Center for Economic Institutions

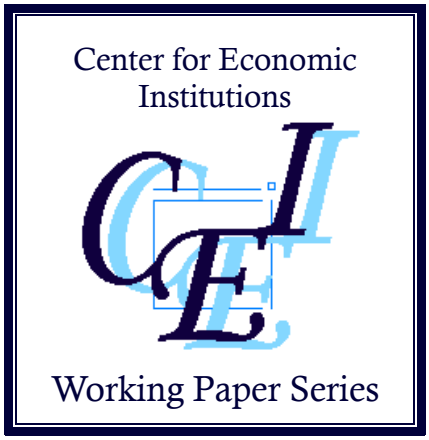
Working Paper Series

No. 2016-5

"Does Return Migration Affect Health Outcomes in Macedonia?"

Marjan Petreski

May 2016



Institute of Economic Research
Hitotsubashi University
2-1 Naka, Kunitachi, Tokyo, 186-8603 JAPAN
http://cei.ier.hit-u.ac.jp/English/index.html
Tel:+81-42-580-8405/Fax:+81-42-580-8333

Does Return Migration Affect Health Outcomes in Macedonia?

Marjan Petreski
University American College Skopje
marjan.petreski@uacs.edu.mk

Abstract

The objective of the paper is twofold: i) to investigate if living and working abroad has a meaningful role to play for the health of the return migrant; and ii) to understand if there are any spillovers of return-migrant member onto health conditions of the family members left behind. To that end, we use the DoTM Migration Survey 2009, as well a propensity score matching to address selectivity on observables and IV for the selectivity on unobservables. We also pursue interviews to contextualize the return migration – health nexus. Results suggest that when equalized on observables, return migrants have better health than non-migrants. Though, the reverse causality channel (less healthy individuals are more inclined to return) works to attenuate the true effect of return migration on health. Results further suggest a positive spillover effect of return migration on the health of the family members left behind, being mainly driven by the work of remittances sent while abroad, and not the returned wealth or the health knowledge transfer.

Keyword: return migration; health; Macedonia

JEL classification: F22, I19

Acknowledgement: This paper has been produced while author's stay at the Hitotsubashi University, Tokyo, Japan, April – June 2016, supported by the Japanese Society for the Promotion of Science. The author thanks prof. Kazuhiro Kumo for the hospitality as well Ms. Eriko Yoshida for the great administrative support while in Japan. All errors are solely the author's.

1. Introduction

According to the World Bank, Macedonia had over 626 thousands of emigrants abroad at the end of 2013, bringing the emigration rate at above 30% of the official figure of the total population. One out of every four families in the country reported at least one member of the household living and/or working abroad (DoTM Migration Survey 2009). The topic of emigration became the spotlight in all Western Balkan countries lately, with the drop of the Schengen curtain, as well with the lingering effects of the Global economic crisis and the European Sovereign Crisis propping people to think about emigration. Even earlier, faced with prolonged transition process, joblessness and hardships in everyday living, people were dreaming for and departing abroad.

The warmth of the discussions related to the intense emigration somehow overlooked the reverse process of returning emigrants. While official statistics does not exist, some survey-based figures suggest that each one of three families in Macedonia has a return migrant (DoTM Migration Survey 2009). In the literature (e.g. Davies et al. 2011), return migration refers to the process of going back to the place of origin, either within the country in the case of internally displaced persons, or from the host to the home country, in the case of international migration. The latter case could be a return of international workers, after retirement or after they assessed to have accumulated sufficient wealth; return of refugees or of asylum-seekers. In the Macedonian case, it is mostly a return of workers who lived and worked abroad.

Little has been researched about the nexus between the return migration and the health of the returned migrant and the family members left behind. The objective of the paper is twofold: i) to investigate if living and working abroad has a meaningful role to play for the health of the return migrant; and ii) to understand if there are any spillovers of return-migrant member onto health condition of the family members left behind. To that end, we use the DoTM Migration Survey 2009, as well a propensity score matching to isolate the effects of return migration on the health of the return migrant and of his/her family. To address the selectivity on unobservables, we instrument return migration with the historic migration rate per region.

The idea behind the paper is based on a two-stranded literature. In the first strand, return migration is linked to migrant's health, through his lifestyle and surrounding health environment at destination (Davies et al. 2011; Razum, 2005; Clark et al. 2007; Sander; 2007). If the return migrant had been earning sufficiently, in a decent job, and having a positive lifestyle, then he may enjoy good health upon return, including the effect of the accumulated wealth while abroad contributing to his wellbeing upon return. Conversely, bad lifestyle and job may result in poor health, which may actually be the trigger of the return, being more associated with refugees and asylum seekers. The other strand of the literature resembles the channels through which return migration affects health of the family members left behind (Duryea et al. 2005; Lopez-Cordova, 2006; Acosta et al. 2007; Amuedo-Dorantes and Pozo, 2011

Hildebrandt et al. 2005). The prime role is ascribed to remittances which had being sent while the returnee had been abroad, as well through the returned accumulated wealth. Not least, the literature accentuates the transfer of the health knowledge that return migrants convey onto their family members, after having it acquired in more advanced, in terms of health systems, and more aware, in terms of healthy lifestyle, countries.

Results suggest that when equalized on observables, return migrants have better health than non-migrants by about 0.19 to 0.22 points on a scale from 1 to 5. The seemingly small magnitude of this result in amplified when selectivity on unobservables is considered on top of the selectivity on observables, to 1.7 points, likely suggesting that the reverse causality channel (less healthy individuals are more inclined to return) works to attenuate the true effect of return migration on health. Results further suggest a positive spillover effect of return migration on the health of the family members left behind in the magnitude of 0.15 points, being mainly driven by the work of remittances sent while abroad, and not by the returned wealth or the health knowledge transfer. The insights into the interviews largely corroborate these findings, giving some larger role to returned wealth for health, especially among older returnees.

Designed in this way, the paper offers at least two novelty lines to contribute to the current sparse of knowledge. Firstly, it is among the scarce papers, and probably the only quantitative one, to investigate the nexus between return migration and health outcomes. Secondly, it heavily dwells on the role of selectivity (both on observables and unobservables) in determining the true (causal) effect of return migration on health.

The paper is organized as follows. Section 2 presents a brief overview of the literature. Section 3 gives a snapshot of the available data and presents some correlations. Section 4 discusses the underlying methodology. Section 5 presents the results and offers a discussion. Section 6 concludes.

2. Overview of the literature

Return migration and health have not been researched nor attracted much of policy attention. As Davies et al. (2011) argue, the health of the return migrant is a reflection of the accumulation of health consequences occurring during or after the migration process. Migration itself may not be a health risk factor (IOM, 2008), but particular factors during the process of migrating may be. These may include the type of destination, length of stay, status at destination, but also the immigration and labor policies determining migrant's access to health. During the return phase, there are two types of migrants (Davies et al. 2011): emigrants who departed for better life enjoyed healthy life, robust employment and earning opportunities at destination, access to health and social services, and hence return healthy; and emigrants who had unhealthy lifestyle, likely due to illegal work abroad and/or working at jobs

depriving their health (e.g. heavy construction workers), hence returning home with weak health or even in ill-condition.

In the former case, return migrants likely accumulate sufficient amount of wealth which is then likely transferred back to the origin country, hence with the potential to contribute for the wellbeing of the family-members left behind as well the overall economic development of the country. Only wealthy returnees will be then able to bear the entire cost of health services at origin and/or depart abroad again in case they need a health service unavailable locally. Razum et al. (2005) find that return migrants with dual citizenship are more likely to return at destination to access healthcare and social benefits otherwise not available in the origin country.

