

Use of administrative records in Chile's international immigration statistics.

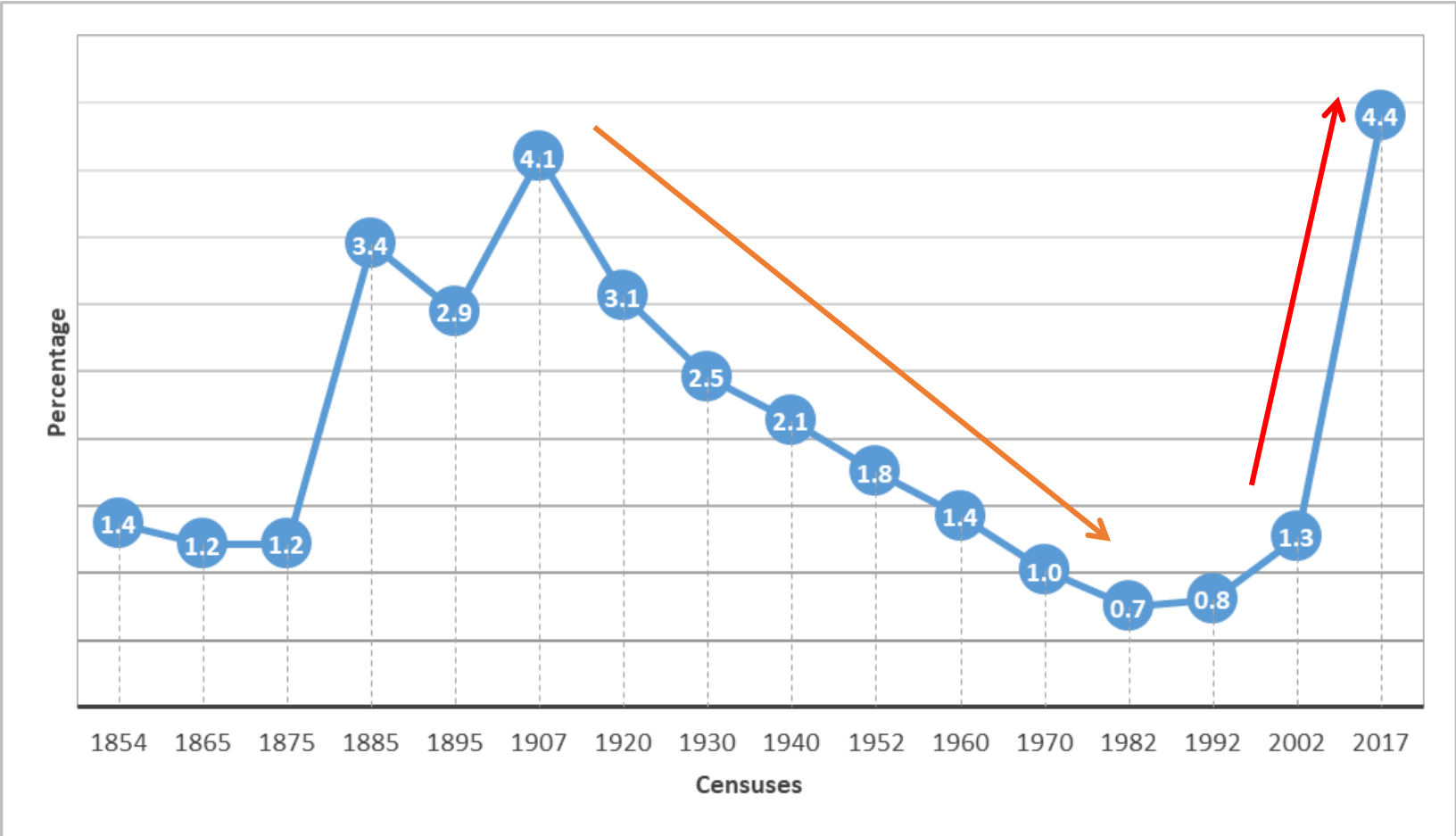
Micro and macro data integration

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Data sources: censuses as a traditional source for measuring immigration stocks

Graph 1. Percentage of foreigners and foreign-born population (1854-2017)



Source: Population and housing censuses 1854-2017

Notes: From 1854 to 1952, the indicator represents the total number of foreigners over the total number of people enumerated.

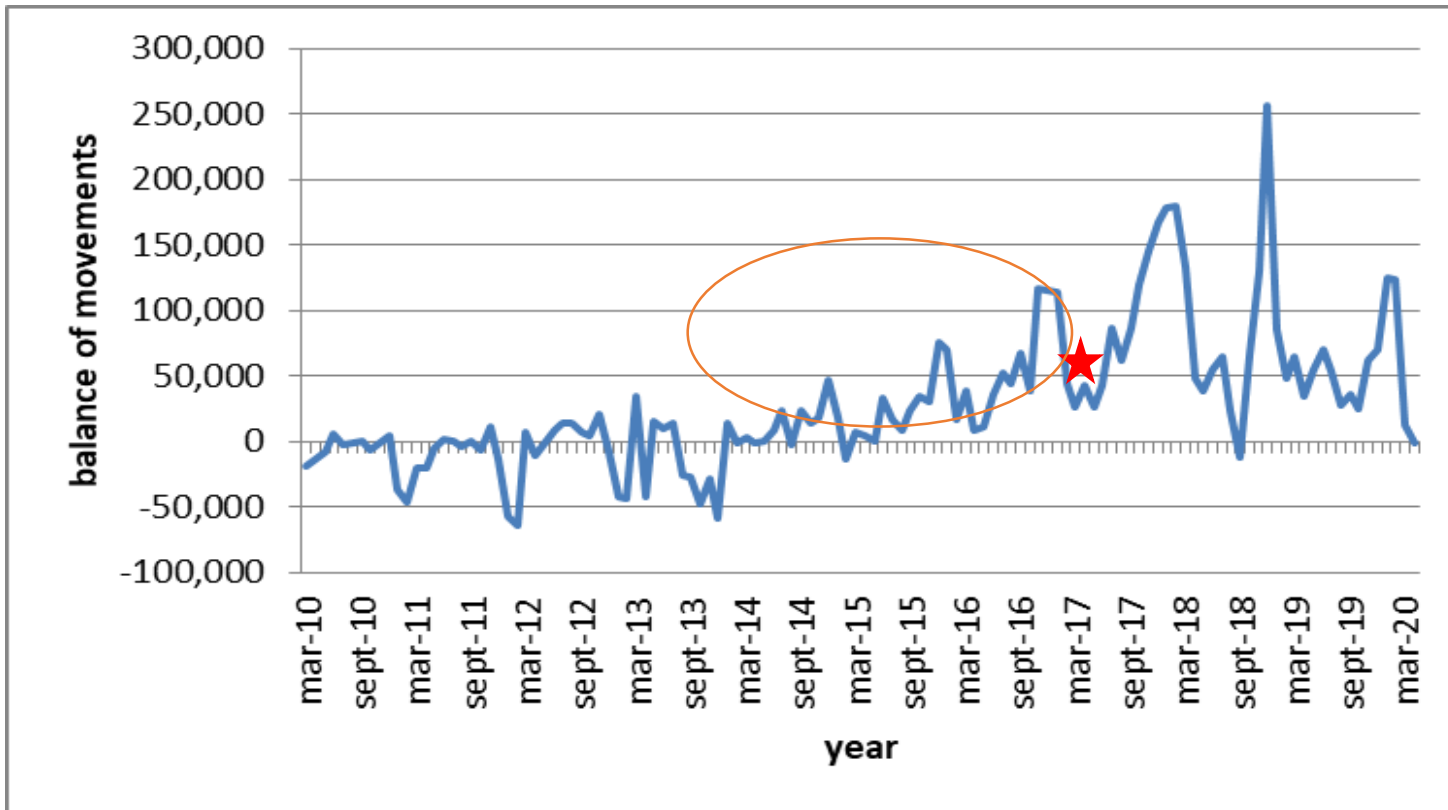
From 1960 to 1982, it represents the total number of people born abroad over the total number of people enumerated.

From 1992 to 2017, it represents the total number of people born abroad who were habitual residents (excluding temporary residents) over the total of the habitually resident population.

Source: National Statistics Institute of Chile.

Why develop a new methodology?

Graph 2. Balance of entries and exits, Chile (2010-2020)

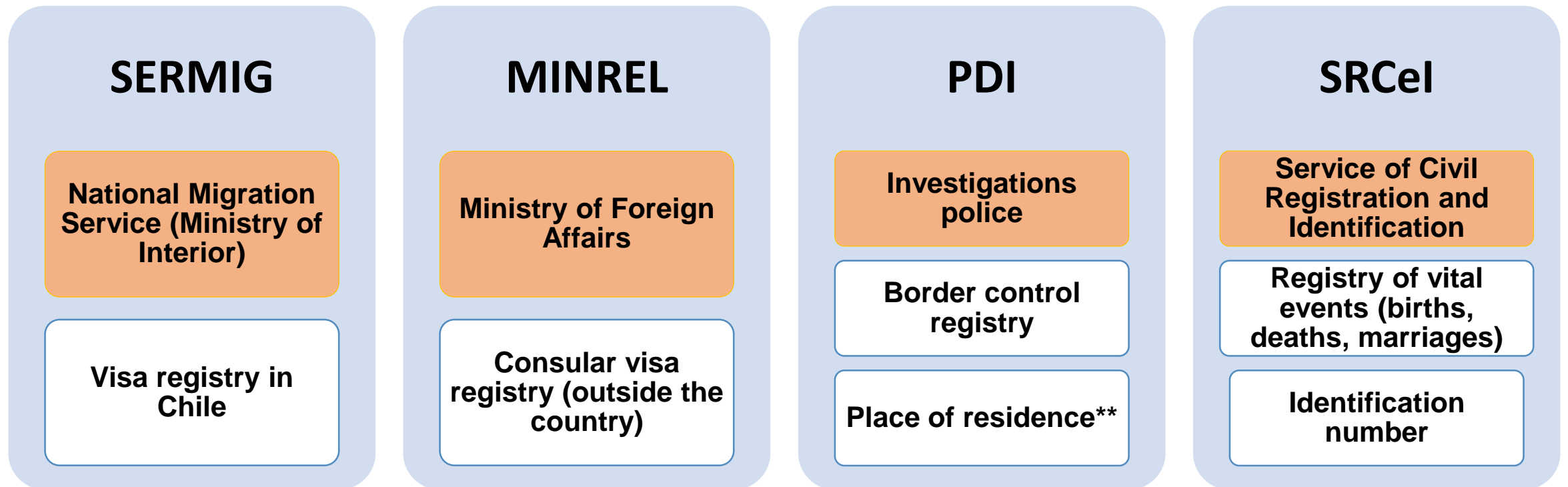


Source: Own elaboration based on PDI data

1. Significant increase in immigration after 2017 census
2. Different official figures for the stock of immigrants in Chile in 2018
3. Need for information to generate public policies

