The impact of COVID-19 on the growth of the international migrant stock of 31 European countries

Dr. Yu Han
Prime Statistical Service
The Netherlands
Foreign-born population on 1 January

Source: Eurostat Population on 1 January by age group, sex and country of birth, update: 03/06/2022
Why international migrant stocks continue to grow?

Similar pattern also found for foreign-citizen population on 1 January published by Eurostat for these 31 countries (descreased in Sweden, Latvia, and Italy)

Counter-intuitive because
1. Migration flows dropped by at least one-third in 2020 in OECD countries, due to the COVID-19 pandemic
2. Border closure, quarantine and test requirement

Possible explanation
1. High share of EU migrants
2. Supports to mitigate the effects of the pandemic for migrants by receiving countries
Effect of the share of EU citizens on the growth rate

<table>
<thead>
<tr>
<th>Formulae</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth rate of foreign citizens 2019 ~ Share of EU citizens of the</td>
<td>6.1%</td>
</tr>
<tr>
<td>foreign citizens</td>
<td></td>
</tr>
<tr>
<td>Growth rate of foreign citizens 2020 ~ Share of EU citizens of the</td>
<td>8.4%</td>
</tr>
<tr>
<td>foreign citizens</td>
<td></td>
</tr>
<tr>
<td>Growth rate of foreign citizens 2021 ~ Share of EU citizens of the</td>
<td>13.5%</td>
</tr>
<tr>
<td>foreign citizens</td>
<td></td>
</tr>
</tbody>
</table>

No statistically significant results have been found, but the \( R \) squared did increase from 2019 to 2021, suggesting that the share of EU citizens explain the growth rate more after COVID-19 than before.
### Mitigation policies in EU countries

<table>
<thead>
<tr>
<th>1. Residence permits, entry conditions, unemployment and labour market needs</th>
<th>1.1 Residence permits and entry conditions √</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.2 Support for migrants √</td>
</tr>
<tr>
<td></td>
<td>1.3 Labour market</td>
</tr>
<tr>
<td></td>
<td>1.4 Access to healthcare</td>
</tr>
<tr>
<td></td>
<td>1.5 Living condition (seasonable workers)</td>
</tr>
<tr>
<td></td>
<td>1.6 Border closure, quarantine and testing √</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. International protection</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>3. International students</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>4. Voluntary and forced return</th>
</tr>
</thead>
</table>

Source: European Migration Network The impact of COVID-19 in the migration area in EU and OECD countries
Mapping mitigation policies in EU countries

Source: European Migration Network The impact of COVID-19 in the migration area in EU and OECD countries
Time-series cluster analysis

Aim to identify similarities and differences of the growth of international migrant stock among countries

Measures
1. Dissimilarity index modulates the proximity using the CORT coefficient \(^\text{[1]}\)
2. A fuzzy k-means algorithm based on the Pearson’s correlation factor COR \(^\text{[2]}\)

Number of clusters determined by cluster quality statistics

Balanced between Point Biserial Correlation (PBC), Hubert’s C (HC), Average Silhouette Width (ASW), and Calinski-Harabasz index (CH)

Source:

Cluster results

-5% 0% 5% 10% 15% 20% 25% 30% 35% 40%

Germany
Iceland
Sweden
Italy


0% 10% 20% 30% 40%

Croatia
Cyprus
Czechia
Greece
Lithuania
Poland
Portugal
Slovenia
Spain


0% 10% 20% 30% 40%

Belgium
Estonia
Ireland
Latvia
Liechtenstein
Netherlands


0% 10% 20% 30% 40%

Austria
Denmark
Hungary
Luxembourg
Malta
Romania


Bulgaria
Finland
France
Norway
Slovakia
Switzerland
Cluster 1 Feature:
First sharp increase, then decrease
Cluster membership

Cluster 2 Feature: Sharp increase


Countries: Croatia, Cyprus, Czechia, Greece, Lithuania, Poland, Portugal, Slovenia, Spain
Cluster 3 Feature:
Stable and slow increase
Cluster membership

Cluster 4 Feature: Sharp decrease in the International migrant stocks
Cluster membership

Cluster 5 Feature:
Stable and slow decrease in the growth of International migrant Stocks (except for Romania and Malta)
Next steps

Construct validity

Test correlation between membership and mitigation policy, share of EU migrants, share of humanitarian migrants, economic growth (GDP growth), and COVID-19 stringency index

Source: OXFORD COVID-19 Government Response Stringency index
Thank you

Feel free to reach out:
sapphireinenschede@gmail.com