



Migration and Development: The Diaspora Externality

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Migration Externalities



- The decision to migrate is based on the costs and benefits people expect for themselves and for their loved ones
- But there are unintended consequences on other people's welfare... Some are internalized when making the migration decision and some not... hence the term **externality**
- ***Externalities can be negative (e.g., brain drain, diasporas) or positive (e.g., brain drain, diasporas)***

Diaspora Externalities and Development

1. Economic integration into the global economy

- The trade-creating effect of migration
- Migration and Financial Investments (e.g., FDI, loans)
- Knowledge and technology diffusion

2. Cultural integration: social remittances

- Political Remittances
- Malthusian and other types of social remittance
- Migration and cultural change



1.


Economic integration: Diasporas and the global economy

A. Migration and Trade

The Trade-Creating Effect of Migration



Migration networks can have very strong trade-creating effects:

- **Information Effect** = migrants increase bilateral trade because they reduce bilateral information costs (differentiated goods)
- ✓ *Rauch and Trindade (2002), Felbermayr and Toubal (2012)* 
- **Preference Effect** = migrants increase demand for goods from their home countries


→ Both effects indicate that migration and trade are complements!

The Trade-Creating Effect of Migration



Cross Country Evidence: **Migration boosts Trade!** 

- Gould (1994) for US; Head and Ries (1998) for Canada. Elasticities around 10 percent for exports (information) and 30 percent for imports (information+preferences).
- Felbermayr and Jung (2009) obtain similar elasticities; see also Felbermayr and Toubal (2012) on information.

However: *“It is difficult to draw causal inferences from these results since immigration may be correlated with unobserved factors that affect trade, such as trading partners’ cultural similarity or bilateral economic policies”* (Hanson 2007) 

Solution: **Natural experiments!**



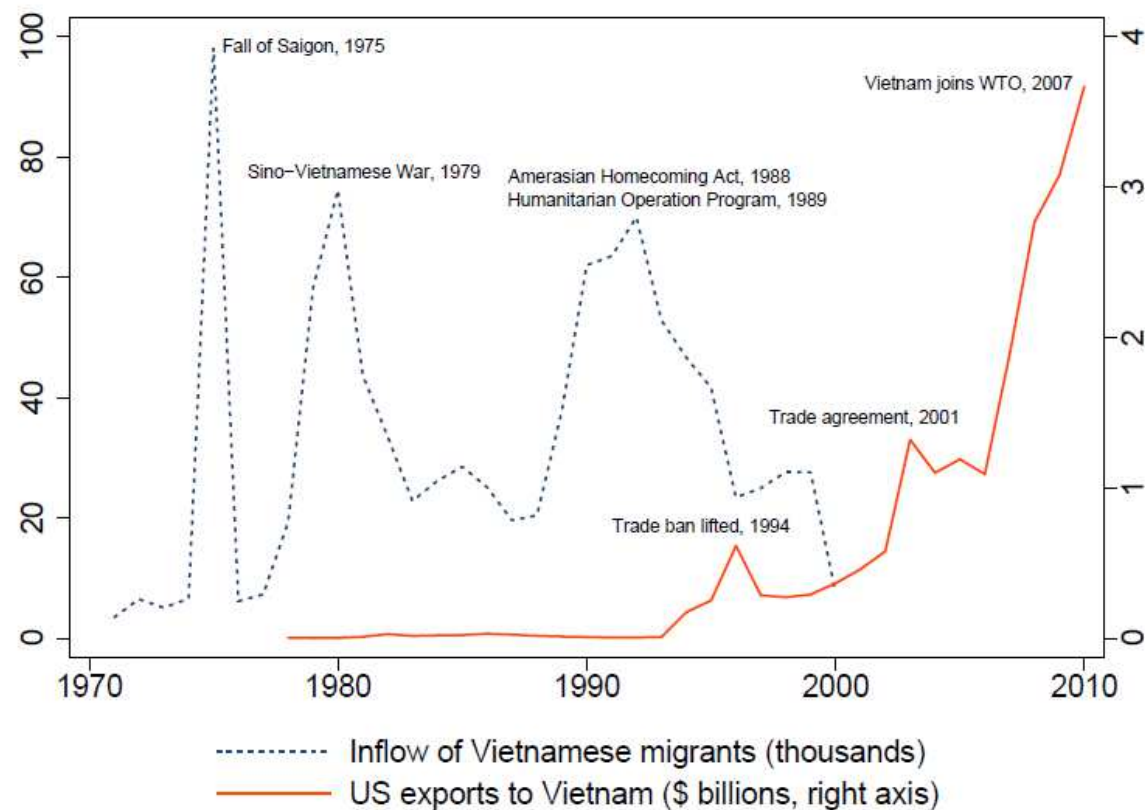
The Trade-Creating Effect of Migration

Parsons and Vezina (EJ2018): “Migrant Networks and Trade: The Vietnamese Boat People as a Natural Experiment”

- Ingredients: large immigration inflow of Vietnamese Boat People to US between 1975-1994 with concurrent Trade Embargo; quasi-random allocation Vietnamese Refugees in 1975
- Key assumption for natural experiment is that initial allocation Vietnamese is quasi-random, e.g. uncorrelated with immigrant preferences and is exogenous to future economic opportunities to trade with Vietnam
- Authors argue that the political chaos during that time and the case overload created a quasi random allocation of refugees; they show that refugee characteristics are uncorrelated with US State characteristics

The Trade-Creating Effect of Migration

Figure 1: Vietnamese Boat People and US Exports to Vietnam

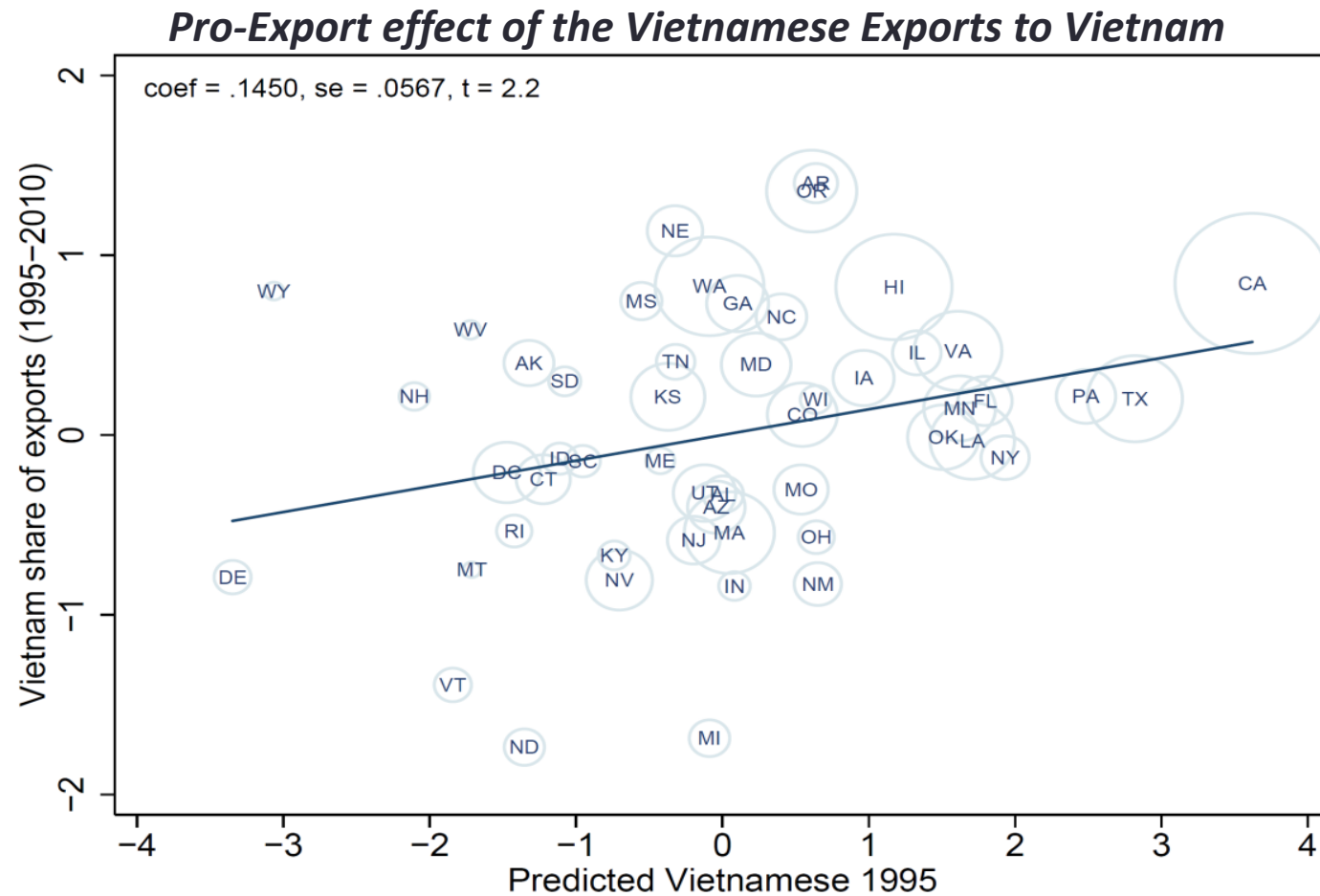


Sources: US Census 2000 and USITC.

The Trade-Creating Effect of Migration



Parsons and Vezina (EJ2018)



The Trade-Creating Effect of Migration



Table 3: Results - IV

	(1)	(2)	(3)	(4)	(5)
	First Stage Vietnamese 1995	Exports	GDP	Extensive margin	Exports to Asia
Vietnamese 1995		0.145**	0.198***	0.271***	0.134**
		-0.0567	(0.0605)	(0.0256)	(0.0573)
Income per capita	1.214	0.667	-0.901	-0.560*	0.0192
	(0.747)	(0.720)	(0.856)	(0.328)	(0.802)
Remoteness	-6.03e-05	0.408**	0.163	-0.412***	0.140
	(0.202)	(0.196)	(0.338)	(0.0868)	(0.183)
Export structure	-0.353***	0.214**	0.232*	0.0214	0.365***
	(0.108)	(0.100)	(0.135)	(0.0296)	(0.0910)
Refugees 1975	1.296***				
	(0.0781)				
Constant	-13.49	-6.831	14.94**	-5.800	-4.291
	(8.885)	(5.989)	(7.010)	(4.099)	(7.188)
Observations	51	51	51	51	51
R-squared	0.852	0.219	0.282	0.795	0.332
Cragg-Donald F	275.2				
Kleibergen-Paap p-val	0.000182				

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.



1.

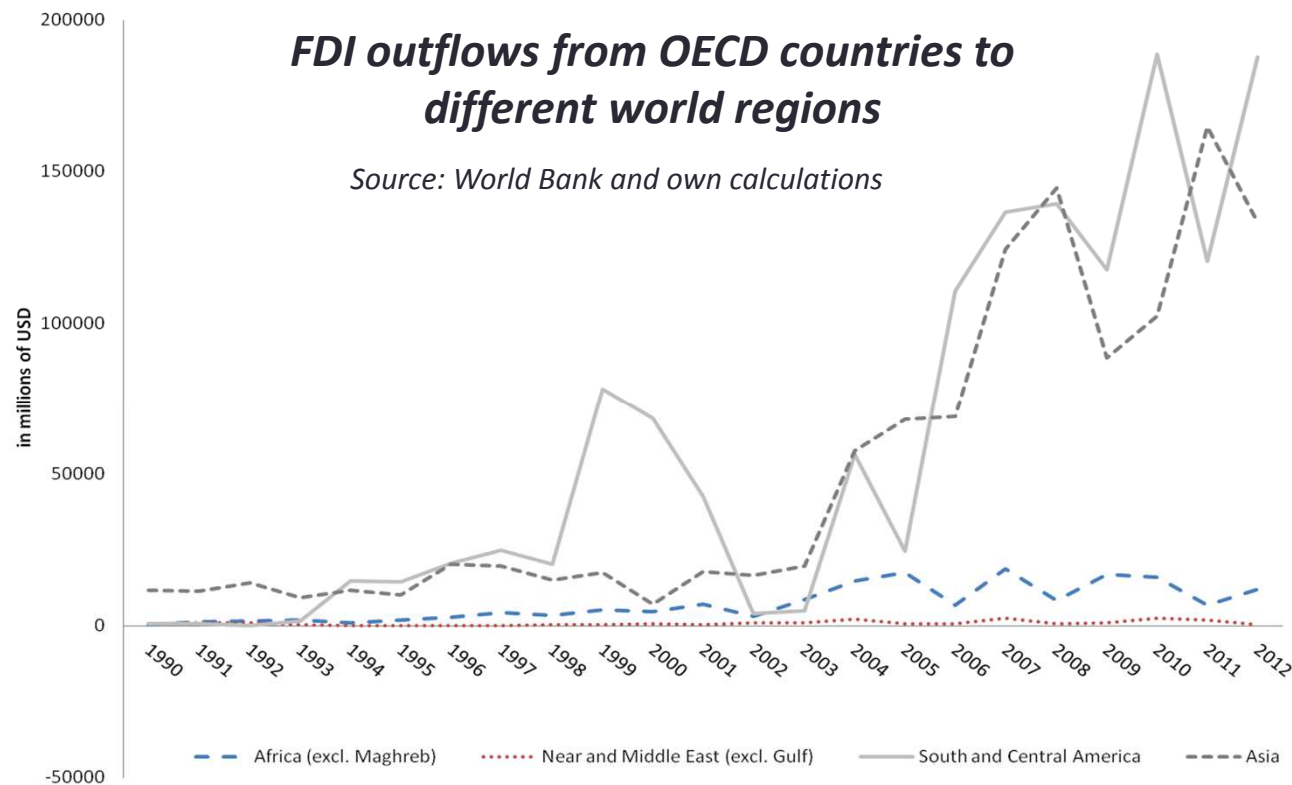
Economic integration:
Diasporas and the global economy

B. Migration, FDI and other financial flows

Migration and Foreign Direct Investment



FDIs have become an increasingly important source of capital for non-OECD & developing countries since 1990



Migration and Foreign Direct Investment



Migration can reduce risk and uncertainty:

- Facilitate the formation of business links
- Catalyst to establish efficient distribution, procurement, transportation and satisfaction of regulations
- Immigrant labor force carries information on their home countries (reduce uncertainty)

Migration and Foreign Direct Investment



Micro Evidence

Foley and Kerr (2012):

- Firm-level linkages between high-skill migration to the United States and U.S. FDI
- Using data on FDI and on patenting by ethnicity
- Firms with higher proportions of their patenting activity performed by inventors from a certain ethnicity have higher FDIs to the (high skilled) inventors' countries of origin = **complementarity**

Migration and Foreign Direct Investment



Macro Evidence

Kugler and Rapoport (EL2007), Javorcik et al. (JDE2011)

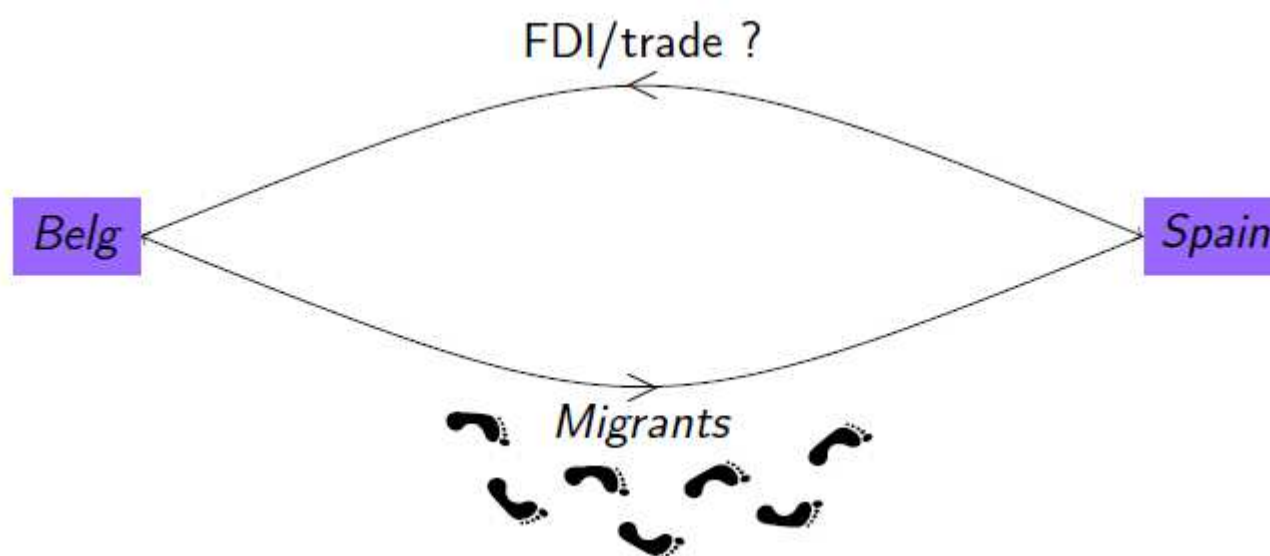
- Bilateral FDI (for U.S./rest of the world) and migration data considering the skill dimension of migration
- Manufacturing FDI is negatively correlated with current low-skill migration = ***static substitutability***
- FDI in both the service and manufacturing sectors is positively correlated with the high-skill immigration stock = ***dynamic complementarity***

Migration and Foreign Direct Investment



Aubry, Rapoport and Reshef (2019):

- Previous literature: Migration favors trade and FDI through a reduction in international business transaction costs.
- Need for a unified analysis: Interdependence between trade, migration and FDI. As migrants could both decrease the costs of trade and FDI the outcome is a priori ambiguous

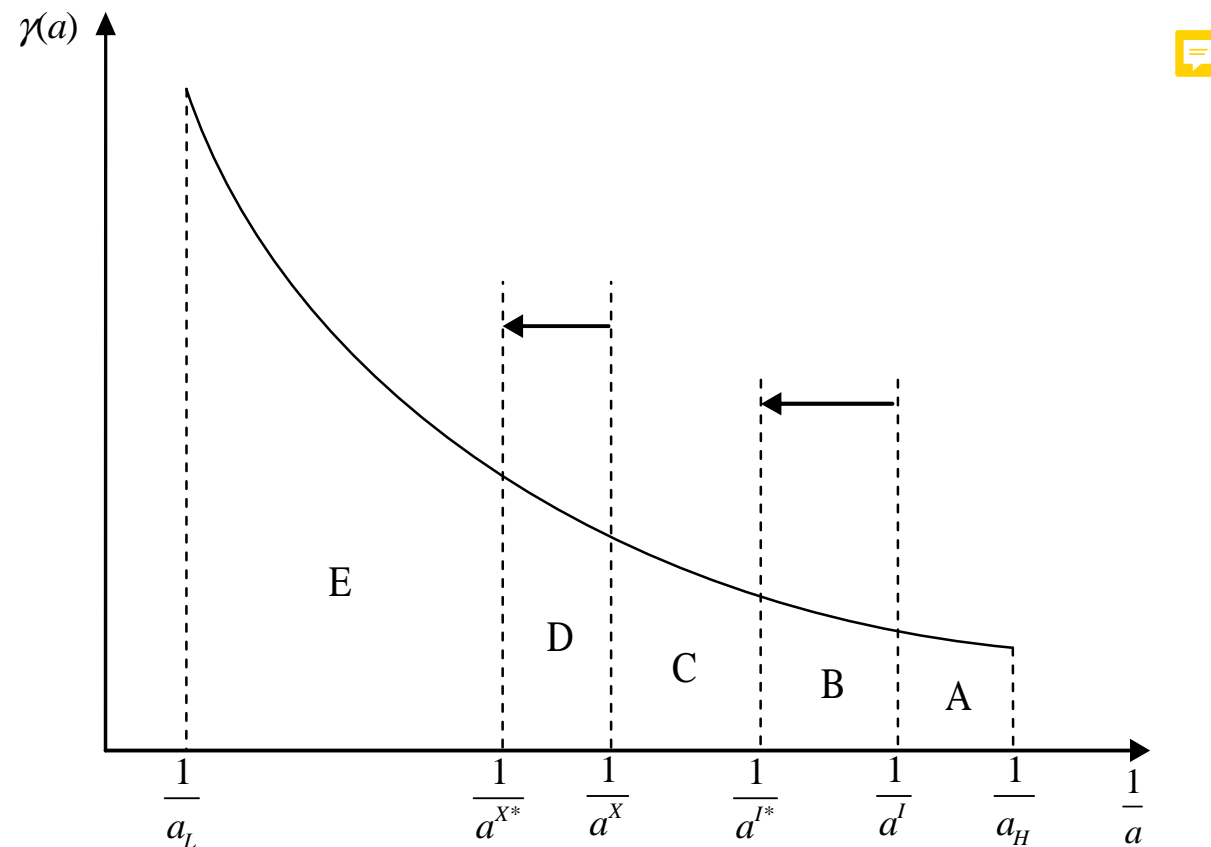


Migration and Foreign Direct Investment



The effect of migration on the extensive margin: trade vs. FDI

Source: Aubry, Rapoport and Reshef (2019)



Migration and Foreign Direct Investment



The Effect of Migration on Trade & FDI separately

Source: Aubry, Reshef, and Rapoport (2019)

	ln(Trade) benchmark	ln(Trade) nls	Tfdi Probit	ln(FDI) benchmark	ln(FDI) nls	ln(FDI) firm heterog	ln(FDI) firm selec
ln(Total migration in 2000)	0.151***	0.105***	0.027***	0.199***	0.176***	0.158***	0.212***
ln(distance)	-1.492***	-0.994***	-0.207***	-0.918***	-0.944***	-0.796***	-1.117***
Common border	0.338**	0.539***	0.105	0.060	0.084	0.065	0.053
Currency union	0.615***	0.340*	0.296***	0.127	0.071	0.012	0.039
Free trade agreement	0.651***	0.462***	-0.001	-0.057	-0.037	-0.064	-0.052
Country is landlocked	-0.639***	-0.488***	-0.003	0.502	0.605	0.454	0.357
Same legal system	0.362***	0.288***	0.086***	0.442***	0.434***	0.381***	0.536***
Same official language	0.686***	0.349***	0.139***	0.600***	0.614***	0.565**	0.687***
Colonial tie	0.106	1.253***	0.233***	0.655***	0.667***	0.522**	0.895***
Time to register a prop.			-0.068*				
δ		0.949***			0.066		0.508
η		0.562***			0.427***		
Observations	15615	15615	6512	2180	2180	2180	2180
R^2	0.677	0.676		0.771	0.775	0.774	0.773

Migration and Foreign Direct Investment



The Effect of Migration on FDI over Trade ratio

Source: Aubry, Reshef, and Rapoport (2019)

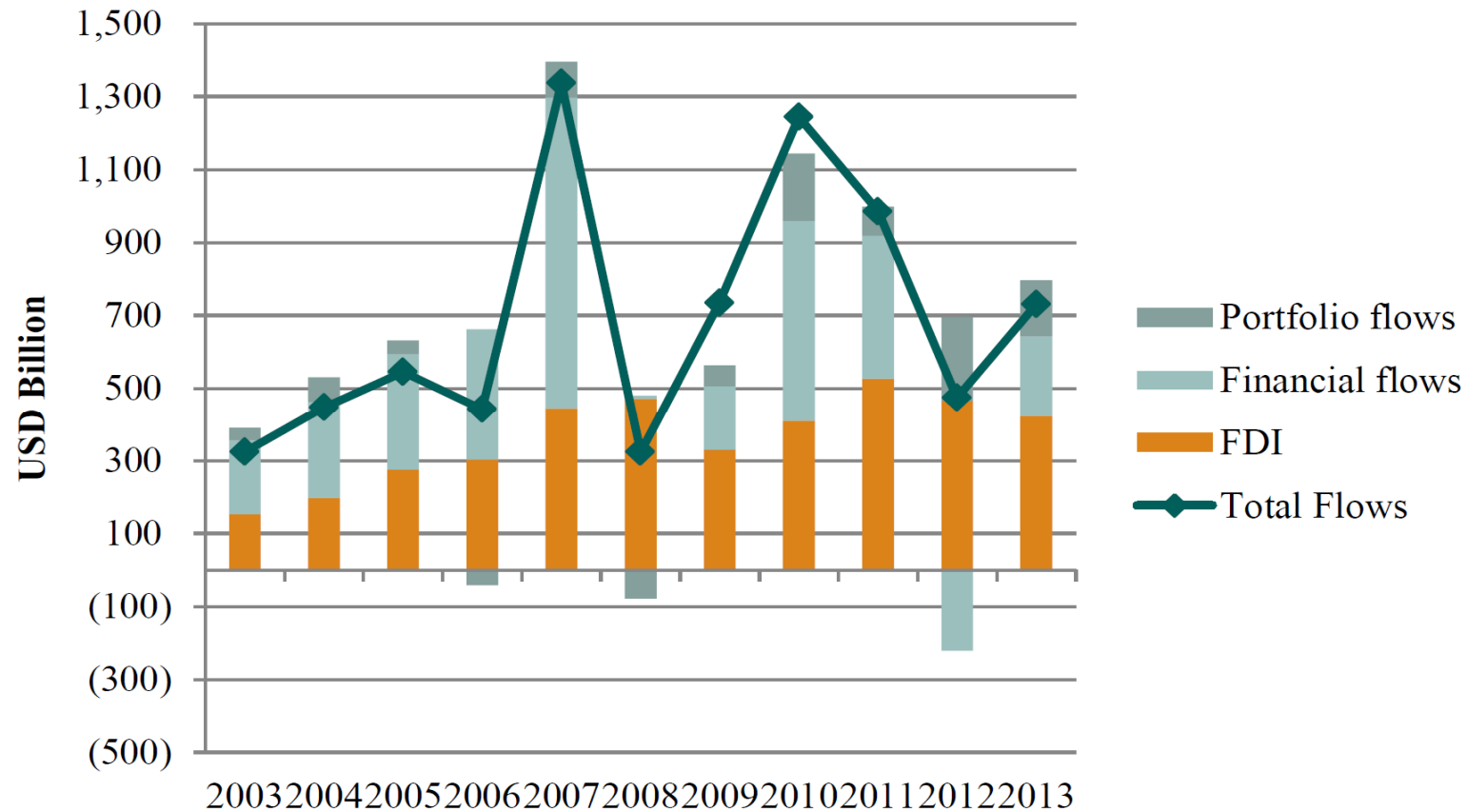
	ln(FDI/exports) benchmark	ln(FDI/exports) nls	ln(FDI/exports) firm heterog	ln(FDI/exports) firm select
ln(Total migration in 2000)	0.114***	0.102***	0.076***	0.134***
ln(distance)	-0.035	0.055	0.205*	-0.134
Common border	-0.095	0.075	(0.230)	(0.228)
Currency union	0.100	0.249	0.142	0.107
Free trade agreement	0.048	0.037	0.032	0.040
Country is landlocked	0.483	0.227	0.384	0.347
Same legal system	0.125	0.152	0.047	0.239**
Same official language	0.427**	0.325*	0.301	0.403**
Colonial Tie	0.328*	0.246	0.062	0.464**
δ		0.000	0.468***	
η		1.145***		0.696***
Observations	2180	2180	2180	2180
R^2	0.546	0.546	0.549	0.552

Migration and other Financial Flows



Cross Border Capital Flows by type in Developing Countries

Source: Tyson et al. 2014



Migration and other Financial Flows



Kugler, Levintal & Rapoport (WB ER2018)

- **Hypothesis** = migration should stimulate bilateral financial flows thanks to information to investors
- **Results**
 - Migration contributes to international bank lending
 - Information channel supported by the type of migrants (skilled), type of countries (culturally remote, developing) and type of investments (risky)
 - The effect of migration on cross-border flows is higher for developing countries (extensive margin)