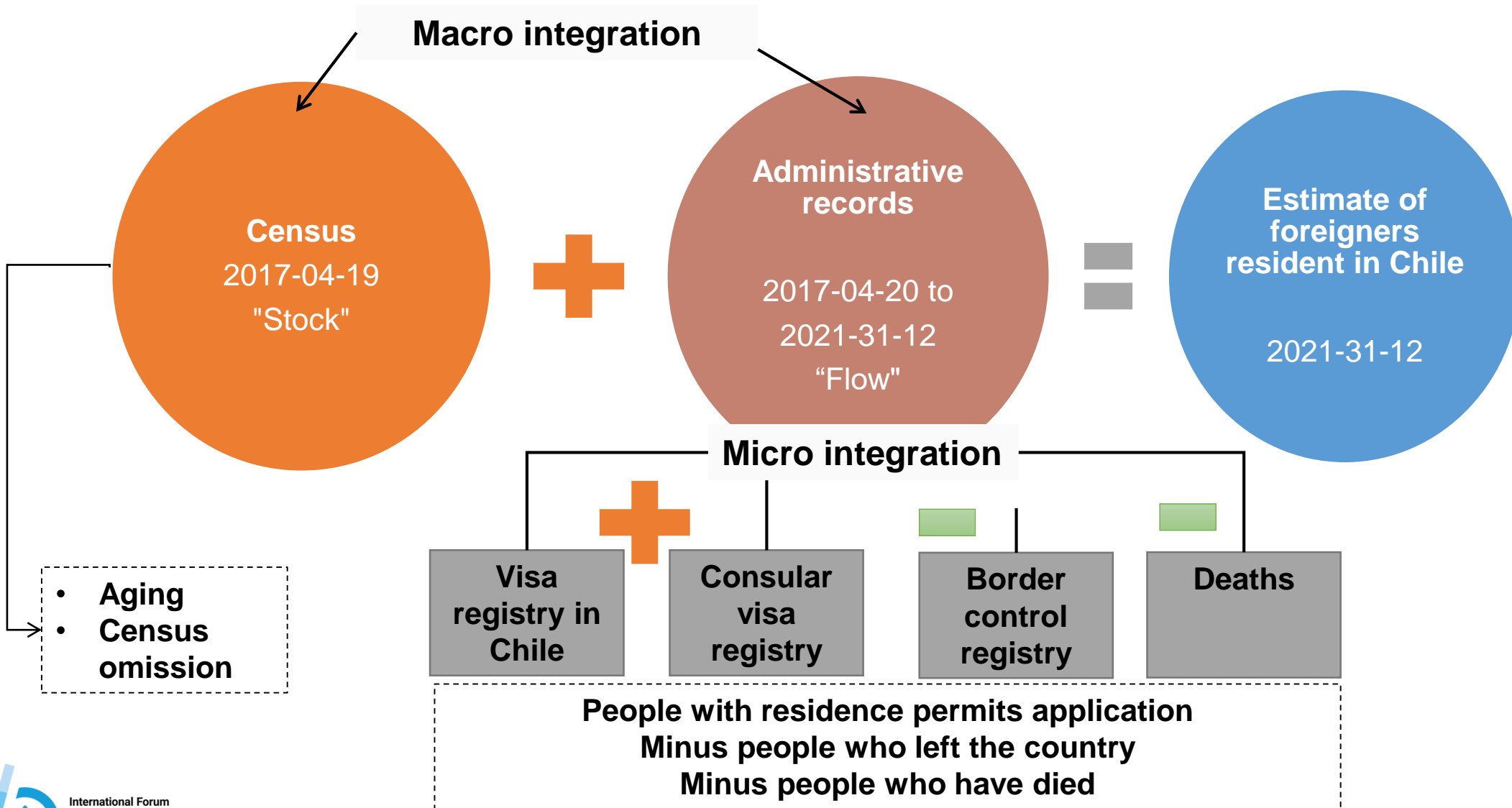
Data sources: administrative data for measuring regular immigration flows

There are at least four institutions involved in the management of the migratory flow, which has led to databases with varying concepts, objectives, and quality.

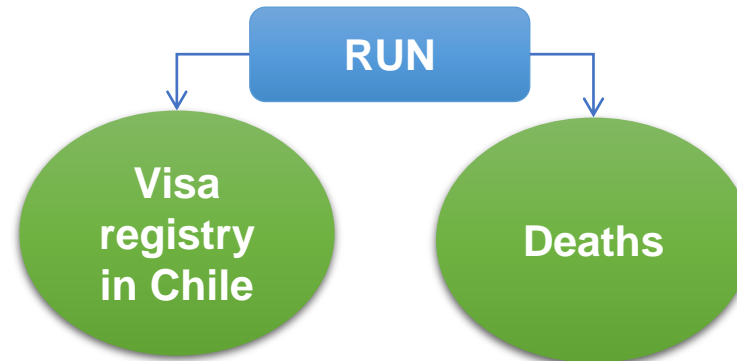
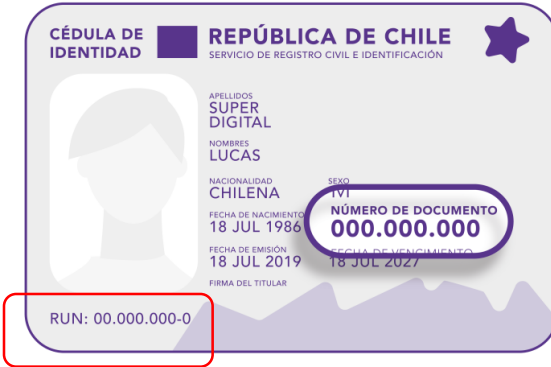


** for cases of visas requested outside the country

Methodology for estimating foreigners residing in Chile (2018-2021)



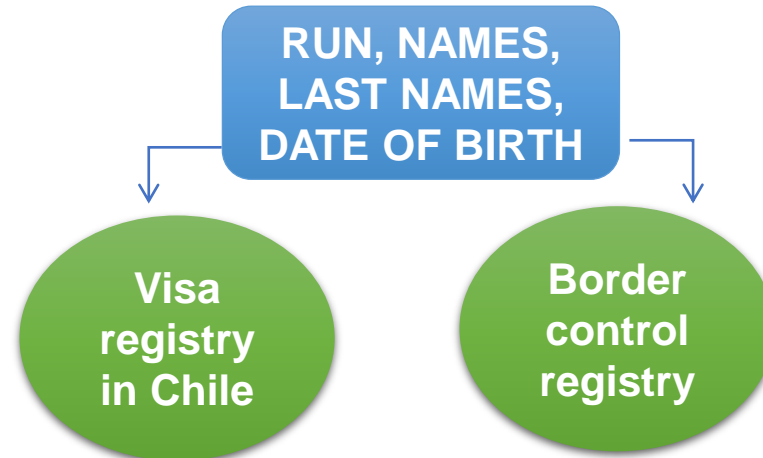
Linking variables: micro level



Links by national identification number (RUN) in Chile
(Provided by Civil Registry)

```
CURSOR C1 is
SELECT rut, paterno, materno, nombres, fecha_nacimiento, desde1
FROM ips_solidariolecuatro
WHERE rut is null AND
regexp_substr(FECHA_NACIMIENTO, '^[[[:digit:]]{2}-[[[:digit:]]{2}-[[[:digit:]]{4}]$')
IS NOT NULL AND
PATERNO IS NOT NULL
ORDER BY rut, paterno, materno, nombres, fecha_nacimiento, desde1;

cursor c2(patmatnom varchar2, patnom varchar2, patmatnom2 varchar2, fnac date, rut
varchar2) is
SELECT pp1.PER_CORR
FROM PERJEN pp1
WHERE pp1.IDENTIFICACION like patmatnom
AND nvl(pp1.per_rut, null) like rut
UNION
SELECT pp2.PER_CORR
FROM PERJEN pp2
WHERE pp2.IDENTIFICACION like patmatnom
AND nvl(pp2.per_fechnac, null) = fnac
UNION
```



Links by Algorithm
(combination of variables)

