



Setting up a Statistical Register of  
Individuals and Dwellings, updated with  
administrative sources :  
Approach and first steps



WORKSHOP ON METHODOLOGIES FOR OFFICIAL STATISTICS

- 1 WHY A SYSTEM OF STATISTICAL REGISTERS IN FRANCE ?**
- 2 TECHNICAL AND METHODOLOGICAL ISSUES**
- 3 A REFERENCE UNIVERSE BASED ON THE SIGNS OF LIFE METHOD**
- 4 QUALITY ASSESSMENT : MEASURE OF COVERAGE**

# 01 WHY A SYSTEM OF STATISTICAL REGISTERS IN FRANCE ?

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## **NO POPULATION REGISTER IN FRANCE**

- No shared personal ID for administrative purposes
- The project of shared ID was abandoned in 1974, after a big polemic

## **FAVORABLE LEGAL ENVIRONMENT**

- In 2016 : decree to authorize the use of a Non-significant Statistical ID to facilitate the matching of files

## **IMPROVEMENT OF THE QUALITY OF ADMINISTRATIVE SOURCES**

### **EUROSTAT PROMOTES**

- Use of administrative data
- Use of record linkages



## A STATISTICAL REGISTER OF INDIVIDUALS AND DWELLINGS : RÉSIL

- to be deployed in 2025
- in order to
  - Produce sampling frames
  - Produce inputs for census processes
  - Facilitate records linkages and quality assessments
  - Harmonize tools for exploitation of administrative data



## **TWO STATISTICAL REGISTERS CONTINUOUSLY UPDATED WITH BIRTHS, DEATHS AND ADMINISTRATIVE DATA**

- Individuals register
- Dwellings register

## **REFERENCE'S UNIVERSES (INDIVIDUALS, DWELLINGS AND HOUSEHOLDS)**

- Updated annually
- Only individuals present on French territory using the "signs of life" method
- Usual residence for all individuals present on French territory
- Status of dwellings (main, secondary, vacant)
- List of households and their composition

## **TWO SERVICES**

- Reception and integration of administrative data
- Production of enriched files by matching



# 02 TECHNICAL AND METHODOLOGICAL ISSUES

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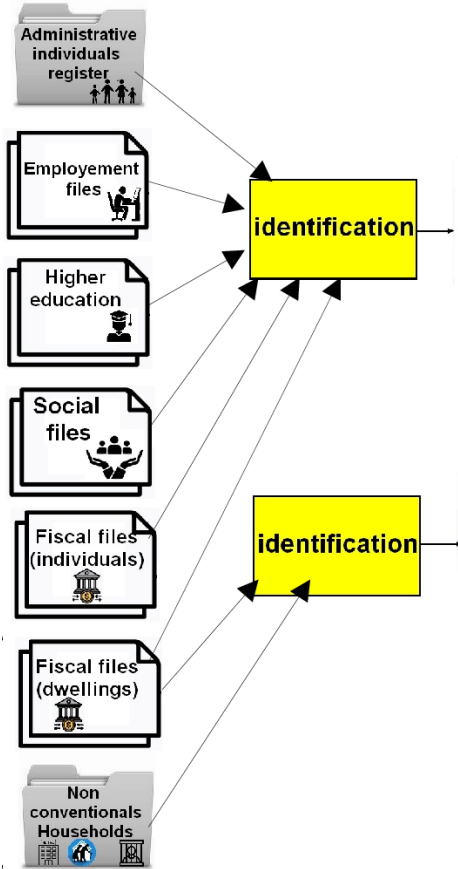
INDIVIDUALS

