Migration and inequality

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May 13th 2025

About me

Post-doc at the **International Inequalities Institute** (LSE)

Research topics:

→ *Intergenerational mobility*
→ *Socio-economic integration of children of immigrants*
→ *Determinants of intergenerational persistence*

Mostly **empirical research** on French administrative data

Today's lecture

Objective: Describe the economic processes underlying the different stages of migration

→ *Selection into migration*

→ *Effects on natives and on migrants themselves*

→ *What children inherit from parental migration*

⇒ (light) theory and empirical case studies

References: Inequality and Immigration (Dustmann et al., 2022)
Labor Economics (Borjas and Van Ours, 2010)

Overview

1. Orders of magnitude
2. Drivers of migration
3. Consequences for natives
4. Consequences for migrants themselves
5. Consequences for their children

Orders of magnitude

Let's start with a quiz!

1. Share of immigrants in the world

   3% - 8% - 11% - 16% - 21%

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2. Share of immigrants in Italy

   3% - 8% - 11% - 16% - 21%

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3. Share of international migration flows that occur within continents

   0% - ??? - 100%

Let's start with a quiz!

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3. Share of international migration flows that occur within continents

   0% - 57% - 100%

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2. Share of immigrants in Italy

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3. Share of international migration flows that occur within continents

   0% - 57% - 100%

4. Employment rate of immigrants in OECD countries

   0% - ??? - 100%

Let's start with a quiz!

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   3% - 8% - 11% - 16% - 21%

2. Share of immigrants in Italy

   3% - 8% - 11% - 16% - 21%

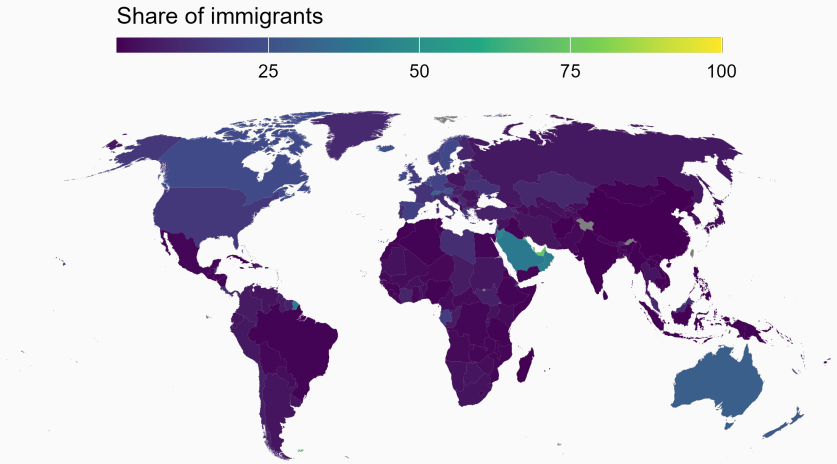
3. Share of international migration flows that occur within continents

   0% - 57% - 100%

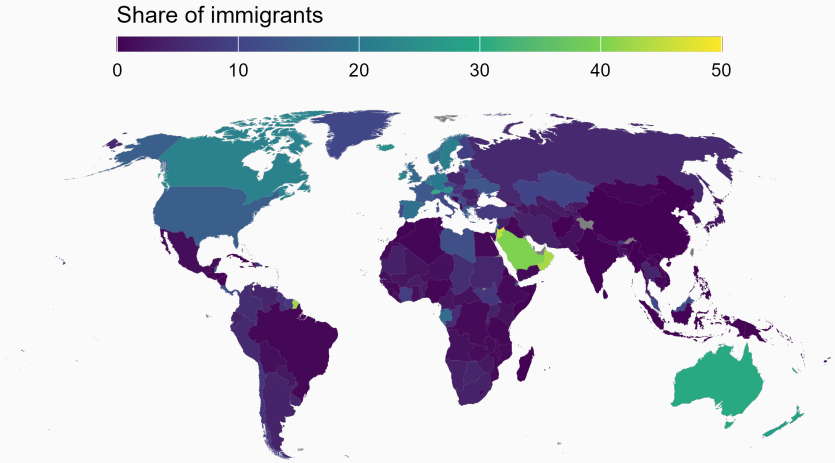
4. Employment rate of immigrants in OECD countries

   0% - 72% - 100%

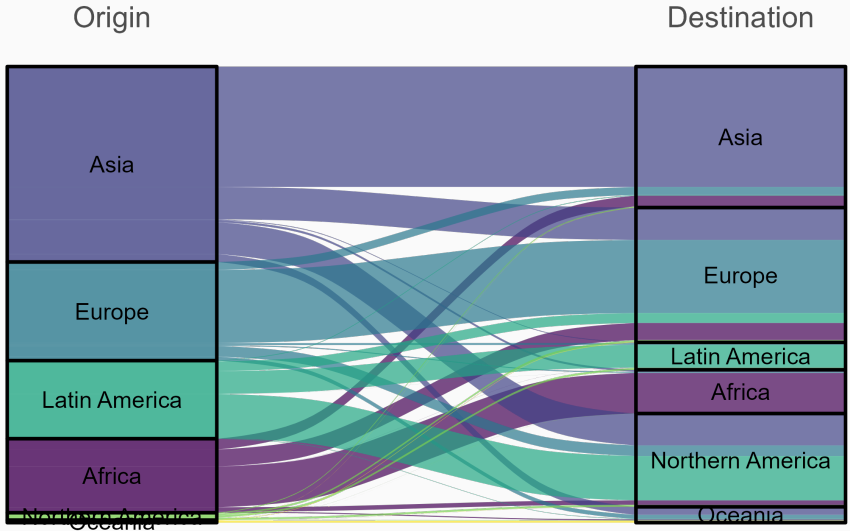
Share of immigrants across countries



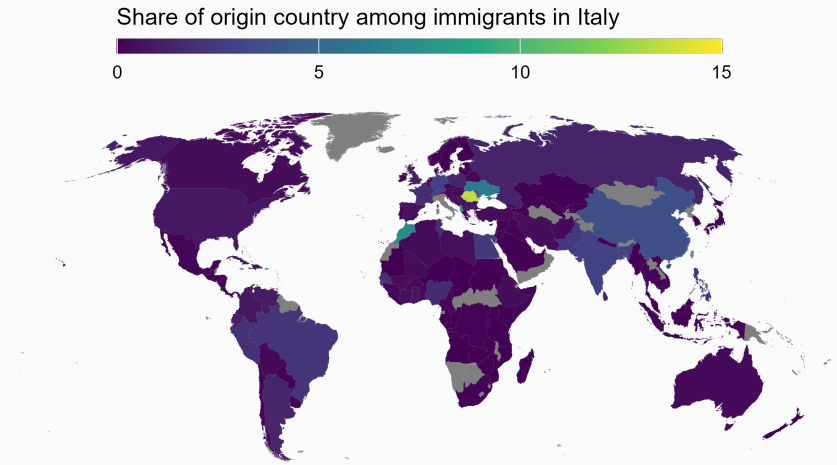
Share of immigrants across countries (<50%)



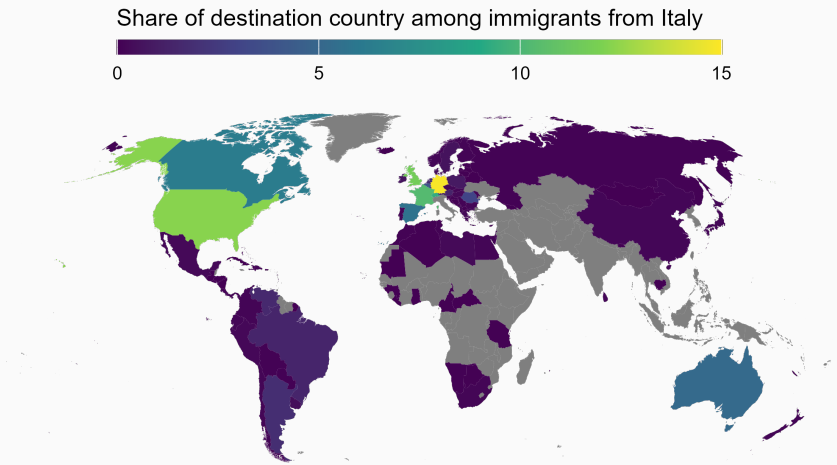
Migration flows between continents matrix



Share of birth countries among immigrants in Italy top 10



Share of destination countries of Italian migrants top 10



Overview

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2. **Drivers of migration**
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Drivers of migration

Push and pull factors

Push factors

Conflicts:

- Persecution
- War

Natural disasters:

- Floods
- Drought

Pull factors

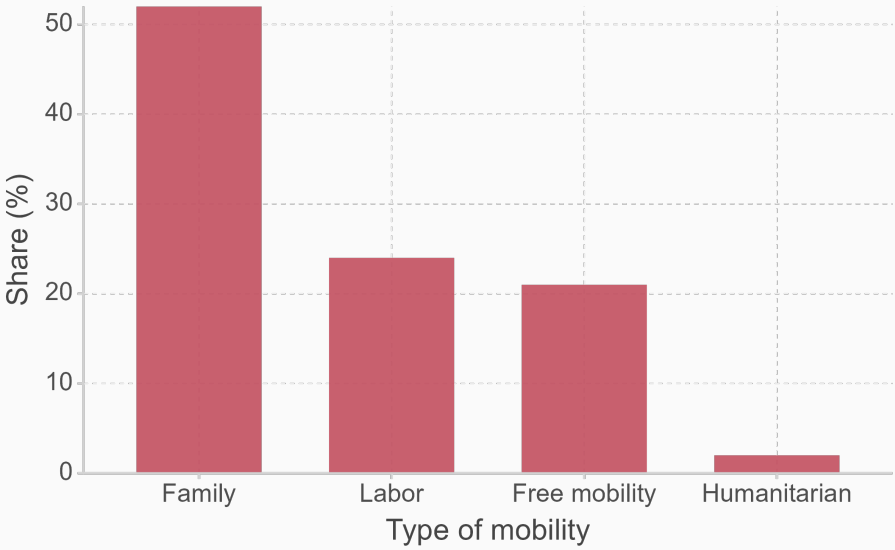
Economic opportunities:

- Higher wages
- Better living standards

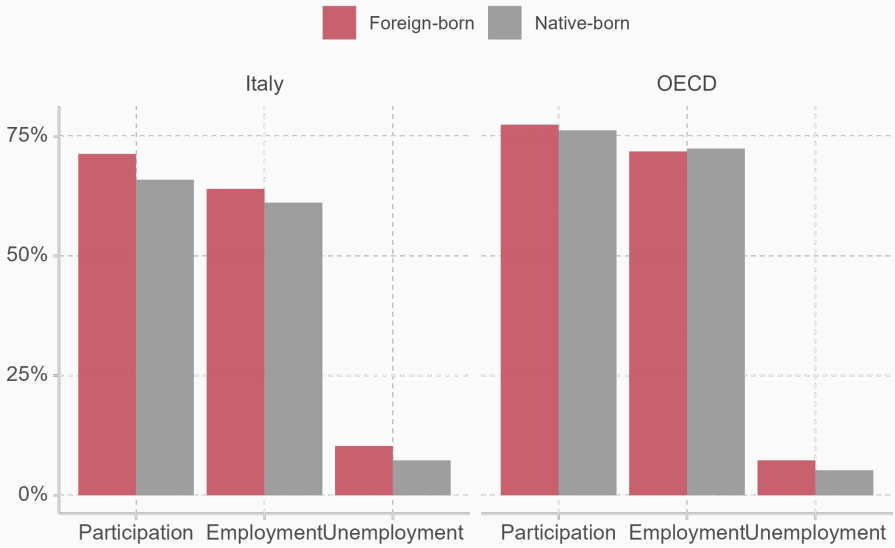
Personal ties:

- Family reunification
- Temporary to permanent

Drivers of long-term/permanent migration to Italy



Labor market outcomes



The Roy Model

Historical model to rationalize **skilled vs. unskilled migration**

- Originally designed by Roy (1951) to model two types of jobs
- Adapted by Borjas (1987) to model migration decision

Individual i would **migrate** from country o to d **if**:

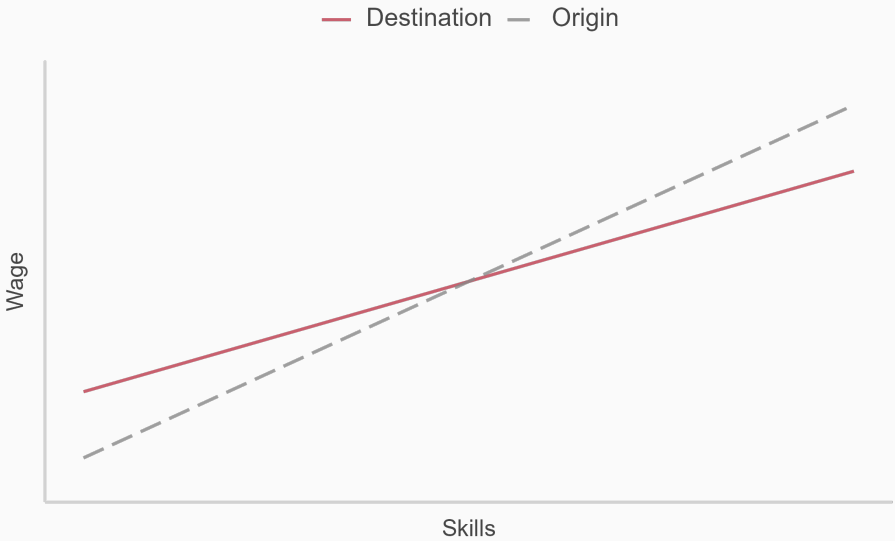
$$y_d(s_i) - C_i > y_o(s_i), \text{ where:}$$

$y_j(s_i)$: Income earned in country $j \in \{o, d\}$ at skill level s_i ($y_j' > 0$)

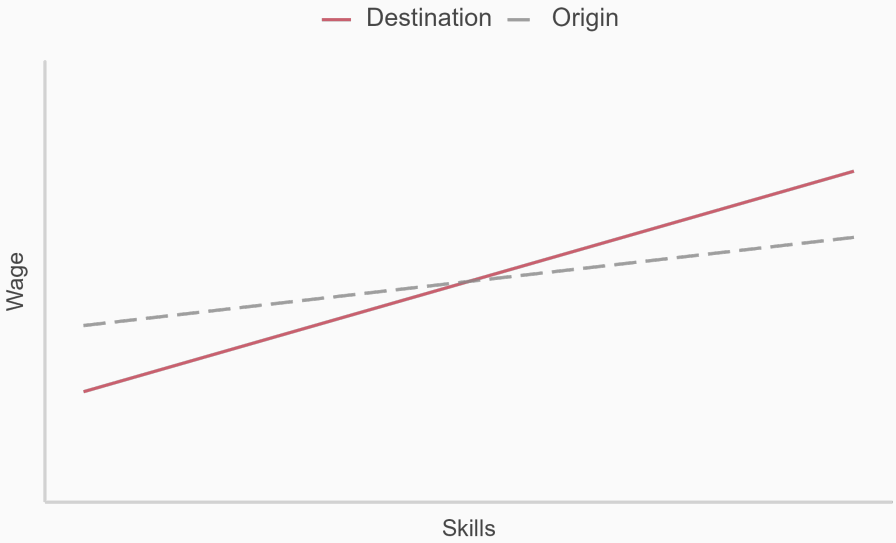
C_i: Cost of migration $C_i = c + \varepsilon_i$, where

- c Homogeneous cost of migrating from o to d
- $\varepsilon_i \sim N(0, 1)$ idiosyncratic cost of migration