Migration and other Financial Flows



Table : International bank lending and migration

Dependent Variable:	log (Loans _{ij})			Loans _{ij}		
	(1)	(2)	(3)	(4)	(5)	(6)
log Migration _{ij}		0.184*** (0.038)		0.125** (0.050)	0.150*** (0.037)	0.179*** (0.028)
log Distance _{ij}	-0.368*** (0.078)	-0.247*** (0.080)	-0.710*** (0.121)	-0.595*** (0.123)	-0.701*** (0.107)	-0.253*** (0.050)
(Colonial Link) _{ij}	0.897*** (0.239)	0.777*** (0.239)	1.337*** (0.266)	1.169*** (0.267)	1.328*** (0.204)	0.176 (0.170)
(Language) _{ij}	0.320 (0.202)	0.075 (0.216)	0.127 (0.187)	0.048 (0.190)	0.260 (0.160)	-0.197 (0.236)
(Legal origin) _{ij}	0.694*** (0.109)	0.579*** (0.117)	0.485*** (0.124)	0.410*** (0.117)	0.144 (0.111)	0.450*** (0.121)
Other controls (not reported)						
FE (i and j)	No	No	Yes	Yes	Yes	Yes
N	824	824	824	824	1,628	1,827
L	16	16	16	16	17	17
B	62	62	62	62	175	178
R ²	0.69	0.70	0.86	0.86	0.85	0.94
Estimator	OLS	OLS	OLS	OLS	OLS	Poisson

Kugler, Levintal & Rapoport (WB ER2018)

Migration and other Financial Flows



Table : Skilled versus unskilled migration - OLS and Poisson

Dependent Variable:	log(Loans) (1)	log(Export) (2)	Loans (3)	Export (4)
log(Skilled)	0.217*** (0.066)	0.072** (0.035)	0.232*** (0.090)	0.087 (0.058)
log(Unskilled)	-0.033 (0.054)	0.084** (0.033)	0.001 (0.069)	0.119** (0.056)
log(Distance)	-0.736*** (0.112)	-0.815*** (0.063)	-0.258*** (0.051)	-0.633*** (0.051)
N	1,427	1,427	1,546	1,546
L	17	17	17	17
B	158	158	157	157
R^2	0.86	0.93	0.94	0.97
Estimator	OLS	OLS	Poisson	Poisson

Regressions include country fixed effects, colonial link, language and legal origin as additional controls.

Kugler, Levintal & Rapoport (WB ER2018)

Migration and other Financial Flows



Table : Comparison between Developed and non-Developed countries - OLS and Poisson

Dependent variables:	log(Loans) (1)	Loans (2)
log Migration _{ij}	0.100** (0.047)	0.125*** (0.038)
log Migration _{ij} * (Non-Developed Country) _j	0.058 (0.042)	0.145*** (0.038)
log Distance _{ij}	-0.744*** (0.110)	-0.265*** (0.050)
Obs.	1,451	1,588
Obs with Developed Borrowing Countries	427	431
No. of Lending Countries	17	17
No. of Borrowing Countries	158	158
R ²	0.86	0.94
Estimator	OLS	Poisson

Regressions include country fixed effects, colonial link, language and legal origin as additional controls.

Kugler, Levintal & Rapoport (2018)




1.

Economic integration:
Diasporas and the global economy

C. Migration and Technology Diffusion

Migration and Technology Diffusion



- Knowledge diffusion tends to be highly geographically localized (e.g., Jaffe, Trajtenberg and Henderson 1993; Bottazzi and Peri 2003; Keller 2002; Bahar et al. 2014)
- An accepted interpretation is that “tacitness of knowledge” makes its transmission difficult without direct human interaction (Polanyi, 1956, Arrow, 1981). 
- Thus, **the pattern of international knowledge diffusion should relate to the pattern of international migration:** Immigrants “bring” knowledge; emigrants create diaspora networks



Migration and Technology Diffusion

Are migrants a source of dynamic comparative advantage?

Two Papers:

1. Bahar & Rapoport (EJ2018):

Migrants (immigrants and emigrants) and their impact on the export-basket of a country = global analysis

2. Bahar, Hauptmann, Özgüzel & Rapoport (2018):

Return migrants and their impact on the export basket of their home country = natural experiment (Yugoslavia)

Migration and Technology Diffusion



Bahar and Rapoport (EJ2018) - Summary of results

- Margins. A 10% increase in the immigrants or emigrants stock coming from countries exporters of product p is associated with a $\sim 2\%$ increase in the likelihood country c will export product p with $RCA \geq 1$ (extensive margin) and with higher annual CAGR of 0.06pp/0.07pp (intensive margin) in the next 10 year period. Immigrants seem to dominate emigrants when entered jointly at the extensive margin.
- Skills: Migrants with college education or above are about ten times more "effective" than unskilled migrants.
- South-South: qualitatively and quantitatively similar as in full sample

Migration and Technology Diffusion



Skill Levels

Dependent Variable: New Product in Export Basket						
	Unskilled			Skilled		
	(1)	(2)	(3)	(4)	(5)	(6)
Immigrants	0.0028 (0.001)***		0.0021 (0.001)***	0.0029 (0.001)***		0.0025 (0.001)***
Emigrants		0.0026 (0.001)***	0.0016 (0.001)***		0.0023 (0.001)***	0.0014 (0.001)*
Total FDI	0.0009 (0.001)	0.0010 (0.001)	0.0009 (0.001)	0.0009 (0.001)	0.0010 (0.001)	0.0009 (0.001)
Total Trade	-0.0066 (0.003)**	-0.0066 (0.003)**	-0.0072 (0.003)**	-0.0065 (0.003)**	-0.0062 (0.003)*	-0.0070 (0.003)**
Product Imports	-0.0007 (0.000)*	-0.0007 (0.000)*	-0.0007 (0.000)*	-0.0007 (0.000)*	-0.0007 (0.000)*	-0.0007 (0.000)*
N	83100	83100	83100	83100	83100	83100
r ²	0.12	0.12	0.12	0.12	0.12	0.12

All specifications include country-by-year and product-by-year fixed effects. SE clustered at the country level presented in parenthesis

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Migration and Technology Diffusion



Bahar, Hauptmann, Özgüzel & Rapoport (2019)

- Exploit a natural experiment on Yugoslavian refugees in Germany, 1990-1995
- Return migration from Germany to areas of former Yugoslavia has increased the exports of “German-type” goods to the rest of the world
- Products with an increase in return migration by 1% had 0.13-0.33% increase in exports to ROW (excluding Germany).

Migration and Technology Diffusion



Empirical Strategy:

- DID specification to compare average exports in 1985-1990 against 2005-2010 as follows:

$$exports_{p,t} = \beta_{DID} treat_p \times after_t + controls_{p,t} + \eta_p + \varphi_t + \varepsilon_{p,t}$$

- Addressing endogeneity:
 - Placebo test using pre-trend as outcome
 - Using Instrumental Variable Strategy

$$\underbrace{TreatIV_p}_{\text{Expected asylum workers in industry } p} = \sum_{t=1990}^{1995} \sum_s \underbrace{asylumseekers_t}_{\text{Inflow asylum seekers in year } t} \times \underbrace{quota_{s,t}}_{\text{Quota (share) for state } s \text{ during } t} \times \underbrace{shareindustry_{s,p,t}}_{\text{Employment share of } p \text{ within } s \text{ year } t}$$

Migration and Technology Diffusion



Baseline and IV Results

Table: Differences-in-differences estimation, 1985-1990 and 2005-2010

Dependent variable: $exports_{p,t}$						
	OLS			2SLS		
	lnexp	lnexpplus1	asinhexp	lnexp	lnexpplus1	asinhexp
treat2000 \times after2005	0.1281 (0.040)***	0.2251 (0.063)***	0.2291 (0.065)***	0.1885 (0.049)***	0.3252 (0.084)***	0.3311 (0.086)***
lnfdi	-0.1696 (0.069)**	-0.2600 (0.121)**	-0.2641 (0.125)**	-0.1734 (0.070)**	-0.2663 (0.122)**	-0.2704 (0.126)**
N	1520	1572	1572	1520	1572	1572
r ²	0.86	0.80	0.80	0.86	0.80	0.80
KP F Stat				2841.59	2985.62	2985.62

This table shows result of the estimation using different monotonic transformations for $exports_{p,t}$ in each column. The estimation aggregated exports by product in years 1985-1990 and 2005-2010. All columns include product fixed effects and year fixed effects. Standard errors clustered at the product level presented in parenthesis.

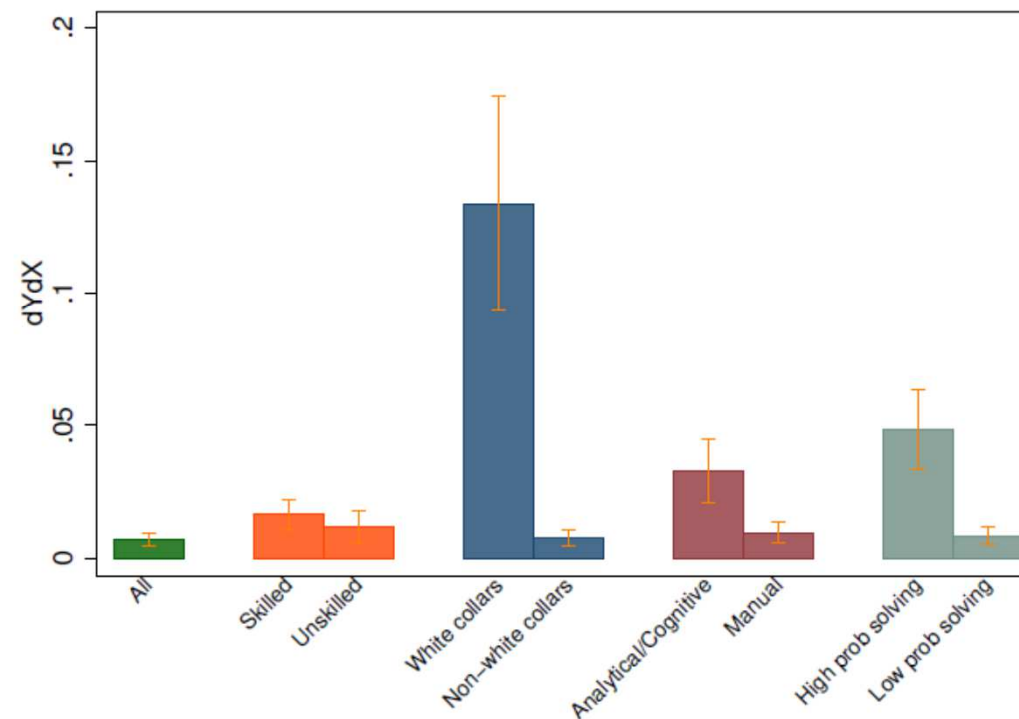
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Migration and Technology Diffusion

