

# Social networks and the intention to migrate

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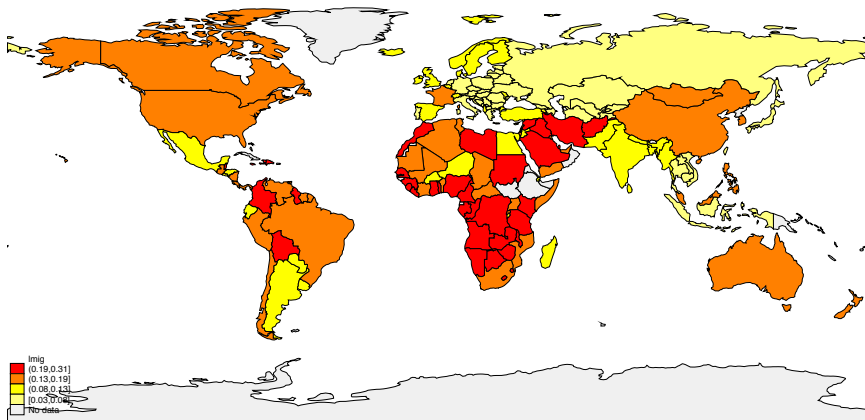
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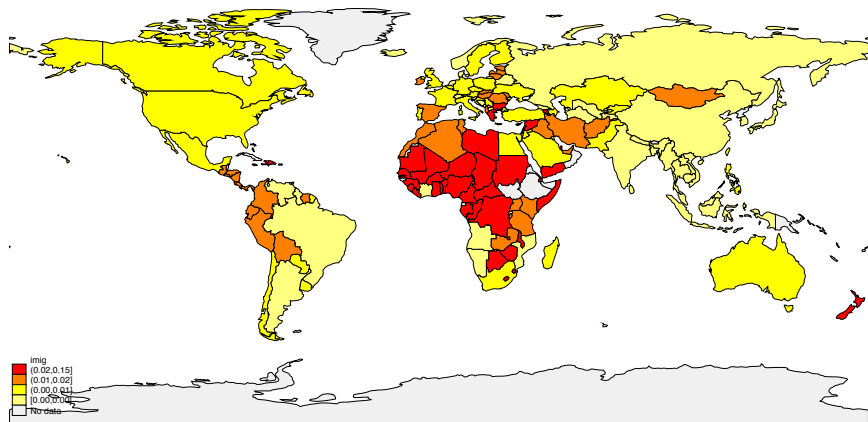
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# Share of individuals with intention to migrate locally



# Share of individuals with intention to migrate internationally



## Background and motivation

- UNDP estimate for international migrants in 2012 is 230 million people.
- Bell and Charles-Edwards (2013)'s estimate for local migrants in 2005 is 760 million people.
- Few statistics on cross-country, most cross-country studies use census data of OECD countries.
- Large direct and spillover effects on: output, productivity, wages, employment, education, welfare, security.

# What we do

Empirically look at the importance of social networks:

- Identify the impact of social networks - broader (same-country residents with intention to migrate) and closer networks (family and friends), both abroad and in the current location.
- Look at the role of remittances within network by distinguishing between close networks with and without remittances.
- Examine the importance of networks for different income, education levels.
- In addition, control for contentment with amenities and other factors, such as wealth, work-related factors, and other economic and individual factors.

## Related literature

- Determinants of migration (see for example Mayda (2010) for an overview).
- Importance of social networks: McKenzie and Rapoport (2007), Beine et al. (2011), Beine and Salomone (2012), De Simone and Manchin (2012) and Javorcik et al. (2011), Kerr (2008), Munshi and Rosenzweig (2009), Neuman and Massey, Massey (1987,1993), Munshi (2003).
- Role of amenities (most literature here is on domestic migration): Dustmann and Okatenko (2013), Chen and Rosenthal (2008), Rappaport (2008), Buch et al. (2013), Liu and Shen (2013), Scott (2010), Niedomysl and Hansen (2010)).

## Our main contributions

- The role of different types of social networks both at destination and origin regions.
- Distinction and comparison between international and local intention to migrate.
- Analysis on a representative sample for the whole world using the same methodology.



# World Poll

- The survey is collected by Gallup.
- Data collection started in 2005 and is ongoing (we use information up to and including 2013).
- Our sample covers years 2010-2013.
- More than 150 countries.
- This data is representative of more than 98% of the world's adult population.
- Random, nationally-representative samples.

