# A household projection model for Belgium based on individual household membership rates, using the LIPRO typology

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# The methodology

*General Principles*

- A static approach

- The number of individuals by position, gender, age and district is obtained by the following equation:
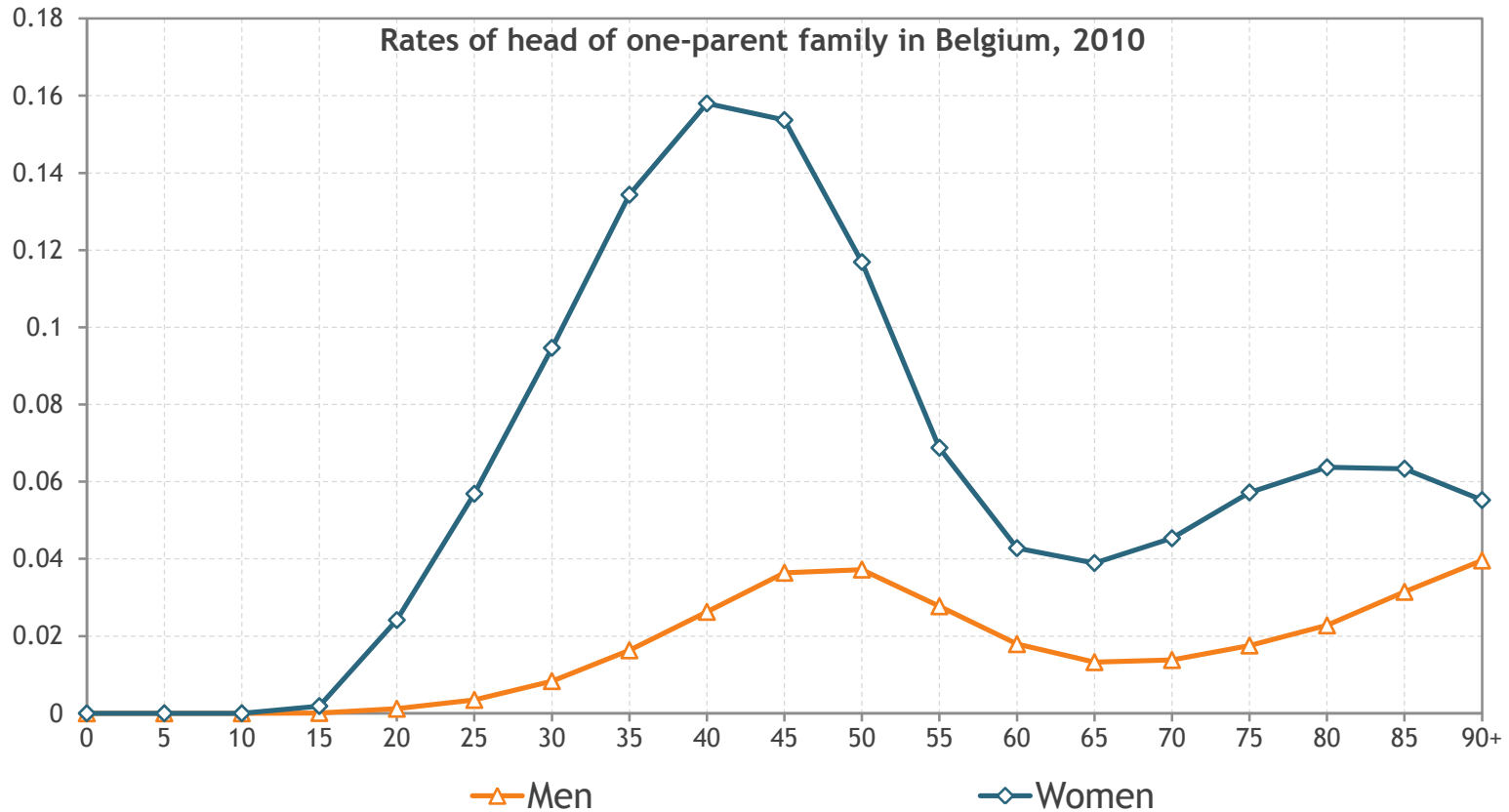
$$I\_HHPOS^{p}_{t,s,y,i} = POP_{t,s,y,i} \times T\_HHPOS^{p}_{t,s,y,i}$$

   Where POP is the population projection and T_HHPOS is the rate of individuals in a position p.

