Adjusting Canada’s estimates of returning emigration in the context of COVID-19 by integrating flight and Registration of Canadians Abroad (ROCA) data

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The issue: measuring Canadian returning emigration in the context of COVID-19

- StatCan releases quarterly **preliminary** estimates **3 months after the end of the reference period**
- Returning emigrants: **Canadian citizens** or **immigrants** having previously emigrated who subsequently returned to establish a permanent residence in Canada (subset of emigration)
- Usual method: Canada Child Benefit (CCB) data (tax data) + demographic models
- Data lag 2 years
  - Assumption: past trends are continuing
- Assumption less realistic in the context of COVID-19
- StatCan adjusted its models to take into account the current context
The solution: using flight and Registration of Canadians Abroad (ROCA) data to adjust our methodology (1)

- Primary Inspection Kiosks (PIKs): electronic means to collect declaration information in most major Canadian airports
  - Canada Border Services Agency (CBSA)
- Very current microdata available
- Very recent (early 2018, no time series), not all border crossings (only air), intention of residence in Canada and duration abroad unknown
- Potential returning emigrants: **Canadian citizens** who reported residing abroad

**Note:** PIKs were gradually introduced at major Canadian airports. In order to obtain a consistent time series, the entries included in the graph are only from airports with these kiosks as of January 2018.
The solution: using flight and Registration of Canadians Abroad (ROCA) data to adjust our methodology (2)

- Registration of Canadians Abroad (ROCA): free service for citizens through which the government notifies its nationals in case of emergencies
  - Global Affairs Canada (GAC): [https://travel.gc.ca/travelling/registration](https://travel.gc.ca/travelling/registration)
  - Dates of registration, departure and return, country of destination, etc
- Very timely, info on country of destination, dates of registration, departure and return
- Small numbers, coverage very low and that changed with COVID
- Returning emigration = 1) returning after 365+ days abroad 2) if registered before departure
  - Assumption: Date of return to the country is a migration
  - Allows us to divide between travelers and migrants
  - Allows us to consider the increase in coverage.

![Graph showing individuals registered in ROCA (registration before departure) who returned after a trip abroad of 365+ days](image-url)
The solution: using flight and Registration of Canadians Abroad (ROCA) data to adjust our methodology (3)

- Integrating 3 sources
- Usual method
  - Baseline
  - Proven method that is documented and accepted by users
- Flight data (PIKs)
  - Very timely
  - Decent coverage
  - Conceptually limited
    - Canadian citizens residing abroad landing in Canada (migrants or visitors???)
- Registration of Canadians Abroad (ROCA)
  - Very timely
  - Low coverage
  - Conceptually appropriate
    - Returning after 365+ days abroad
The results: adjusted data show a marked increase in spring 2020 followed by a strong decrease consistent with COVID

Estimates of the number of returning emigrants, usual method and adjusted method

- Usual method
- Adjusted method
The results: publication of special technical documents

- Highlight our decision to adjust or not our models for each component of demographic growth (births, deaths, immigration, etc).
- Published two versions in 2020

- [https://www150.statcan.gc.ca/n1/pub/91f0015m/91f0015m2020001-eng.htm](https://www150.statcan.gc.ca/n1/pub/91f0015m/91f0015m2020001-eng.htm)
- [https://www150.statcan.gc.ca/n1/pub/91f0015m/91f0015m2020002-eng.htm](https://www150.statcan.gc.ca/n1/pub/91f0015m/91f0015m2020002-eng.htm)
Some lessons learned

- Data integration: maximizing the strengths of each source. Internal consistency could be an issue. Need to understand both the data and the subject-matter. Press review.
- Interpretability: simpler models are easier to understand given the uncertainty of the estimates
- Timeliness: increasingly relevant to users (internal and external)
- National partnerships: good relationships with partners were useful to get data and answers in a timely fashion
- Transparency: technical documents and presentations were very well received by users
- Methods: created a momentum to acquire new data and develop new models. Need to keep this momentum going
Thank you for your virtual attention! Merci beaucoup pour votre attention virtuelle! 😊

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