Social networks, local amenities and the desire to migrate

Miriam Manchin[1] Sultan Orazbayev[1]

[1]School of Slavonic and East European Studies, University College London

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Plan of the presentation

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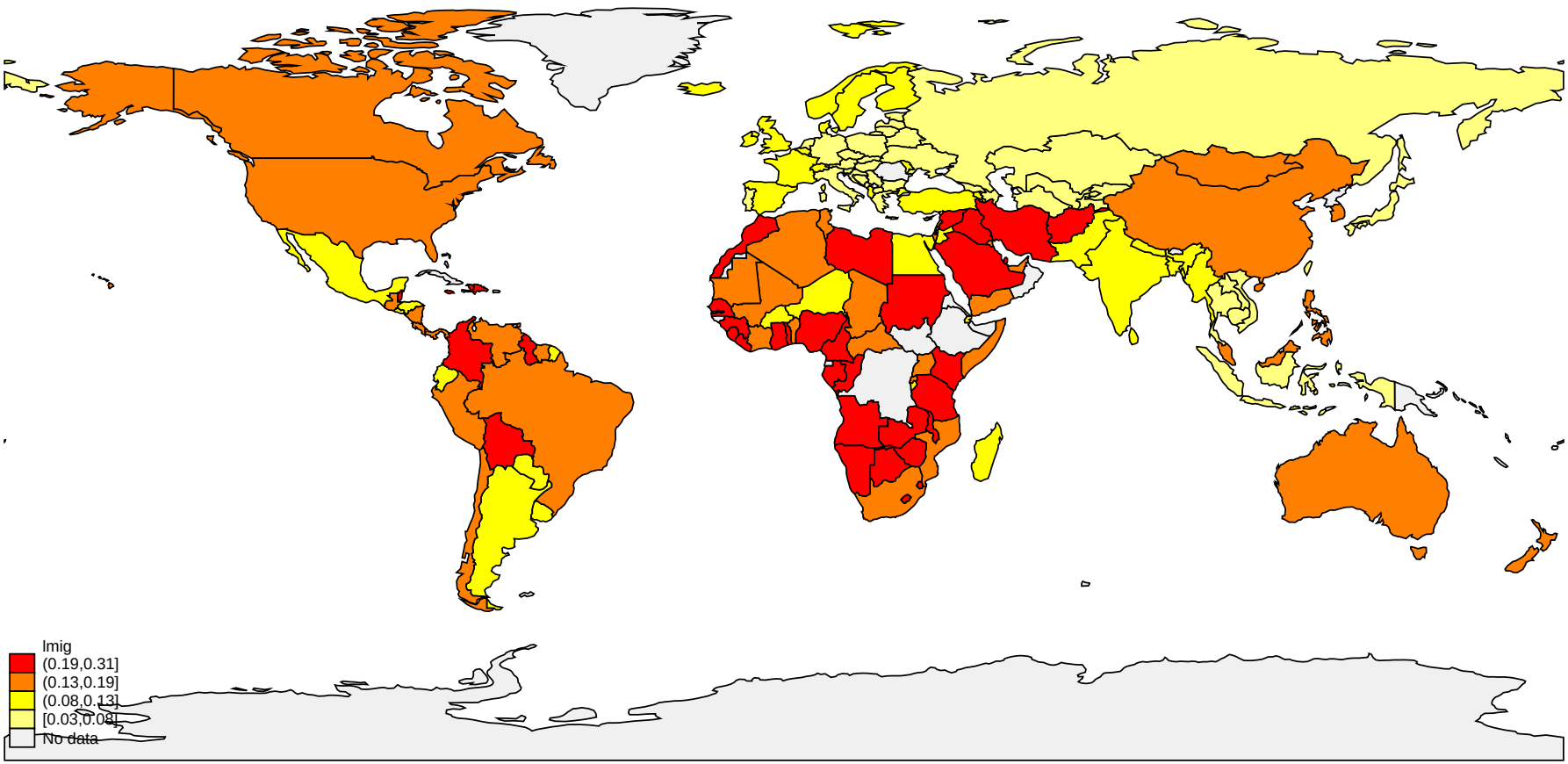
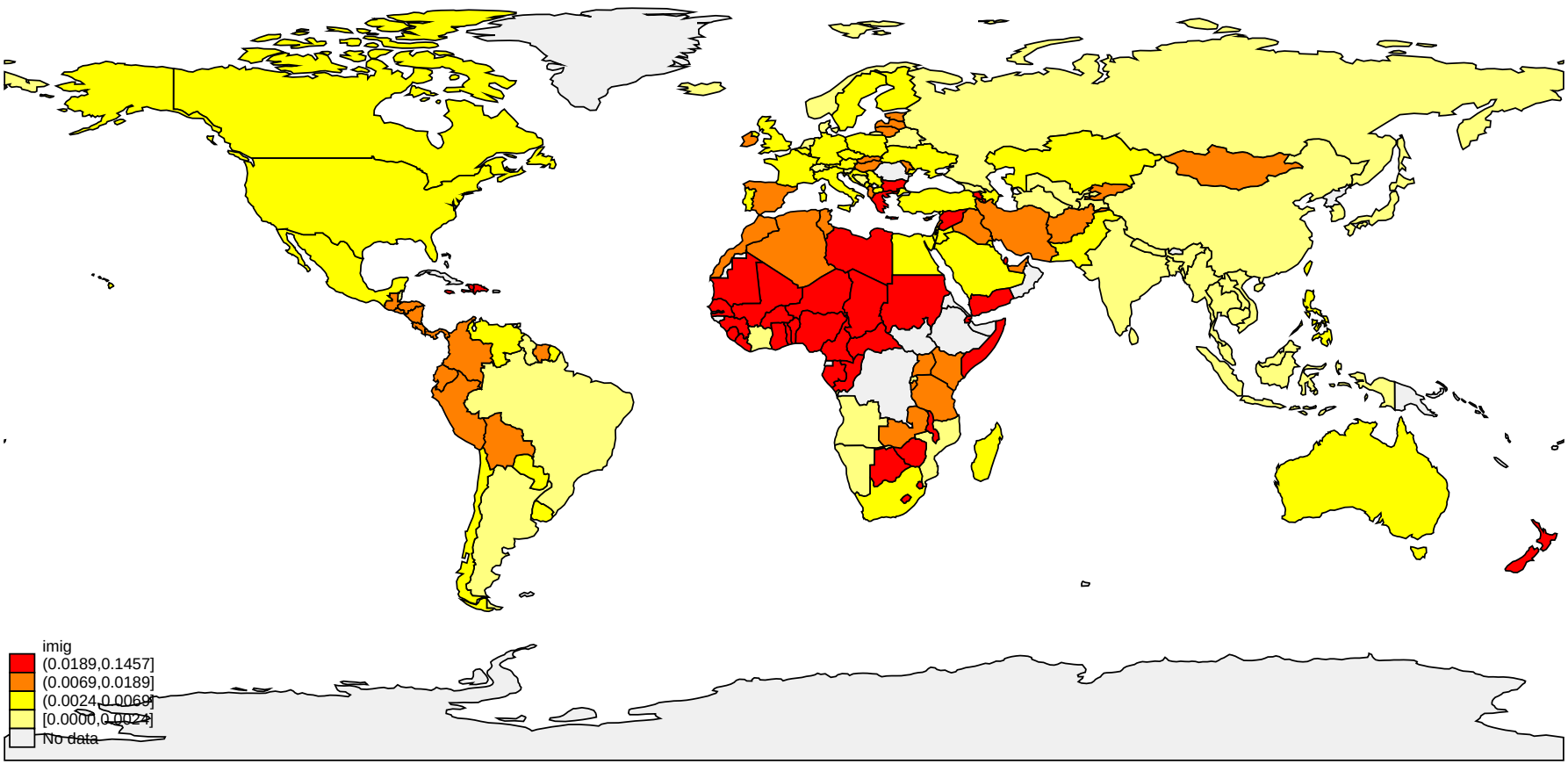
Share of individuals desiring to migrate locally



Share of individuals desiring to migrate internationally



Background and motivation

- Recent UN report estimate international migrants for 2012 to be 230 million people.
- International migrants constitute 11% of the population in developed regions, but less than 2% in developing regions.
- No good statistics on the magnitude of local migration, however an estimate for year 2005 is 760 million people (Bell and Charles-Edwards, 2013).

Background and motivation

- These numbers suggest that migration (esp. international) is a fairly rare phenomenon. So why should we study something that involves at most 15% of the world's population?
- Large direct and spillover effects on: output, productivity, wages, employment, education, welfare, security.
- Many 'potential' migrants.

What we do

Empirically look at the importance of:

- Social networks both in the origin and abroad.
- Contentment with local and country-level amenities.
- Wealth, work conditions, and other economic and individual factors driving migration decisions.

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), De Simone and Manchin (2012) and Javorcik et al.(2011) , Kerr (2008), Munshi and Rosenzweig (2009).
- 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) among others).

Our main contributions

- Distinction between international and local migrants.
- Analysis on a representative sample for the whole world using the same methodology.
- Importance of local amenities for the intention to migrate both domestically and internationally.
- The role of social networks both at destination and origin regions.
- Comparison of the importance of regional- and national-level labour conditions with individual perception of jobs and income.

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The core dataset World Poll

- The survey is collected by Gallup.
- Data collection started in 2005 and is ongoing (we use information up to and including 2012).
- More than 150 countries.
- This data is representative of more than 98% of the world's adult population.
- Random, nationally-representative samples.

Additional data

- Regional level data consist of unemployment, and wages and originate from Eurostat's Labour Force Survey (LFS).
- World Bank's World Development Indicators: GDP per capita to proxy for wages and data on unemployment.

Some descriptives

Variables	Stayers	Local migrants	International migrants
Age	40.5	33.1	29.8
	(17.54)	(14.37)	(11.97)
Female	0.52	0.50	0.42
	(0.50)	(0.50)	(0.49)
Education (1=Low, 3=High)	1.67	1.71	1.75
	(0.65)	(0.65)	(0.66)
Married	0.61	0.50	0.39
	(0.49)	(0.50)	(0.49)
# of adults in the household	3.68	3.92	4.45
	(1.92)	(2.10)	(2.47)
# of children in the household	1.39	1.64	1.99
	(2.01)	(2.13)	(2.88)
Born abroad	0.05	0.06	0.09
	(0.21)	(0.23)	(0.28)
Friends and relatives abroad	0.14	0.18	0.54
	(0.35)	(0.38)	(0.50)

Some descriptives (cont'd)

Variables	Stayers	Local migrants	International migrants
Attitude towards migration policy	-0.35	-0.20	-0.09
from -1 to 1	(0.75)	(0.82)	(0.86)
Time spent socializing (hours)	5.76	5.65	6.51
	(5.14)	(5.03)	(5.59)
Healthy (no problems)	0.75	0.76	0.78
	(0.43)	(0.43)	(0.41)
Health satisfaction	0.78	0.81	0.79
	(0.41)	(0.39)	(0.41)
Large city resident	0.41	0.45	0.48
	(0.49)	(0.50)	(0.50)
Business owner	0.13	0.14	0.17
	(0.34)	(0.35)	(0.38)
Satisfied with current city	0.84	0.64	0.51
	(0.37)	(0.48)	(0.50)
Economic condition (0 to 2)	2.05	2.11	1.82
	(0.85)	(0.89)	(0.87)

Some descriptives (cont'd)

Variables	Stayers	Local migrants	International migrants
Approves leadership	0.63	0.59	0.49
	(0.48)	(0.49)	(0.50)
Friends/family to count on	0.81	0.79	0.79
	(0.39)	(0.40)	(0.41)
Income (international $)	14,477	13,245	10,777
	(22,347)	(21,526)	(18,241)
Income quintile	2.92	3.00	3.14
	(1.40)	(1.41)	(1.45)
Employment dummy	1.40	1.34	1.25
	(0.59)	(0.65)	(0.71)

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Framework

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 ω is wealth of the individual, κ is the individuals contentment with amenities, λ is satisfaction with job prospects/with the current job, σ 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:

$$c = c(\tau, i, \delta, \epsilon). \quad (2)$$

Where τ is country characteristics, i is individual characteristics, δ is the individual's social network, and ϵ 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):

$$\omega_o \geqslant c. \tag{3}$$

The individual will decide to migrate if:

$$Pr(M = 1) = Pr(\omega_o \geqslant c; E(u) > 0). \tag{4}$$

Or stay at the current location if:

$$Pr(M = 0) = Pr(\omega_o < c) + Pr(\omega_o \geqslant c; E(u) \leqslant 0). \tag{5}$$

Empirical specification

$$M_{it} = \alpha + \beta_1 Y_{it} + \beta_2 Y_{it}^2 + \beta_3 L_{it} + \beta_4 N_{it} + \beta_5 W_{it} + \beta_6 I_{it} + \\ + \beta_7 S_{it} + \beta_8 T_{it} + \beta_9 PI_{it} + \beta_8 PL_{it} + \gamma_i + \mu_t + \epsilon_{it}, \quad (6)$$

- 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} is individual i's level of wealth in year t.
- L_{it} measures satisfaction with local amenities at city/local level.
- N_{it} is a vector of contentment with amenities at national level.
- W_{it} proxies the individual's satisfaction with her job.
- I_{it} are the individual observable characteristics.

Empirical specification(cont'd)

$$M_{it} = \alpha + \beta_1 Y_{it} + \beta_2 Y_{it}^2 + \beta_3 L_{it} + \beta_4 N_{it} + \beta_5 W_{it} + \beta_6 I_{it} + \\ + \beta_7 S_{it} + \beta_8 T_{it} + \beta_9 PI_{it} + \beta_8 PL_{it} + \gamma_i + \mu_t + \epsilon_{it}, \quad (7)$$

- S_{it} proxies for social networks abroad
- T_{it} proxies for social ties/networks at the current location
- PI_{it} and PL_{it} are peer-effects for local and international migration.
- Year (μ_t) and country (γ_i)fixed effects are also included.

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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

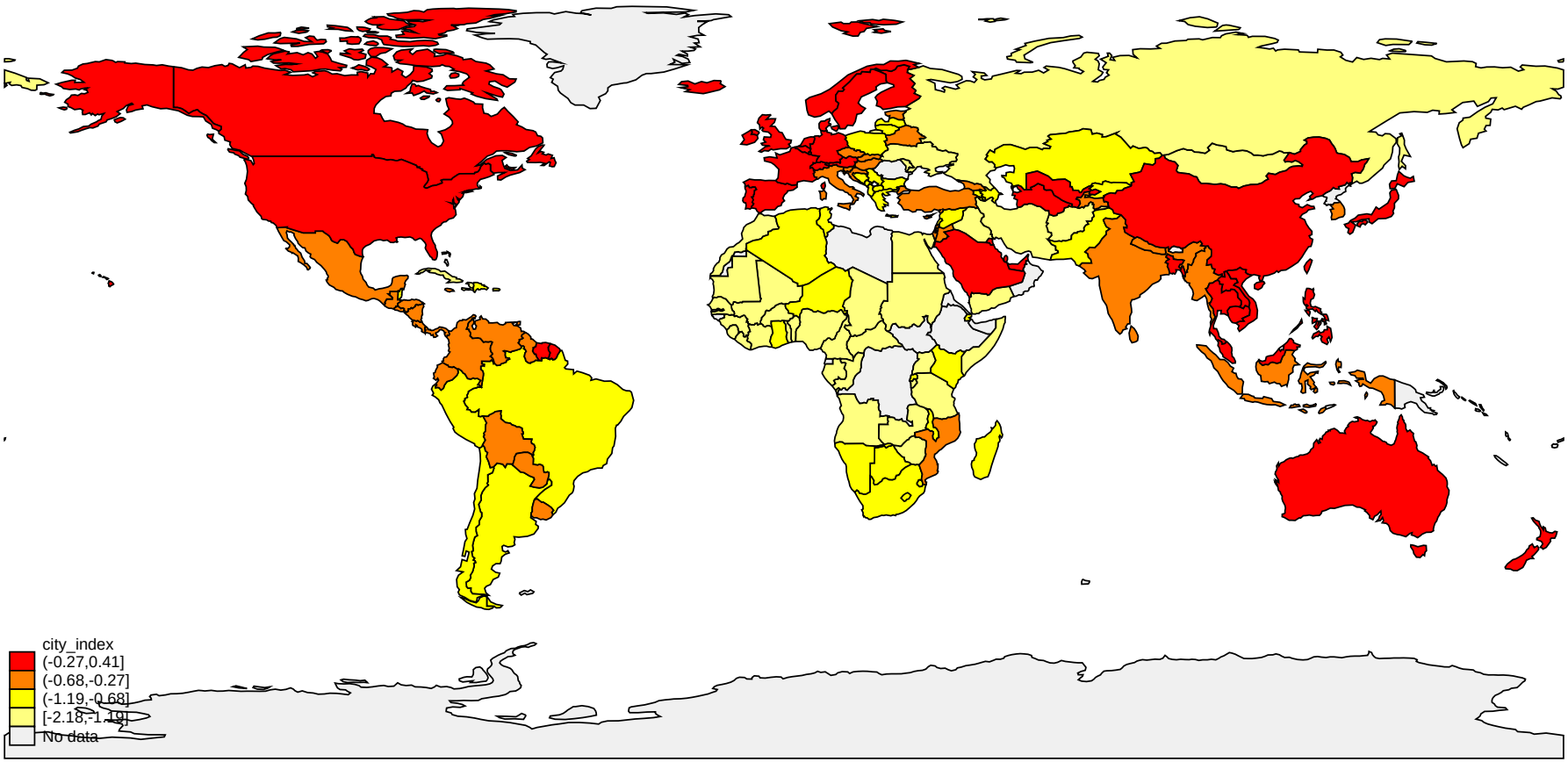
We construct the following indexes:

- Y - reflects individual's income and wealth.
- L - reflects satisfaction with the city (local amenities).
- N - reflects satisfaction with the country-level amenities.
- W - reflects satisfaction with the employment status/job opportunities.
- I - reflects individual observable characteristics.
- S - reflects social networks at home.

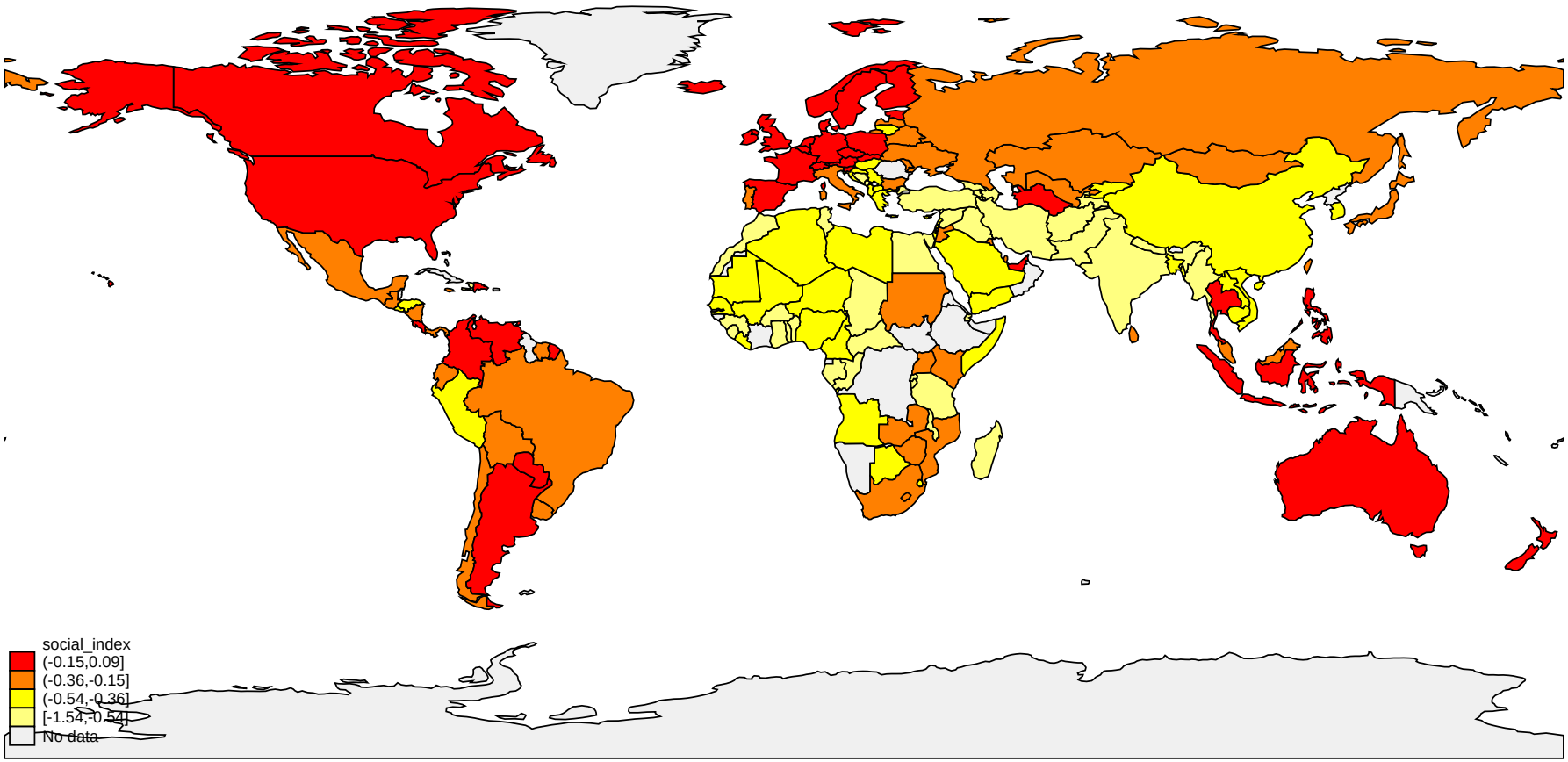
Average value of the indexes

Country	City index	Country index	Social index	Work index	Wealth index
European Union	- 0.28	-1.68	-0.13	-0.76	-0.14
Balkans	-0.82	-2.28	-0.50	-1.25	-0.62
Europe-other	0.16	-0.69	-0.02	-0.36	0.40
Commonwealth of Independent States	-0.77	-1.93	-0.44	- 0.94	-0.93
Australia-New Zealand	-0.09	-0.77	0.04	-0.52	0.31
Southeast Asia	0.04	-1.03	-0.21	-0.43	-0.70
South Asia	-0.72	-1.40	-0.72	-0.84	-1.18
East Asia	-0.38	-2.10	-0.32	-0.70	-0.26
Latin America and the Caribbean	-0.64	-2.11	-0.24	-0.84	- 0.79
Northern America	-0.12	-1.18	-0.01	-0.76	0.18
Middle East and North Africa	-0.83	-1.71	-0.50	-1.00	- 0.56
Sub-Saharan Africa	-1.41	-1.75	-0.52	-1.39	-1.87

