# Do Immigrants Shield the Locals? Exposure to COVID-Related Risks in the EU

Laurent Bossavie, Daniel Garrote-Sanchez, Mattia Makovec and Caglar Ozden

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# Motivation

## Pre-Covid

- Migrants often fill jobs that locals are not willing to undertake

  (Orrenius & Zavodny 2009, 2013; Sparber & Zavodny 2020)

- Natives reallocate to job where they have a comparative advantage in response to immigration

  (Peri & Sparber 2009, 2011)

## Post-Covid

- Workers' vulnerability to COVID-19 depends on their job type

  (Adams-Prassl et al. 2020a, 2020b; Dingel & Neiman, 2020; Gottlieb et al. 2021)

- Migrant workers more exposed to COVID-19 shock

  (Basso et al., 2020; Borjas & Casidi, 2020; Fassani & Mazza, 2020 and 2021; Bossavie et al., 2021)

# Research questions

Research Questions:

- Did natives' occupational choice pre COVID affect their job vulnerability to COVID-19
- Did immigration affect the occupational choice of natives, hence their exposure to COVID-related risks?
- Was this accompanied by aggregate effects on native workers' employment and wages?

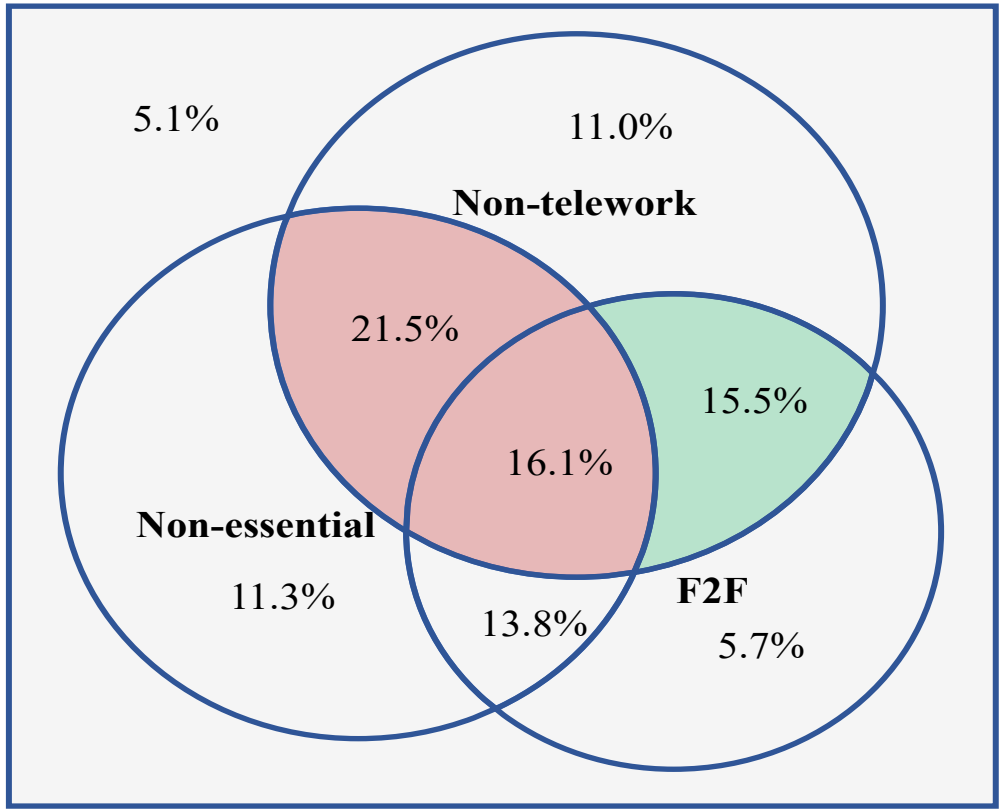
# Data & measures of exposure to COVID-19

- EU-LFS for Western European countries = EU15 + Switzerland + Norway
- Harmonized individual level data with detailed labor market outcomes
- Information on migrant status, aggregated by world region of origin
- Time period: 2011-18 (break in ISCO occupations between 2010 & 2011)
- Measures of exposure to COVID-19 based on characteristics of occupations:
  - Income-risk: Non-telework + non-essential. Jobs most at-risk of dismissal
  - Health-risk: Non-telework + essential + F2F. Risk of contagion from the virus