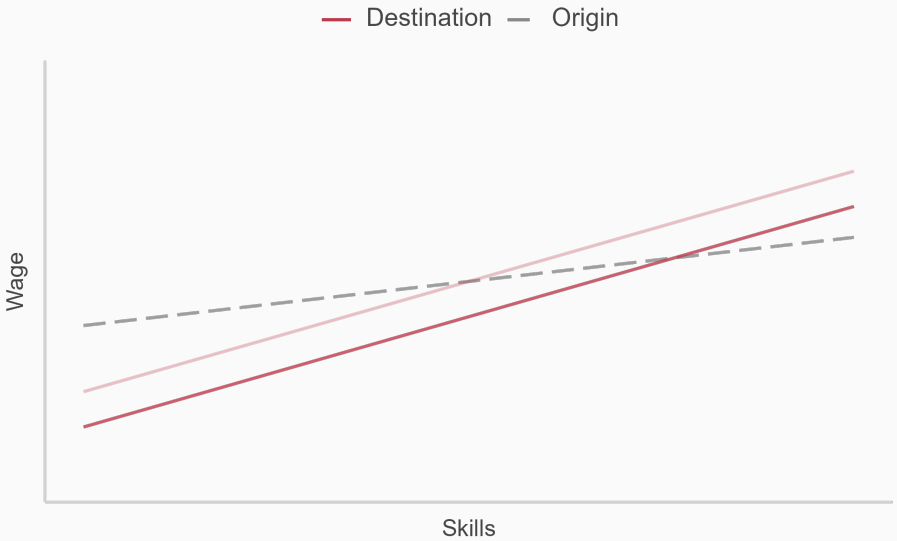
Negative selection



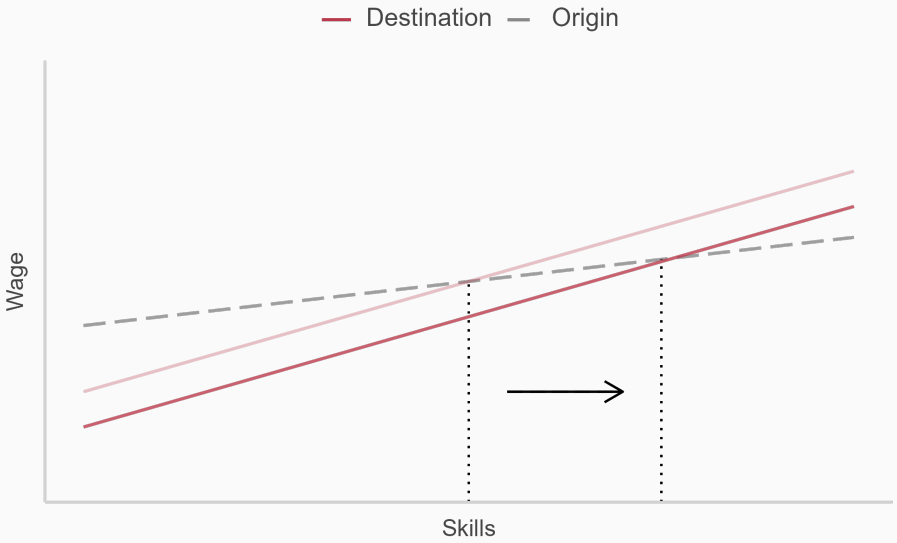
Positive selection



Vertical shift



Vertical shift



Extensions of the Roy model

Intertemporal extension:

y_t^j: Income flow in country $j \in \{o, d\}$ at time t

r: Discount rate of future income

$$\underbrace{\sum_{t=1}^{T} \frac{y_t^o}{(1+r)^t}}_{\text{NPV of staying}} \leqslant \underbrace{\sum_{t=1}^{T} \frac{y_t^d}{(1+r)^t} - C}_{\text{NPV of moving}}$$

Other extensions:

- Uncertainty about future earnings (Bellemare, 2007)
- Non-monetary preferences in $\{o, d\}$ (Piyapromdee, 2021)
- Differences in purchasing power in $\{o, d\}$ (Kırdar, 2013)
- HK investments and non-permanent migration (Adda et al., 2022)

Case study: Puerto Rico (Borjas, 2008)

Historical context

1898 End of the Spanish American War

→ *Puerto Rico became a possession of the United States*

1917 The Jones Act grants US citizenship to Puerto Ricans

→ *Free mobility from Puerto Rico to the US*

1945 High unemployment in post-WWII Puerto Rico
Introduction of low-cost air travel

→ *Triggered large out-migration from Puerto Rico to the US*

Data and method

U.S. Census

Education and earnings

$\rightarrow$ *Returns to skills in the U.S.*

Place of birth

$\rightarrow$ *Migration P.R.* $\Rightarrow$ *U.S.*

P.R. Census

Education and earnings

$\rightarrow$ *Returns to skills in P.R.*

Place of birth

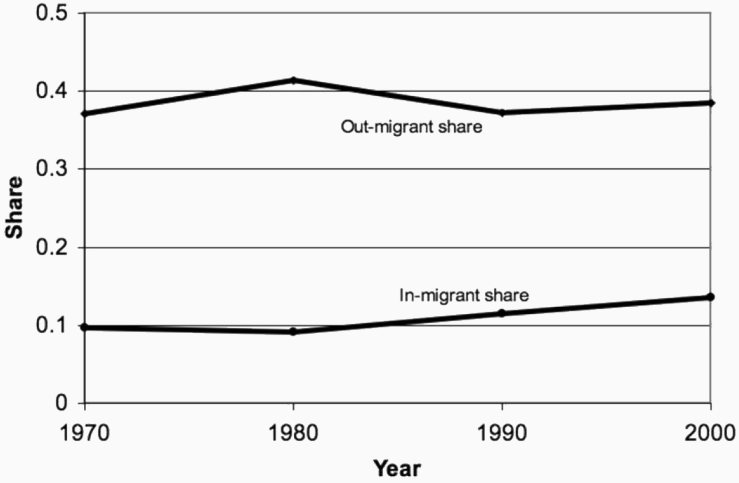
$\rightarrow$ *Migration from U.S.* $\Rightarrow$ *P.R.*

Puerto Rican in-/out-migration rates

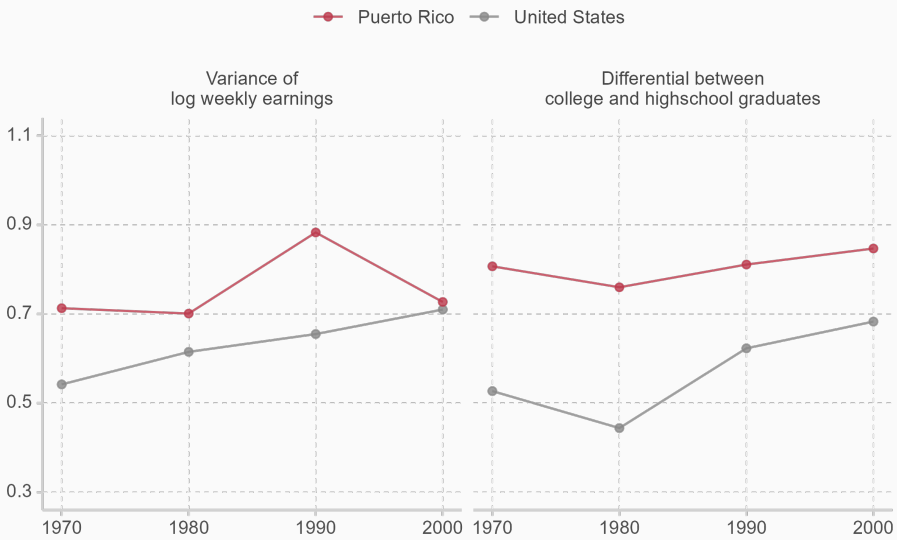
In-migration: $\frac{US_{PR}}{US_{PR} + PR_{PR}}$

Out-migration: $\frac{PR_{US}}{PR_{US} + PR_{PR}}$

Migration flows between Puerto Rico and the US



Returns to skills in Puerto Rico vs. the US



What does the Roy model predict?

Migration flows between the U.S. and Puerto Rico:

1. Bilateral flow of low-skilled
2. Low-skilled to Puerto Rico; High-skilled to the U.S.
3. Low-skilled to the U.S.; High-skilled to Puerto Rico
4. Bilateral flow of high-skilled

What does the Roy model predict?

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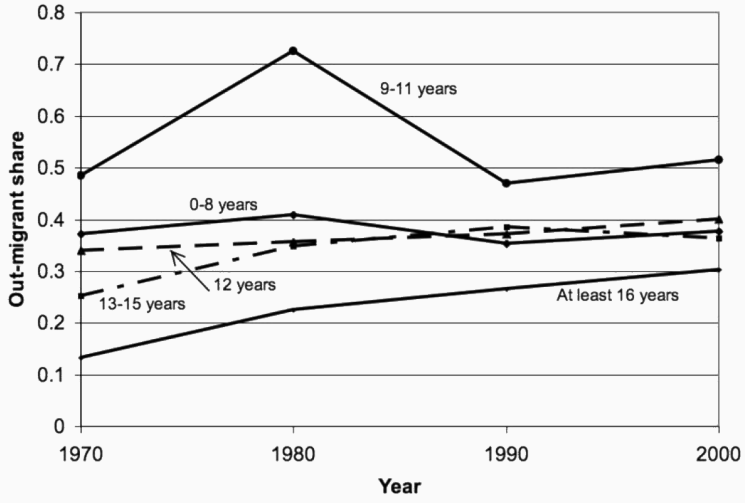
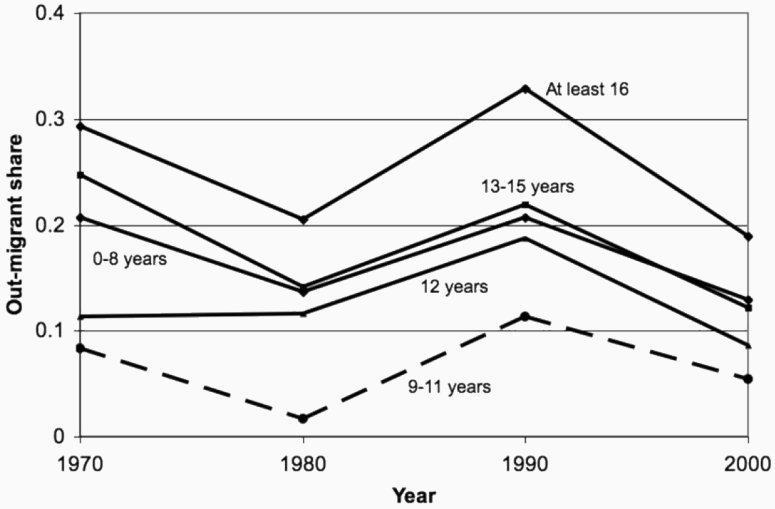
3. Low-skilled to the U.S.; High-skilled to Puerto Rico ✓
4. Bilateral flow of high-skilled ✗