- The projected rates of individuals in a position **by sex, age and district** result from the extrapolation of the observed trends on the last decade (2000-2011), with a saturation effect on the long term.
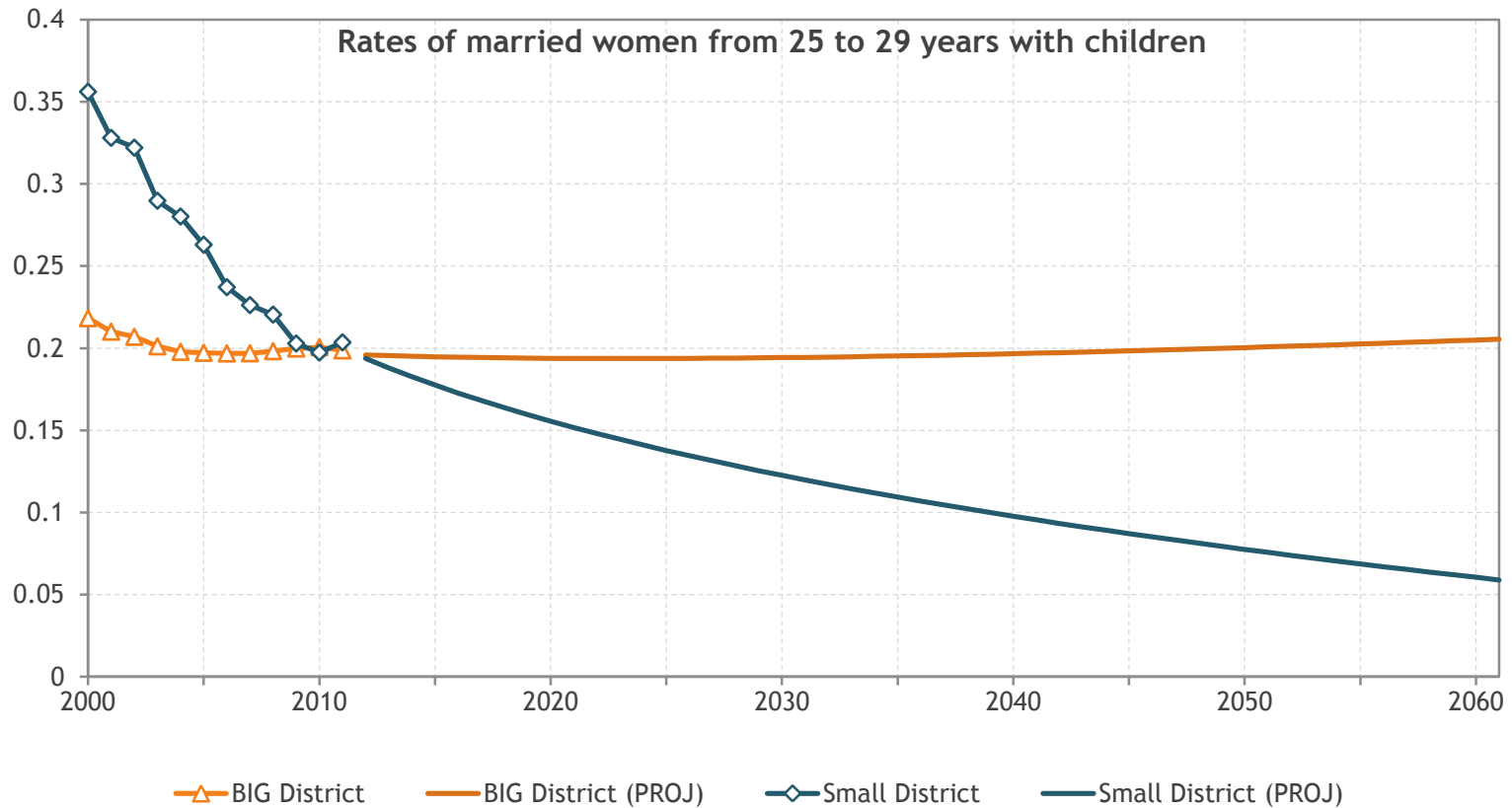
# The methodology

