Migration estimates from Portuguese tax records combined with other administrative registers and estimation methods
Outline

- Background
- Data Sources
- Methodology
- Results (preliminary)
- Conclusions
Statistics Portugal is currently studying and exploring the use of administrative data in the production of official population statistics.

Annual estimates of immigrants and emigrants released by Statistics Portugal are only available at the national level.

Previous work by Statistics Canada points to the possibility of producing migration estimates of good quality at sub national levels based on tax records.
The Portuguese tax payers’ register provides information at postcode level on national and foreign individuals of all ages, residing in Portugal or abroad.

However, a change in the concept of tax residency which entered into force in January 1, 2015 will have to be accounted for.
Data Sources

Tax Registers (2014-2016)

Sex, date of birth, country of citizenship, place of birth, address, country of residence

Statistical Register Prototype

Population Count Prototype (2015)

Based on several administrative files (2+)

Estimates of International Migration (2014-2016)

LFS, Foreign Population Registers and Emigration Survey
The tax registers show an obvious overcoverage.
Resident population estimates vs. tax registers (2014-2016)
The transition method will be adopted for the identification of migrant tax payers, that is, a person will be considered:

- A potential emigrant when he or she is present in the country (PT=V) at t but absent (PT=F) at t+1 (excluding deaths)
- A potential immigrant if absent at t but counted in the country at t+1 (excluding newborn infants)
- A potential internal migrant if present in the country at t and t+1 with different postal codes in each year
Methodology

Correction for overcoverage
- Sign-of-life methodology
- Weight calibration

Distribution ratio calculation
- Distribution ratio by NUTS 2 based on the administrative divisions corresponding to valid postal codes

Text fields analysis
- Destination countries’ analysis based on the registered residence
Preliminary results

Potential emigrants by NUTS 2 of previous residence

Non-calibrated registers confirm overcoverage but are highly correlated with the calibrated ones.
Preliminary results

Main European countries of destination ranking (by ascending order)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>France*</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Germany</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Spain</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Belgium*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

*Data from the Emigration Report relate to the year 2013
Preliminary results

Potential immigrants by destination region (NUTS 2, 2015)

The figures for potential immigrants based on the tax registers and population count prototype are very close to the official estimates (29 896)
Preliminary results

Potential internal migrants by NUTS 2 (2015)

- Preliminary results point to 104,216 internal migrants by NUTS 2

- Only the NUTS 2 regions of Lisboa and Algarve evidence a greater number of inflows than outflows
Conclusions

- The currently available tax data present some limitations, the most important of which relates to the reference period of the registers.

- Future quarterly updates will enable to determine more effectively the volume of migrations.

- The results obtained so far appear to point to the possible use of tax registers within the production of migration estimates at a more detailed geographic level.
However, the actual number of immigrants/emigrants at the national level will continue to be estimated according to the current methods.

A more ambitious approach will require a close cooperation with the Portuguese Tax and Customs Authority.

Thank you for your attention!

paula.cruz@ine.pt