Measuring the emigration of immigrants in Canada using longitudinal administrative data
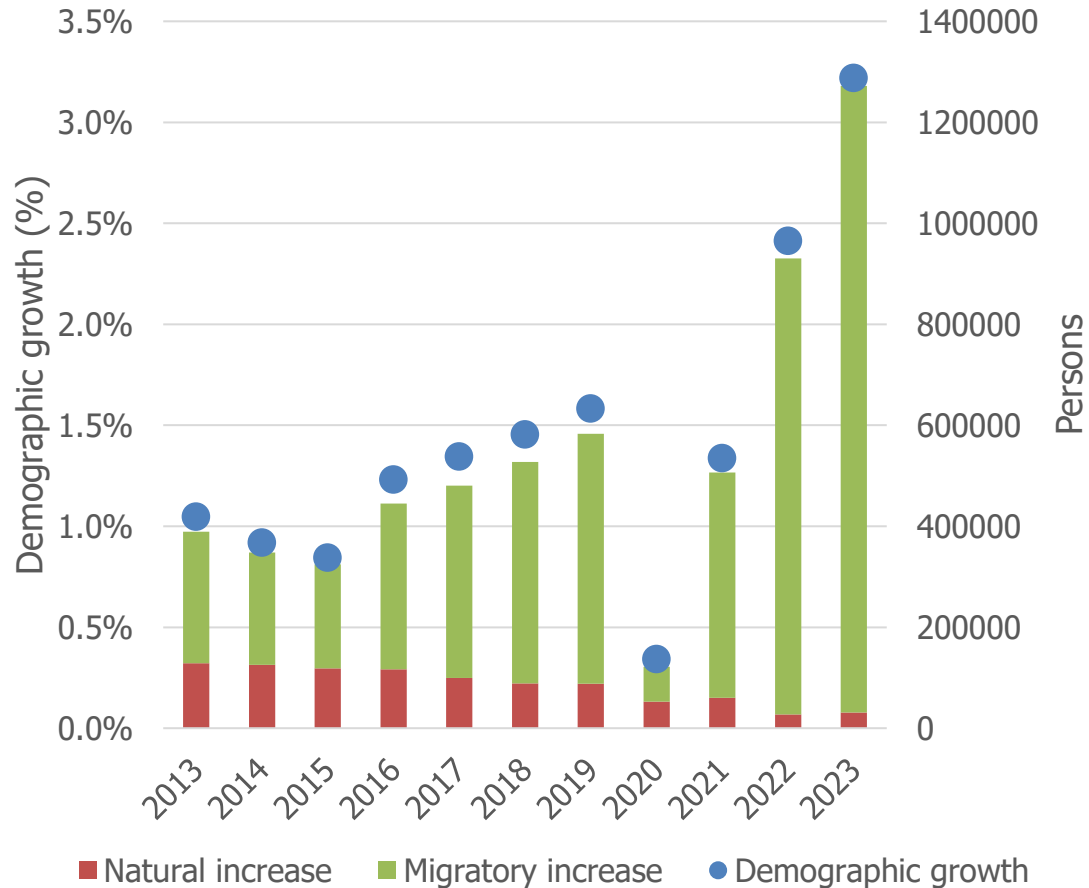
Julien Bérard-Chagnon

Statistics Canada

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1) International migration is by far the main driver of demographic growth in Canada

Source: Statistics Canada, Demographic Estimates Program.

- 2023: +3,2 % annual growth, strongest growth since 1957
- Record-high levels of immigration, both long-term and short-term
- Almost 1 in 4 Canadians is born abroad (2021 Census)
- Linked with various issues (eg: housing, aging, infrastructure, official languages)
- Increasingly strong interest by users for accurate and timely migration statistics

Measuring immigrant emigration with accuracy and timeliness is challenging in Canada

- Immigrant emigration
  - Impacts [Immigration Levels Plan](#) and immigration policies.
  - Strong interest by users and stakeholders.
  - Wasn't studied much.
  - Immigrants more likely to emigrate. Could lead to an increase of emigration in upcoming years given the increase of immigration.
- Measuring emigration
  - Canada does not have a population register.
  - Very few Canadian sources available.
  - Emigration must be measured indirectly.
- Objective: develop an indirect measure of immigrant emigration using admin data

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2) Longitudinal Immigration Database (IMDB)

- Comprehensive, detailed longitudinal file to shed more light on immigrant behaviour

- Linkage between immigration data, yearly tax returns and other admin data (eg: vital stats)

- Characteristics at admission (eg: admission category and country of birth) and on a yearly basis (eg: tax address, income)

Admission year ⬇

1998	1999	2000	2001	2002	...
Immigration permit	Tax data	Tax data	Tax data	Tax data	...

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Measuring immigrant emigration indirectly using the IMDB

- Permanently stopped filing a yearly tax return.
- Not always a signal of emigration!
- Additional criteria:
  - were 18+ years of age at the time of admission;
  - have not died since landing;
  - filed a tax return at least once after their admission;
  - stopped filing a tax return for at least three consecutive years;
    - Unless they put a departure date
  - are assumed not to be non-tax filers.
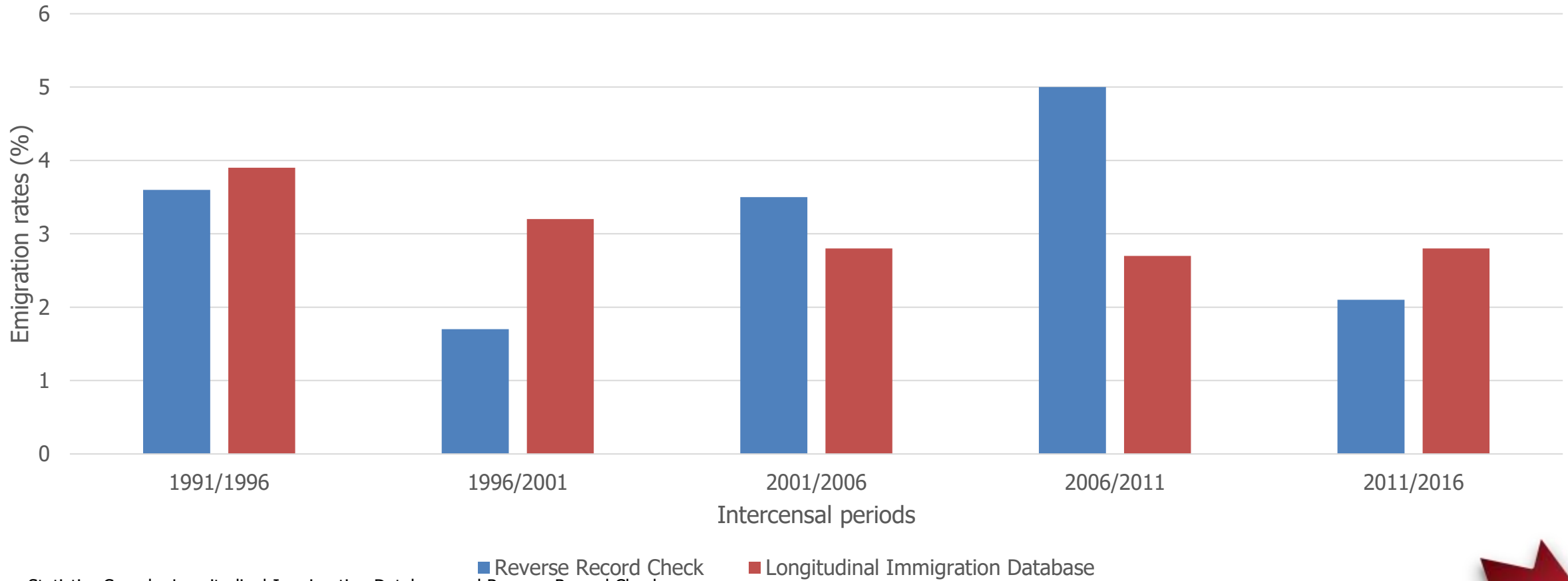- Studied cohorts: 1982 to 2017

Some examples!