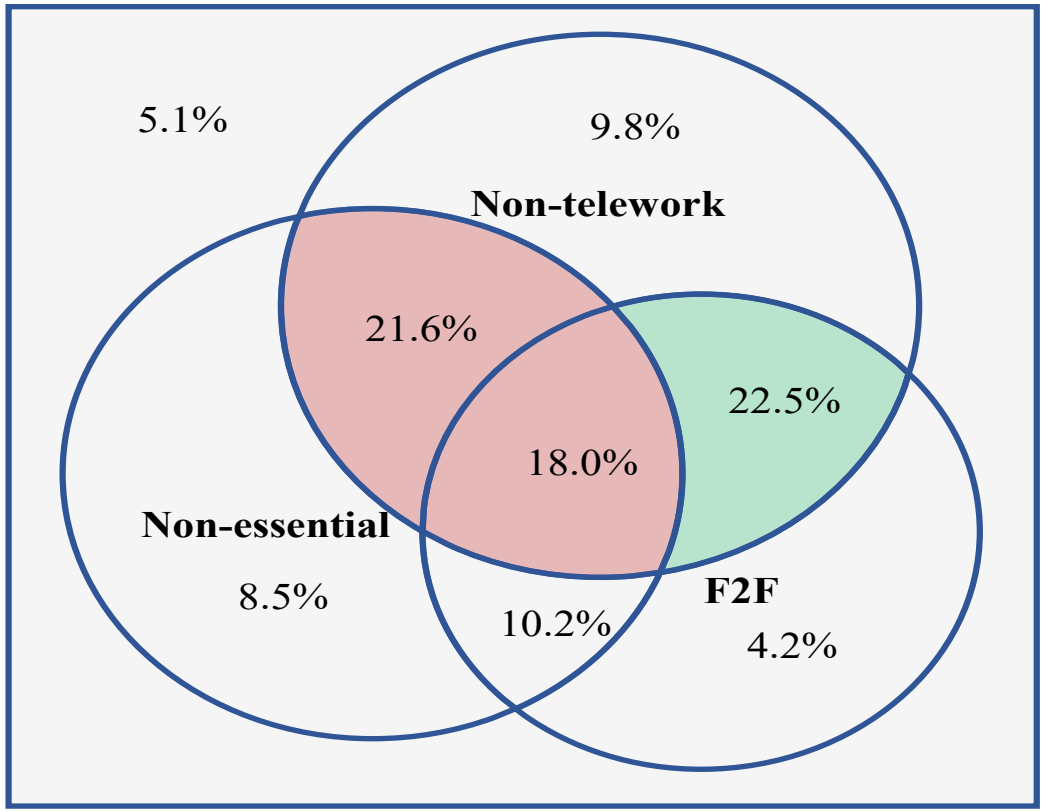
# Descriptive statistics

Migrants are more concentrated in income-risk (red) and health-risk jobs (green) compared to natives.

**Natives**




**Migrants**

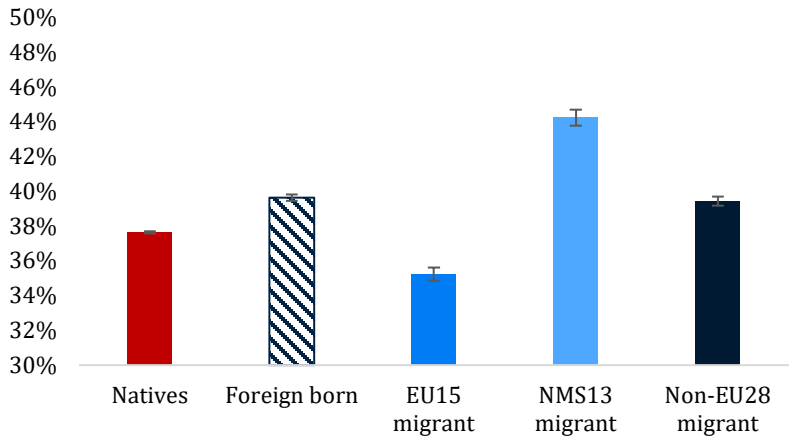



Source: EU-LFS 2018.

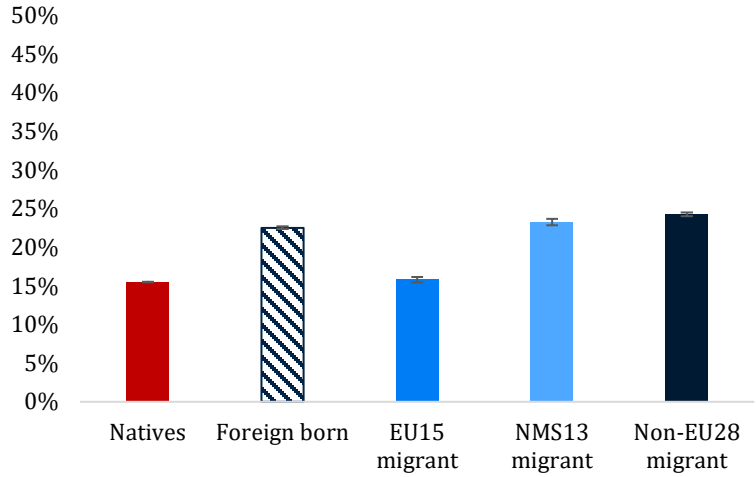
# Descriptive statistics

However, there is heterogeneity in exposure across immigrant groups

**Panel A. Income Risk Jobs**




**Panel B. Health Risk Jobs**



# Why are migrants more concentrated in jobs exposed to COVID-19?

Worker observable characteristics only explain a small part of the job vulnerability gap between natives and immigrants

- Three factors explain most of the gap (Bossavie et al., 2021):
  - Lower proficiency in the host county language
  - Reliance on immigrant networks to find jobs
  - Concentration in occupations with native workers' shortages

# Methodology

1. Run individual-level regressions to predict how outcome variables depend on individual characteristics (gender, education, dummies age groups).