Global Results:

$$exports_{c,p,t} = \beta_{DID} migrants_{c,p,t-10} + globalexports_{p,t} + \eta_{c,p} + \varphi_{c,t} + \varepsilon_{c,p,t}$$

Figure: Marginal effect by type of migrant, using $\log(exports_{c,p,t})$



Migration and Technology Diffusion



- Migrants, as carriers of tacit knowledge, induce good specific productivity-shifts
- The effect is much stronger when migrants are skilled and/or work in occupations that are more cognitive and analytical in nature, suggestive of the role of information



2.

Cultural integration: diasporas, social
remittances and culture

Social Remittances



*Migrants' transfers of behavioral and cultural norms to
their communities of origin*
- (Levitt, 1998)



2.

Cultural integration: diasporas, social remittances and culture

A. Political Remittances

Political Remittances



Cross-Country Evidence

Spilimbergo (AER2009)

- Foreign-trained individuals promote democracy in their home countries, but only if foreign education was acquired in a democratic destination
- Use weighted averages of democracy scores of students' destinations, plus data on where political leaders were educated (Harvard, Chicago, Lumumba, Sorbonne); destination matters
- Size of foreign migrant stock does not matter, only whether destination was democratic or not

Political Remittances



Cross-Country Evidence

Docquier, Lodigiani, Rapoport and Schiff («Emigration and Democracy», JDE2016):

- Estimate the effect of emigration on home-country institutions for all migrants, not just foreign students,
- Openness to migration, as measured by the total emigration rate, contributes to improved institutional quality
- Size of emigration rate makes a difference, not just whether emigration is directed toward destinations with high or low democracy scores

Political Remittances



Country Case Study

Barsbai, Rapoport, Steinmayr, Trebesch (AEJ: Applied, 2017):

- The effect of labor migration on the diffusion of democracy: evidence from a former Soviet Republic (forthcoming: AEJ Applied)
- Moldova: Waves of emigration both towards east and west
- Emigration to democratic countries decreases share of votes for communist parties in home district (and vice versa for emigration to Russia)

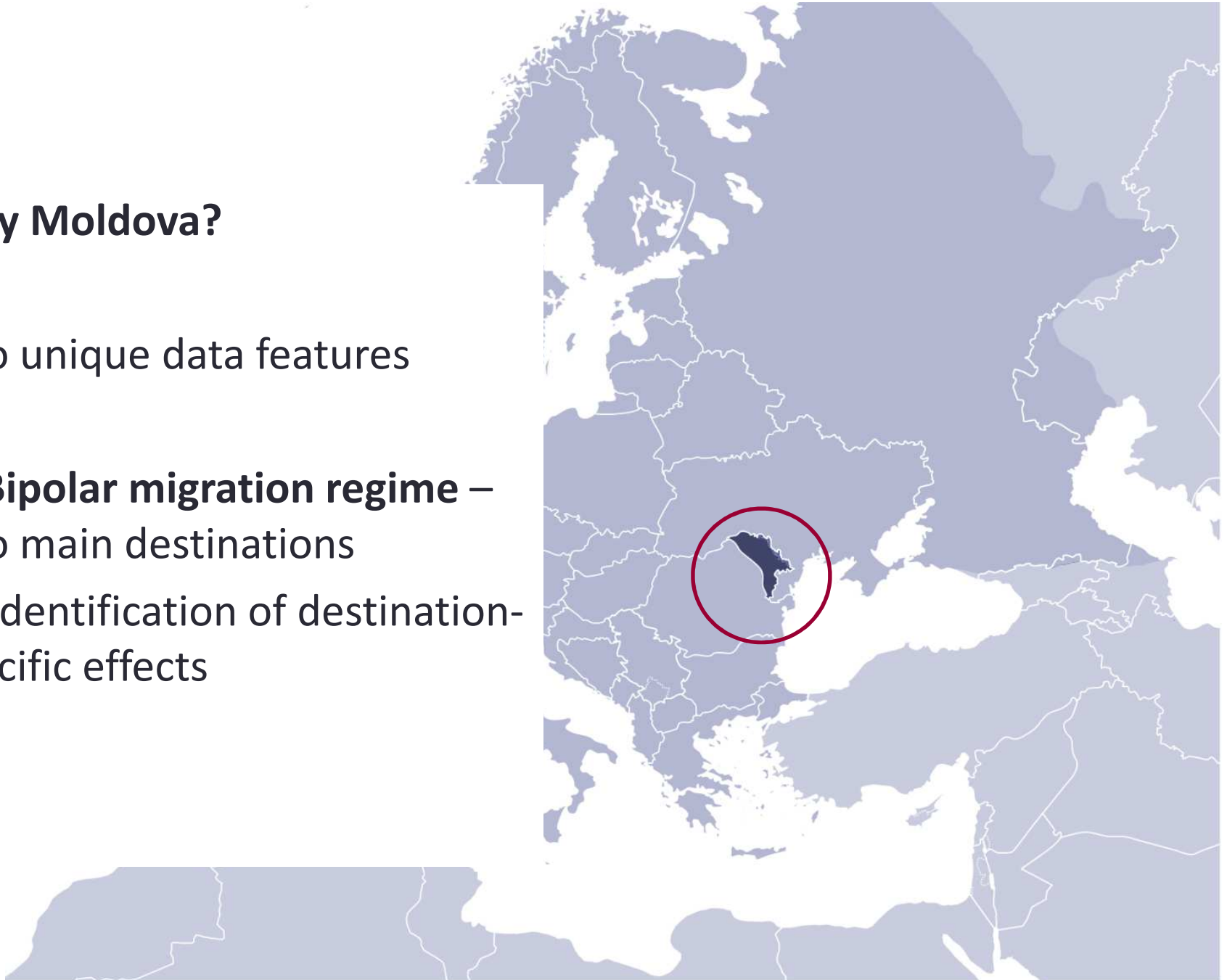
Why Moldova?

