Internal migration

Ernesto F. L. Amaral

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www.ernestoamaral.com

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Outline

- Introduction
- Concepts and definitions
- Measures of migration
- Domestic migration in the United States
- Analysis of spatial association
- Temporary (“floating”) migration in China

Introduction

- Besides fertility and mortality, the third way that populations change their size is through migration
- The size of the population decreases in the **area of origin** and increases in the **area of destination**
- Unlike the former events, the event of migration may occur on multiple occasions or never occur during our lifetime

Mover and migrant

- Any person who changes his/her residence is a **mover**
  - Not all movers are migrants, because a person can move within the same community without involving the crossing of a political boundary
  - All migrants are movers because the residential movement of a **migrant** involves the move of at least a county-level jurisdictional boundary
  - Census Bureau demographers have estimated that a person in the United States may move around 12 times in one's lifetime

Types of migration

- **International migration**
  - Move between countries (either legally or without documentation)
- **Internal migration**
  - Move within national boundaries (usually without constraint, but not always)

Types of internal migrants

- **In-migration**
  - Residential migration of persons moving into an area of destination
- **Out-migration**
  - Residential migration of persons leaving an area of origin
- **Return migration**
  - Residential migration of persons moving back to their area of origin during their life course

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

Permanence

- Permanent change of residence
  - Residential mobility
  - Moving a great enough distance that all activities are transferred from one place to another

- A permanent residential move either local or jurisdictional is usually defined as “a change in residence, lasting at least a year in duration”
  - “Permanence” usually means that someone has been gone at least one year from the old place of residence

Distance

- Internal migration is a geographical move resulting in a change of residence that crosses a political or jurisdictional boundary

- "Distance moved" in the U.S.
  - The Census Bureau defines a migrant as a person who has moved to a different county within the U.S.
  - From the standpoint of a local school district, for example, a migrant would be someone moving into or out of the school district's boundaries

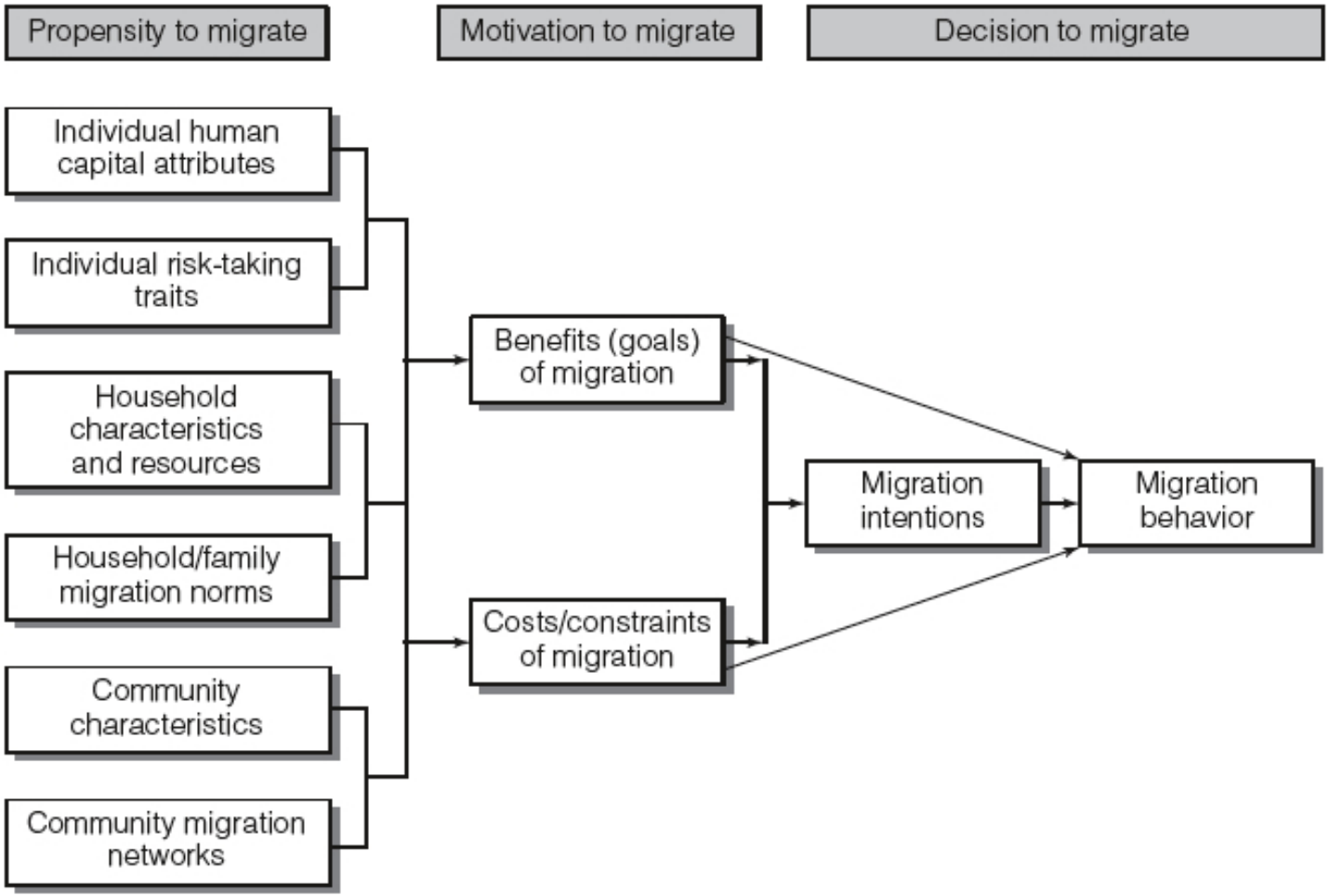
Migration transition

- The permanent movement of people from one place to another
- Usually in response to resource scarcity in the area of origin, typically caused by population growth, relative to perceived resources in the destination area
- It is closely related to the urban transition, because most migrants are moving to urban areas, no matter where they are from

Migration evolution

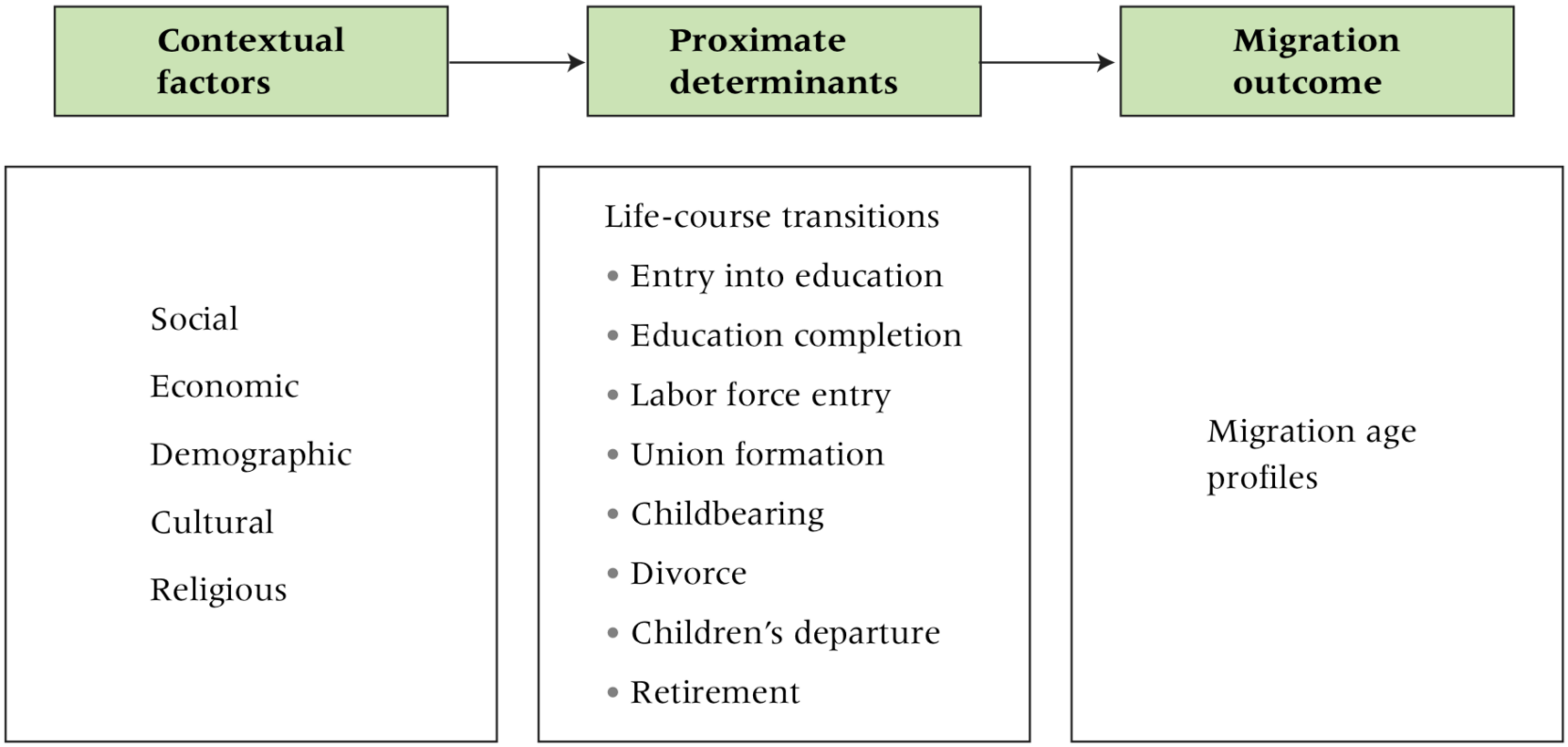
- Over time internal migration is a story of rural population growth leading to a redundancy of that population, so people look for jobs and life elsewhere
- When the population is almost entirely urban (as in the U.S. and most of western Europe), people move between urban places
  - We might call this process as **migration evolution**, influenced especially by individual characteristics

Conceptual model of migration decision making



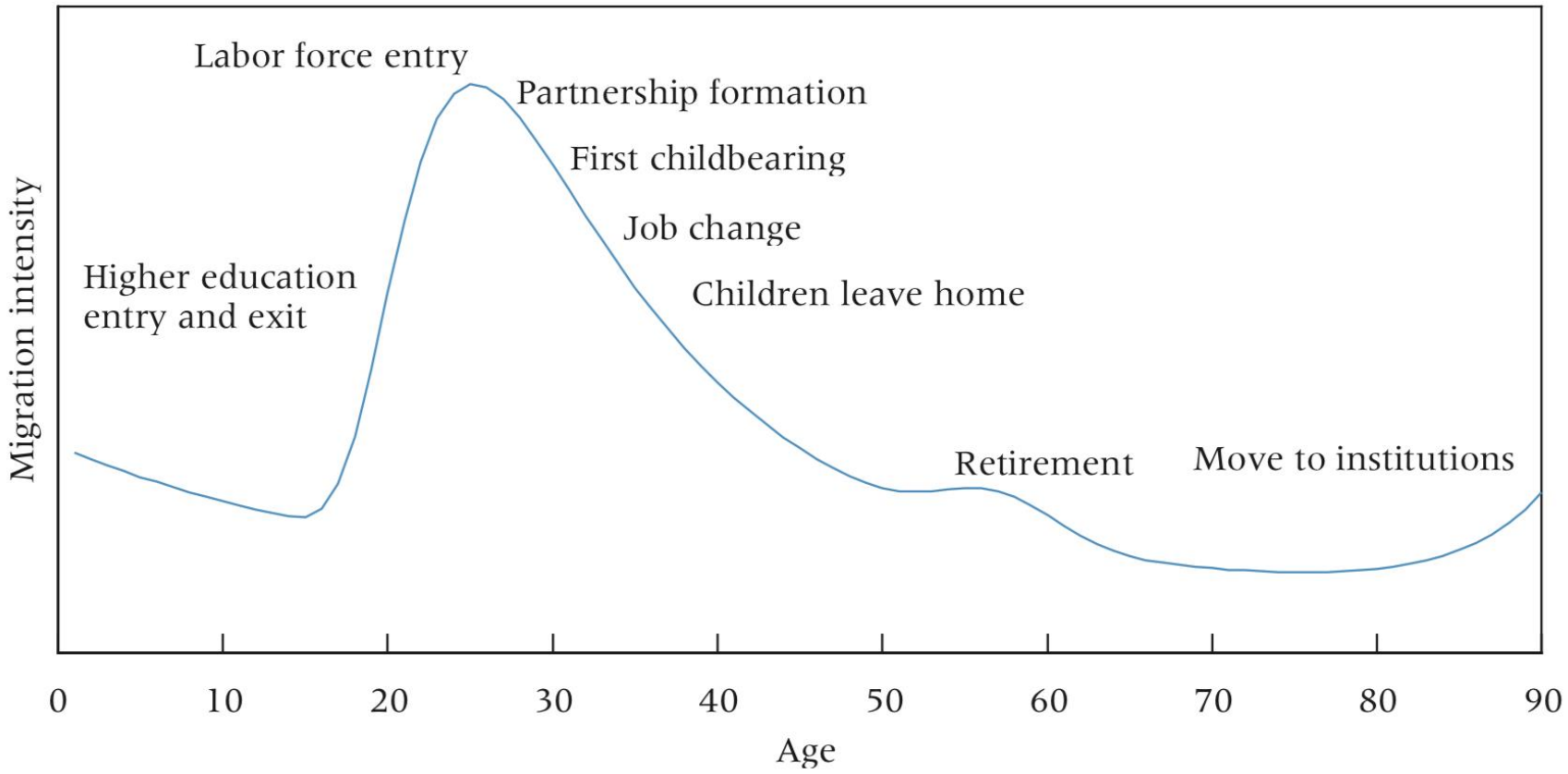
Proximate determinants

FIGURE 3 Proximate determinants of migration age profiles



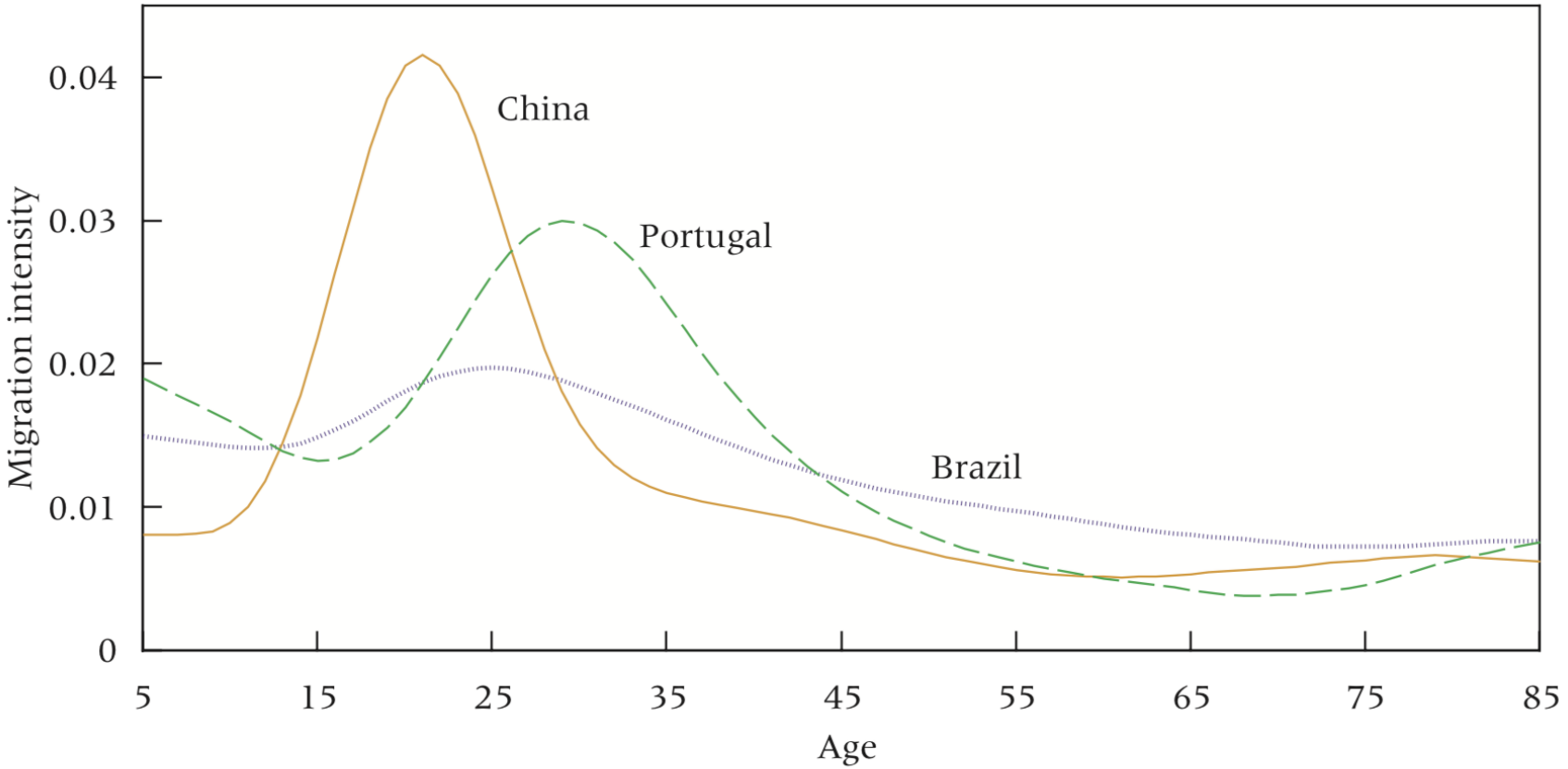
Source: Bernard, Bell, Charles-Edwards 2014, p.217.

FIGURE 1 Typical age profile of migration and key life-course transitions



Source: Bernard, Bell, Charles-Edwards 2014, p.215.

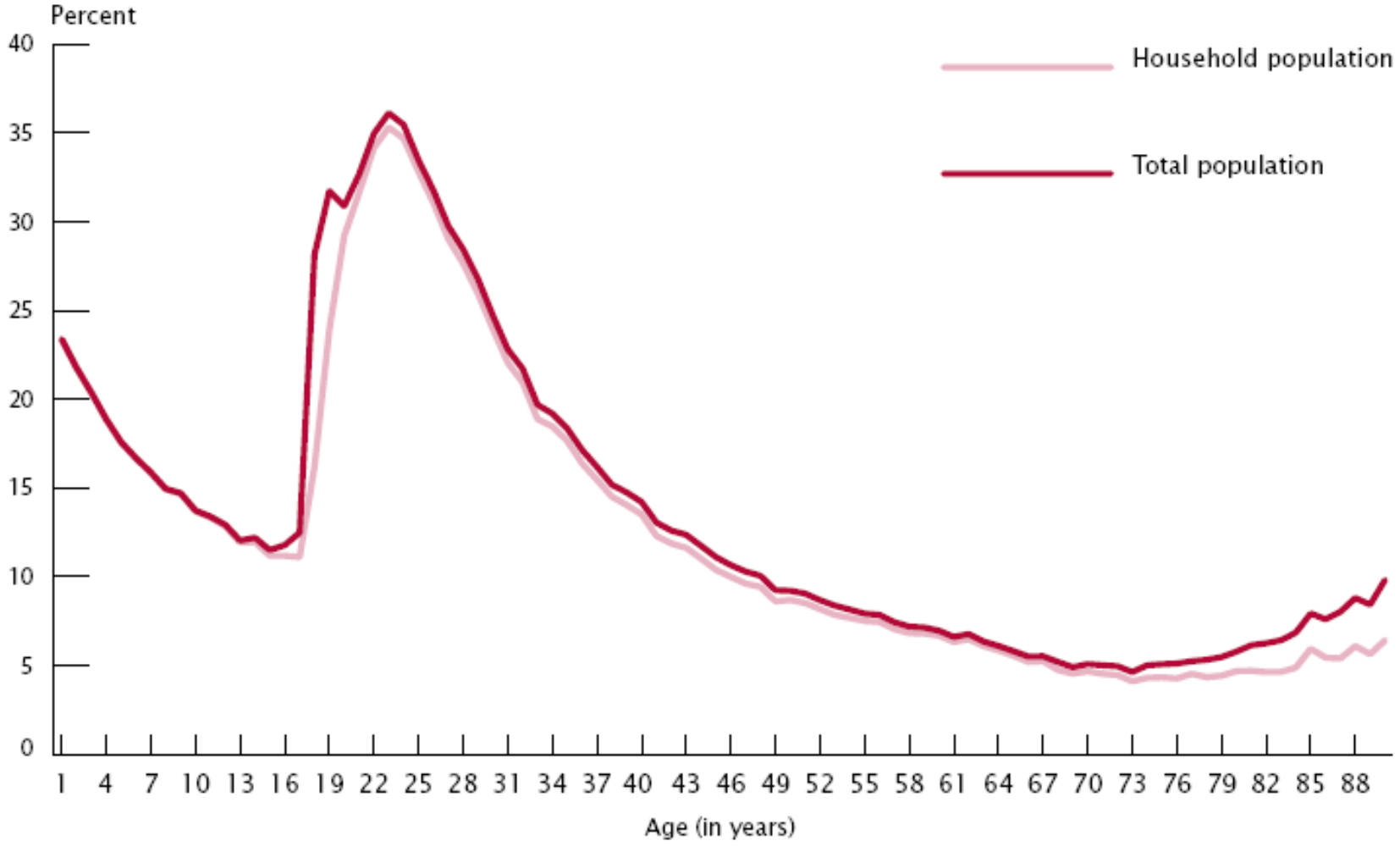
FIGURE 2 Cross-national variations in migration age profiles



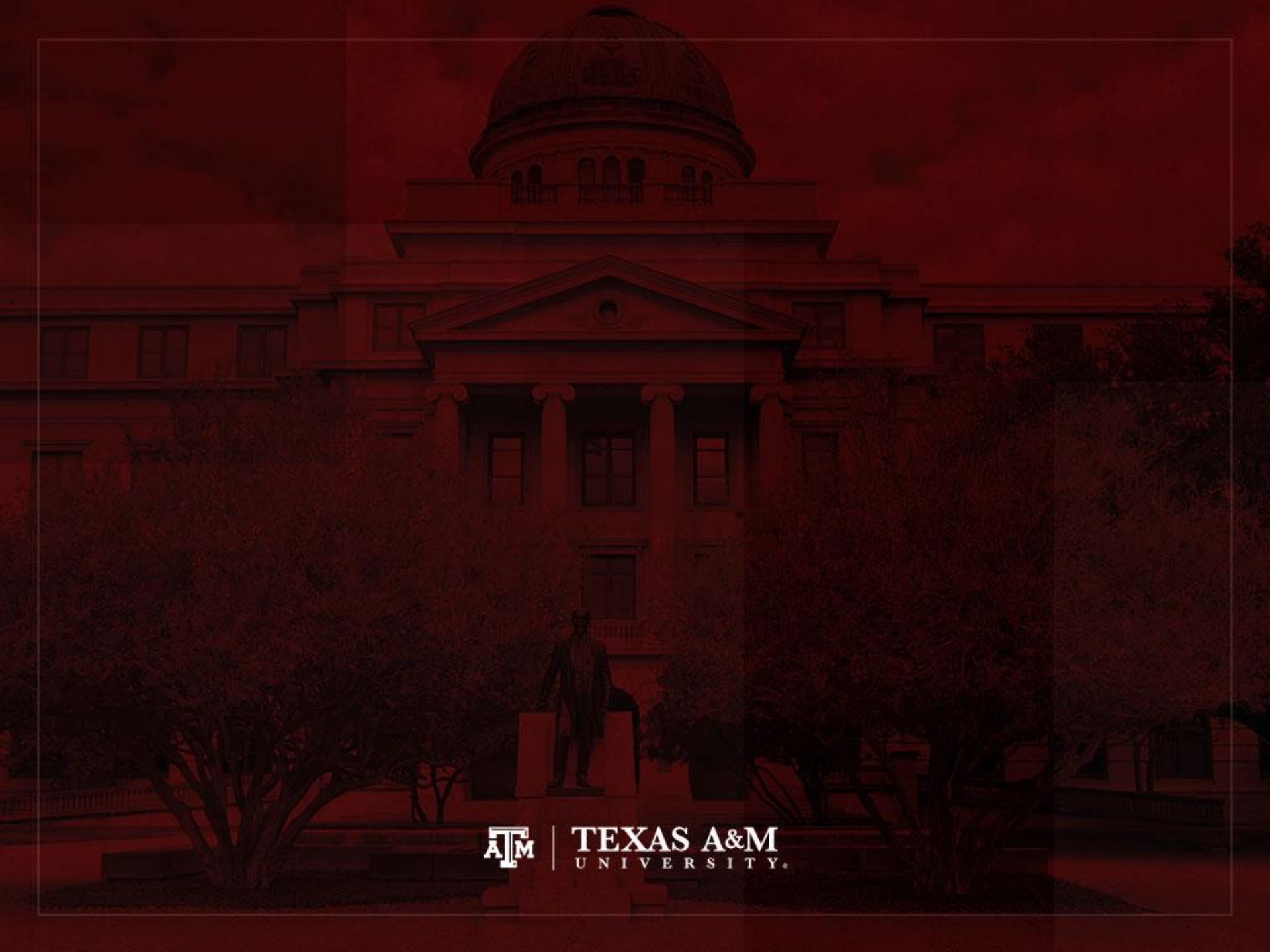
SOURCE: Authors' calculations based on five-year-interval migration data reported by single-year age groups. Migration data were normalized to sum to unity and smoothed using kernel regression (Bernard and Bell 2012).

Source: Bernard, Bell, Charles-Edwards 2014, p.216.

Age-specific Rates of Residential Mobility, United States, 2008-2009



Source: Ihrke, Faber and Koerber, 2011: 4.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Concepts and definitions

- Flows and stocks
- Stream and counterstream
- Migration interval
- Migration selectivity
- Effects of migration

Flows and stocks

- Migration transition involves a process and a transformation
- Migration flow: process of people moving from one place to another within a specific period
  - People moving from one place to another within a specified time interval
- Migration stock: transformation caused in areas of origin and destination as people move into and out given of places
  - Amount of migrants in areas of origin and destination at a specific time after previous population flows

Stream and counterstream

- **Migration stream**
  - Group of migrants having a common area of origin and a common area of destination during a specified migration interval

- **Migration counterstream**
  - It is usually smaller in size, moves in the opposite direction as the migration stream during the same time interval

Migration interval

- A **migration interval** is a temporal dimension of migration defined by the researcher

- Time between two events, namely the time of arriving at the area of destination and the time of departing the area of origin

Migration selectivity

- The migration process is selective
  - Not everyone stays and not everyone moves
- Migration is usually related to sociodemographic characteristics
  - Age
  - Education
  - Occupation
  - Race/ethnicity
  - Sex
  - Socioeconomic status...

Migration by age

- Young adults (18–29) are more likely to move than anyone else
  - Reasons are related to school, employment, and marriage
- People 40+ are much less likely to move
  - Older people are more likely to stay in an area

Migration by education

- Highly educated people are more likely to migrate
- The farther the move, the more likely education will play a major role in the decision of moving

Migration by occupation

- White collar workers are the most mobile occupational group
- Farm and service workers are the least mobile
- Manual workers are more likely to move locally
- People who are not in the labor force are also likely to move

Selectivity by push-pull factors

- Migrants tend to be positively selected
  - When they are responding to positive pull factors in the area of destination
  - Such as economic growth and high employment rate

- Migrants tend to be negatively selected
  - When they are responding to negative push factors in the area of origin, such as economic stagnation
  - These migrants are less likely to have higher socioeconomic status than those responding to pull factors

Effects of migration

- Population movements have effects on the places of origin and destination

- Migration has effects on individuals and populations
  - It affects movers and non-movers
  - It impacts areas of origin and destination

Effects on individuals

- There are major effects of migration on individuals
  - They depend on whether social, economic, political, and physical characteristics of the area of destination are more favorable than those of the area of origin
- These effects usually depend on
  - Migrant's personal experiences
  - Whether migrant possesses the right skills to adapt to the new area
  - Whether migrant is readily accepted

Effects on areas of origin

- Areas of origin (donor, sending) are affected by the number and type of migrants moving out
  - A large out-migration will significantly slow down an area's potential population growth
  - These areas typically lose young adults, while the population staying is largely elderly
  - This can affect economic growth and development

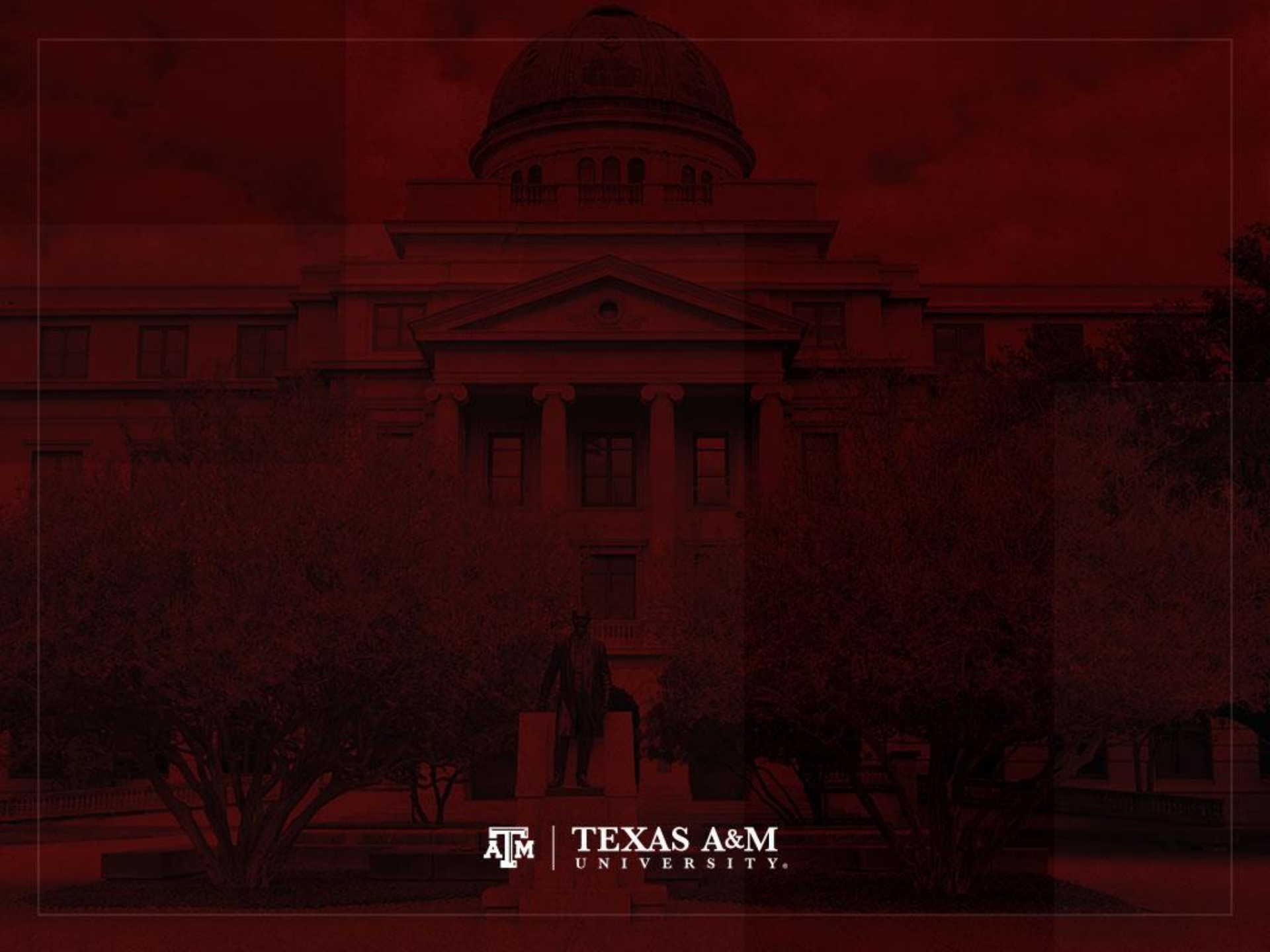
- Remittances from migrants back to sending communities
  - Important to the economies of those places and encourage continued migration

Effects on areas of destination

- Areas of destination (host, receiving) tend to gain more young adults, which can
  - Increase population growth
  - Augment youth bulges
  - Induce economic development

Direct and indirect effects

- Two ways that in-migration contributes to the increase of population in the area of destination
  - Net number of in-migrants constitutes a **direct** effect of population increase
  - Number of children born to the in-migrants after their arrival is the **indirect** effect
- Magnitude of effects
  - Magnitude of **direct** effect depends on the relative size of migrants, compared to receiving population
  - Magnitude of **indirect** effect depends on the relative levels of reproductive behavior of migrants, compared to receiving population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Measures of migration

- Some difficulties in measuring migration are not encountered when analyzing fertility or mortality
  - Births and death are registered at the time of occurrence
  - In most countries, the residential move of a person is not registered at the time of occurrence
  - Few countries (e.g., China and Scandinavian countries) required people to register with the government when they move
- It is necessary to rely on other types of data

Migration data in the U.S.

- American Community Survey (ACS) uses two items that were previously part of the decennial censuses
  - State of birth
  - Place of residence one year prior to the date of ACS (April 1st)
    - Up to the 2000 Decennial Census, there was a question about place of residence five years prior to the date of the Census (April 1st)
- Administrative data
  - Internal Revenue Service (IRS) tax returns data

ACS & IRS migration data

- ACS has more detailed information about socioeconomic and demographic characteristics
- IRS sample size is much larger than ACS

Comparison between American Community Survey and IRS county-to-county migration data

Issue	ACS Migration Products	IRS Migration Data
Sample size	Approximately 2 million households per year	116 million+ households
Data universe	Sample is all US households	Universe is tax-filing households
Coverage period	2005–2016	1990–2016
Time period reported	Five-year average	Annual
Demographic characteristics	Each five-year product reports different sociodemographic characteristics (e.g., 2010–2014 contains relationship, household type, and tenure, 2011–2015 contains age/sex/race/Hispanic origin	No demographic characteristics

Source: Hauer, Byars 2019.

Migration status

- Generate migration status using information on
  - State of birth
  - Place of residence at the enumeration time
  - Place of residence five years (or one year) before the enumeration date

Examples of migration categories

- Non-migrants (natives)
  - Living in a given state and born there
- Lifetime migrants
  - Living in a given state, but born somewhere else
  - Born in a given state but living in some other state
- Recent migrants
  - People who moved into the state of current residence within the past five years (Census) or one year (ACS)

Caution with migration data

- People could have moved from and back a state several times between birth and the time of enumeration

- The same caution applies to measuring migration five years prior to the enumeration date

Net-migration & Gross-migration

- When we subtract the number of out-migrants from the number of in-migrants of a given geographical area, we get **net-migration**

  Net-migration = In-migrants – Out-migrants

  – The net balance could be positive, negative or zero

- When we add the in-migration and out-migration of an area, we get the **gross-migration**

  Gross-migration = In-migrants + Out-migrants

Migration efficiency

- When we divide an area's net-migration by its gross-migration, we get **migration efficiency**
  - We say migration is positively efficient for an area, when there has been a lot of in-migration and little out-migration
  - Migration is negatively efficient for an area, when there has been a lot of out-migration and little in-migration
  - When the numbers of in-migration and out-migration are about the same, migration efficiency for the area becomes inefficient

Migration rates and ratios

- In-migration rate (*IMR*)

$$IMR = (I/P) * 1{,}000$$

- Out-migration rate (*OMR*)

$$OMR = (O/P) * 1{,}000$$

- Net migration rate (*NMR*)

$$NMR = [(I–O)/P] * 1{,}000$$

- Gross migration rate (*GMR*)

$$GMR = [(I+O)/P] * 1{,}000$$

- Migration efficiency ratio (*MER*)

$$MER = [(I–O)/(I+O)] * 100$$

Symbols from previous formulas

- "***I***" refers to the number of in-migrants moving into a area (of destination) during a specified time interval (usually 1 or 5 or 10 years)
- "***O***" refers to the number of out-migrants moving out to an area (of origin) during a specified time interval
- "***P***" is the denominator of migration rates, and refers to the midyear or average size of the population of the resident area
  - Demographers use the resident population as the denominator to calculate migration rates

Migration, mortality, and fertility

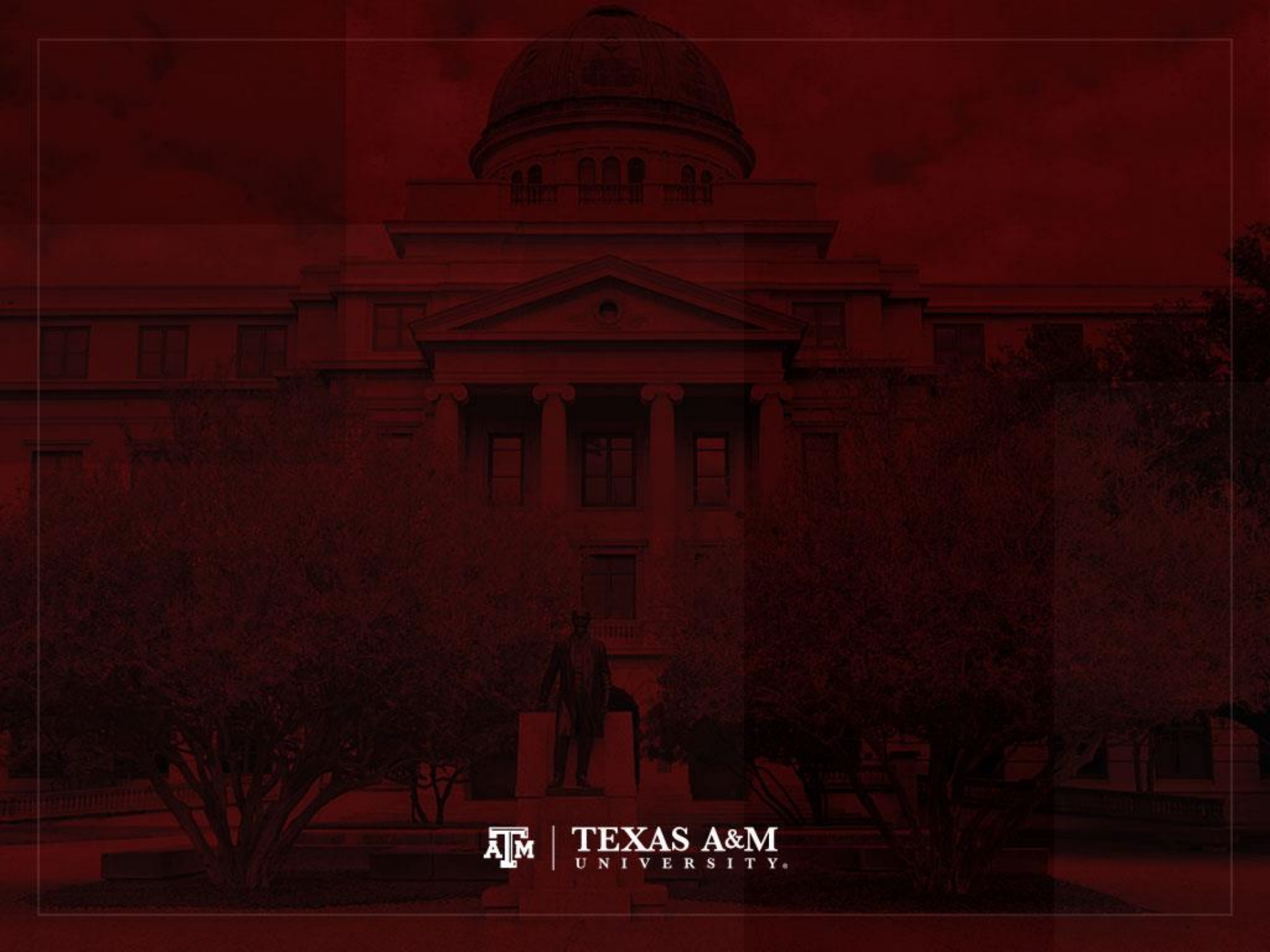
- Out-migration rate (*OMR*) is analogous to the crude death rate (*CDR*)
- In-migration rate (*IMR*) is analogous to the crude birth rate (*CBR*)
- Net migration rate (NMR) is analogous to the rate of natural increase/decrease

State-to-state domestic migration: California, Nevada, New York, and Texas, 2004–2005

	Migration flows			
State	In-migrants	Out-migrants	Gross migrants	Net migrants
California	448,718	717,121	1,165,839	–268,403
Nevada	129,957	103,482	233,439	26,475
New York	226,065	465,913	691,978	–239,848
Texas	503,251	378,709	881,960	124,452

	Migration measures				
State	IMR	OMR	GMR	NMR	MER
California	12.9	20.5	33.4	–7.7	–23.0
Nevada	56.4	44.9	101.3	11.5	11.3
New York	12.2	25.1	37.3	–12.9	–34.7
Texas	23.4	17.6	41.0	5.8	14.1

Source: Koerber, 2007 (from Poston, Bouvier, 2017). Calculations by Dudley L. Poston.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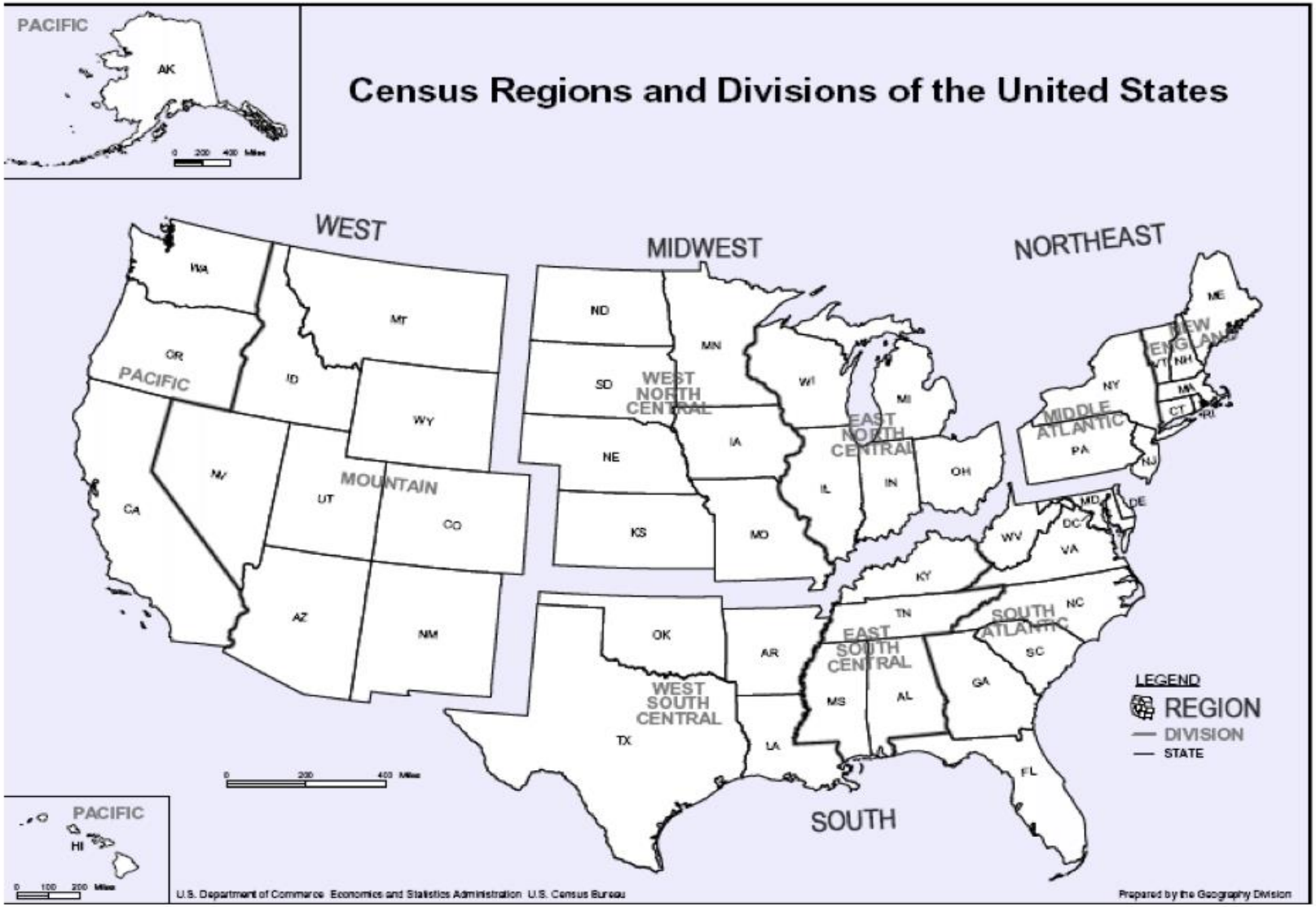
Domestic migration in the U.S.

- During the 19th and early 20th centuries, there was a steady stream of migration settling in western areas beyond the Mississippi River

- Between the late 1800s and 1960s, the South had been the major exporter of people



Source: U.S. Census Bureau: http://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf (accessed April 29, 2016)

Great Migration, 1910–1970

- During the **Great Migration** (1910–1970), over 6 million blacks moved out of the rural South to the Midwest, Northeast, and Pacific Coast

- Almost 90% of African Americans were living in the South in 1900

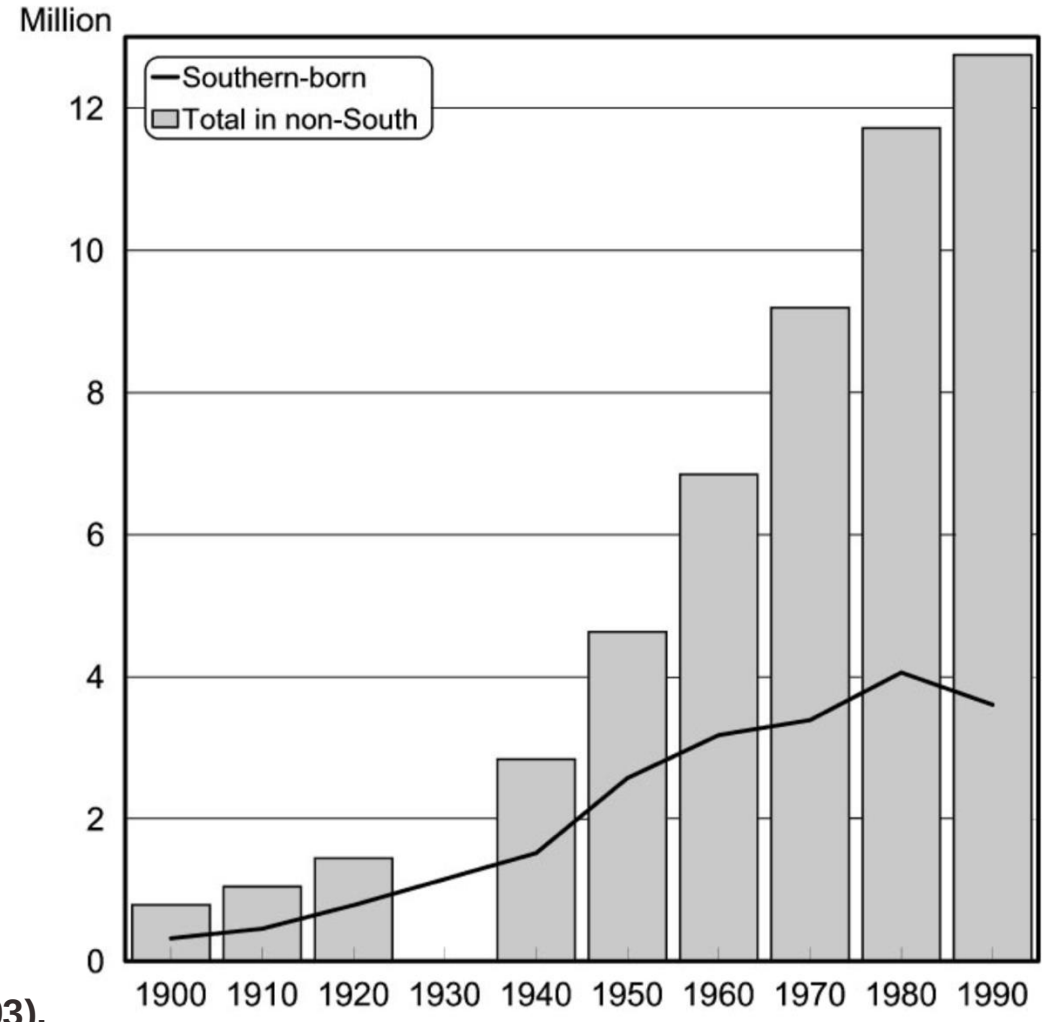
- By 1970, the states of New York, Illinois, and California had received large numbers of African Americans

African American Great Migration

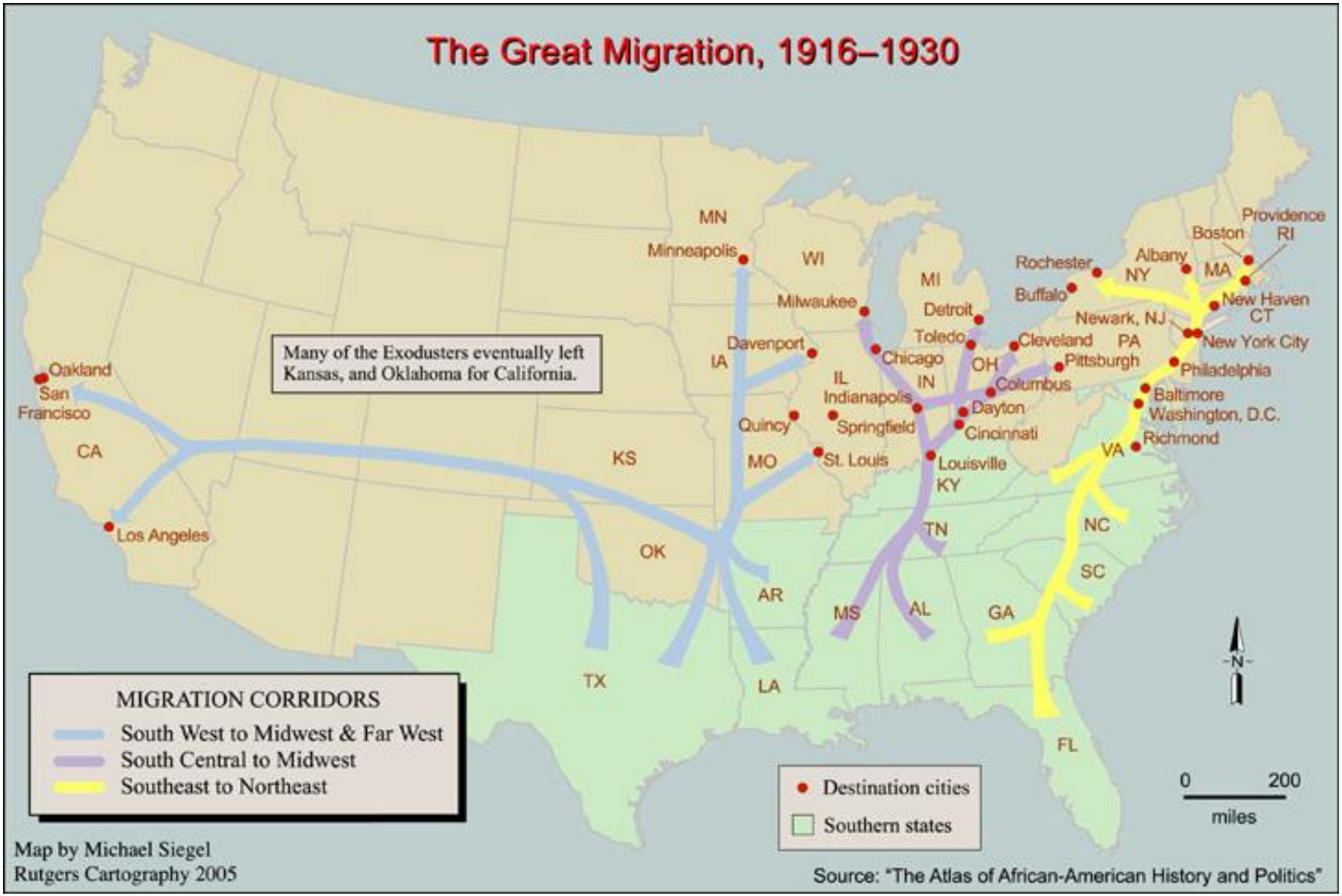
(Tolnay 2003)

- African American Great Migration from the South to the North happened during the 20th century
- African Americans were seeking better socioeconomic opportunities for their families
- This migration contributed to social, economic, demographic, and cultural transformations in northern cities

African Americans in nonsouthern areas



Source: Tolnay (2003).


The Great Migration, 1916–1930
Many of the Exodusters eventually left Kansas, and Oklahoma for California.
MIGRATION CORRIDORS
South West to Midwest & Far West
South Central to Midwest
Southeast to Northeast
Destination cities
Southern states
0 200
miles
N
Map by Michael Siegel
Rutgers Cartography 2005
Source: "The Atlas of African-American History and Politics"
Oakland
San Francisco
CA
Los Angeles
KS
OK
TX
MN
Minneapolis
WI
Milwaukee
IA
Davenport
Quincy
MO
St. Louis
AR
LA
MS
AL
TN
Louisville
KY
IL
Chicago
Indianapolis
Springfield
IN
MI
Detroit
Toledo
OH
Cincinnati
Dayton
Columbus
Cleveland
Pittsburgh
PA
Buffalo
Rochester
NY
Albany
Newark, NJ
New York City
Philadelphia
Baltimore
Washington, D.C.
Richmond
VA
NC
SC
GA
FL
Boston
MA
Providence
RI
New Haven
CT


The Second Great Migration, 1940–1970
Seattle
WA
Portland
OR
Oakland
San Francisco
CA
Los Angeles
Denver
CO
MN
Minneapolis
WI
Milwaukee
IA
Davenport
IL
Chicago
Quincy
MO
St. Louis
MI
Detroit
Toledo
IN
Indianapolis
Springfield
OH
Cleveland
Columbus
Dayton
Cincinnati
Pittsburgh
Louisville
KY
TN
Little Rock
AR
MS
Jackson
AL
Montgomery
GA
Atlanta
Columbia
SC
Charleston
Jacksonville
FL
Houston
TX
LA
New Orleans
Rochester
Buffalo
NY
Albany
Boston
MA
Providence
RI
New Haven
CT
Newark, NJ
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South West to Midwest & Far West
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200
miles
Map by Michael Siegel
Rutgers Cartography 2005
Source: "The Atlas of African-American History and Politics"

Racial and ethnicity hierarchy

(Tolnay 2003)

- Whites also moved to the North in large numbers between 1910 and 1970
- However, whites did not experience disadvantaged positions as blacks in the South
- Segregation and concentration of poverty in the growing northern ghettos, limited residential mobility of African Americans
- This historical process has to be understood in order to further investigate black migration and mobility

Post-Great Migration

(Tolnay 2003)

- After the Great Migration, changes contributed to the desire by black inner-city residents to relocate to the suburbs and to better neighborhoods within the North
- Cross-generational familial and cultural connections contributed for blacks returning to the South
- Only after changes took place in the South, towards socioeconomic and political equality for blacks, return migration became attractive

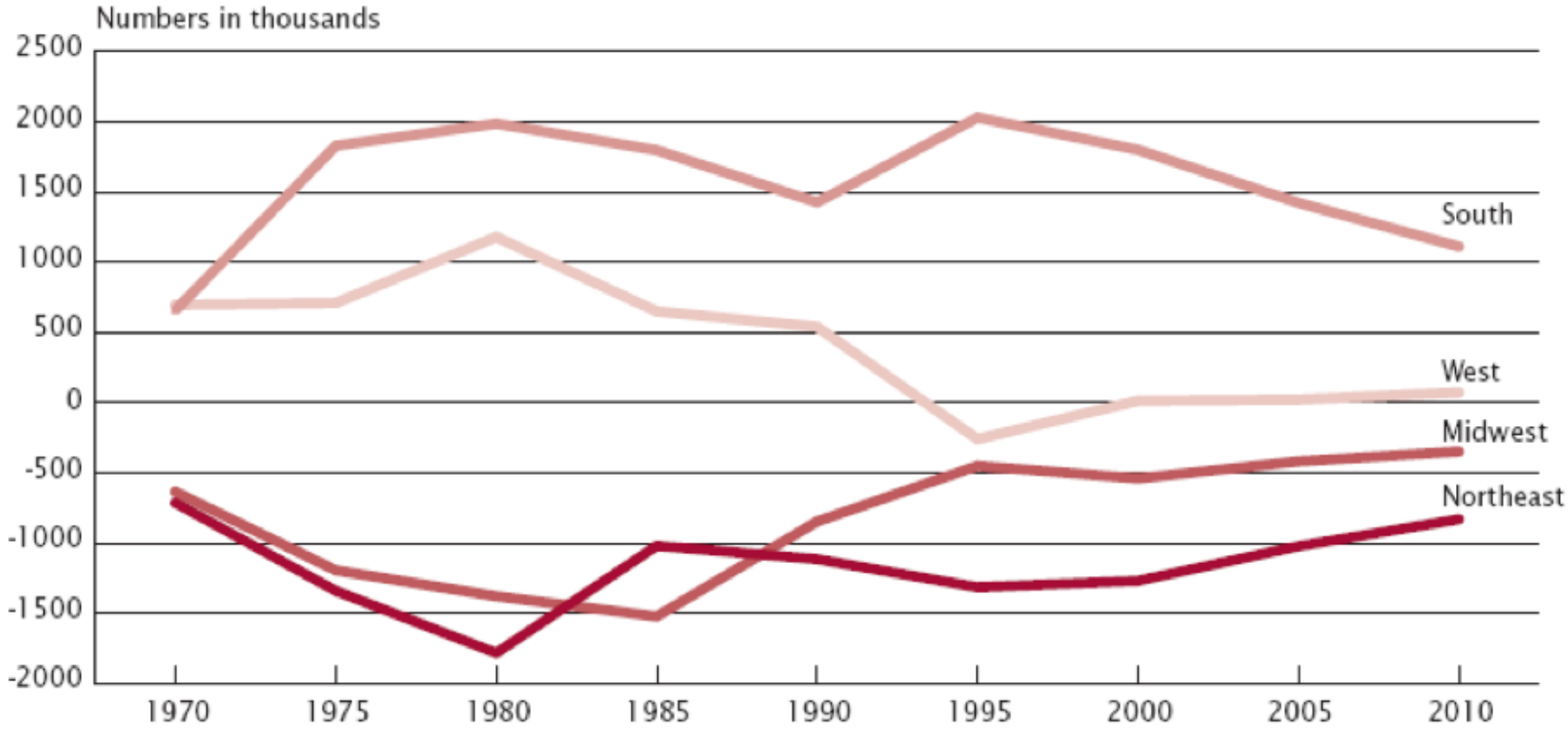
Reversal migration, 1970...

- Since the 1970s, we see a reversal migration
- The major inter-regional migration flows within the United States have been from East to West and from North to South
- Younger, college-educated migrants moving to a more prosperous and post-civil rights South
- Cities and metro areas of Atlanta, Dallas, and Houston are among the most popular destinations for Whites, Blacks, and new immigrant minorities

Regional migration, 1970–2010

- For every 5-year period between 1970–2010, the South has been the only region to have continuously experienced positive net migration
- The West region has moved from positive to negative in 1995, and to slightly positive in 2010
  - The South and West were popular destinations particularly among graduate degree holders who are 25 years old and older
- The Midwest and Northeast regions have continuously had negative net migration

Five-year domestic net migration by region, 1970–2010



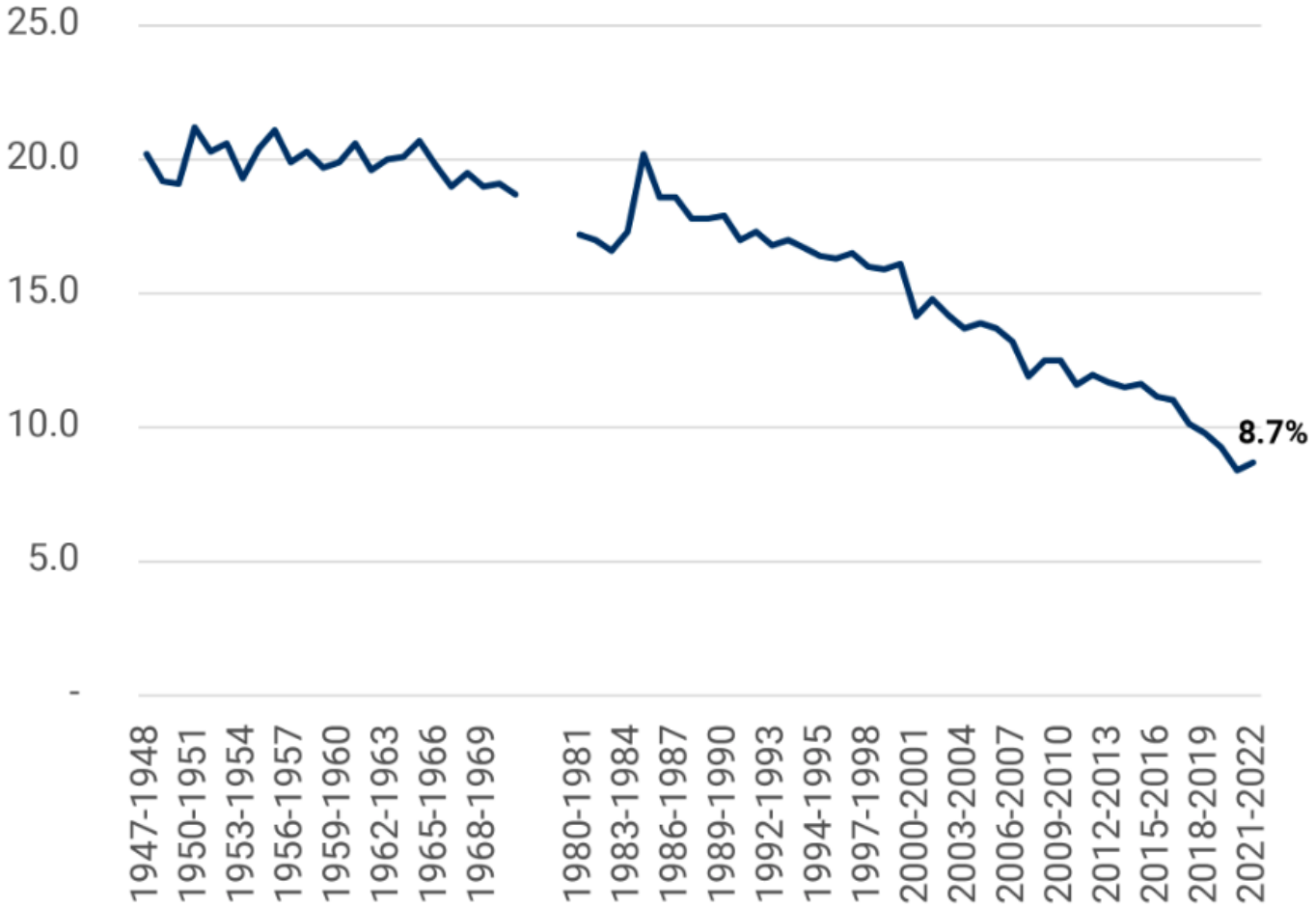
Source: Ihrke, Faber, 2012 (from Poston, Bouvier, 2017).

Lowest migration levels, 2019...

- The U.S. has been experiencing the lowest levels of internal migration since the late 1940s
  - 20% in 1950–1960
    - Robust economy in 1950–1960
  - 8.7% in 2021–2022
- Reasons for decline
  - Older population
  - Labor market more homogeneous across country
  - 2008 economic recession
  - Telecommuting, jobs from home
- Internal migration might increase again
  - Maybe around 12% a year

Source: NPR interview with William Frey (November 23, 2019) (https://www.npr.org/2019/11/23/782335384/demographer-unpacks-why-fewer-americans-are-moving).

Annual migration rates, 1947 to 2022



Note: Rates are movers as percent of total population from March of first year to March of the second year. Data are not available for years 1972-1975 and 1977-1980.

Source: William H. Frey analysis of U.S. Census Bureau Current Population Survey

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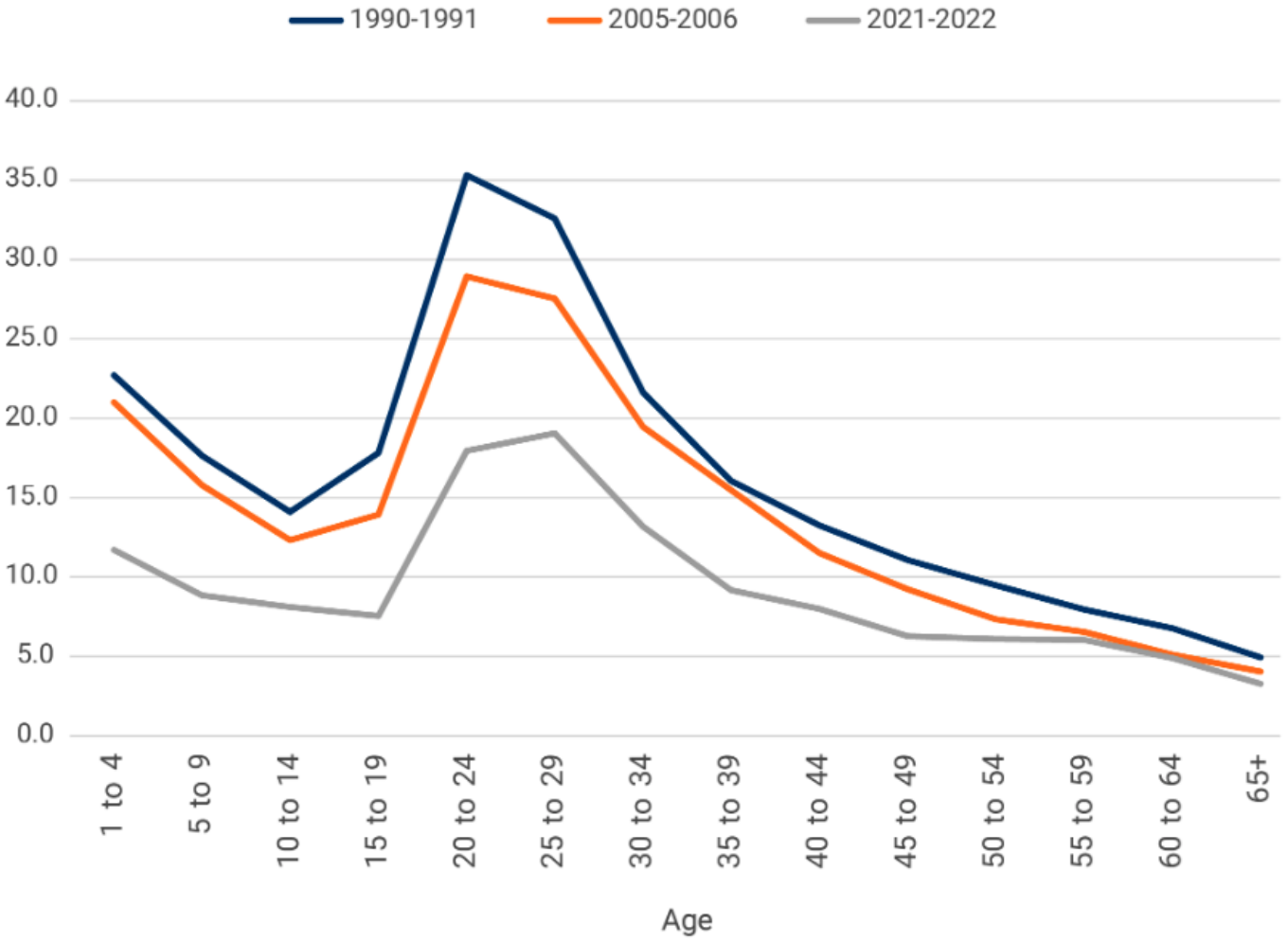
Annual migration rates by age, 1990-91, 2005-06, and 2021-22



Source: William H. Frey analysis of US Census Bureau Current Population ASEC Surveys, 1991 2006, 2022

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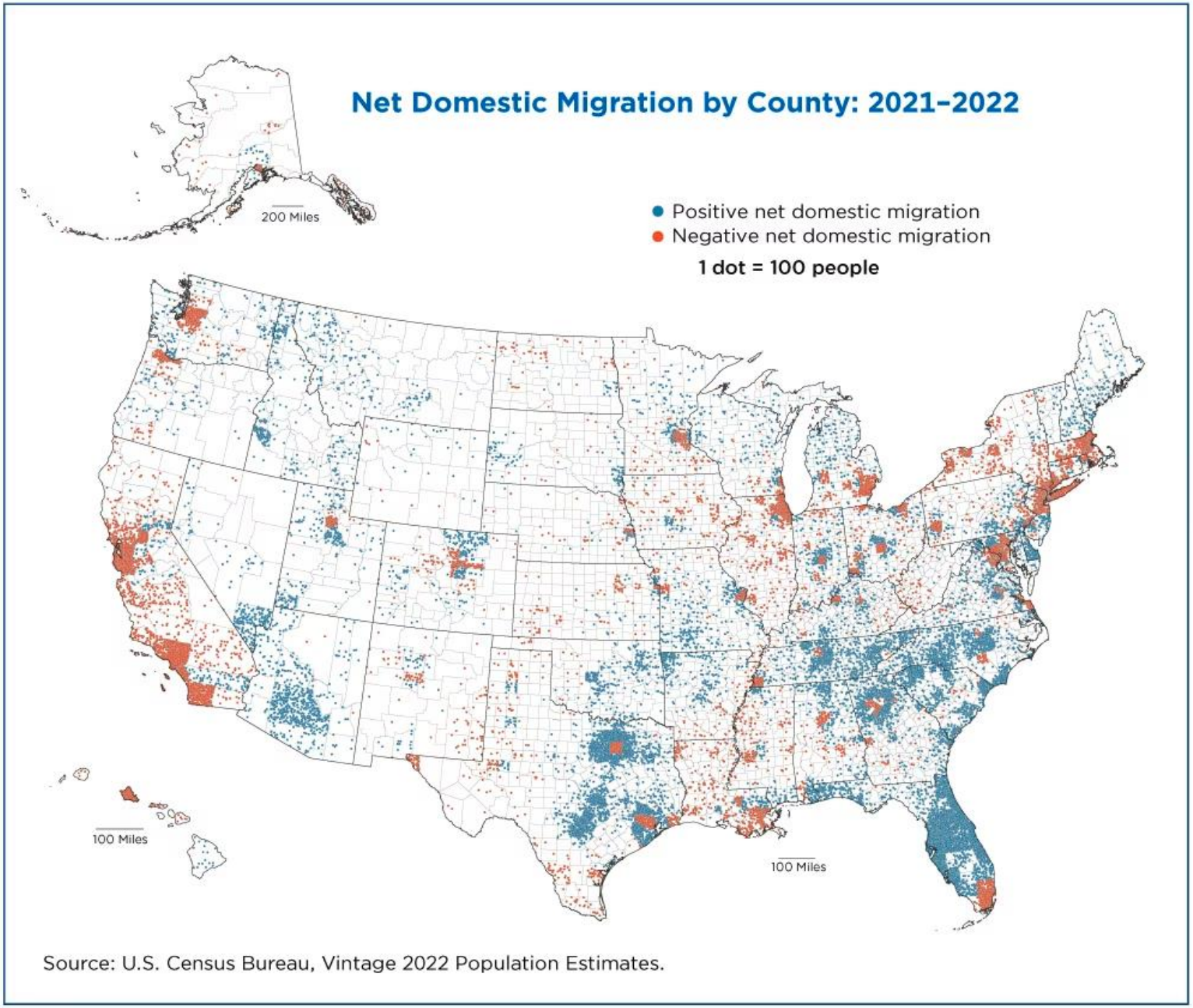


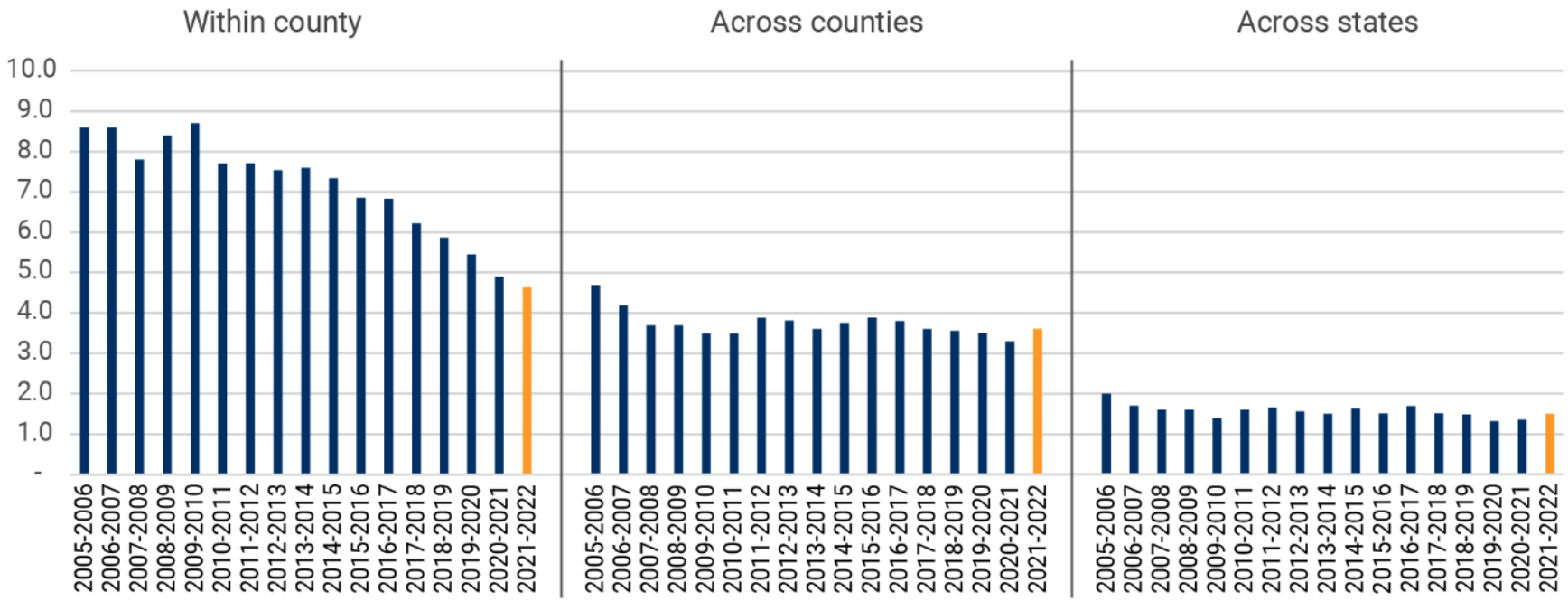
https://www.census.gov/library/stories/2023/03/domestic-migration-trends-shifted.html

Migration post-COVID-19

- Both shorter- and longer-distance movement could pick up from the historic low points registered during the COVID-19 pandemic

- Longer-distance migration may continue to rise
  - Younger workers become more willing to seek jobs across the country
  - Employment opportunities respond to the changing nature of work-residence patterns that began during the COVID-19 pandemic

Migration rates by type of move, 2005 to 2022



Source: William H. Frey analysis of U.S. Census Bureau Current Population Survey

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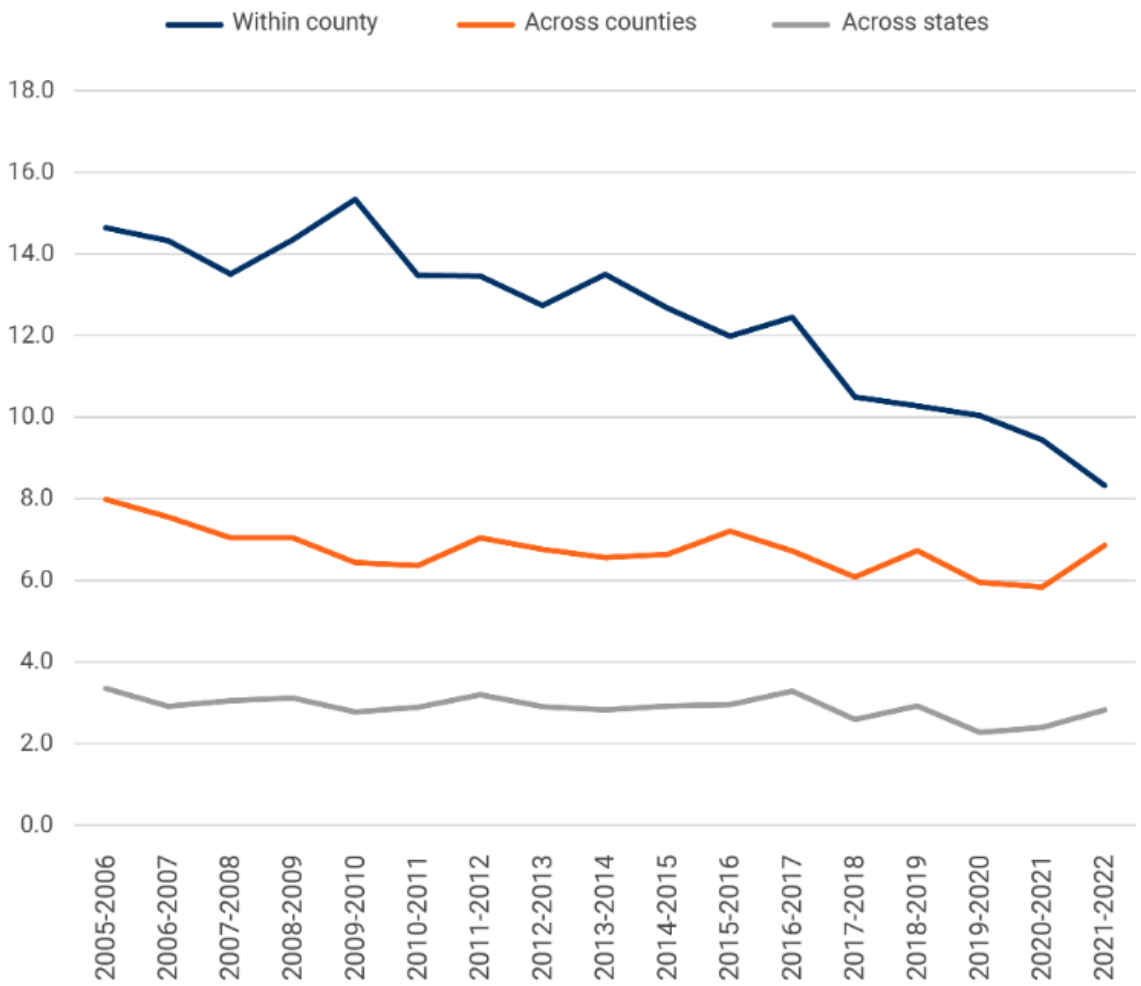
Migration rates for persons ages 25 to 34 by type of move, 2005 to 2022



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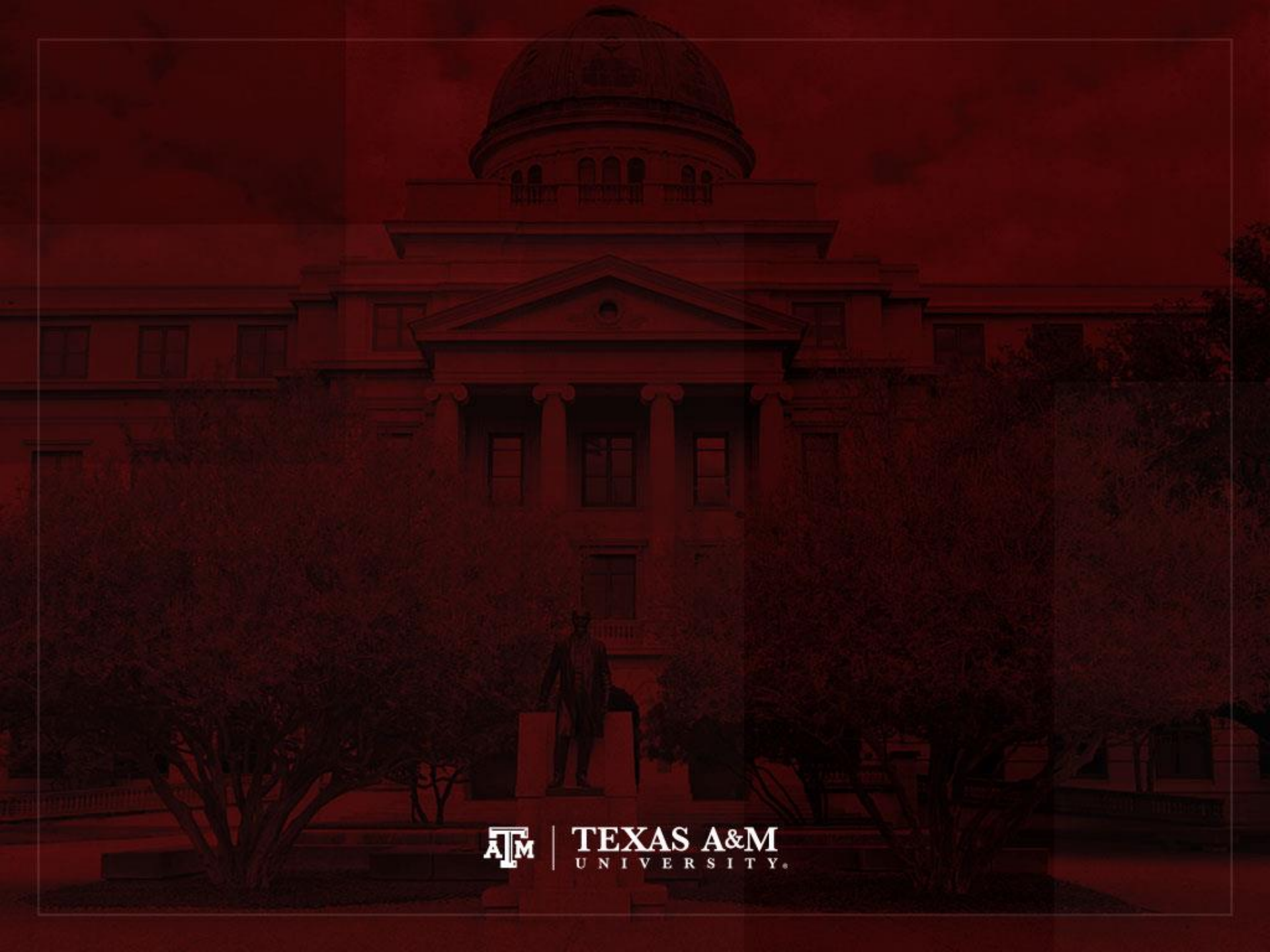
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Analysis of spatial association

- In spatial association analysis, we recognize that people are not randomly distributed over space
- Local indicator of spatial association (LISA) identifies local clusters and spatial outliers
  - It estimates contributions of each area (Anselin 1995)
  - We considered neighbors as areas sharing a border (queen contiguity)
- We analyze concentration of internal migrants in areas of destination in the U.S.

Spatial clusters and outliers

- **Spatial clusters**
  - **High-High**: areas with high levels of a specific indicator surrounded by areas with high levels for that indicator
  - **Low-Low**: areas with low levels of a specific indicator surrounded by areas with low levels for that indicator
- **Spatial outliers**
  - **High-Low**: areas with high levels of a specific indicator surrounded by areas with low levels for that indicator
  - **Low-High**: areas with low levels of a specific indicator surrounded by areas with high levels for that indicator

LISA example

- Analyze concentration of internal migrants in areas of destination in the United States
  - Information on area of residence one year before the 2019 American Community Survey (ACS)
  - For areas of destination (current residence)
    - Publicly available data has information on Public Use Microdata Areas (PUMAs) as the lowest level of geographic aggregation
  - Areas of origin (previous residence)
    - Data relates to PUMAs or, for confidentiality issues, groups of PUMAs (also known as MIGPUMAs)

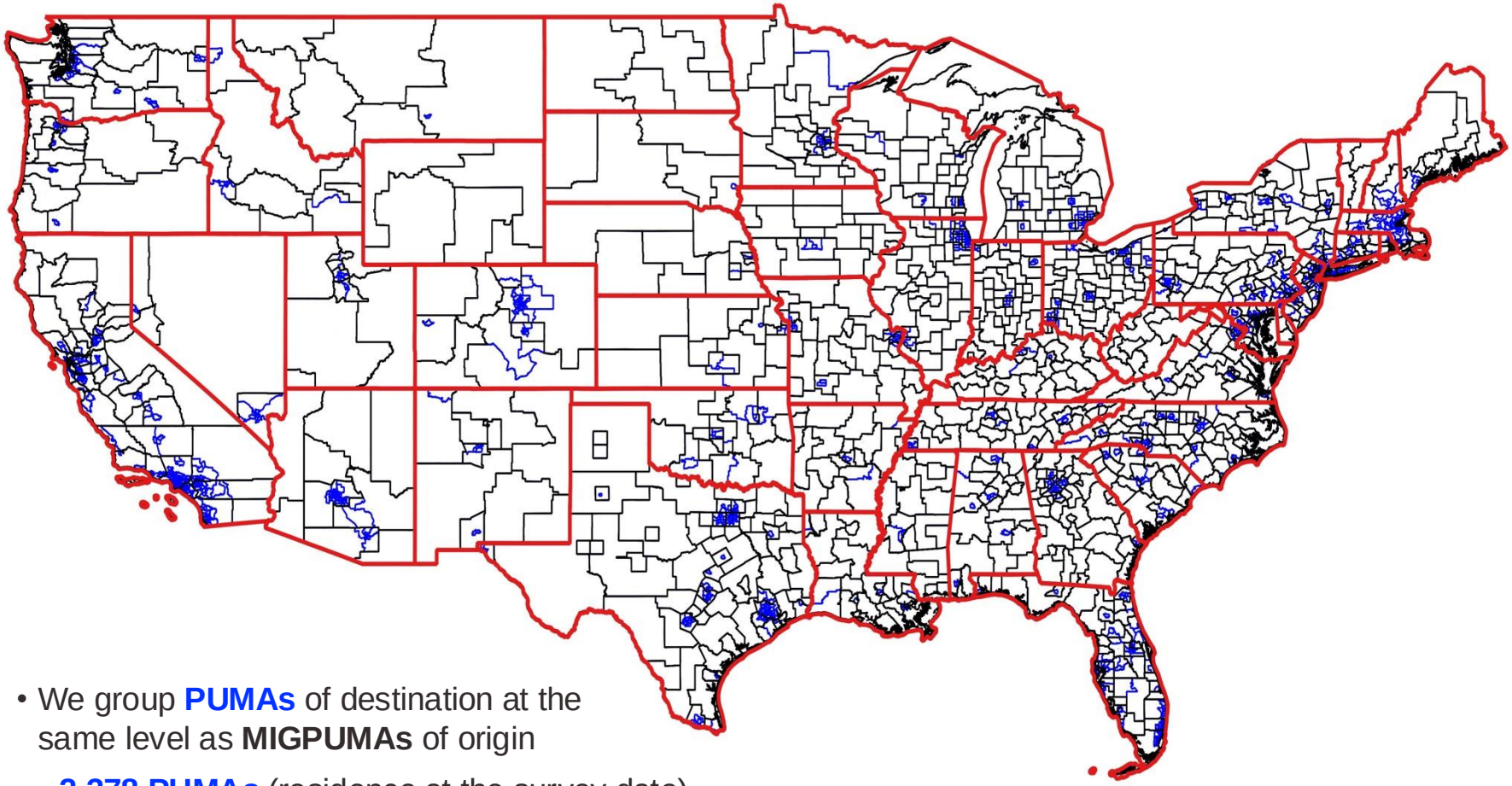
Source: Amaral et al. 2019.

Homogenize areas

- We group PUMAs of destination at the same geographic level as MIGPUMAs of origin
  - 2,378 PUMAs (current residence)
  - 1,005 MIGPUMAs (previous residence)

- This is a strategy to homogenize areas of previous and current residence

State, MIGPUMA, PUMA

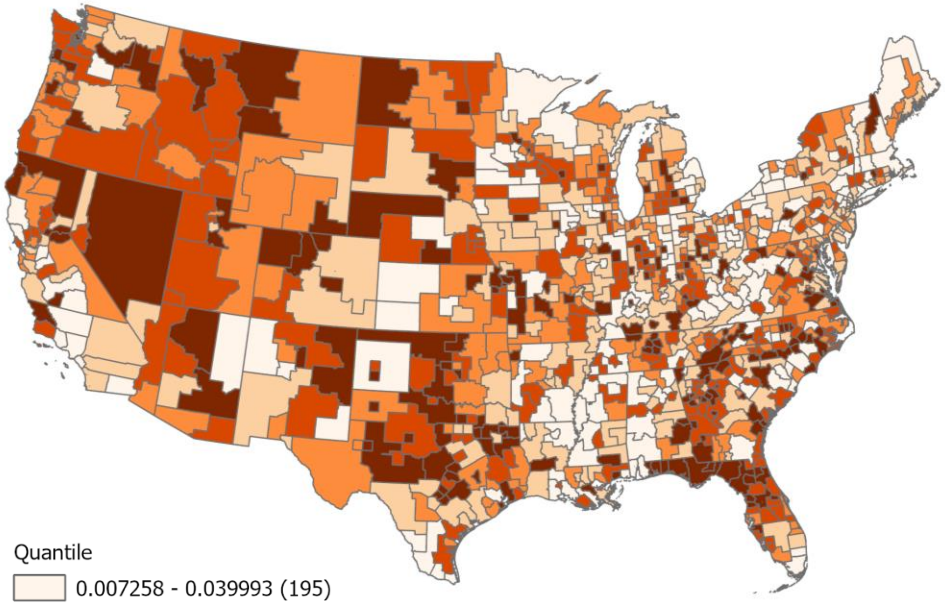


- We group **PUMAs** of destination at the same level as **MIGPUMAs** of origin
  - **2,378 PUMAs** (residence at the survey date)
  - **1,005 MIGPUMAs** (residence one year before the survey)

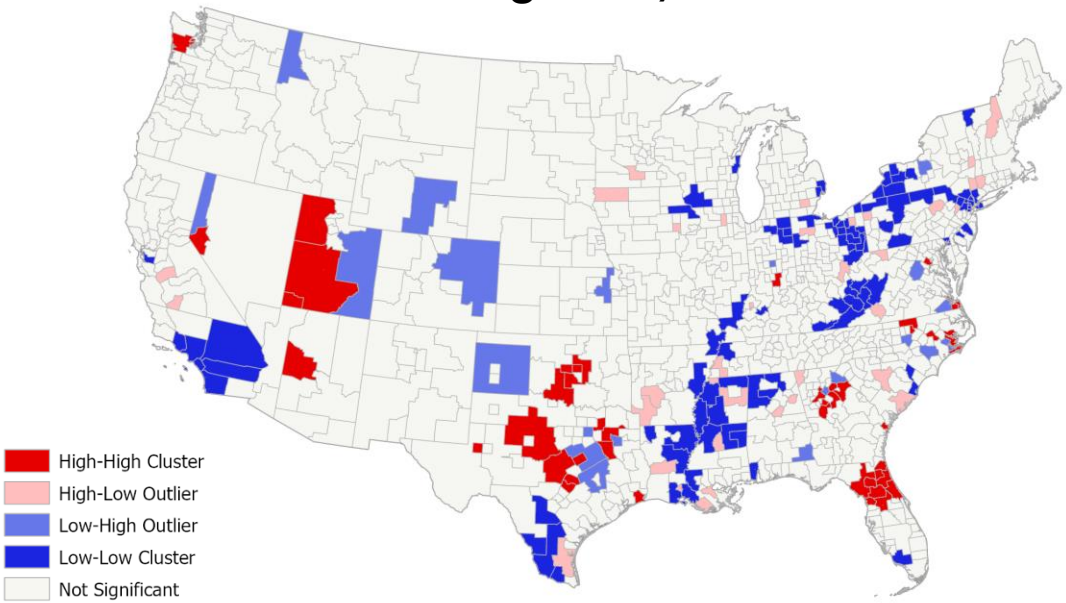
Migration status

- Internal migrants
  - Those who resided in another MIGPUMA one year before the survey
- Non-migrants
  - Those who resided in the same area in the previous year
- International migrants
  - Those who resided in another country one year before the survey (not included in our analysis)

Proportion of internal migrants, 2018–2019



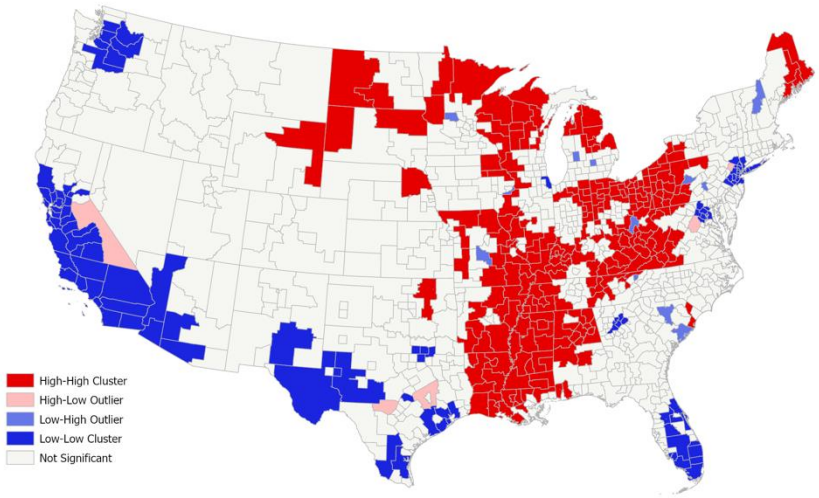
LISA of proportion of internal migrants, 2018–2019



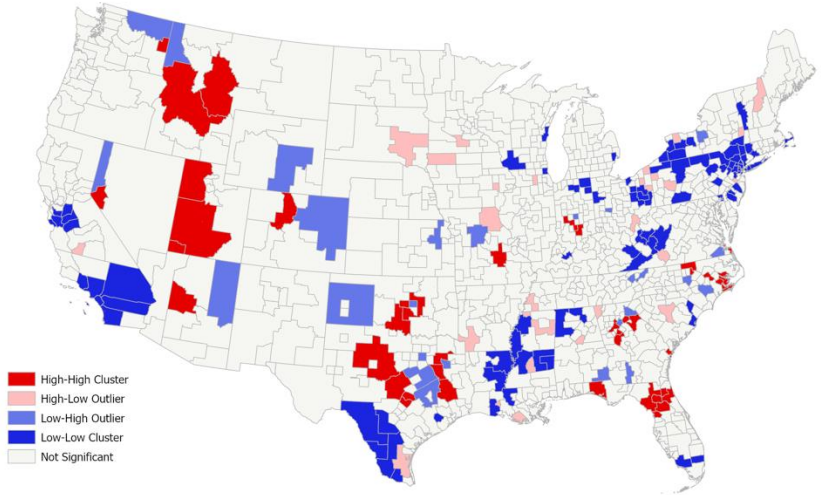
Source: 2019 American Community Survey.

Internal migrants are those who changed residence between 2018 and 2019

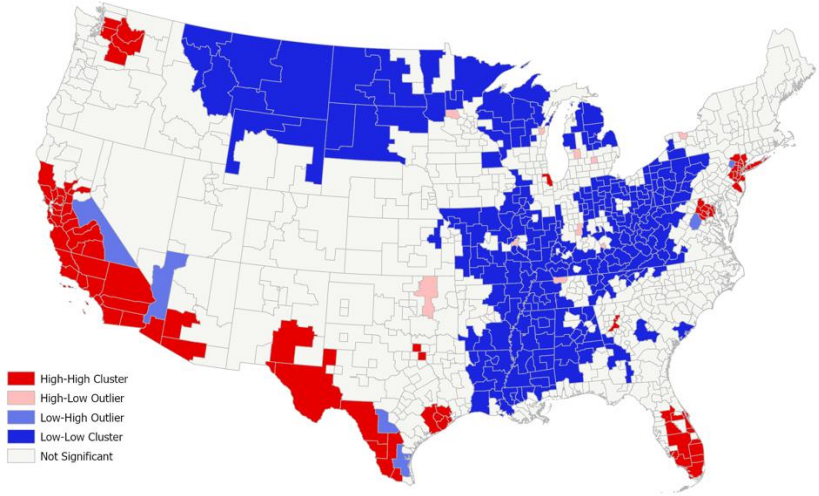
US-born non-migrants



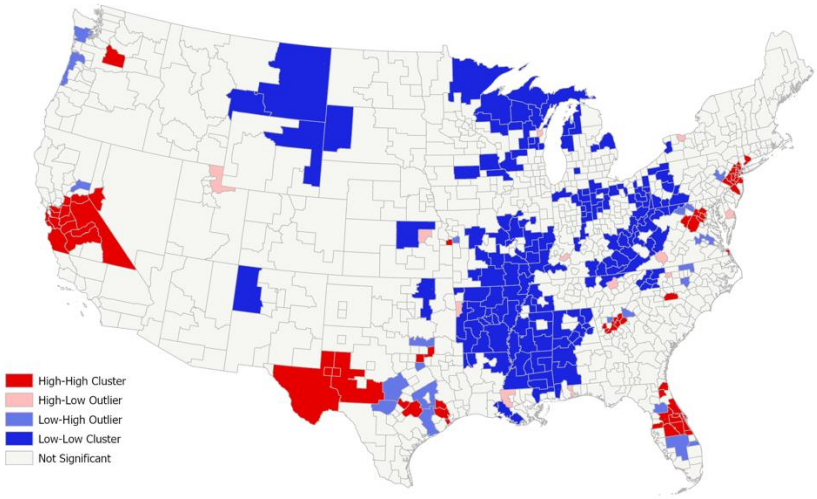
US-born internal migrants



Foreign-born non-migrants



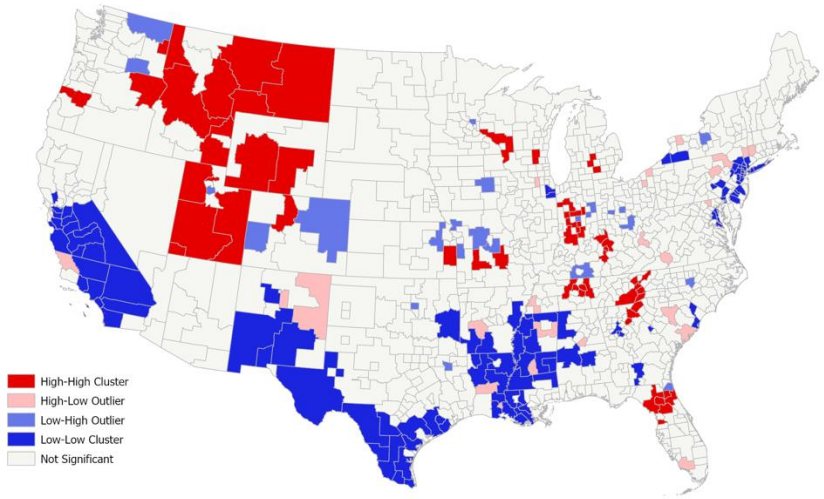
Foreign-born internal migrants



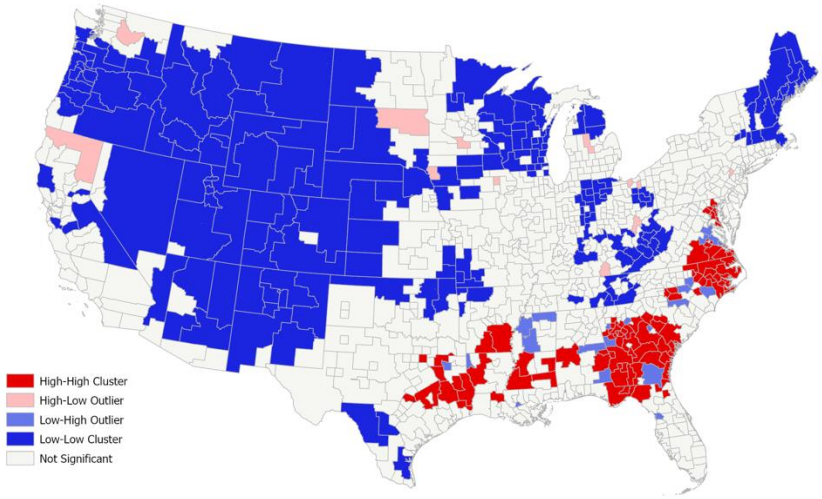
Source: 2019 American Community Survey.

All maps below are for internal migrants, 2018–2019

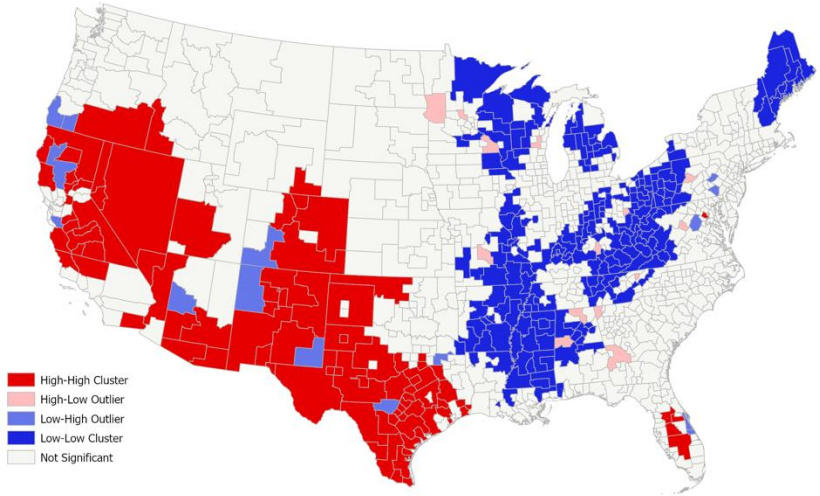
Non-Hispanic Whites



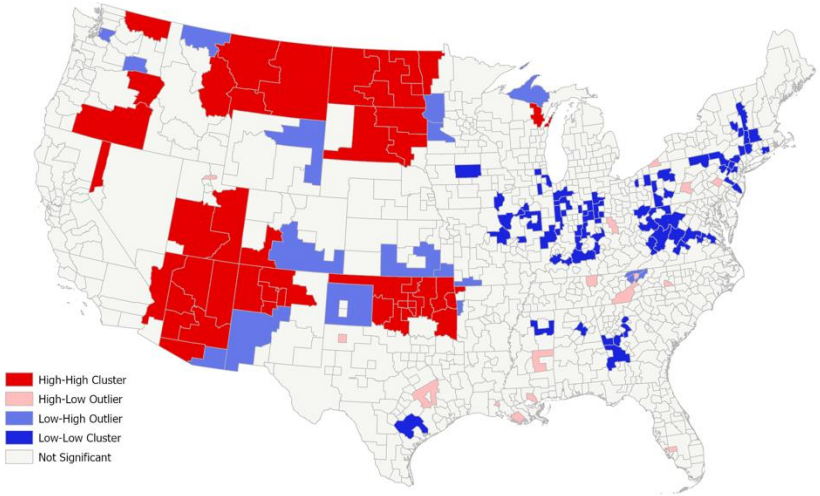
Non-Hispanic African Americans



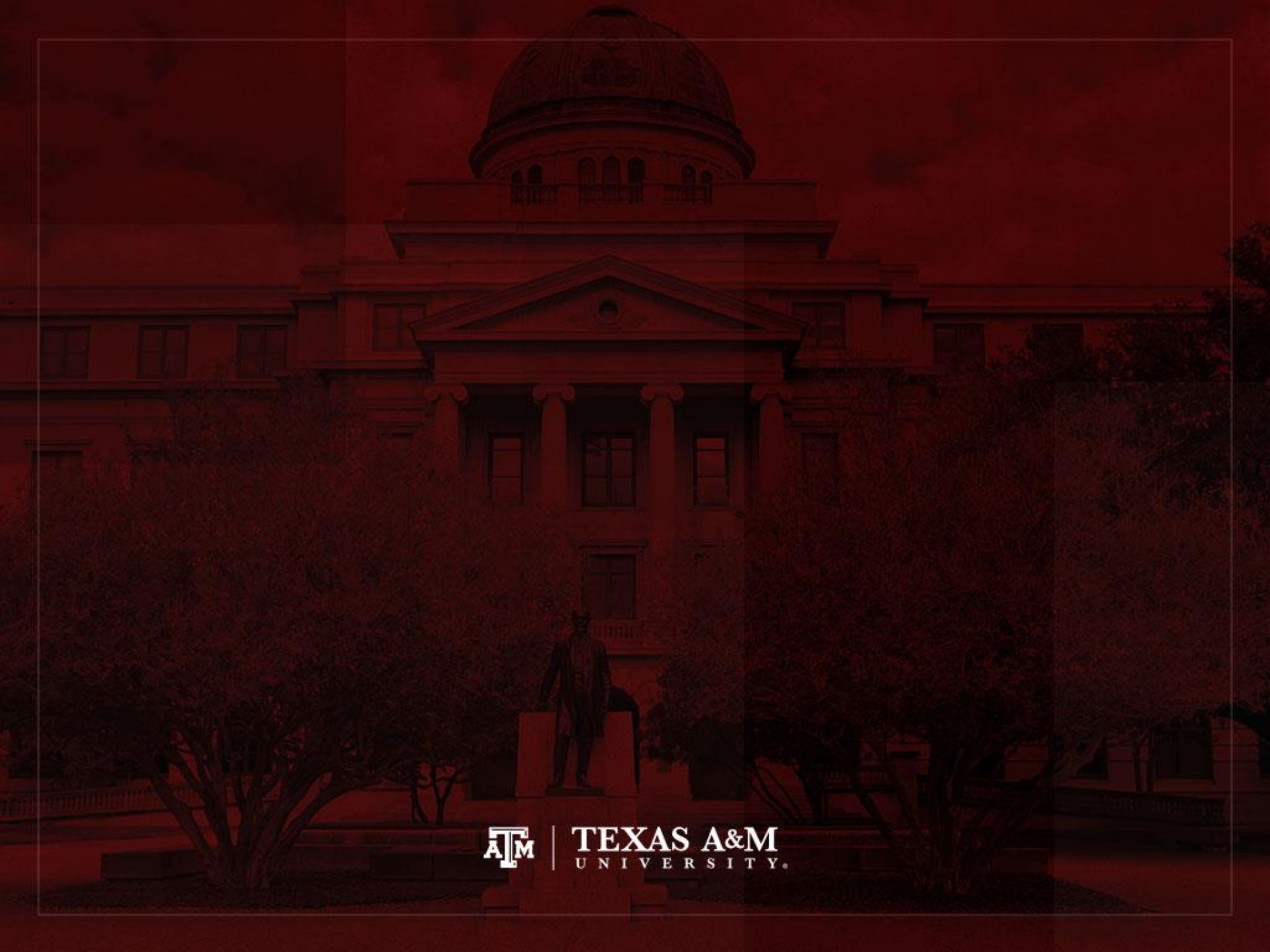
Hispanics



Non-Hispanic Native Americans



Source: 2019 American Community Survey.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Temporary migration in China

- In China, a permanent change in residence requires the government approval

- With this approval, individuals can officially transfer their household registration (*Hukou*) from an area of origin to an area of destination

Hukou system

- The *Hukou* system is a household registration system first enacted in 1948
  - It acted as a barrier to prevent rural residents from moving into urban areas
- Urban residents were entitled to subsidized housing, social insurance, medical care, and formal employment
- Rural residents were denied these rights and entitlements

Changes in the 1970s

- In the late 1970s, Deng XiaoPing, who succeeded Mao Zedong, began making major economic reforms

- He opened many low-level construction, manufacturing, and household service job opportunities for rural agricultural workers

Floating migration in China

- Two types of internal migration in China
  - Permanent change in the place-of-household registration, formally approved by the government
  - Move with no approval by the government

- Floating migration is the residential movement of crossing a political boundary without the government permission
  - Movers of this type of migration are known as **floaters**
  - They have not altered their permanent registration in a household registration office

Recent levels of floaters

- In the 2010 census, there were more than 220 million floaters in China
- These migrants are mainly young and unmarried males and females looking for blue-collar, service and household jobs
- Overall, they are more educated than the rural population, but they are less educated than the general population

Recent levels of floaters

- For every legally permitted migrant, there are about 12 to 13 inter-province floating migrants
  - Floaters comprise about 40% of the country's total urban population in China
- Floaters make 20% to 40% less than their permanent urban worker counterparts
  - Their wages in the big cities are still several times greater than the wages they would make in their home rural villages
  - They usually remit a large proportion of their salaries to their families in the home villages

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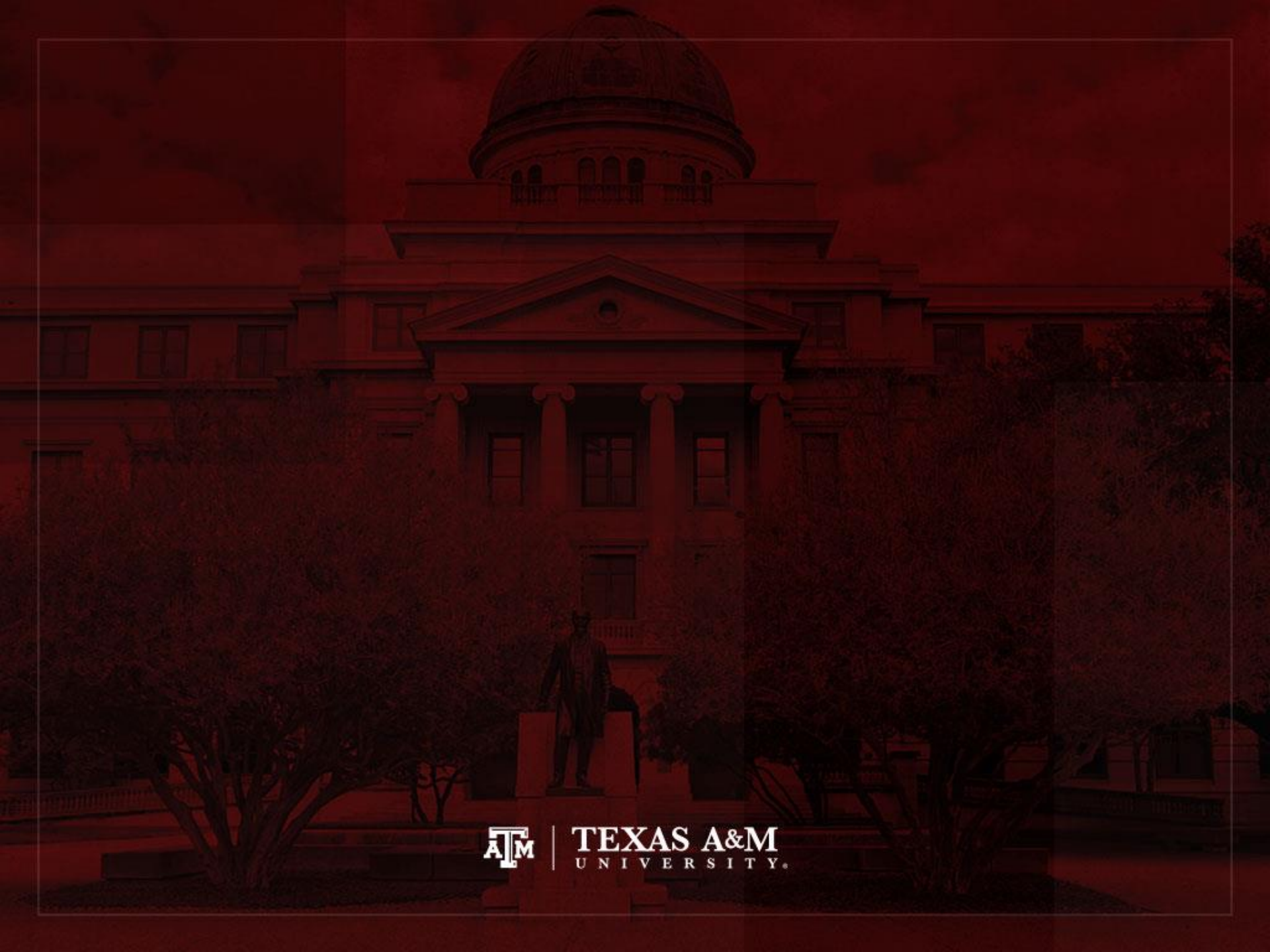
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