



Basics of Demography

Population Size

Growth and Change

Processes

Mortality

Fertility

Natural Increase

Migration

Net Migration

Structure – Age and Sex

Characteristics – Poverty, Income and Education

Why Census Data is Important

*Helping Your Community Answer
Questions Like ...*

- How many people live here?
- How has the number of people changed?
- How old or young are the people?
- What race and ethnicity are they?
- How many single parents?
- How many are renters or own their home?

Decennial Census to the American Community Survey.

- 1790 First Census
-
- 1940 First use of sampling
- 2000 Last “dual form” Census
- 2005 First American Community Survey
- 2010 First “short form” only Census

Censuses, Surveys and Estimates

- Decennial Census—counts people & housing units
- American Community Survey—estimates demographic, social, economic characteristics of people & housing stock
- Population estimates—provides estimates of the number of people by age, sex and race.

American Community Survey: Key Differences from Census 2020

- The 2020 Census will show the *number* of people who live in the U.S.
- The American Community Survey shows *how* people live.

2010 Census Questionnaire

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?
2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1?
3. Is this house, apartment, or mobile home: owned with mortgage, owned without mortgage, rented, occupied without rent?
4. What is your telephone number?
5. Please provide information for each person living here. Start with a person here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1. What is Person 1's name?
6. What is Person 1's sex?
7. What is Person 1's age and Date of Birth?
8. Is Person 1 of Hispanic, Latino, or Spanish origin?
9. What is Person 1's race?
10. Does Person 1 sometimes live or stay somewhere else?

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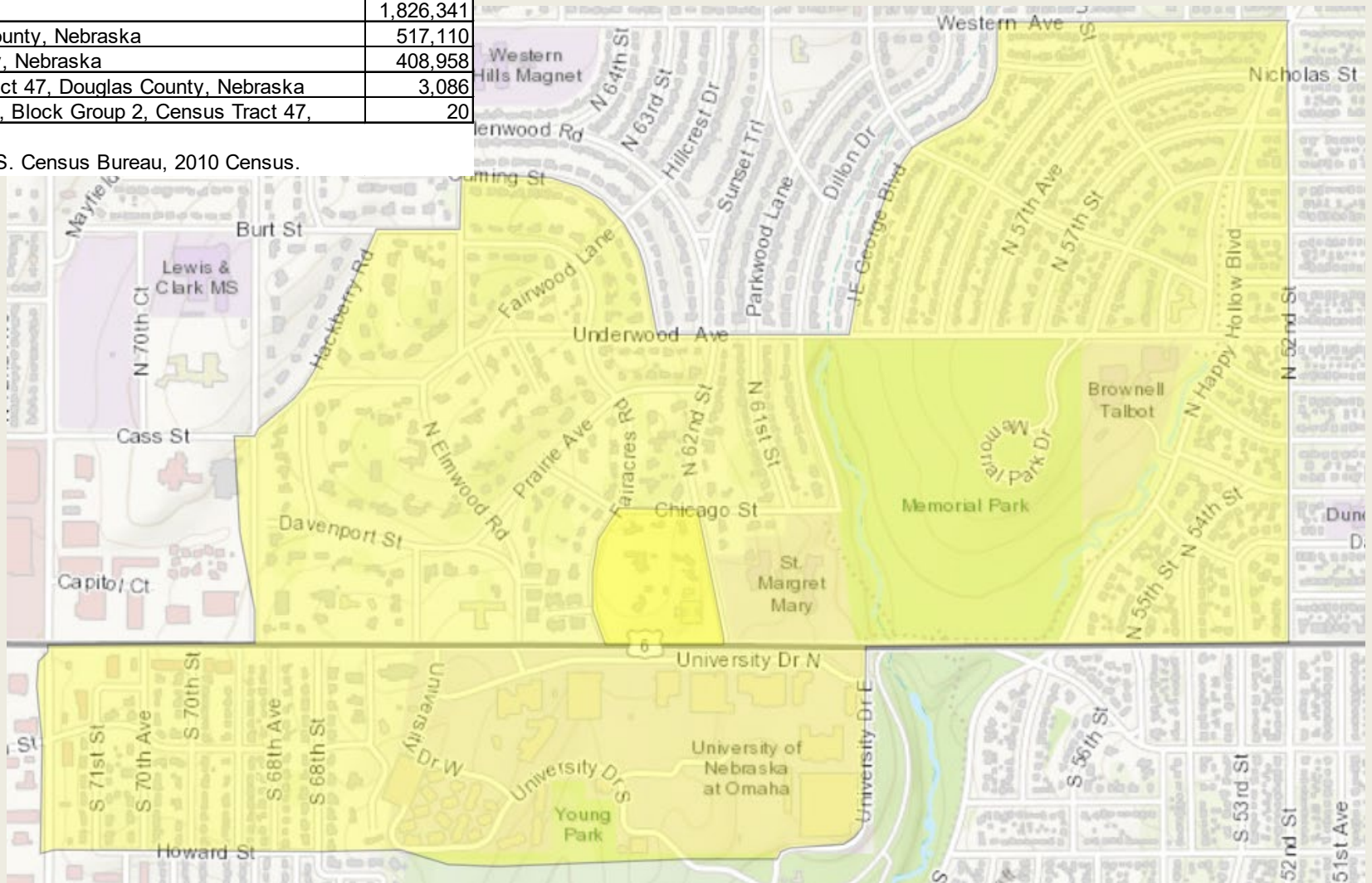
Geographic Detail

- Goal of the Decennial Census
 - Count everyone
 - Count them once
 - Count them in the right place.

P1: TOTAL POPULATION - Universe: Total population
2010 Census Summary File 1

	Total
Nebraska	1,826,341
Douglas County, Nebraska	517,110
Omaha city, Nebraska	408,958
Census Tract 47, Douglas County, Nebraska	3,086
Block 2021, Block Group 2, Census Tract 47,	20

Source: U.S. Census Bureau, 2010 Census.



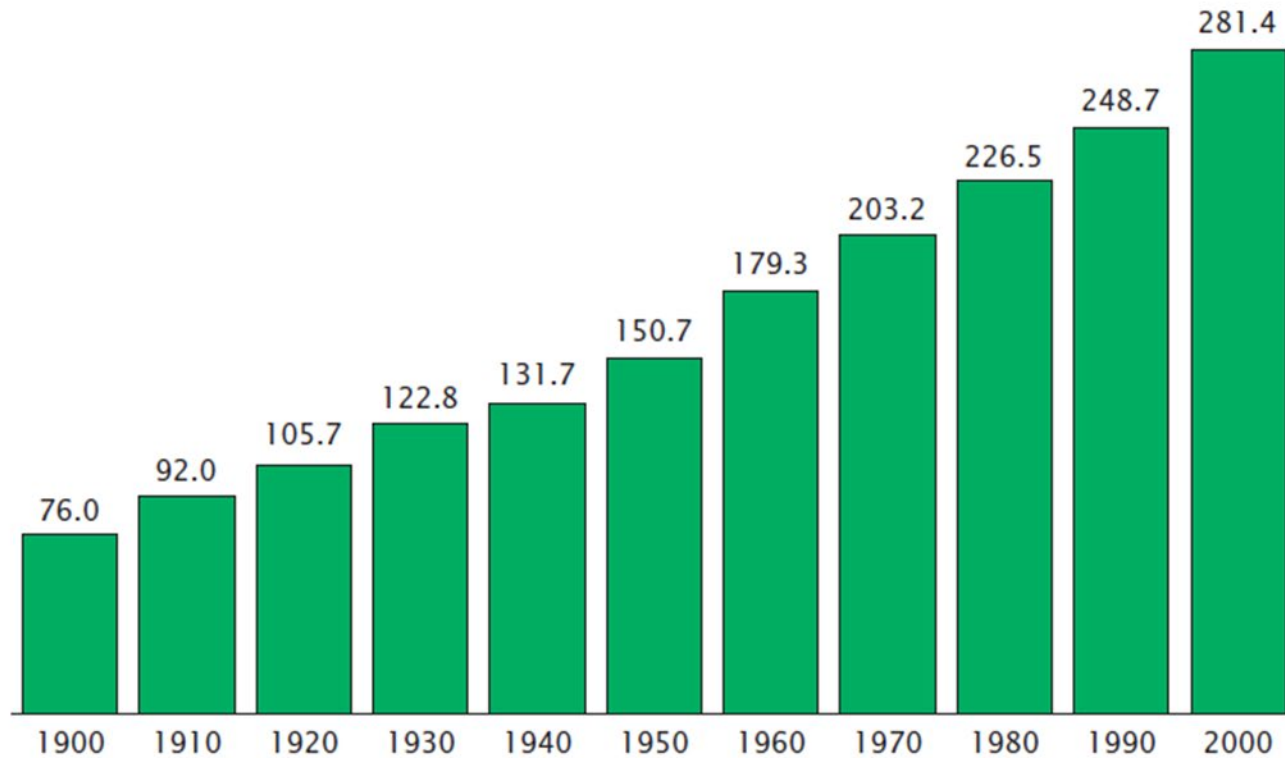
2010 Census Questionnaire



- ☐ Sex
- ☐ Age
- ☐ Race
- ☐ Hispanic Origin
- ☐ Household Relationship
- ☐ Tenure

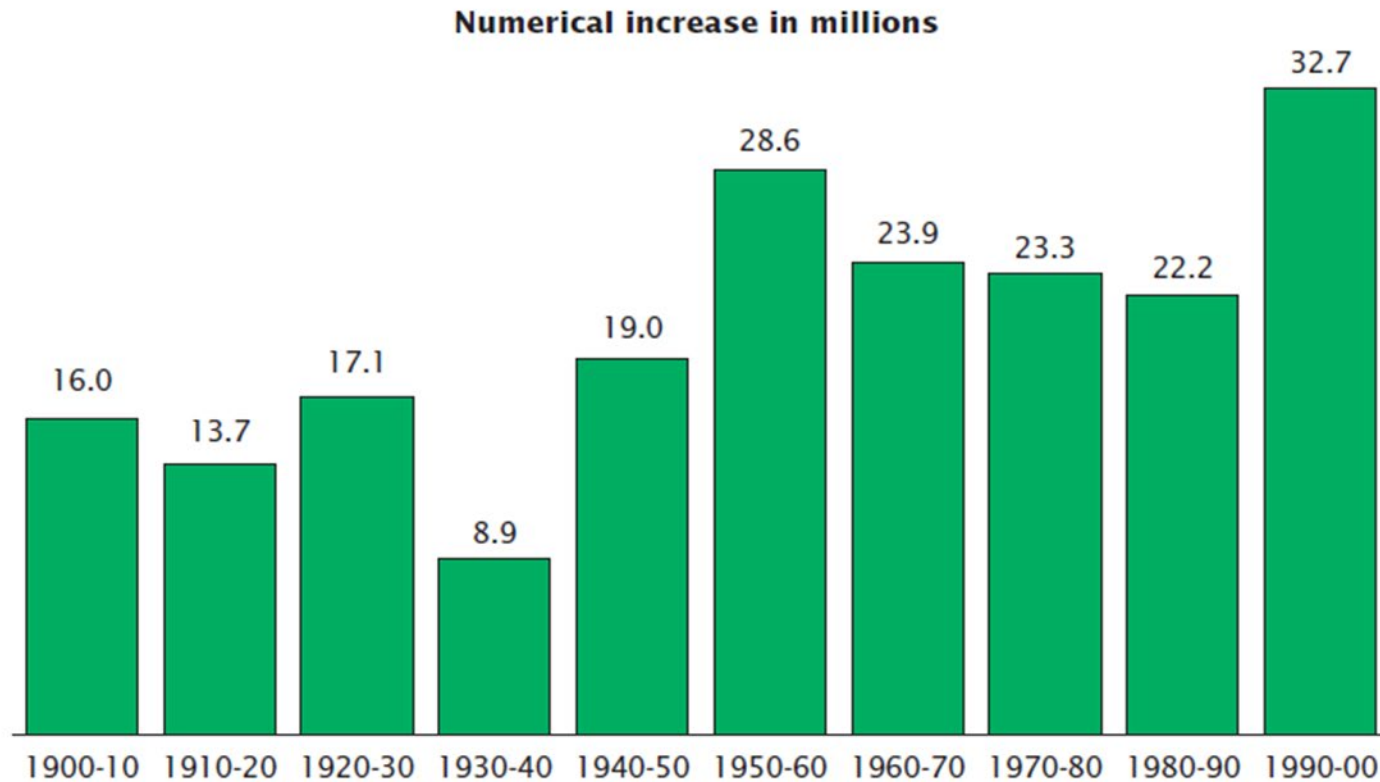
Demographic Trends in the 20th Century

Figure 1-1.
Total Population: 1900 to 2000
(Millions)



