



# Impact of labor migration on health and wellbeing of women left behind

**Case of Kyrgyz Republic**

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OKTOBER 13, 2017

# Basic Country Indicators



- Population: 6.0 mio. (2016)
- GDP 7.226 billion USD (2016)
- GDP per capita 1.263 USD (2013)
- Poverty rate (\$2.5/day 2005PPP terms) - 29.2
- Poverty rate (\$5/day 2005PPP terms) - 83.9
- Aprox. 500 - 1,000 thousands of migrants
- Aprox. 65-70% are male migrants
- Second top remittances receiving country - 30.3% of GDP





# New Economics of Labor Migration Theory (Stark and Bloom, 1985)

- Households that perceive higher deprivation mostly attributed to income inequality and lower socio-economic status, have higher incentives to migrate.
- Decision for migration is made within the household and all members adhere to the decision. So called joint collaborative project or even a business plan for SES improvement or survival.
- As a result, one member of a family, usually a male, married or not, migrates to another country to earn higher income, to save, and to remit funds home.
- The remaining members redistribute the role and responsibility with purpose to ensure adequate functioning of the household.
- All members of the household contribute with available personal resources, including labor and health.
- Grossman's model of "Health capital and demand for health" which posits health as a commodity and an investment (Grossman, 1972)



## At Global Scale

- Over the decades, the countries studied include South Africa, Mozambique, Egypt, India, Armenia, Pakistan, Mexico, Senegal, China, and Bangladesh, among others.
- Scholars such as Agadjanian, Kanaiaupuni, Antman and others
- The country findings seem to be inconclusive and controversial due to cultural, religious, socio-economic and political differences, thus invalidating the generalization of these studies (ed. Bonita et al. 2006), though making them more relevant to the particular regions or communities.
- However, the diversity of the research findings is definitely valuable by showing how the outcomes may differ under seemingly similar factors and circumstances.

# Literature Findings

- ▶ To ensure the sustainability and adequate functioning of the household on daily basis.
- ▶ Care for the psychological, social, economic, physical well-being of the entire household (Kanaiaupuni 2000; McEvoy 2008; Resurreccion & Khan 2007).
- ▶ Provide financially for the family by taking a paid job (Farooq & Javed 2009; Elbadawy & Roushdy 2010; Antman 2012).
- ▶ Increased physical labor, especially in rural area (Karymshakov 2016).
- ▶ May suffer various stress and mental disturbances.
- ▶ Worries about future of the family
- ▶ Risk of HIV, STDs and related to it difficulties
- ▶ Financial difficulties



# Hypothesis

Women left behind suffer poor health and well-being







# Data

- ▶ This study employs the panel data using “Life in Kyrgyzstan” household survey collected in 2010, 2011, 2012, 2013. The sample size of the LiK 2010-2013 survey contains 54,290 individual observations. Household survey “Life in Kyrgyzstan” (LiK) has been collected within the frame of the research project “Economic Transformation, Household Behavior and Well-Being in Central Asia: The Case of Kyrgyzstan”.
- ▶ There are 1502 male (65%) and 847 female migrants in the data.
- ▶ The sample consists 2,552 women left behind (apr. 640 WLB per year) and 14,558 women from non-migrant households age 18-96 were selected by STATA 13.
- ▶ Self-reported health status is represented by personal satisfaction with own health status. The question asked is “How satisfied are you today with your own health?” to be estimated using the 11-point Likert scale. This scale ranges from 0 “completely dissatisfied” to 10 “completely satisfied”.
- ▶ Left behind status is determined with a dummy variable whether a woman belongs to the household with at least one migrant, female or male.



# Data



- ▶ Physical health and well-being is presented by following indicators taken from the individual questionnaire: number of illnesses both chronic and acute illnesses, number of visits to a doctor in the last 12 months and nights spent in the hospital due to illness or infection in the last 12 months, as well as ability to afford health care services.
- ▶ Socioeconomic well-being is presented by various indicators such as own household income, employment rate, remittances received, satisfaction with household living conditions, as well as household income per capita, assets index, land area and sheep equivalent units taken from household and individual questionnaires.



# Methods

I will assimilate a general multiple linear regression model in particular for analysis of panel data I used fixed effect model:

$$Y_{ij} = a + b1*W_j + b2*X_{ij} + b3*Z_j + u_{ij}$$

- Here,  $Y_{ij}$  is self-reported health status for a woman left behind  $i$  in a migrant household  $j$
- $W_j$  is a dummy variable for a left behind status of the woman left behind  $i$ , which serves as a main predictor variable.
- $X_{ij}$  is covariate for the woman's characteristic and
- $Z_j$  is a covariate for a household characteristics.

