

# Shortages and migration: research projects in GS4S

**Dr. Friedrich Poeschel**  
Migration Policy Centre, EUI

**Lugano, 6th September 2024**



# Agenda

01

WEBSCRAPING TO LOCATE  
SHORTAGES OUTSIDE THE EU

02

WEB-SCRAPED DATA:  
ISSUES AND INSIGHTS

03

NEXT STEPS: MAKING DATA  
COMPARABLE

04

LINKING SHORTAGES TO  
MIGRATION ASPIRATIONS

05

EMPIRICAL INVESTIGATION  
FOR THE WESTERN BALKANS

06

RESULTS AND IMPLICATIONS

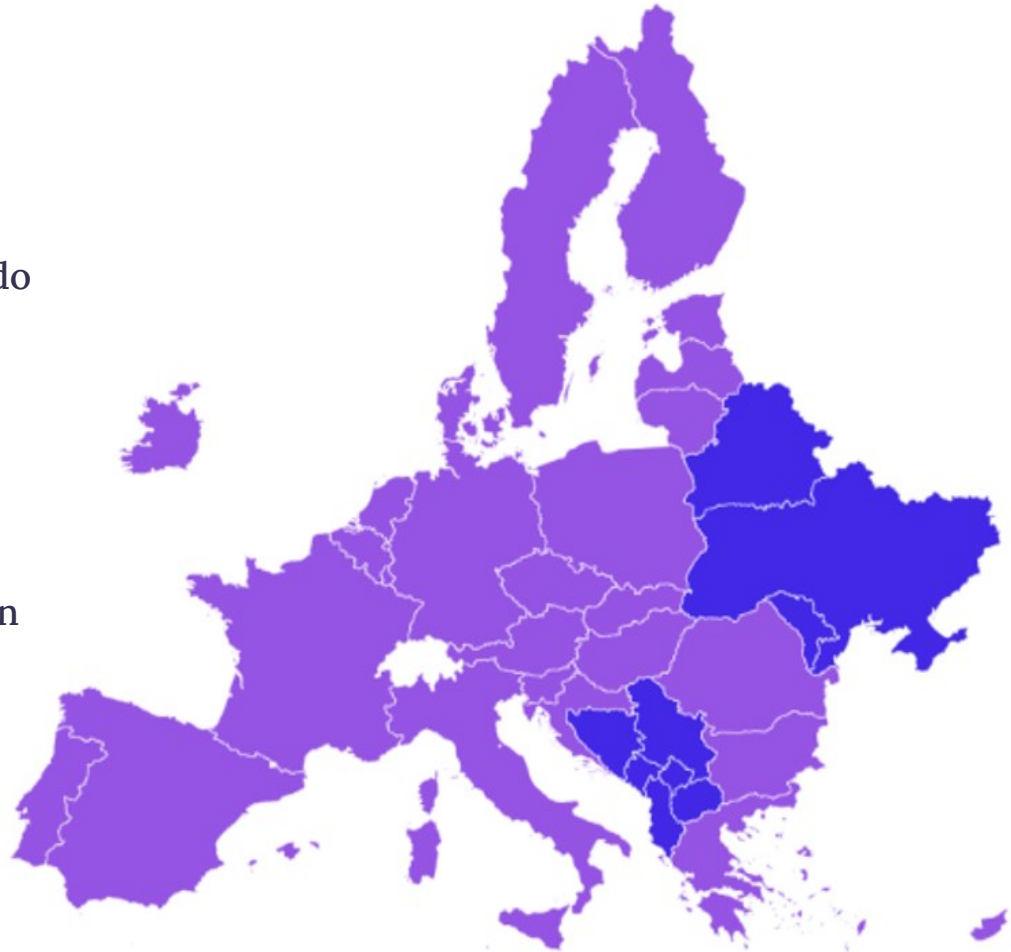
# LOCATING SKILL SHORTAGES OUTSIDE THE EU

