EUROPEAN CONFERENCE ON QUALITY IN OFFICIAL STATISTICS

2024 ESTORIL - PORTUGAL

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Identification of Unregistered Emigration in the Norwegian Population Register

Linn Krokedal, Stian Nergård

Statistics Norway

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Agenda

- Background
- Administrative Emigration
- Data
- Method
- Results
- Evaluation

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Background

What is unregistered emigration?

Key questions:

1. How many people are registered as residents in Norway, but have emigrated?
2. What characterises this group?
3. What are the best methods to identify the unregistered emigrants?
4. Are there any data sources that could supplement this work?

The project is based on a previous unfinished project from 2015

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Administrative Emigration by the Norwegian Tax Authority

Tax Authority's control measures:

1. Yearly control of Eea-citizens
2. Yearly control of people with "unknown addresses"
3. Monthly control of people with expired residence permits

These control measures are dependent on legislation and subject to change

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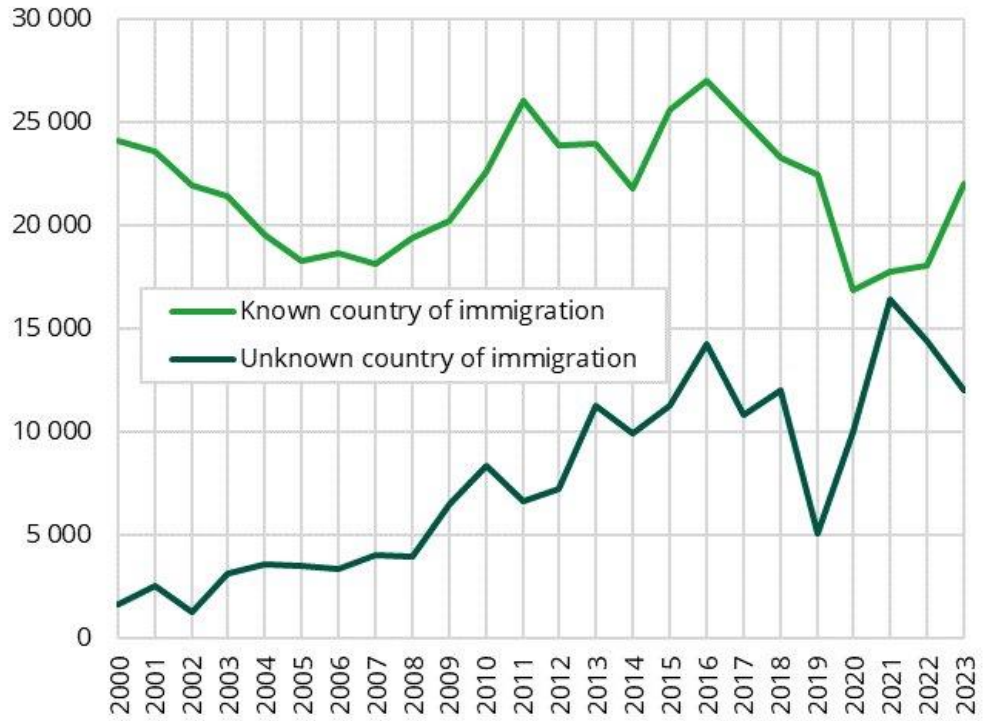
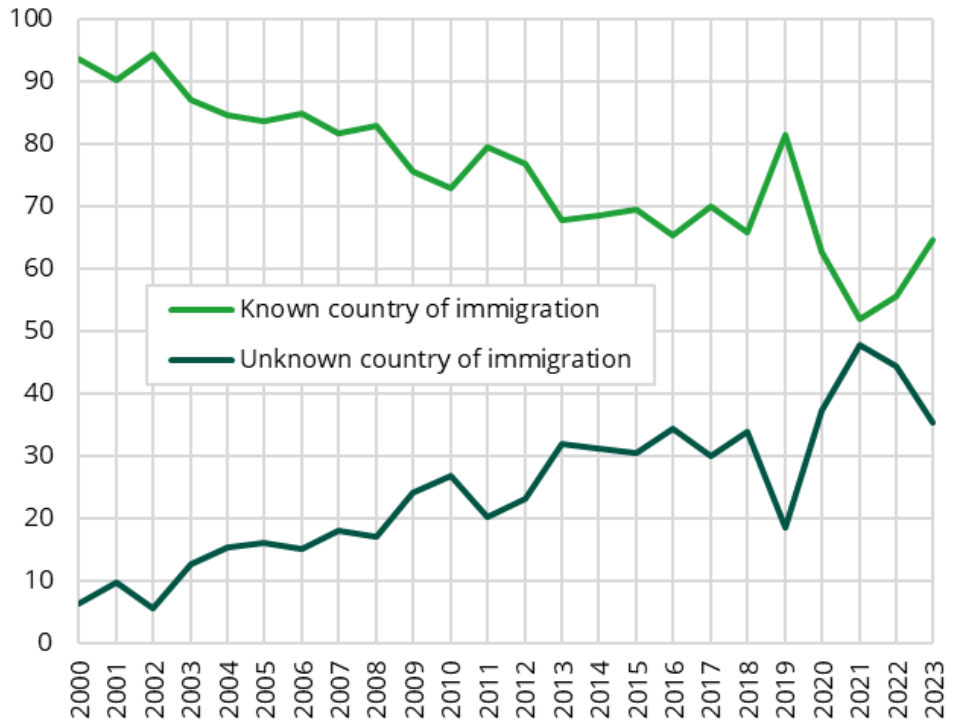
Emigration Numbers for Norway