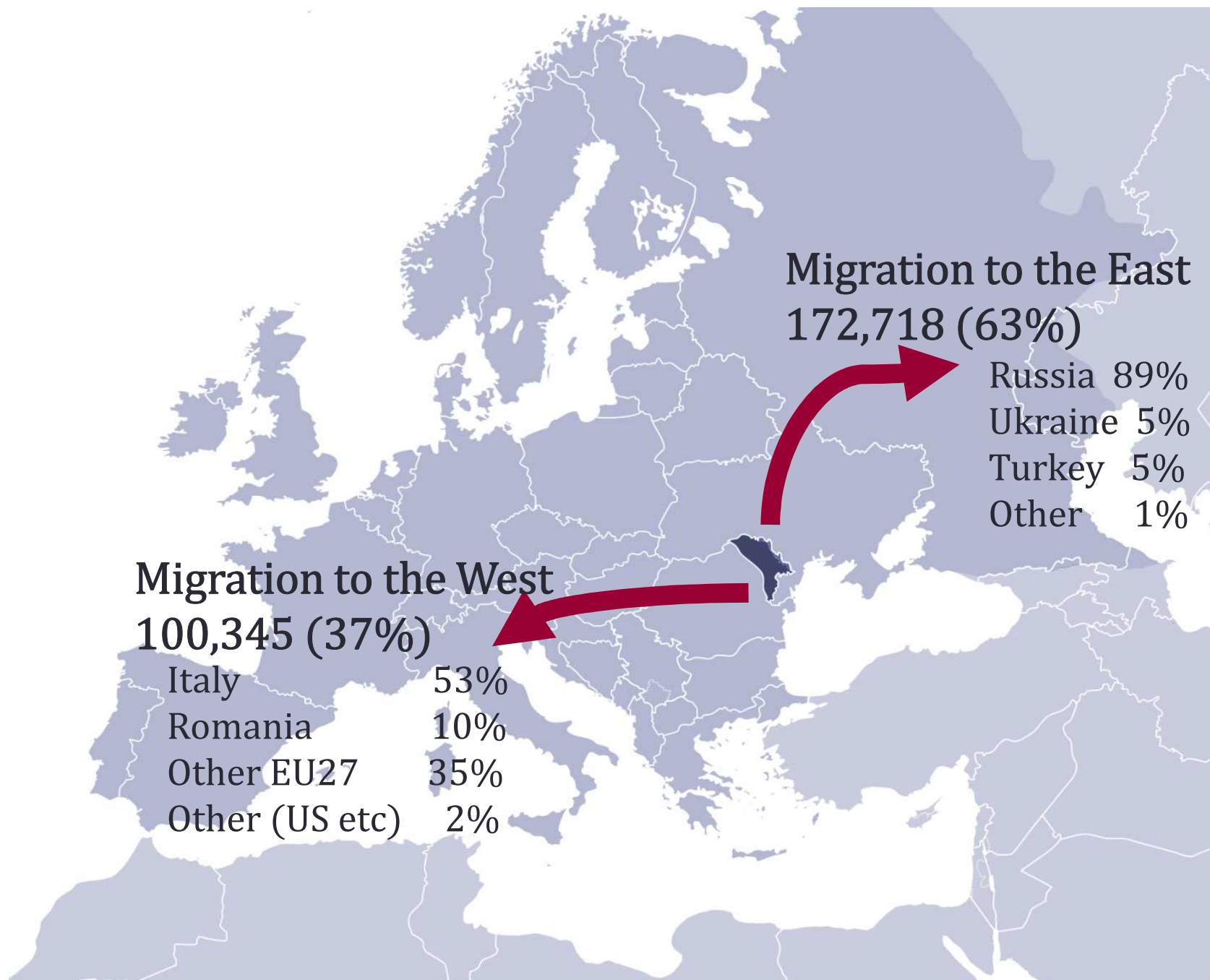
Two unique data features

1) Bipolar migration regime –

Two main destinations

→ Identification of destination-specific effects

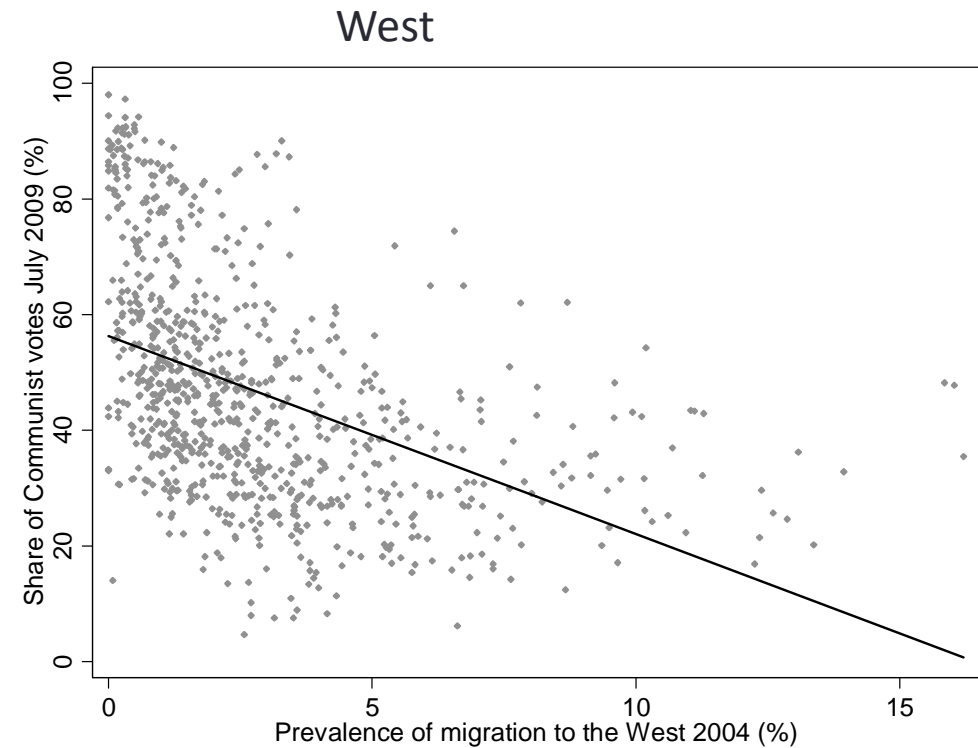
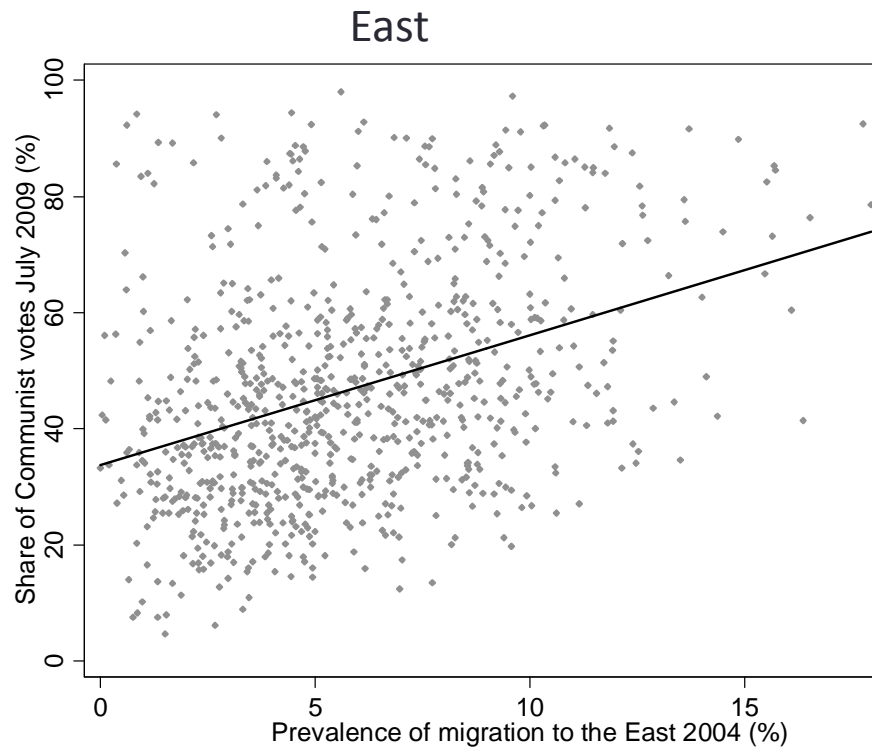




Political Remittances



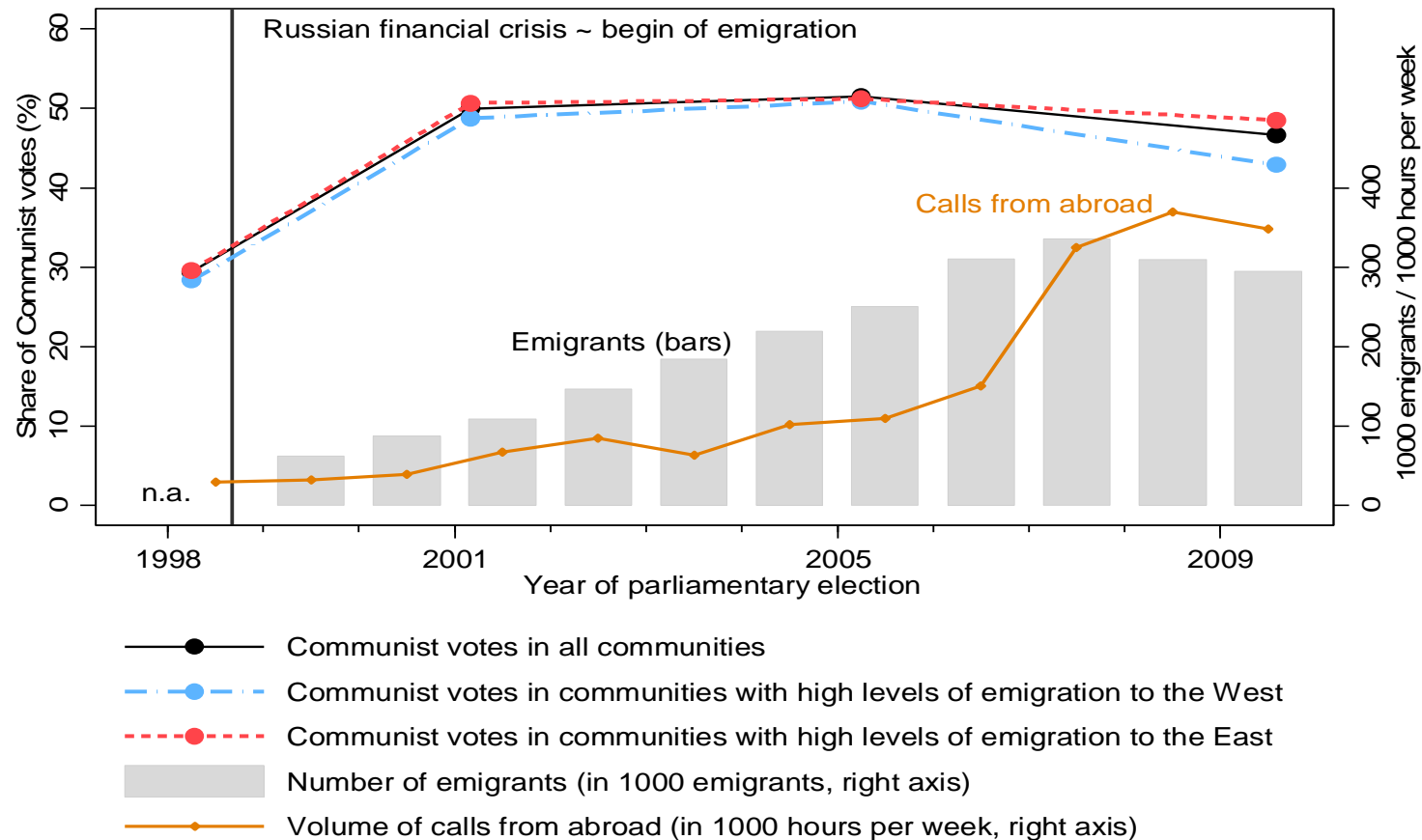
Migration to the East/West and Share of Communist Votes



Political Remittances



Communist votes, number of emigrants in stocks, and volume of calls from abroad to Moldova, 1998-2009



Political Remittances



	Share of votes for the Communist Party (%)			Share of votes for opposition parties (%)			
	Basic controls	Plus pre- migration election results	Plus night- time light (full model)	Liberal Democratic Party	Liberal Party	Demo- cratic Party	Party Alliance Our Moldova
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Prevalence of emigration to the West (%)	-0.70*** (0.20)	-0.63*** (0.18)	-0.63*** (0.18)	0.40*** (0.13)	0.24** (0.11)	0.08 (0.12)	-0.16 (0.15)
Prevalence of emigration to the East (%)	0.44** (0.17)	0.39** (0.16)	0.39** (0.16)	-0.07 (0.09)	0.17** (0.07)	-0.07 (0.08)	-0.01 (0.11)
Basic controls	yes	yes	yes	yes	yes	yes	yes
Pre-migration election results	-	yes	yes	yes	yes	yes	yes
Night-time light	-	-	yes	yes	yes	yes	yes
District fixed effects	yes	yes	yes	yes	yes	yes	yes
Number of observations	848	848	848	848	848	848	848
R ²	0.78	0.82	0.82	0.56	0.66	0.42	0.37



2.