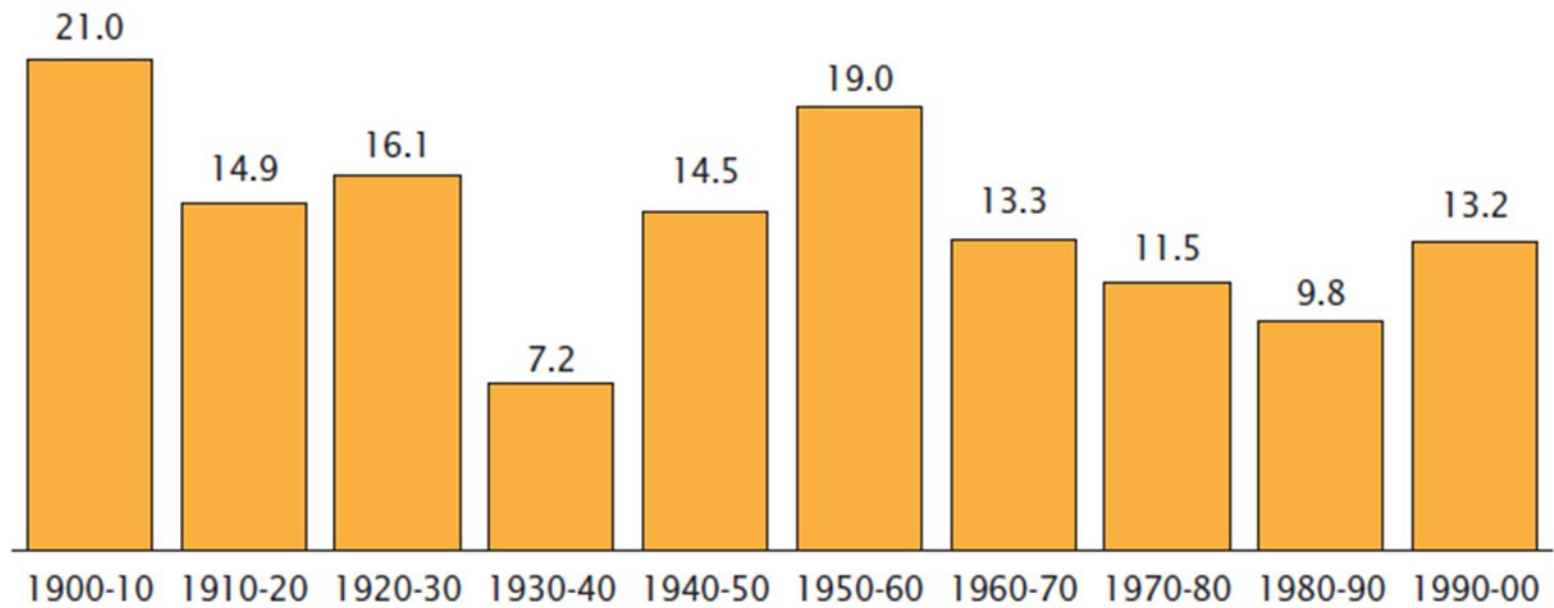
Source: U.S. Census Bureau, decennial census of population, 1900 to 2000.

Figure 1-2.
Population Increase by Decade: 1900 to 2000



Percent increase

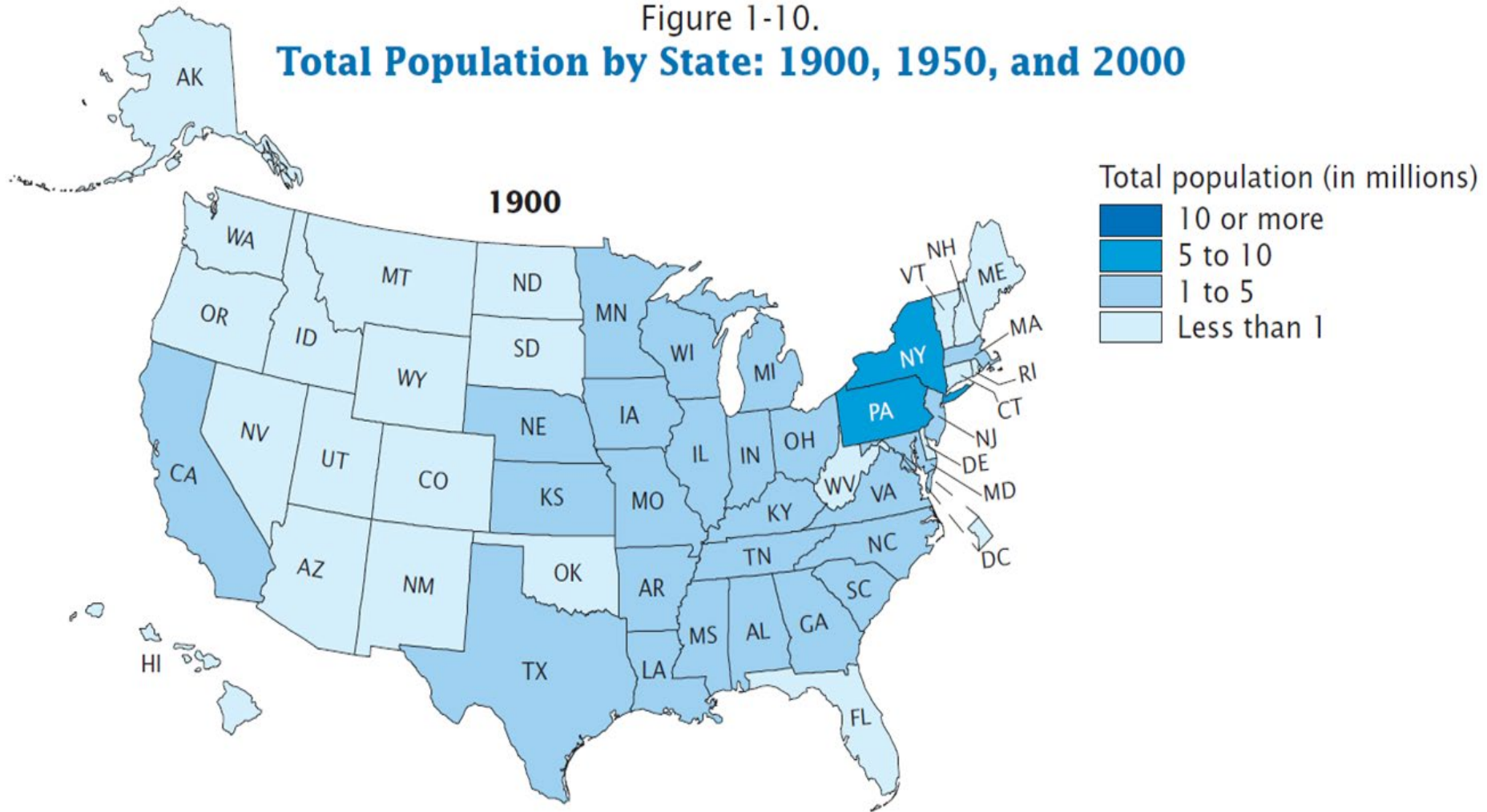
Percent increase

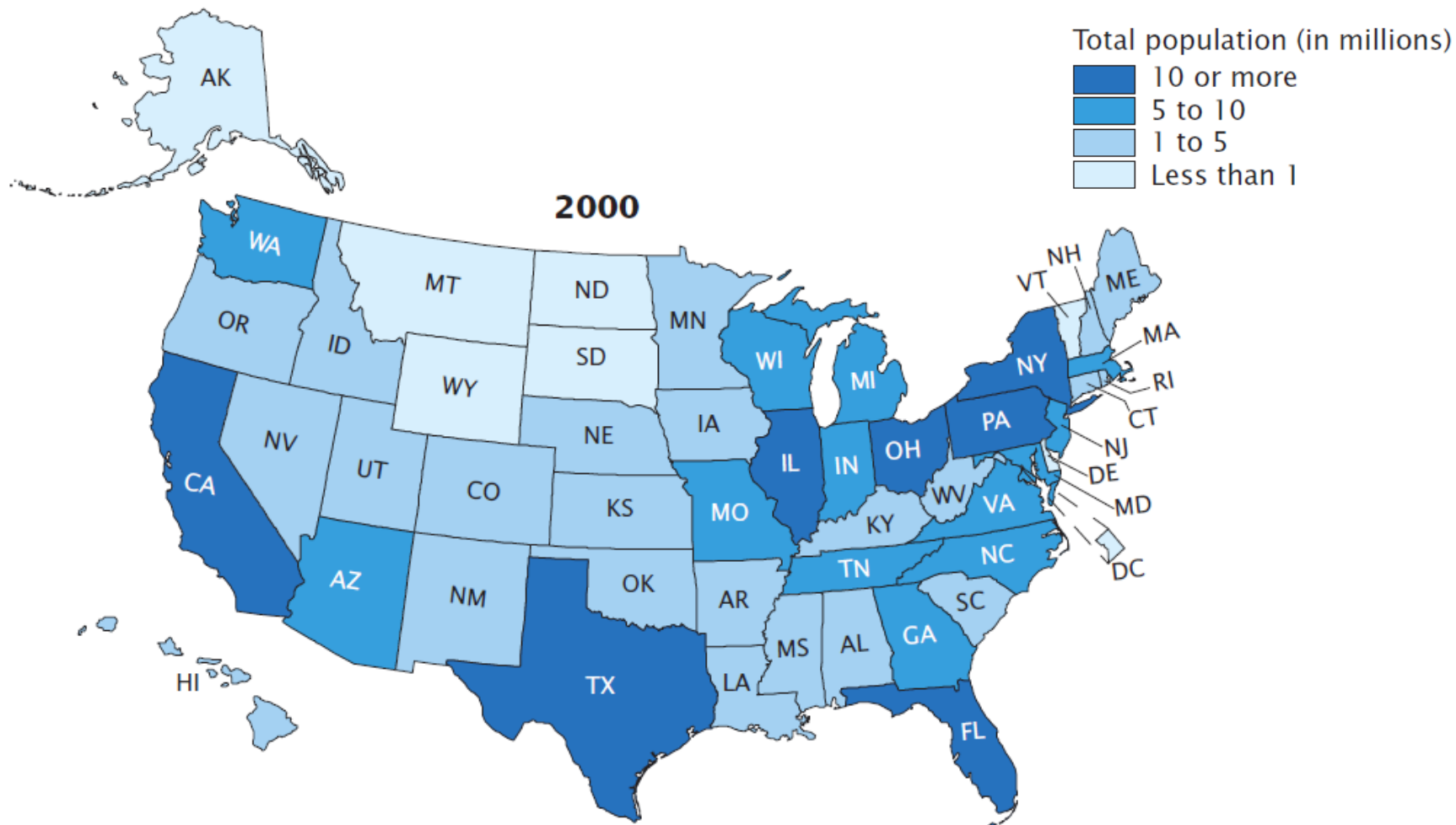


Source: U.S. Census Bureau, decennial census of population, 1900 to 2000.

Figure 1-10.

Total Population by State: 1900, 1950, and 2000



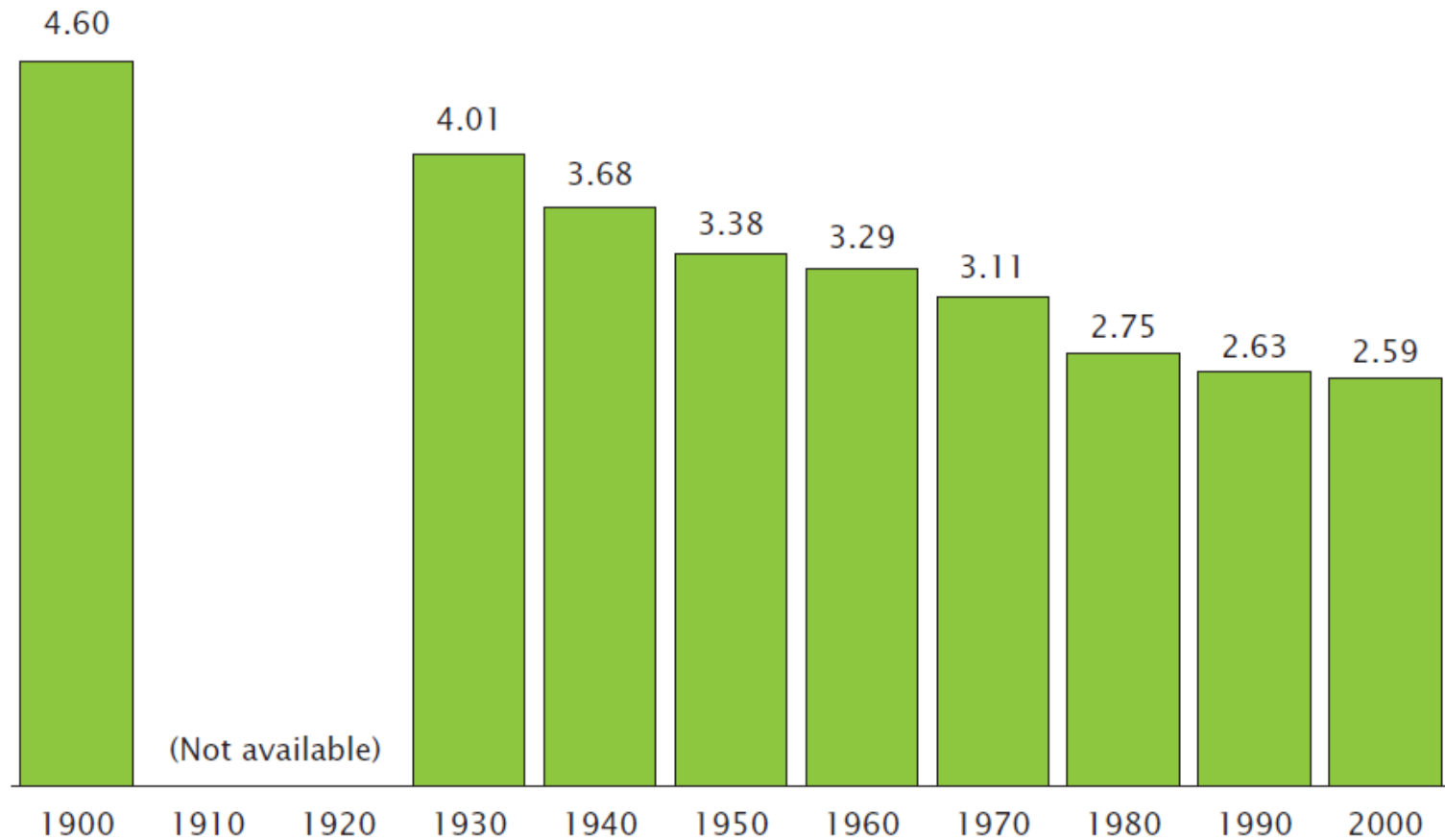


Source: U.S. Census Bureau, decennial census of population, 1900, 1950, and 2000.