On the other hand, a contingent of migrants may receive low wages at destination, struggle for decent housing, are not rarely undernourished or eat unhealthy food, and because of their low standard of living they usually could hardly access a range of health services (Davies et al. 2011). Hence, they are exposed to health factors resulting in poor health which is either reflected after return or could be a cause for return. Clark et al. (2007) found that increasing numbers of circular labor migrants of prime working age in South Africa are becoming ill in the urban areas where they worked and come home to be cared for and eventually to die in the rural areas where their families live. On the other hand, Sander (2007) documents that emigrants who reported poorer health are less likely to return home than those who reported good health. The result was found significant for men only.

The other strand of literature analyses how migration (including return migration) potentially affects the health status and outcomes of the family members left behind. The main channel through which emigration affects the health of the family members left behind is through the remittances sent to the households at origin, enabling them to soften the budget constraint and increase health consumption, i.e. afford (more and better) health services. For example, Duryea et al. (2005) and Lopez-Cordova (2006) find remittances to have a positive effect onto infant mortality in Mexico, through improving living conditions of the households at origin, while Acosta et al. (2007) that children in remittance-receiving households in Latin America have a batter health status than in non-receiving ones across a variety of health indicators. Amuedo-Dorantes and Pozo (2011), on the other hand, investigate the nexus between migration and health consumption. They argue that health expenditure increases with the remittances and that it is more responsive to remittances' increase than the other household expenditures. Along the same lines, Petreski et al. (2016) find that additional 35 EUR of remittances per household reduce the probability of bad health in Macedonia by a significant 63%, on average.

Finally, health outcomes of the household members left behind may be affected also indirectly, through increasing their knowledge and awareness of health importance after the emigrant increased his/her health awareness at destination. For instance, Hildebrandt et al. (2005) investigated how health knowledge is transferred on from migrants to their family and find that, due to this channel, children in

the household at origin have lower mortality rates and higher birth weight, on top of the fact that the transfer may result in a more effective use of financial resources and thus a higher health attainment. Similarly, McKenzie (2007) and Glewwe (1999) find that mothers in migrant families possess higher health knowledge due to spillovers from the emigrated member.

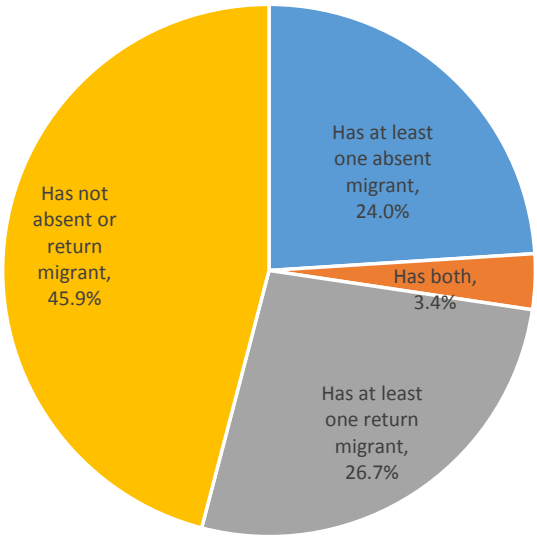
There is no paper that investigates the nexus between return migration and the health of the family members left behind, per se. However, if there is a positive spillover of migration onto family at origin – through remittances and/or knowledge transfer – then its results should be accumulated and reinforced after the migrant returns, hence producing further positive health outcomes.

3. Data and stylized facts

For the purpose of this analysis, we first make use of the DoTM Migration Survey 2009. It is an ad-hoc survey of migration and remittances in Macedonia, with 1.211 representative households and 3.152 individuals. The survey is quite comprehensive, covering all aspect of migration and remittances, focusing on the household at origin, the absent and return migrant. The regular surveys in Macedonia do not contain information on remittances and migration. To our knowledge, there is another remittances survey conducted in 2012, however it is much scarcer, especially on the issues of return migration. Hence, we are bound to rely on the 2009 survey, assuming that the relationship between return migration and health did not change between the time when the survey was conducted and the present moment. This could be considered a realistic assumption, given this relationship is of a longer-term nature, and given that lately the spotlight of migration issues has been the out-migration, not the return one.

Figure 1 suggests that 30% of our representative sample of households do have at least one return migrant, which is slightly above the rate of households with at least one absent migrant, 27.4%. Surprisingly, few households, 3.4% have both absent and return migrant, suggesting that at the time departing migrants were not followed by other household members, or if they were, they altogether returned at one point of time. However, we do not have a clue about the share of household who completely left Macedonia, and never returned, as they did not have household representatives in Macedonia to be surveyed. Overall, a rate of 54.1% of households with at least one absent or return migrant, or both, could characterize Macedonia as emigration country, along the discussions in Petreski and Jovanovic, eds. (2013).

Figure 1 – Macedonian households with emigrants



Source: DoTM Migration Survey 2009
Sample weights used in the calculations.

Table 2 presents a couple of demographic characteristics of the return migrants and compare it with the absent migrant statistics, and to that of the entire sample. Apparently, all migrants are older than the entire sample, given that, on average, adult emigrate more frequently then children. Interestingly though, males return more frequently as compared to absent migration which is gender-balanced. However, this could be related to the waves of older migration when males were emigrating more frequently than females. It could also be that males who emigrated alone, without their spouse/families, and did not or did not manage to draw their family members at destination, usually return. It corroborates the findings of Sanders (2007: 24) who finds that males have higher propensity to return than females. With regard to ethnicity, shares seem not to be with statistically-significant differences.

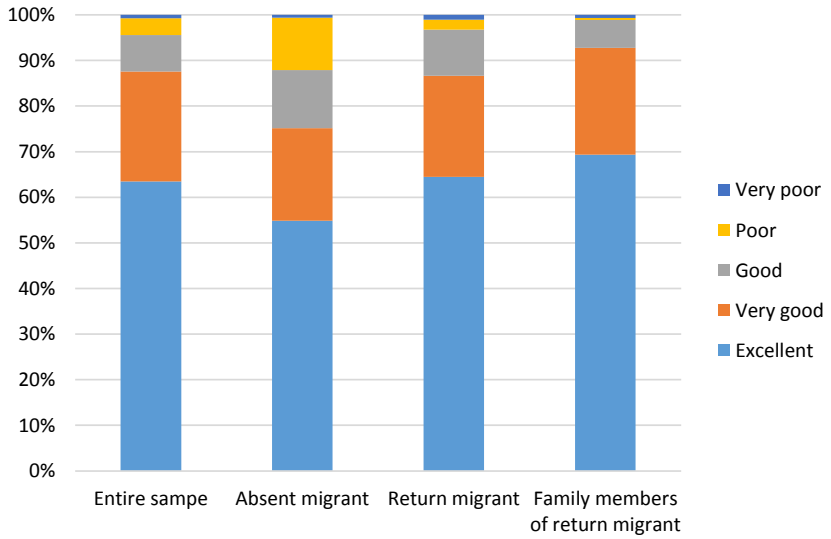
An interesting fact is the educational differences. Absent migrants are predominantly with primary school (resonating with findings in Petreski and Petreski, 2015, who profile the average emigrant from Macedonia as being less educated contrary to the beliefs that emigration is usually a brain drain). On the other hand, return migrants' educational profile more resembles the composition of the entire sample, but could also reflect some efforts to acquire additional education while abroad. Return migrants are more frequently employed and residing in urban areas than absent migrants (before their departure), as the latter likely departed, inter alia, because of joblessness.

