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International Migration Drivers

A quantitative assessment of the structural factors shaping migration

Migali S., Natale F., Tintori G., Kalantaryan S., Grubanov-Boskovic S., Scipioni M., Farinosi F., Cattaneo C., Benandi B., Follador M., Bidoglio G., Barbas T., Mcmahon S.

Silvia Migali

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Research question and motivation

What drives international migration?

Knowledge to support policy initiatives

- EU Agenda on Migration
- The Global Compact for Safe, Orderly and Regular Migration

Report on migration drivers

- Ch. 1 Theories and empirical analyses of the drivers of migration
- Ch. 2 Trend and patterns of international migration and intentions to migrate
- Ch. 3 International Migration Drivers: an empirical investigation
- Ch. 4 The effect of migration policies on migration flows
- Ch. 5 Climate change and migration
- Ch. 6 Likely development of future migration







https://ec.europa.eu/jrc/en/news/what-drives-international-migration



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Selected literature

Gravity models: review of their methodological strengths and limitations (Beine et al. 2016; Ramos 2017).

Drivers of international migration:

- networks (Beine et al. 2011; Pedersen et al. 2008);
- education (Dao et al. 2018; Grogger and Hanson 2011)
- economic development (Clemens 2014);
- labour market dynamics in origin and destination countries (Beine et al. 2017; Mayda 2010; Ortega and Peri 2013);
- geographic and cultural ties (Adserà and Pytliková 2015; Belot and Ederveen 2012; Lanati and Venturini 2018).
- trade (Campaniello 2014; Lanati and Venturini 2018).

Drivers of asylum: state fragility, armed conflicts and violence (Hatton 2004; Hatton 2009; Hatton 2016; Morrison-Métois 2017; Melander and Öberg 2007; Neumayer 2004).

Drivers of potential migration:

- **macro-level**: education, favorable economic prospects and presence of networks at destination as main drivers (Docquier et al. 2014; Dao et al. 2018);
- individual-level: local amenities and individual wealth (Dustmann and Okatenko 2014); networks (Bertoli and Ruyssen 2016; Mankin and Orazbayev, 2016), perceived gender discrimination (Ruyseen and Salomone 2018), well-being (Ivlev 2014; Cai et al. 2014).



Our contribution

- Systematic analysis of most of the existing databases on international migration
- Differentiate between *channels* of migration
- From the country to the individual level perspective
- Empirical support to migration transition and migration hump hypotheses (Zelinsky 1971; Clemens, 2014)



Data and stylized facts

Estimates of bilateral migration flows: 5-years frequency, 150 origins and destinations ca. 1965-2015.



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Source: Abel (2017)

Data & stylized facts

First residence permits issued to Third Country Nationals by the EU28, by reason. 2008-2016

New asylum applications from 140 origins ca to 44 destinations (including the EU), 1999-2015



Source: Eurostat





Data and stylized facts



Individual intentions to migrate, 2010-2015



Empirical specifications

Country-level analyses: *augmented-gravity* models

$$ln\left(\frac{Migr.Flow_{odt}}{Pop_{ot}}\right) = \beta \ln(X_{ot}) + \gamma \ln(X_{dt}) + \delta \ln(X_{odt}) + \theta \ln(X_{od}) + \alpha_o + \alpha_d + \alpha_t + \varepsilon_{odt}$$

o=origin, d=destination, t=time X_{ot} origin countries characteristics X_{dt} destination country characteristics X_{odt} , X_{od} dyadic characteristics

Individual-level analyses: *logit* models

Binary dependent variable: *Migration Intention*_i=1 if *i* expresses an intention to migrate Controls: demographic, socio-economic (education, labour market status, individual wealth)