DWELLINGS



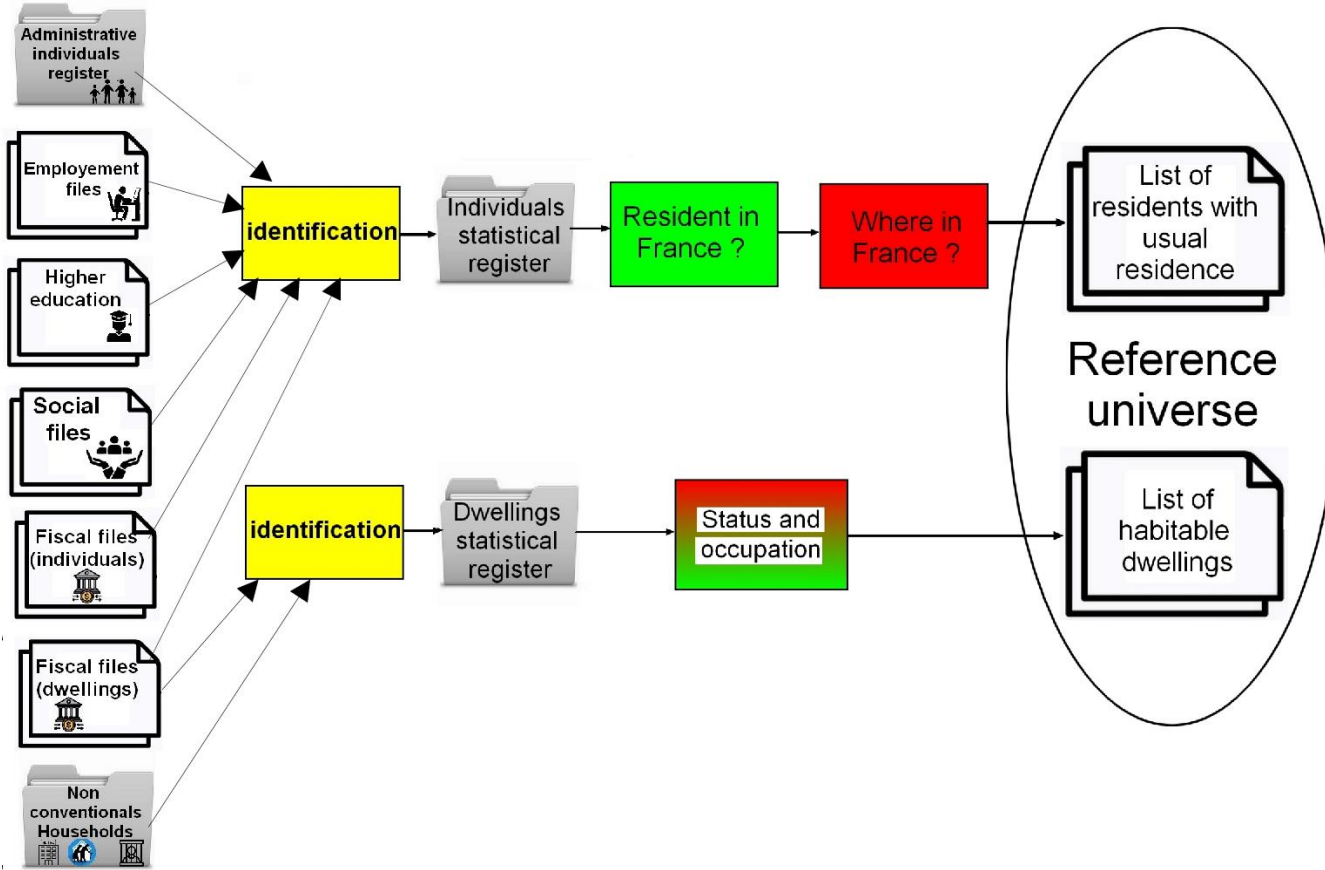


INDIVIDUALS  
DWELLINGS



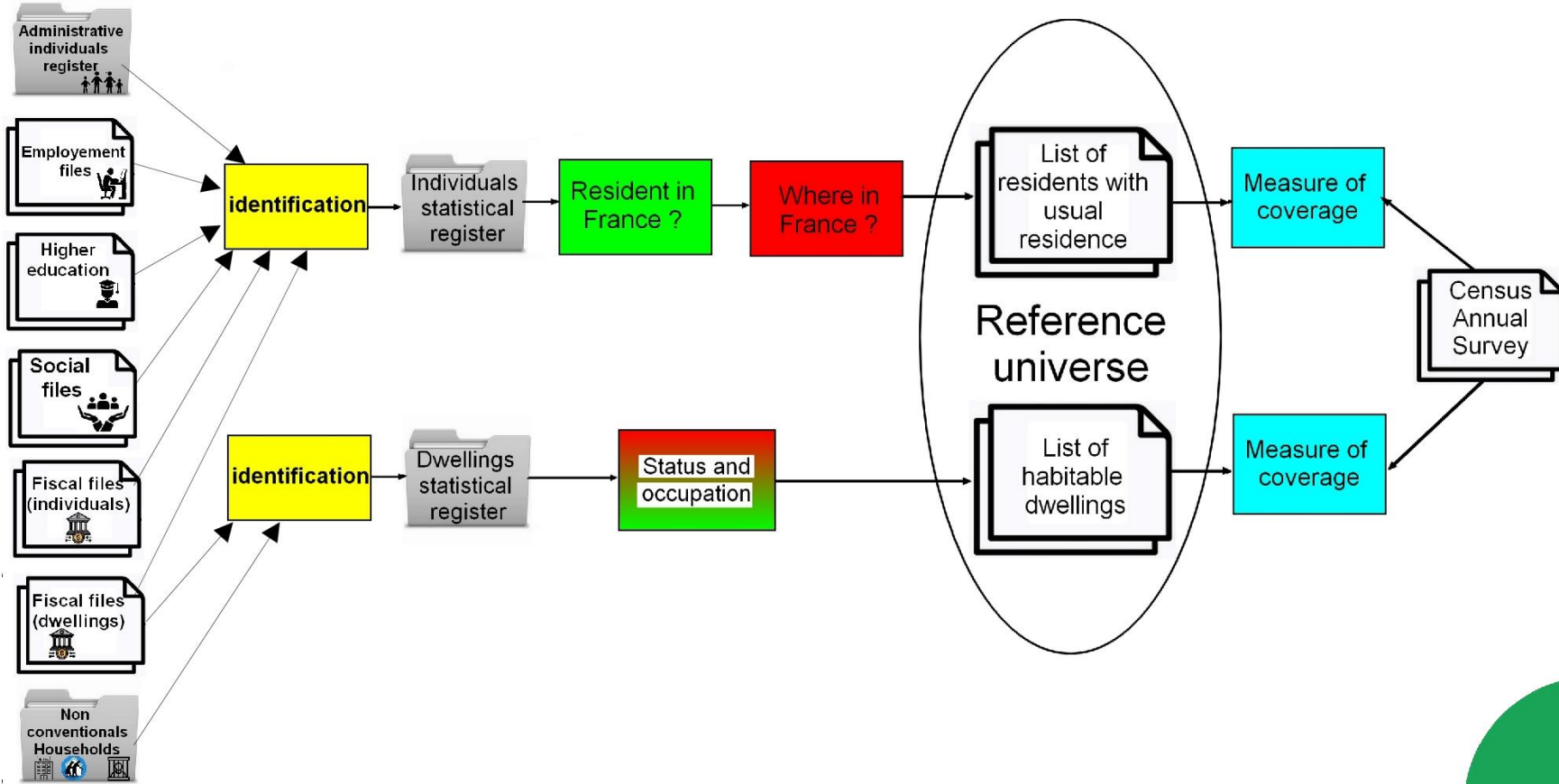
INDIVIDUALS

DWELLINGS



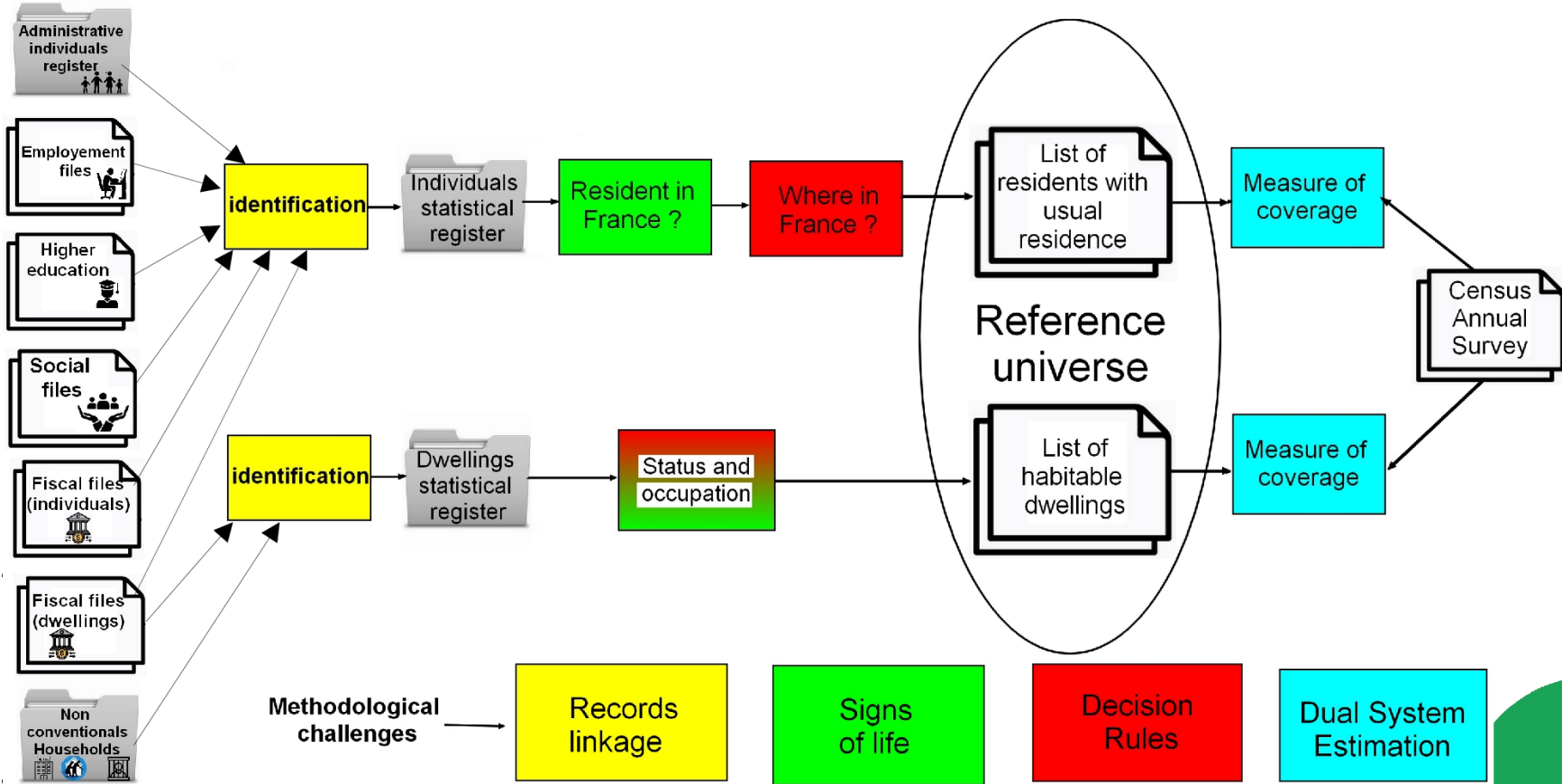
INDIVIDUALS

DWELLINGS



INDIVIDUALS

DWELLINGS



## IDENTIFICATION

- Record linkages
- Quality of record linkages

## CONSTITUTION OF A REFERENCE UNIVERSE

- Tuning the « sign of life » model
- Robustness of the model through years

## USUAL RESIDENCE OF INDIVIDUAL

- Decision rules in cases of multiple addresses

## QUALITY ASSESSMENT : MEASURE OF COVERAGE

- Using Rolling census
- Use Trimmed Dual System Estimation

## RECTIFY COVERAGE DEFECTS THROUGH TARGETED SURVEYS

- Areas or populations difficult to grasp in administrative sources
  - some overseas, homeless or informal settlements



# 03

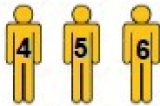
## A REFERENCE UNIVERSE BASED ON THE SIGNS OF LIFE METHOD

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administrative individuals register