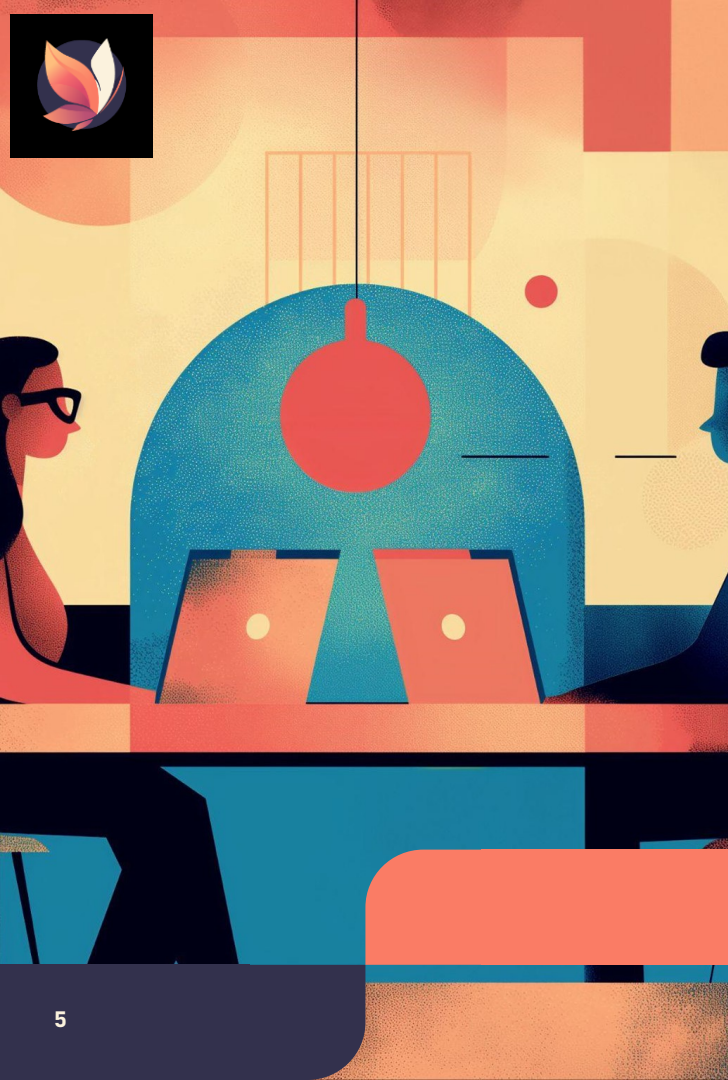


## Focus countries

Systematic shortage data often do not exist for countries outside the EU & the OECD

> How to get at least an idea of current shortages in the Western Balkans, eastern EU neighbours, North Africa, Türkiye, Georgia? (important origin countries...)

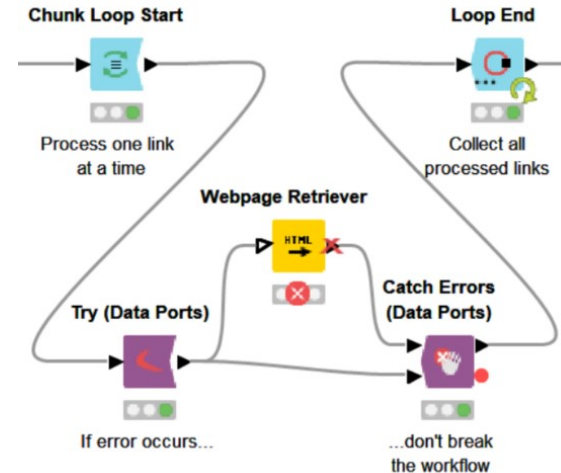




## Webscraping vacancy data

Some of the best measures for shortages rely on vacancies. As vacancy adverts are now widely found on dedicated websites, vacancy data can be scraped (whenever the site allows)

Various software solutions exist. Here, KNIME is used, a *\*free\** platform with a user interface