1990	1991	1992	1993	1994	1995	1996	Status
Admitted in Canada	In tax	In tax	Not in tax	Not in tax	Not in tax	Not in tax	Emigrant
	Not in tax	Not in tax	In tax	In tax	In tax	In tax	Not emigrant
	Not in tax	Not in tax	Not in tax	Not in tax	Not in tax	Not in tax	Not emigrant
	In tax	In tax	Not in tax	Not in tax	Not in tax	In tax	Not emigrant
	In tax	In tax	Died	Not in tax	Not in tax	Not in tax	Not emigrant

- 2 notable limitations of this indirect definition
  - Only measures "permanent emigration"
  - Not very timely

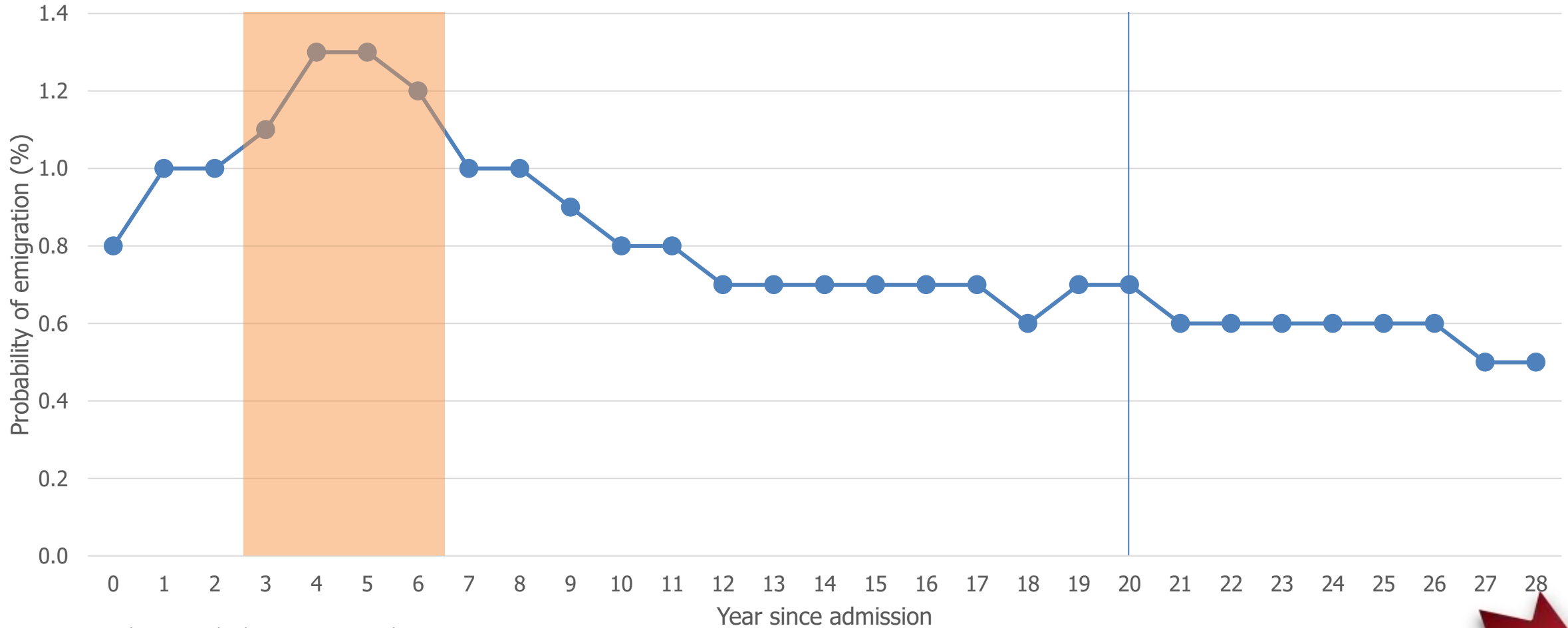Statistics Canada / Statistique Canada

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Our indirect definition provides similar levels of immigrant emigration than other sources