Cultural integration: diasporas, social remittances and culture

B. Malthusian and other social remittances

Malthusian Remittances



Do social remittances extend to fertility preferences?

- Fargues (2007): Notes that emigration is associated with lower birthrates in MENA countries whose main destination is the West while it is associated with higher birthrates where emigration is going Eastward (i.e., to the Gulf countries)
- Beine, Docquier and Schiff (CJE2013): cross-country evidence
- Bertoli and Marchetta (WD2015): confirm Fargues' conjecture with careful empirical analysis of return households to Egypt.

Malthusian Remittances

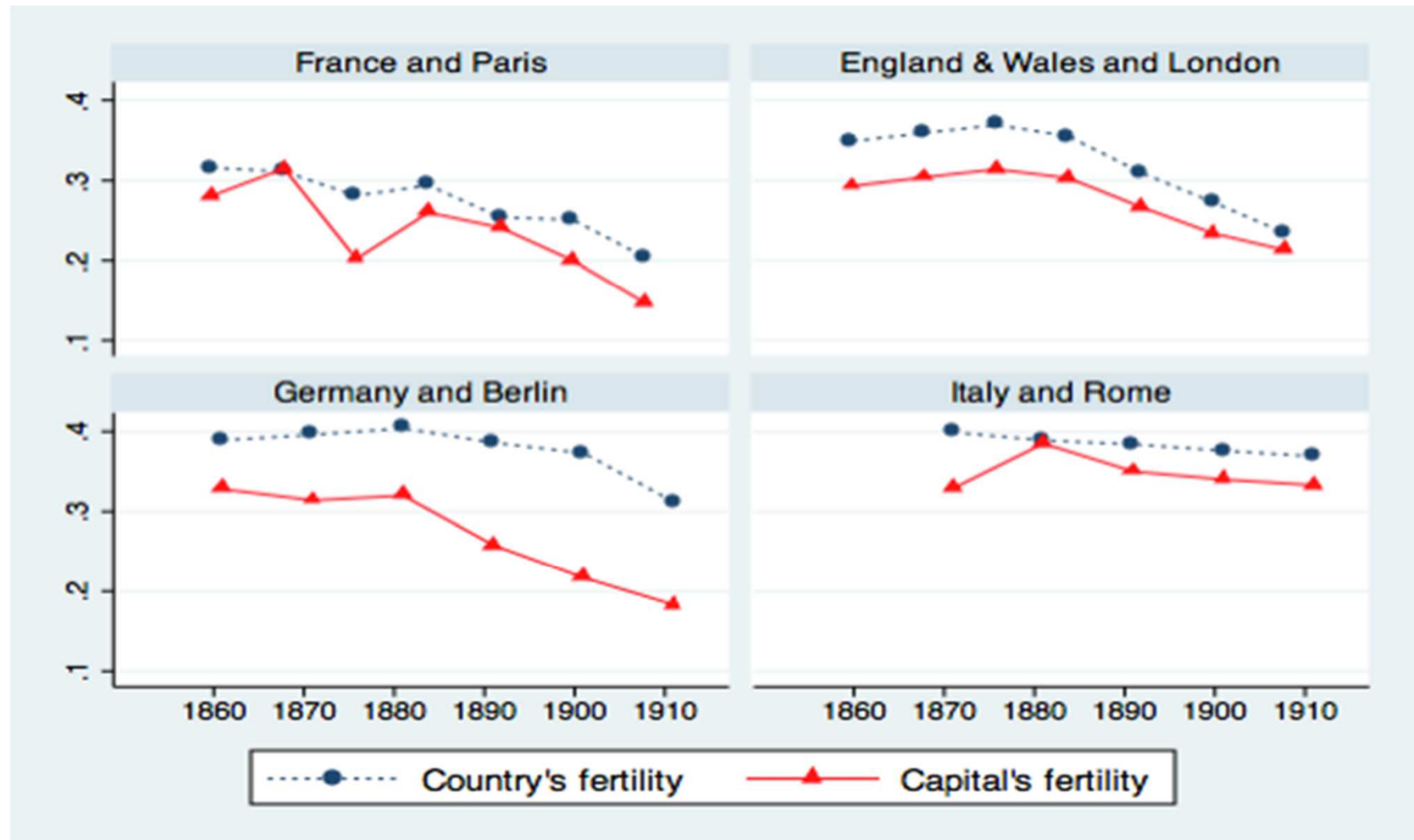


Country Case Study:

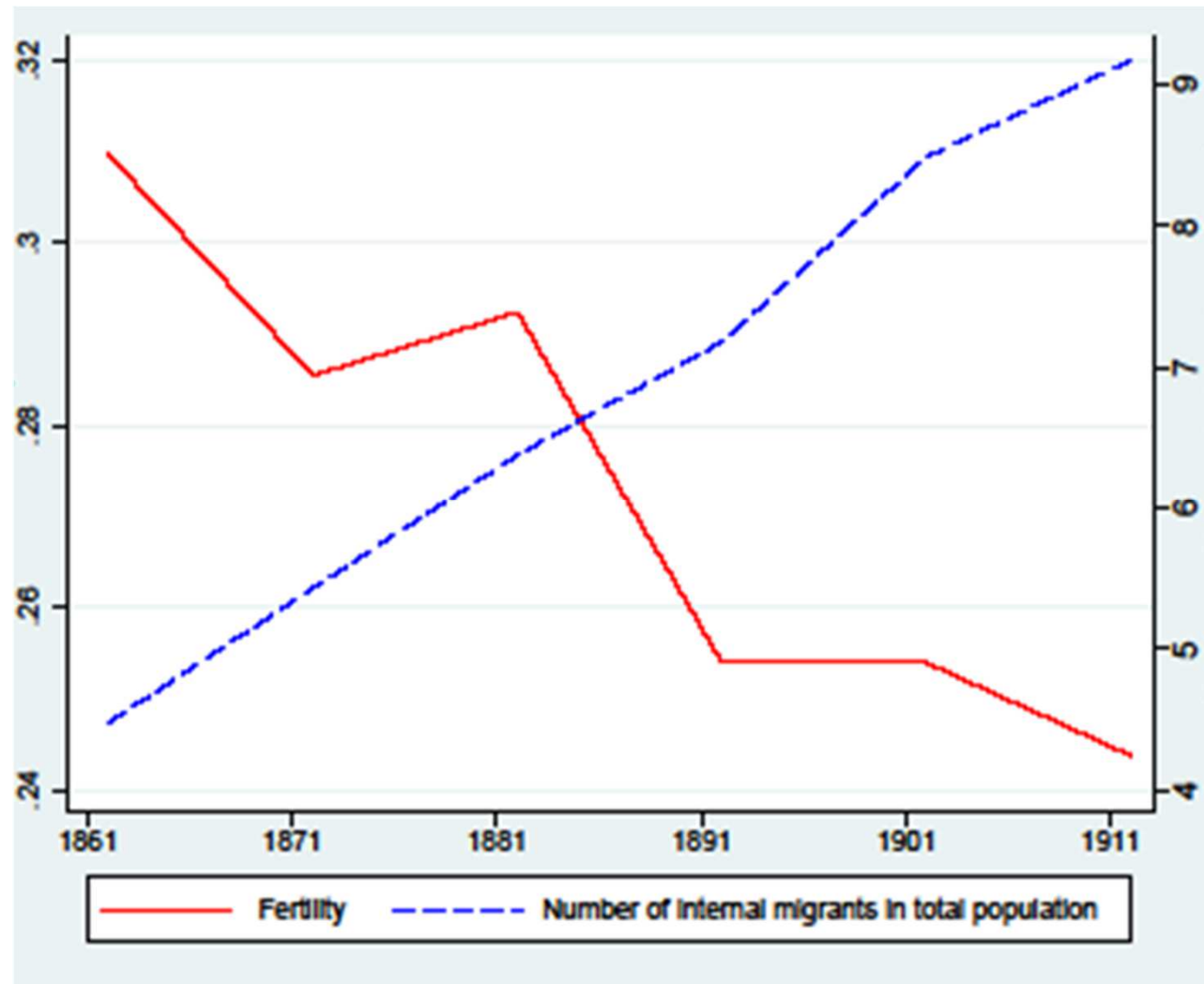
Daudin, Franck and Rapoport (EJ2019)