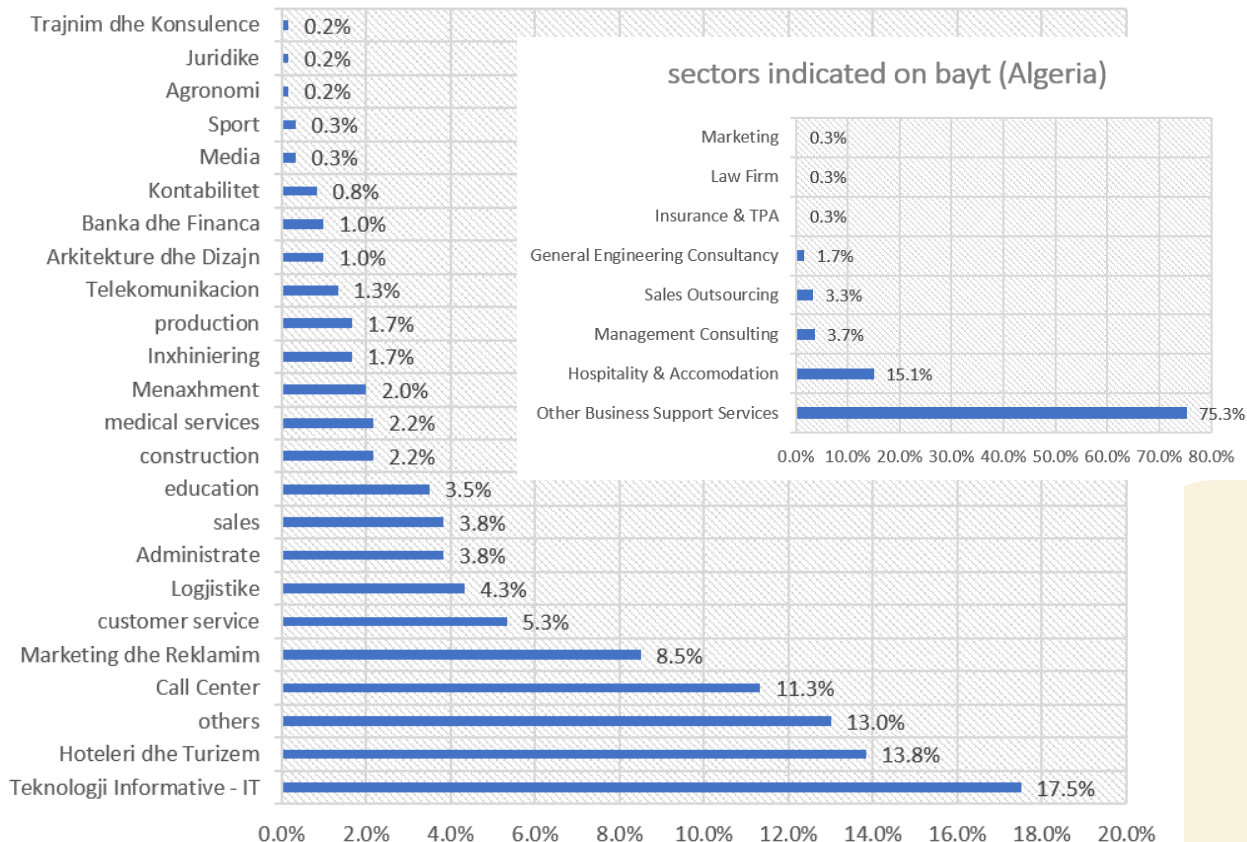


# Issues and insights

Huge heterogeneity – every website offers different information

- All websites systematically include the job title and location
- Many have information on wages (in €, \$, local currency...) and full-time/part-time
- Some cover education/experience
- Only few cover sectors
- Also sometimes available: whether work is remote, how many jobs to be filled, date when posted
- However, also unsystematic information in the vacancy text

## Sectors indicated on gjirafa (Albania)

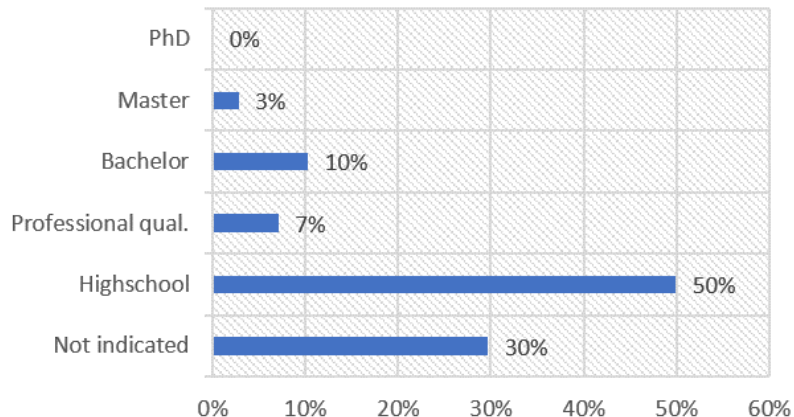




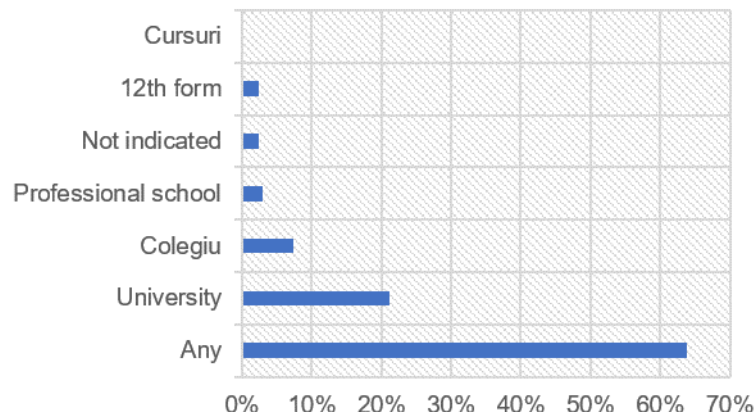


## First skill measure: educational attainment

Education expected on njoftimefalas  
(Albania)