Table 1-3.
Ten Most Populous Metropolitan Areas: 1950 to 2000

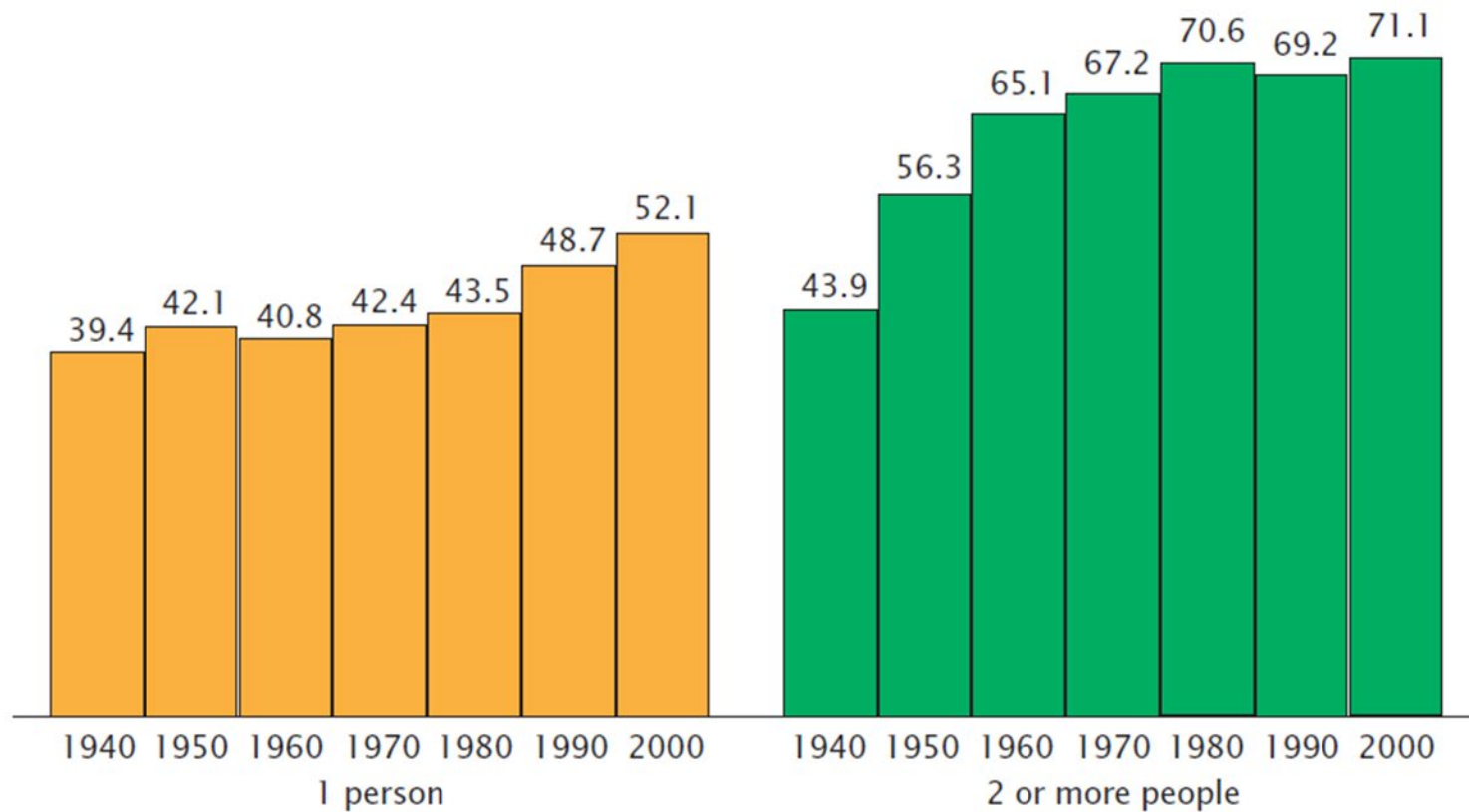
Year and area	Region	Population
1950		
New York, N.Y.-Northeastern New Jersey SMA	Northeast	12,911,994
Chicago, Ill. SMA	Midwest	5,495,364
Los Angeles, Calif. SMA	West	4,367,911
Philadelphia, Pa. SMA	Northeast	3,671,048
Detroit, Mich. SMA	Midwest	3,016,197
Boston, Mass. SMA	Northeast	2,369,986
San Francisco-Oakland, Calif. SMA	West	2,240,767
Pittsburgh, Pa. SMA	Northeast	2,213,236
St. Louis, Mo. SMA	Midwest	1,681,281
Cleveland, Ohio SMA	Midwest	1,465,511
1980		
New York-Newark-Jersey City, N.Y.- N.J.-Conn. SCSA	Northeast	16,121,297
Los Angeles-Long Beach-Anaheim, Calif. SCSA	West	11,497,568
Chicago-Gary-Kenosha, Ill.-Ind.-Wis. SCSA	Midwest	7,869,542
Philadelphia-Wilmington-Trenton, Pa.-Del.-N.J.-Md. SCSA ¹	Northeast	5,547,902
San Francisco-Oakland-San Jose, Calif. SCSA	West	5,179,784
Detroit-Ann Arbor, Mich. SCSA	Midwest	4,618,161
Boston-Lawrence-Lowell, Mass.-N.H. SCSA	Northeast	3,448,122
Houston-Galveston, Tex. SCSA	South	3,101,293
Washington, D.C.-Md.-Va. SMSA	South	3,060,922
Dallas-Fort Worth, Tex. SMSA	South	2,974,805
2000		
New York-Northern New Jersey-Long Island, NY-NJ-CT-PA CMSA	Northeast	21,199,865
Los Angeles-Riverside-Orange County, CA CMSA	West	16,373,645
Chicago-Gary-Kenosha, IL-IN-WI CMSA	Midwest	9,157,540
Washington-Baltimore, DC-MD-VA-WV CMSA	South	7,608,070
San Francisco-Oakland-San Jose, CA CMSA	West	7,039,362
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD CMSA ¹	Northeast	6,188,463
Boston-Worcester-Lawrence, MA-NH-ME-CT CMSA	Northeast	5,819,100
Detroit-Ann Arbor-Flint, MI CMSA	Midwest	5,456,428
Dallas-Fort Worth, TX CMSA	South	5,221,801
Houston-Galveston-Brazoria, TX CMSA	South	4,669,571

Figure 5-3.
Average Household Size: 1900 and 1930 to 2000
(People per household)



Source: U.S. Census Bureau, decennial census of population, 1900 and 1930 to 2000, and decennial census of housing, 1940.

Figure 4-12.
**Homeownership Rate by Household Size:
1940 to 2000**
(Percent)

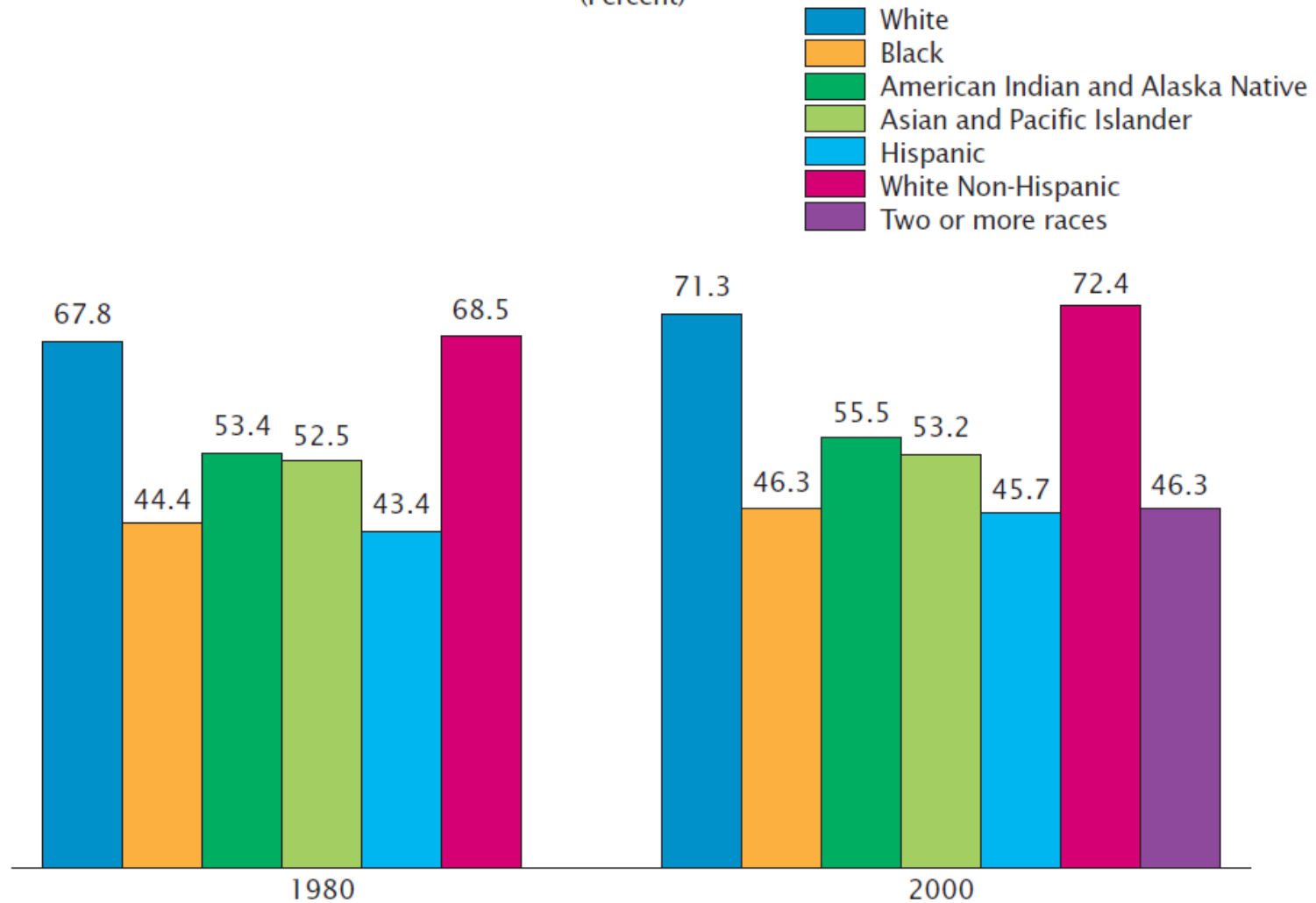


Source: U.S. Census Bureau, decennial census of housing, 1940 to 2000.

Figure 4-11.

Homeownership Rate by Race and Hispanic Origin of Householder: 1980 and 2000

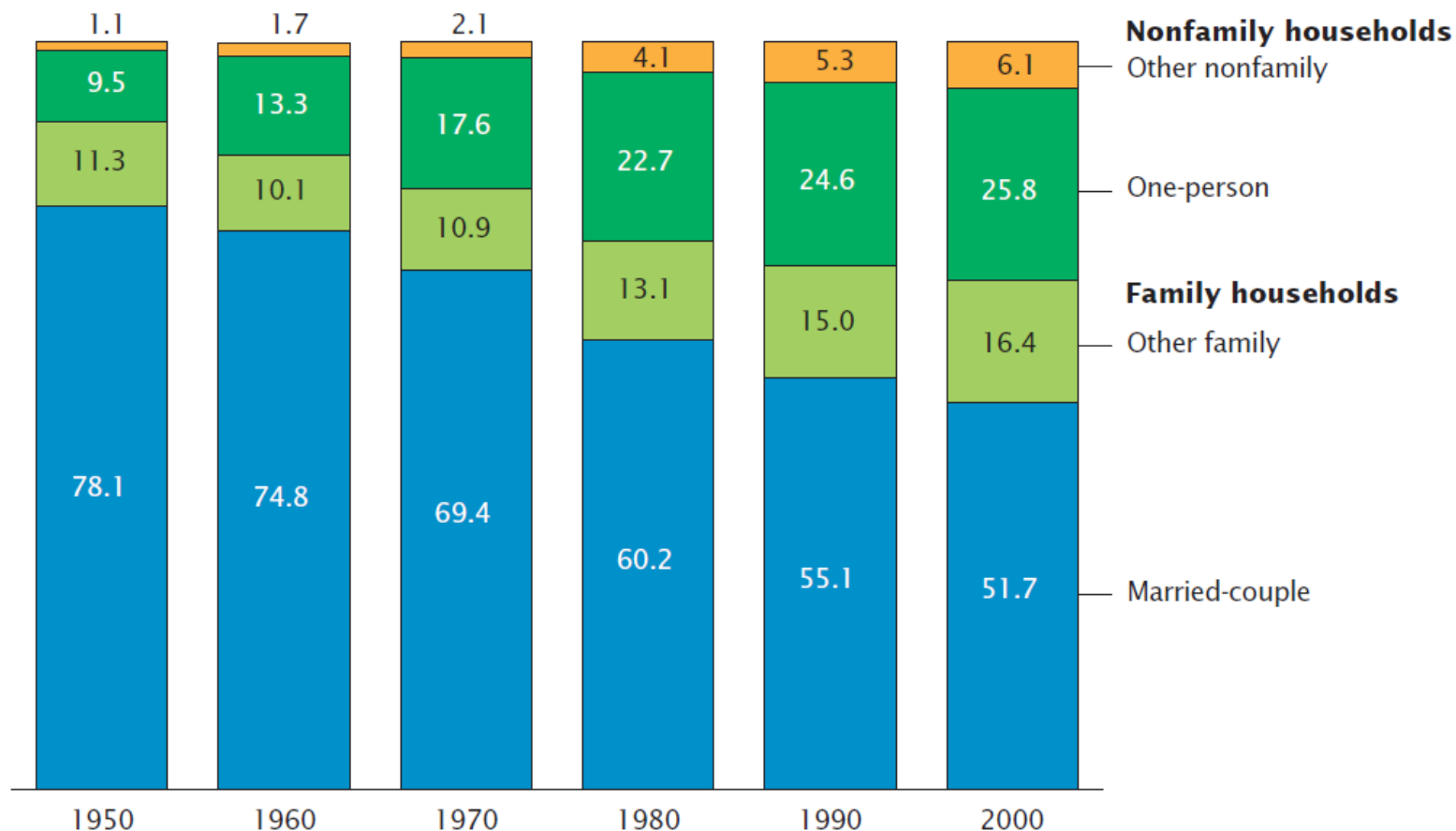
(Percent)



Source: U.S. Census Bureau, decennial census of housing, 1980 and 2000.