Table 2 – Demographic characteristics of the sample

	Entire sample	Return migrants	Absent migrants
Age (years)	42.8	44.7	47.7
Males	50.4%	74.6%	49.8%
Macedonians	61.5%	62.0%	66.1%
Albanians	37.3%	35.8%	32.8%
Roma	1.7%	2.8%	1.3%
With complete or incomplete primary school	33.8%	34.9%	47.6%
With complete secondary school	46.5%	41.8%	37.5%
With complete tertiary school or above	19.7%	23.3%	14.9%
Married	75.6%	77.9%	80.5%
Employed	45.3%	49.6%	37.1%
Unemployed	40.2%	29.2%	40.9%
Living in / originating from urban areas	47.6%	52.0%	39.4%
Source: DoTM Migration Survey 2009 *Sample weights used in the calculations.*			

Figure 2 presents the health status of the return migrants and three other categories: of absent migrants, of the family members of the return migrant and of the entire sample. The health variable is an ordered one on a scale from 1 = very poor health to 5 = excellent health and refers to the self-assessed health condition of the person. There are few interesting facts emerging form the figure. Absent migrants are apparently with lower health status than the entire sample, which actually contradicts the thesis that healthier persons tend to emigrate more frequently; or it may suggest that the health at destination deteriorates for some reason. The health of the return migrants, on the other hand, is not different than the one of the entire sample, but the one of their family members left behind is slightly better. The latter may, but not necessarily, capture the potential knowledge transfer that took place while the migrant was abroad or even after he/she returned, onto the other family members, hence resulting in their self-perceived health to be better.

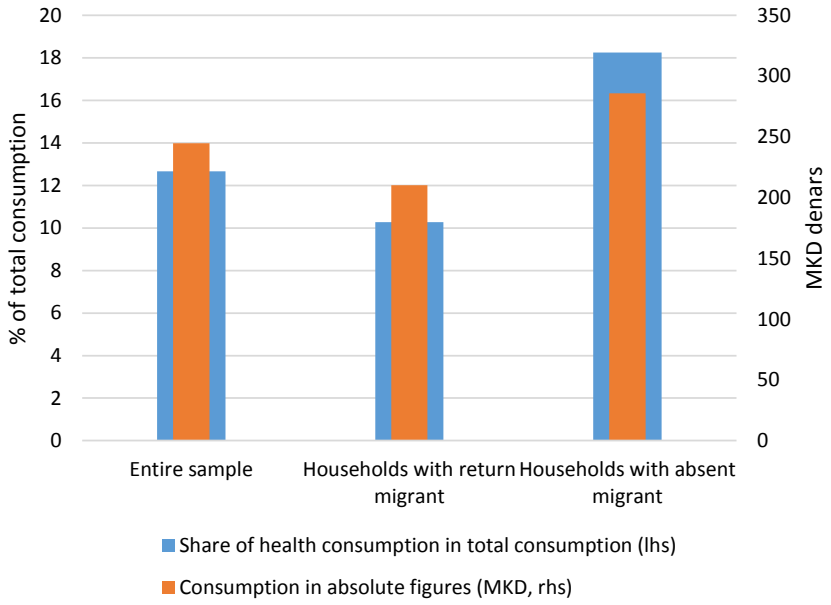
Figure 2 – Health status



Source: DoTM Migration Survey 2009
Sample weights used in the calculations.

Alternatively, we could measure and compare the health condition of the return migrant with the amount he/she spends for health. Note that the consumption variable is at the household level, so that we cannot compare the consumption of the return migrant to that of the rest of his family. Analogous to the health condition of the absent migrant, households with absent migrant actually spend more on health compared to entire sample and the return-migrant households. On the other hand, return-migrant households spend less than the other two, but the difference may not be statistically significant.

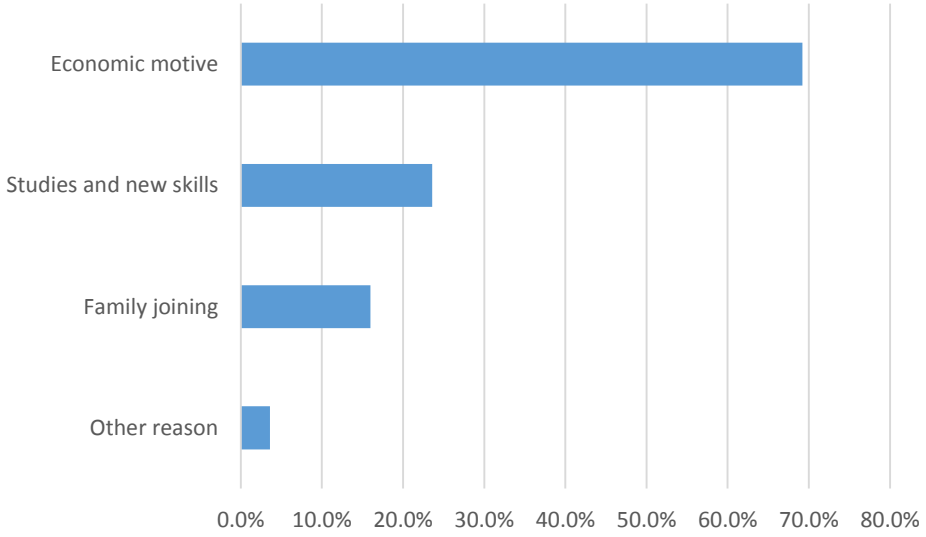
Figure 3 – Health consumption



Source: DoTM Migration Survey 2009
Sample weights used in the calculations.

In the remaining part of this section, we portray some further facts about the return migration in Macedonia. Two thirds of the return migrants lived in only one foreign country, while additional 10% in two countries. The rest lived in three or more foreign countries. Figure 4 suggests that 2/3 of the return migrants have emigrated because of economic reasons (joblessness, need for money, better living standard), being slightly above the international comparator (57%; IOM, 2010). Nearly fourth left for study, while 16% to re-join their family. Only about 4% left for other reason, like the need for more freedom, more safety, asylum-seeking and so on. Hence, return migrants in Macedonia have been predominantly international workers who returned back at certain point. This resonates with the fact that 57% of the return migrants responded they were doing a paid job at destination.

Figure 4 – Reasons for departure of return migrants



Source: DoTM Migration Survey 2009
Sample weights used in the calculations.

Table 2 further suggests that the share of employed persons at destination increased compared to the status before departure. Still, there is significant portion of returned migrants who at destination were either unemployed – who are likely the spouses who went on to join their family member already departed – or inactive – who are likely the persons who departed for schooling. Still, 76% of the returnees reported they became wealthier at destination compared to the situation at origin, while 19% that their financial condition did not change. Only 4.6% reported they became poorer after departure.

Table 2 – Labor market status before departure and before return

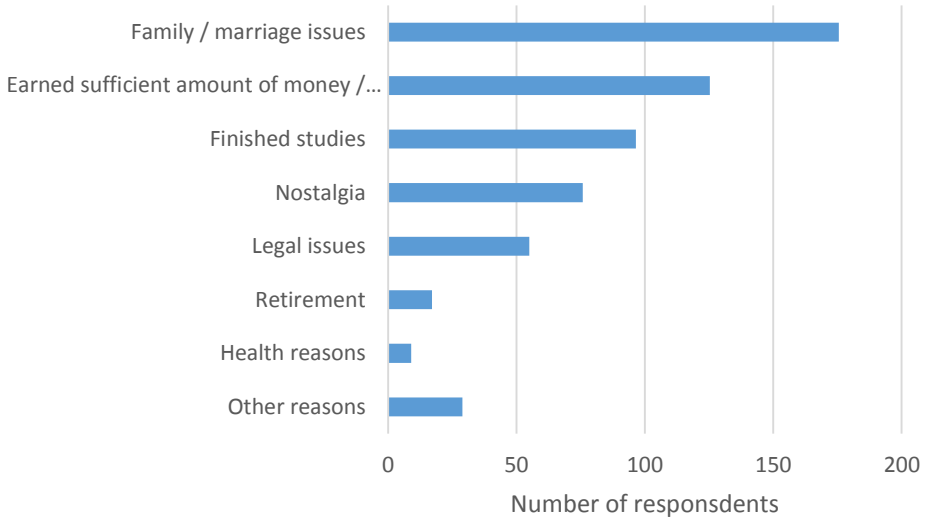
	Before departure	At destination before return
Inactive	30.2%	21.5%
Employed	44.4%	63.4%
Unemployed	34.1%	20.3%

Source: DoTM Migration Survey 2009
Sample weights used in the calculations.