Education expected on  
rabotamd (Moldova)

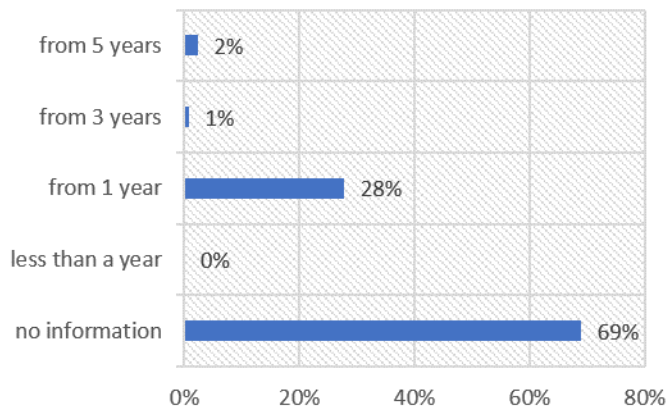


In both Albania and Moldova, only about 20% of vacancies posted (on these sites) require a higher degree. Just high school or “any” level is typically acceptable

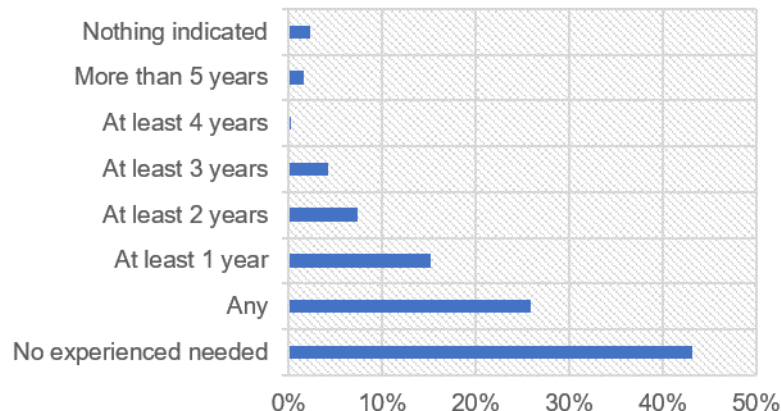


## Second skill measure: prior work experience

Prior experience expected on  
mtrud (Moldova)



Prior experience expected on  
rabortamd (Moldova)



These two sites for Moldova agree in so far as

- a) around 30% of vacancies require prior experience of 1 year or more
- b) Around 70% of vacancies do not require or do not specify prior experience





# Potential use for migration policy

If the wealth (and paucity!) of web-scraped data can be translated into some indicator of skill shortages, this will help

- Identify skill shortages in both destination and origin countries – then establishing a joint training centre could benefit both
- Steer policy makers to potential sectors, occupations, and partner countries for an EU Talent Partnership
- Monitor how skill shortages evolve over time – also to assess the impact of EU Talent Partnerships

## NEXT STEPS: MAKING THE DATA COMPARABLE

The next key challenge is to transform the very heterogeneous data into some measures that can be compared across countries and time.

1. The already limited information on sectors seems hard to place into international classifications
2. By contrast, the specific job titles may be linked to international classifications of occupations, using “libraries” of classified jobs (in various languages, so quality of translation matters)
3. Vacancy numbers alone are not as informative as vacancy rates, e.g. by occupation. But to get there, one needs to account for vacancies that cannot be scraped (not online or scraping fails)
4. When vacancy rates themselves are still prone to errors, the \*change\* in vacancy rates over time may become a very useful indicator