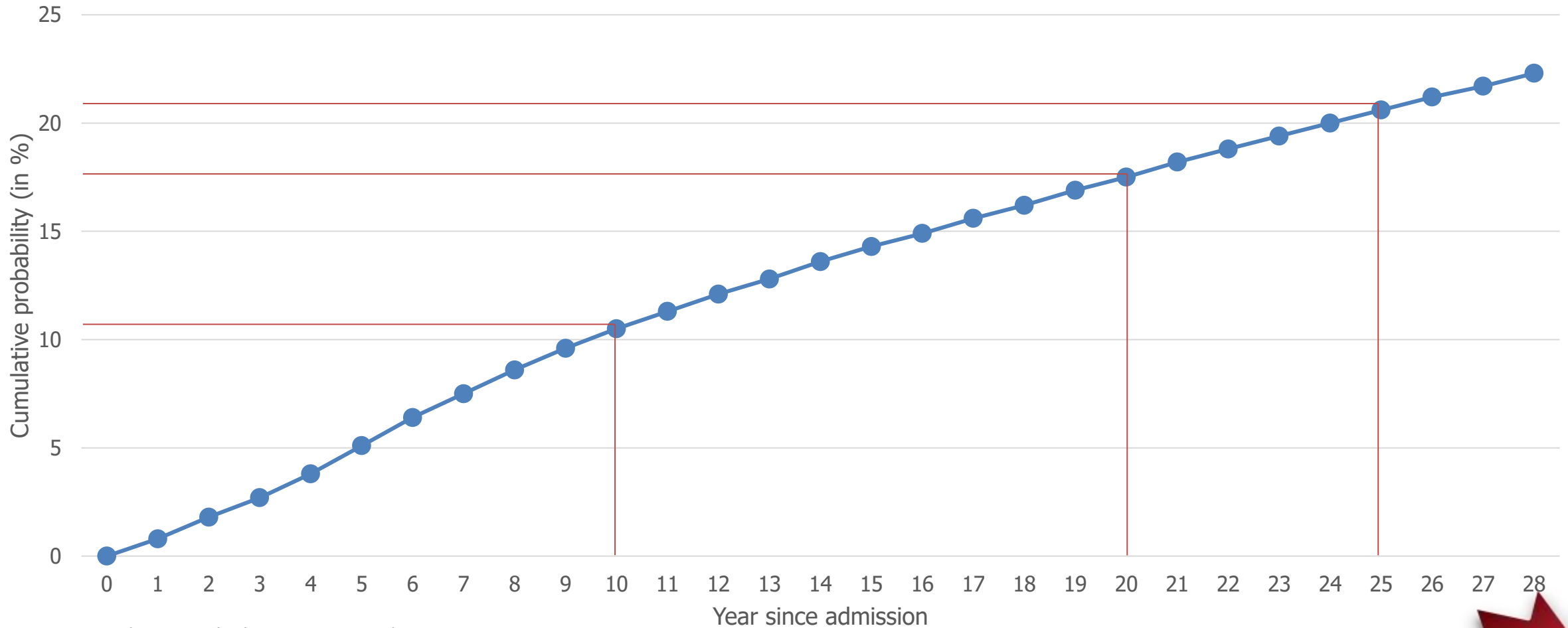## Emigration rates (%) of recent immigrants

Sources: Statistics Canada, Longitudinal Immigration Database and Reverse Record Check.

3) Immigrant emigration peaks a few years after admission

Source: Statistics Canada, Longitudinal Immigration Database.