## Intentions versus actual migration

- The data we use contain information on migration intentions, not actual migration.
- Correlation with actual migration flows for 2010 was 0.46.
- Advantage: covers illegal migration.
- Disadvantage: unclear to what extent these are “mere words or true plans” (van Dalen and Henkens, 2008).
- Creighton (2013) uses two waves of the Mexican Family Life Survey and shows that aspirations predict migration well.
- Intentions in our analysis are defined in our data more strictly than aspirations were defined in Creighton (2013).

# Some descriptives

	Intention to stay	Intention to migrate locally	Intention to migrate internationally
Respondent's age	40.7 (17.82)	33.2 (14.74)	29.9 (12.21)
Female	0.52 (0.50)	0.50 (0.50)	0.42 (0.49)
Education	1.67 (0.65)	1.71 (0.65)	1.75 (0.66)
Married	0.61 (0.49)	0.50 (0.50)	0.39 (0.49)
# of adults	3.64 (1.79)	3.87 (1.90)	4.34 (2.13)
# of children	1.34 (1.67)	1.58 (1.78)	1.87 (2.04)
Relatives live(+lived) abroad	0.14 (0.35)	0.18 (0.38)	0.54 (0.50)
Time spent with family/friends	5.78 (5.11)	5.68 (5.01)	6.53 (5.57)
Healthy	0.75 (0.43)	0.76 (0.43)	0.78 (0.41)
Large city	0.41 (0.49)	0.45 (0.50)	0.48 (0.50)
Friends/family can help	0.81 (0.39)	0.79 (0.40)	0.79 (0.41)
Close networks abroad	0.27 (0.45)	0.34 (0.47)	0.67 (0.47)

## Some descriptives (cont'd)

	Intention to stay	Intention to migrate locally	Intention to migrate internationally
Satisfaction with the city/area	0.84 (0.37)	0.64 (0.48)	0.51 (0.50)
Economic conditions in the city	0.53 (0.50)	0.46 (0.50)	0.31 (0.46)
Change in the city's economic condition	1.13 (0.83)	1.09 (0.86)	0.82 (0.87)
Economic conditions in the country	1.05 (0.85)	1.11 (0.89)	0.82 (0.87)
Change in the country's economic conditions	1.02 (0.87)	1.07 (0.88)	0.83 (0.88)
Household Income (International Dollars)	14,048 (18,789)	12,786 (17,870)	10,398 (15,219)
Household Income Within Country Quintiles	2.92 (1.40)	3.00 (1.41)	3.14 (1.45)
Employment	1.40 (0.59)	1.34 (0.65)	1.25 (0.71)

## Framework

Potential migrants will take into account migration costs, and also their expected utility:

$$u = f(\omega_d, \kappa_d, \lambda_d) - g(\omega_o, \kappa_o, \lambda_o) - c + \sigma, \quad (1)$$

where  $\omega$  is wealth of the individual,  $\kappa$  is the individuals contentment with amenities,  $\lambda$  is satisfaction with job prospects/with the current job,  $\sigma$  is a random variable which stands for other factors that affect the individual's utility and cannot be measured.

$c$  is the cost of migrating:  $c = c(\tau, i, \delta_o, \delta_d, \epsilon)$ ,

where  $\tau$  is country characteristics,  $i$  is individual characteristics,  $\delta$  is the individual's social network (*origin, destination*), and  $\epsilon$  is a random individual component.

# Framework

Current wealth of the individual has to exceed the migration costs so that the migrants have the means to migrate (following Dustmann and Okatenko, 2013):

$$\omega_o \geq c. \quad (2)$$

The individual will decide to migrate if:

$$Pr(M = 1) = Pr(\omega_o \geq c; E(u) > 0). \quad (3)$$

Or stay at the current location if:

$$Pr(M = 0) = Pr(\omega_o < c) + Pr(\omega_o \geq c; E(u) \leq 0). \quad (4)$$

# Empirical specification

$$M_{it} = \alpha + \beta_1 Y_{it} + \beta_2 Y_{it}^2 + \beta_3 A_{it} + \beta_4 W_{it} + \beta_5 S_{it} + \beta_6 I_{it} + \gamma_i + \mu_t + \epsilon_{it},$$

- $M_{it}$  is 1 if the individual  $i$  answered that he or she is likely to migrate over the next 12 months in year  $t$ . We distinguish between local and international migration.
- $Y_{it}$  represents individual  $i$ 's level of wealth and standard of living in year  $t$ .
- $A_{it}$  represents satisfaction with 'local amenities' and 'local security' (at city/local level), and 'contentment with country' and 'corruption' (at national level).
- $W_{it}$  proxies the individual's satisfaction with her job.