These figures are much in line with the notion that Macedonian return migrants are more likely to belong to the first category in Davies et al. (2011): those who had fairly decent jobs, earned sufficiently for normal living and healthy lifestyle, hence likely transferring and returning to the home country with health status better than if they had stayed at origin.

Finally, Figure 5 depicts the reasons for return. Note that categories were not mutually exclusive, but they may provide an intuition about the patterns between return migration and health. The leading reason for return is family and marriage issues. However, a large portion of respondents (28.6%) reported they returned because they earned sufficient amount of money and/or finished their job, so that they decided to move back and contribute to the development of the home country. Few in our sample returned because of retirement (4%) and even fewer because of health issues (2%).

Figure 5 – Reasons for return



Source: DoTM Migration Survey 2009
Sample weights used in the calculations.

This picture well fits the purpose of this paper. Firstly, it suggests that the return of the migrant is unlikely related to health issues, suggesting that they returned with a fairly good health. In order to investigate if their health has been, on average, better than the one of those who over the same period

did not migrate and stayed at origin, we pursue a more rigorous econometric investigation in the following sections.

***

For the purpose of the analysis, we also collected 15 in-depth interviews of returned migrants across Macedonia. The sample of interviews is heterogeneous in a couple of demographic characteristics. The age of interviews spans between 21 and 81, with the median age of the return migrant being 37. 53% of the interviewees are males, while their average schooling is slightly above secondary education. Two thirds of the respondents live in a town, which is slightly biasing the sample towards an urban settlement, but is related to the easiness to reach return migrants in towns, including their availability through electronic means of communication. The interviews sample is diverse in terms of the migration characteristics as well: respondents spent between 3 months and 45 years abroad, the average being about 11 years, in ten countries. Since they return, between 3 months and 10 years elapsed, the average being almost 3 years. A more detailed insight into return migration – health nexus derived from the interviews follows in Section 5.4.

4. Methodology

To disentangle if return migrants have better health outcomes than non-migrants, we use the following simple model:

$$P(health_i) = \alpha + \sum \beta_j controls_i + \gamma return_i + \varepsilon_i \quad (1)$$

Whereby $P(health_i)$ refers to the probability that the person i belongs to a particular health group, ranging between 1 = very poor health to 5 = excellent health. To this, we add a set of control variables: gender, age, education, ethnicity, labor-market status, number of household members, share of dependents (children and elderly), settlement (urban-rural) and the log of the regional GDP. $return_i$ is a dummy variable taking a value of 1 if the person is a return migrant and 0 otherwise. Hence, γ will reveal if return migrants have systematically different health condition than non-migrants. ε_i is the error term which is assumed to be well behaved. As the dependent variable is an ordered variable, we employ an ordered probit method for estimation.

There are two econometric challenges in estimating (1), however. The first challenge stems from the fact that not everybody has equal probability to emigrate (as well to return). Middle-age, male and mid-educated (see this in Petreski and Petreski, 2015) have higher propensity to emigrate. In econometric terms, some individuals may self-select to emigrate. In addition, Sanders (2007), for instance, documented males to have larger propensity to return. Selectivity on observables, therefore, is the first econometric challenge. In case (1) is estimated with an ordered binary estimator, γ will be biased in the

sense that return migrants will be compared to individuals who may not be inclined to emigrate at all. In econometric terms, the return migrant is non-randomly selected into emigration.

A common technique to solve the evaluation problem when return migrant and non-migrants are not randomly assigned to emigration is the matching approach. This approach mimics a randomized experiment ex post by constructing a control group that resembles the treatment group (return migrants) as closely as possible. After matching, the probability of the control group' individuals to emigrate and return, on the basis of their observable characteristics, is comparable to the probability of the individuals from the treatment group, i.e. to the return migrants.

In our dataset there are many variables that presumably influence both the selection into emigration and health outcomes. Hence, it appears reasonable to assume that selection into emigration and return, and health outcomes are independent conditional on these observables (the so-called conditional independence assumption). Under this assumption we apply one-to-one nearest neighbor matching with/without replacement and the nearest neighbor matching with caliper. Both approaches consist of two steps: (i) estimation of the individual probabilities to emigrate and return, depending on a set of observable characteristics: age, gender and education; (ii) matching of return migrants and non-migrants on the basis of these estimated probabilities. One-to-one matching means that each member of the treatment group is matched with a single member from the control group. Nearest neighbor matching means that the pairs are matched according to the minimum distance of the predicted probabilities of participation, matching with replacement means that the data on individuals in the control group may be used more than once, provided that they are the nearest neighbor of an individual in the treatment group, and finally, matching with caliper means that control's propensity score belongs to a pre-defined radius. By so doing, we resolve the selectivity due to observables.

However, one bold argument against our approach may be that return migrants may have been healthier even before they migrated. Actually, as McDonald and Kennedy (2004: 1614) argue, healthier persons are physically (and frequently, financially) more able to emigrate. This argument resonates with the foundations of the neoclassical economic theory where migration is seen as an investment in human capital, so that those who are more willing, motivated, and able will likely emigrate. Jasso et al. (2004) offer a neat description of this in a simple model. Hence, selection on unobservables is the second econometric challenge of our work.

In our investigation we are, unfortunately, not able to control for the initial health condition of the return migrant, as we are bound with data availability. However, we could alleviate this problem in the following way. Motivation, willingness, ability are all unobservable factors which may determine both health (especially, given it is self-perceived and self-reported) and return migration simultaneously. Namely, it could be that healthier persons are more willing to return, or that less healthy persons are more willing to return, and not the other way round. Hence, our return migration variable is endogenous.

The most we could do (apropos the unavailability of data for the health status when the migrant departed) is to control for the reverse causality / unobservable factors, by instrumenting return migration. By so doing, we will be sure that the coefficient in front of the return-migration variable is reflecting the effect of return migration on health, and not vice versa.

For this exercise, we need an exogenous instrument that significantly correlates with the return migration, but not with the shocks of the outcome (health) equation. In other words, the instrument may affect health only indirectly through the return migration. To find such, we revert back to the migration literature, considering the availability of data in our case. Following McKenzie and Sasin (2005), we use historic migration rates as instrument for return migration, as they are likely not to affect health, apart from their influence through return migration. Migration rates are defined per region to ensure variability. They are obtained from the regional statistics of the State Statistical Office (2007).

Note that we will be instrumenting the data after matching, so as to be able to arrive at results which are purged of both selection on observables and unobservables.

In the second part of the analysis, we will be analyzing the collected interviews. Interviews are known to provide a deeper understanding of social phenomena and factors that influence the social stability of a household. As they are appropriate for researching sensitive topics, where persons are not comfortable to talk about in the environment (Gill et al. 2008), they seem suitable for deeper understanding of how return migration may have affected the health outcomes in the households. In analysing the qualitative data gathered through interviews, we are guided by the common approaches in the literature (e.g. Miles and Huberman, 1994): data reduction (choosing of the phenomenon to be investigated); data display (seeking for meanings through summaries, diagrams and text-matrices) and conclusion (comparing, contrasting, searching for patterns).

