

# Integrating Immigration Administrative Data into the Canadian Census of Population

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# Presentation Outline

1. Context of immigration in Canada and the Census of Population
2. Limitations with Census Questions
3. Limitations with administrative data
4. Methods used to integrate the administrative data
5. Results and lessons learned

# Context of immigration in Canada

## Canadian citizens by birth

- Born in Canada
- Born abroad to Canadian parent(s)

## Immigrants

(includes Canadian citizens by naturalization and permanent residents)

- Economic immigrants
- Immigrants sponsored by family
- Refugees

## Non-permanent residents

- Asylum claimants
- Temporary foreign workers
- International students

# Canadian Census of Population

- Key cross-sectional data source on the socio-economic outcomes of immigrants in Canada every 5 years
- The most recent Census was conducted on May 11, 2021.
- Immigration questions: immigrant status, year of immigration, place of birth, place of birth of parents and citizenship
- In 2021, Statistics Canada integrated administrative data to replace the questions on immigrant status and year of immigration

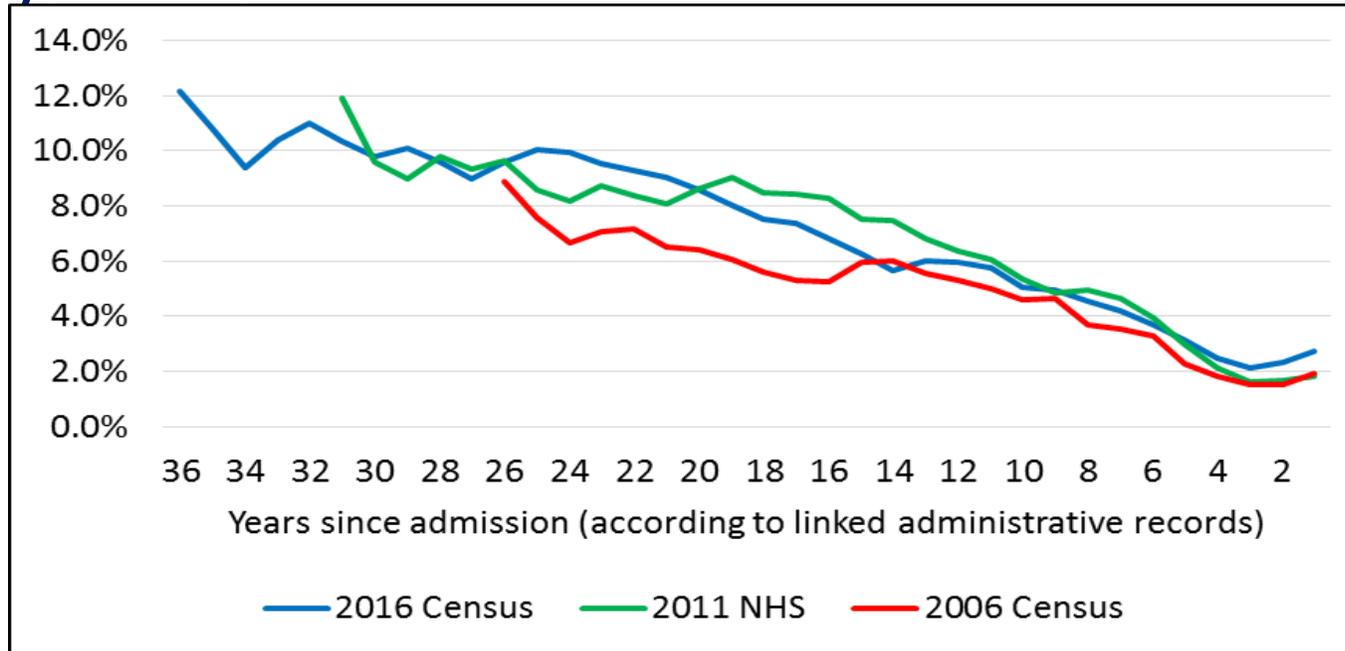
<p><b>14</b> Is this person now, or has this person ever been, a <b>landed immigrant</b>?</p> <p>A "landed immigrant" (permanent resident) is a person who has been granted the right to live in Canada permanently by immigration authorities.</p>	<p><input type="radio"/> No</p> <p> <b>Go to question 16</b></p> <p><input type="radio"/> Yes</p>
<p><b>15</b> In what year did this person first become a landed immigrant?</p> <p>Year</p> <p>Example: <input type="text" value="1"/> <input type="text" value="9"/> <input type="text" value="7"/> <input type="text" value="4"/></p>	<p>Year</p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>If exact year is not known, enter best estimate.</p>