## Empirical specification(cont'd)

$$M_{it} = \alpha + \beta_1 Y_{it} + \beta_2 Y_{it}^2 + \beta_3 A_{it} + \beta_4 W_{it} + \beta_5 S_{it} + \beta_6 I_{it} + \gamma_i + \mu_t + \epsilon_{it},$$

- $S_{it}$  proxies for social networks: close and broad networks both at the current location and abroad.
- $I_{it}$  are the individual observable characteristics (age, education, marital status, gender, health, residence in a large city).
- Year ( $\mu_t$ ) and country ( $\gamma_i$ ) fixed effects are also included.



# Principal components

World Poll contains many related questions. Including them would lead to multicollinearity problem:

- we use principal component analysis to construct a set of indexes.

Since many of the questions are binary/categorical, we use the polychoric principal components analysis, see Kolenikov and Angeles (2004).

# Principal components

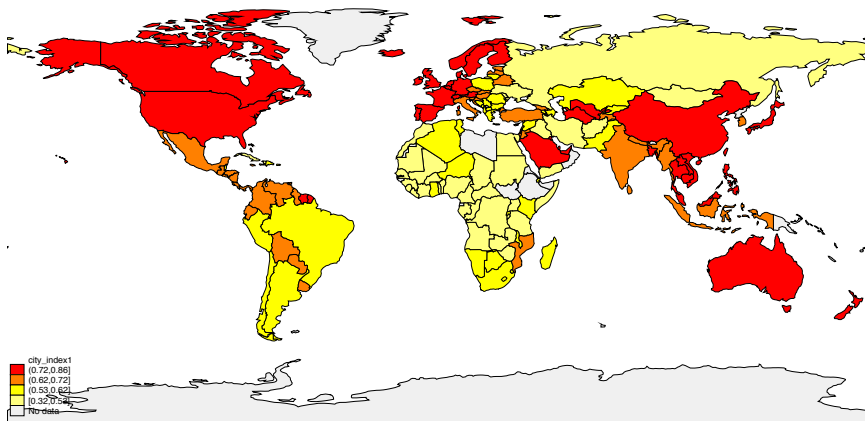
We construct the following indexes:

- $Y$  - reflects individual's 'wealth' and 'standard of living'.
- $A$  - reflects satisfaction with 'local amenities' and 'local security' (at city/local level), and 'contentment with country' and 'corruption' (at national level).
- $W$  - reflects satisfaction with the job.
- $S$  - reflects social networks: close and broad networks both at the current location and abroad.

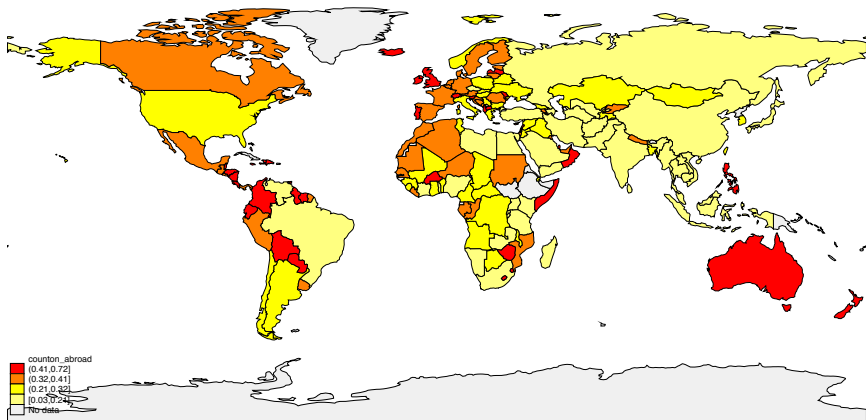
## Average value of the indexes

	Local amenities	Local security	Contentment with the country	Corruption	Work	Wealth	Standard of living
European Union	0.722	0.57	0.48	0.38	0.71	0.73	0.40
Balkans	0.634	0.59	0.30	0.31	0.58	0.65	0.38
Europe-other	0.818	0.60	0.69	0.46	0.84	0.83	0.48
Commonwealth of Independent States	0.635	0.57	0.44	0.29	0.66	0.60	0.46
Australia-New Zealand	0.750	0.57	0.67	0.51	0.78	0.81	0.47
Southeast Asia	0.788	0.54	0.59	0.22	0.81	0.63	0.53
South Asia	0.630	0.54	0.53	0.22	0.69	0.55	0.58
East Asia	0.698	0.55	0.41	0.37	0.73	0.71	0.49
Latin America and the Caribbean	0.648	0.51	0.40	0.37	0.69	0.62	0.52
Northern America	0.757	0.61	0.58	0.40	0.68	0.78	0.47
Middle East and North Africa	0.591	0.54	0.46	0.29	0.66	0.66	0.45
Sub-Saharan Africa	0.484	0.58	0.47	0.30	0.54	0.44	0.56
Minimum value	0.484	0.51	0.30	0.22	0.54	0.44	0.38
Maximum value	0.818	0.61	0.69	0.51	0.84	0.83	0.58