5. Results and discussion

5.1. Are return migrants healthier than people who did not migrate?

We start the results' analysis with Table 3, whereby we present the results of the ordered probit model (1). These estimates do not take into account the selectivity by observables or unobservables. Column (1) has only return migration as independent variable, while columns (2)-(4) add, respectively: individual characteristics, household and community characteristics.

The central variable of interest – return migration – is presented towards the bottom of the table. Unanimously, the coefficients suggest that the health condition is not statistically significantly different between the return migrants and all the others, despite expectedly positively signed.

The other control variables suggest that males are healthier than females, ethnic Albanians are healthier than ethnic Macedonians, health returns grow with education, and employed persons are healthier than

non-employed (unemployed and inactive). Household-level variables are insignificant, while only the regional level of development (as approximated by the log regional GDP) is significant and suggests that richer regions correlate with healthier citizens.

Note that, we are not providing the marginal effects, since our variable of interest is insignificant.

Table 3 – Baseline results without selectivity considered

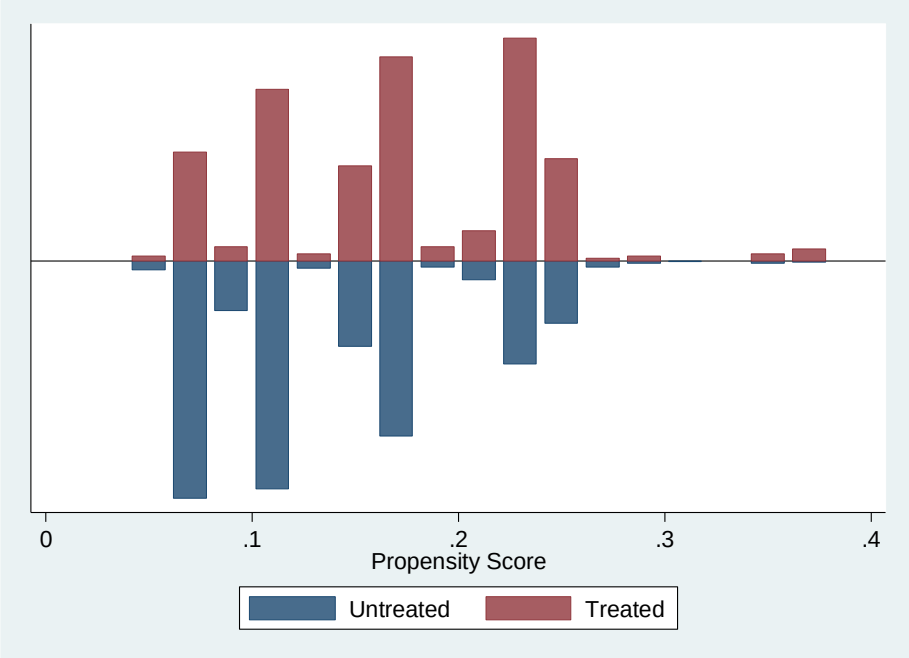
	Ordered probit Dependent: Health condition (1 = very poor to 5 = excellent)			
	(1)	(2)	(3)	(4)
Gender (1=male)		0.194***	0.196***	0.208***
		(0.038)	(0.038)	(0.039)
Age (in years)		-0.043***	-0.043***	-0.044***
		(0.002)	(0.002)	(0.002)
Albanian ethnicity		0.643***	0.652***	0.754***
		(0.085)	(0.087)	(0.100)
Roma ethnicity		-0.869***	-0.843***	-0.910***
		(0.234)	(0.231)	(0.241)
Primary school		-0.472***	-0.466***	-0.431***
		(0.084)	(0.085)	(0.089)
Secondary school		-0.207***	-0.206***	-0.183***
		(0.071)	(0.071)	(0.071)
Married		0.0384	0.0439	0.041
		(0.061)	(0.062)	(0.062)
Employed		0.171***	0.172***	0.181***
		(0.055)	(0.055)	(0.055)
Number of hh members			-0.0173	-0.0168
			(0.027)	(0.028)
Share of dependent members			-0.00028	0.0352
			(0.172)	(0.171)
Urban area				0.0174
				(0.083)
Log of regional GDP				0.390***
				(0.110)
Return migrant	*0.0108*	*0.0429*	*0.0368*	*0.0302*
	(0.065)	*(0.074)*	*(0.075)*	*(0.076)*
Observations	3,012	2,991	2,991	2,991

Source: Author's calculations.
Note: Estimates are weighted. Standard error adjusted for heteroskedasticity and clustered by household.

As argued, however, these estimates suffer selectivity bias. Males, mid-educated and unemployed persons are more inclined to emigrate. Actually, if we compare the two groups: return migrants (called, treatment group) and all the others (called, control group), we could see they are quite different on observable characteristics. The Hotelling test which tests the null that the vector of observable characteristics is equal between the two groups, rejects the null at the 1% ($F = 14.28$; $p = 0.000$). Hence, it provides grounds for equalizing the two groups on observables, before comparing the outcome – the health.

To do so, we need to obtain the propensity scores which will be the basis for matching similar individuals. Hence, we run a probit model on three observables: age, gender and education. We refrain from using more observables in the matching procedure, to prevent a large share of the sample to drop out. The propensity scores obtained in such a manner are presented on Figure 6. The figure suggests that indeed the two groups are different: there is propensity toward higher scores for the treatment group and vice versa for the control group.

Figure 6 – Comparison of the distribution of the propensity score across the two groups



Source: Author's calculations.

Based on the propensity scores, in the next step we conduct the matching. We allow for nearest neighbor matching with and without replacement, as well for matching based on caliper. The results are presented in Table 4: they give the difference in the health outcomes between the treatment and the control group. Positive difference means that return migrants have, on average, better health than non-migrants, and vice versa. The first rows present the results for the unmatched sample: the coefficient in all three cases is statistically insignificant, corroborating the finding in Table 3. However, when the samples are equalized on observables, then the result changes. It suggests that when observed on equal grounds, return migrants have better health than non-migrants by about 0.19 to 0.22 points on a scale from 1 to 5.

Table 4 – Baseline results with selectivity on observables considered

	Nearest-neighbor matching (w. replacement)	Nearest-neighbor matching (w/o. replacement)	Caliper = 0.005
Unmatched (difference on 1-5 scale)	0.007	0.007	0.007
	(0.044)	(0.044)	(0.044)
Matched (average treatment effect on 1-5 scale)	0.218***	0.190***	0.218***
	(0.075)	(0.060)	(0.075)
Source: Author's calculations.			

In conclusion, by considering the selection on observables, we find that return migrants are healthier than non-migrants.

5.2. Health spillovers onto family members left behind

To pursue the second objective of our research – whether there are any spillovers from the return migrant onto the other family members – in terms of health, we continue the analysis in the same vein, but restrict the sample only to the households with return migrant. Within this households, we first differentiate between return migrants (treatment group) and the other family members who did not emigrate (control group). Results are presented in Table 5 (columns 1 and 2). Before matching (correcting for selectivity on observables), return migrants appear to be healthier than the other family members by about 0.1 points. However, when the two groups are equalized on observables, the significance of the results vanishes. Hence, one could conclude that return migrants are not different than their other family members in terms of their health.

The potential spillover effect of return migration is further analyzed in columns (3) and (4) of Table 5. Namely, we drop the sample of return migrants and compare the health outcomes of their family members with that of the other families (without return migrants). After matching (the Hotelling test suggests they are different), we find that the difference between the two groups – suggesting that the return-migrant families are healthier than the other families – is maintained at about 0.15 points. One explanation for this result is the work of the two channels through which return migration may work for the rest of the family members: remittances (including the returned money) and health-knowledge transfer.

