Theories of demography

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Outline

- Introduction to doctrines and theories
- Early writings about population
- Demographic transition theory
- Fertility theories
- Health and mortality transition
- Demographic theory of mortality
- Migration terms
- Internal migration theories
- International migration theories

Introduction

- Ryder (1964)
  - A population is an aggregate of individuals defined in spatial and temporal terms
  - The population model is both microdynamic (individual) and macrodynamic (aggregate)
- Lotka (1934)
  - Distinction between the persistence of the individual and aggregate
  - Human beings die, while a population aggregate does not: individuals continue entering to replace those exiting

Source: Poston, Bouvier, 2017.

Premodern doctrines

Date	Demographic Perspective
~1,300 B.C.	Genesis: “be fruitful and multiply and fill the earth”
~500 B.C.	Confucius: governments should maintain balance between population and resources
~360 B.C.	Plato: population quality more important than quantity
~340 B.C.	Aristotle: population should be limited; abortion might be appropriate

Premodern doctrines

Date	Demographic Perspective
~50 B.C.	Cicero: population growth necessary to maintain the Roman Empire
~400 A.D.	St. Augustine: abstinence is preferred way to deal with sexuality; second best is to marry and procreate
~1280 A.D.	St. Thomas Aquinas: celibacy is not better than marriage and procreation

Premodern doctrines

Date	Demographic Perspective
~1380 A.D.	Ibn Khaldun: population growth increases occupational specialization and raises incomes
~1500–1800	Mercantilism: increasing national wealth depends on a growing population that can stimulate trade
~1700–1800	Physiocrats: population size depends upon the wealth of the land, which is stimulated by free trade (so-called laissez-faire)

Modern theories

Date	Demographic Perspective
1798	Malthus: population grows exponentially, food supply grows arithmetically; poverty is the result in the absence of moral restraint
~1800	Neo-Malthusian: birth control measures are appropriate checks to population growth
~1844	Marxian: each society has its own law of population that determines consequences of population growth; poverty is not the natural result of population growth

Modern theories

Date	Demographic Perspective
1945	Demographic transition in its original form: the process whereby a country moves from high birth and death rates to low birth and death rates
1962	Earliest studies suggesting the need to reformulate demographic transition theory
1963	Theory of demographic change and response: demographic response made by individuals to population pressures is determined by the means available to them to respond; causes and consequences of population change are interrelated

Modern theories

Date	Demographic Perspective
1968	Easterlin relative cohort size hypothesis: successively larger young cohorts put pressure on young men's relative wages, forcing them to make a tradeoff between family size and overall well-being
1971–present	Decomposition of the demographic transition into its separate transitions: health and mortality, fertility, age, migration, urban, and family and household

Early writings about population

- John Stuart Mill (1848)
  - A stationary population is better than a larger one
  - A large society will suffer from the growth rate of wealth not keeping up with the rate of population increase

- Emile Durkheim (1893), two types of societies
  - Mechanical: small and a simple division of labor
  - Organic: larger and an extensive division of labor

Source: Poston, Bouvier, 2017.

John Stuart Mill

- Basic thesis was that the standard of living is a major determinant of fertility levels
- The ideal state is that in which all members of a society are economically comfortable, rather than seeking excessive wealth
- At this ideal point, the population will stabilize and people will progress culturally, morally, and socially

Émile Durkheim

- French sociologist who based an entire social theory on the consequences of population growth

- Population growth leads to greater division of labor and more societal specialization
  - The struggle for existence is more severe when there are more people
  - In the long term, this leads to greater economic well-being

Thomas Robert Malthus

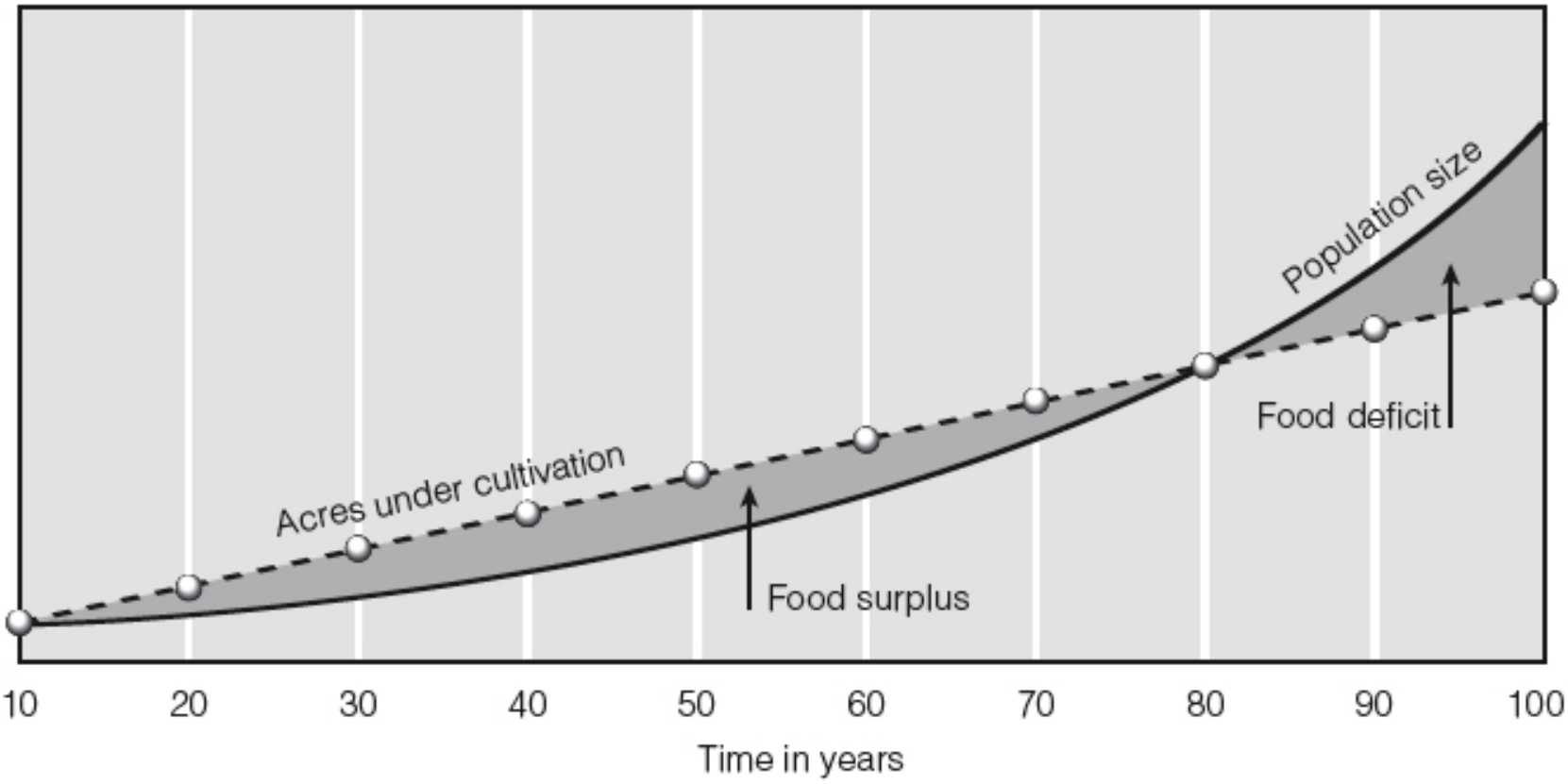
- The most well-known early scholar who wrote about population growth
  - *An Essay on the Principle of Population, as it Affects the Future Improvement of Society with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and Other Writers*
  - **Main argument:** material resources (food and shelter) can grow at an arithmetic rate, while populations grow at a geometric rate
  - If left unchecked, population grows exponentially and subsistence arithmetically
  - **Preventive checks:** "moral restraint" or the postponement of marriage
  - **Positive checks:** war, famine, pestilence, and other forms of misery and vice
  - He influenced Charles Darwin, Herbert Spencer, David Ricardo, John Maynard Keynes, and many others

Source: Poston, Bouvier, 2017.

Malthusian perspective

- Malthus argued that people have a natural urge to reproduce
- The increase in the food supply (arithmetic increase) cannot keep up with population growth (geometric increase)
- The major consequence of population growth is poverty
- Within that poverty is the stimulus for action that can lift people out of misery

Malthusian ideas about growth of population and food supply



Major criticisms of Malthus

- He did not consider that technological advances could increase food production to deal with population growth
  - He described humans as no different than all living organisms in the ability to increase at a geometric rate
  - In his view, we are all competing for space and resources
- Conclusion that poverty was an inevitable result of population growth led to rejection by Marx and Engels
- Belief that moral restraint was the only acceptable preventive check
  - Avoiding intercourse until marriage
  - Only marrying when you can afford the subsequent children

Other criticisms of Malthus

- Some argued that he ignored the impact of contraception
  - He was a clergyman who didn't see contraception practices as moral
- He never clearly defined subsistence as either food or means of subsistence (life standard)
- Malthusian principles were not valid for Europe or North America
  - With the industrial revolution, the increase in subsistence have far exceeded the human tendency to reproduce

Source: Poston, Bouvier, 2017.

Neo-Malthusians

- Neo-Malthusians agree that resources are limited, but argue that people should use birth control
- Paul Ehrlich: Population Bomb
- Garrett Hardin: Tragedy of the Commons

Karl Marx

- An economist and philosopher, who disagreed with Malthus about his theory
  - Two classes of people: the bourgeoisie (capitalists) and the proletariat (the workers)
  - To Malthus, population was an independent variable creating distress (poverty)
  - To Marx, population was the dependent variable
    - Capitalism is the main cause of poverty, not the population
    - Regardless of fertility level, bourgeoisie benefits the most
  - Population growth can be a problem
    - However, the potential difficulty can be regulated in communist society

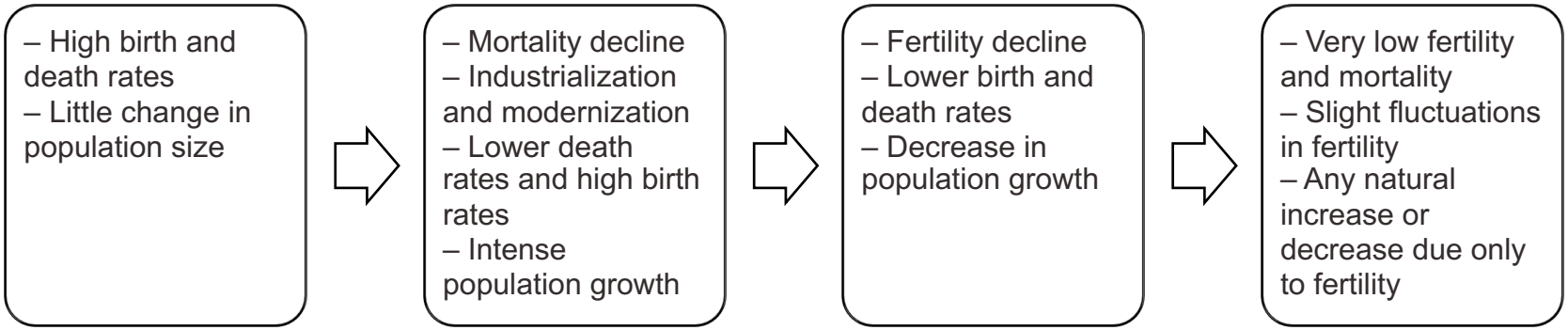
Source: Poston, Bouvier, 2017.

Marxian perspective

- Each society at each point in history has its own law of population that determines population growth
  - For capitalism, the consequences are overpopulation and poverty
  - For socialism, population growth is readily absorbed by the economy with no side effects
- Major criticism of Marx
  - He provided no guidance for how to get to a socialist model

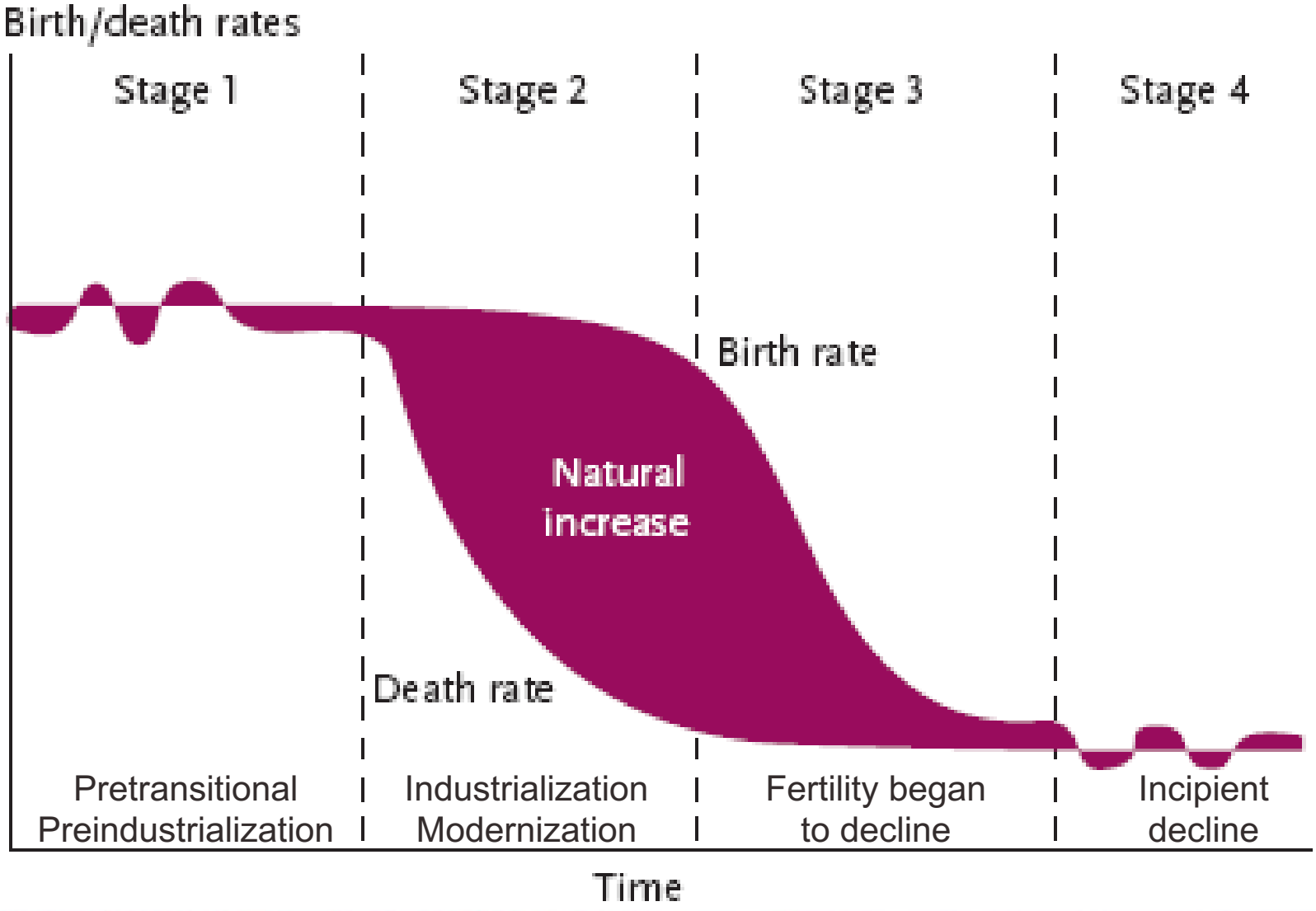
Demographic transition theory

- Demographic transition theory is the most prominent explanation for population growth
  - Also known as classic demographic transition or first demographic transition
  - Developed by Warren S. Thompson (1929) and Frank W. Notestein (1945), and extended by Kingsley Davis (1963)
- Changes in the size of the world's population over a certain period of time are due to fertility and mortality changes
- Four stages of mortality and fertility change in the process of societal modernization



Source: Poston, Bouvier, 2017.

Demographic transition



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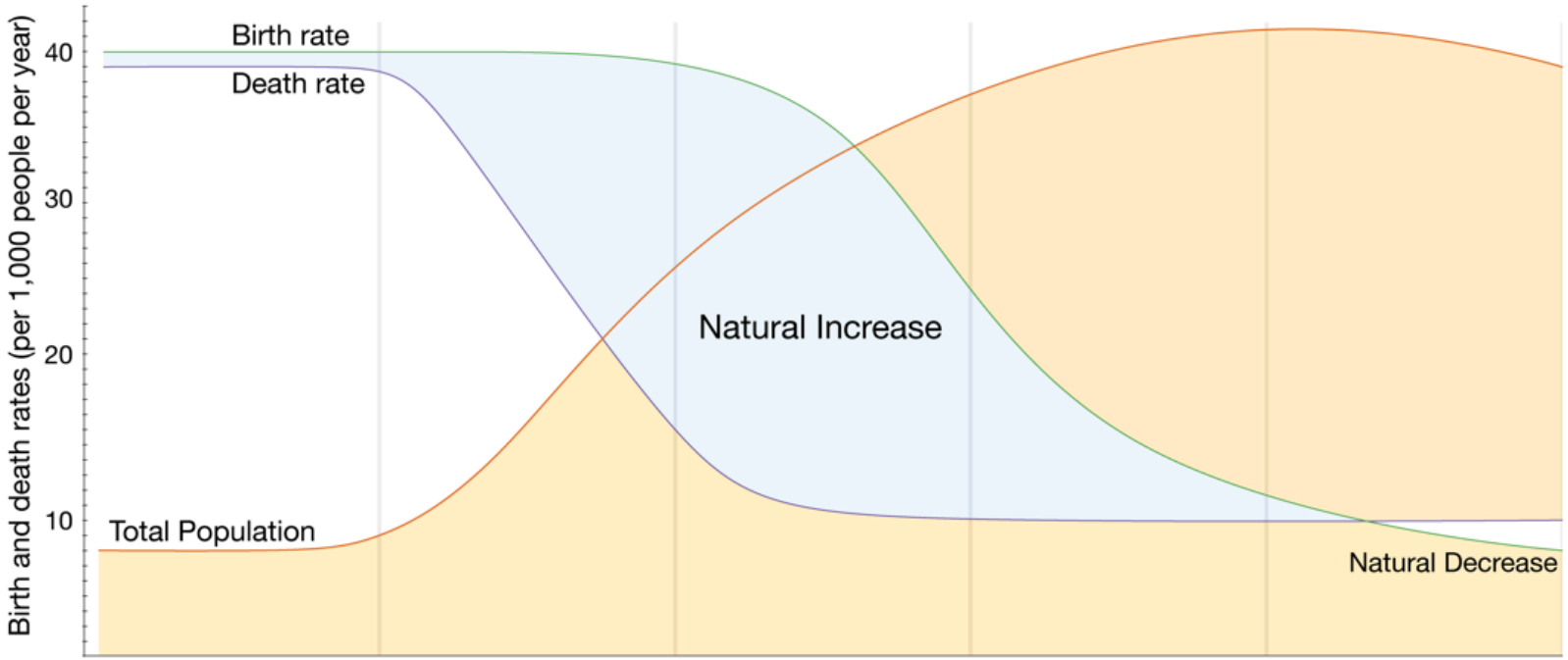
Demographic transition



	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Birth rate	*High*	*High*	*Falling*	*Low*	*Very low*
Death rate	*High*	*Falls rapidly*	*Falls more slowly*	*Low*	*Low*
Natural increase	*Stable or slow increase*	*Very rapid increase*	*Increase slows down*	*Stable or slow increase*	*Stable or slow decrease*

Examples in the world

- Transition began in 1700 and later in Europe
- Not complete in most less developed countries (LDCs)
  - Many African and Middle Eastern countries are early in Stage 3
  - Some in Latin America are moving toward Stage 4, also the U.S.
  - These variations change population distribution
- Beginning of 20th century
  - Majority of population resided in more developed countries
- Throughout 20th century
  - High population growth and reversal of population distribution
- In 2014, of the world population
  - Over 83% (~6 billion) lived in LDCs
  - Under 17% (~1.2 billion) lived in more developed countries
- 21st century
  - Share of LDC population will increase

Source: Poston, Bouvier, 2017.

Second demographic transition

- Introduced by Dirk van de Kaa (1987) and Ron Lesthaeghe (1995, 2006, 2009, 2010)
- Further fertility declines are due to demographic behaviors such as
  - Increasing age at first marriage
  - Increases in cohabitation
  - Increases in divorce
  - Emergence of same-sex partnerships and marriages
  - Increasing rates of nonmarital childbearing
  - Voluntary childlessness

Source: Poston, Bouvier, 2017.

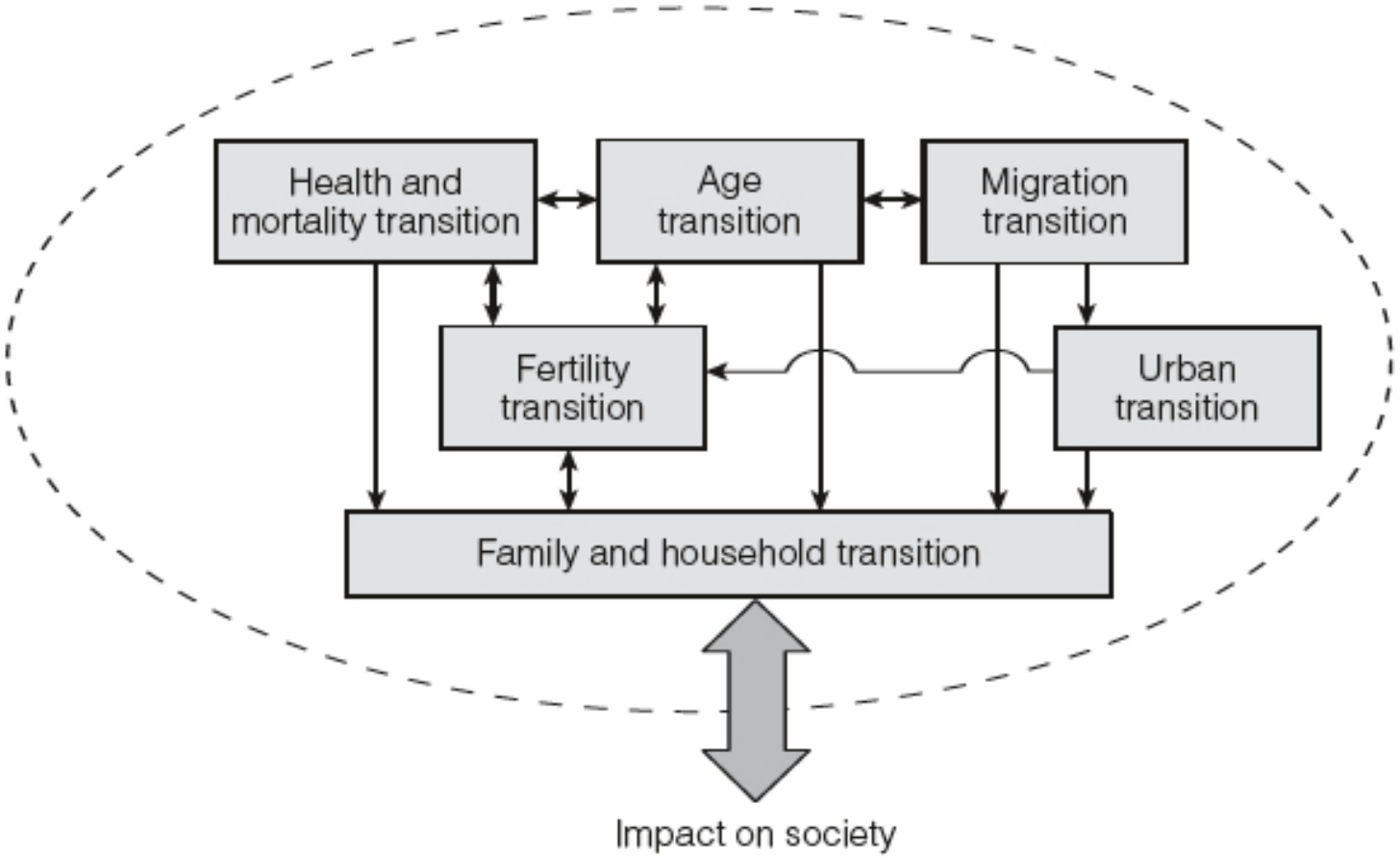
Third demographic transition

- David Coleman (2006) further expanded demographic transition theory
  - Increasing tendency of low fertility countries relying on immigration to maintain their populations
  - This changes composition of national populations, culture, physical appearance, social experiences, self-perceived identity
  - e.g. United States, Western Europe

- Daniel Lichter (2013): children of immigrants are the vanguard of the third demographic transition that will remake the United States

Source: Poston, Bouvier, 2017.

Demographic transition is a set of transitions



Several transitions

- Health and mortality transition
  - Shift from deaths at younger ages due to communicable disease to deaths at older ages due to degenerative diseases
- Fertility transition
  - Shift from natural (and high) to controlled (and low) fertility
- Migration transition
  - Growth in the number of young people in rural areas will lead to an oversupply of young people looking for jobs
  - This encourages people to leave in search of economic opportunity in urban areas (urbanization)

Several transitions

- Age transition
  - Changing numbers/percentages of people at each age and sex, as mortality and fertility decline, and as migrants flow
  - “Master transition” because it forces changes in societies
- Urban transition
  - It begins with migration from rural to urban areas
  - It changes into urban “evolution” as most humans are born in, live in, and die in cities
  - Migration to suburbs and mid-sized cities
- Family and household transition
  - Diversity in composition and structure, due to longer life, lower fertility, older age structure, urban residence

Fertility theories

- Wealth flows theory
- Human ecological theory
- Political economic theory

Source: Poston, Bouvier, 2017.

Wealth flows theory

- John Caldwell (1976)
- Fertility patterns depend on the intergenerational flows of wealth and services
  - **When flows run from children to their parents**, parents will want to have large families
  - **When flows run from parents to their children**, parents will want to have small families
  - The “emotional” nucleation of the family is crucial for lower fertility
  - Parents become less concerned with ancestors and extended family than with children and grandchildren

Source: Poston, Bouvier, 2017.

Human ecological theory

- Macro-level perspective (Poston and Frisbie)
  - Focus on societies, not individuals
  - The level of organization and complexity of a society is negatively related with fertility growth
  - **High fertility** makes a population vulnerable to environmental, technological, and other kinds of societal changes and fluctuations
    - Large quantities of sustenance are normally consumed by the familial and educational institutions
  - **Low fertility** enables more sustenance to be available for investment back into the system

Source: Poston, Bouvier, 2017.

Political economic theory

- It is not a fertility theory per se
  - It is an investigative framework, analytic perspective
  - This framework is multileveled: macro and micro
  - Quantitative and qualitative analyses
- E.g., Casalecchio, Italy (Kertzer, Hogan 1989)
  - Life-course perspective: changes throughout the 19th and 20th centuries, using individual-level data
  - Historical events: labor and marriage patterns
  - Fertility reduction depends on social class or occupation of families (macro)
  - These macro factors varied through different classes of people (micro)

Source: Poston, Bouvier, 2017.

Health and mortality transition

- Health and death
  - Morbidity: prevalence of disease in a population
  - Mortality: pattern of death

- Epidemiological transition theory (Omran 1971)
  - Change from prevailing poor health (high morbidity) and high death rates (high mortality)
    - Most people dying at younger ages from communicable and infectious diseases
  - To prevailing good health (low morbidity) and low deaths rates (low mortality)
    - Most people dying at older ages from degenerative diseases

Demographic theory of mortality

(Omran 1971)

- First stage: age of pestilence and famine
  - Influenza, pneumonia, smallpox, tuberculosis...
  - High infant and childhood mortality
  - Average life expectancy between 20 and 40 years
  - In developed countries, lasted until around 1875

- Second stage: age of receding pandemics
  - Mortality declines due to improvement in sanitation, standard of living, and public health
  - Average life expectancy between 30 and 50 years
  - In developed countries, between 1875 and 1930

Source: Poston, Bouvier, 2017.

Demographic theory of mortality

(Omran 1971)

- Third stage
  - Era of degenerative and manmade diseases
    - Heart disease, cancer, stroke...
  - Mortality declines due to medical advances in prevention and treatment of infectious diseases
  - Life expectancy exceeds 70 years
    - Fertility is the primary factor in population growth
- Fourth stage (Rogers, Hackenberg 1987)
  - Hybristic stage
  - Individual behavior and lifestyle influence mortality
    - Social pathologies: accidents, alcoholism, suicide, homicide...
    - Lifestyle issues: smoking, diet...

Source: Poston, Bouvier, 2017.

Migration terms

- **Internal migration:** permanent changes in residence that occur within a country
- **International migration:** permanent changes in residence that occur between countries

Areas	**Internal migration (within countries)**	**International migration (between countries)**
Receiving areas (destination)	In-migration	Immigration
Sending areas (origin)	Out-migration	Emigration

Factors involved on migration

- Fertility and mortality occur in response to biological/genetic and social factors
  - E.g., women have children due in part to her fecundity (biological) and education (social)

- Migration has no biological factors
  - A person migrates due to factors in the physical and social environments at areas of origin and destination
  - Personal/individual factors can also influence migration

Source: Poston, Bouvier, 2017.

Why do people move?

- Migration happens in response to a reason that the person believes cannot be satisfied in the current residence
- The study of migration determinants dates back to classical economic development theory
  - Migration is considered to be a mechanism that establishes regional spatial-economic equilibrium (Ravenstein 1885, 1889)
- Migrants move from low income to high-income areas
  - From densely to sparsely populated areas
- Population streams are expected to occur between the poorest and wealthiest places and countries

Laws of migration

(Ravenstein, 1885, 1889)

- Migration is affected by distance
  - Most migrants move only short distances
- Migrants often move in stages
  - As they leave one area, their places are filled by migrants from more distant areas
- Every migration stream has a compensating counterstream
- Migrants moving long distances often stop, temporarily, at major cities or centers of commerce
  - Located between the area of origin and the intended final area of destination
- Urban residents are less likely to migrate than rural residents

Intervening obstacles

- Migration is due not only to a person calculating advantages and disadvantages of areas of origin and destination
- Intervening obstacles must be considered
  - Distance
  - Income, job opportunities
  - Destination characteristics
  - Physical barriers and costs, migration laws
  - Information about alternative localities
  - Personal characteristics
  - Individual expectations
  - Community and kinship ties

Source: Poston, Bouvier, 2017.

Migration theories

- The following migration theories are compatible
- They are influenced by individual factors
  - Age, sex, education, race/ethnicity, social network...
- They are also influenced by contextual factors
  - Characteristics in the areas of origin (push factors) and destination (pull factors) that facilitate migration

Source: Poston, Bouvier, 2017.

Push and pull factors

- Question of who migrates depends on push-pull factors
- **Push factors of migration (origin)**
  - Loss of a job, poverty, violence, discrimination, low availability of social and life partners, catastrophes (floods, epidemics...)
- **Pull factors of migration (destination)**
  - Employment, education, income, better climate and living conditions, different types of activities
- Migration as a **response to push factors**
  - Migrants tend to be “negatively” selected
  - They are often poorly educated or unskilled
  - The area of origin is changed positively
- Migration as a **response to pull factors**
  - Migrants tend to be “positively” selected
  - They are often more educated, innovative
  - The area of origin loses a valuable segment of the population

Internal migration theories

- Neoclassical migration theory
- New economics of labor migration
- Spatio-temporal migration theories
- Structuralism (neo-Marxist, center-periphery)
- Sociological human ecology

Neoclassical migration theory

- Neoclassical economic theory sees migration primarily as a function of geographical differences in the relatively scarcity of labor
  - Rural-urban migration continues if **expected** urban income exceeds rural income (Todaro 1969, 1980; Harris, Todaro 1970)
  - Migration is a result of **individual** decisions
  - This framework is also known as functionalist theory
- Migration causes labor to become less scarce at the destination and scarcer at the origin
  - This process will result in growing convergence between wages at the sending and receiving areas

New economics of labor migration

- NELM argues that most migration in developing countries can only be understood as a **household** rather than individual decision
  - Migration decision generates income diversification (e.g., remittances) rather than maximization
  - It is a conscious attempt to overcome failing markets and socio-economic inequalities

- NELM is a **micro-level** theory applied to particular forms of migration
  - It is not able to explain long-term global migration patterns and trends and how these are connected to broader development processes

Spatio-temporal migration theories

- Spatio-temporal transition migration theories define migration as a constituent part of broader **development processes**
  - Development processes tend to coincide with increased levels of migration and overall mobility
- These processes are associated with
  - Modernization
  - Capitalist economic development
  - Urbanization
  - Demographic transitions

Structuralism

- Structuralism (neo-Marxist, center-periphery) criticizes functionalist theory (neo-classical, push-pull)
  - Structuralism sees a general pattern of disruptions, dislocations, and migrations intrinsic to capitalism
  - Functionalist assumes socioeconomic forces tend towards equilibrium through migration
- However, they share these assumptions
  - More development leads to less emigration
  - Higher development differences across areas (spatial disequilibrium) leads to more migration

Sociological human ecology

- Ecological theory of migration focus on population characteristics to predict migration
  - Why some areas increase through migration?
  - Why some areas decrease through migration?
  - Why some areas are not influenced by migration?
  - It does not ask why individuals move
- Migration is the major mechanism of social change and adaptability for human populations
  - Populations redistribute themselves via net migration to attain equilibrium
- Based on interdependence of four concepts
  - Population, organization, environment, technology

Source: Poston, Bouvier, 2017.

International migration theories

(Massey et al. 1994)

- Initiation of international migration
  - Neoclassical economics
  - The new household economics of migration
  - Segmented labor market theory
  - World systems theory

- Continuation of migration
  - Network theory
  - Institutional theory
  - Cumulative causation

Initiation of international migration

(Massey et al. 1994)

- Neoclassical economics
  - Supply-demand framework
- The new household economics of migration
  - Diversify income sources: remittances
- Segmented labor market theory (demand-driven)
  - Primary sector: well-educated, good salary, benefits
  - Secondary sector: low wages, unstable, usually rejected by natives
- World systems theory
  - Peripheral countries are most likely to send migrants to core nations

Neoclassical economics

- The neoclassical economic theory of international migration is the oldest and best-known
- It focuses on labor migration
- Migration occurs due to individual cost-benefit decisions to maximize expected incomes
- People move from low-wage countries to high-wage countries

Source: Poston, Bouvier, 2017.

New household economics

- The new household economics theory of migration challenged the neoclassical theory

- Migration decisions are influenced by
  - Isolated individuals
  - As well as by larger units: families and households

- Migration happens to
  - Increase individual earnings
  - As well as to minimize household risks and protect family from market failures

Source: Poston, Bouvier, 2017.

Segmented labor market theory

- Migration flows are a result of the demands of the economic structure of industrial societies
  - Caused by push-pull factors

- Capitalism divides labor markets into two sectors
  - This theory is also known as dual labor market theory
  - Primary: secure jobs, high pay, generous benefits, good working conditions
  - Secondary: instable jobs, low pay, limited benefits, unpleasant or hazardous working conditions
  - Employers use migrants to fill jobs in secondary sector

Source: Poston, Bouvier, 2017.

World systems theory

- Migration is the result of globalization of the market economy
- In the process of global industrialization
  - Population is released from traditional industries: farming, state-owned industries, handicrafts
  - This creates a mobilized population to move both internally and internationally
- Global market economy attracts employees with higher human capital to specific global cities
  - Human capital: knowledge, experience, skills, education, productivity of an employee
  - Examples of global cities: NYC, LA, Chicago...

Source: Poston, Bouvier, 2017.

Continuation of migration

(Massey et al. 1994; Massey, Espinosa 1997)

- Network theory
  - Migrants establish interpersonal ties
  - Once started, migration sustains itself through diffusion
- Institutional theory
  - Institutions facilitate or profit from the continued flow of migrants
  - Organizations help perpetuate migration in the face of government attempts to limit the flow of migrants
- Cumulative causation
  - Migration has an impact on social environments of sending and receiving regions

Network theory

- Migration network theory focuses on interpersonal ties
  - These ties connect migrants, formal migrants, potential migrants, and non-migrants in the origin and destination countries

- Networks increase the likelihood of migration
  - They decrease migrant risks and costs
  - They increase net earnings to migration
  - They make it easier for migrants to find jobs and access resources in destination

Source: Poston, Bouvier, 2017.

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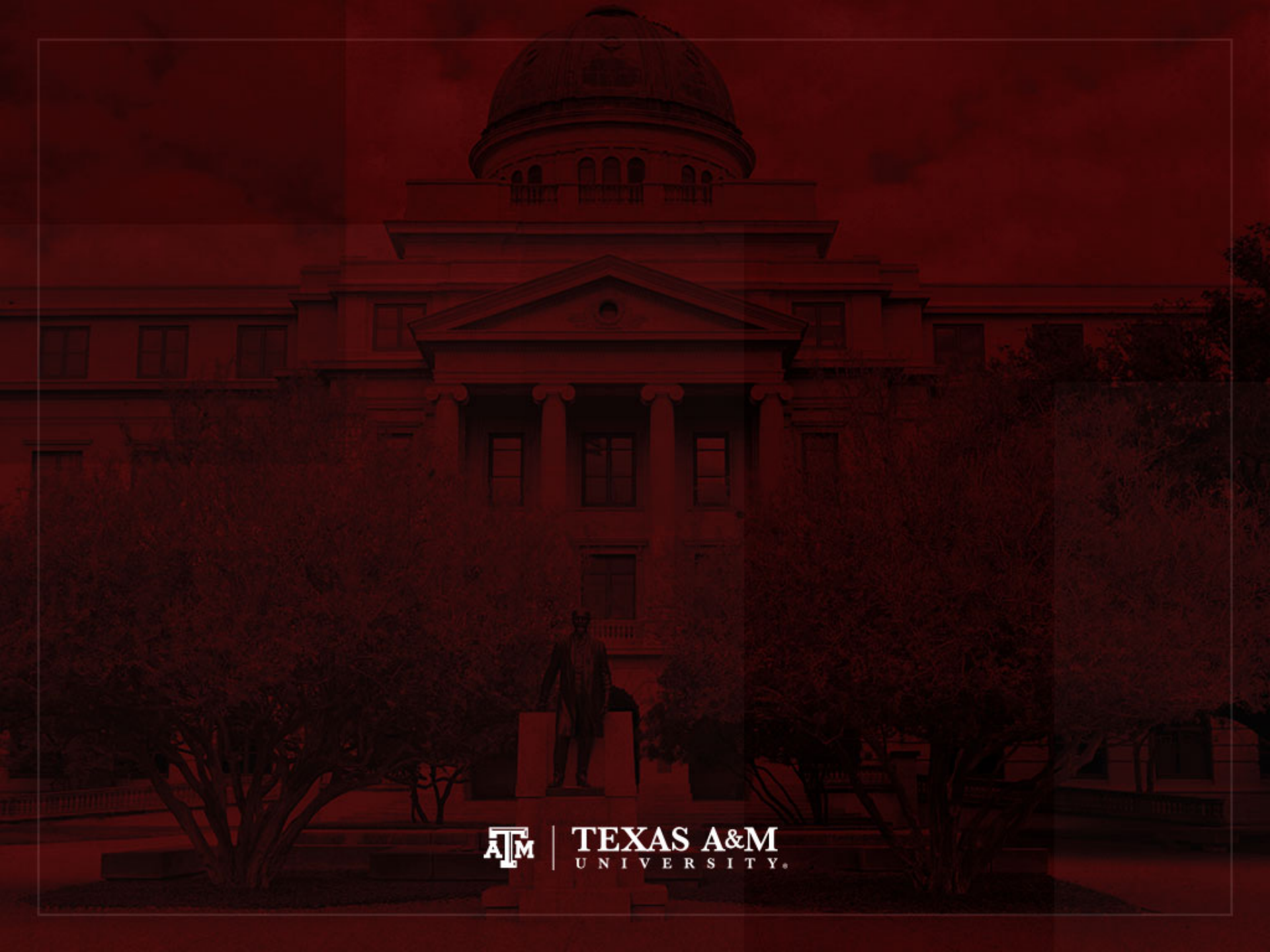
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