Table 1. General Migration, by income level of origin countries. 1980-2015

Dependent Variable: migration flow (as a share of population at origin, in log)			
	(1)	(2)	(3)
	Low income	Middle income	High income
GDP per capita (origin)	-0.0192	0.470***	-0.383***
	(0.189)	(0.132)	(0.112)
Expenditure in Education (origin)	0.0844***	0.0500***	-0.00580
	(0.0188)	(0.0160)	(0.0200)
Fertility (origin)	-0.403***	-0.194***	0.00159
	(0.105)	(0.0744)	(0.0403)
Geographical distance (origin-destination)	-0.235***	-0.154***	-0.149***
	(0.0367)	(0.0170)	(0.0113)
Networks (origin-destination)	0.565***	0.611***	0.433***
	(0.0272)	(0.0214)	(0.0173)
Trade (origin-destination)	0.119***	0.0105	0.0660***
	(0.0242)	(0.0154)	(0.0181)
GDP per capita growth (destination)	0.0637***	0.0386**	0.0360***
	(0.0222)	(0.0180)	(0.0112)
Common language (origin-destination)	0.0773*	0.116***	0.0732***
	(0.0394)	(0.0287)	(0.0281)
Colonial link (origin-destination)	0.0526	0.0994	0.111***
	(0.0701)	(0.0617)	(0.0429)
Observations	2,389	4,790	8,461
R-squared	0.763	0.743	0.617

Notes. Regression results from panel data models for general migration estimated with Least Squares Dummy Variables. Standardized regression coefficients. *, **, *** denote significance at 10%, 5%, 1%, respectively. Robust standard errors clustered at the origin-destination level. All models include origin country dummies, destination country dummies, year dummies, and a constant term.



Table 2. Channels of migration to the EU. 2009-2016

Dependent Variable: Residence permits (as a share of population of origin country, in log)			
	(1)	(2)	(3)
	Family	Work	Education
GDP per capita (origin)	0.197**	-0.181	0.104
	(0.0891)	(0.169)	(0.129)
Geographical distance (origin-destination)	-0.0222	-0.172***	-0.185***
	(0.0283)	(0.0409)	(0.0408)
Networks (origin-destination)	0.693***	0.623***	0.404***
	(0.0159)	(0.0239)	(0.0242)
Trade (origin-destination)	-0.00113	0.00576	0.0422
	(0.0128)	(0.0260)	(0.0259)
Unemployment rate (destination)	-0.000402	-0.261***	-0.170***
	(0.0116)	(0.0278)	(0.0212)
Common language (origin-destination)	0.126***	0.134**	0.197***
	(0.0317)	(0.0568)	(0.0564)
Colonial link (origin-destination)	0.123**	0.164*	0.271***
	(0.0629)	(0.0979)	(0.0975)
Observations	9,062	6,803	6,300
R-squared	0.878	0.802	0.739

Notes. Regression results from panel data models for legal channels of migration estimated with Least Squares Dummy Variables. Standardized regression coefficients. *, **, *** denote significance at 10%, 5%, 1%, respectively. Robust standard errors clustered at the origin-destination level. All models include origin country dummies, destination country dummies, year dummies, and a constant term.



Table 3. Asylum applications, 1999-2016

Dependent Variable: new asylum applications (as a share	of population at origin, in log)
	(1)
	Asylum
GDP per capita (origin)	-0.551***
	(0.0589)
Democracy (origin)	-0.0752***
	(0.0182)
Political Terror (origin)	0.0701***
	(0.00717)
Area affected by high intensity conflict (origin)	0.0310***
	(0.00458)
Population growth (origin)	-0.0301***
	(0.0114)
High intensity conflict (origin)	0.0688***
	(0.0207)
Networks (origin-destination)	0.458***
	(0.0219)
Geographical distance (origin-destination)	-0.287***
	(0.0320)
Colonial link (origin-destination)	0.0290
	(0.0546)
Common language (origin-destination)	0.0743**
	(0.0332)
Employment rate (destination)	0.105***
	(0.0234)
Observations	29,133
R-squared	0.706

Notes. Regression results from panel data model for asylum seekers estimated with Least Squares Dummy Variables. Standardized regression coefficients. *, **, *** denote significance at 10%, 5%, 1%, respectively. Robust standard errors clustered at the origin-destination level. All models include origin country dummies, destination country dummies, year dummies, and a constant term.