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Data

- People registered as residents of Norway on January 1st
- Income data
  Labour income, capital income, money transfers
- National Population Register (NPR)
  Births, changes in marital status, changes of address
- System for Personal Data (SFP)
  Labour market activity, education, welfare payments

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Method

Let P_t be the set of the population where we search for inactivity. In our case, P_t is the set of all the people registered as residents in Norway aged 15 or older, at the beginning of the year t:

$$P_t = \{p_1, p_2, \dots, p_n\},$$

where n is the size of the population.

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Method

Define the indicator function, $I(p_i, R_{t-1,j})$, for any element p_i with respect to a data source $R_{t-1,j}$, as follows:

$$I(p_i, R_{t-1,j}) = \begin{cases} 1, & \text{if } p_i \notin R_{t-1,j} \\ 0, & \text{if } p_i \in R_{t-1,j} \end{cases}$$

Then, we can find the individuals p_i who are not in any of the administrative registers by taking the sum of the products of the indicator functions for each data source:

$$\sum_{i=1}^{n} \prod_{j}^{k} I(p_i, R_{t-1,j})$$

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Model Estimations

- Model 1: Zero Income Approach
- Model 2: Household Corrected Income Approach
- Model 3: Register Trace Approach

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Results

	2021	2022	2023
Model 1: Zero Income Approach	90,028	98,108	99,199
Model 2: Household Corrected Income Approach	32,182	38,224	44,068
Model 3: Register approach	20,929	23,570	20,175