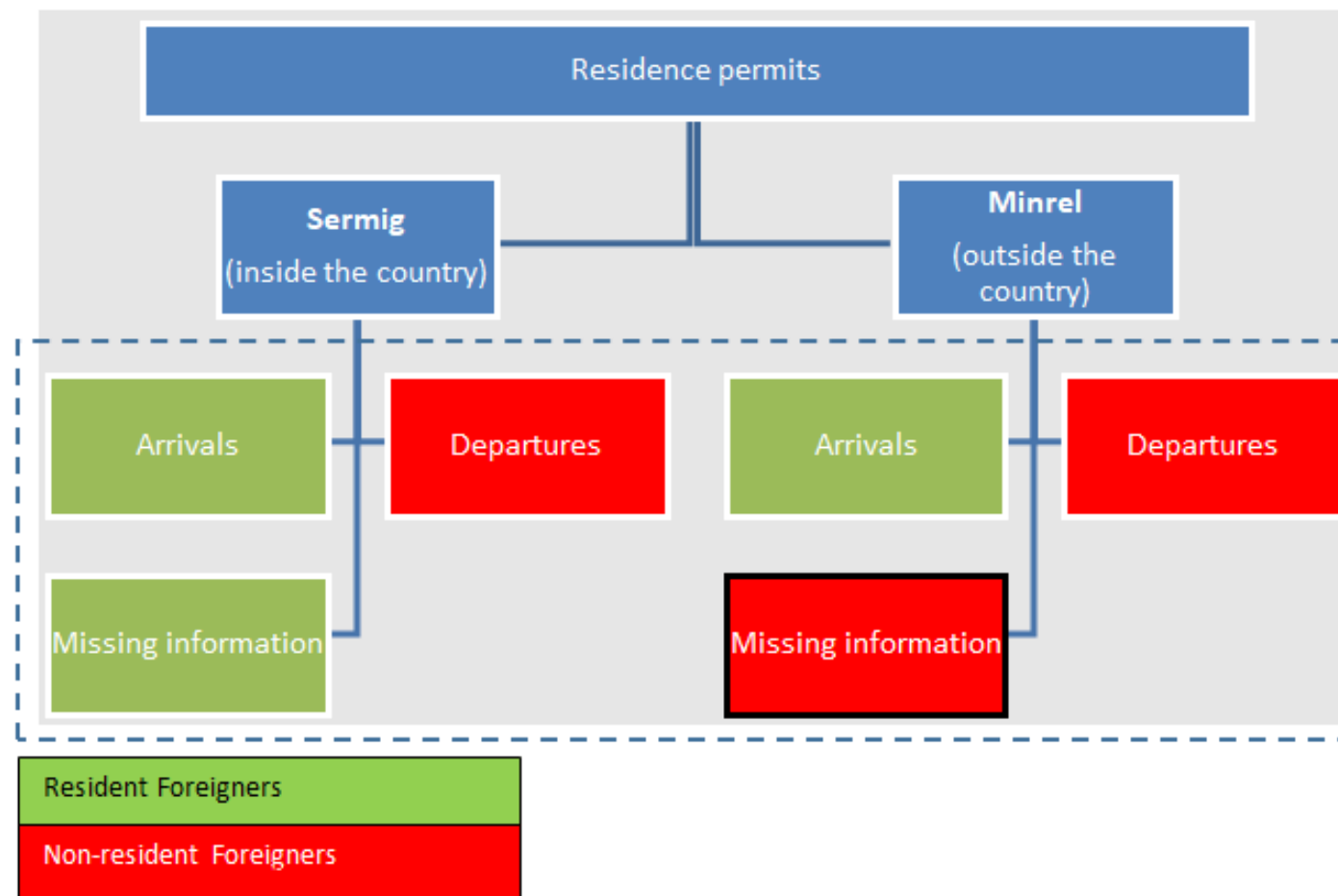
Record processing criteria

Table 1. Percentages of linkage of SERMIG and MINREL data with PDI border data, by year.

	Sermig	Minrel	Total
2021	93.7%	72.2%	91.1%
2020	94.0%	75.6%	91.7%
2019	93.7%	47.7%	88.5%
2018	92.6%	78.9%	91.8%

Source: Sermig

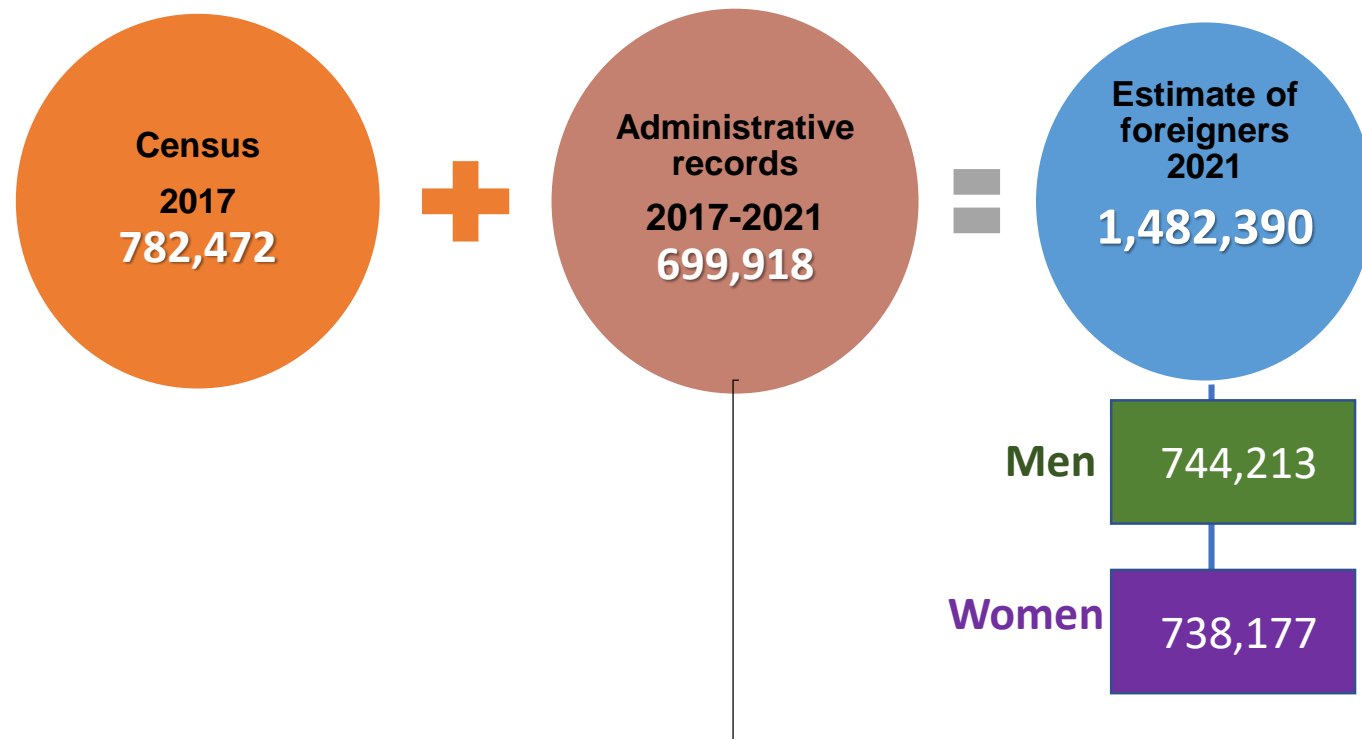
Incorporation of cases in the absence of border records



Estimate of foreigners according to year and component

Table 2. Processing of the 2018-2021 registration component.