# Overview of administrative data

- **Immigration, Refugees and Citizenship Canada (IRCC) administrative data integrated into the Census**
  - Immigration landing file (1980 to present)
  - Historical landing file (1952 to 1979)
  - Asylum claims and temporary resident permits (1980 to present)
  - Visitors file (2004 to present)
  - Citizenship file (2004 to present)
- **The main purpose of replacing the immigrant status and year of immigration question was to reduce response burden and improve the quality of the data.**
- **IRCC administrative data was also used to enhance 2016 Census**
  - Used to improve 2016 Census data processing (e.g. used as matching variables for imputation)
  - Used to add admission category variables onto the 2016 Census

# Limitation of immigrant status question: Immigrants who have been in Canada longer are less likely to think of themselves as immigrants

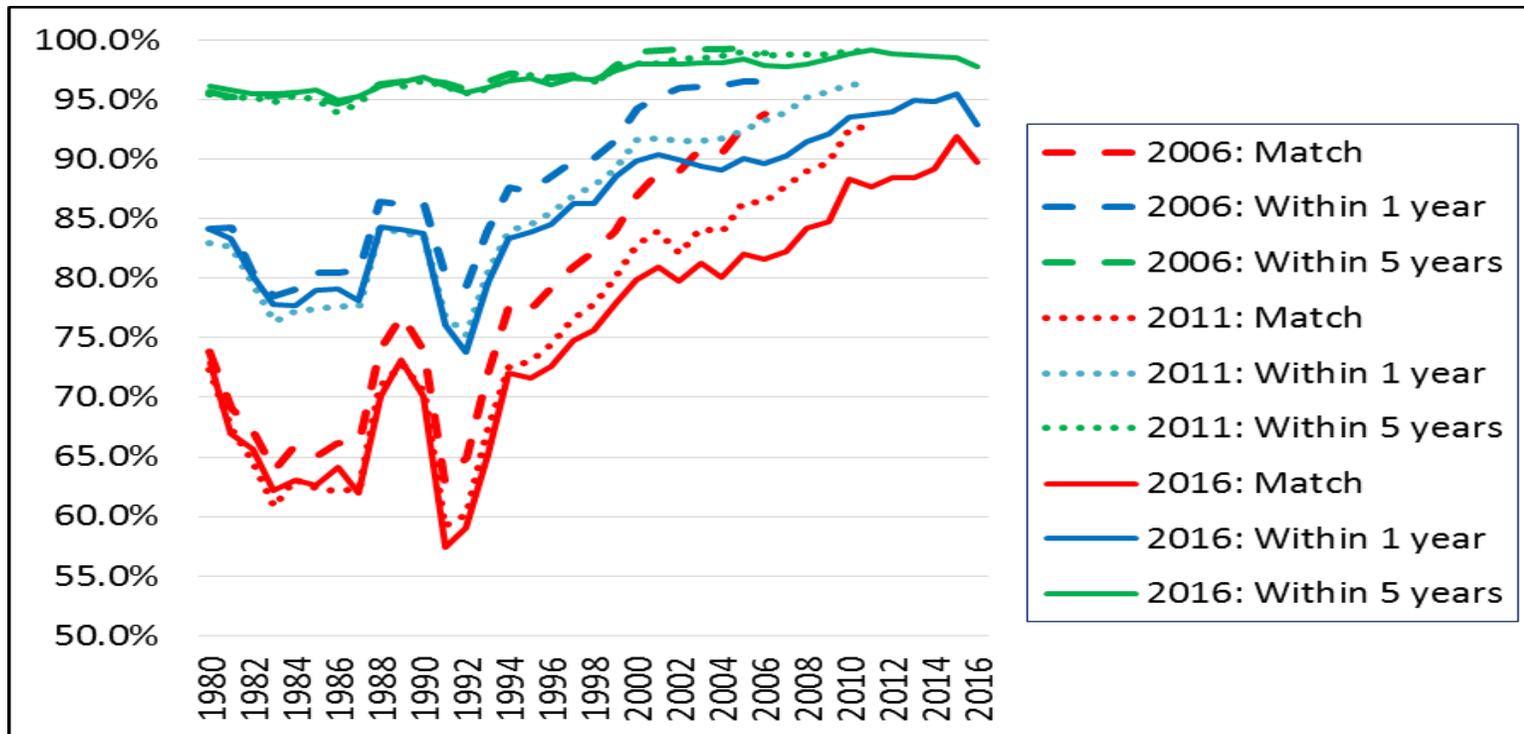
Percentage of census respondents linked to IRCC immigrant records who responded that they are not immigrants by years since admission