Table 5 – Spillovers onto the household members left behind

	Return migrant versus his family non-migrating members		Return-migrant family members versus other families	
	Nearest-neighbor matching	Caliper = 0.005	Nearest-neighbor matching	Caliper = 0.005
	(1)	(2)	(3)	(4)
Unmatched (difference on 1-5 scale)	0.102*	0.102*	0.132***	0.132***
	(0.053)	(0.053)	(0.043)	(0.043)
Matched (average treatment effect on 1-5 scale)	0.000	-0.010	0.151**	0.150**
	(0.090)	(0.089)	(0.077)	(0.077)
Hotelling test H0: Vectors of means are equal for the two groups (F[p-value])	34.6858 [0.000]		10.2187 [0.000]	
Source: Author's calculations. *Standard errors given in parentheses.*				

To check, more closely, the work of these channels, we further drop the sample of non-migrating households, so that we are only left with the sample of the non-migrating members of the households who have a return migrant. We divide the sample on those members who were receiving remittances while the migrant was abroad, and those who did not. We equalize the two groups on observables (the Hotelling test suggests they are different), and obtain the result in columns (1) and (2) in Table 6. It suggests that non-migrating remittance-receiving members in households with return migrants were able to exercise better health outcomes than their non-receiving counterparts, by 0.16 to 0.17 points.

We do the same procedure by disentangling the households on whether the return migrant brought money on return, but we find evidence that this channel did not work (columns (3) and (4) in Table 6). Hence, we could conclude that it is migration (money sent while abroad) and not return migration (money brought on return) that works positively for the health of the family members left behind.

We are not able to directly check for the knowledge transfer effect. Roughly speaking, however, we could approximate the work of this channel indirectly. Namely, we find that the overall effect of return migration for health is about 0.15 points, while the effect of remittances between 0.16 and 0.17. Given their similarity and statistical indifference, we do not have sufficient grounds to claim additional work of the knowledge transfer channel.

Table 6 – Channels for affecting health of the family members left behind

	Channels			
	Through remittances		Through returned money	
	Nearest-neighbor matching	Caliper = 0.005	Nearest-neighbor matching	Caliper = 0.005
	(1)	(2)	(3)	(4)
Unmatched (difference on 1-5 scale)	-0.022	-0.022	0.023	0.023
	(0.053)	(0.053)	(0.059)	(0.059)
Matched (average treatment effect on 1-5 scale)	0.173***	0.164***	0.022	0.025
	(0.084)	(0.084)	(0.090)	(0.090)
Hotelling test H0: Vectors of means are equal for the two groups (F[p-value])	10.7814 [0.000]		1.3541 [0.2555]	
Source: Author's calculations.				

5.3. Healthier individuals may be more inclined to emigrate

As argued before, one of the main drawbacks of the above investigation is that we are unable to control for the initial health of the return migrant, due to data unavailability. In the above analysis, we have even refrained from interpreting findings in a causal manner. However the argument that healthier persons are more inclined to emigrate is valid. On the other hand, there are two counter-arguments, which go in favor to our analysis: 1. There is no consensus in the literature on whether healthier or less healthy emigrants return: it could be that they were healthy, earned enough and, in some cases retired, and in such condition returned home; or it could be that worsening of the health condition propped return. 2. Through the matching, we actually compare return migrants with non-migrant members of households with return migrants, which, by virtue of the technique itself, implies that these are not necessarily the members of their own family but anybody else in the control group. Hence, as the matching is not done on the health variable but on other observables, we somehow soften the problem of 'healthier individuals from healthier families depart'.

As explained in the methodological section, we approach to this problem by instrumenting the return migrant variable, so that we ensure that the causation goes from the return migration to health, and not vice versa. The instrument we use is the historic migration rate per region in Macedonia. By so doing, we address the problem on selection due to unobservables, on top of the selection on observables. Table 7 presents the results before instrumenting (column 1), and then after instrumenting (columns 2-5). Each pair of columns (2-3 and 4-5) presents the results of the two-step procedure of instrumenting. The

former case has individual characteristics and explanators, while the latter adds the household and community characteristics on top.

Column (1) suggests that, only when observables are considered, return migrant have better health than non-migrants by about 0.29 points. Namely, the 0.292 coefficient closely replicates the result in Table 4 (the difference likely appears because in Table 7 we add some further control variables).

Column (3) and (5) suggest that the instrument we use is statistically significant, which is one of the conditions for a good instrument satisfied. It is negative, suggesting that regions experiencing higher migration rates then face lower probability of return. This is in line with the notion that more emigrants at destination means that they either draw their families, so that it is less likely they return; and/or that networking at destination is stronger, reducing the probability of return.

Finally, the central variable of interest – return migration in columns (2) and (4), robustly suggests that return migrants are better off in terms of health than non-migrants by about 1.7 points on the 1-5 scale, when both selectivity on observables and unobservables have been appropriately considered. This coefficient could be interpreted in a causal sense: return migration works positively for health in Macedonia. Interestingly, however, the coefficient is significantly larger than in the case when selectivity on observables was considered only: it jumps from 0.3 in column (1) to 1.7 in columns (2) and (4). This suggests that indeed selectivity on unobservables has considerable role to play in this story. As its consideration increases the coefficient, it may actually suggest that less healthy individuals were more inclined to return, i.e. that the reverse causality is negative, hence attenuating the true coefficient.

The coefficients of the other controls are much in line with our baseline findings in Table 3.

Table 7 - Results with selectivity on observables and unobservables considered

	Selectivity on observables	Selectivity on observables and unobservables			
		Dependent: health	Dependent: return migration	Dependent: health	Dependent: return migration
	(1)	(2)	(3)	(4)	(5)
Gender (1=male)	0.118	-0.0559	0.178*	-0.0976	0.230**
	(0.104)	(0.094)	(0.104)	(0.097)	(0.106)
Age (in years)	-0.0365***	-0.0239***	-0.00391	-0.0250***	-0.00342
	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
Albanian ethnicity	0.635***	0.477***	0.0759	0.453***	0.19
	(0.120)	(0.106)	(0.112)	(0.121)	(0.129)
Roma ethnicity	-0.331	-0.315	0.19	-0.407*	0.301
	(0.235)	(0.220)	(0.249)	(0.230)	(0.258)
Primary school	-0.885***	-0.563***	-0.109	-0.608***	-0.0618
	(0.149)	(0.132)	(0.145)	(0.141)	(0.152)
Secondary school	-0.374***	-0.236**	-0.0443	-0.237**	-0.0306
	(0.132)	(0.115)	(0.122)	(0.116)	(0.123)
Married	0.112	0.0789	-0.00726	0.116	-0.0742
	(0.126)	(0.112)	(0.121)	(0.117)	(0.129)
Employed	0.150	0.169*	-0.12	0.197*	-0.139
	(0.111)	(0.099)	(0.109)	(0.101)	(0.112)
Number of hh members				0.0894***	-0.127***
				(0.034)	(0.039)
Share of dependent members				-0.526**	0.811***
				(0.255)	(0.278)
Urban area				-0.0257	-0.0133
				(0.115)	(0.126)
Log of regional GDP				0.00788	0.327**
				(0.149)	(0.165)
Return migrant	*0.292****	*1.735****		*1.733****	
	(0.098)	*(0.069)*		*(0.089)*	
Migration rate per region			*-0.0898***		*-0.0833***
			(0.040)		*(0.041)*
Constant	-	0.935	-1.346	-13.69	-20.53
		(1.005)	(0.925)	(15.630)	(12.570)
Observations	671	671	671	671	671

Source: Author's calculations.
Note: Instrumentation applied after nearest-neighbor matching with replacement.

