

KOSTAT-UNFPA Summer Seminar on Population

Workshop 1: Demographic Analysis: Methods and Tools in R

Population Growth

4 July, 2024

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Universidad
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Unibertsitatea

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Statistics
Korea



Workshop plan, July 1-5, 2024

- | | |
|--------------------|-----------------------------|
| 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 vs size
- Speedometers
- Model abuse

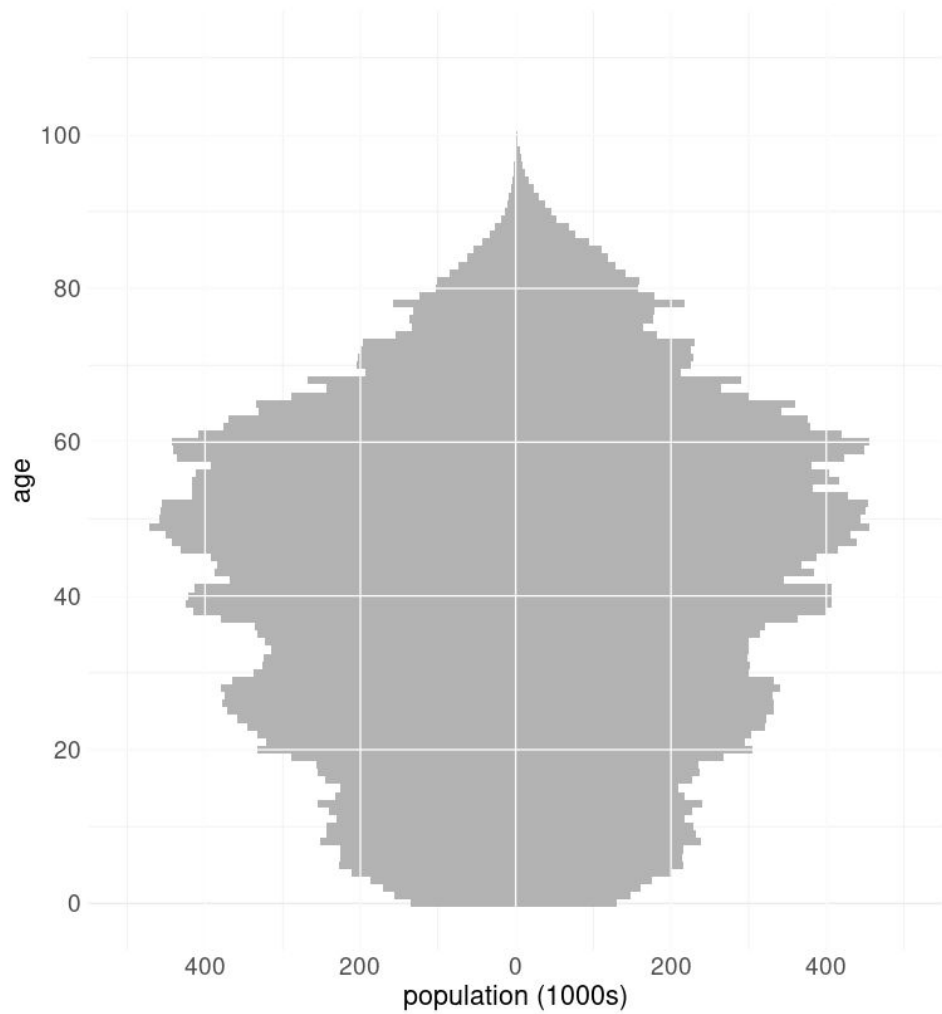
Empirical growth

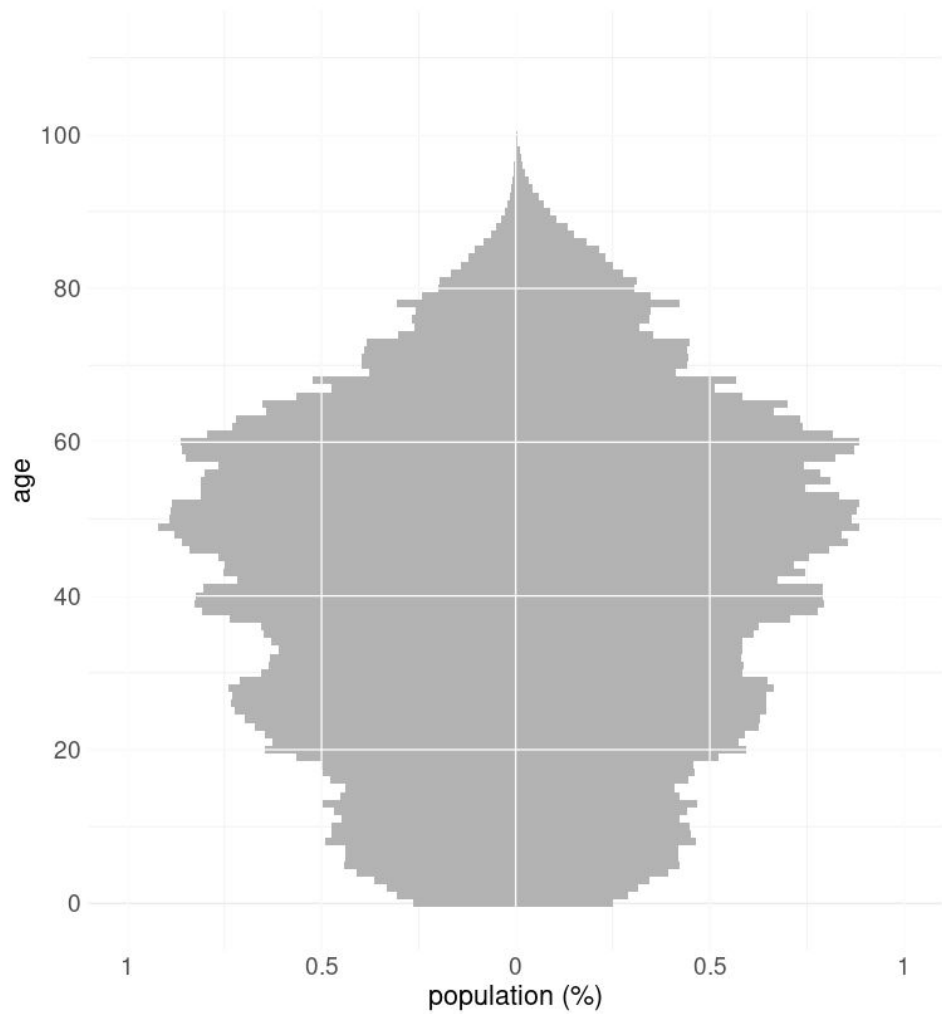
- Geometric

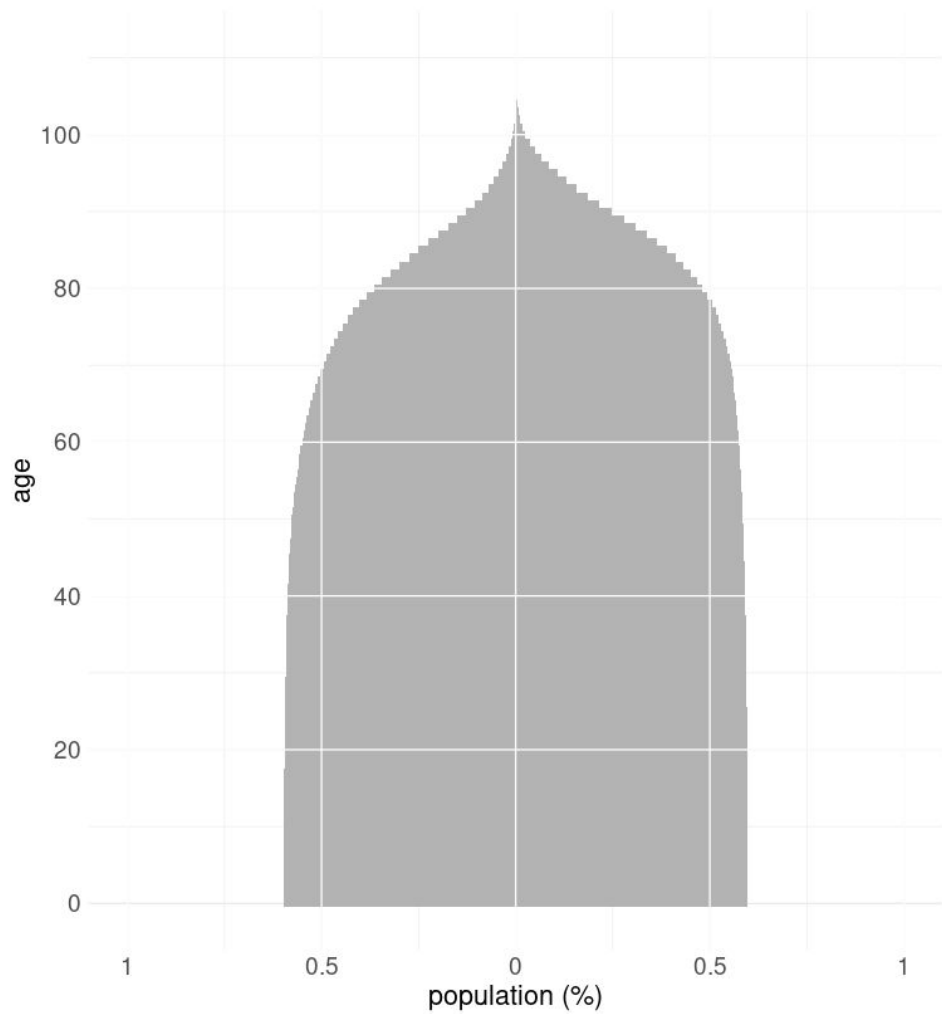
$$r = \frac{N(T) - N(0)}{N(0)} \frac{1}{T}$$