data 1



data 2

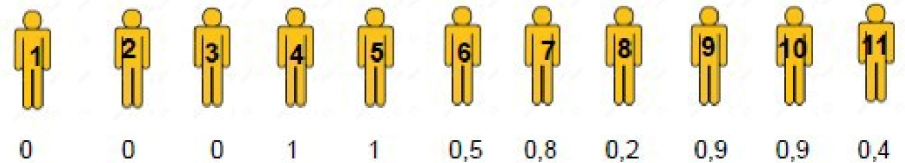


data 3



the signs of life method :  
simplified representation

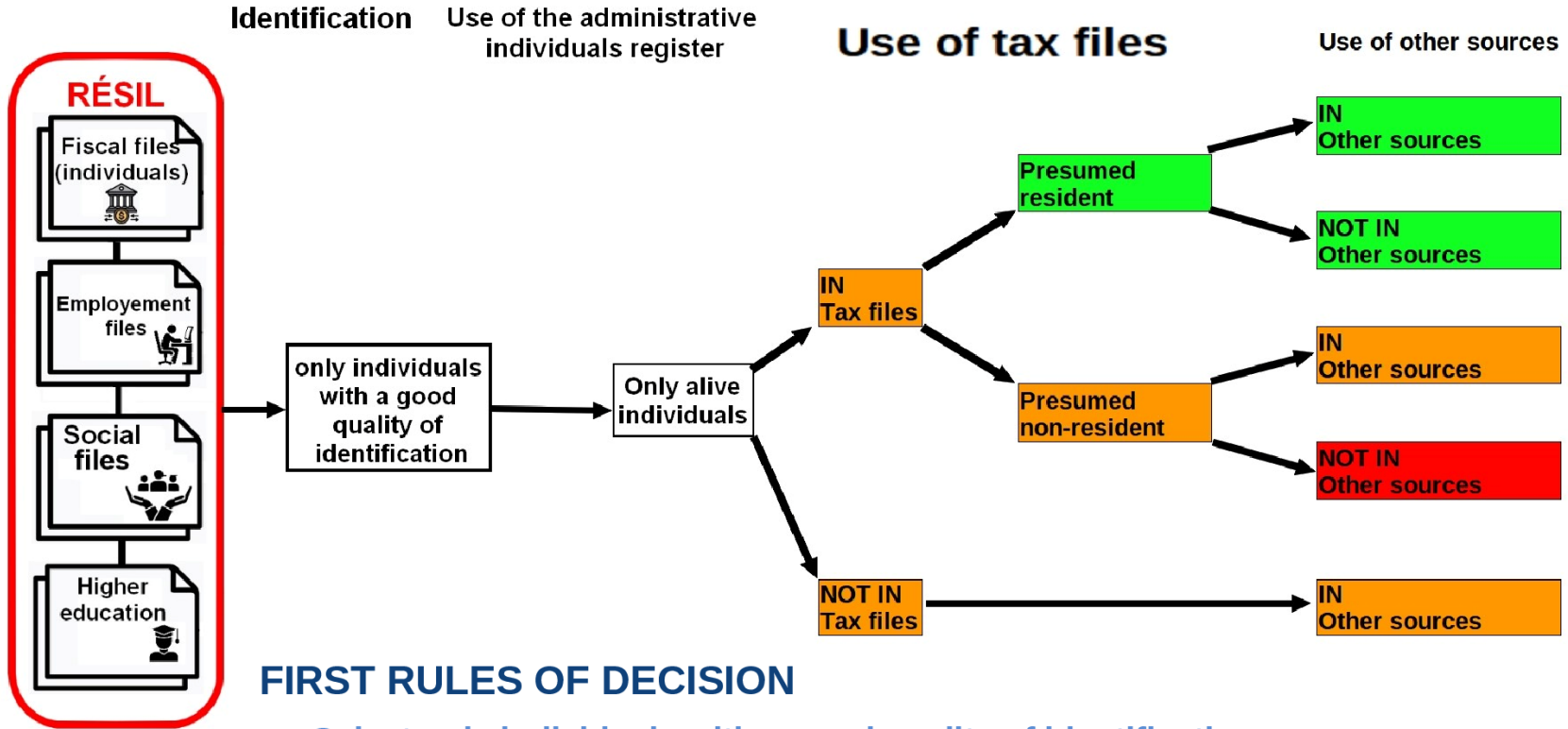
probability of presence



threshold = 0,5

target population









## Identification

**Individuals with a good quality of identification**  
61,2 million  
99,3 %

**Individuals with a bad quality of identification**  
0,4 million  
0,7 %

## Use of tax files and the "death" variable in these files

**IN Tax files**  
57,2 million  
92,8 %

**NOT IN Tax files**  
4,0 million  
6,5 %

**Presumed resident**  
54,0 million  
87,5 %

**Presumed non-resident**  
2,0 million  
3,3 %

**Dead individuals**  
1,2 million  
2,0 %

## Use of other sources

**IN Other sources**  
49,9 million  
81,0 %

**NOT IN Other sources**  
4,0 million  
6,5 %

**IN Other sources**  
1,3 million  
2,1 %

**NOT IN Other sources**  
0,8 million  
1,3 %

**IN Other sources**  
0,2 million  
0,3 %

**NOT IN Other sources**  
1,0 million  
1,7 %

**IN Other sources**  
4,0 million  
6,5 %

**54 million residents**

**5,3 million uncertain residents**

**2 million dead or non-residents**

Between 54 and 59 million adult residents after "signs of life" method

compared to

53 million in the census.