In conclusion, after both selectivity on observables and unobservables have been taken into account, results suggest that the effect of return migration on health of the individual is positive and statistically significant, ranging up to 1.7 points on a 1-5 scale.

5.4. Contextualizing return migration – health nexus: insights from onsite interviews

The group of 15 interviewees – return migrants, provided interesting insights into the return migration – health nexus. To begin with, health has been rarely a reason to emigration or to return. The most common reason to depart has been the need to earn money, find a job and provide for a better life that

has not been possible in Macedonia. Similarly, the reason to return has been usually a termination of the job contract, issues related to the family like rejoining, or legal issues like visa expiration or ending of the permitted period of stay. Only sporadically, an interviewee would have mentioned some relation between the decision to depart and his/her health, like "*Well, if you ask me if that [the health, n.b.] was the reason to leave, not quite, but self-consciously I thought that I may finally cure the anemia in a more advanced heath system.*" In few cases, own or the health of the next of kin was a reason for the migrant to return: *"…the true reason for return was the worsened health of my father. I somehow was feeing terrible that he got ill because both myself and my sister are abroad.*" or "*I started feeling a tension in my head, more and more frequently. The doctor [in Qatar] said my blood pressure jumps. …So, … I decided to quit and return for a while until I find another job*." In few cases, older respondents returned after retirement abroad, and few of them expressed the return as "a wish to die at home", or after they or their spouses faced serious illnesses at that age: "*Well, my wife fell ill, a cancer. She wanted to die home [expresses sorrow, breaks in his talk, n.b.]. So, we packed and returned to Bitola. She died a year after. Now, I am alone."*

When one compares the self-reported health of the return migrant before he/she emigrated, with that after return, there are no surprising patterns. 87% of the respondents reported they were healthy when they left, and the same percentage reported good health after return. The former fact is mainly driven by the prevalently young age at which these individuals departed, as well by the predominant objective to have a decent job. While, the large share of healthy return migrants is driven either by the absence of serious health risks at destination, or, more importantly, by the treatment and curing of emerging health needs they faced while abroad. For instance, an interviewee accentuates: "*Despite my job was hard, it did not have any negative impact onto my health."* However, the second category – people being cured at destination – is more prevalent among the answers. Namely, 60% of the interviewees answered they had some form of specific health need abroad. Interestingly, though, these cases were usually presented in the light of the development of the health system, so that the respondents expressed beliefs that they were cured, or they survived, because they were treated in a more developed health system. The following interviews' excerpts corroborate this notion:

> *"I might have not survived the stroke if we were not in such developed health system…. So, I believe my health experience abroad returned me to Macedonia healthier than if I lived here."*
>
> *"I have some problems with the leg, I am gimping. That is from freezing. But I am ok. Otherwise, maybe I am healthy because I lived abroad."*
>
> *"I had terrible pains in my legs. Doctors in Macedonia said it is a muscle pain, nothing serious. Hence, I decided to go there [at destination, n.b.], thinking it is nothing serious. The situation got worse there, unfortunately. We urgently went to a doctor. I was diagnosed a serious form of thrombosis. … So, I got some treatment there. … the situation continued improving during my*

second stay and I fully recovered. So, I actually returned with an overall better health. … In Macedonia, the disease might have been undiscovered – I would have died if the thrombi went into my heart or into my chest. Terrible! [Crying, n.b.]."

"I survived a stroke in my 50s. I got excellent care in Australia – the health system is just perfect. … The system in Australia simply takes care of you."

"Some year before return, I got some male problems… Then, my wife's illness came, a real shock for us. … My male illness will persist, but because of the treatment there, timely diagnosis and so, I am fine. In the case of my wife, I have everything nice to say for doctors, for their treatment, for their advice. But, they simply told us it is a terminal illness."

Many of the interviewees then went on comparing the health system at destination with the one in Macedonia, accentuating the disappointment they felt after learning the still-present issues of old methods, insufficient staff, bribery and corruption in Macedonia: "*I am now fully aware of the 'badness' of our health system, something that you have been considering normal until you have seen what normal health system means.*" An interviewee, however, highlights that Macedonia does not lag to that extent in terms of the level of the health system, however, people are likely unconfident, given past experiences or rumors they have heard: *"… maybe Macedonia offers the same or similar medicaments, but in an advanced system, when you simply believe the system, the doctors, the apparatus, the methods they use, you have better chances to be cured, simply because you feel confident with the system*."

We turn to elaborating the effects of return migration on the family members left behind, through the lens and expressions of the interviewees. We asked them for the three potential channels through which return migration may have affected health outcomes in the household at origin. About half of the interviewed return migrants reported they have been sending remittances to their family. The effects of remittances on health were explained as direct, when this money was used to cover large expenses for surgeries or expensive medicaments, as well indirect through the effect on the health of recipients, the latter being better fed and doing healthy lifestyle overall. Especially mothers of young children who had been receiving remittances, usually from the emigrated husband, tell: "*Because of the remittances, my son is better fed, with better cloths, he has a better childhood. We are happier as family, which contributes to feeling better in terms of our health*.", or "*They did not have any serious health issue while I was abroad, but with the money they had healthier lifestyle. My kid was better fed, better clothed etc. I believe it contributed to his better health*." In cases when expensive surgeries or medicines were inevitable, remittances were key to absorbing this shock onto the household: "*Without remittances, surgeries would have been impossible, as they are really expensive. She [respondent's mother, n.b.] says she would have been dead without this.*", or "*Yes, remittances frequently helped health. My mother has a chronic heart disease and spends amounts for medicament*s.", or "*They [respondent's parents,*

n.b.] probably used some of the remitted money for health, probably some regular medicine, but nothing serious. … They needed money for a surgery and it was covered by the remittances."

Contrary to the findings of the quantitative analysis above, though, interview respondents assigned prominent role for health brought by the wealth or savings they brought back on return. One part of respondents explained that this money, similarly as in the case of remittances, was used to face serious health shocks, like illness treatments or surgeries, in the following lines: "*Much of it was spent for surgeries and medicines for my father. I hope I helped him to prolong his life."*, or "*Yes, we used these money for the medicaments of my wife, which were quite expensive. I also pay out of that money for my medicines."* Another part of this money was further saved to meet potential health expenses into the future, so that respondents comprehend those as a caution against potential health needs, which as an answer has been more prevalent among the older part of the interviewees. Some expressions in this regard include: "*I earned a lot of money in Australia, so that if something emerges, I will simply go to these hospitals, to die decently.*", or "*Although I invested in the house, I have a lot of money aside, we call it the black fund. Either for serious illness or for our funerals*.", or "*… we have some of this money for unfavorable health developments – who knows what may tomorrow bring. I feel safer with this money, that even if something happens in terms of health, I have sufficient safeguards to react – return again to Australia, or be cured here in Macedonia or in the region.*"

Finally, half of respondents also answered they conducted a form of advice transfer onto family members left behind, while abroad or upon return, in that way increasing their health knowledge and awareness. This channel usually worked through explaining their own experiences abroad, and how these increased their own health awareness: "*Each sign the body gives us must not be neglected. This is what they really need to comprehend. This is what I learnt abroad through my sad experience*.", or "*They [siblings, n.b] are unaware of the importance of health, medicines, vaccines. I was in such condition. After I went to Switzerland, we say "my eyes opened up". I am telling that to everybody*." However, only in one case, the knowledge transfer had a specific form, related to the importance of vaccination of babies: *"… the only positive experience I had with my baby was the polyvalent vaccine, which is not yet available in Macedonia. … I transfer the knowledge to all in Macedonia that they should consider taking this type of vaccines …*".