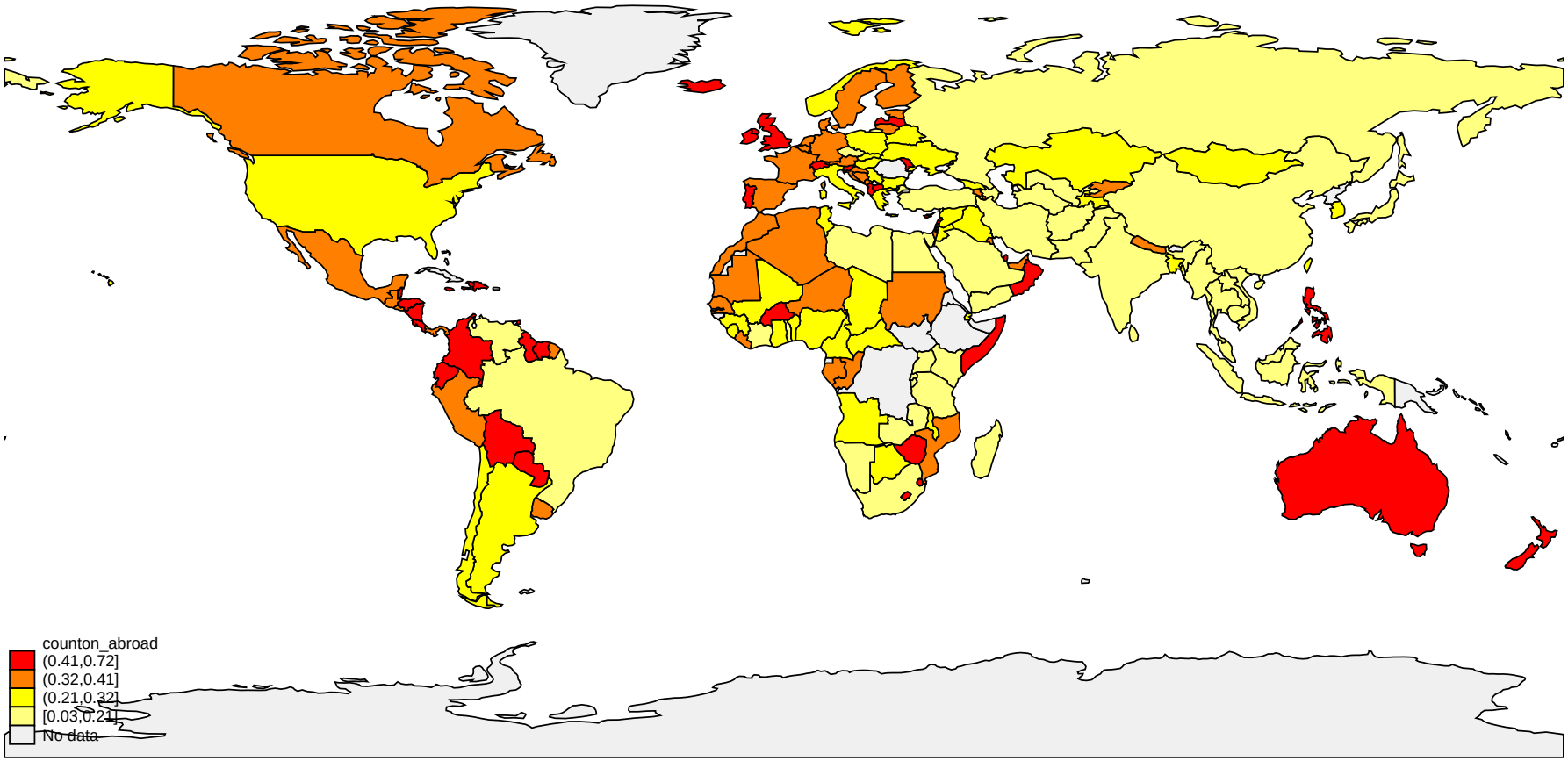
Principal components - city index



Principal components - social index



People to count on abroad



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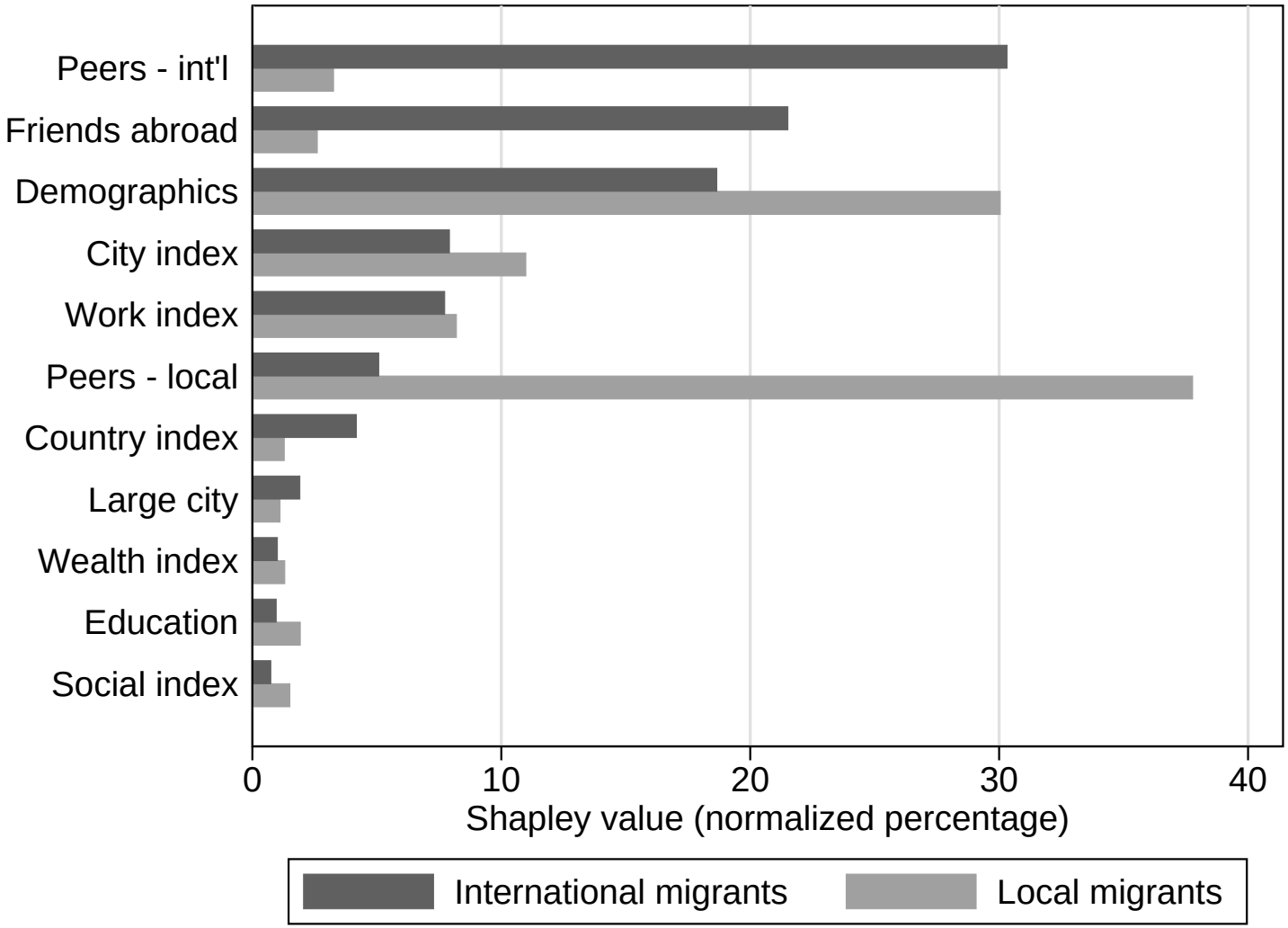
Main results

Variables	Linear specifications International migration	Linear specifications Local migration	Non-linear specifications International migration	Non-linear specifications Local migration
City index	- 0.006	-0.021	- 0.006	-0.021
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Country index	-0.004	-0.004	-0.004	-0.004
	(0.001)***	(0.001)***	(0.001)***	(0.001)***
Social index	-0.003	-0.010	-0.003	-0.011
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Friends abroad	0.032	0.032	0.032	0.032
	(0.002)***	(0.004)***		(0.004)***
Work index	-0.006	-0.018	-0.006	-0.018
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Wealth index	0.000	-0.000	0.000	-0.002
	(0.001)	(0.002)	(0.001)	(0.002)
(log) Peers want to move locally	- 0.000	0.108	- 0.001	0.106
	(0.012)	(0.024)***	(0.012)	(0.024)***
(log) Peers want to move abroad	0.024	-0.001	0.024	-0.001
	(0.004)***	(0.006)	(0.003)***	(0.006)
Married	-0.011	- 0.029	-0.011	- 0.029
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
Age	-0.001	- 0.003	-0.001	- 0.003
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Education	0.006	0.022	0.006	0.023
	(0.002)***	(0.003)***	(0.001)***	(0.003)***
Female	-0.010	- 0.015	-0.010	- 0.015
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
Healthy	-0.009	- 0.041	-0.009	- 0.040
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