7.6% of 2016 Census respondents who were linked to an administrative immigration record responded “No” to the immigrant status question on the Census. Most are corrected during processing.

# Limitation of year of immigration question – Immigrants who have been in Canada longer are less likely to report their exact year of immigration

Match rate for census reported year of immigration by linked administrative value



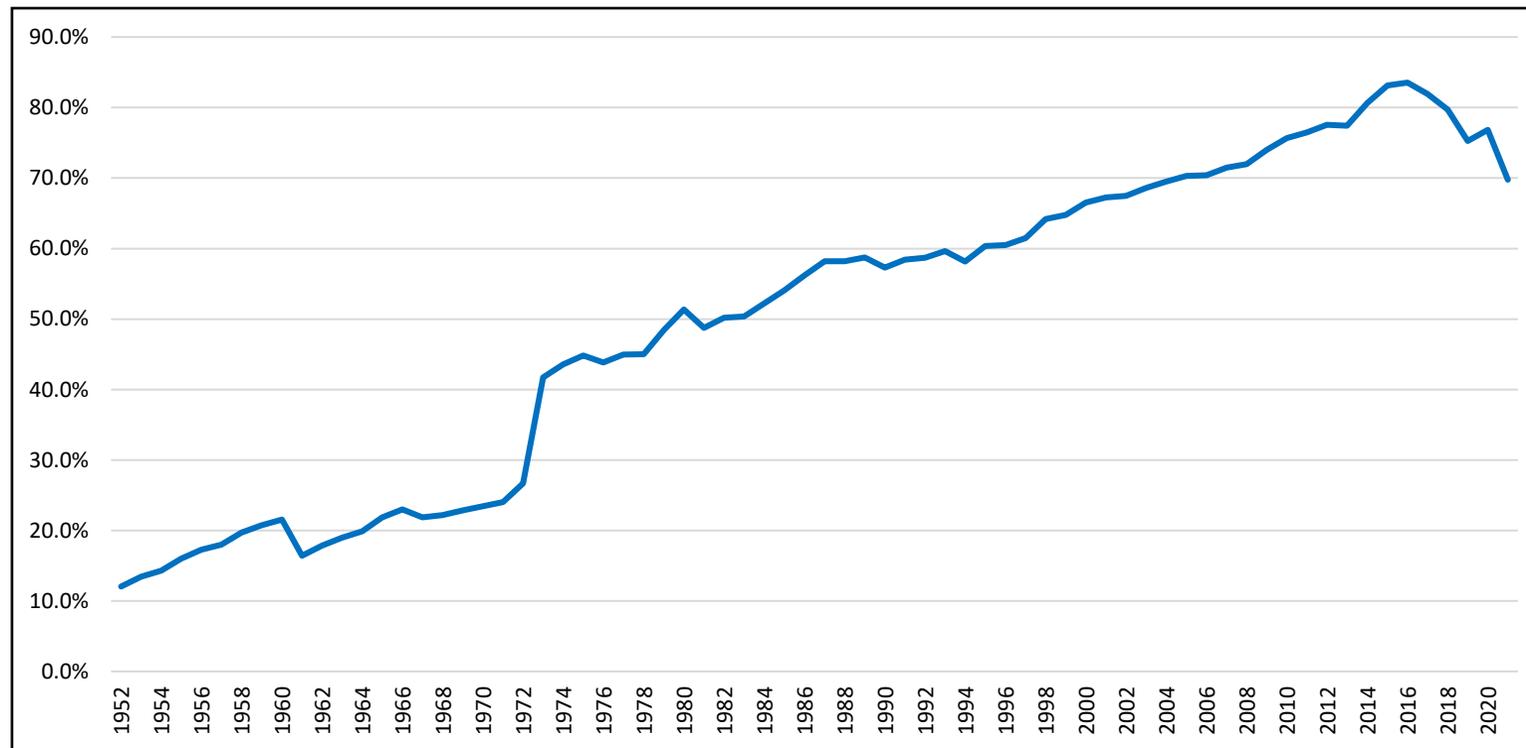
Over 21% of immigrants in the 2016 Census had a year of immigration response which did not have an exact match to their linked administrative value. Most immigrants are within 5 years of accurately reporting.