Table 4. Migration preparation, by income level. 2010-2015

	(1)	(2) Middle income	(3) High income
	Low income		
Age 20-24	1.108	1.414***	1.250*
	(0.112)	(0.105)	(0.155)
Age 25-29	1.256**	1.685***	0.981
	(0.133)	(0.132)	(0.131)
Age 30-34	1.004	1.523***	0.981
•	(0.125)	(0.131)	(0.139)
Age 35-39	0.836	1.319***	0.803
-	(0.119)	(0.123)	(0.116)
Age 40-44	0.874	0.908	0.668***
	(0.134)	(0.0926)	(0.0995)
Age 45-49	0.682**	0.640***	0.452***
-	(0.118)	(0.0715)	(0.0758)
Age 50-54	0.428***	0.643***	0.437***
•	(0.0927)	(0.0751)	(0.0734)
Age 55-59	0.505***	0.403***	0.286***
	(0.129)	(0.0561)	(0.0540)
Age 60-64	0.481***	0.395***	0.228***
-	(0.134)	(0.0645)	(0.0500)
Age 65+	0.259***	0.234***	0.184***
•	(0.0794)	(0.0322)	(0.0371)
Having children	1.014	0.940	0.832***
	(0.0864)	(0.0427)	(0.0588)
Gender (male)	1.306***	1.528***	1.314***
	(0.0882)	(0.0625)	(0.0807)
Foreign-born	2.290***	2.471***	2.341***
	(0.293)	(0.221)	(0.199)
Network	6.087***	6.726***	4.962***
	(0.484)	(0.341)	(0.354)
Married	0.662***	0.659***	0.572***
	(0.0566)	(0.0360)	(0.0498)
Other marital status	1.069	0.839**	0.845*
	(0.134)	(0.0597)	(0.0796)

Secondary Education	1.772***	1.371***	1.159
	(0.132)	(0.0707)	(0.116)
Tertiary Education	2.110***	1.667***	1.742***
	(0.268)	(0.110)	(0.199)
Unemployed	1.433***	1.500***	1.555***
	(0.135)	(0.0936)	(0.153)
Out of workforce	0.778***	0.832***	0.771***
	(0.0591)	(0.0420)	(0.0634)
2 nd income quintile	1.014	1.019	0.712***
	(0.119)	(0.0775)	(0.0711)
3 rd income quintile	0.922	1.077	0.661***
	(0.105)	(0.0776)	(0.0661)
4 th income quintile	1.003	1.210***	0.765***
	(0.110)	(0.0863)	(0.0740)
5 th income quintile	1.156	1.423***	0.959
	(0.122)	(0.0987)	(0.0892)
Observations	102,880	308,964	254,230
Pseudo R2	0.1678	0.2095	0.1680

Notes. Odds ratios from logistic regressions are reported. *, **, *** denote significance at 10%, 5%, 1%, respectively. Robust standard errors. All models include country dummies, year dummies, and a constant term. Repeated cross-sections for the years 2010-2015. Reference categories for the covariates are: Age 15-19, Not having children, Female, Native-born, Not having networks, Single, Primary Education, Employed, 1st income quintile.



Robustness checks

Robustness checks and additional analyses (Migali and Natale 2017, Migali and Scipioni 2018, Conte and Migali)

- Endogeneity issues not addressed
- Different sub-samples of origin and destination countries (e.g. macro-regions)
- Alternative models for count data (due to zero migration flows)
- Inclusion of policy indexes



Main conclusions

- Main drivers of international migration are structural: networks & economic development in countries of origin
- Empirical support of migration hump for general migration and migration transition theories
- Migration to the EU: networks and economic conditions at origin and destination matter differently for different migration channels
- Armed-conflicts, state fragility as well as economic conditions are drivers of people moving internationally to seek asylum
- Consistent gap between migration wish and migration preparation. Having connections abroad, a migrant background, and economic means all facilitate migration preparation (mirroring the country-level drivers)



Any questions?

You can find me <u>silvia.migali@ec.europa.eu</u>

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