Population Change

Eungang (Peter) Choi

11/15/2018

1 Introduction

2 Fertility

3 Mortality

4 Migration

5 Wrap Up

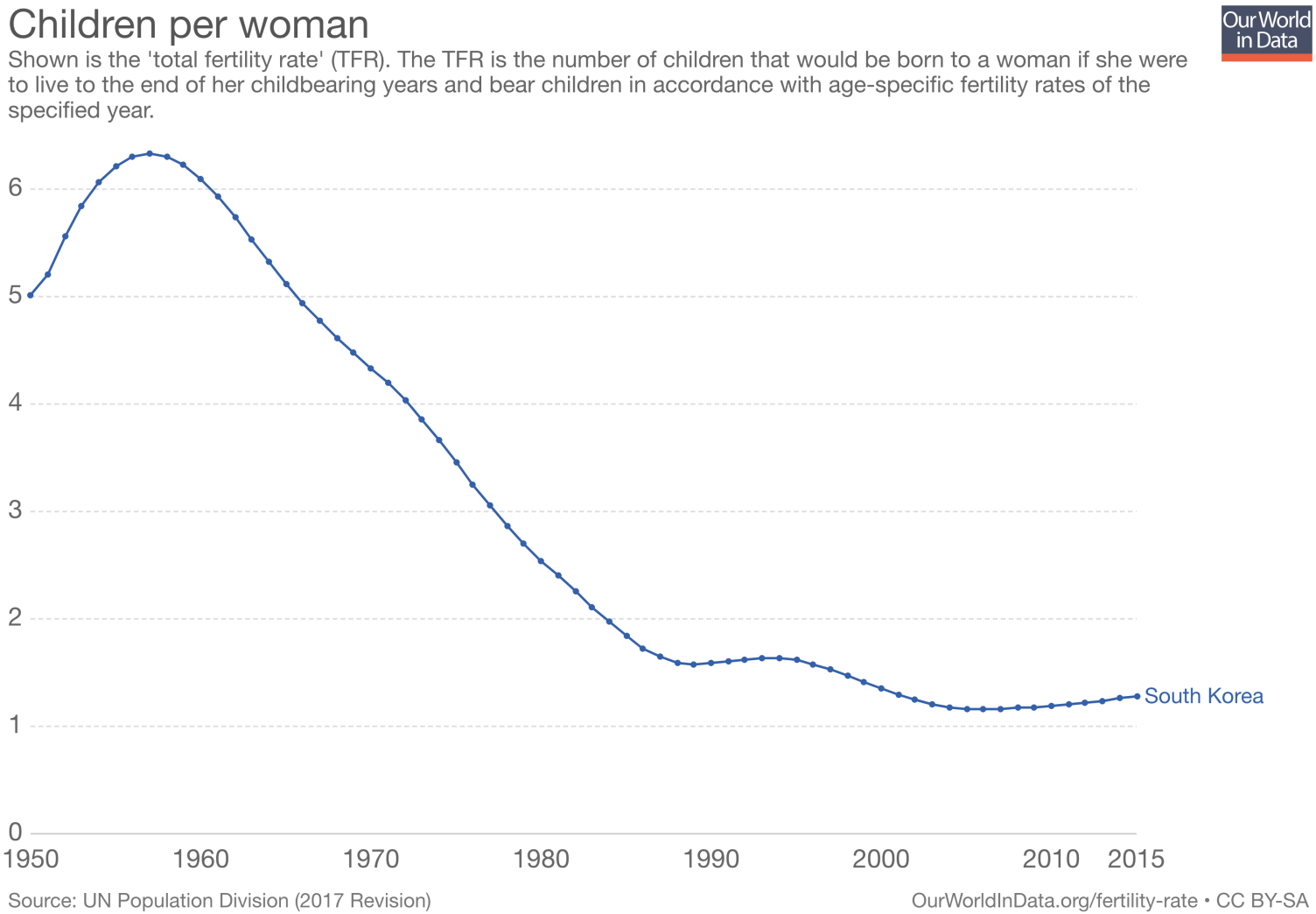
Introduction

Why am I interested in population Change?

South Korea

- rapid population change
  - aging
  - decline

What it looks like



Whats happening?

- **Low fertility** - having less babies
- **Increased life expectancy** - living longer, longevity
- **Aging population** - smaller proportions of younger age groups, larger proportions of older age groups

Problems

- working population
- pensions
- industry and market
- schools, teachers
- so many more. . .

My interests

- Fertility
- Aging society
- Computational methods

What is Demography?

- scientific study of population
- population growth and decline
- measurement, projections, explanation

What determines population change?