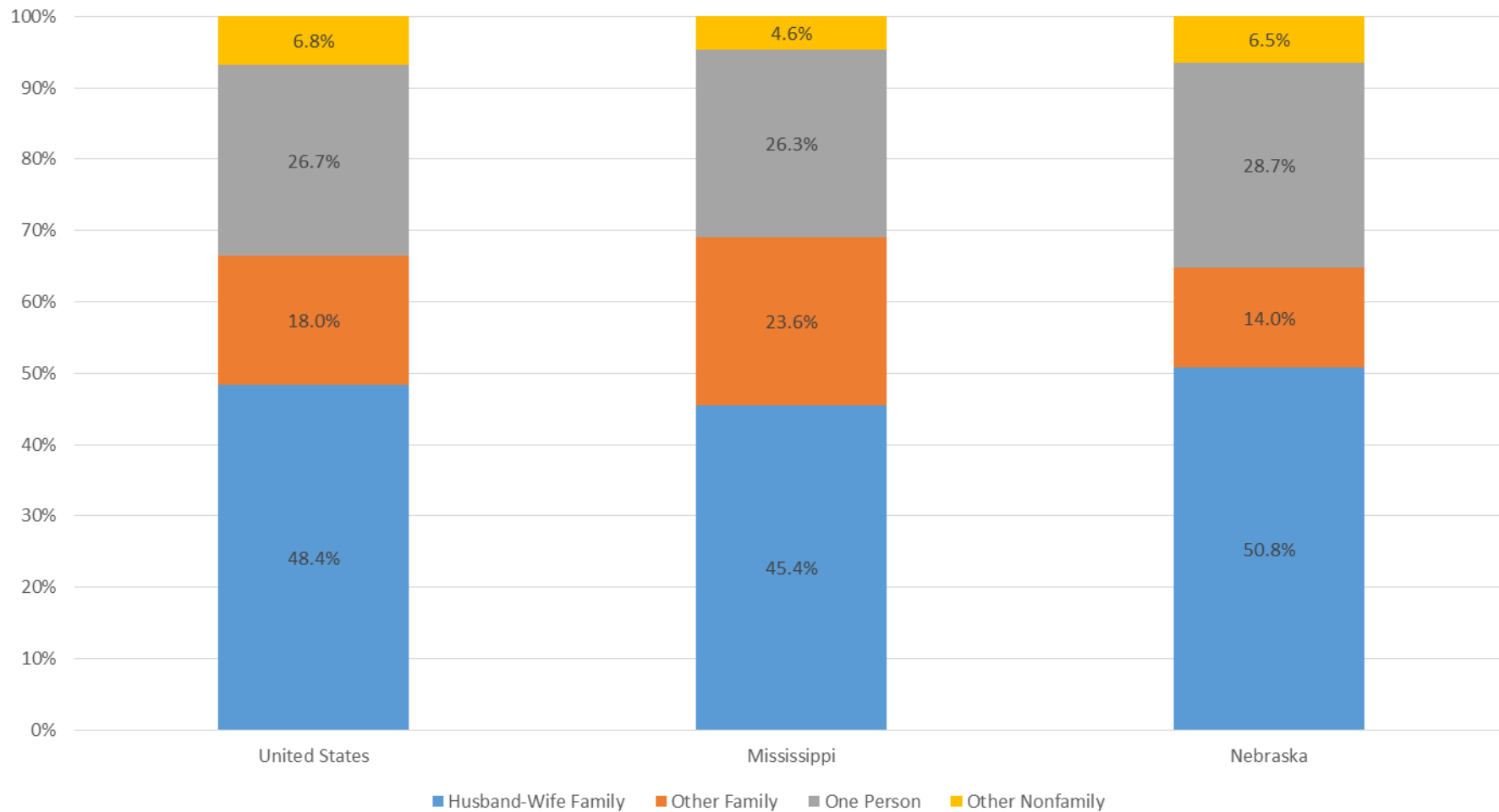
Figure 5-9.
**Distribution of Households by Type:
1950 to 2000**

(Percent)



Source: U.S. Census Bureau, decennial census of population, 1950 to 2000, and decennial census of housing, 1950 and 1960.

Distribution of Households by Type 2010

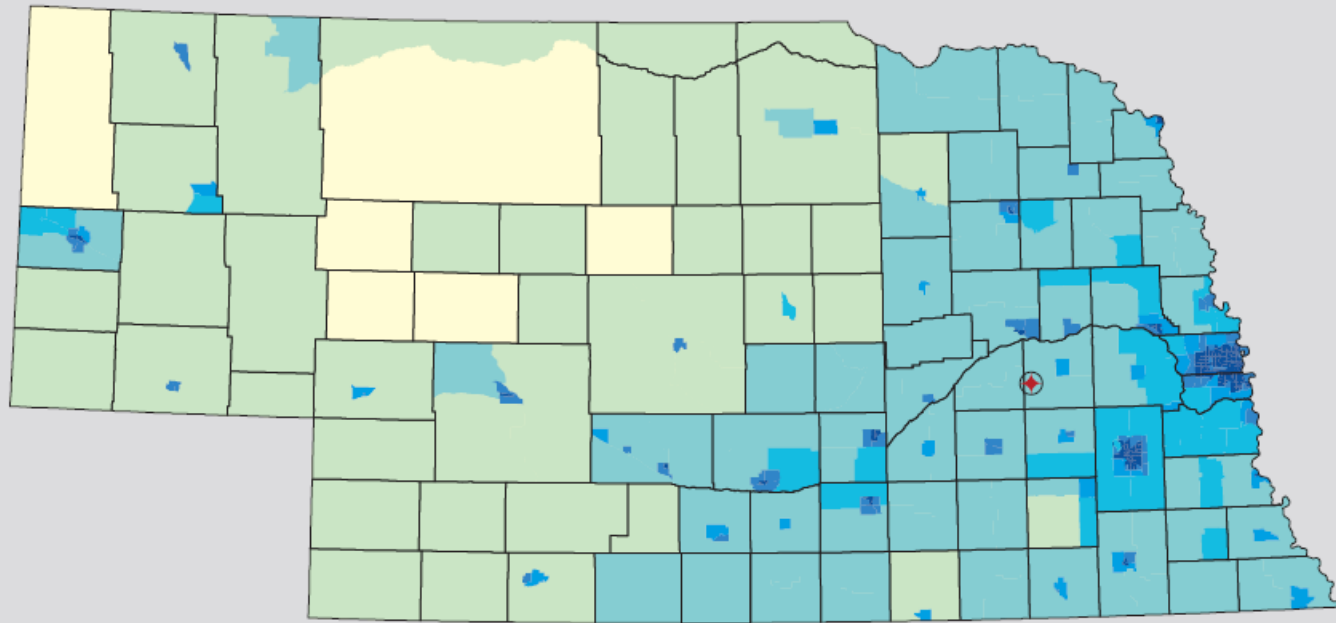


Results of the 2010 Census

- Comparing trends across time.
- Comparing geographies at a specific point in time.

2010 Census: Nebraska Profile

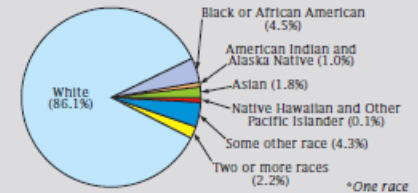
Population Density by Census Tract



Nebraska Population 1970 to 2010

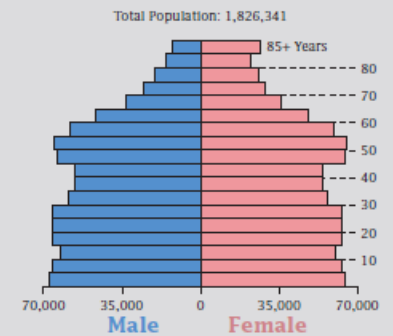


State Race* Breakdown



Hispanic or Latino (of any race)
makes up 9.2% of the state population.

Population by Sex and Age



Housing Tenure

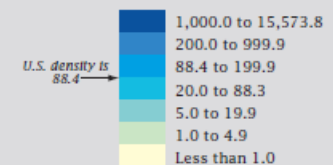
Total Occupied Housing Units:
721,130

67.2% Owner Occupied 32.8% Renter Occupied

Average Household Size
of Owner-Occupied Units:
2.58 people

Average Household Size
of Renter-Occupied Units:
2.21 people

People per Square Mile by Census Tract

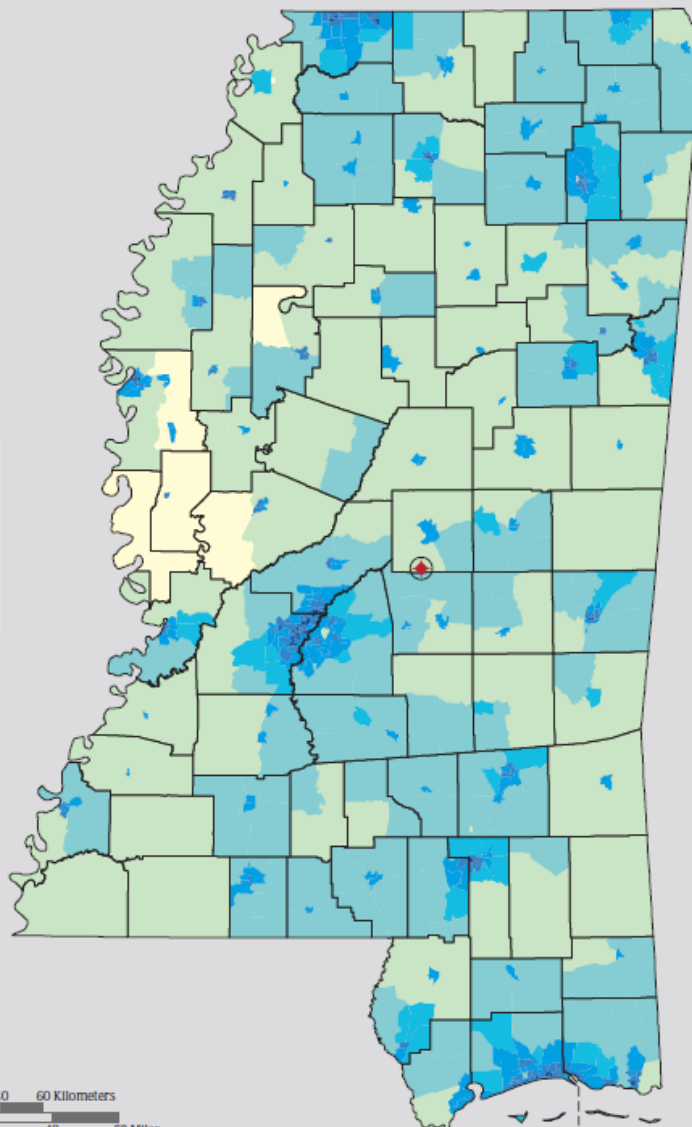


County Boundary

Nebraska Mean Center
of Population

2010 Census: Mississippi Profile

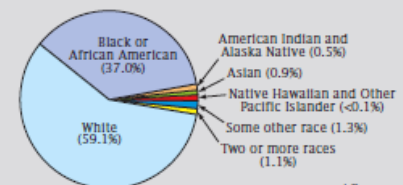
Population Density by Census Tract



Mississippi Population 1970 to 2010

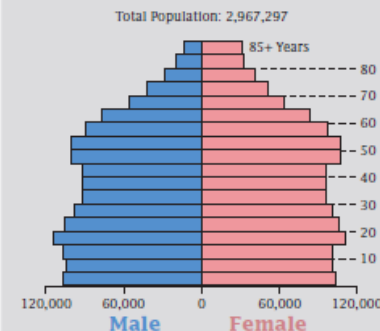


State Race* Breakdown

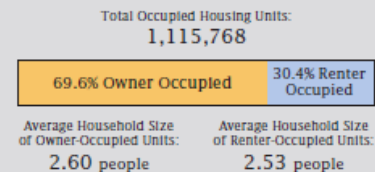


Hispanic or Latino (of any race)
makes up 2.7% of the state population.