## Principal components - local amenities



## Close networks abroad - friends/family abroad



# Main results

	Intention to migrate	
	internationally	locally
Local amenities	- 0.030 (0.004)***	-0.105 (0.009)***
Local security	-0.020 (0.005)***	-0.090 (0.011)***
Contentment with the country	- 0.020 (0.005)***	-0.012 (0.012)
Corruption	-0.011 (0.006)*	-0.010 (0.017)
Work	-0.018 (0.003)***	-0.058 (0.008)***
Wealth	0.010 (0.006)*	0.008 (0.019)
Standard of living	-0.024 (0.008)***	-0.046 (0.016)***
Close local networks	-0.008 (0.004)**	-0.026 (0.007)***
Close networks abroad	0.034 (0.002)***	0.033 (0.005)***
Broad networks abroad	0.024 (0.003)***	
Broad local networks		0.102 (0.019)***

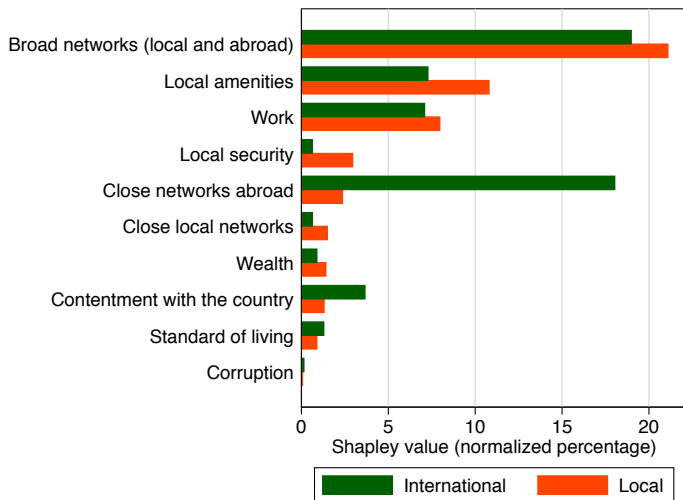
\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

## Main results (cont'd)

	Intention to migrate	
	internationally	locally
Married	- 0.011 (0.002)***	-0.029 (0.005)***
Age	-0.001 (0.000)***	-0.003 (0.000)***
Education (medium)	0.005 (0.003)*	0.020 (0.005)***
Education (high)	0.011 (0.004)***	0.044 (0.007)***
Female	-0.010 (0.002)***	-0.017 (0.006)***
Large city	0.007 (0.003)**	0.008 (0.006)
Healthy	-0.009 (0.003)***	-0.041 (0.010)***
# of children	0.001 (0.000)**	-0.002 (0.001)
Pseudo R2	0.22	0.10
<i>N</i>	49,012	60,533

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

## Main results (cont'd)





# The intention to migrate and income levels

	Low income (1-3 quintiles)		High income (4-5 quintiles)	
	internationally	locally	internationally	locally
Broad networks abroad	0.031 (0.005)***		0.019 (0.005)***	
Broad local networks		0.061 (0.028)**		0.115 (0.030)***
Close networks abroad with remit.	0.070 (0.010)***	0.067 (0.014)***	0.072 (0.008)***	0.042 (0.012)***
Close networks abroad w/o remit.	0.034 (0.004)***	0.028 (0.007)***	0.039 (0.005)***	0.027 (0.007)***
Close local networks with remit.	-0.009 (0.005)*	-0.024 (0.012)*	-0.009 (0.007)	-0.004 (0.014)
Close local networks w/o remit.	-0.008 (0.005)*	-0.029 (0.009)***	-0.012 (0.006)*	-0.031 (0.011)***
Pseudo R2	0.21	0.10	0.24	0.10
N	24,856	33,179	20,121	26,187
Close networks (abroad) test	***	***	***	n.s.
Close networks (local) test	n.s.	n.s.	n.s.	***

