

KOSTAT-UNFPA Summer Seminar on Population

Workshop 1: **Demography in R**

Population Growth

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Statistics
Korea



Workshop plan, July 24-28, 2023

1: Monday Intro concepts, and R setup

2: Tuesday Mortality and fertility

3: Wednesday Structure

4: Thursday Growth

5: Friday Projection

Review of session 3

- Structure to separate risk groups (e.g. age for mortality)
- Proxy structure
- Transient structure versus strata
- Composition can drive aggregate change
- Structure can change its meaning (examples: old age dependency, changing meaning of education)
- `pivot_longer()`, `group_by()` |> `summarize()`
- Composed pipelines
- `facet_wrap()`, `facet_grid()`, `overlaying`

Growth

- Empirical growth
- Stationarity and Stability
- Structure, size
- Speedometers
- Model abuse

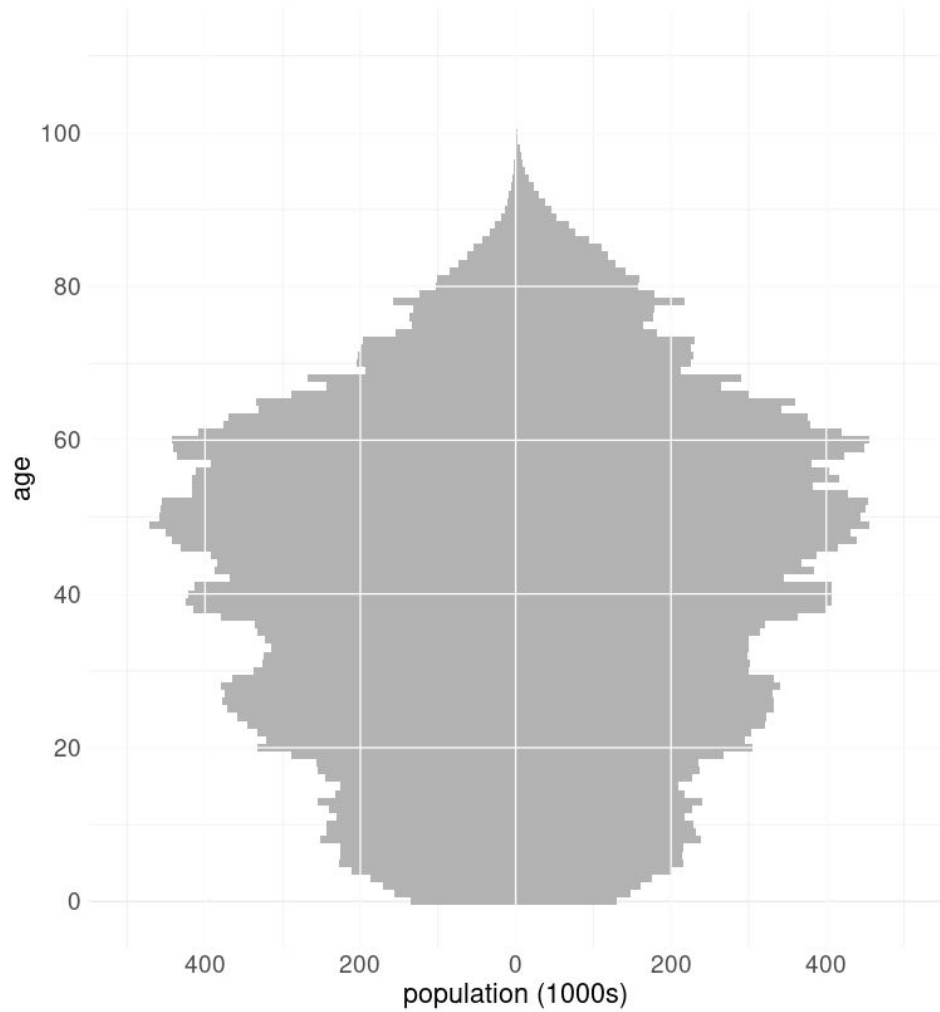
Empirical growth

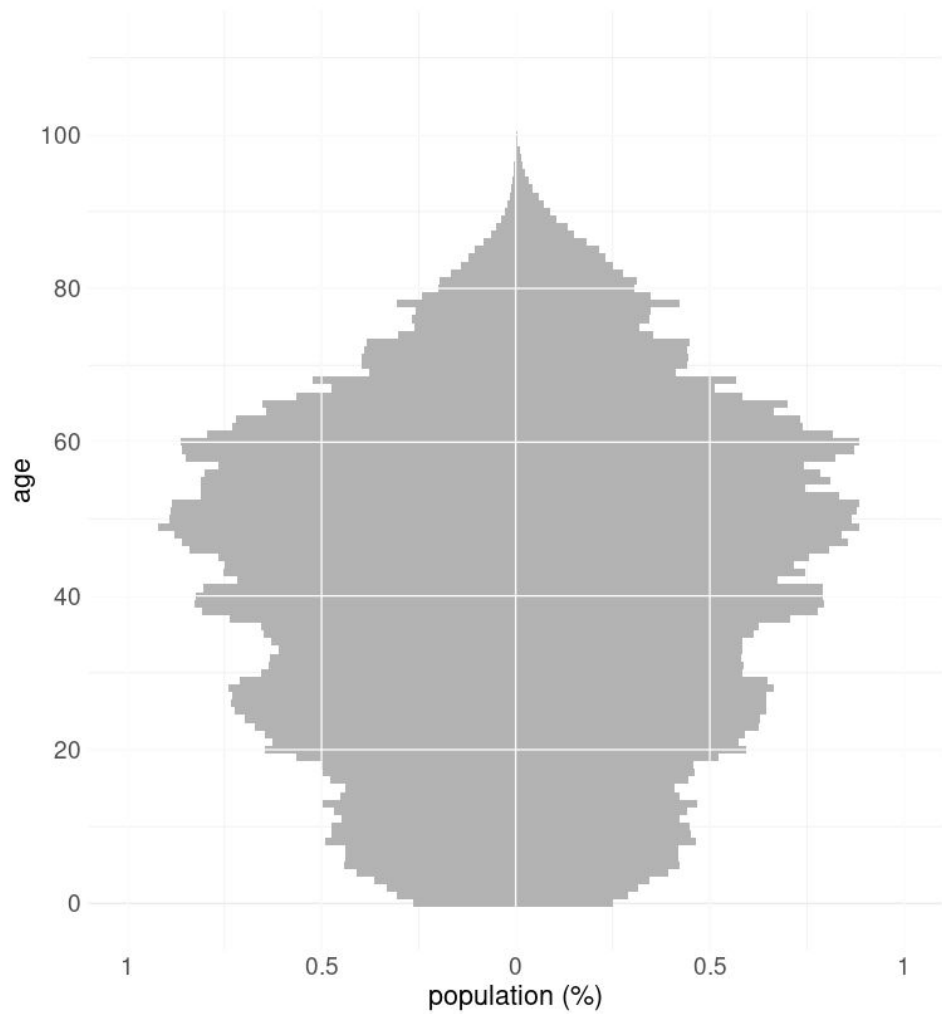
- Geometric

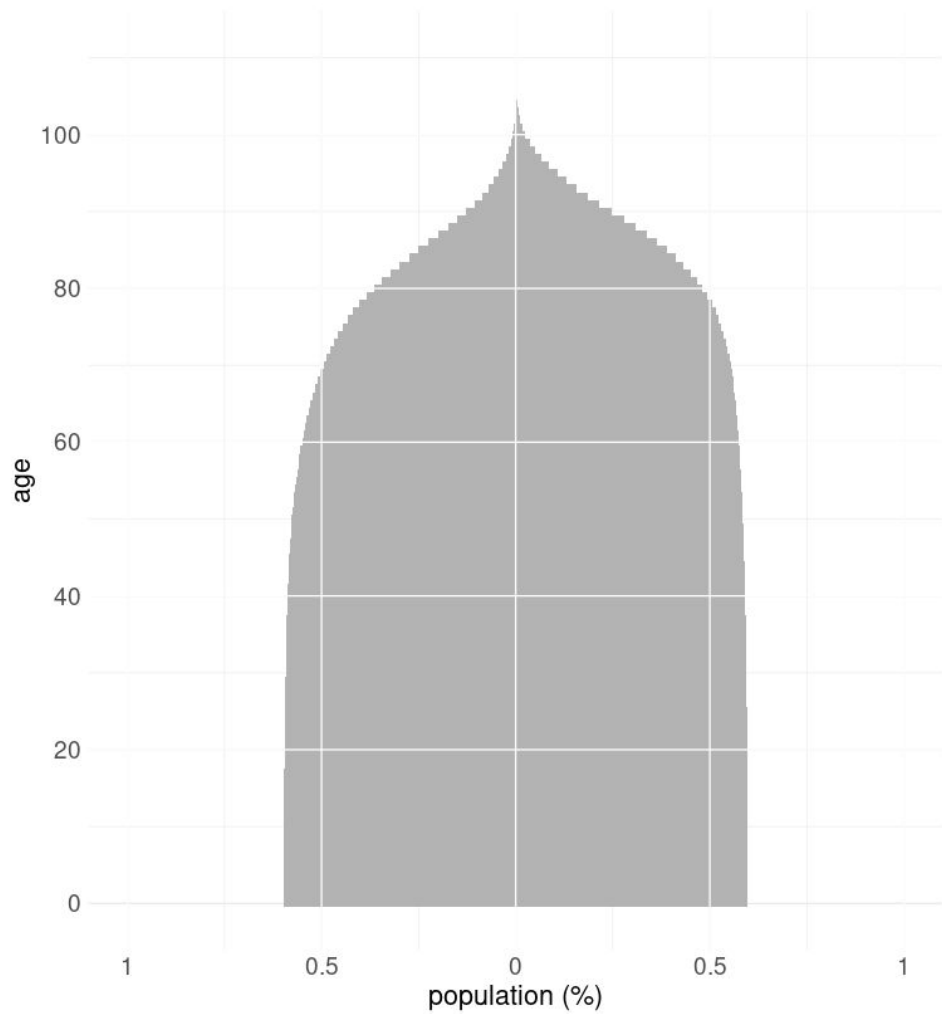
$$r = \frac{N(T) - N(0)}{N(0)} \frac{1}{T}$$