Out-migration from Puerto Rico per education group



Migration from the US to Puerto Rico per education group



Overview

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Consequences for natives

Effect of low-skilled migration

Suppose that there are 2 types of labor: **skilled** and **unskilled**

- Native population size: $N = N_u + N_s$
- Larger wages for skilled workers: $w_s > w_u$

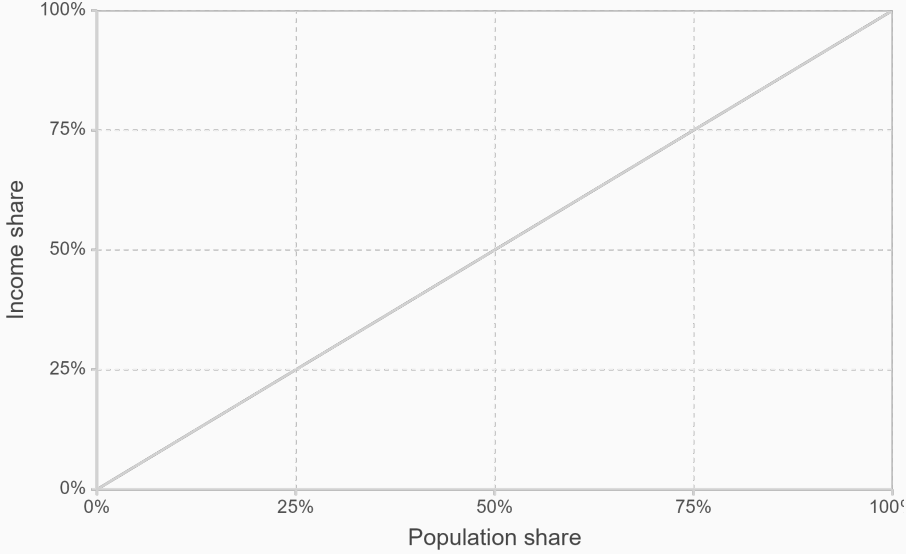
An inflow of **unskilled immigrants** would:

$\rightarrow$ Increase the supply of low-skilled workers N_u

$\rightarrow$ Decrease the wage of low-skilled workers w_u

$\rightarrow$ Decrease average wage $\dfrac{N_u w_u + N_s w_s}{N}$

Effect on income inequality



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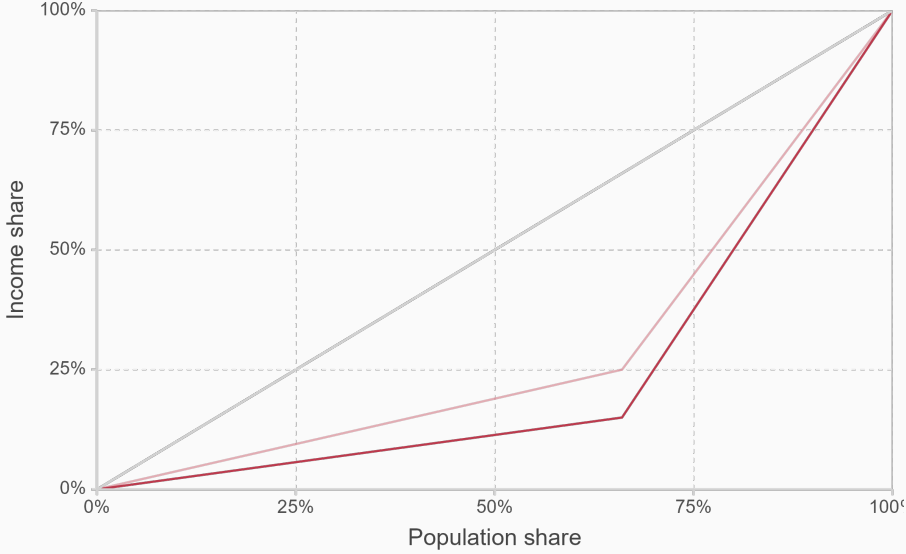
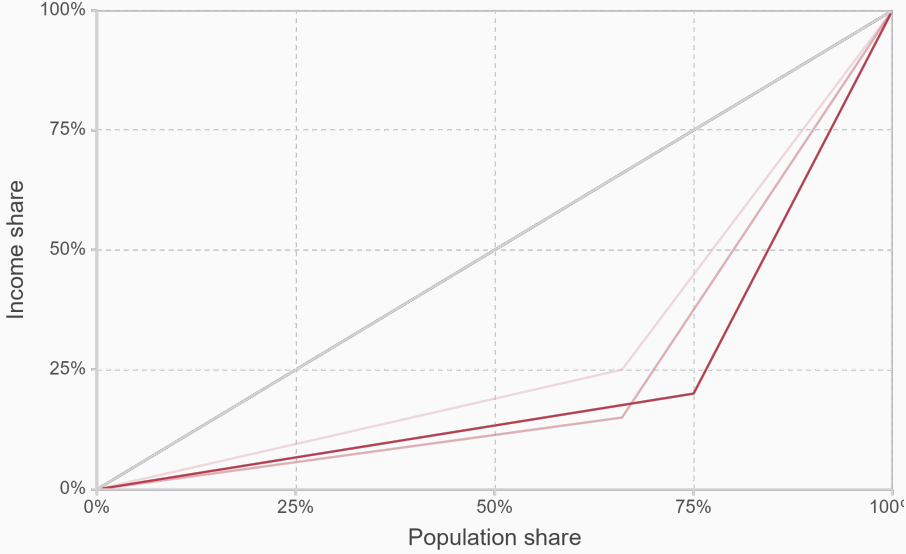


Effect on income inequality



Alternative scenarios

*There could be **adjustments** on the **firms' side***

Change in the production mix

- Increase in immigrant-labor intensive industries
- Decrease in other industries
- Adjustments through importations/exportations

Adoption of new technology

- Same production mix
- Change in the input (factor) shares

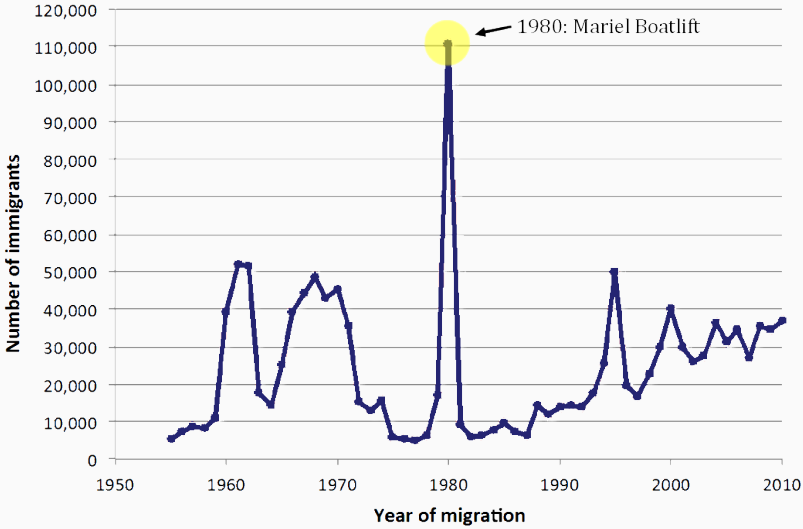
Case study: Mariel Boatlift

Historical context

Late 70s	Several attempts by Cubans to seek asylum at the embassies of South American countries to escape Fidel Castro's authoritarian regime
1980	Castro announced that anyone who wanted to leave could leave from the port of Mariel

April 20	Announcement
April 25	Already more than 15,000 refugees in Florida
May 6	US President Jimmy Carter allowed all refugees from Cuba to receive a temporary legal status

Number of Cubans migrating to the US



Who were the Marielitos?