1. Fertility
2. Mortality
3. Migration

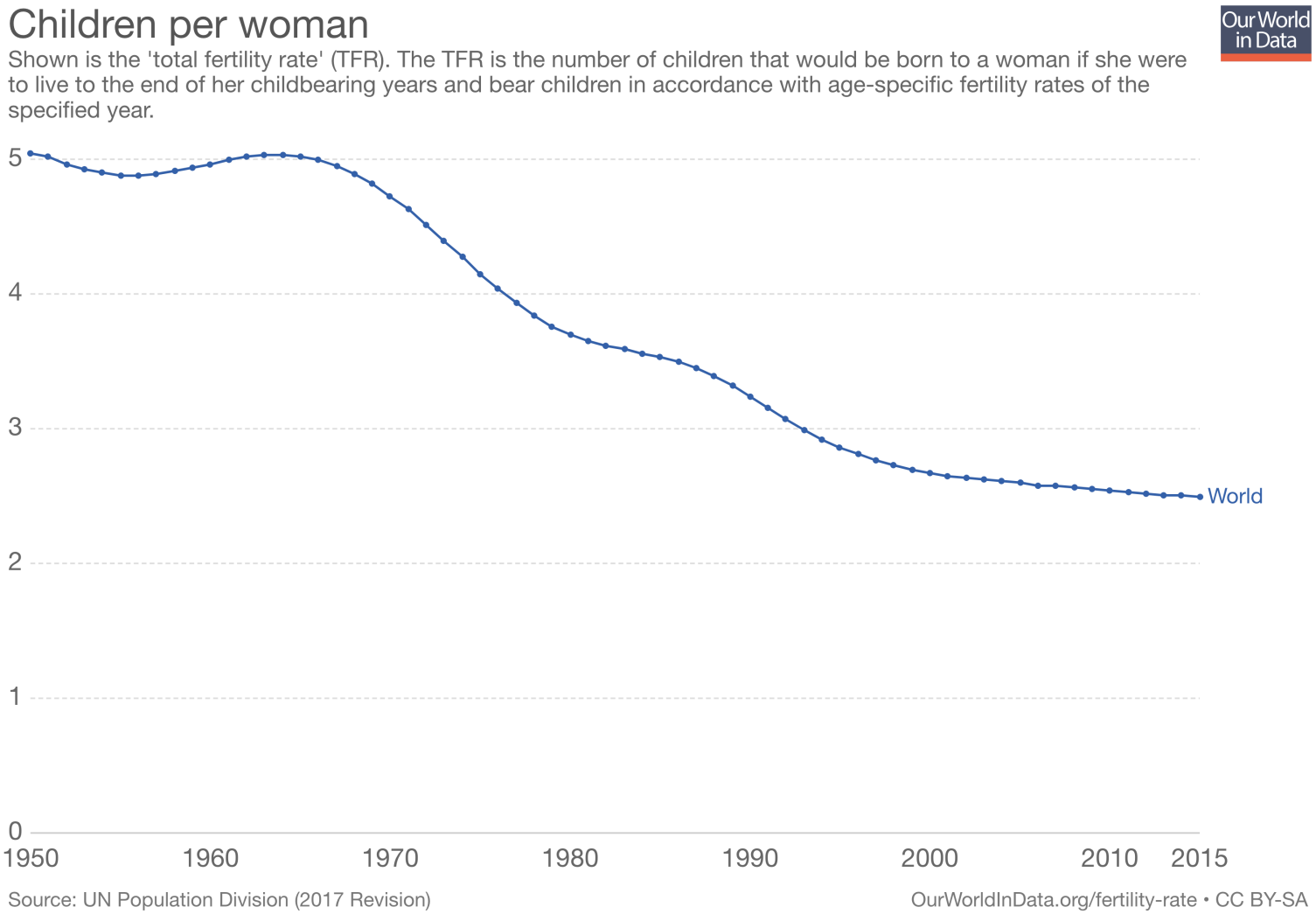
$$Population = Fertility - Mortality \pm Migration$$

Fertility

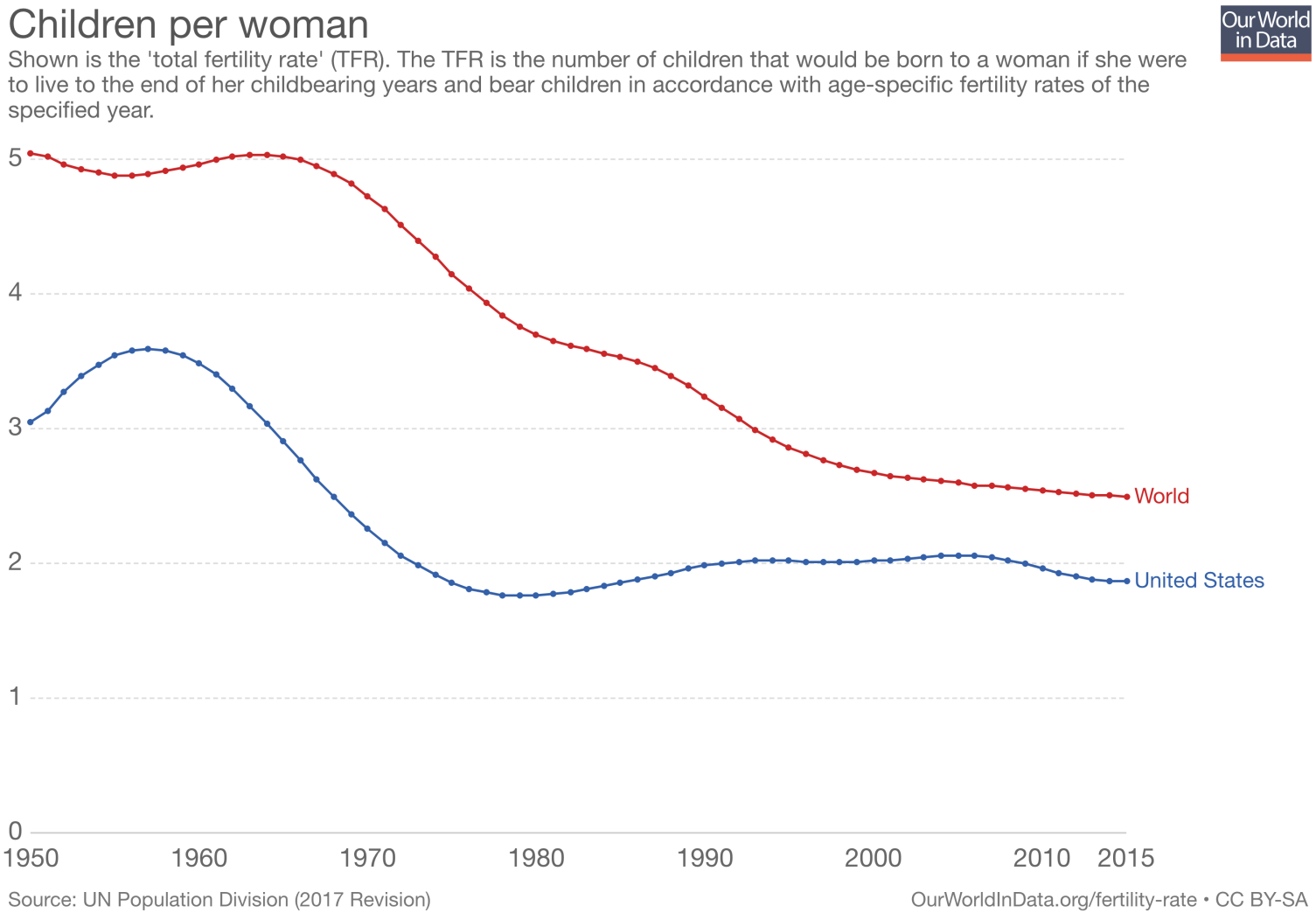
Fertility

- people's reproductive behavior
- number of births within a population
- factors impacting fertility:
  - fecundity: biologically being able to give birth (15-45, 15-50)
  - contraception
  - abortion
  - family

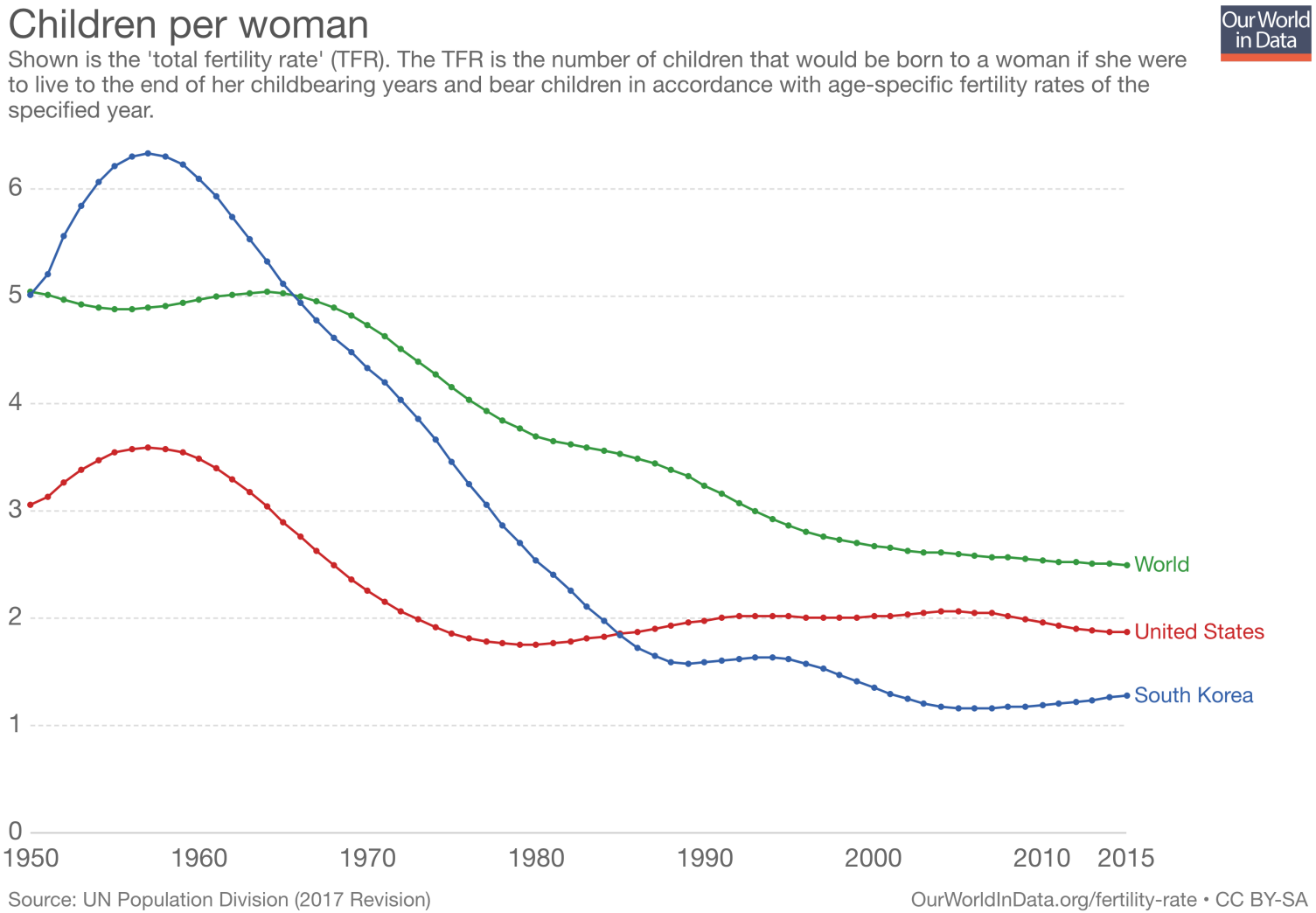
Fertility Trends



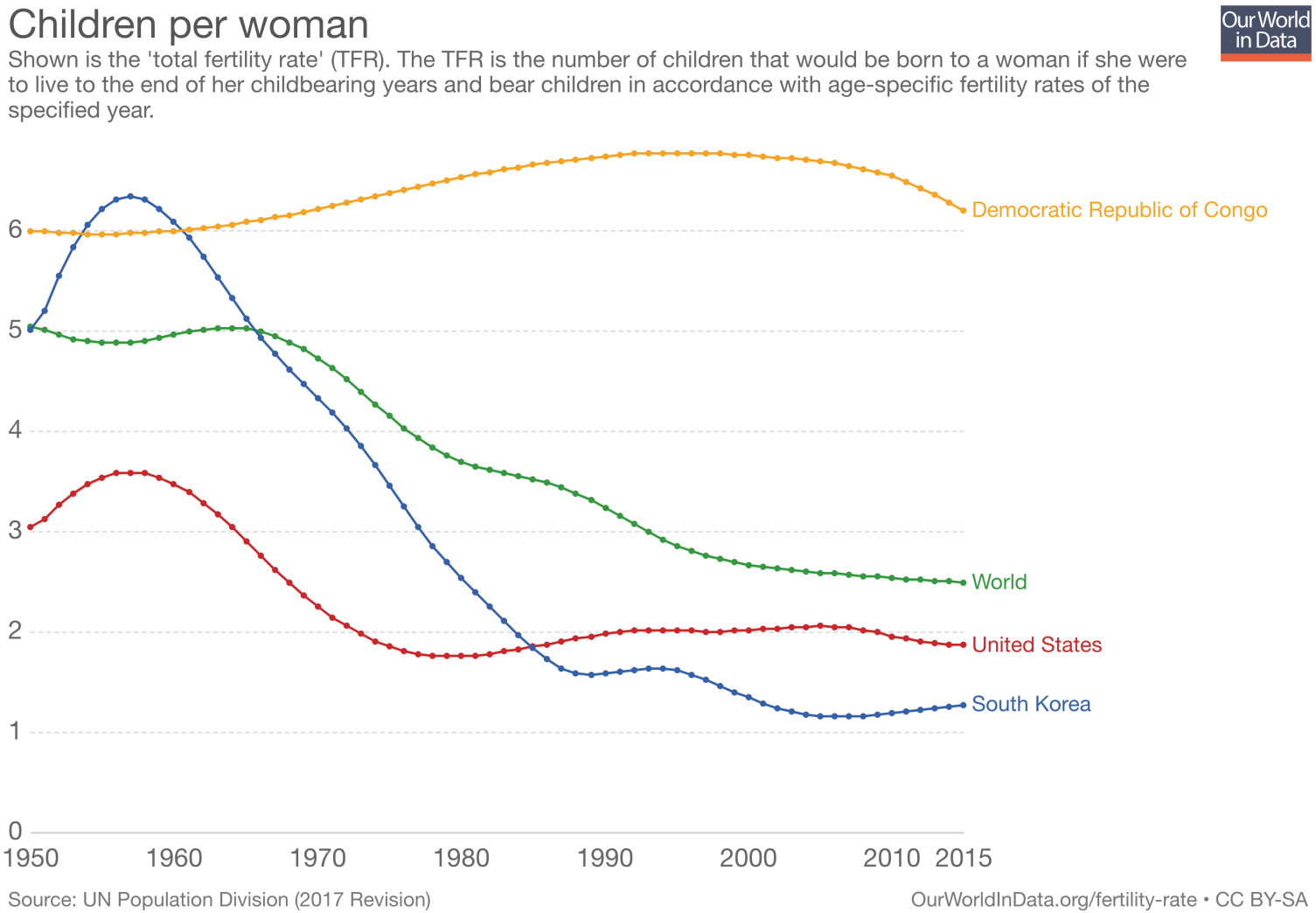
Fertility Trends



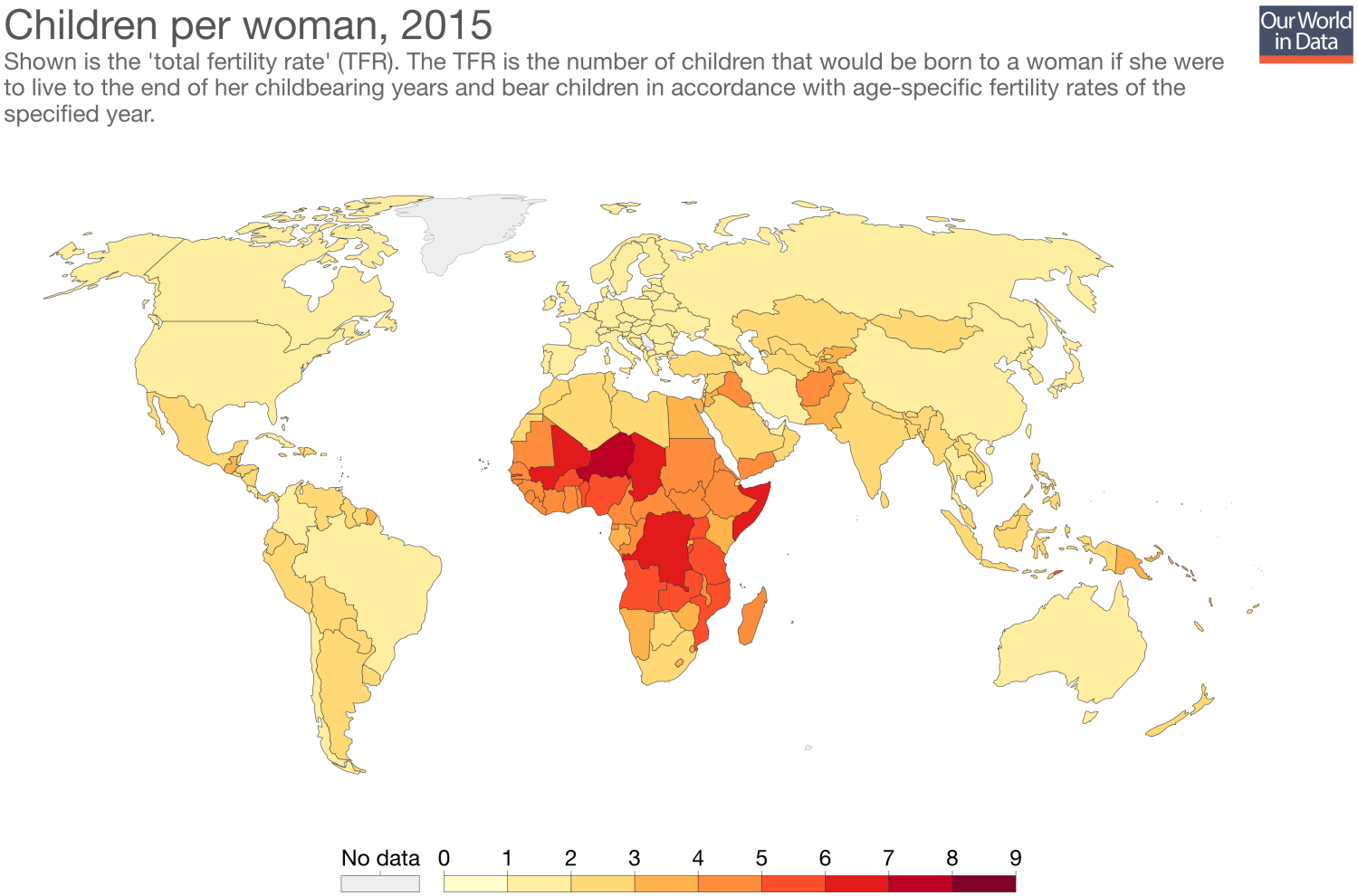
Fertility Trends



Fertility Trends



World Fertility



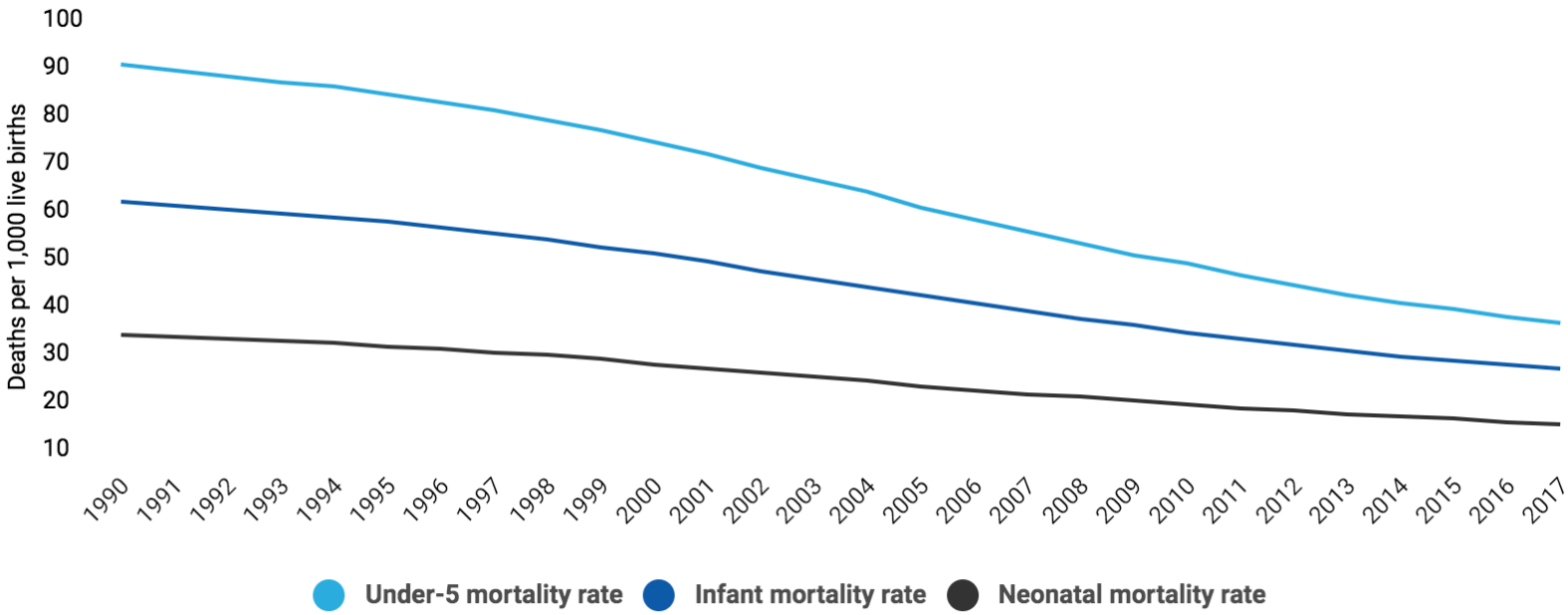
Mortality

Mortality

- deaths within a population
- life expectancy: "number of years an individual can be expected to live"
- child mortality (Under 5 Mortality)
  - UN SDG (Sustainable Development Goal) #3
  - reduce **neonatal** mortality to at least 12 per 1,000 live births and
  - under-5 mortality to at least as low as 25 per 1,000 live births

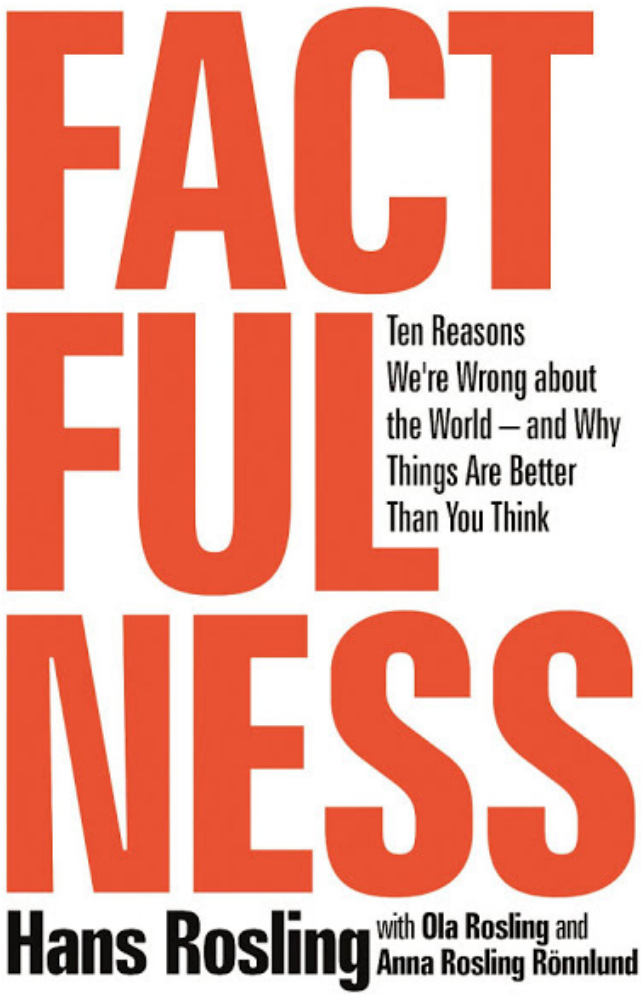
U5MR

Global under-five, infant and neonatal mortality rates, 1990-2017



Source: United Nations Inter-agency Group for Child Mortality Estimation (UN IGME) 2018

Trends in life expectancy and income



- Hans Rosling
- Short Clip

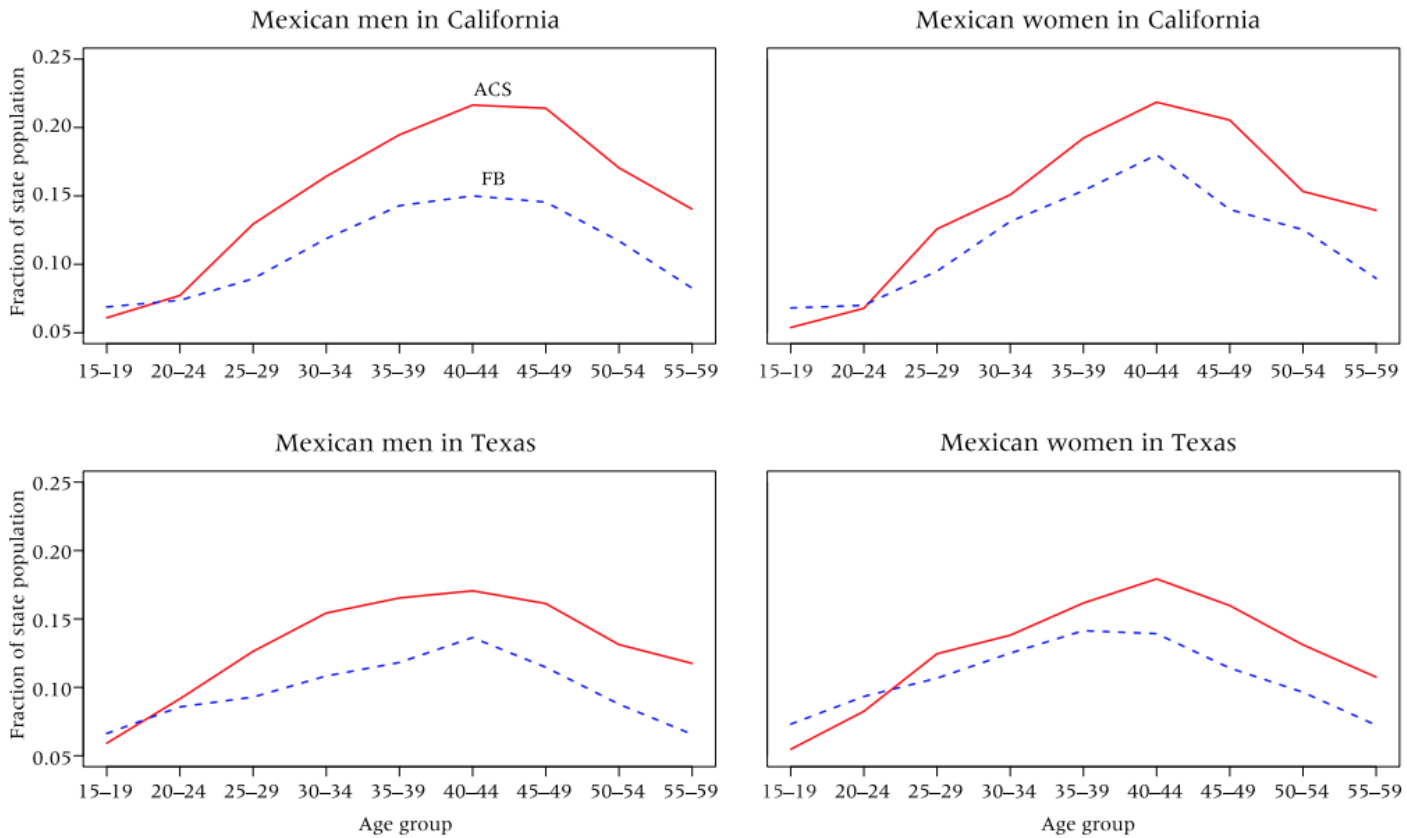
Migration

Migration

- Migration is not related to a biological event
- Two types of migration:
  - Immigration (In-migration)
  - Emigration (Out-migration)
- Measurement problems
  - continuing process (when do we measure?)
  - involves two or more countries