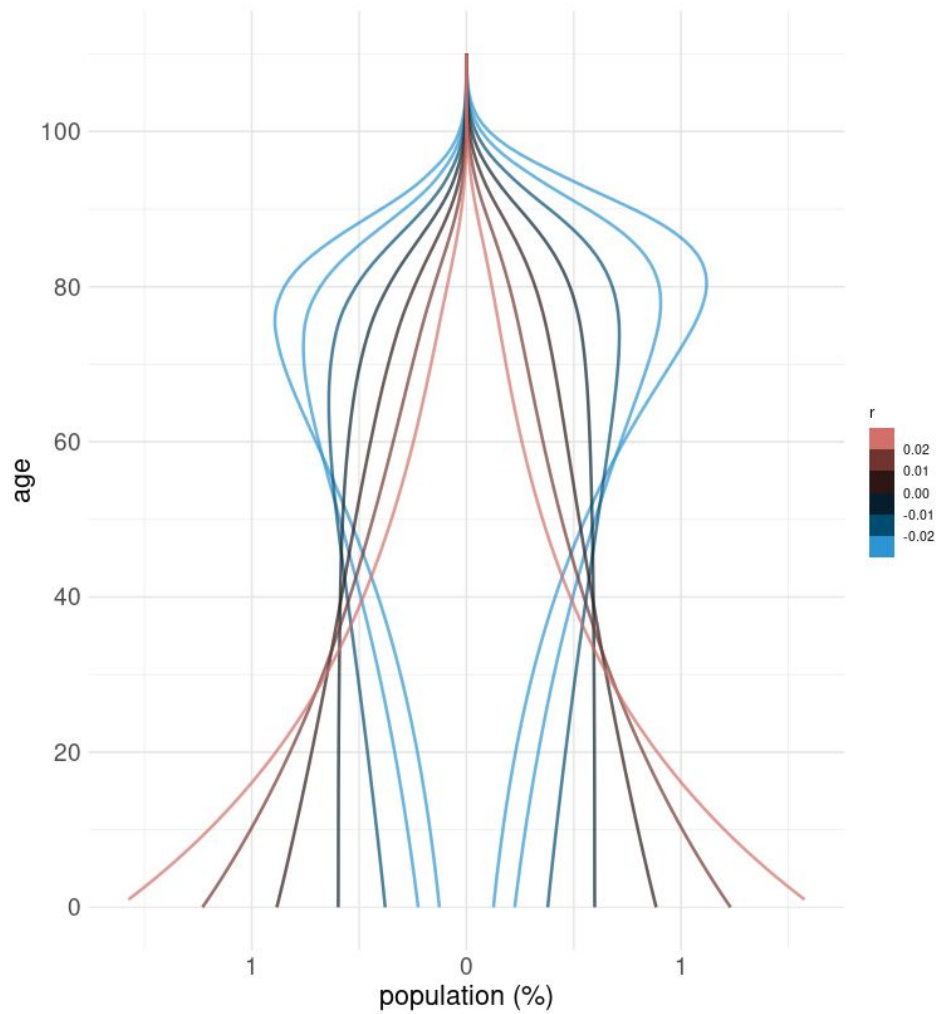
- Exponential

$$r = \frac{\ln\left(\frac{N(T)}{N(0)}\right)}{T}$$









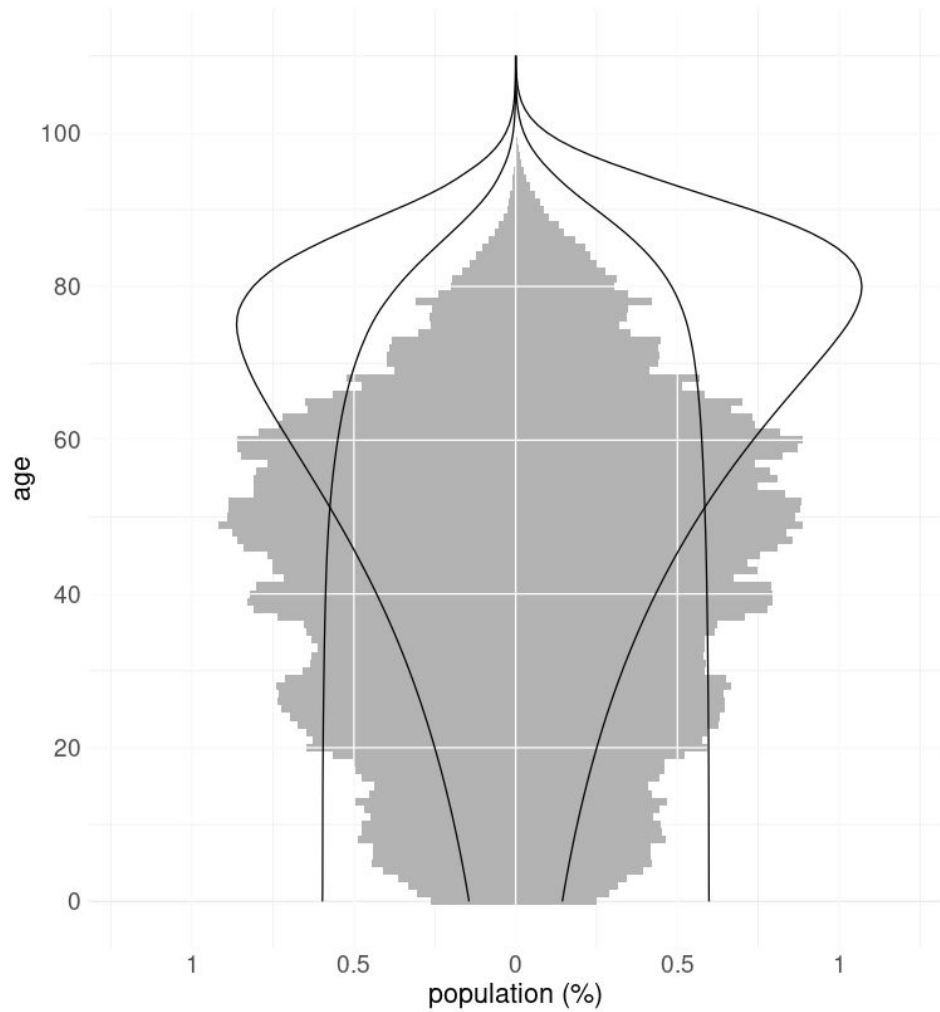




Photo:
Riccardo Pierri

HOME > SCIENCE > VOL. 346, NO. 6206 > IS LOW FERTILITY REALLY A PROBLEM? POPULATION AGING, DEPENDENCY, AND CONSUMPTION



REPORT



Is low fertility really a problem? Population aging, dependency, and consumption

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