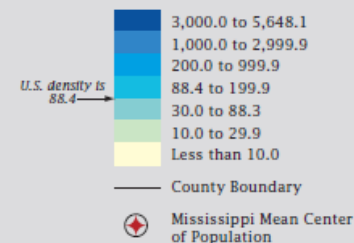
Population by Sex and Age



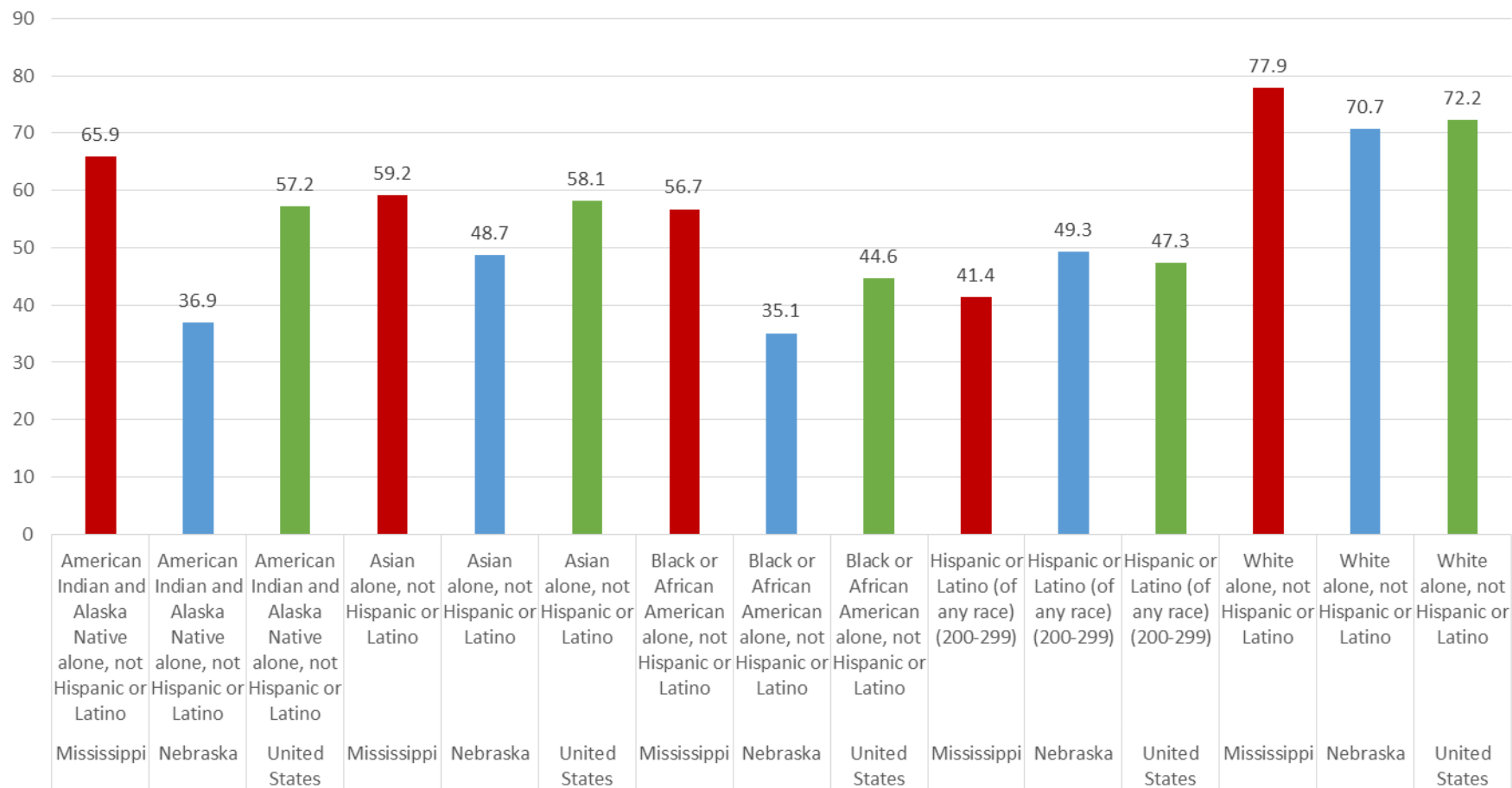
Housing Tenure



People per Square Mile by Census Tract

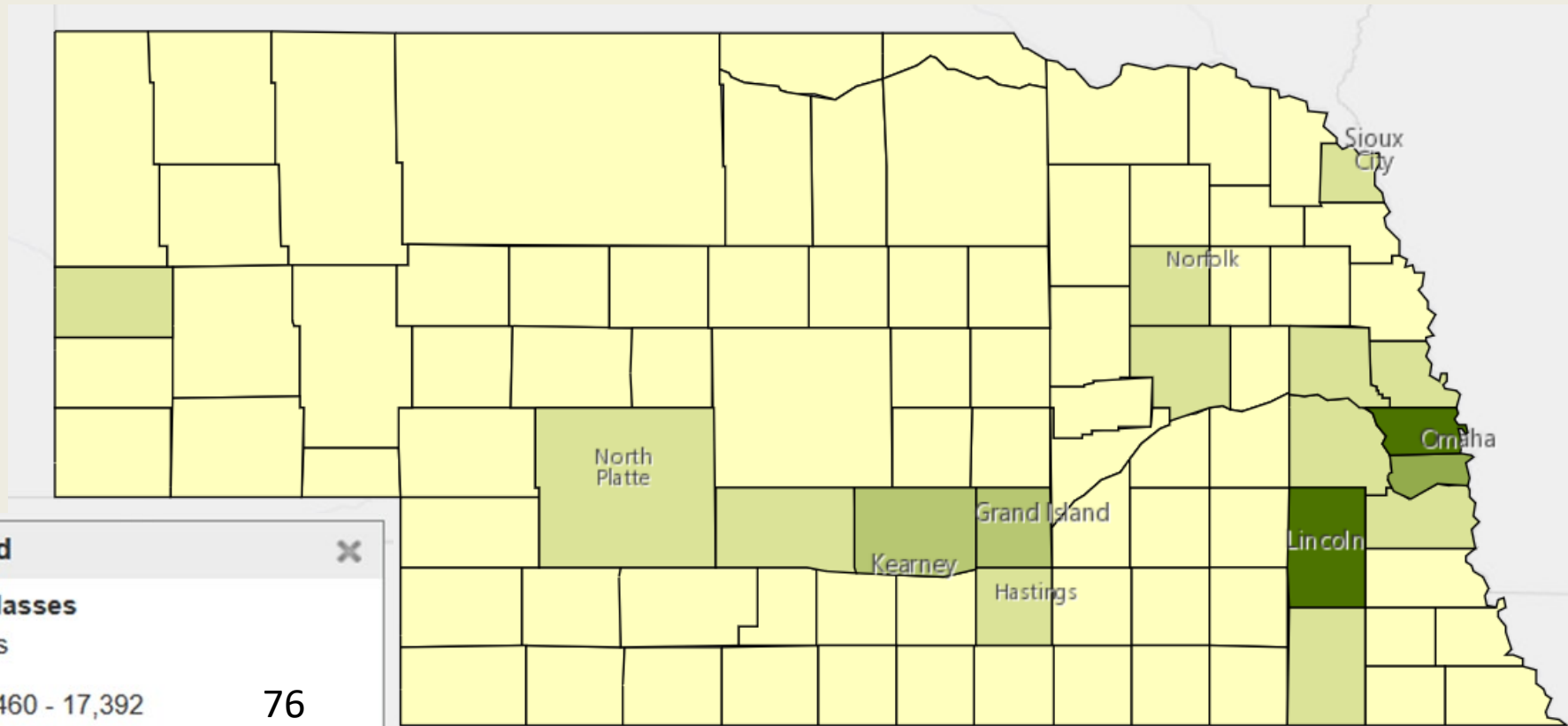


Percent; HOUSING TENURE [3] - Occupied housing units - Owner-occupied housing units



Source: U.S. Census Bureau, 2010 Census.
Summary File 2, Tables HCT7.

Population Distribution 2010



Legend

Data Classes

Persons



460 - 17,392

76



17,393 - 43,929

12



43,930 - 95,203

2



95,204 - 245,285

1



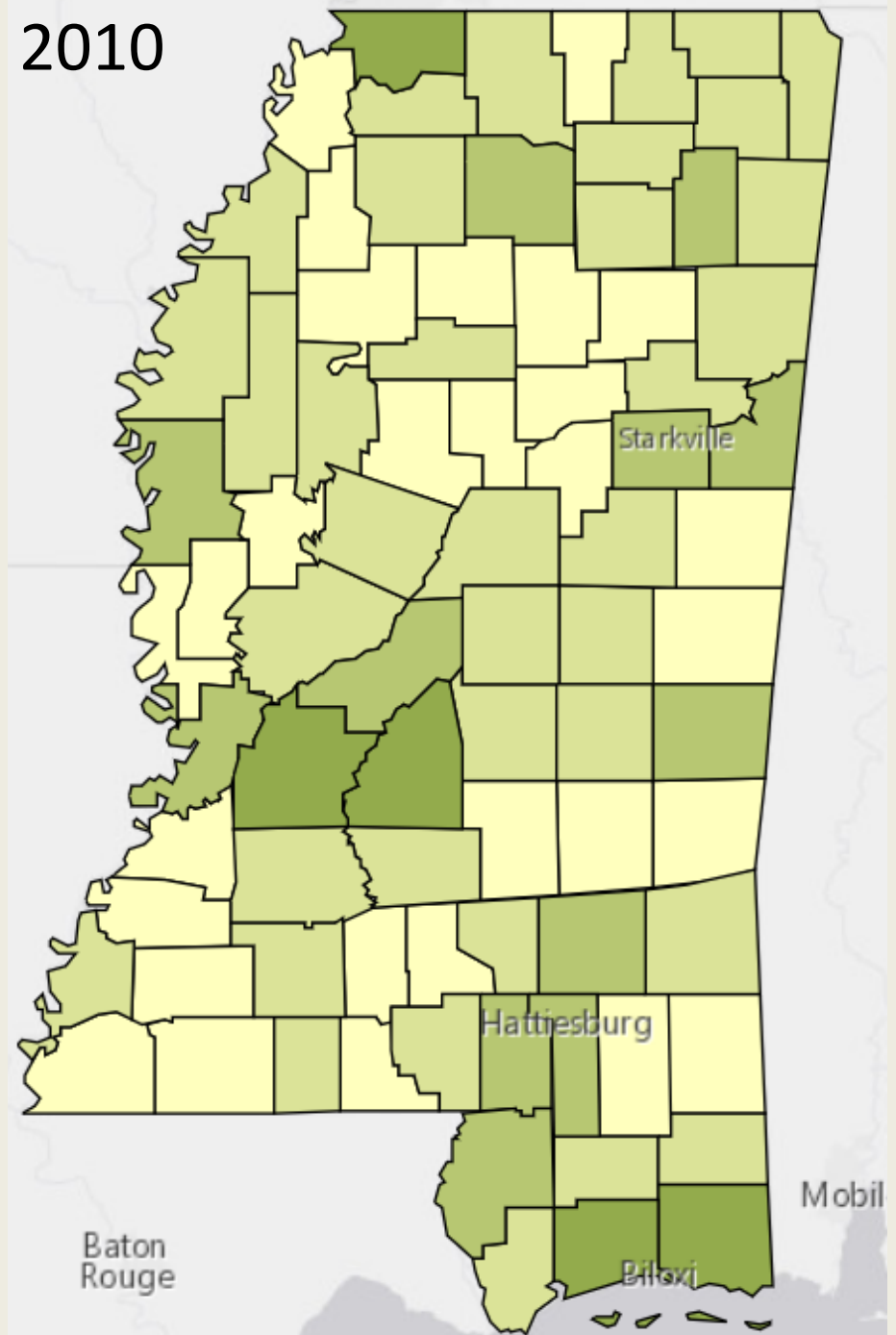
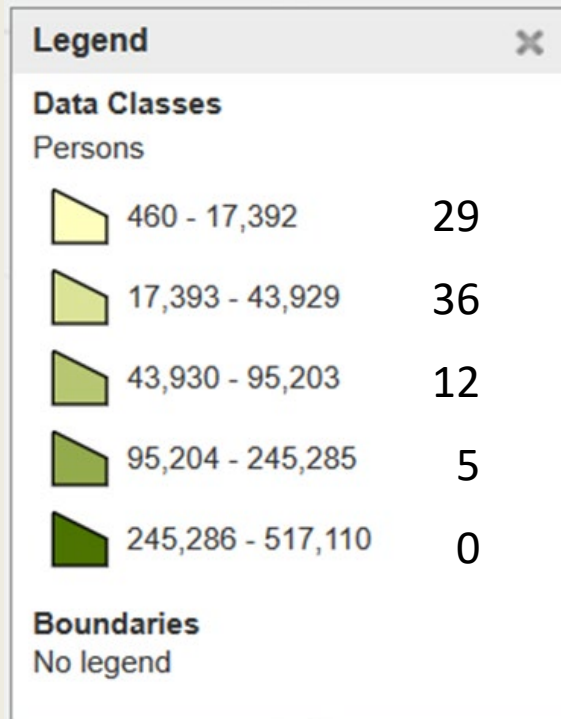
245,286 - 517,110