# 04 QUALITY ASSESSMENT : MEASURE OF COVERAGE

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## OPPORTUNITY : ANNUAL CENSUS

- Survey at big scale
- 9 million individuals distributed among 5 million dwellings
- Need to build a specific coverage survey

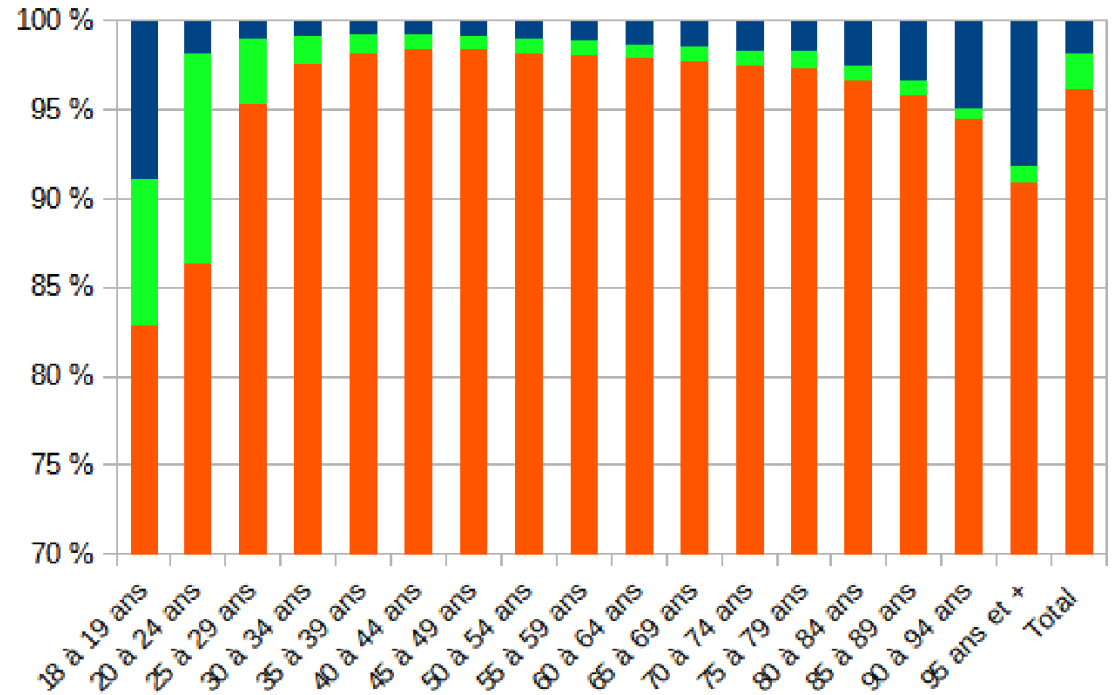
## DIFFICULTIES

- Survey not exhaustive in bigger municipalities
- Only 1/5 of smaller municipalities surveyed each year
- Quality of records linkages
  - for more than 5 % of individuals, names and surnames not available in census surveys : not identified
  - some of them are not of good quality because census survey is paper-based and identity of individuals are not of good quality
- Possibly errors of localization at infra-national levels