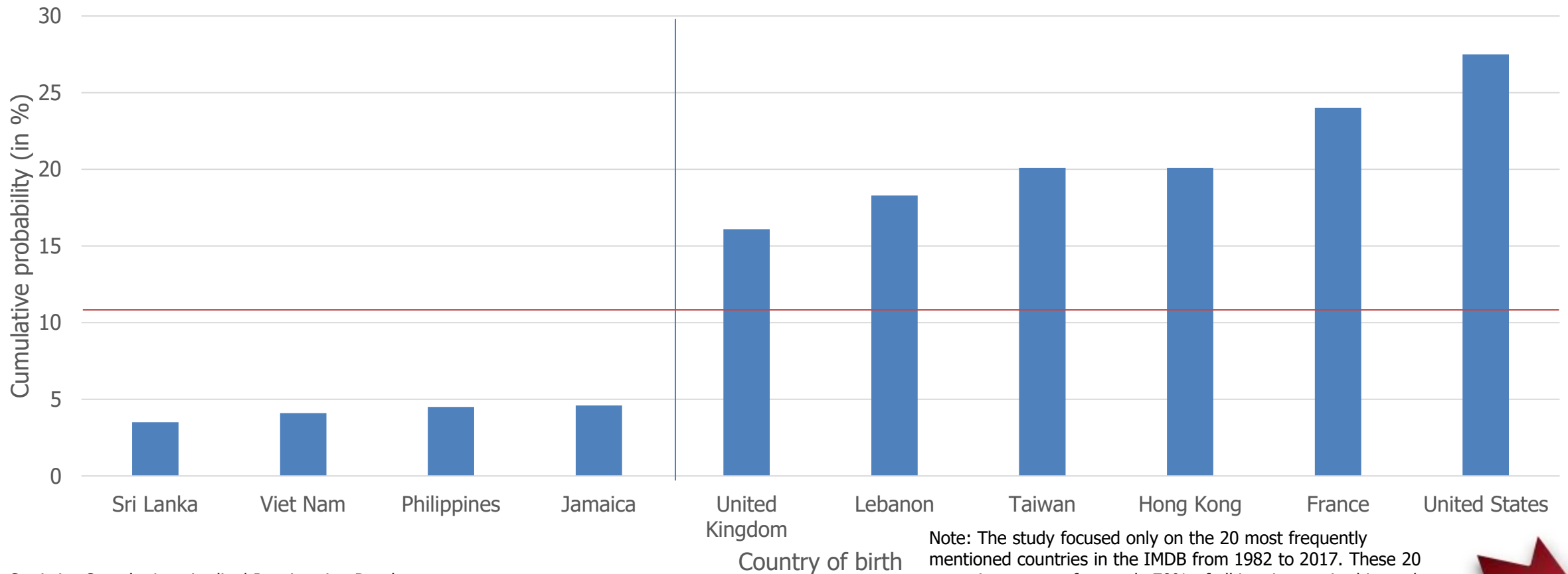# More than 15% immigrants emigrated within 20 years of admission

Source: Statistics Canada, Longitudinal Immigration Database.