Large city	0.010	0.017	0.010	0.017
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
# of children	0.001	-0.001	0.001	-0.001
	(0.000)*	(0.001)	(0.000)*	(0.001)
Pseudo R2	0.21	0.09	0.21	0.09
N	48,962	59,359	48,962	59,359

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

Main results



Age and the desire to migrate

Variables	Working age (16 to 60 y.o.) International migration	Working age (16 to 60 y.o.) Local migration	Above 60 y.o. International migration	Above 60 y.o. Local migration
City index	- 0.006	-0.022	- 0.011	-0.011
	(0.001)***	(0.002)***	(0.005)**	(0.006)*
Country index	-0.004	-0.004	-0.007	-0.005
	(0.001)***	(0.002)**	(0.004)*	(0.005)
Social index	-0.003	-0.009	-0.012	-0.009
	(0.001)**	(0.002)***	(0.007)*	(0.007)
Friends abroad	0.033	0.032	0.049	0.031
	(0.002)***	(0.004)***	(0.017)***	(0.014)**
Work index	-0.007	-0.022	-0.011	-0.020
	(0.001)***	(0.002)***	(0.007)	(0.007)***
Wealth index	0.000	-0.000	0.016	0.005
	(0.001)	(0.002)	(0.007)**	(0.006)
(log) Peers want to move locally	0.002	0.102	-0.053	0.140
	(0.012)	(0.025)***	(0.142)	(0.089)
(log) Peers want to move abroad	0.024	-0.001	0.199	-0.011
	(0.004)***	(0.006)	(0.098)**	(0.022)
Married	-0.019	- 0.059	-0.039	- 0.011
	(0.002)***	(0.004)***	(0.016)**	(0.014)
Education	0.007	0.030	0.008	-0.005
	(0.002)***	(0.003)***	(0.010)	(0.012)
Female	-0.010	- 0.013	0.014	0.014
	(0.002)***	(0.004)***	(0.016)	(0.015)
Healthy	-0.007	- 0.032	-0.021	- 0.031
	(0.002)***	(0.005)***	(0.015)	(0.013)**
Large city	0.009	0.015	-0.005	0.019
	(0.002)***	(0.004)***	(0.012)	(0.015)
Pseudo R2	0.20	0.08	0.30	0.10
N	46,027	55,880	703	2,955