2. Calculate the gap between the actual and the predicted outcome variable for each individual

3. Take average for each nuts 2 region per year

4. Estimate OLS regression at the NUTS2 region (s)-year (t) level is:

5. Instrument for endogeneity with two alternative shift share Bartik instruments

# Results

- Migrants push natives towards safer jobs, mostly those amenable to telework.
- Results are robust to accounting for endogeneity of migrants' location

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Telework jobs | | | Essential jobs | | | Income-safe jobs | | | Health-safe jobs | | |
| VARIABLES | OLS | IV-PS | IV-MOP | OLS | IV-PS | IV-MOP | OLS | IV-PS | IV-MOP | OLS | IV-PS | IV-MOP |
| **Immigrant share** | **0.126**** | **0.686***** | **0.661***** | **0.08** | **-0.272** | **-0.248** | **0.178*** | **0.364** | **0.362** | **0.048*** | **0.364** | **0.362** |
| Observations | 982 | 982 | 982 | 982 | 982 | 982 | 982 | 982 | 982 | 982 | 982 | 982 |

Notes. Units of observation are the 124 NUTS-2 regions within Western European countries, observed yearly from 2011 to 2018. The "adjusted" share of natives in telework jobs in a given NUTS2 region and year is the share of natives in telework jobs minus the expected share of telework jobs given its individual level characteristics (age, education, gender), so the mean value is close to zero. Time-variant NUTS-2 observations are pooled to run the regressions. IV-PS stands for the Instrumental Variable approach à la Peri and Sparber (2009). IV-MOP stands for the Instrumental Variable approach à la Mitaritonna, Orefice, and Peri (2017). Dep. Var. SD = Standard deviation of the dependent variable. Clustered standard errors at the NUTS-2 level in parentheses; *** p<0.01, ** p<0.05, * p<0.1

# Results

No evidence of wage or employment impacts among native worker

- Increase in job safety driven by natives' reallocation from vulnerable to safer jobs.

| Dep variable: | % of natives employed | | % of natives in top 3 wage deciles | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| | IV -PS | IV -MOP | IV -PS | IV -MOP |
| **Immigrant share** | **0.087** | **0.121** | **-0.075** | **-0.085** |
| | (0.33) | (0.357) | (0.33) | (0.378) |
| Observations | 982 | 982 | 982 | 982 |

Notes. Units of observation are the 124 NUTS-2 regions within Western European countries, observed yearly from 2011 to 2018. The "adjusted" share of natives in telework jobs in a given NUTS2 region and year is the share of natives in telework jobs minus the expected share of telework jobs given its individual level characteristics (age, education, gender), so the mean value is close to zero. Time-variant NUTS-2 observations are pooled to run the regressions. IV-PS stands for the Instrumental Variable approach à la Peri and Sparber (2009). IV-MOP stands for the Instrumental Variable approach à la Mitaritonna, Orefice, and Peri (2017). Dep. Var. SD = Standard deviation of the dependent variable. Clustered standard errors at the NUTS-2 level in parentheses; *** p<0.01, ** p<0.05, * p<0.1

# Results

- Positive impact on job safety of natives similar across age groups (25-34, 35-54, 55-64) and gender (although slightly higher for females).
- Heterogeneous effects on job safety depending on the education level of native workers:
  - Tertiary educated native workers benefit from the presence of both high-skilled and low-skilled migrants.
  - Non statistically significant impact of migration for less educated natives
- Main channel: high-skilled natives moving horizontally to teleworkable occupations (Vs investment in education)

# Robustness checks

- We fix the native population at the initial year to avoid spurious effects due to the potentially endogenous native population growth in a region (as MOP 2017)
- Using lagged share of migrants (and lagged instrument) to control for serial correlation (Jaeger et al. 2018) leads to similar results.
- Adjusting the instruments to include the growth rate of immigration to all EU NUTS2 regions besides the one of analysis in the “shift” component to avoid endogeneity does not change the results.

# Thank you!

Contacts:
lbossavie@worldbank.org
dgarrotesanchez@worldbank.org
mmakovec@worldbank.org
cozden@worldbank.org