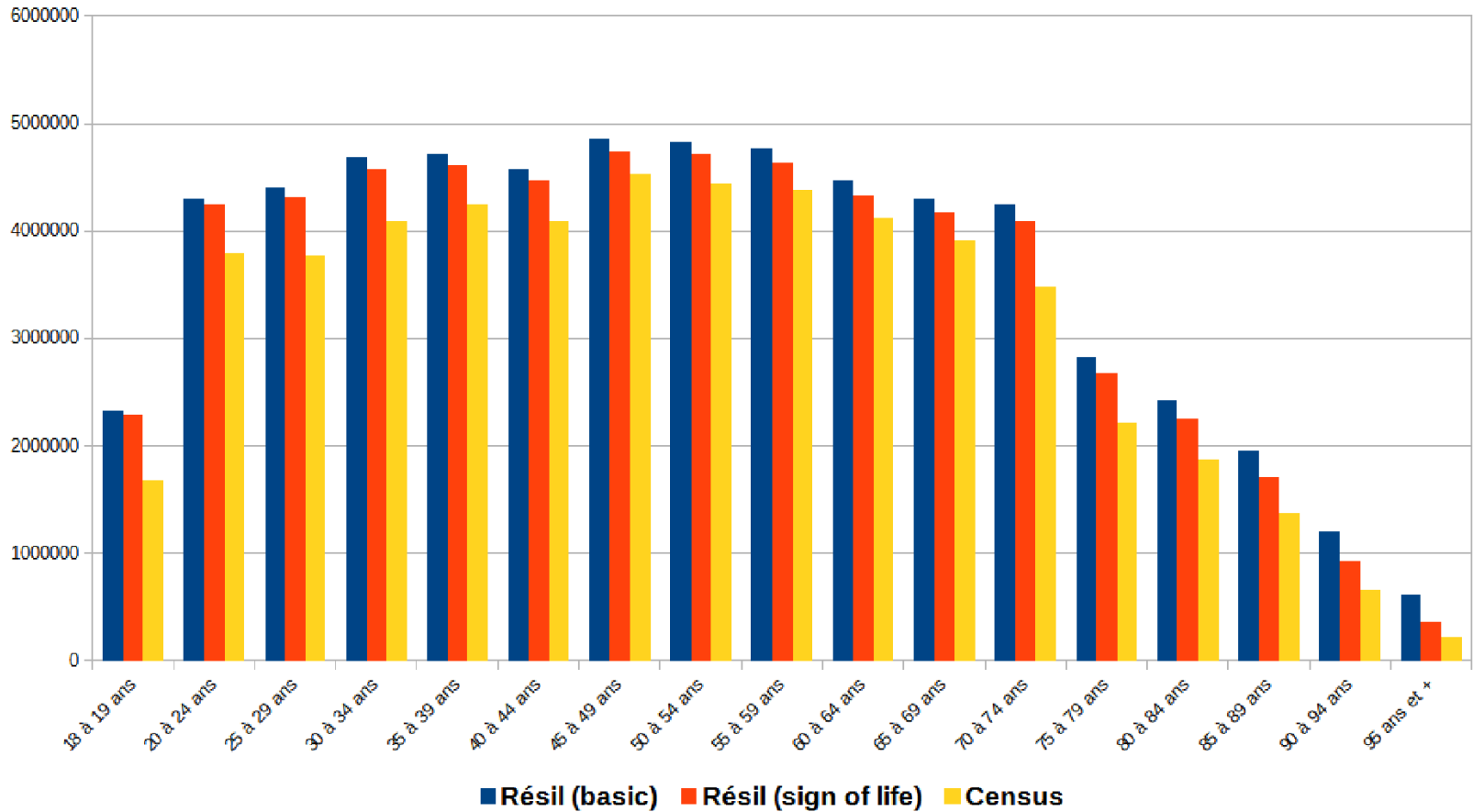
# A BETTER COVERAGE WITH SEVERAL SOURCES, ESPECIALLY FOR YOUNG ADULTS

## PROPORTION BY AGE OF INDIVIDUALS :

- found in fiscal files (orange)
- found in other sources (green)
- not found in any file (blue)



- 80 % of 18-20 years-old individuals are found in fiscal files ;
- 12 % are found in other files (social files, employment files, higher education files) ;
- 8 % are not found in any file



## REDUCE OVER-COVERAGE TO ENABLE THE TRIMMED DUAL SYSTEM ESTIMATION

### – Use of the administrative individuals register

- Recording deaths

### – Improvement of the signs of life model

- Improve the rules of decisions for usual residence

- Use the formula :
$$I(i, t) = \alpha \cdot I(i, t - 1) + \beta \cdot \sum_{k=1}^{k=n} a_k(i, t) \cdot E_k(i, t)$$

- Define the ponderation of each source, regarding its quality, its field...

## THE GOAL IS NOT TO PROVIDE AN ESTIMATE OF THE POPULATION SIZE...

## ...BUT TO HAVE QUALITY INDICATORS FOR THE REGISTERS

- Annual measurement of discrepancies between the census and Résil
- Identification of sub-populations under or over-represented in Résil and in the census
- Measurement of the coverage rate
- Making these quality indicators available to users



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Mesurer pour comprendre