# LINKING MIGRATION TO SHORTAGES ABROAD & AT HOME





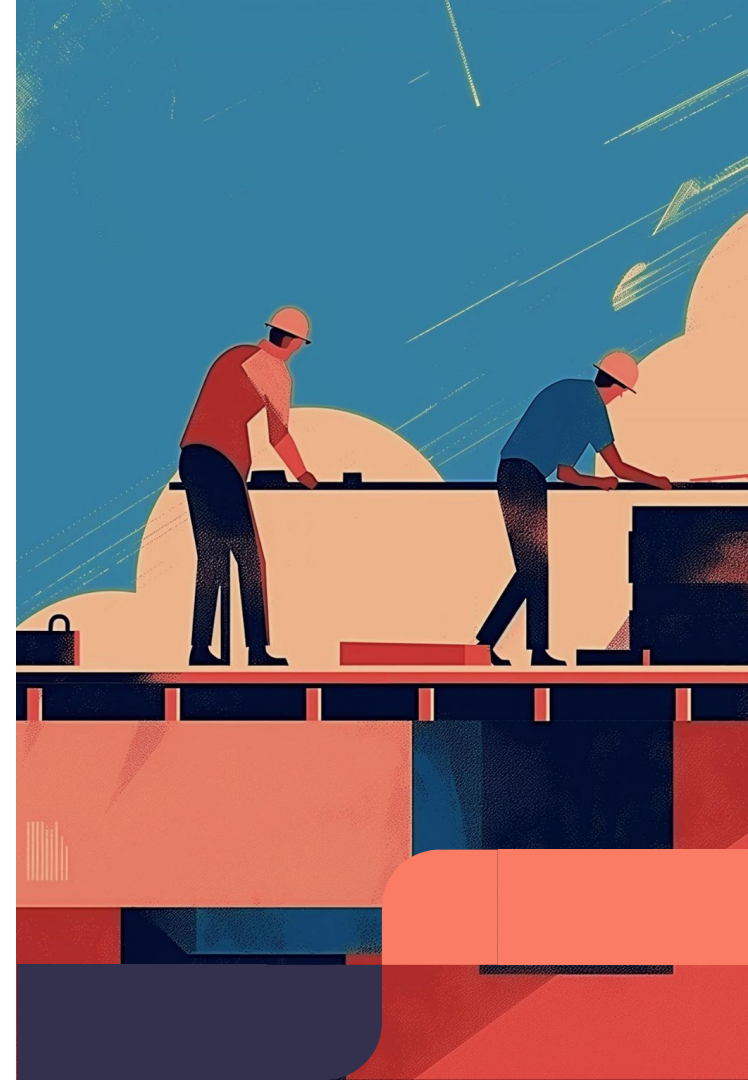
## How do shortages impact potential migrants?

Surprisingly, this aspect has received little attention so far. Do shortages in occupation X matter for migration aspirations of employees in occupation X?

And which shortages matter – those in a potential destination country? Those at home? Or both?

With co-authors Mahdi Ghodsi, Alireza Sabouniha, Sandra Leitner (all wiiw in Vienna), Pascal Beckers and Ksenija Ivanovic (both Radboud University in Nijmegen), we looked into these questions:

“Skills-oriented migration in the Western Balkans:  
Linking workers’ migration aspirations to skill shortages in  
destination and origin countries” (August 2024)





## Data & method

Focus on 3 Western Balkan (“WB”) countries: Albania, Bosnia and Herzegovina, Serbia

To avoid issues with self-selection of potential migrants, we use a two-stage Heckman procedure (accounting for other factors for migration aspirations)

Then we examine specifically how shortages in the occupation of the potential migrant affect the reported migration aspirations, incl. destination choice (using McFadden’s choice model)