6. Conclusions

The objective of the paper is twofold: to understand if return migrants have better health outcomes than non-migrants; and to understand the channels, if any, through which return migration may contribute for better health of the household members left behind. The idea behind the paper is based on a two-stranded literature. In the first strand, return migration is linked to migrant's health, through his lifestyle and surrounding health environment at destination. If the return migrant had been earning sufficiently,

in a decent job, and having a positive lifestyle, then s/he may enjoy good health upon return, including the effect of the accumulated wealth while abroad contributing to his wellbeing upon return. Conversely, bad lifestyle and job may result in poor health, which may actually be the trigger of the return, being more associated with refugees and asylum seekers. The other strand of the literature resembles the channels through which return migration affects health of the family members left behind. The prime role is ascribed to remittances which had been sent while the returnee had been abroad, as well through the returned accumulated wealth. Not least, the literature accentuates the transfer of the health knowledge that return migrants convey onto their fairly member, after having it acquired in more advanced, in terms of health systems, and more aware, in terms of healthy lifestyle, countries.

The paper is based on the DoTM Migration Survey 2009, being the most comprehensive survey on migration in Macedonia. Methodologically, we onset the investigation by running an ordered probit model on a set of characteristics and a dummy for the return migrant. However, the coefficient obtained in this way may be biased, as migration and return migration may suffer selectivity: mid-age, mid-educated males are more inclined to emigrate and return. To address the selectivity on observables, we use propensity score matching method. Moreover, return migration may be also determined by unobservables: motivation, ability and so on. To address selectivity on unobservables, we instrument return migration variable, after matching, with the historic migration rate per region in Macedonia. The instrument is likely to be correlated with the return migration, but not with the health except through return migration. Separately, the paper uses the insights of 15 field interviews conducted with return migrants in Macedonia, to understand the context in which the return migration – health nexus occurs.

Results suggest that when observed on equal grounds, return migrants have better health than non-migrants by about 0.19 to 0.22 points on a scale from 1 to 5. On the other hand, return migrants have no statistically different health status than their non-migrating family members, which may be associated with their improved health due to having a return migrant. Indeed, when the health of the return-migrant family members is compared to that of similar counterparts in non-migrating households, a positive effect on health is documented of about 0.15 points. The results from the analysis of the channels suggest that non-migrating remittance-receiving members in households with return migrants were able to exercise better health outcomes than their non-receiving counterparts, by 0.16 to 0.17 points. However, no role for health is documented from the fact that the return migrant brought accumulated wealth on return. Hence, it is actually migration and not return migration that works for the health of the family members left behind, mainly through the remittances channel. In addition, as the work on return migration and remittances on health is similar, we cannot claim that knowledge transfer exercised any additional health effect.

Finally, when selectivity on unobservables is considered on top of the selectivity on observables, the effect of return migration on health outcomes amplifies from about 0.2-0.3 point to 1.7 points, likely

suggesting that the reverse causality channel (less healthy individuals are more inclined to return) works to attenuate the through effect of return migration on health.

Insights from the interview analysis largely corroborate these findings. While distinct health conditions before departure versus after return cannot be identified, because these individuals were healthy at origin, but also returned healthy, it is clear that in many cases this is because their illnesses were treated within the health systems at destination. Interviewees accentuate the confidence they had in such systems and believe it has been crucial for curing their illness, hence resulting in a good health on return. Only sporadically, however, health issues have been a prime reason for return. With regard to the effects of return migration on the health of the family members left behind, interviewees expressed remittances, but also returned wealth as crucial for the health in the household, either directly, by alleviating the expenses in cases of health shocks (like expensive medicines or surgeries) or indirectly, by providing better conditions for life, hence affecting health outcomes. Health knowledge transfer, on the other hand, usually happened in the form of advice based on own health experiences abroad.

7. References

Acosta, P., P. Fajnzylber, Lopez, J.H. (2007) The Impact of Remittances on Poverty and Human Capital: Evidence from Latin American Household Surveys. World Bank Policy Research Working Paper No. 4247, Washington.

Amuedo-Dorantes, C. & Pozo, S. (2011) New evidence on the role of remittances on healthcare expenditures by Mexican households. *Review of Economics of the Household*, 9(1), p.69-98.

Clark, S.J., Collinson, M.A., Kahn, K., Tollman , S.M. (2007) Returning home to die: circular labour migrants and mortality in rural South Africa. *Scandinavian Journal of Public Health*, 35:35–44.

Davies, A.A., Borland, R.M., Blake, C., West, H.E., (2011) The dynamics of health and return migration. *PloS Med*, 8.6:pe1001046.

Duryea, S., Lopez-Cordova, E. and Olmedo, A. (2005) Migrant remittances and infant mortality: Evidence from Mexico. Mimeo. IDB 2005.

Gill, P., K. Stewart, E. Treasure & B. Chadwick (2008) Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204, p.291 – 295.

Glewwe, P. (1999) Why Does Mother's Schooling Raise Child Health in Developing Countries? Evidence from Morocco. *Journal of Human Resources*, 34(1):124-159.

Hildebrandt, N., McKenzie, D.J., Esquivel, G. and Schargrodsky, E. (2005) The Effects of Migration on Child Health in Mexico. *Economía*, 6(1):257-289

IOM (2008) Standing Committee on Programmes and Finance SCPF/12. Migration and health. IOM's programmes and perspectives: towards a multi-sectoral approach. Geneva: International Organization for Migration.

IOM (2010) Migration and health in South Africa: A review of the current situation and recommendations for achieving the World Health Assembly Resolution on the Health of Migrants. Pretoria: International Organization for Migration Regional Office for Southern Africa.

Lopez-Cordova, E., (2005) Globalization, Migration, and Development: The Role of Mexican Migrant Remittances. *Economia*, Journal of the Latin, American and Caribbean Economic Association, LACEA, 6(1).

McDonald, J. T. and Kennedy, S. (2004) Insights into the 'healthy immigrant effect': health status and health service use of immigrants to Canada. *Social Science & Medicine*, 59(8):1613-1627.

McKenzie, D. and M.J. Sasin (2007). Migration, Remittances, Poverty, and Human capital: Conceptual and empirical challenges. *World Bank Policy Research Working Paper 4272, Washington D.C.*

McKenzie, D. J. (2007) Beyond Remittances: The Effects of Migration on Mexican Households. In C. y. M. S. Ozden (Ed.), International Migration, Remittances & the Brain Drain: The World Bank Palgrave McMillan.

Miles, M. B. & Huberman, A. M. (1994) *Qualitative Data Analysis: an Expanded Sourcebook*, Thousand Oaks, Calif., Sage.

Petreski, B., Tumanoska, D., Jorge D. and Petreski, M. (2016) Simulation of a voucher policy for improving the social condition of individual remittance receivers in Macedonia. Mimeo.

Petreski, M. and Jovanovic, B. eds. (2013) *Remittances and Development in the Western Balkans: The cases of Macedonia, Kosovo and Bosnia-Herzegovina*. Scholars' Press.

Petreski, M. and Petreski, B. (2015) Dissatisfied, feeling unequal and inclined to emigrate: Perceptions from Macedonia in a MIMIC model. *Migration Letters*, 12(3), p.300-314.

Razum, O., Sahin-Hodoglugil, N., Polit, K. (2005) Health, wealth, or family ties? Why Turkish work migrants return from Germany. Qualitative studies with re-migrants in Turkey. *Journal of Ethnic and Migration Studies*, 31:719–739.

Sander, M. (2007) Return migration and the healthy immigrant effect. DIW SOE Papers on Multidisciplinary Panel Data Research 60.