## Limitations of administrative data

- Administrative data are not updated to reflect deaths or emigration (The data need to be linked to estimate the current population of immigrants)
- No administrative records for immigrants admitted before 1952
- Low linkage rates for immigrants admitted between 1961-1972 (see appendix)
- Lower coverage of non-permanent residents (e.g. Dependants of temporary resident who don't have their own permits, or other non-permanent residents)
- Missing links

# Limitations of administrative data - Weaker linkage quality for years 1961-1972

Percentage of administrative immigration records linked to the 2021 Census by administrative year of immigration



# Method to replace Census questions on immigrant status and year of immigration

- Record linkage to administrative data identifies immigrants and non-permanent residents
  - Year of immigration for immigrants, permit or claim for NPRs
- Responses to the citizenship question are used to derive immigrant status and determine who is in scope for imputation for missing links

Citizenship status	Immigrant	Non-immigrant
Canadian by birth		Canadian by birth
Canadian by naturalization	Canadian by naturalization	
Not a Canadian citizen	Permanent resident	Non-permanent resident

- Edit and imputation processes to address missing links or inconsistencies between linked values and other census responses (e.g. age).

# Solutions to administrative data limitations

## No available administrative data source

- Past census responses are used to supplement administrative data for years prior to 1952 (2016, 2011, 2006, or 2001)

## Lower linkage rates

- An algorithm is used to convert some records that are not linked to administrative data into immigrants for years 1961 – 1972