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

Age and the desire to migrate

Variables	Working age (16 to 60 y.o.) International migration	Working age (16 to 60 y.o.) Local migration	Above 60 y.o. International migration	Above 60 y.o. Local migration
City index	- 0.006	-0.022	- 0.011	-0.011
	(0.001)***	(0.002)***	(0.005)**	(0.006)*
Country index	-0.004	-0.004	-0.007	-0.005
	(0.001)***	(0.002)**	(0.004)*	(0.005)
Social index	-0.003	-0.009	-0.012	-0.009
	(0.001)**	(0.002)***	(0.007)*	(0.007)
Friends abroad	0.033	0.032	0.049	0.031
	(0.002)***	(0.004)***	(0.017)***	(0.014)**
Work index	-0.007	-0.022	-0.011	-0.020
	(0.001)***	(0.002)***	(0.007)	(0.007)***
Wealth index	0.000	-0.000	0.016	0.005
	(0.001)	(0.002)	(0.007)**	(0.006)
(log) Peers want to move locally	0.002	0.102	-0.053	0.140
	(0.012)	(0.025)***	(0.142)	(0.089)
(log) Peers want to move abroad	0.024	-0.001	0.199	-0.011
	(0.004)***	(0.006)	(0.098)**	(0.022)

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

Differences in education level and the desire to migrate

	Low education		Medium education		High education	
Variables	International migration	Local migration	International migration	Local migration	International migration	Local migration
City index	- 0.008	-0.021	- 0.006	-0.024	- 0.008	-0.017
	(0.001)***	(0.003)***	(0.001)***	(0.002)***	(0.002)***	(0.004)***
Country index	-0.004	-0.004	-0.005	-0.005	-0.009	-0.003
	(0.001)***	(0.002)	(0.001)***	(0.002)**	(0.002)***	(0.004)
Social index	-0.005	-0.009	-0.004	-0.014	0.003	-0.002
	(0.002)***	(0.003)***	(0.002)**	(0.003)***	(0.004)	(0.007)
Friends abroad	0.032	0.018	0.040	0.042	0.038	0.036
	(0.003)***	(0.007)***	(0.003)***	(0.005)***	(0.007)***	(0.010)***
Work index	-0.007	-0.020	-0.005	-0.015	-0.007	-0.011
	(0.001)***	(0.003)***	(0.001)***	(0.002)***	(0.003)***	(0.005)**
Wealth index	0.002	0.003	-0.001	-0.004	0.001	-0.016
	(0.001)	(0.003)	(0.001)	(0.003)	(0.004)	(0.007)**
(log) Peers - local	-0.014	0.121	0.004	0.109	0.050	0.072
	(0.022)	(0.040)***	(0.019)	(0.034)***	(0.033)	(0.069)
(log) Peers - int'l	0.031	-0.004	0.027	-0.004	0.017	0.012
	(0.006)***	(0.009)	(0.006)***	(0.008)	(0.012)	(0.018)
Married	-0.006	- 0.024	-0.013	- 0.025	-0.027	- 0.047
	(0.003)*	(0.006)***	(0.003)***	(0.006)***	(0.006)***	(0.010)***
Age	-0.001	- 0.003	-0.001	- 0.004	-0.001	- 0.004
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Female	-0.013	- 0.022	-0.009	- 0.008	-0.007	- 0.017
	(0.003)***	(0.006)***	(0.003)***	(0.005)	(0.005)	(0.010)*
Healthy	-0.008	- 0.051	-0.009	- 0.030	-0.025	- 0.029
	(0.003)**	(0.006)***	(0.003)***	(0.006)***	(0.007)***	(0.013)**
Large city	0.017	0.031	0.007	0.011	0.006	0.004
	(0.004)***	(0.007)***	(0.003)**	(0.006)**	(0.006)	(0.010)
Pseudo R2	0.22	0.08	0.22	0.11	0.23	0.10
N	16,414	21,664	21,889	29,141	6,000	8,518

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

Differences in education level and the desire to migrate

	Low education		Medium education		High education	
Variables	International migration	Local migration	International migration	Local migration	International migration	Local migration
City index	- 0.008	-0.021	- 0.006	-0.024	- 0.008	-0.017
	(0.001)***	(0.003)***	(0.001)***	(0.002)***	(0.002)***	(0.004)***
Country index	-0.004	-0.004	-0.005	-0.005	-0.009	-0.003
	(0.001)***	(0.002)	(0.001)***	(0.002)**	(0.002)***	(0.004)
Social index	-0.005	-0.009	-0.004	-0.014	0.003	-0.002
	(0.002)***	(0.003)***	(0.002)**	(0.003)***	(0.004)	(0.007)
Friends abroad	0.032	0.018	0.040	0.042	0.038	0.036
	(0.003)***	(0.007)***	(0.003)***	(0.005)***	(0.007)***	(0.010)***
Work index	-0.007	-0.020	-0.005	-0.015	-0.007	-0.011
	(0.001)***	(0.003)***	(0.001)***	(0.002)***	(0.003)***	(0.005)**
Wealth index	0.002	0.003	-0.001	-0.004	0.001	-0.016
	(0.001)	(0.003)	(0.001)	(0.003)	(0.004)	(0.007)**
(log) Peers - local	-0.014	0.121	0.004	0.109	0.050	0.072
	(0.022)	(0.040)***	(0.019)	(0.034)***	(0.033)	(0.069)
(log) Peers - int'l	0.031	-0.004	0.027	-0.004	0.017	0.012
	(0.006)***	(0.009)	(0.006)***	(0.008)	(0.012)	(0.018)