	2018	2019	2020	2021
Beginning	595,205	840,279	874,252	948,844
Sermig	562,120	744,277	765,363	933,019
Minrel	33,085	96,002	108,889	115,825
Subtraction	78,195	174,359	196,615	248,926
Departures (PDI)	77,967	173,732	195,323	247,416
Deaths (Civil Registry)	228	627	1,292	1,510
Result	517,010	665,920	677,637	699,918

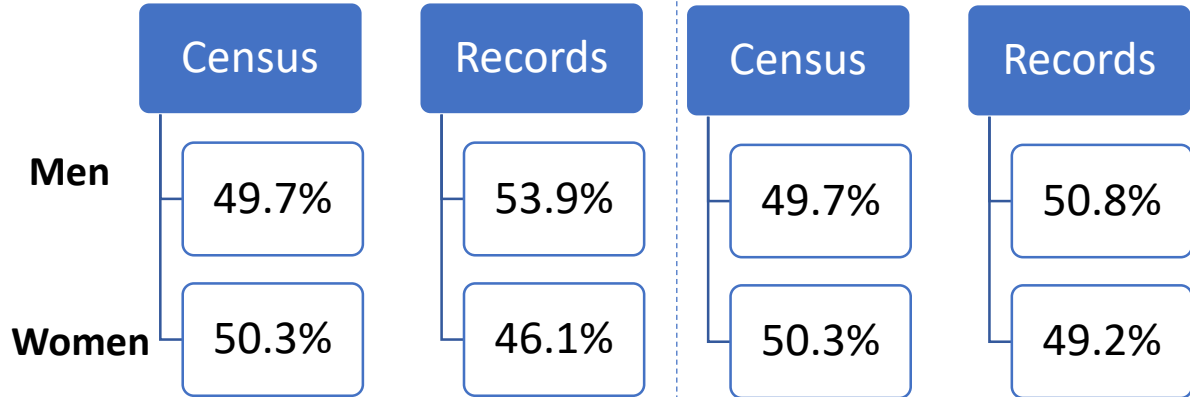


Source: Sermig