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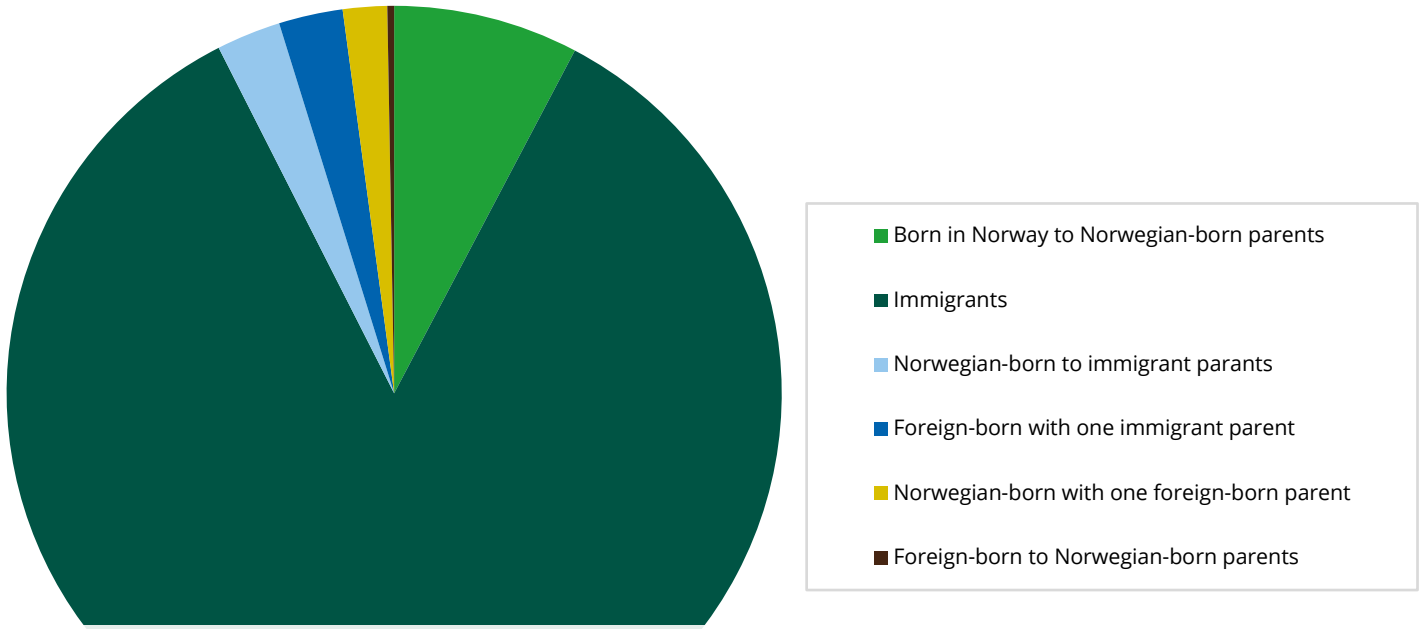

Immigrants make up the largest share of the estimated unregistered emigrants

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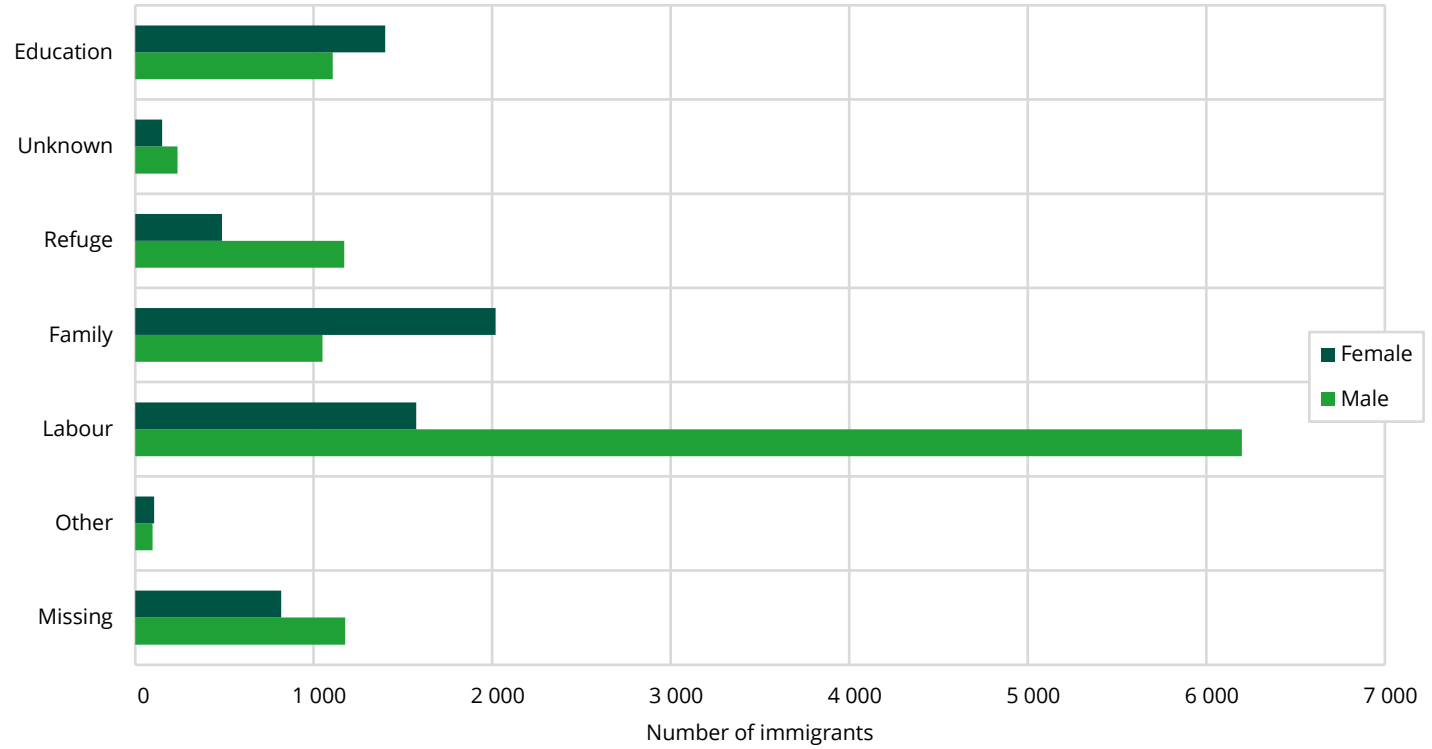
Reason for immigration



