- From 2010 to 2016	-0.263** (0.011)	0.039 (0.726)	-0.085 (0.574)	- Since 2017 on	-0.194* (0.065)	-0.175 (0.148)	-0.200 (0.166)
- Since 2017 on	-0.103 (0.345)	-0.131 (0.288)	-0.238 (0.117)	RR_trend (No change = 0)			
RR_trend (No change = 0)				- Increased	0.363*** (0.001)	-0.036 (0.794)	0.123 (0.453)
- Increased	0.310*** (0.007)	-0.110 (0.438)	0.137 (0.421)	- Decreased	-0.032 (0.727)	0.124 (0.171)	0.126 (0.317)
- Decreased	-0.027 (0.774)	0.124 (0.179)	0.121 (0.345)	Freq_visit (Several times/year = 0)			
Freq_visit (Several times/year = 0)				- Once a year	-0.313*** (0.000)	-0.056 (0.534)	0.101 (0.392)
- Once a year	-0.256*** (0.004)	0.014 (0.877)	0.100 (0.405)	- Once every few years	-0.256** (0.032)	-0.191 (0.168)	0.128 (0.432)
- Once every few years	-0.150 (0.242)	-0.096 (0.507)	0.119 (0.476)				

Table 2: Zero-inflated ordered probit (3 categories)

Table 12: Zero-inflated ordered probit (3 categories)				
VARIABLES	(1)	(2)	(3)	(4)
	Investment	Investment	Saving	Saving
RR_income	0.002 (0.620)	0.065*** (0.000)	-0.012** (0.035)	0.056*** (0.009)
gender	-0.491*** (0.000)		0.167 (0.203)	
age	0.230*** (0.000)		0.025 (0.737)	
Ethnicity (Other = 0)				
- Macedonian	0.520* (0.055)		-0.696* (0.081)	
- Albanian	0.386 (0.189)		-1.300*** (0.005)	
Employment (Not employed = 0)				
- Employed	0.806*** (0.000)		0.154 (0.504)	
- Self-employed	1.702*** (0.000)		-0.205 (0.502)	
- Unemployed	0.238 (0.182)		-0.325 (0.189)	
RR_year (From 1981 to 2009 = 0)				
- From 2010 to 2016	-0.554*** (0.000)		0.114 (0.514)	
- Since 2017 on	-0.243 (0.170)		-0.109 (0.648)	
Freq_visit (Several times/year = 0)				
- Once a year	-0.395*** (0.004)		0.049 (0.739)	
- Once every few year	-0.439** (0.035)		-0.174 (0.501)	
Region				
- East	0.714 (0.115)	-0.209 (0.596)	0.229 (0.878)	-2.367* (0.078)
- Southwest	0.244 (0.410)	-0.229 (0.503)	0.488 (0.214)	-1.559 (0.267)
- Southeast	0.300 (0.444)	-0.646* (0.068)	1.116*** (0.000)	-1.285 (0.380)
- Pelagonia	0.231 (0.635)	-0.873** (0.026)	1.820** (0.037)	-2.985* (0.055)
- Polog	0.001 (0.997)	-0.026 (0.940)	0.745 (0.127)	-1.599 (0.230)
- Northeast	-0.139 (0.670)	-0.713** (0.042)	2.571*** (0.000)	-2.144 (0.183)
- Skopje	0.638* (0.054)	-0.748** (0.028)	1.262** (0.012)	-2.657* (0.071)
<i>inflate</i>				
RR_trend (No change = 0)				
- Increased		0.449*** (0.005)		0.017 (0.929)
- Decreased		-0.029 (0.813)		0.253** (0.042)
Settlement		0.378*** (0.002)		0.502*** (0.000)

cut1	0.699 (0.131)	-0.178 (0.801)
cut2	1.565 (0.001)	0.913 (0.116)
cut3	2.408*** (0.000)	1.682*** (0.003)
Constant	-0.820** (0.017)	0.546 (0.706)
Observations	1,599	1,599

Robust pval in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Originality/value To the best of our knowledge, remittances and their effects, both from consumption and savings and investment, have been very scarcely analyzed in the case of North Macedonia, so this study may contribute to shedding new light on the subject. In addition to measuring the effects of remittances on investment and consumption expenditures, we are also attempting to quantify their overall macroeconomic impact on the country's gross domestic product, which, to the best of our knowledge, has not been done for North Macedonia. Thus, we are providing insights that can contribute to future policy advice aimed at maximizing these financial transfers.

Keywords: *Migration, Remittances, Economic growth*

JEL classification: *F22, F24, F43, E21*

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