2

Boundaries

No legend

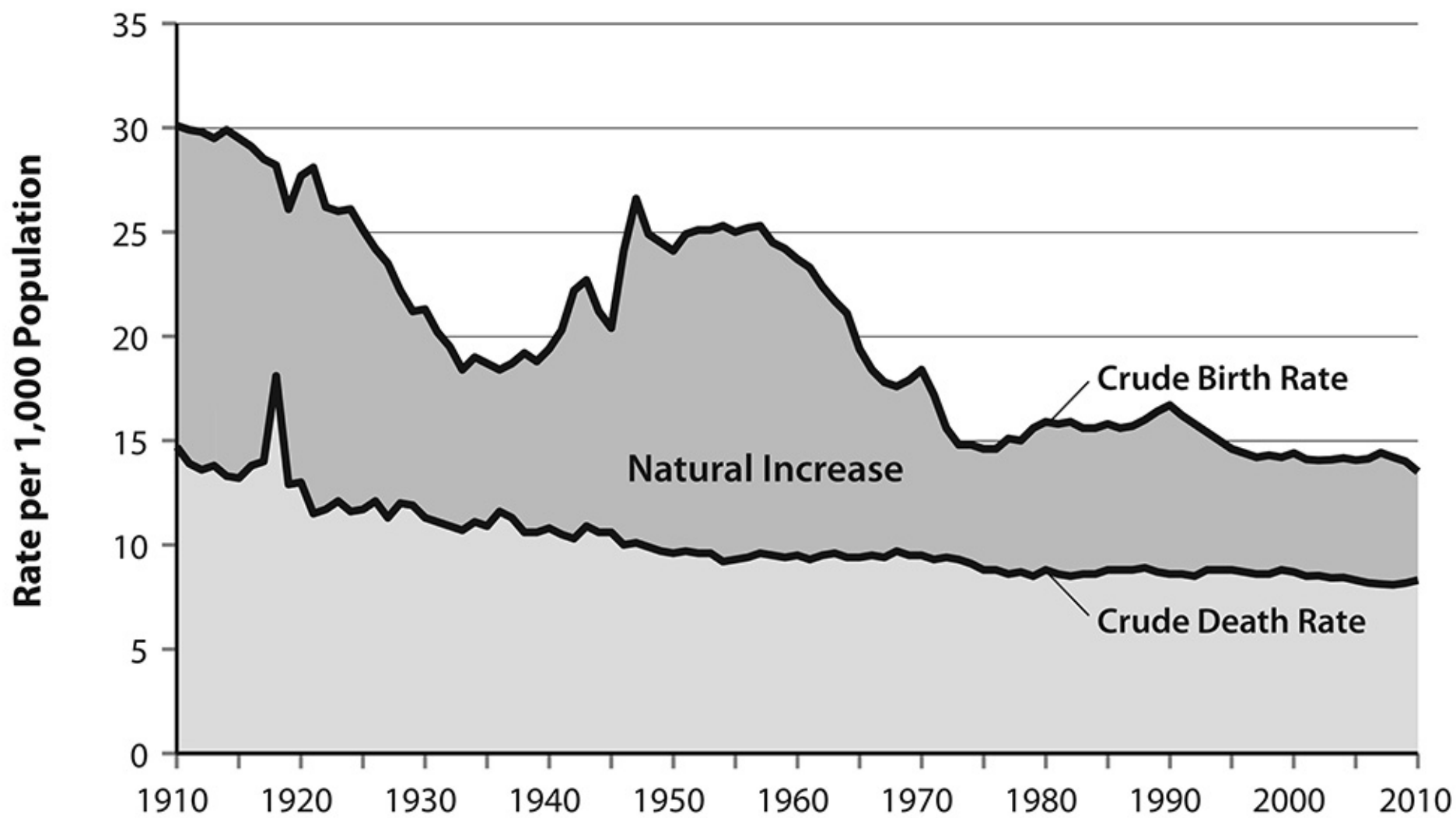
Population Distribution 2010



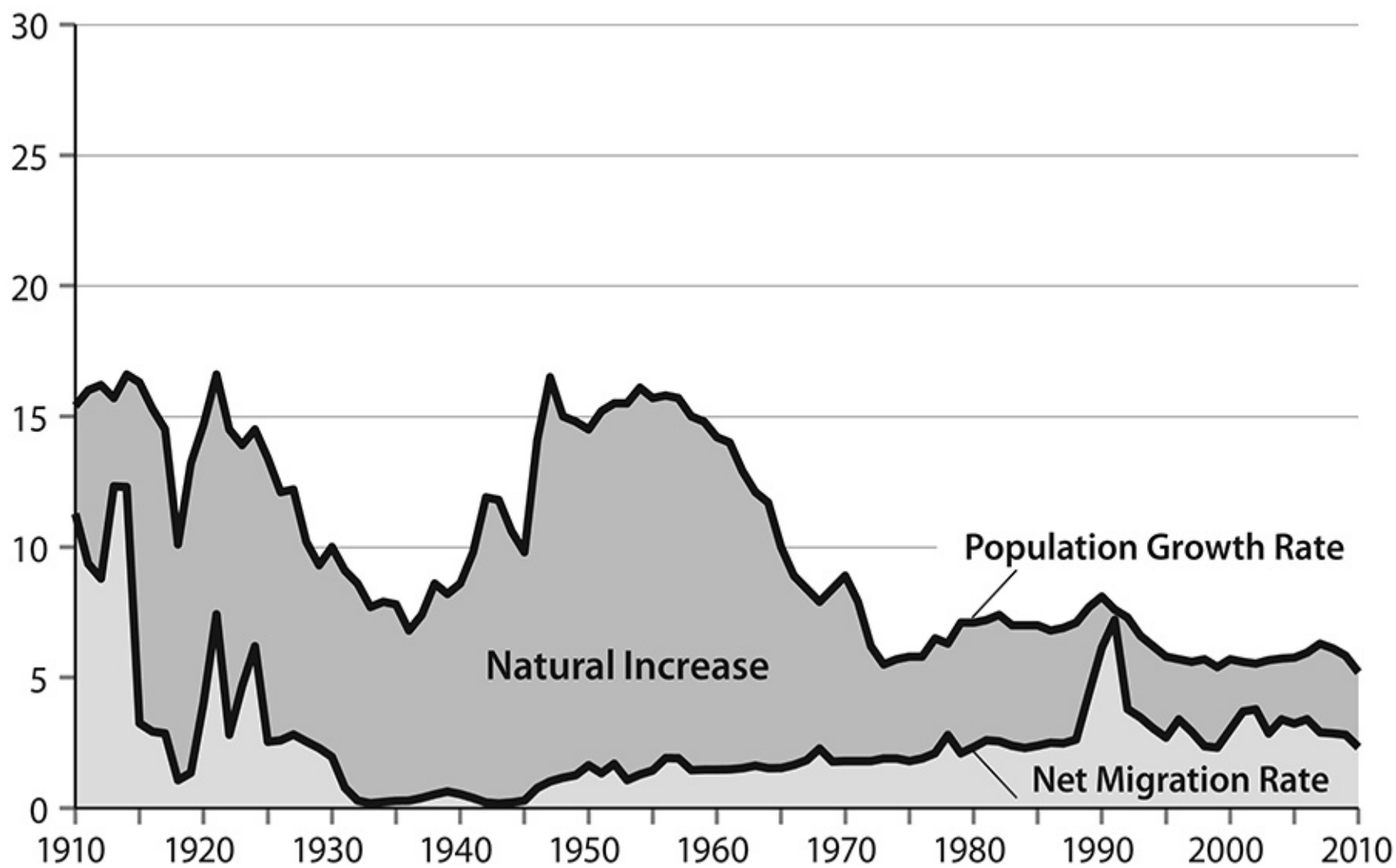
Population Change

Figure 1-3

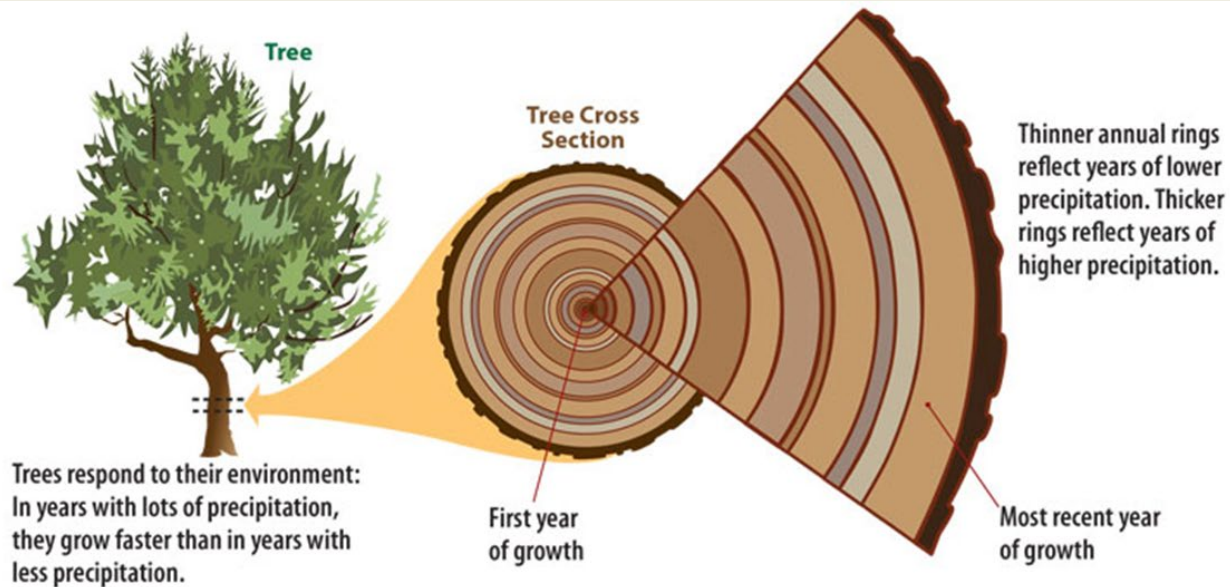
U.S. Birth, Death, Natural Increase, Net Migration, and Growth Rates, 1910–2010



Rate per 1,000 Population



Source: Data from U.S. Census Bureau, 2011, 2012, 2013. Figures produced by Eiko Strader.



Scientists build tree-ring chronologies by starting with living trees and then finding progressively older specimens—including archaeological wood—whose outer rings overlap with the inner rings of more-recent specimens.