## Lower coverage of non-permanent residents

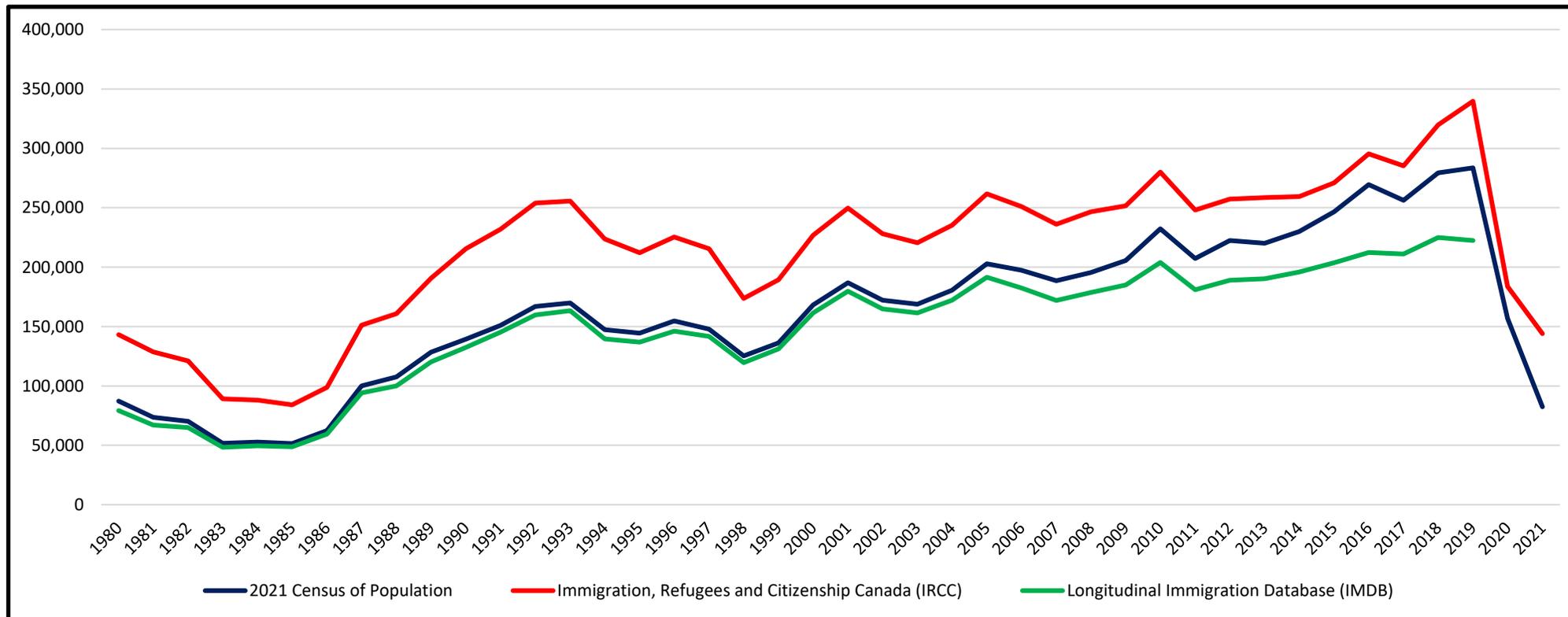
- Linking to permits which were no longer valid in 2021
- Linking to visitors' records
  - Dependents of temporary resident permit holders
  - Parent and grandparent super-visa holders

## Missing links

- Responses to the citizenship question are used to determine which individuals require imputation (e.g. a person who responded Canadian by naturalization who was not linked would have their year of immigration imputed)