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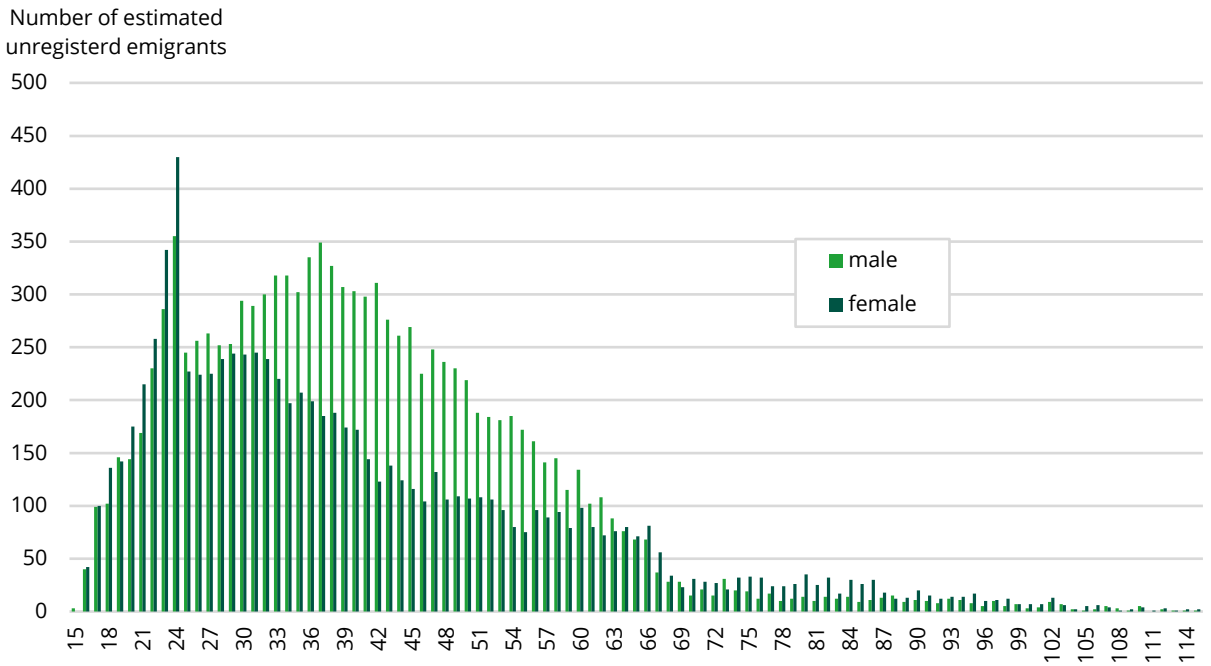
Age and gender distribution