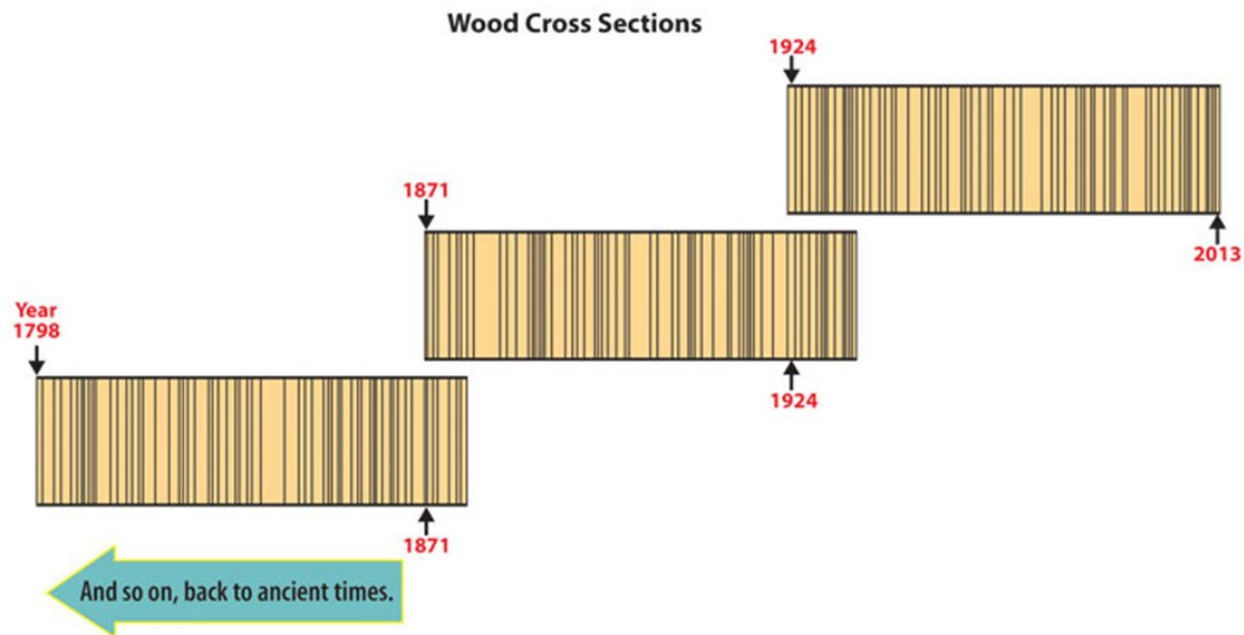
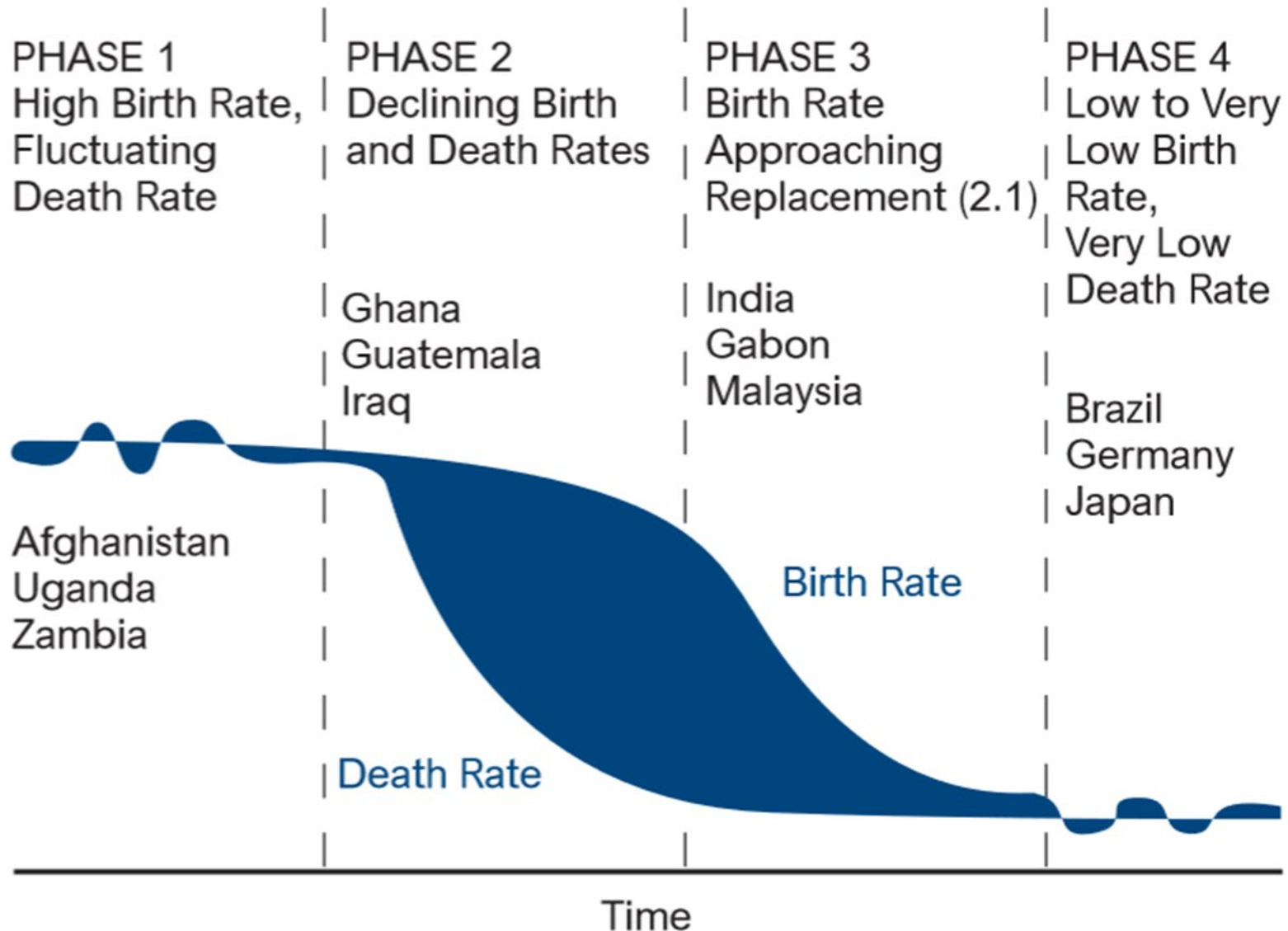
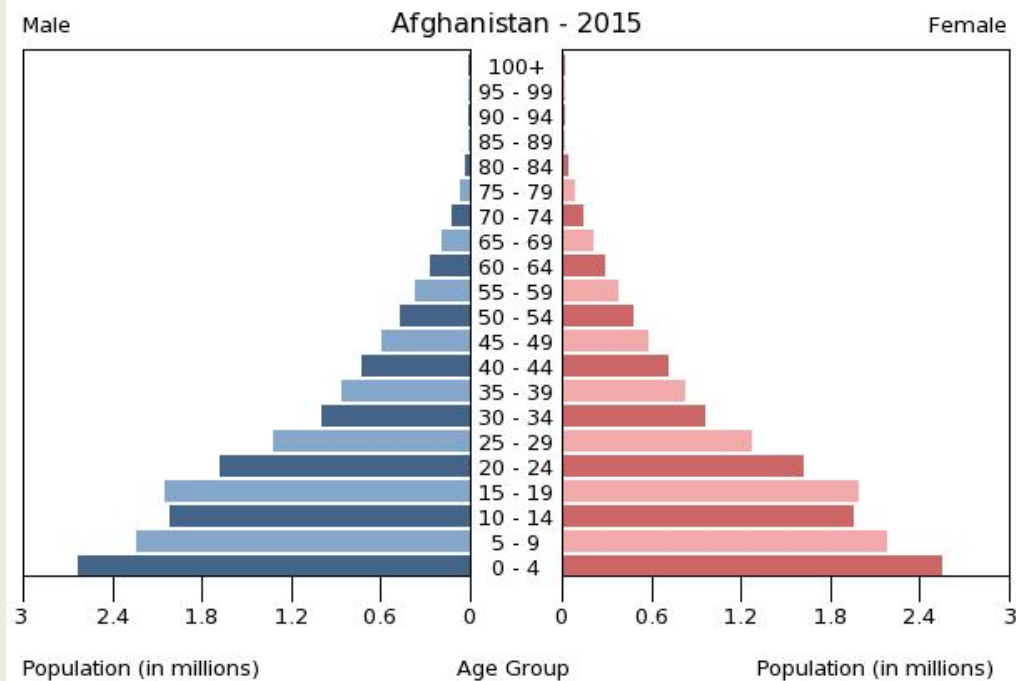


FIGURE 2

The Classic Phases of Demographic Transition



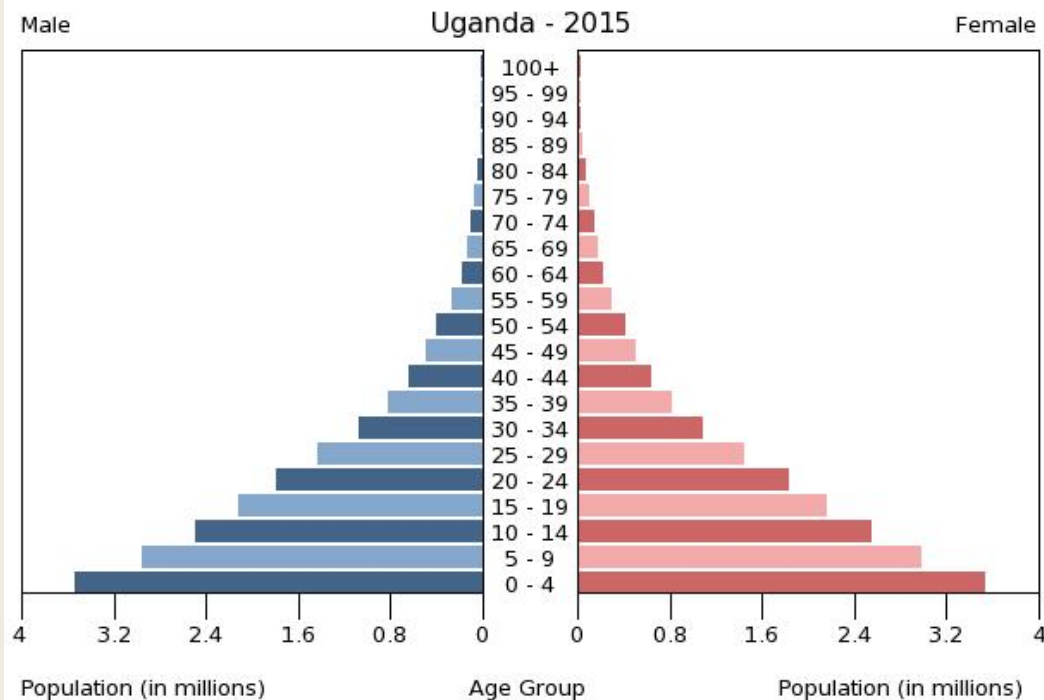


Stage 1

High Growth Potential

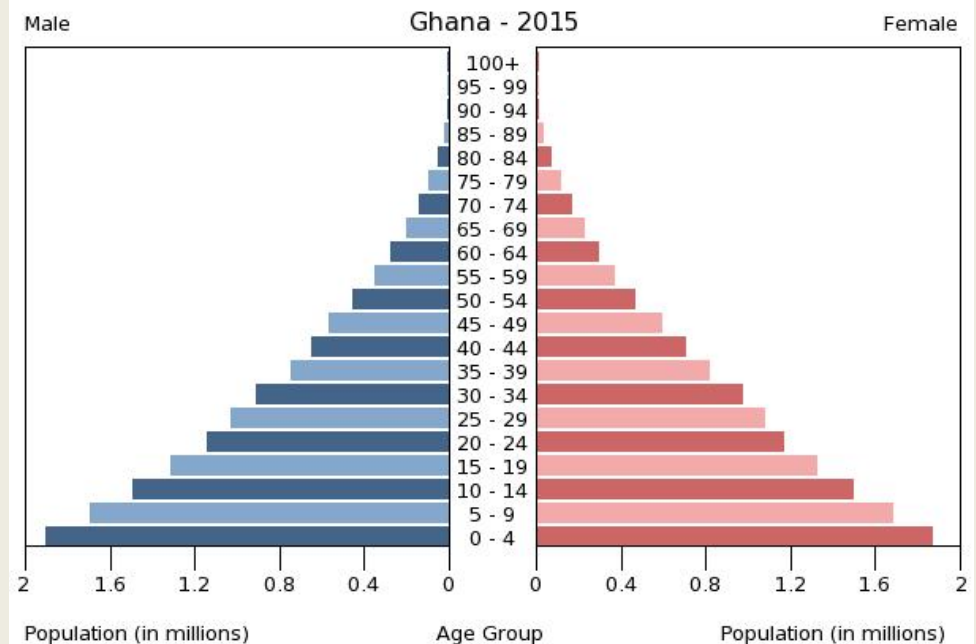
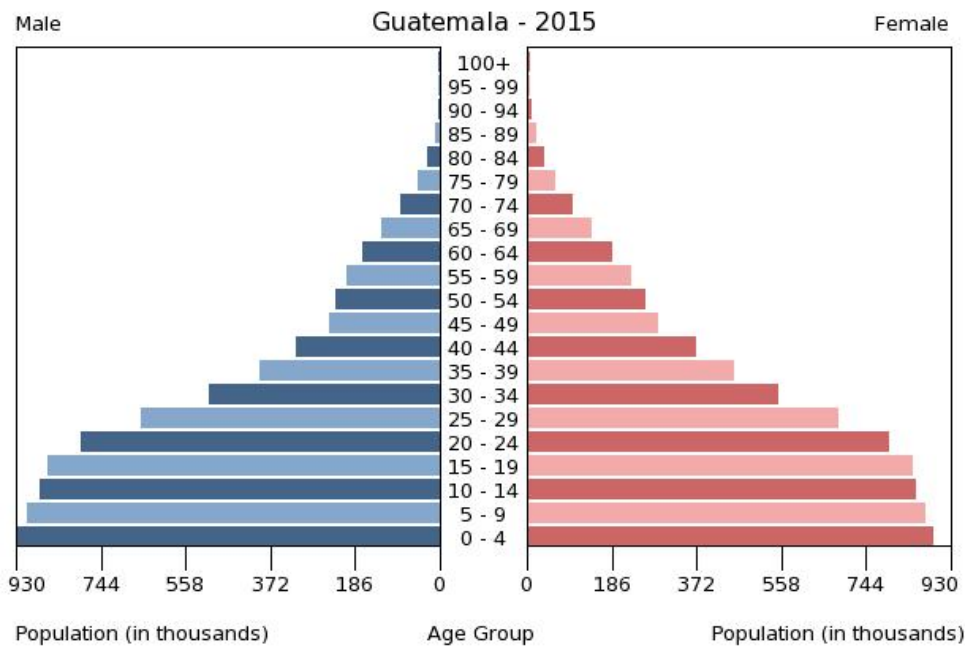
High percentage of females < 15