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

Single questions instead of principal components

Variables	Using log of relative income International migration	Using log of relative income Local migration	Using log of absolute income International migration	Using log of absolute income Local migration
Satisfaction with the city	- 0.023	-0.114	- 0.023	-0.114
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Expectation about the country's economy	- 0.005	-0.002	- 0.005	-0.002
	(0.001)***	(0.001)**	(0.001)***	(0.001)**
Friends can help	-0.006	-0.004	-0.006	-0.005
	(0.001)***	(0.003)*	(0.001)***	(0.003)*
Friends abroad	0.024	0.031	0.024	0.031
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Employment	-0.002	-0.008	-0.002	-0.008
	(0.001)***	(0.002)***	(0.001)**	(0.002)***
Log (rel.) income	0.001	0.002		
	(0.001)**	(0.001)		
Log (abs.) income			0.001	0.000
			(0.001)*	(0.001)
(log) Peers want to move locally	0.001	0.124	0.002	0.125
	(0.005)	(0.011)***	(0.005)	(0.011)***
(log) Peers want to move abroad	0.017	0.001	0.017	0.001
	(0.002)***	(0.003)	(0.002)***	(0.003)
Married	-0.006	- 0.017	-0.006	- 0.016
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Age	-0.001	- 0.003	-0.001	- 0.003
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Education	0.006	0.020	0.006	0.020
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Female	-0.008	- 0.011	-0.008	- 0.011
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Healthy	-0.004	- 0.021	-0.004	- 0.021
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Large city	0.006	0.013	0.006	0.013
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Pseudo R2	0.24	0.11	0.24	0.11
N	155,902	179,721	155,902	179,721

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

Single questions instead of principal components

Variables	Using log of relative income International migration	Using log of relative income Local migration	Using log of absolute income International migration	Using log of absolute income Local migration
Satisfaction with the city	- 0.023	-0.114	- 0.023	-0.114
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Expectation about the country's economy	- 0.005	-0.002	- 0.005	-0.002
	(0.001)***	(0.001)**	(0.001)***	(0.001)**
Friends can help	-0.006	-0.004	-0.006	-0.005
	(0.001)***	(0.003)*	(0.001)***	(0.003)*
Friends abroad	0.024	0.031	0.024	0.031
	(0.001)***	(0.002)***	(0.001)***	(0.002)***
Employment	-0.002	-0.008	-0.002	-0.008
	(0.001)***	(0.002)***	(0.001)**	(0.002)***
Log (rel.) income	0.001	0.002		
	(0.001)**	(0.001)		
Log (abs.) income			0.001	0.000
			(0.001)*	(0.001)
(log) Peers want to move locally	0.001	0.124	0.002	0.125
	(0.005)	(0.011)***	(0.005)	(0.011)***
(log) Peers want to move abroad	0.017	0.001	0.017	0.001
	(0.002)***	(0.003)	(0.002)***	(0.003)

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

Aggregate-level factors for international migration

	Country- and region-specific variables	Contribution to variance (percentage)
City index	- 0.002 (0.001)*	8.64
Country index	-0.004 (0.002)**	9.53
Social index	-0.003 (0.002)	0.84
Friends abroad	0.013 (0.004)***	19.53
Work index	-0.003 (0.002)*	6.75
Wealth index	-0.004 (0.001)***	5.28
Regional wages	-0.000 (0.000)	0.80
Regional unemployment	0.115 (0.051)**	4.12
Log of GDP per capita	0.002 (0.003)	1.02
Country unemployment	-0.001 (0.001)	2.64
Individual characteristics		40.84
Married	-0.007 (0.004)*	
Age	-0.000 (0.000)***	
Education	0.000 (0.006)	
Female	-0.001 (0.004)	
Healthy	-0.004 (0.007)	
Large city	0.009 (0.005)*	
# of children	0.002 (0.002)	
Pseudo R2	0.286	
N	2,901	

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

Aggregate-level factors for international migration

	Country- and region-specific variables	Contribution to variance (percentage)
City index	- 0.002 (0.001)*	8.64
Country index	-0.004 (0.002)**	9.53
Social index	-0.003 (0.002)	0.84
Friends abroad	0.013 (0.004)***	19.53
Work index	-0.003 (0.002)*	6.75
Wealth index	-0.004 (0.001)***	5.28
Regional wages	-0.000 (0.000)	0.80
Regional unemployment	0.115 (0.051)**	4.12
Log of GDP per capita	0.002 (0.003)	1.02
Country unemployment	-0.001 (0.001)	2.64
Individual characteristics		40.84

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

Plan of the presentation

Conclusions

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

- The most important factor driving the desire to migrate both internationally and locally are social networks.
- Satisfaction with with local amenities are also important drivers of the desire to migrate.
- Peer-effects are also important in influencing individuals migration decisions.
- We also find that wealth has an insignificant impact on the desire to migrate internationally.

Any questions and comments?

Thank you for your attention!