Population Projections

DAPPS/RUP Requirements and Assumptions

United States Census Bureau

U.S. Department of Commerce
Economics and Statistics Administration
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DAPPS/RUP Input Requirements: Base Population

- One base population, by age and sex (usually based on a census or estimate)
  - Can be either single years of age, 0, 1-4, and 5-year ages, or all 5-year ages
  - If input is not single years of age, the program will split the 5-year age groups into single years of age using the Beers method. If you input the age 0 population, the modified Beers procedure will be used.

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DAPPS/RUP Input Requirements: Open-Ended Age Group

- The upper age of the base population determines the upper age for the projections.

- You therefore need to check that the upper limit on M_x input (Life tables), Deaths, and Migration inputs all have the same upper age limit.

- For M_x input (Life tables) you need to make sure that the value for the open-ended age group is computed appropriately:

  $$M_x = l_x/T_x$$

DAPPS/RUP Input Requirements: Mortality

- A mortality structure, by age and sex. There must be at least one life table with Mx values. The upper age limit must be the same as the base population.

- Other mortality inputs for years of the projection are optional.
  - e0 values by sex
  - Deaths (total or by sex, and optionally by age). The upper age limit must be less than the projection upper age limit.
  - There must be life tables (Mx) before and after death inputs.
  - Death inputs must have a mortality for the immediately preceding year (except for the base year).

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DAPPS/RUP Input Requirements: Fertility

- A fertility structure, by age of mother
  - ASFRs for any year
  - Births by age of mother for the base year
- Birth inputs must have a fertility for the immediately preceding year (except for the base year).
- There can only be one fertility input per year with the following exceptions:
  - ASFR followed by TFR adjusts the ASFRs to get the input TFR
  - Sex ratio at birth for the same year as TFR or ASFR

DAPPS/RUP Input Requirements: Migration

- No migration data is required in order to run a projection

- For each migration stream (primary and/or secondary):
  - Data by age for at least one year
  - The open-ended age group is the same as for the base population
  - For each stream, all inputs are either numbers of migrants or rates, but not some of each
  - Migrant numbers can either be by age or totals by sex
  - Migration rates must always be by sex and age

DAPPS/RUP Assumptions

- Reference dates/periods
  - Population: midyear
  - Rates and Events: calendar years.
- Inputs NOT required for each year of projection
- For years without inputs, levels are interpolated (between two inputs) or held constant (before the first input or after the last input)

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