High proportion of **less-skilled individuals**:

- 56-60% high-school dropouts
- 7-10% college graduates
- Likely low English proficiency

High proportion of **young and male individuals**:

- 39% 16-30 year-olds
- 38% females, 16% 19-25 year-olds

60-63% still lived in Miami in 1990

Immediate consequences

$\approx$ **120 to 125,000 Cubans fled to the US. In Miami:**

- $\nearrow$ 8% in labor supply
- $\boxed{\nearrow 18-20\%}$ %HS dropouts in the labor force
- Classical economic theory would predict a decrease in wages and/or an increase in unemployment
  - $\rightarrow$ Fear that Cubans would "steal" low-skill natives' jobs
  - $\rightarrow$ Important background factor of the mid-May 3-day riot that occurred in several black neighborhoods (13 deaths)

Early estimation: Card (1990)

Data: 1979-1985 March CPS data

- Cubans separately identified from Hispanics
- 1,200 respondents/month throughout the US
- Only one pre-shock year

Sample selection:

- Individuals aged 16-61
- Several focus groups
  - → (Non-Cuban) lowest skill quartile
  - → Blacks
  - → Cuban

Counterfactual estimation

How would wages in Miami have evolved absent the shock?

Card (1990) seeks **cities similar** to Miami in terms of:

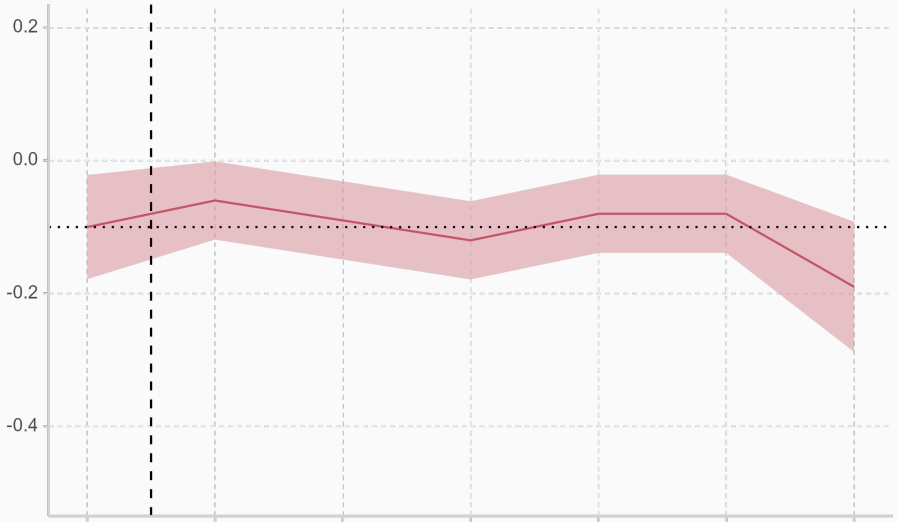
- % Blacks and Hispanics
- Employment growth trends

Chosen cities:

- Atlanta
- Los Angeles
- Houston
- Tampa-St-Petersburg

"[E]conomic conditions were very similar in Miami and the average of the four comparison cities between 1976 and 1984"

Differences in Cuban wages Miami vs. comparison cities



Borjas (2017)'s reappraisal

Critique of Card (1990)'s approach

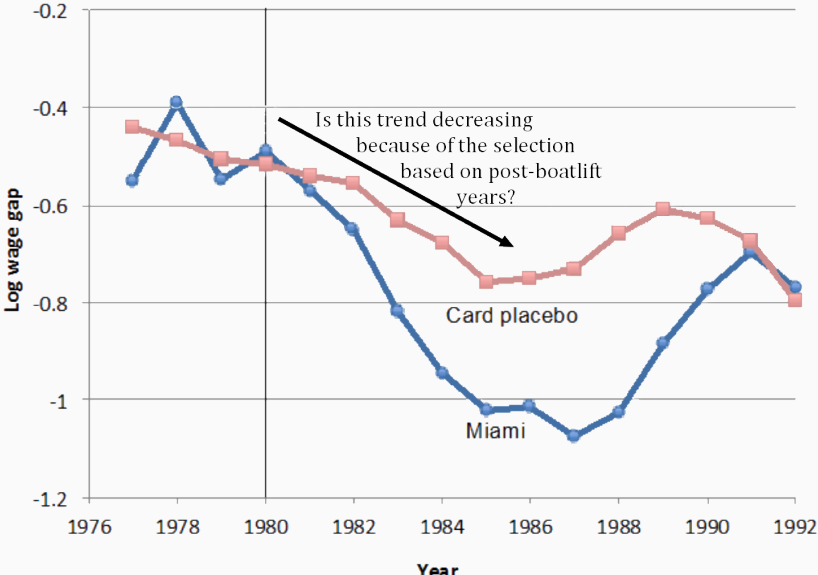
Sample selection:

- Should focus specifically on **high-school dropouts**
- **Exclude 16-18 y.o.**
  - → *Those still in school would be misclassified as dropouts*

Methodological approach:

- Non-transparent selection of cities
- Should not base counterfactual on years post-shock!
- Include several years pre-shock

Log wage of high-school dropouts over college graduates



Synthetic control approach

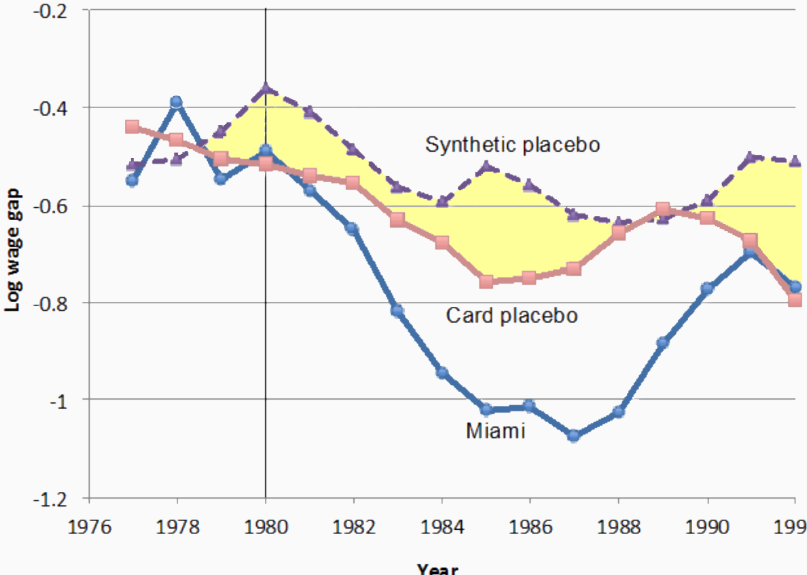
Problem: No city or group of city exactly comparable to Miami

- Some are close in terms of minority share
- Some are close in terms of employment growth

Solution: Use a **weighted combination** of untreated cities

1. **Compute a weight vector** minimizing distance to Miami's
   - → Overall employment growth
   - → Employment growth of high school dropouts
   - → Wage growth of high school dropouts
2. Fitted on years **pre-shock only!**
3. **Apply weights** to untreated municipalities' outcome

Log wage of high-school dropouts over college graduates



Peri and Yasenov (2019)'s reappraisal of the reappraisal

Target population should include:

- Females
- Non-Cuban Hispanics
- Whole working-age population 19-65

Data: May-ORG CPS instead of March CPS:

March CPS: Annual wage in previous year

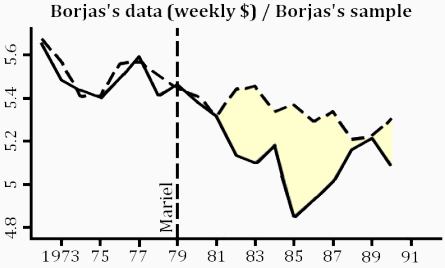
→ *Recalling issues*

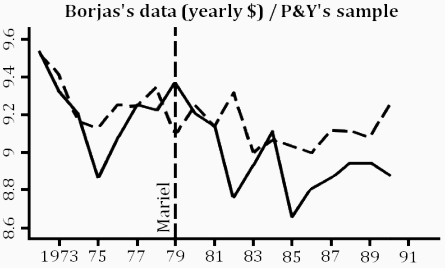
→ Must be divided by number of weeks worked past year