- The role of migration and fertility norms for intra-national migration in France
- France experienced the demographic transition before richer and more educated countries. Channel = diffusion of culture and information through internal migration
- Building a decennial bilateral migration matrix between French regions for 1861-1911

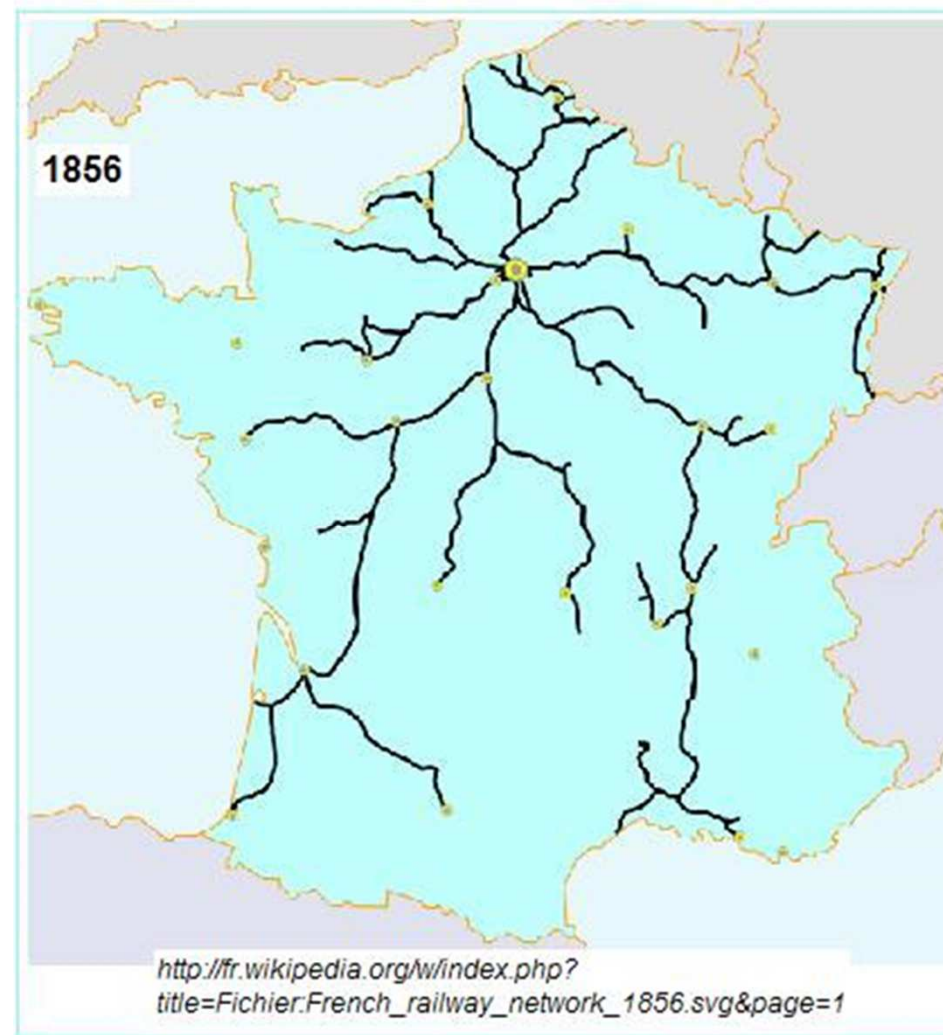
Malthusian Remittances



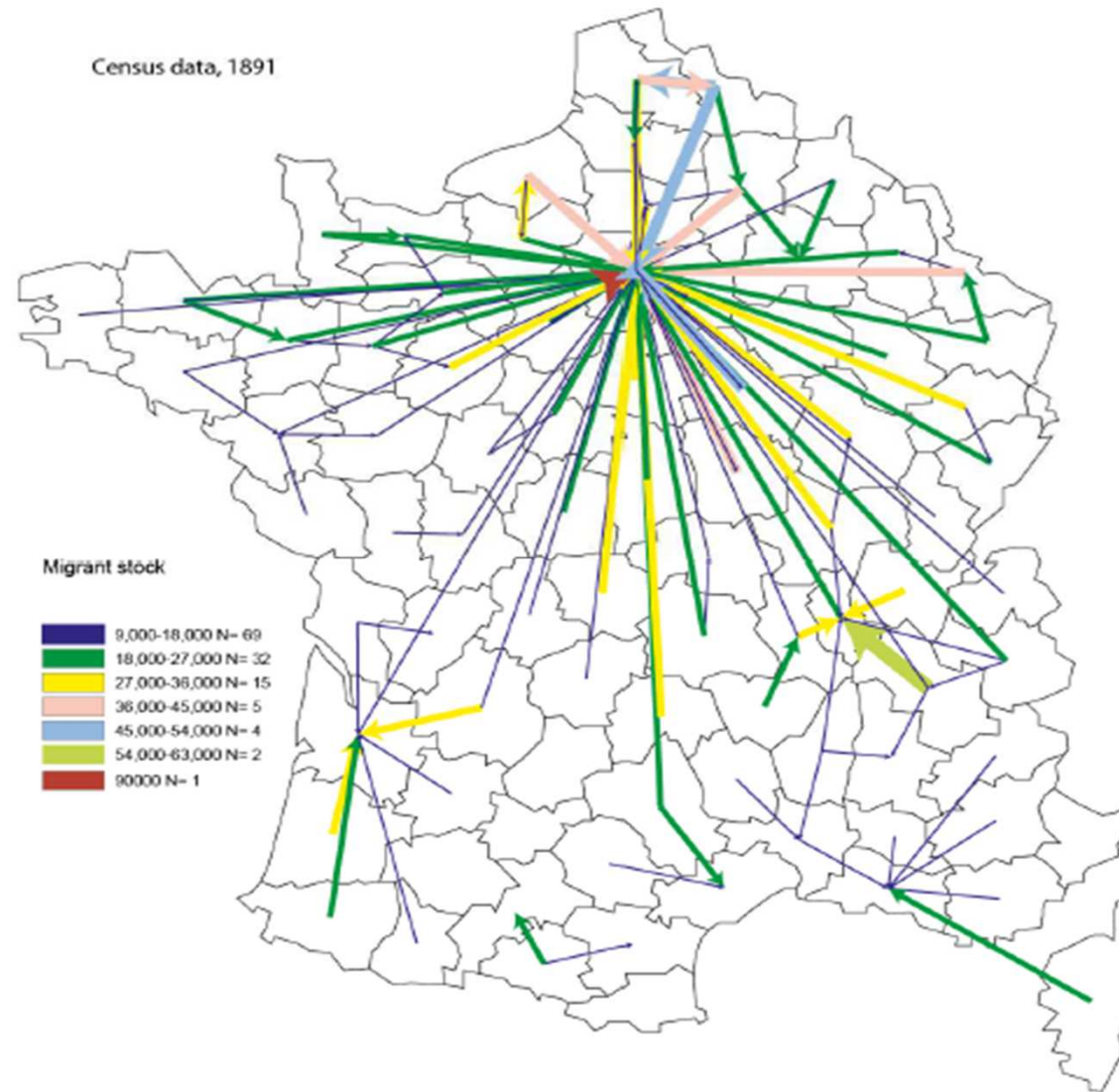
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Malthusian Remittances



Daudin, Franck and Rapoport (2016)

- Emigrants who moved from high- to low-fertility areas transmitted cultural and economic information about fertility norms and the cost of raising children in the regions where they had settled to the inhabitants of the regions where they came from
- Emigration to Paris, which accounted for 26.33% of the total number of French internal emigrants between 1861 and 1911, explains half of the national decline in fertility (which is in line with the economic, political and cultural importance of Paris within France)

Other Aspects of Societal Change



Entrepreneurial and Managerial Skills

- Marchetta (2012): entrepreneurial activities by Egyptian returnees enjoy a probability of survival that is 35 % higher than for stayers, even after controlling for a possible positive selection of migrants.

Religiosity and Religious Tolerance

- Clingingsmith et al. (2009): returnees from Hajj exhibit more rigorously Islamic practices (such as prayer or fasting) but fewer localized practices (e.g. use of amulets and dowry); Hajjis express more tolerance, more favorable attitude towards women & more likely to believe in equality and harmony among Muslims but also among ethnic groups.

Other Aspects of Societal Change



Gender Roles and Women's Empowerment

- Lodigiani and Salomone (2016) analyze the role of women in politics as measured by the share of female members of the National Parliament. They find that migration to countries where the share of women in the parliament is higher is likely to increase female parliamentary share in the source country.



2.

Cultural integration: diasporas, social remittances and culture

C. Migration and cultural change

Conclusion



Migrants contribute to the economic integration of their home countries into the world market

- The trade-creating effect of migration not just for goods but also for financial (especially FDI) and knowledge flows
- Main mechanism for interpretation: information channel

Migrants contribute to the cultural integration of their home countries through social remittances and cultural convergence

- Migrants are exposed to new values and norms abroad, absorb new information, values and norms that they transfer to their home communities (including political and fertility norms)
- International Migration contributes to make home and host countries culturally closer.

Conclusion



Did we learn something?

- Sociologists, anthropologists and political scientists already know all that; economists' contribution is to uncover mechanisms (causal inference) and provide quantification (elasticities, point-estimates)
- This is important to be able to impact policymaking; informed, evidence-based v. opinion-based policies

Policy implications?

- Home-countries: allow for dual citizenship, facilitate cross-border movements, diasporas involvement, etc. (not new)
- Host-countries: “let their people come” (Pritchett, 2006); use immigration policy to promote democracy and development.