- Mostly working-age men
- Women in their mid-twenites
- Administrative survivors
  - 0.5 percent of the estimated unregistered emigrants are 100 years or older
  - This share is 0.02 percent for the total population

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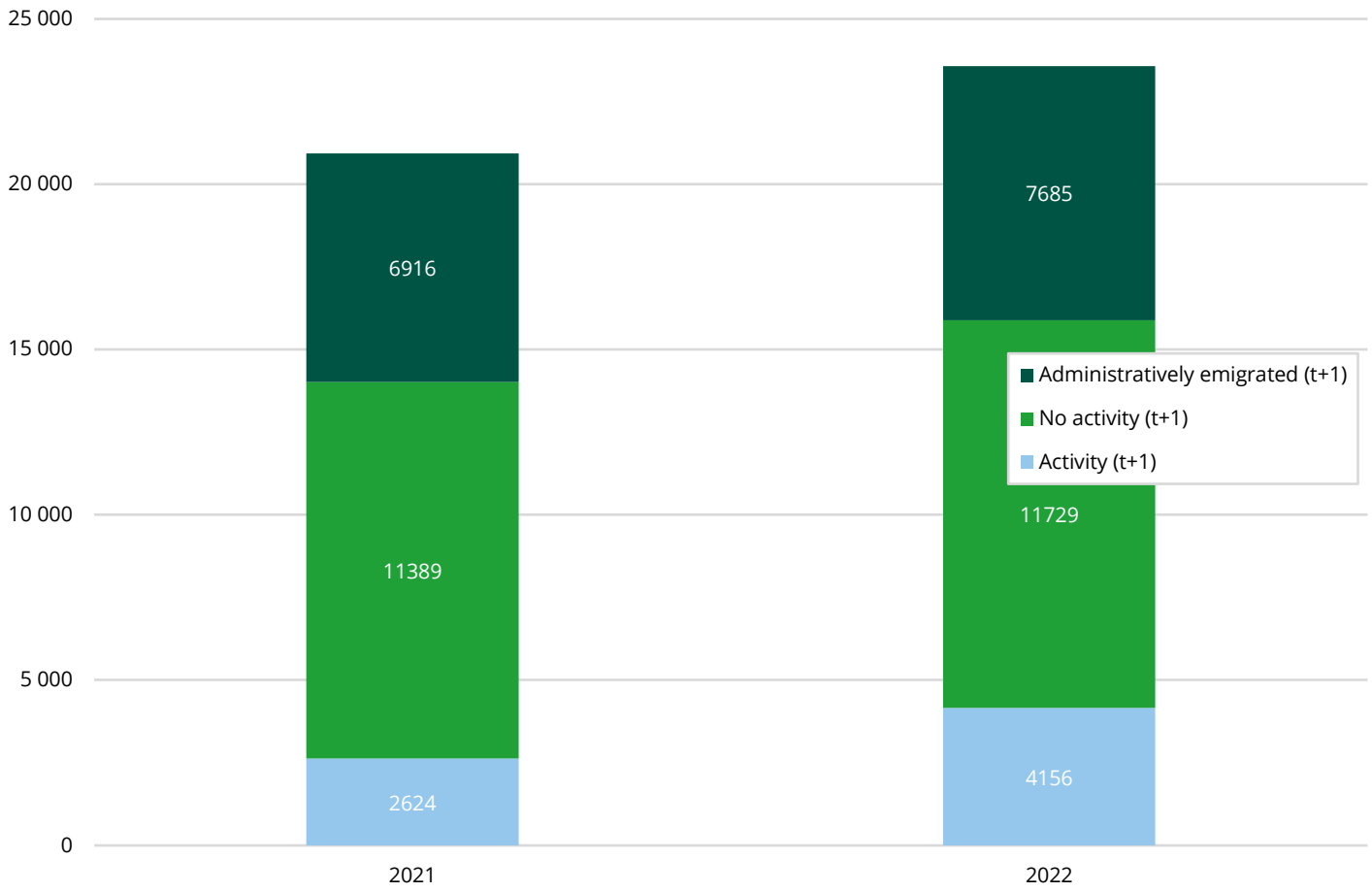
Evaluation



Thank you!

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