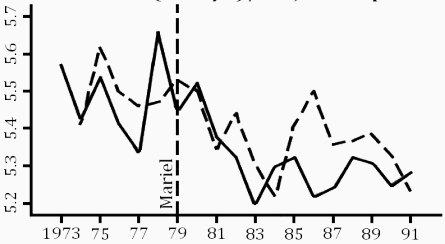
May-ORG: Wage in previous week

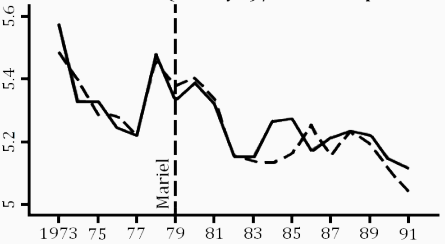
→ More reliable and directly usable

Sensitivity of Borjas (2008)'s results

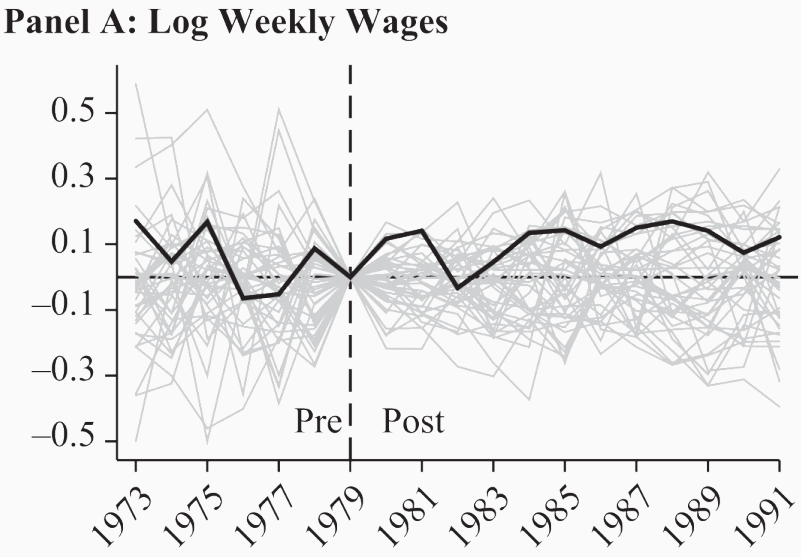




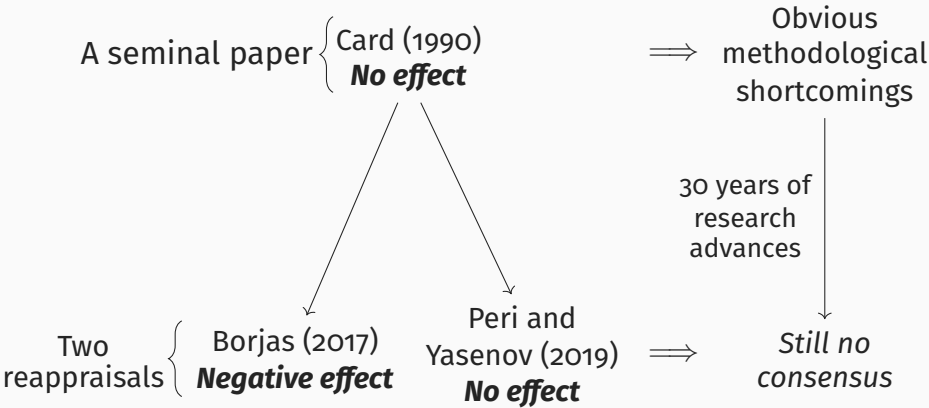




Peri and Yasenov (2019)'s synthetic control results



In the end...


A seminal paper
Card (1990)
No effect
Obvious methodological shortcomings
30 years of research advances
Two reappraisals
Borjas (2017)
Negative effect
Peri and Yasenov (2019)
No effect
Still no consensus

Overview

1. Orders of magnitude ✓
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Consequences for migrants themselves

Downgrading

Definition

The condition of working **in a job**, or being **paid**, **below** where one would be assigned based on **their skills**

→ *Often faced by immigrants upon arrival*

Potential causes

Partially transferrable skills

→ *For an MD, prevalence of $\neq$ diseases in destination country*

Lack of complementary skills

→ *Language proficiency required to make skill productive*

Measurement of downgrading (Dustmann et al., 2013)

1. Estimate the **returns to skills** on the **native** population

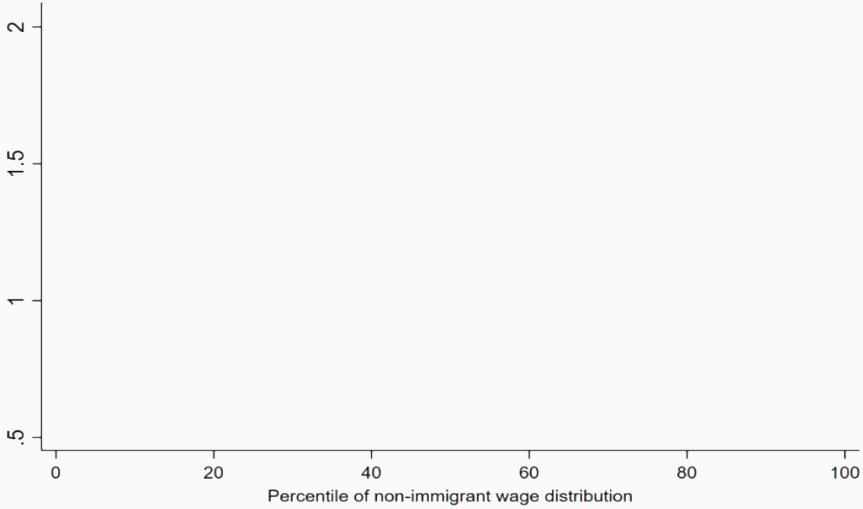
$$y_i = \alpha + \beta_1 \text{age}_i + \beta_2 \text{education}_i + \varepsilon_i$$

2. Compute **expected earnings of immigrants** based on natives' returns to skills

$$\hat{y}_i = \hat{\alpha} + \hat{\beta}_1 \text{age}_i + \hat{\beta}_2 \text{education}_i$$

3. **Compare actual vs. expected** earnings for immigrants in the native distribution

Downgrading in the UK (Dustmann et al., 2013)



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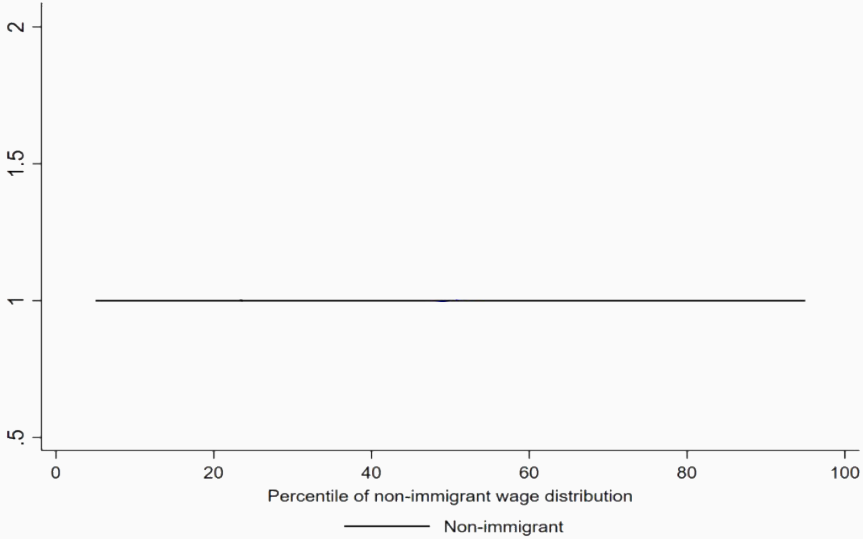

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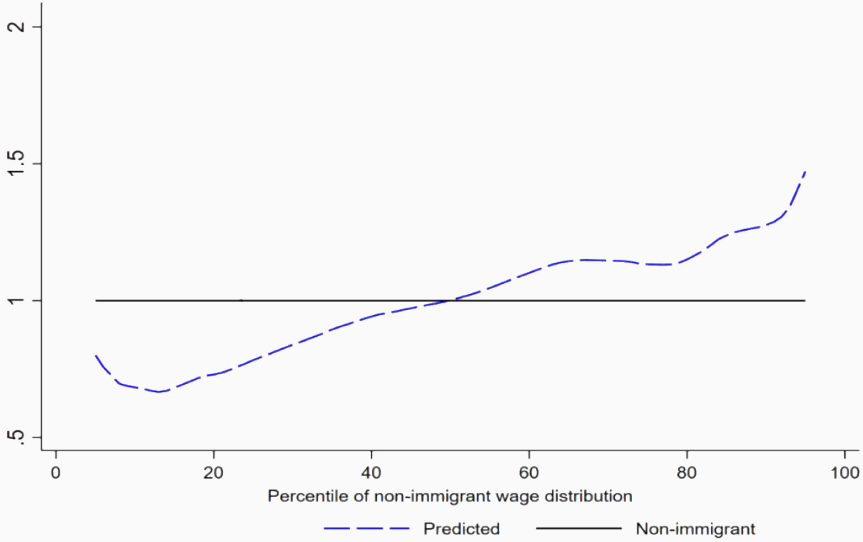