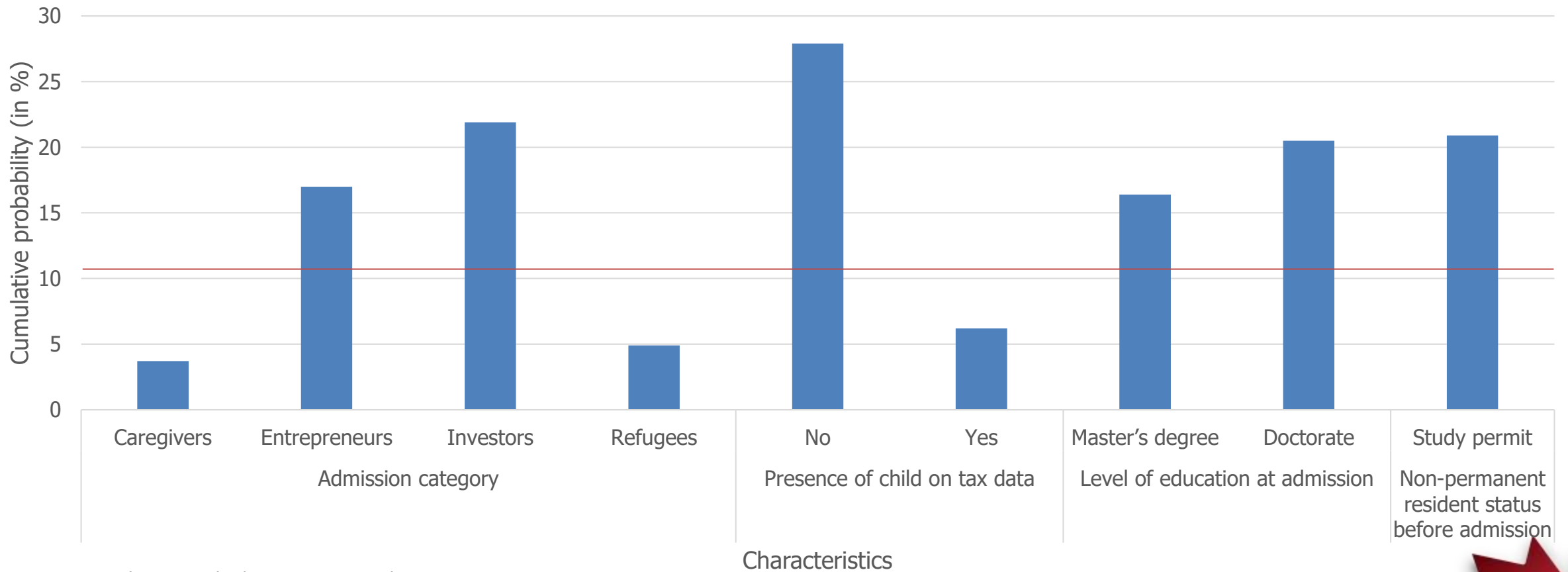# Immigrant emigration fluctuates substantially by country of birth...

Cumulative probability (in %) of immigrant emigration 10 years after admission

Note: The study focused only on the 20 most frequently mentioned countries in the IMDB from 1982 to 2017. These 20 countries account for nearly 70% of all immigrants in this study.

Source: Statistics Canada, Longitudinal Immigration Database.

...as well as by several other characteristics

Cumulative probability (in %) of immigrant emigration 10 years after admission

4) Conclusion

- Immigration is a key demographic dynamic of Canada.

- Increased interest for immigrant emigration.

- Few Canadian data sources inform on emigration.

- Developed an indirect measure of immigrant emigration using admin data
  - Some limitations, notably related to timeliness
  - Results are consistent with those from other sources

- Some immigrant characteristics correlated with emigration
  - More results, including from regression models, available in the full paper

- Working to acquire Entry/Exit Program data (border data)
  - Long process

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Some lessons learned

- Relevance: users needs evolve quickly. Challenging to stay relevant.

- Timeliness: increasingly important => trade-offs needed.

- More and more demographic models are required.

- Accuracy: indirect method -> more uncertainty (and potentially critics) -> more evaluations needed and made available.

- International collaboration
  - North America Collaborative Agreement (Canada, the U.S. and Mexico) on Migration Statistics

Thank you for your attention! ☺
Merci pour votre attention ! ☺

Julien Bérard-Chagnon

Chef, Développement et Évaluation du Programme des estimations démographiques — Centre de démographie, Secteur de la statistique sociale, de la santé et du travail
Statistique Canada / Gouvernement du Canada
julien.berard-chagnon@statcan.gc.ca

Chief, Demographic Estimates Program Development and Evaluation — Centre for Demography, Social, Health and Labour Statistics Field
Statistics Canada / Government of Canada
julien.berard-chagnon@statcan.gc.ca