- *The necessity of an estimation by age and gender*



Rates of head of one-parent family in Belgium, 2010

Legend: Men, Women

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# The methodology

- *The necessity of an estimation by district*

**Rates of married women from 25 to 29 years with children**



Legend: BIG District · BIG District (PROJ) · Small District · Small District (PROJ)

Source: NR-DGSEI and FB calculations

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# The methodology
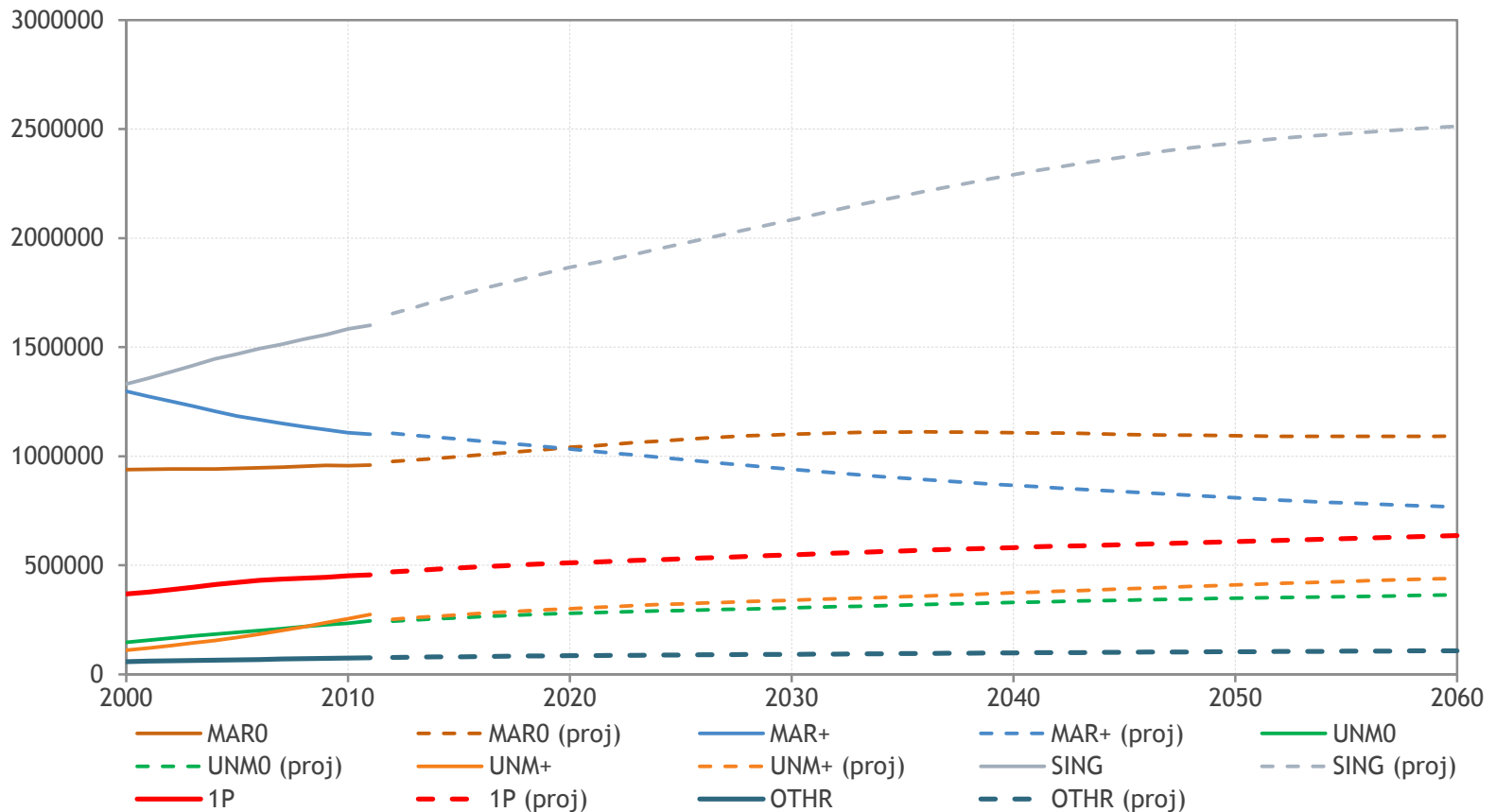
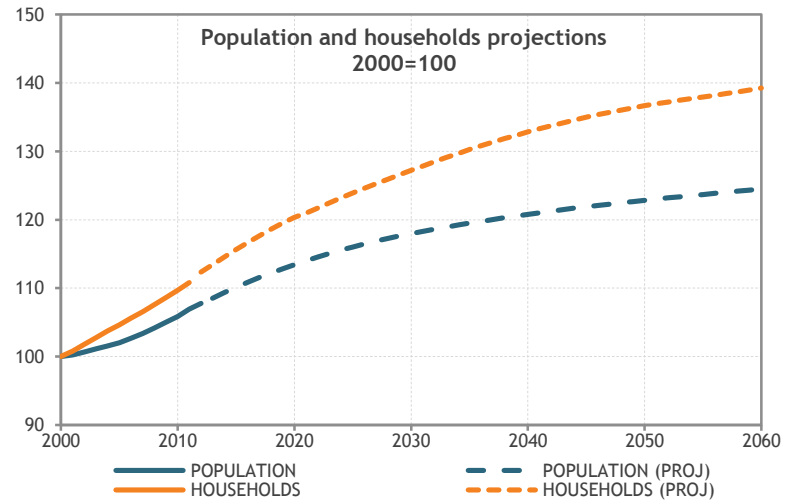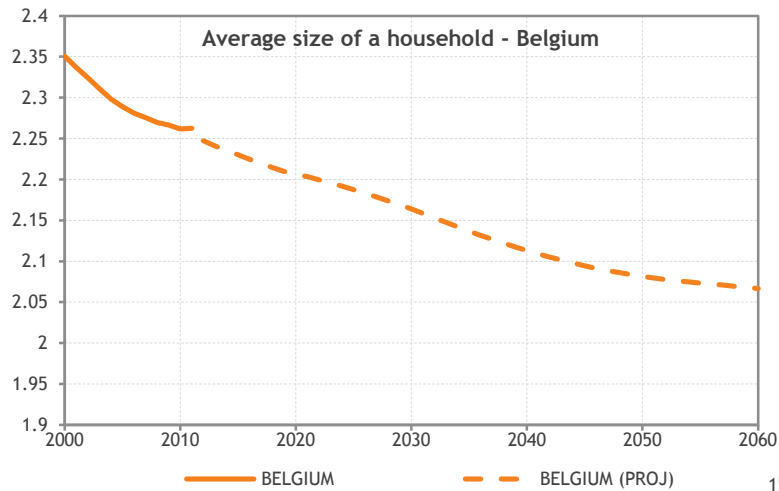- Hypotheses for collective households