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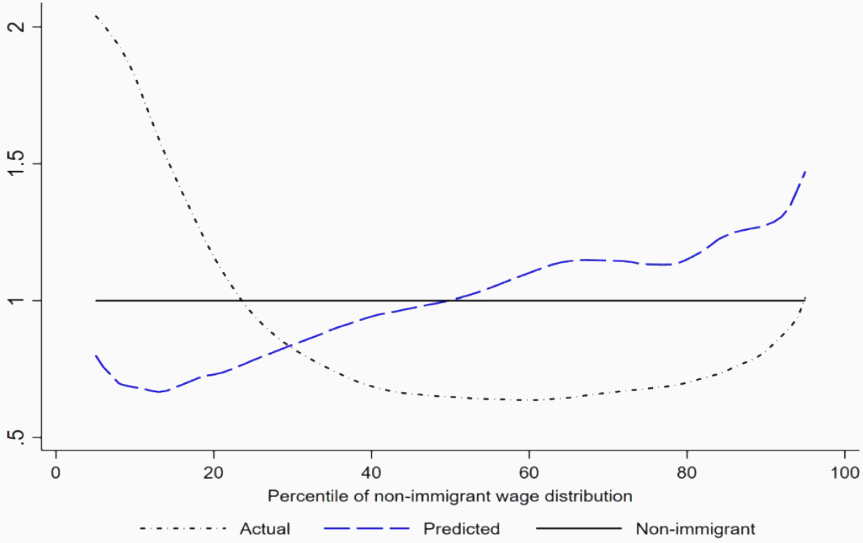
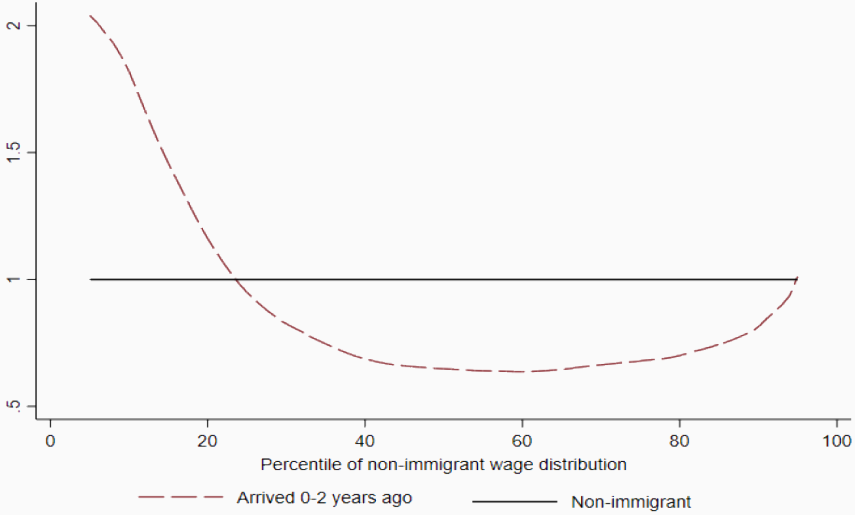


Economic integration in the UK (Dustmann et al., 2013)



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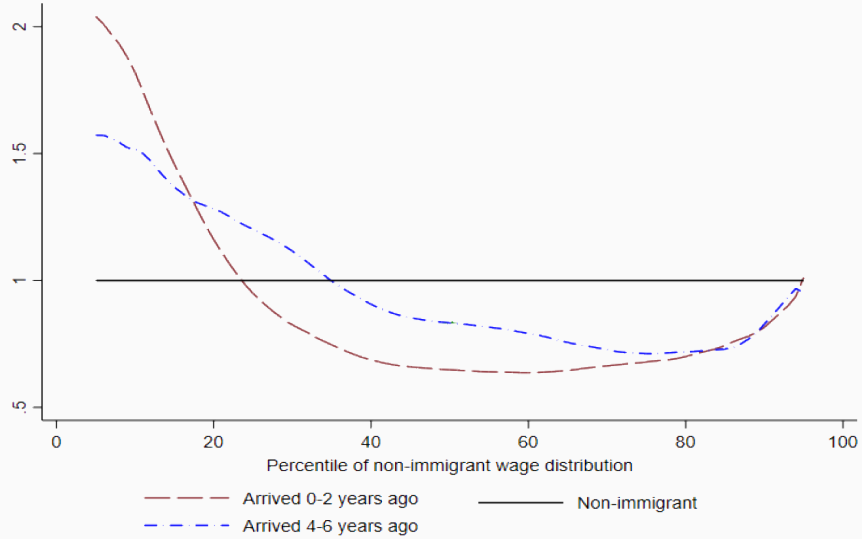
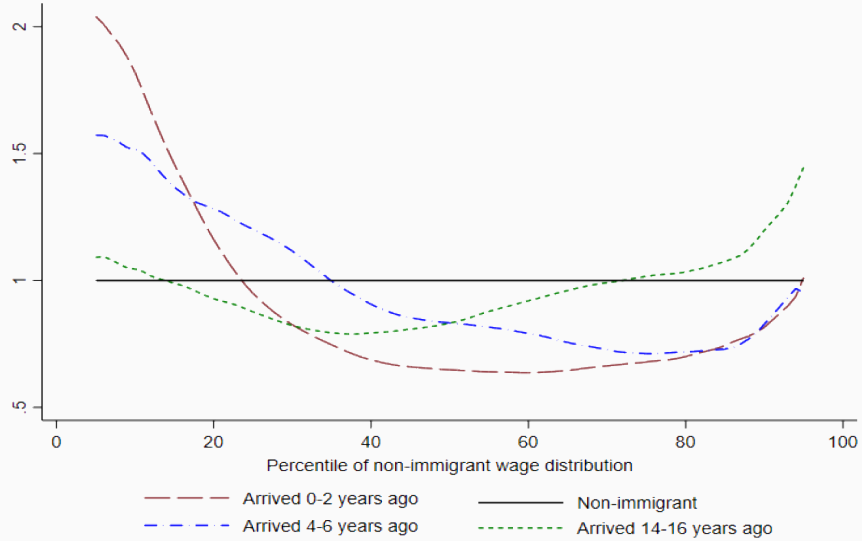


Economic integration in the UK (Dustmann et al., 2013)



Economic integration: Potential issues

Can we attribute the difference *in economic outcomes between immigrants arrived recently vs. a long time ago* ***to integration?***

Potential sources of bias:

- Survivor bias
  - → *Those who did not manage to integrate left, skewing the results*
- At a given point in time those arrived 2 vs. 10 years ago arrived at different times
  - → *Secular trend in the skill composition of immigrants?*
  - → *Secular trend in exchange rate* $\Rightarrow \Delta$ *reservation wage*

Overview

1. Orders of magnitude ✓
2. Drivers of migration ✓
3. Consequences for natives ✓
4. Consequences for migrants themselves ✓
5. **Consequences for their children**

Consequences for their children

The next generation

Processes regarding the **first generation:**

1. Selection to out-migration
2. Downgrading
3. Integration

What happens to **children of immigrants?**

- Parents may migrate w/ their children's prospects in mind:
  - → *Positive selection and high parental involvement*
  - → *Transmission of values and specific skills*
- Children of immigrants typically face many challenges:
  - → *Residential segregation and poorer school quality*
  - → *Discrimination on the labor market*