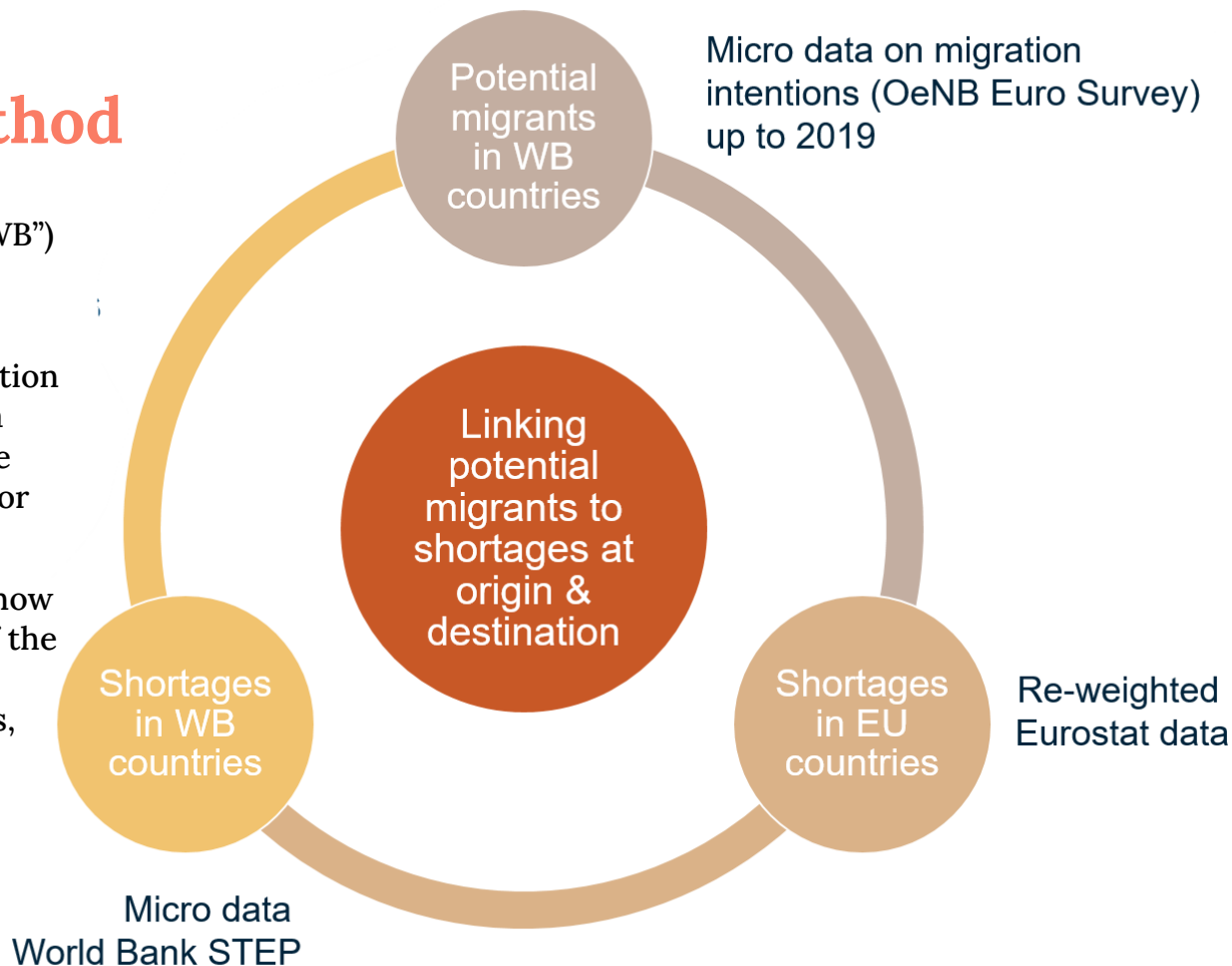




Table 3 – Destination country preferences for respondents with migration aspirations

## Preferred destinations of potential migrants in the Western Balkans

Destination	Frequency	Share
Germany	290	39.70%
Greece	55	7.50%
France	53	7.30%
Sweden	48	6.60%
Austria	47	6.40%
United Kingdom	44	6.00%
Italy	40	5.50%
Denmark	31	4.30%
Belgium	24	3.30%
Slovenia	23	3.20%
Netherlands	22	3.00%
Malta	10	1.40%
Spain	7	1.00%
Finland	7	1.00%
Croatia	7	1.00%
Cyprus	5	0.70%
Ireland	4	0.60%
Luxembourg	4	0.60%
Bulgaria	3	0.40%
Czechia	2	0.30%
Portugal	2	0.30%
Hungary	1	0.10%
Romania	1	0.10%
<b>Total</b>	<b>730</b>	<b>100.0%</b>



# Estimation results

## Shortage abroad

increases migration aspirations

A shortage (in the relevant occupation) that occurs in a destination country (based on rising vacancy rates) significantly increases the probability that the potential migrant indicates this destination country

## Shortage at home

reduces migration aspirations

A shortage (in the relevant occupation) in the home country often significantly reduces the migration aspirations of potential migrants, albeit not always (it can depend on gender, for example)

## Overall

Shortages matter for migrants

Alongside factors such as age, gender, education, employment status, and family situation, also shortages in the occupation of the potential migrant matter for migration aspirations. The potential migrant likely considers both, which implies that shortages abroad compete with shortages at home





**Thanks for your attention**



Funded by  
the European Union