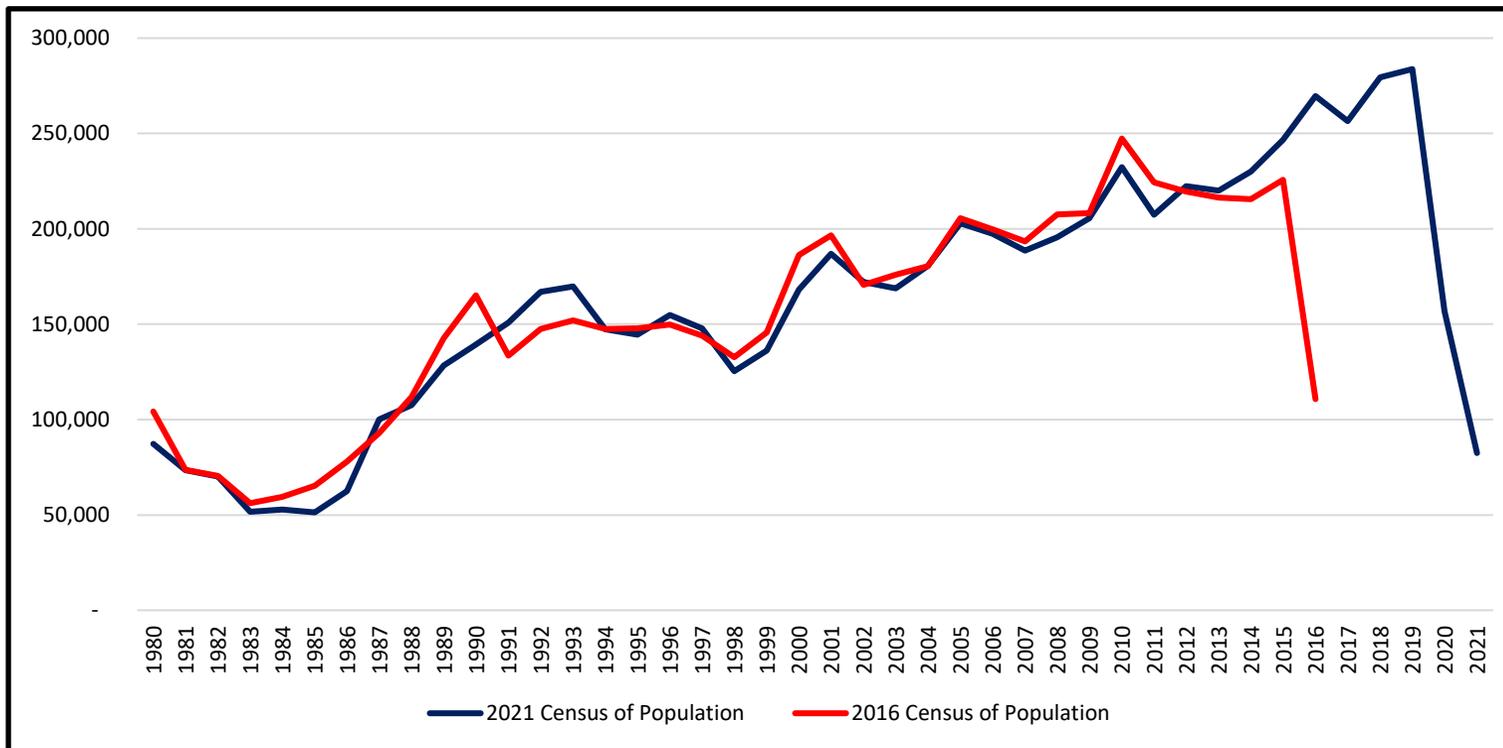
# Certification of the 2021 Census data: Comparability with other data sources

Year of immigration for the immigrant population who were admitted between 1980 and 2021, from different immigration data sources, Canada



# Certification of the 2021 Census data: Comparability over time

Year of immigration for the immigrant population who were admitted between 1980 and 2021, Canada, Census of Population, 2016 and 2021



Notable shift for the period from 1989 to 1993. This is caused by respondents providing their year of arrival of their asylum claim (in the 2016 Census), as opposed to their year of immigration (in the 2021 Census).

# Benefits and challenges of administrative data integration

## Challenges

- Limitations of administrative data (missing links, missing information, acquisition of administrative data sources)
- Historical comparability
- Loss of certification sources (linked data)

## Benefits

- Improve data quality
  - Improved precision of year of immigration since 1980
- Better coherence with other data sources such as IRCC and IMDB
- Reduce response burden
- Addition of new immigration content
  - Admission category and applicant type, year of arrival, pre-admission experience, province or territory of intended destination, non-permanent resident type

# THANK YOU!

For more information, visit [www.statcan.gc.ca](http://www.statcan.gc.ca)



or contact

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