Intergenerational mobility of the 2nd generation

Boustan et al. (2025): Collaboration of 38 researcher from 15 countries

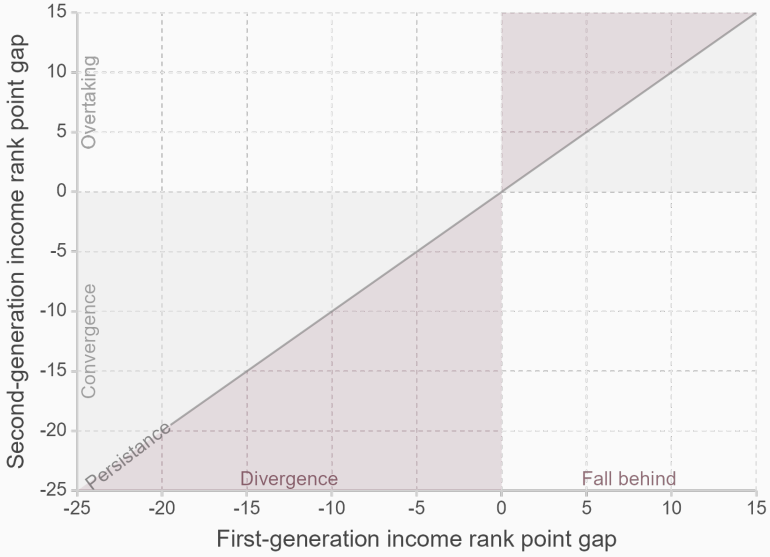
Use of **administrative data** to obtain:

- Position of native and immigrant in the income distribution
- Position of their children in the income distribution

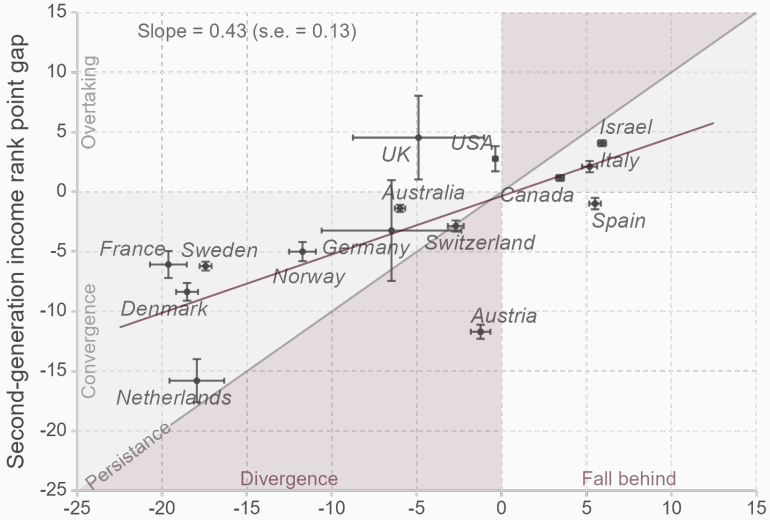
Harmonization of the process at every step:

- Definition of income (individual vs. household, sum vs. average, sources of income considered, ages at income measurement, ...)
- Definition of immigrants (country of birth of the father)
- Birth cohorts

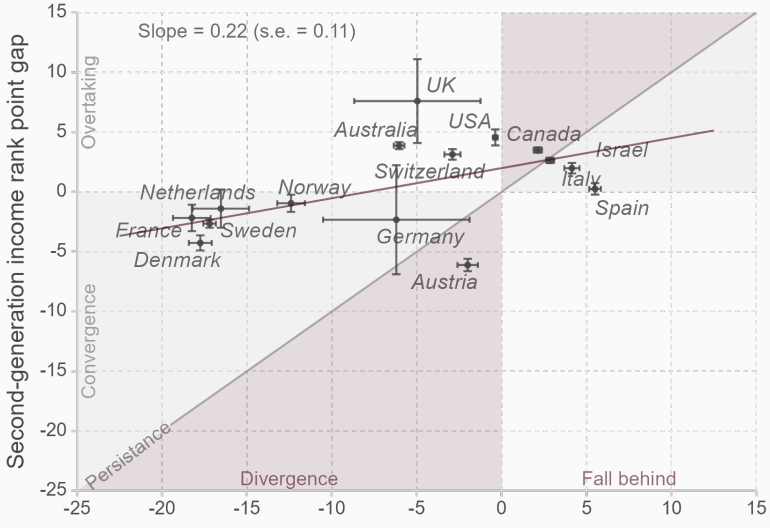
Intergenerational patterns



Sons


Slope = 0.43 (s.e. = 0.13)
Overtaking
Convergence
Persistance
Divergence
Fall behind
Second-generation income rank point gap
First-generation income rank point gap
15
10
5
0
-5
-10
-15
-20
-25
-25
-20
-15
-10
-5
0
5
10
15
Israel
Italy
USA
UK
Australia
Canada
Spain
France
Sweden
Germany
Switzerland
Norway
Denmark
Austria
Netherlands

Daughters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Overtaking
Convergence
Persistance
Divergence
Fall behind
UK
Australia
USA
Canada
Israel
Switzerland
Italy
Spain
Netherlands
Norway
France
Sweden
Germany
Denmark
Austria
Second-generation income rank point gap
First-generation income rank point gap
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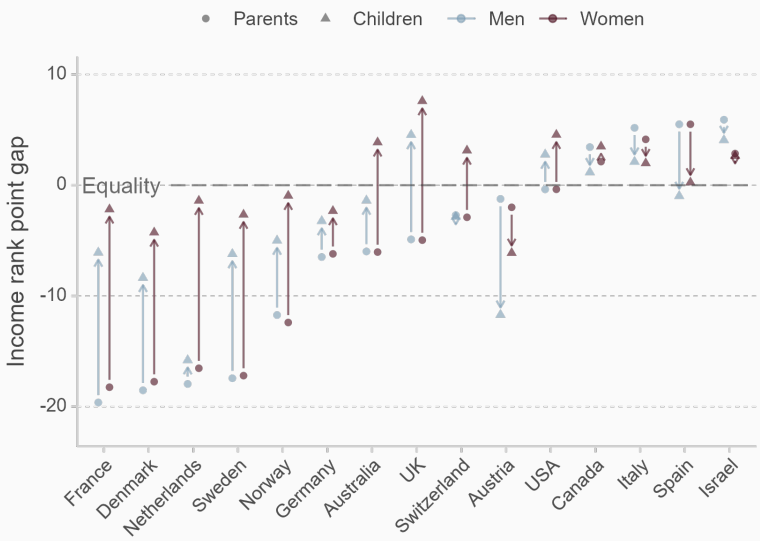
Alternative representation



Wrap up

Wrap up

Orders of magnitude:

- Most migration flows occur within continents
- $\approx$10-15% immigrants in Western countries (3% worldwide)

Drivers of migration:

- Push (conflicts, disasters) & pull factors (economic, family)
- Steeper returns to skills $\rightarrow$ more skilled in-migration

Consequences on locals:

- Simple theory predicts negative on substitute workers
- Empirically unclear (Mariel boatlift)

Wrap up

Consequences for migrants themselves:

- Initial downgrading
- Socio-economic integration over time

Consequences for their children:

- Partial convergence for the second generation
- Greater catch-up among daughters

Slides available on my website:
www.louissirugue.com/teaching

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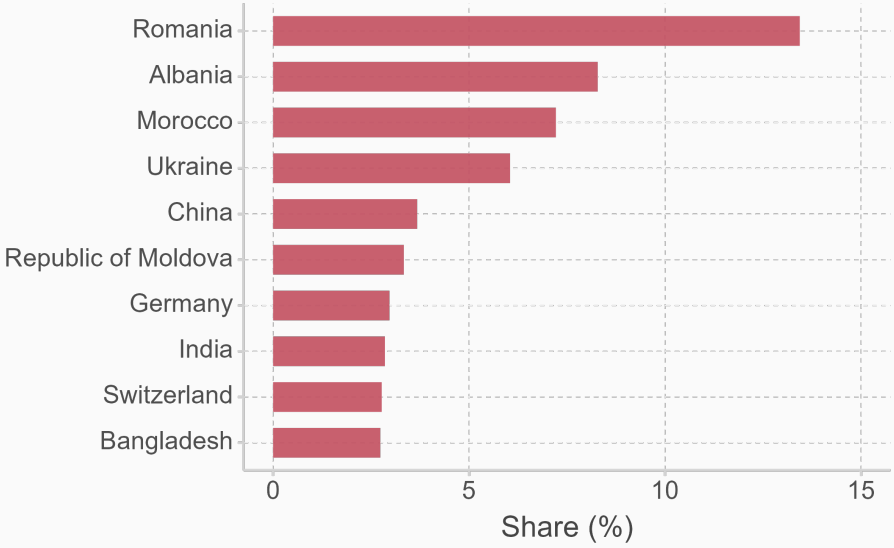
Migration flows between continents

back

	Africa	Asia	Europe	Latin Am.	North. Am.	Oceania
Africa	9	2	4	<1	1	<1
Asia	<1	26	7	<1	7	2
Europe	<1	2	16	<1	2	1
Latin Am.	<1	<1	2	5	10	<1
North. Am.	<1	<1	<1	<1	<1	<1
Oceania	<1	<1	<1	<1	<1	<1

Top 10 origin countries back



Top 10 destination countries

back