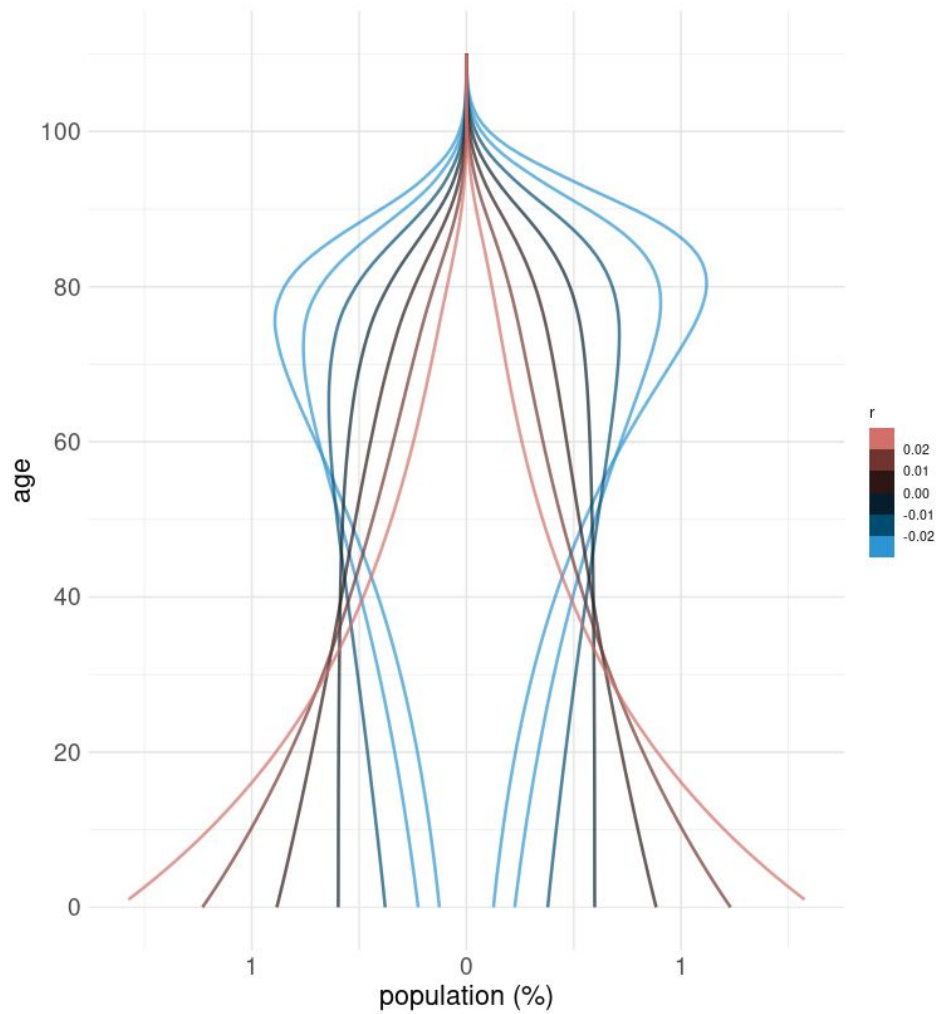
- Exponential

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









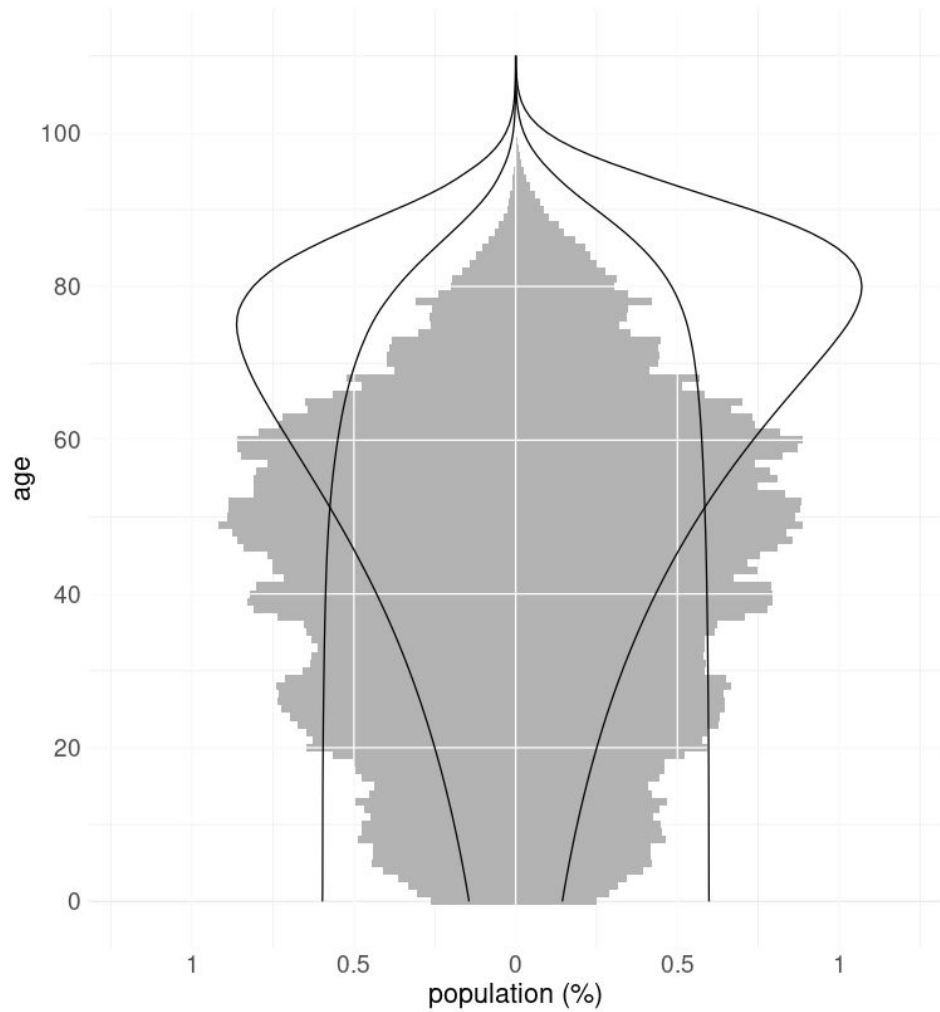




Photo:
Riccardo Pierri

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REPORT



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

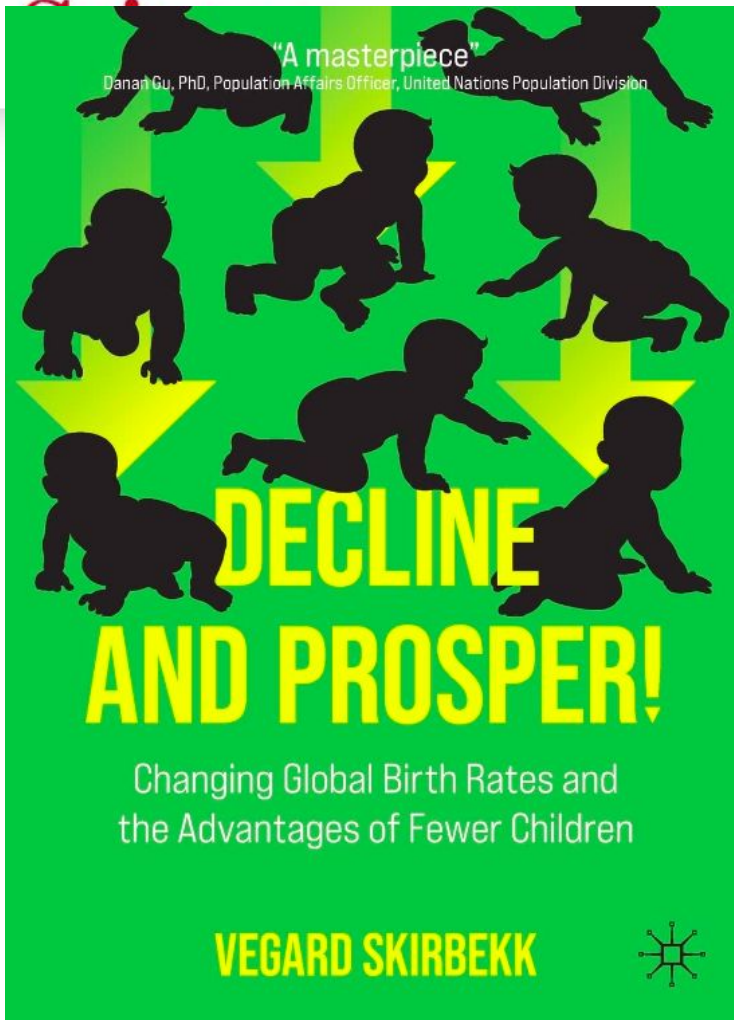
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SCIENCE • 10 Oct 2014 • Vol 346, Issue 6206 • pp. 229-234 • DOI: [10.1126/science.1250542](https://doi.org/10.1126/science.1250542)

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REALLY A PROBLEM? POPULATION AGING, DEPENDENCY, AND CONSUMPTION



problem? Population aging, de- nption

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