Some Demographics Results by component

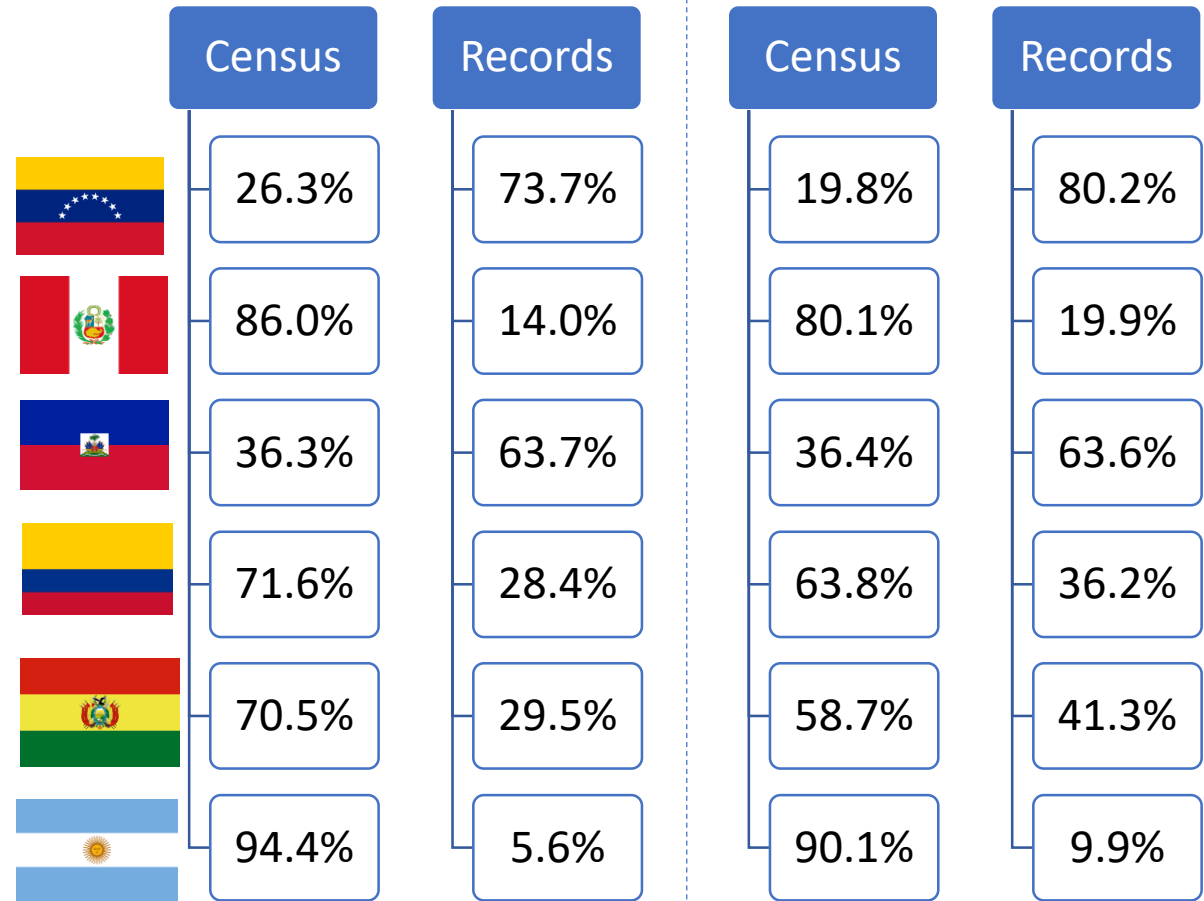
2018

2021



2018

2021

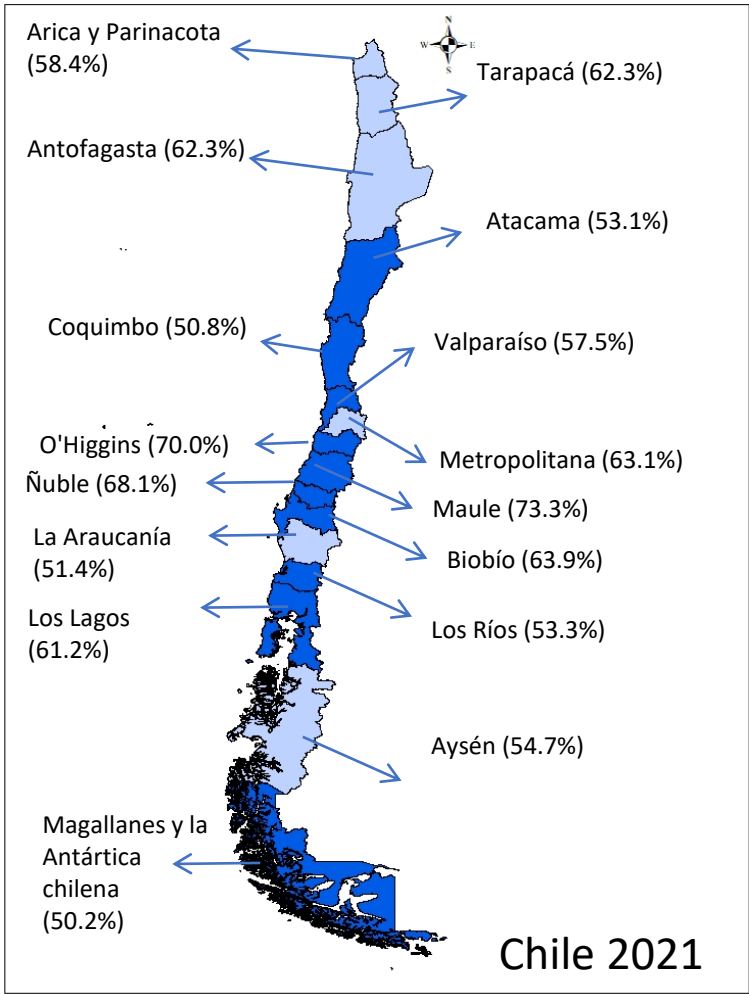
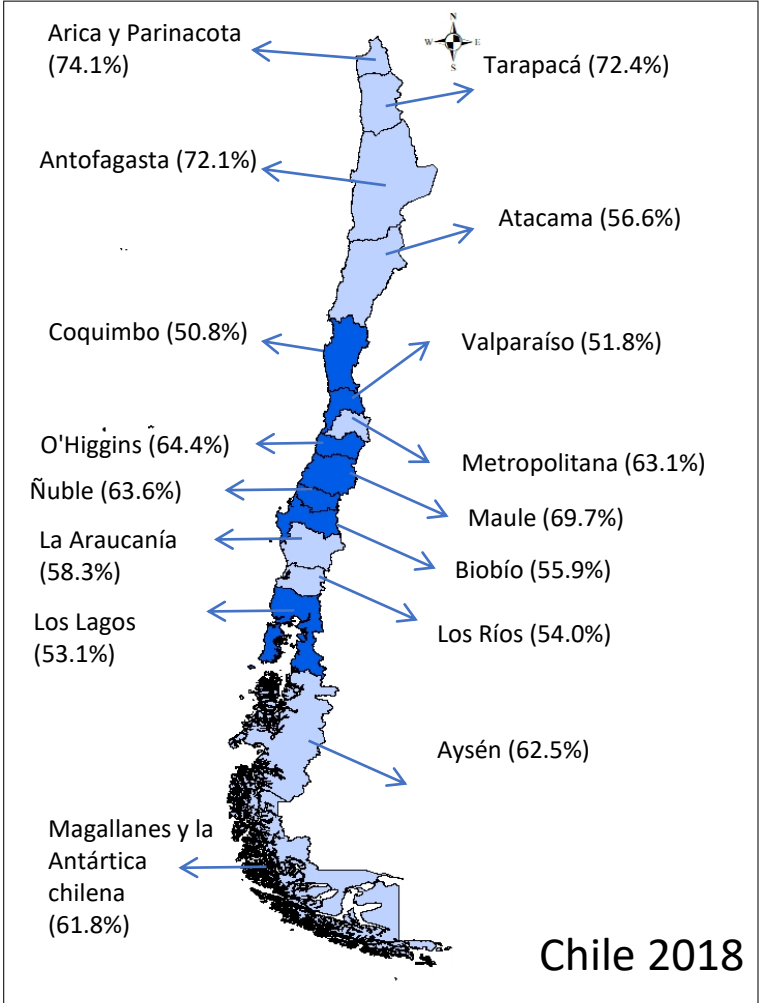


- The proportion of men increased in the first estimate (2018) followed by a balance between men and women in 2021.
- Venezuelans became the largest immigrant group in Chile.

Note: for visual purposes other countries (with fewer cases) were left out of this graph

Some Demographics

Estimate of foreigners by component according to region of habitual residence. 31 December, years 2018 – 2021



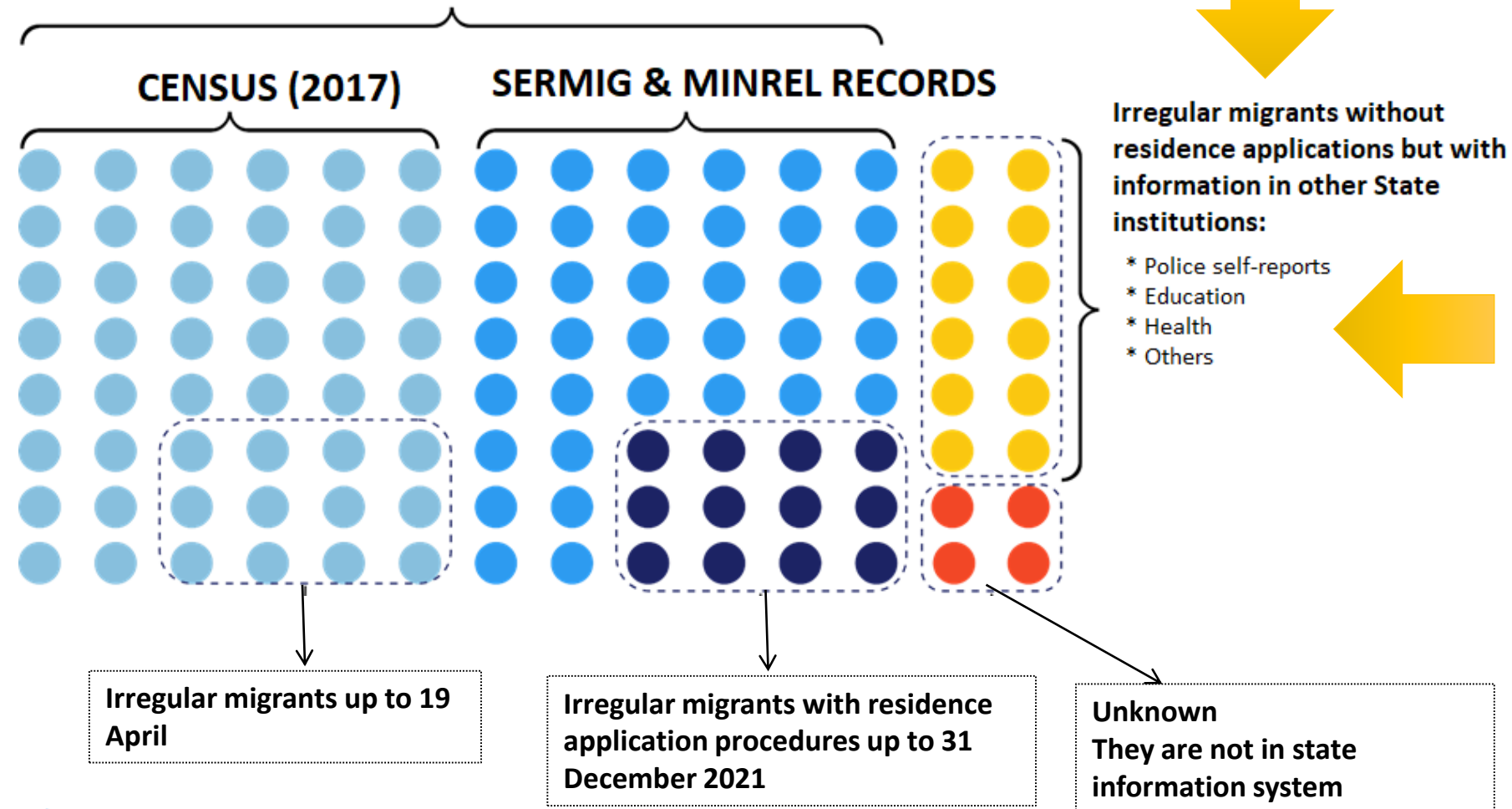
- Although the Metropolitan region continues to have the highest concentration of migrants in 2021 (61.5%), the proportion dropped in comparison with the estimate in 2018 (62.6%)
- There was an increase in post-census flows in other regions of the country.

Legend

- ☐ Regions with a greater proportion of census data
- ☑ Regions with a greater proportion of administrative data

Using micro integration for estimating some of the international migrants with probable irregular status (by Sermig)

INE-SERMIG 2021 ESTIMATED



Absence of Chilean National ID Number (RUN)

Absence of other identity number variables (passport or other ID number)

Typing errors in the databases

Probabilistic Record linking proposed using:

Names

Surnames

Date of Birth

Sex

Processing using R

Use of Fuzzy matching methods

References

- United Nations Economic Commission for Europe. (2019). *Guidance on data integration for measuring migration*. New York, NY: United Nations.
- Wallgren, A., and Wallgren, B. (2007). *Register-Based Statistics: Administrative Data for Statistical Purposes*. ISBN: 978-0-470-02778-3
- INE web page on demography and migration (Spanish version):
<https://www.ine.cl/estadisticas/sociales/demografia-y-vitales/demografia-y-migracion>
- Sermig web page on statistics (Spanish version):
<https://serviciomigraciones.cl/estadisticasmigratorias/>