# Main results

**Table 1. ttest of major indicators. Women left behind and women from non-migrant households.**

Indicators	All women	WLB	non-WLB	diff, p-value
<b>Socio-Demographic Indicators</b>				
Age	37.331	38.181	37.181	***
Years of schooling	11.519	11.078	11.591	***
Employment	0.399	0.346	0.408	***
<b>Household Indicators</b>				
Rural	0.623	0.739	0.603	***
Household size, de jure	5.674	7.062	5.431	***
Household size, de facto	5.371	5.387	5.368	
<b>Economic indicators</b>				
Total HH income	16,912.870	18,163.090	16,691.770	***
Log of monthly consumption	9.466	9.508	9.459	***
Value of major assets	928,217.700	780,756.000	954,051.400	***
Log of all assets	13.811	13.771	13.817	*
Value of housing	817,320.100	662,604.300	844,424.700	***
<b>Health related indicators</b>				
Self-reported health	6.987	7.161	6.958	***
Number of illnesses	0.969	0.904	0.980	***
Health care visits	0.811	0.678	0.833	***
Health care expenses	0.247	0.225	0.251	***
Observations	17,110.000	2,552.000	14,558.000	
<b>Note: p-value 0.1 = *; 0.05 = **; 0.01 = ***</b>				

**Table 2. Main indicators by years 2010-2013**

Indicators	2010		2011		2012		2013	
	WLB	n-WLB	WLB	n-WLB	WLB	n-WLB	WLB	n-WLB
<b>Individual indicators</b>								
Age	37.83	37.30	37.59	37.04	38.79	37.08	38.35	37.33
<b>Economic indicators</b>								
Total household income	9,733	12,828	16,511	15,725	20,412	19,165	24,073	19,511
Log of monthly consumption	9.26	9.31	9.44	9.43	9.54	9.52	9.77	9.61
Value of major HH assets	577,927	739,521	696,970	795,794	520,675	967,646	1,248,293	1,357,179
Value of housing	542,176	666,560	531,211	703,117	433,462	852,408	1,074,136	1,193,685
<b>Health related indicators</b>								
Self-reported health	7.17	6.83	7.31	7.12	7.38	7.04	6.85	6.82
Number of illnesses	0.39	0.47	0.89	0.97	1.15	1.38	1.12	1.16
Number of sickdays	-	-	3.68	2.92	2.84	3.59	4.03	2.84
Number of health care visits	0.75	0.78	0.68	0.78	0.69	0.93	0.61	0.84
Number of hospital stay nights	1.24	1.00	1.20	1.05	1.24	1.31	1.63	1.30
Ability to afford health care	0.16	0.15	0.24	0.23	0.23	0.31	0.27	0.32
Number of observations	569.00	3,733.00	571.00	3,789.00	681.00	3,678.00	728.00	3,350.00

**Table3 . Fixed effect model estimates with control covariates.**

Self-reported health is a continuous variable; the left behind status is a dummy.

Variables	Subjective satisfaction with own health						
	1	2	3	4	5	6	7
<b>Left behind status</b>	0.067	0.081	0.052	0.050	0.084	<b>0.157**</b>	<b>0.199***</b>
	-0.068	-0.067	-0.073	-0.072	-0.074	-0.071	-0.070
<b>Individual indicators</b>							
<b>Age</b>		-0.350***	-0.346***	-0.348***	-0.349***	-0.445***	-0.420***
		-0.033	-0.034	-0.034	-0.035	-0.034	-0.034
<b>Age2</b>		0.00353***	0.00351***	0.00354***	0.00358***	0.00383***	0.00393***
		0.000	0.000	0.000	0.000	0.000	0.000
<b>Married</b>		-0.131	-0.116	-0.113	-0.0903	-0.111	-0.0925
		-0.125	-0.125	-0.125	-0.129	-0.127	-0.125
<b>Years of education</b>		0.017	0.017	0.016	0.017	-0.008	-0.004
		-0.0221	-0.0222	-0.0222	-0.0224	-0.0221	-0.0218
<b>Employment</b>		0.389***	0.389***	0.388***	0.399***	0.250***	0.228***
		-0.050	-0.051	-0.051	-0.051	-0.050	-0.049
<b>Household indicators</b>			x	x	x	x	x
<b>Ethnicity</b>				x	x	x	x
<b>Economic indicators</b>					x	x	x
<b>Subjective indicators</b>						***	***
<b>Objective health indicators</b>							***
<b>Constant</b>	<b>6.856***</b>	<b>14.08***</b>	<b>13.96***</b>	<b>14.10***</b>	<b>14.67***</b>	<b>17.15***</b>	<b>15.45***</b>
	-0.018	-0.818	-0.907	-0.982	-1.084	-1.089	-1.087
<b>Observations</b>	<b>16,161</b>	<b>16,144</b>	<b>16,133</b>	<b>16,133</b>	<b>15,756</b>	<b>14,522</b>	<b>14,509</b>
<b>RHO</b>	<b>0</b>	<b>0.015</b>	<b>0.015</b>	<b>0.016</b>	<b>0.017</b>	<b>0.163</b>	<b>0.186</b>
<b>Number of groups</b>	<b>4,751</b>	<b>4,734</b>	<b>4,734</b>	<b>4,734</b>	<b>4,726</b>	<b>4,692</b>	<b>4,691</b>

**Table4 . Fixed effect model estimates with control covariates.**

**Number of illnesses is a continuous variable; the left behind status is a dummy.**

Variables	Number of illnesses, both chronic and acute in the last 12 months						
	1	2	3	4	5	6	7
<b>Left behind status</b>	<b>0.204***</b>	<b>0.130***</b>	<b>0.161***</b>	<b>0.162***</b>	<b>0.132***</b>	<b>0.157***</b>	<b>0.118***</b>
	-0.038	-0.036	-0.038	-0.038	-0.038	-0.040	-0.038
<b>Individual indicators</b>							
<b>Age</b>		<b>0.224***</b>	<b>0.220***</b>	<b>0.215***</b>	<b>0.177***</b>	<b>0.151***</b>	<b>0.131***</b>
		-0.018	-0.018	-0.018	-0.018	-0.019	-0.018
<b>Age2</b>		0.000	0.000	0.000	0.000	0.000342*	0.000309*
		0.000	0.000	0.000	0.000	0.000	0.000
<b>Married</b>		-0.121*	-0.126*	-0.123*	-0.123*	-0.135*	-0.171**
		-0.066	-0.067	-0.067	-0.068	-0.072	-0.068
<b>Years of education</b>		<b>0.0420***</b>	<b>0.0423***</b>	<b>0.0421***</b>	<b>0.0350***</b>	<b>0.0312**</b>	<b>0.0249**</b>
		-0.012	-0.012	-0.012	-0.012	-0.013	-0.012
<b>Employment</b>		-0.014	-0.010	-0.009	-0.022	-0.018	-0.025
		-0.027	-0.027	-0.027	-0.027	-0.028	-0.027
<b>Household indicators</b>			x	x	x	x	x
<b>Ethnicity</b>				x	x	x	x
<b>Economic indicators</b>					x	x	x
<b>Subjective indicators</b>						***	***
<b>Objective health indicators</b>							***
<b>Constant</b>	<b>1.091***</b>	<b>-8.654***</b>	<b>-8.506***</b>	<b>-8.165***</b>	<b>-9.347***</b>	<b>-8.329***</b>	<b>-7.138***</b>
	-0.010	-0.442	-0.492	-0.529	-0.578	-0.627	-0.592
<b>Observations</b>	<b>14,759</b>	<b>14,755</b>	<b>14,749</b>	<b>14,749</b>	<b>14,426</b>	<b>13,347</b>	<b>13,346</b>
<b>RHO</b>	<b>0.003</b>	<b>0.105</b>	<b>0.106</b>	<b>0.107</b>	<b>0.119</b>	<b>0.137</b>	<b>0.237</b>
<b>Number of groups</b>	<b>3,966</b>	<b>3,962</b>	<b>3,962</b>	<b>3,962</b>	<b>3,962</b>	<b>3,958</b>	<b>3,958</b>

Table 5. Fixed effect model estimates of the main health outcomes with control covariates.

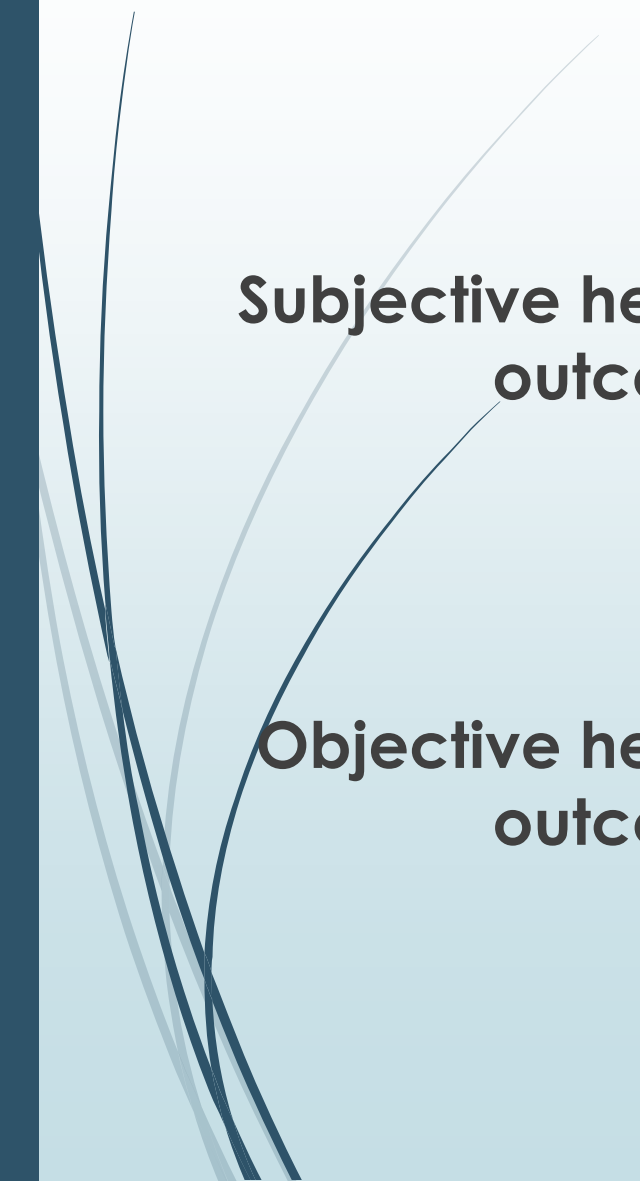
Outcome variables are continuous; the left behind status is a dummy.

