Probabilistic Population Projections for Annual Time Series: Status Report

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Outline

Total Fertility Rate: bayesTFR

- Model of Alkema et al. (2011) designed for 5-year time series.
- For 1-year version, changes in prior distribution of two parameters:
  - country's maximum decrement
  - maximum standard deviation of distortions
- Identifying start of Phase III (post-fertility transition):
  - 5-year version: two consecutive increases below 2
  - 1-year version: obtain 5-year averages and use the same rule as above
- Correlation between countries (method not revised yet)
- Tested on three simulations:
  1. using UN (interpolated) annual TFR data [INTERP]
  2. using annual estimates based on UN World Fertility Data (Liu & Raftery 2020) [WFD]

Challenges in annual TFR projection

- Projections can have less uncertainty than the 5Y model.
  - More prevalent for Phase II countries: