Agenda

1. Administrative
2. Studying populations
3. Demographic theories

Reference sheet submission

- Submit your reference sheets on MyCourses by 11:59pm tonight (Feb 19)
- Only one member of each group needs to submit
- Assignments → Midterm reference sheet upload

Reference sheet participation

- *Many* students have not participated in planning or creating the exam reference sheets
- If only one or two group members contributed to the reference sheet, please let me know in a private message
- The creation of the reference sheets will be reorganized for the final exam

Studying populations

STUDYING POPULATIONS

Demography

- Study of populations at a macro-scale
- At its most basic: understanding the ways populations grow, shrink, and otherwise change
- Relationship between population and other sociological factors

Population characteristics

- Overall size
- Proportions of socially relevant categories

  Ethnicity, gender, religion, etc.
- Rates of change in these populations
- ***Theories*** and ***mechanisms*** of change in these populations

Three factors affect changes in population size:

Birth

- **Crude birth rate**
  Number of children born in a given time period, per 1,000 population
- **Fertility rate**
  Average number of children that a childbearing person would have over their lifetime, assuming current rates by age

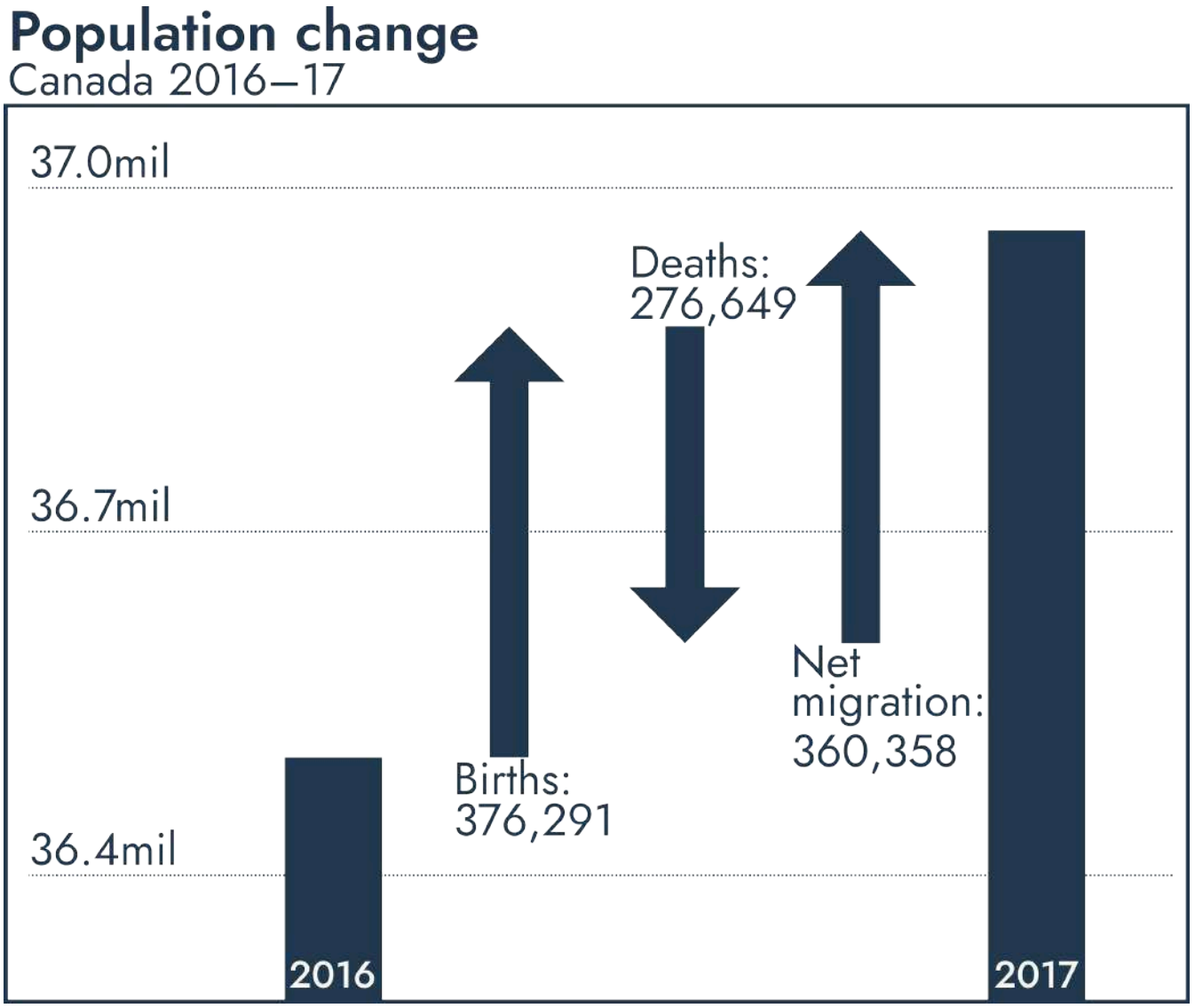
Death

- **Crude death rate**
  Number of deaths in a given time period per 1,000 population
- **Age- and sex-specific mortality rates**
  E.g. infant mortality (number of children who die within a year of birth, per 1,000 live births)

Migration

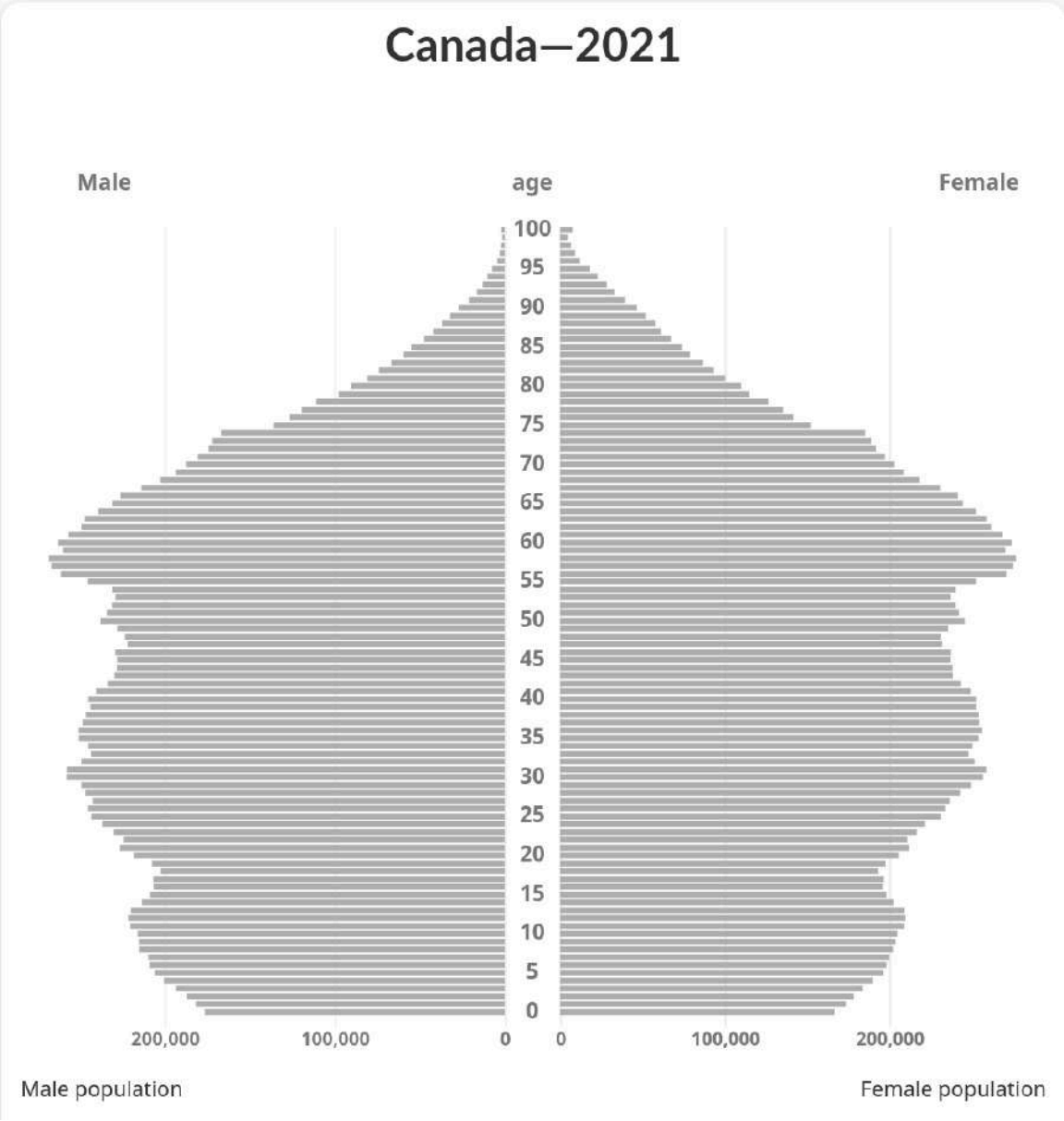
- **Immigration versus emigration**
  Immigration is migration into a country, *emigration* is migration out of a country
- **Net number of migrants**
  Immigrants minus emigrants

Total growth = (Birth) – (Death) + (Migration)



Population pyramids
(a.k.a. age pyramids)

- Ubiquitous visual tool in demography
- Picture of the 'shape' of an entire population
- Shows size of a population at different ages
- Can compare sub-populations on right and left
  (traditionally gender binary)



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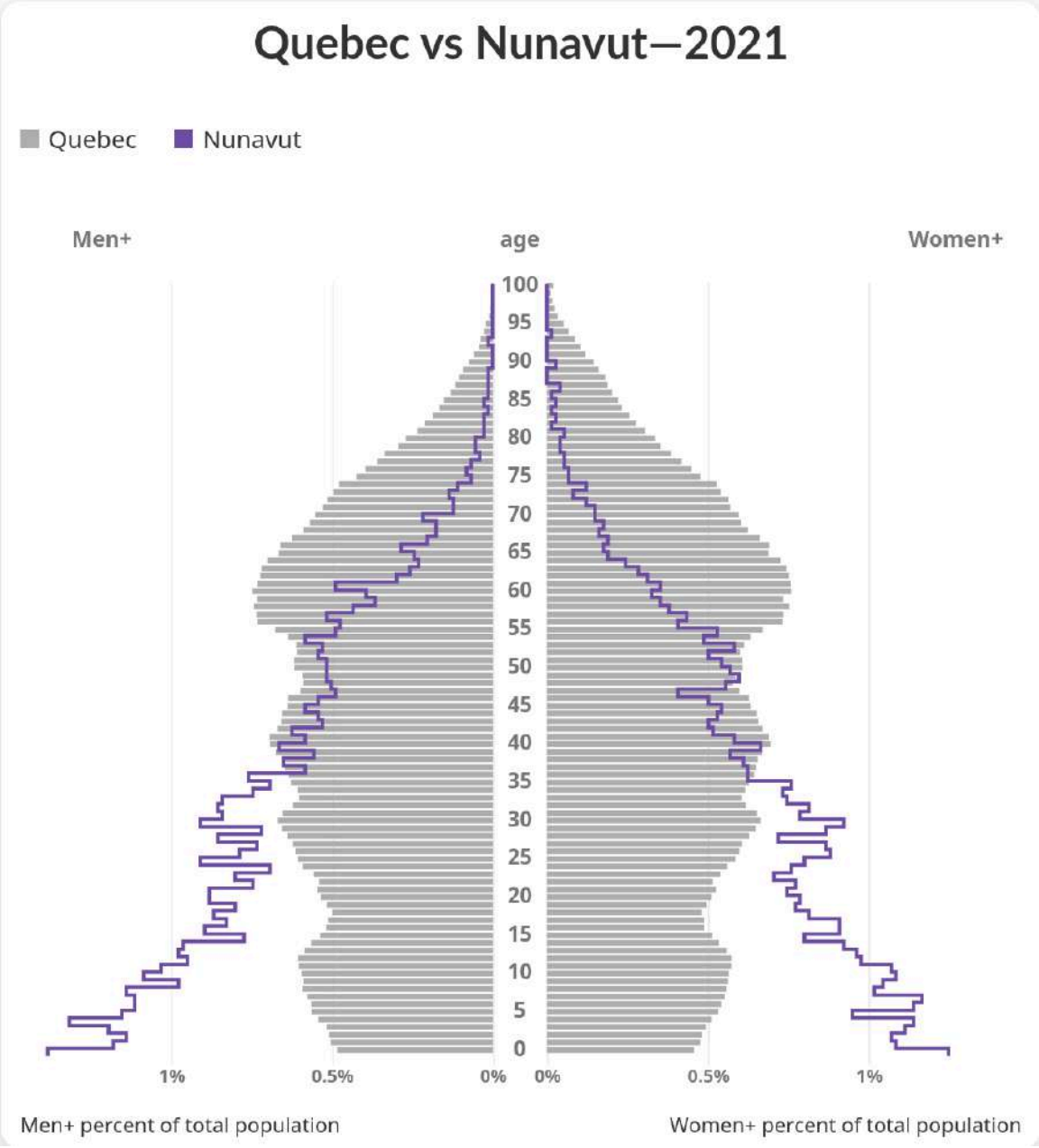
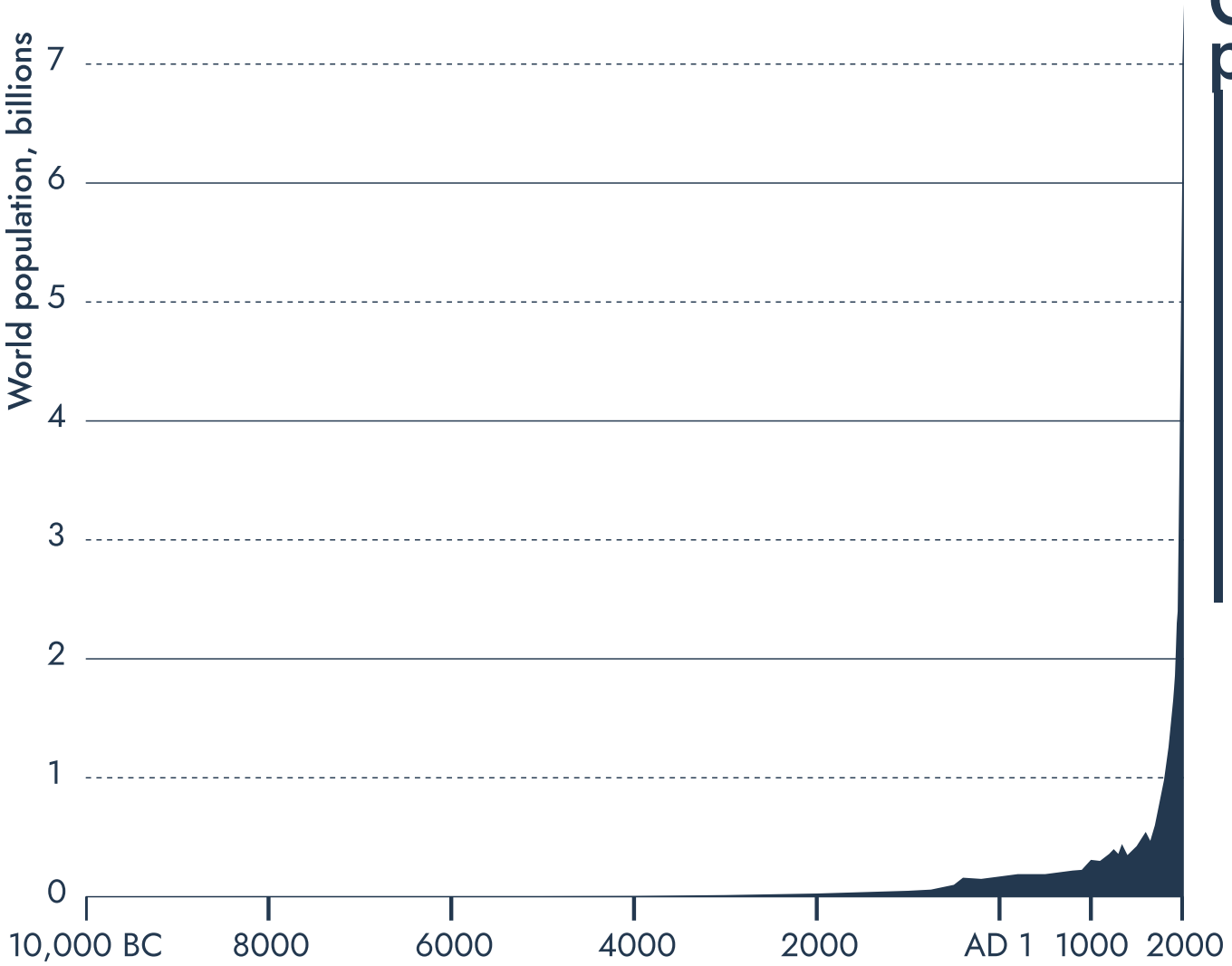


Demo-graphic theories

DEMOGRAPHIC THEORIES



Global population

- Increased from about 1.6 billion in1900 to about 6 billion in 2000
- 7 billion in 2012
- 8 billion in 2022
- Continuous growth since 14th century

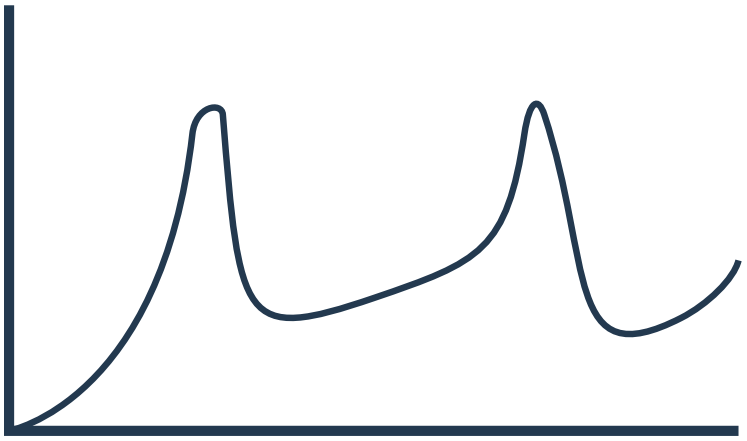
Source: Wikimedia Commons (multiple data sources)

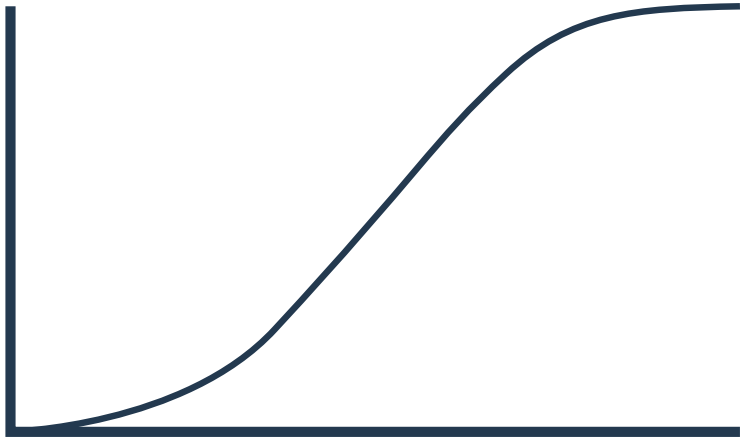
Malthusian theory (18th–19th century)

- Based on Thomas Robert Malthus' (1766–1834) ideas about the capacity of the earth for human populations
- Food, violence, and disease create "positive checks" on population
- Low fertility provides "preventive checks"
- Predicted a cycle of growth and decline of human population

Theories similar to Malthus' are common

- **Ecological theories of resource limitations**
  Formal models of populations in resource-scarce environments
- **Either cyclic (as in Malthus' theory) or predict slow decline in population growth**
  "Sigmoid" or "logistic" growth
- **Still, global population continues to grow**
  Though growth rate peaked in the early 1960s





Demographic transition theory

- By far the most widespread theory of population change in social sciences
- Aims to explain the empirical observation that birth and death rates have both dropped significantly over the past few hundred years
- **Major claim:**
  Changes associated with industrialization and modernization cause subsequent changes in mortality and fertility

Demographic transition in four "stages"

DEMOGRAPHIC TRANSITION

The four stages of demographic transition theory:

Stage 1

- Birth and death rates are high, life expectancy is short
- Minimal population growth
- Ubiquitous throughout most of human history
  Transition out of stage 1 began in some places in the 18th century

Stage 2

- Death rates begin to drop, life expectency begins to increase
- Birth rates are still high
- Population growth accelerates
- Many current populations display this pattern
  E.g. some sub-saharan African nations

Stage 3

- Birth rate begins to drop
- Mortality rate remains low
- Rate of population growth slows
- Identified by significant drop in growth
  E.g. some Central American nations

Stage 4

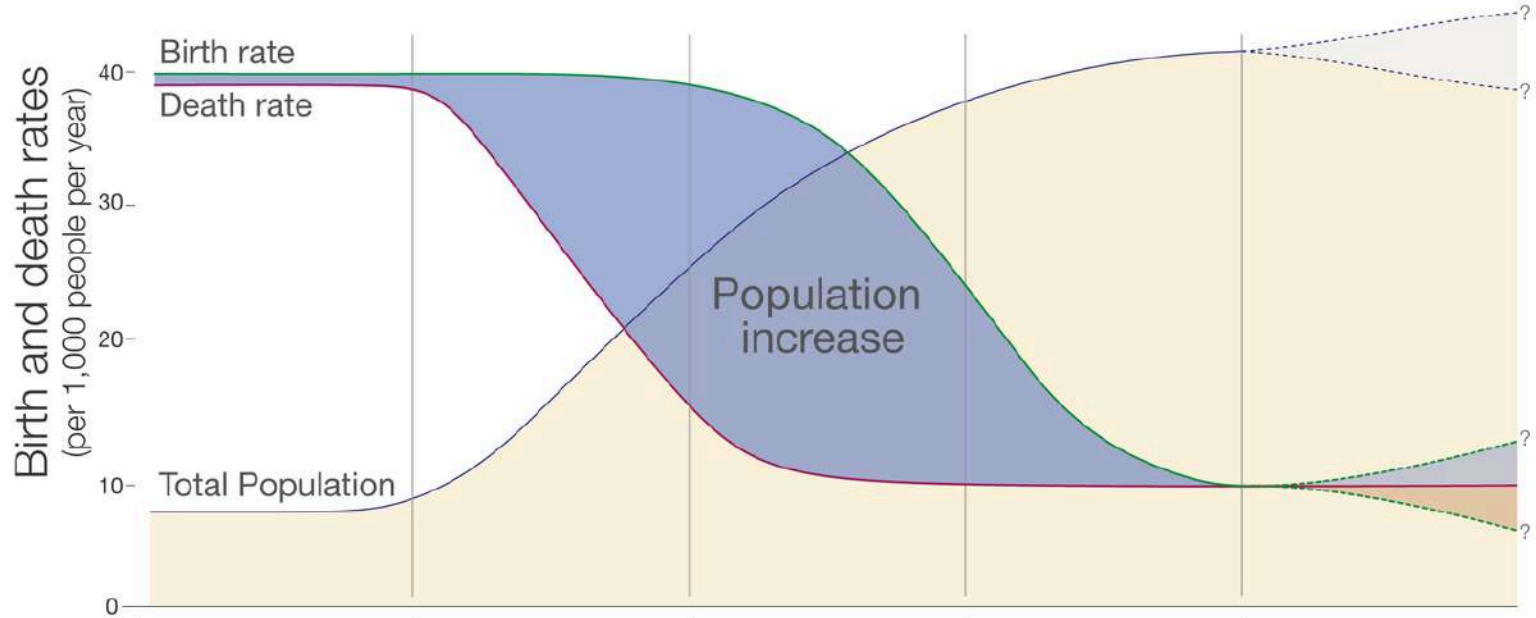
- Birth and death rates are both low
- Balanced rates mean slow population increase, or even decreasing population size
- Identified by low birth rate (<2.5%)
  E.g. many European and North and South American nations

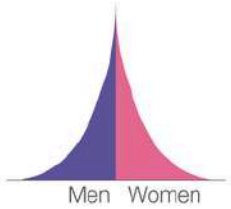
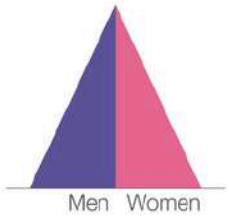
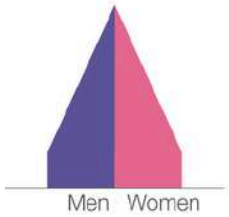
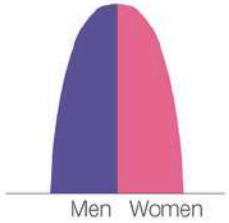
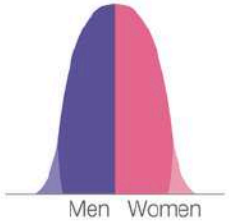
DEMOGRAPHIC TRANSITION

The five stages of the demographic transition

Our World in Data

The demographic transition is a model that describes why rapid population growth is a temporary phenomenon.



	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Birth rate	High	High	Falling	Low	Yet to be seen possibly falling further, possibly rising again
Death rate	High	Falling rapidly	Falling slowly	Low	Low
Population change	Stable or slowly increasing	Rapidly increasing	Increase slows down	Falling and then stable	Little change
Population pyramid					

DEMOGRAPHIC TRANSITION

Theoretical mechanisms for …

… decrease in mortality

- **Industrialization**
  Increased access to food and other resources
- **Civic and scientific advances**
  Sanitation, medicine, infrastructure
- **Economic modernization**

… decrease in fertility

- **Decrease in childhood mortality leads do decreased “demand” for children**
  SLag in fertility and mortality transitions
- **Urbanization**
  SChanging role of children in family life
- **Increases in employment and education**
  Employment for women normalized, contraception

Demography and society

- Although demographic theories are primarily concerned with changes in population size, they are inextricably linked with theories of culture, norms, politics, and institutions.
- Differences in social environment can explain demographic differences between places.

Demography and politics

- In groups of 2 or 3, come up with a few examples of the ways that ***fertility rates*** are discussed in political contexts (e.g. discourse around immigration, education, healthcare, aging, ...)

Image credit

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Photo by CHUTTERSNAP on Unsplash

Population pyramids from Statistics Canada

Image from Wellcome Collection

Photo by Derek Keats via Wikimedia

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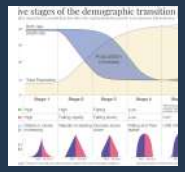

Max Roser, via Our World in Data

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