Variables	Number of illnesses total			Health care visits			Hospital night stays			Number of sickdays		
	1	2	3	4	5	6	7	8	9	10	11	12
Left behind status	0.203***	0.157***	0.118***	0.0951	0.167**	0.0708	0.329*	0.321*	0.11	0.998**	1.121**	0.671
	-0.0371	-0.0398	-0.0375	-0.0616	-0.0696	-0.0635	-0.168	-0.194	-0.185	-0.507	-0.56	-0.488
Individual indicators		x	x		x	x		x	x		x	x
Household indicators		x	x		x	x		x	x		x	x
Ethnicity		x	x		x	x		x	x		x	x
Economic indicators		x	x		x	x		x	x		x	x
Subjective indicators		x	x		x	x		x	x		x	x
Objective health indicators			x			x			x			x
Constant	0.956***	-8.329***	-7.138***	0.864***	-1.223	3.084***	1.300***	1.098	9.036***	3.310***	2.858	1.4
	-0.00933	-0.627	-0.592	-0.0162	-1.096	-1.009	-0.0443	-3.053	-2.947	-0.129	-12.7	-11.09
Observations	16,840	13,347	13,346	14,789	13,346	13,346	14,789	13,346	13,346	11,075	9,677	9,677
RHO	0.003	0.137	0.237	0	0.02	0.188	0	0.019	0.107	0.001	0.018	0.255
Number of groups	5,913	3,958	3,958	3,966	3,958	3,958	3,966	3,958	3,958	3,951	3,834	3,834





# Main outcome result



Subjective health  
outcome

In contrary to the original hypothesis, women's left behind status is highly and positively associated with better subjective health in comparison to their counterparts.

Objective health  
outcome

On the other hand, woman's left behind status positively associated with objective health indicators, namely, an increase of number of illnesses, health care visits, hospital stays and number of sick days.

# Discussion I

## Are women left behind truly healthier?

- ▶ Labor migration is a household's joint income generating activity / project with purpose to improve their socio-economic position.
- ▶ Household's labor migration project requires investments: financial, working ability/labor, health.
- ▶ The Ottawa Charter for Health Promotion defines health as a resource for everyday life and a resource for investment into income-generating project
- ▶ All household members contribute with their personal resources including health. They have to have sufficient health to be able to invest it acc. to Grossman's model.
- ▶ For example, as a migrant is most likely selected based on the highest working ability that most likely based on the health condition.
- ▶ This suggestion come in concordance with the well-known "healthy migrant effect" phenomenon (Schimmele 2005; Fennelly 2007), indicating that migrants are associated with a better health status at the beginning of migration endeavor.



## Discussion II

- ▶ The same logic must be true to those left behind, at least to the capable household members, in particular, women left behind
- ▶ The good health is an important physical and mental condition for the woman left behind to face difficulties and fulfill the extended maintainer role in the household
- ▶ Our results show that women left behind believe and report better subjective health status or in another words being a woman from a migrant household is positively and significantly associated with higher subjective health outcome
- ▶ But on the other hand, being a woman from a migrant household positively and significantly associated with reduced objective health outcomes.
- ▶ Does migration cause such health outcomes? – a question for further exploration.

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# Concluding remarks

- Migrant households are in average healthy enough to “overtake a migration project”
- Women left behind “choose” to think that they are subjectively healthy, perhaps, despite some objective health issues
- Most likely, such demanding transnational life style takes its toll on their objective health such as adding to the number of illnesses etc
- The latter comes in concordance with global literature

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