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

# The intention to migrate and education levels

	Low education		Medium education Intention to migrate		High education	
	internationally	locally	internationally	locally	internationally	locally
Broad networks abroad	0.030 (0.010)***		0.027 (0.005)***		0.021 (0.015)	
Broad local networks		0.091 (0.037)**		0.102 (0.036)***		0.085 (0.071)
Close networks abroad with remit.	0.059 (0.010)***	0.038 (0.015)**	0.086 (0.009)***	0.065 (0.012)***	0.099 (0.026)***	0.072 (0.018)***
Close networks abroad w/o remit.	0.035 (0.004)***	0.012 (0.008)	0.041 (0.005)***	0.039 (0.006)***	0.036 (0.007)***	0.031 (0.010)***
Close local networks with remit.	-0.012 (0.007)*	-0.017 (0.014)	-0.010 (0.006)	-0.024 (0.013)*	0.009 (0.011)	0.018 (0.026)
Close local networks w/o remit.	-0.013 (0.007)*	-0.028 (0.009)***	-0.010 (0.005)**	-0.040 (0.010)***	0.006 (0.011)	-0.007 (0.025)
Pseudo R2	0.23	0.08	0.23	0.12	0.24	0.11
N	16,282	21,555	21,632	29,341	5,922	8,590
Close networks (abroad) test	**	*	***	**	**	**
Close networks (local) test	n.s.	n.s.	n.s.	*	n.s.	n.s.

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

	International migration		Dreams vs.
	Dreams	Intention	intention
Local amenities	-0.107 (0.015)***	-0.039 (0.005)***	0.046 (0.014)***
Local security	-0.078 (0.014)***	-0.027 (0.006)***	0.030 (0.018)*
Contentment with the country	-0.129 (0.014)***	-0.028 (0.006)***	0.022 (0.016)
Corruption	-0.015 (0.012)	-0.011 (0.007)	0.032 (0.023)
Work	-0.083 (0.009)***	-0.024 (0.004)***	0.020 (0.011)*
Wealth	-0.007 (0.015)	0.011 (0.006)*	-0.039 (0.023)*
Standard of living	-0.137 (0.019)***	-0.035 (0.010)***	0.033 (0.022)
Broad networks abroad	0.021 (0.017)	0.029 (0.004)***	-0.074 (0.010)***
Close networks abroad with remit.	0.125 (0.014)***	0.084 (0.009)***	-0.130 (0.016)***
Close networks abroad w/o remit.	0.095 (0.007)***	0.043 (0.004)***	-0.070 (0.010)***
Close local networks with remit.	-0.025 (0.011)**	-0.009 (0.005)*	0.024 (0.014)*
Close local networks w/o remit.	-0.024 (0.009)***	-0.010 (0.004)**	0.024 (0.013)*
Pseudo R2	0.17	0.28	0.13
N	52,749	40,653	13,033
Close networks (abroad) test	**	***	***
Close networks (local) test	n.s.	n.s.	n.s.

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Variables	Using log of relative income		Using log of absolute income	
	internationally	locally	internationally	locally
Satisfaction with the city/area	-0.029 (0.002)***	-0.130 (0.008)***	-0.029 (0.002)***	-0.130 (0.008)***
Country economic condition (getting worse)	0.009 (0.002)***	0.012 (0.004)***	0.009 (0.002)***	0.012 (0.004)***
Country economic condition (getting better)	-0.002 (0.002)	0.007 (0.004)	-0.002 (0.002)	0.007 (0.004)
Opportunity to make friends	-0.003 (0.002)**	-0.015 (0.005)***	-0.003 (0.002)**	-0.015 (0.005)***
Have friends/family to count on abroad	0.026 (0.001)***	0.030 (0.003)***	0.026 (0.001)***	0.030 (0.003)***
Part-time employment	-0.015 (0.002)***	-0.047 (0.008)***	-0.015 (0.002)***	-0.046 (0.008)***
Full-time employment	-0.012 (0.002)***	-0.041 (0.007)***	-0.012 (0.002)***	-0.040 (0.007)***
Log (rel.) income	0.001 (0.001)**	0.003 (0.002)*		
Log (abs.) income			0.001 (0.001)	0.001 (0.002)
Broad networks abroad	0.017 (0.001)***		0.017 (0.001)***	
Broad local networks		0.110 (0.007)***		0.111 (0.007)***
Pseudo R2	0.24	0.11	0.24	0.11
N	141,073	167,730	141,073	167,730

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

## Conclusions

Using a unique survey dataset including more than 150 countries we found that:

- The most important factors driving the desire to migrate both internationally and locally are social networks.
- This is true both for the importance of close networks (family and friends) abroad and home, and for broader networks abroad and locally (same nationals).
- While all kinds of social networks matter for individuals with low and medium education, for individuals with high education only close networks abroad have a significant impact on their migration intentions.
- Satisfaction with local amenities is also an important driver of the desire to migrate.