Facebook data to measure migrants (Zagheni, Weber and Gummadi 2017)

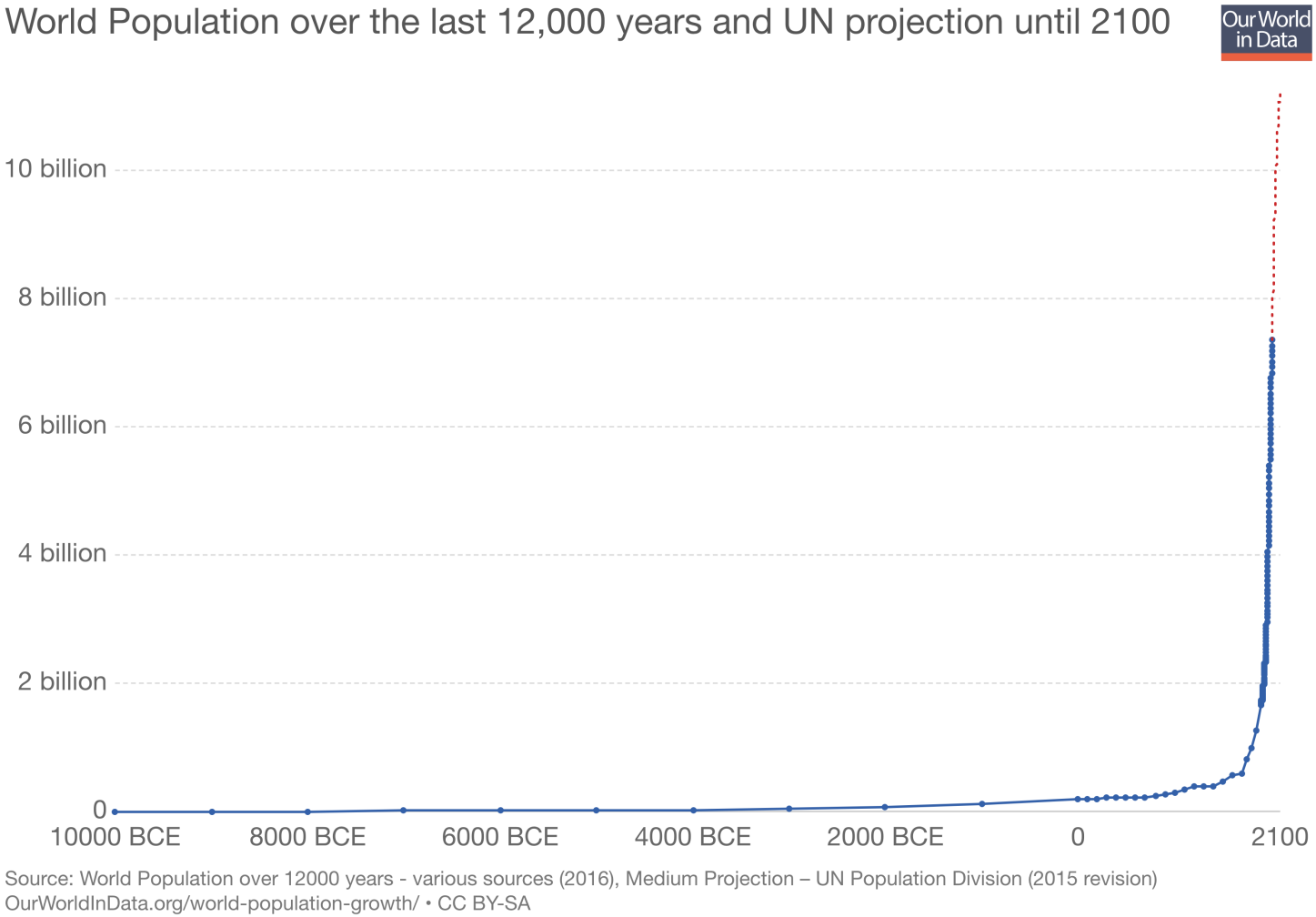
FIGURE 3 Facebook and ACS profiles of stocks of migrants by age and sex for Mexicans in California and in Texas



SOURCES: American Community Survey (ACS 2014); Facebook Adverts Manager.

Wrap Up

Why is population change important?



- How is what you are studying impacting the population?
- How will that change the future?

Thank You