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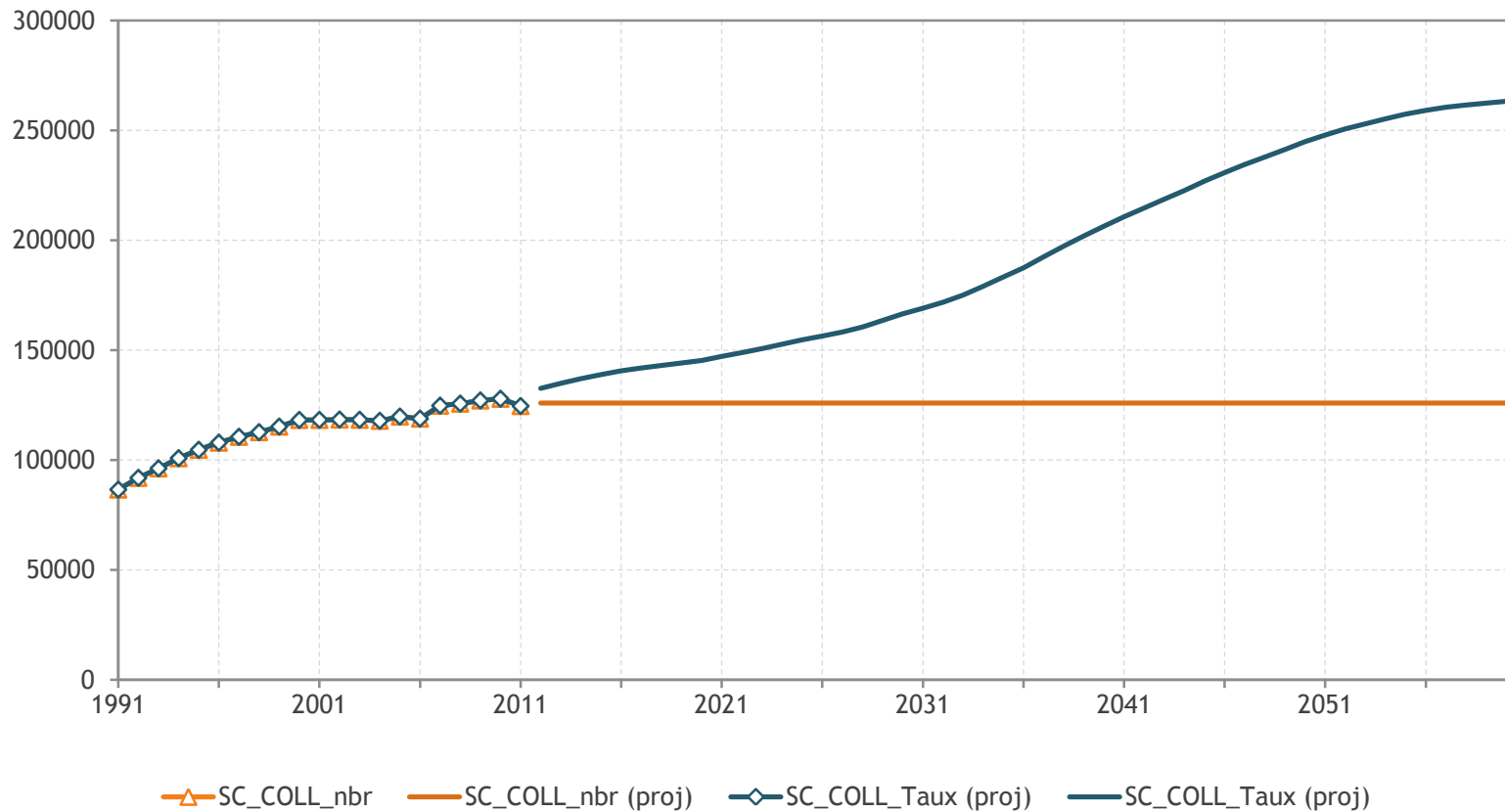
# Illustration of the results

- Private households projection for Belgium



Source: NR-DGSEI and FB calculations

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# Illustration of the results



Average size of a household - Belgium



Population and households projections
2000=100

Source: NR-DGSEI and FB calculations

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# CONCLUSION

- A Static method based on individual living arrangements
- Disadvantage: transition from one position to another one are not considered
- But…
  1. a stock is the result of a flow => the evolution of the stocks follows the evolution of the flows (the transitions)
  2. The evolution of the stock may consequently be interpreted as the summary of the evolution of sociodemographic behaviours.
  3. By hypothesis, the continuation of the recent trends of the rate of individuals in a certain household position assumes a continuation of (recent) past sociodemographic evolutions in living arrangements.

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# CONCLUSION

- Some basic consistencies' rules are applied (ex: a same number of married women and men).
- The projection of the rates of individuals by position are made by age and gender at the NUTS3 level => local specificities are integrated.
- The projection has been compared with regional projections for Belgium (one of them realised with a multi-state approach), and the results are convergent.

The choice of the hypotheses has certainly a greater impact on the projection's results than the method itself

The results of a projection should always be interpreted while keeping in mind the hypotheses behind the model.

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