High Youth Dependency Ratio
Ages 0 – 14 / Ages 15-64

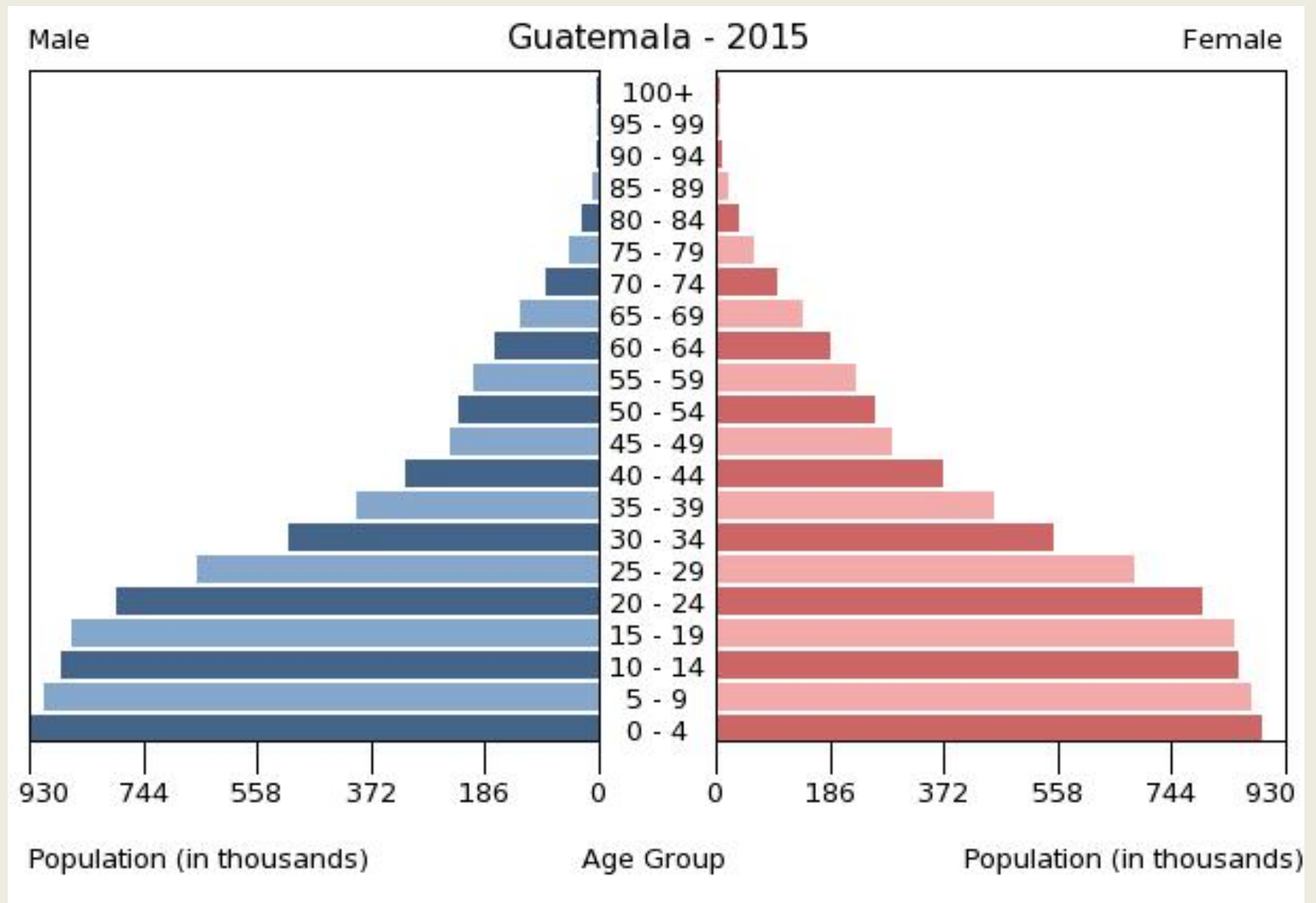


Stage 2

Beginning of Demographic Transition
Lower Infant and Child mortality

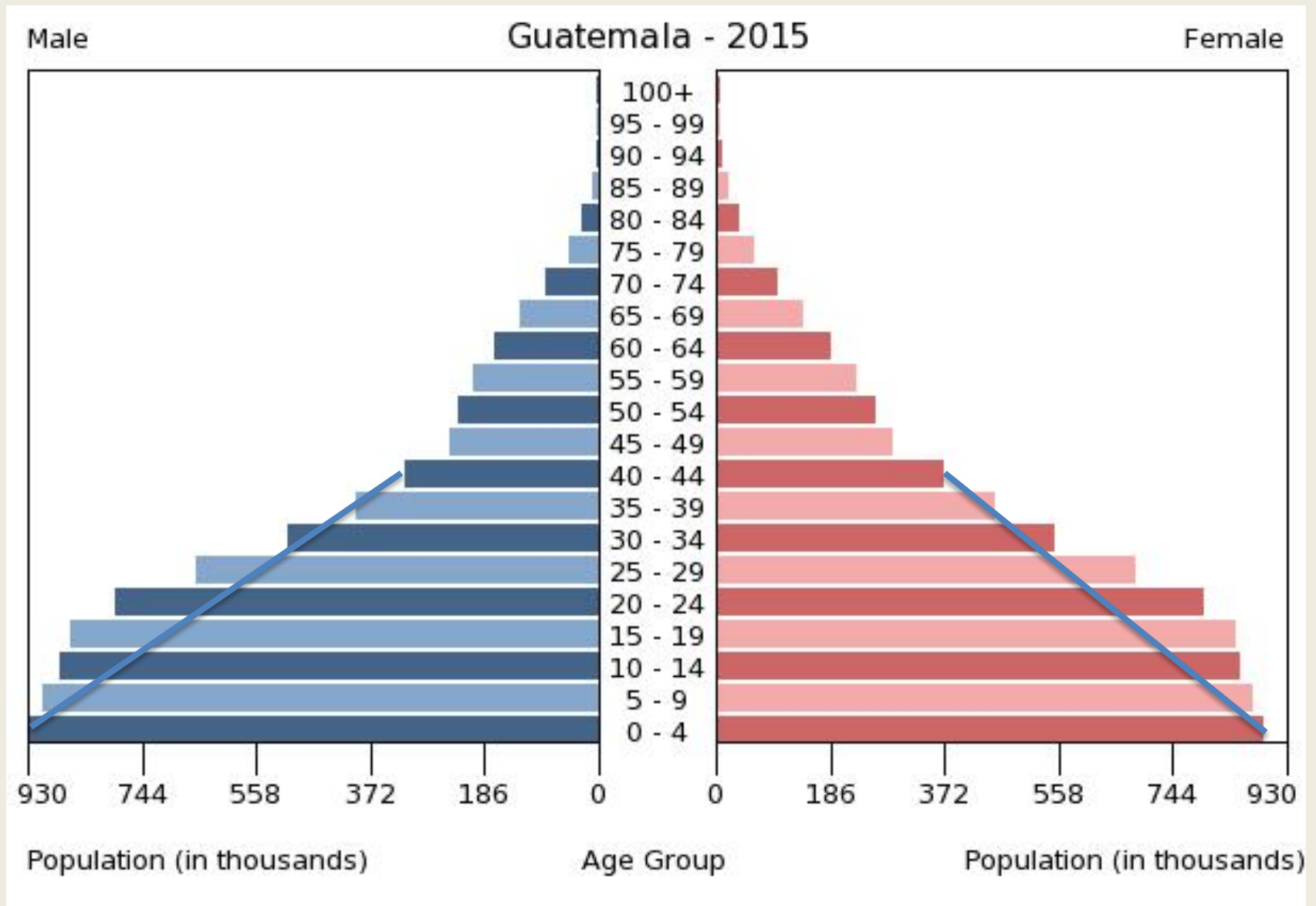


Stage 2



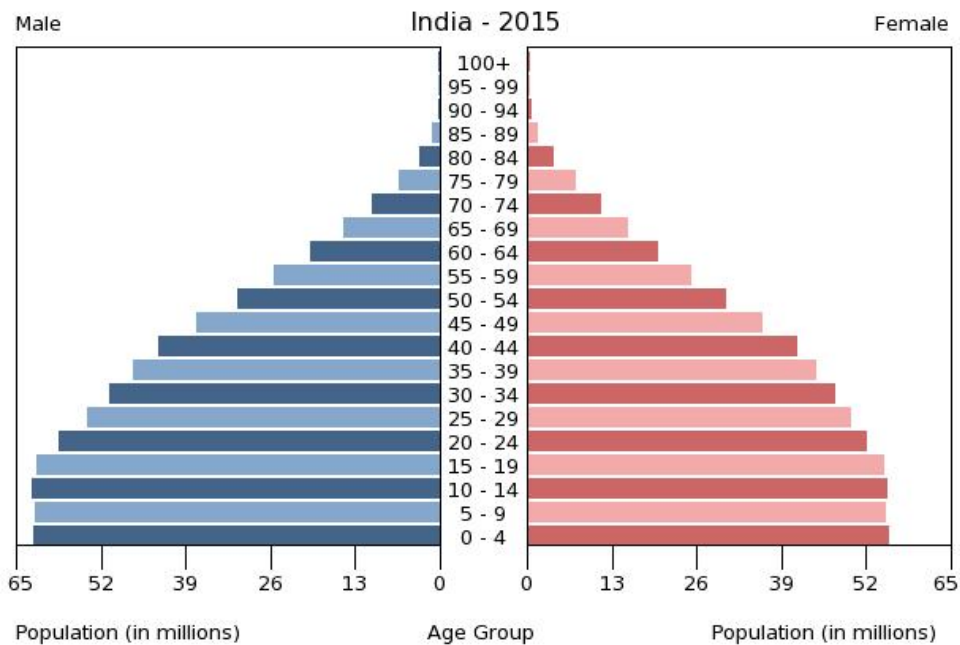
Early mortality declines are often confused with a lowering of fertility

Stage 2

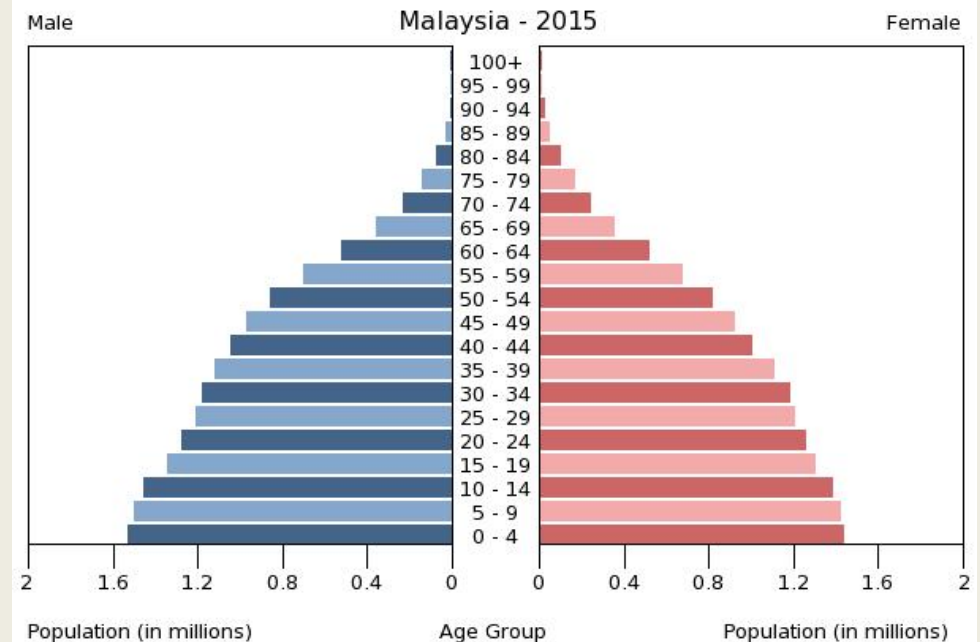


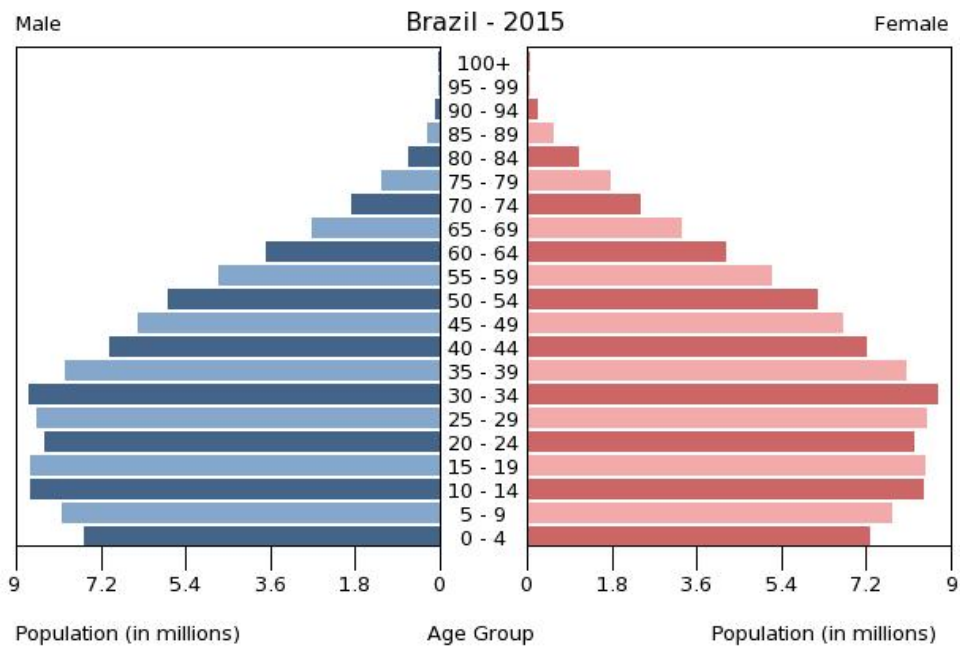
Stage 3

Countries that exhibit the highest growth rates.



Early declines in mortality rates affected infants and children more. As mortality continues to decline older age groups are affected.

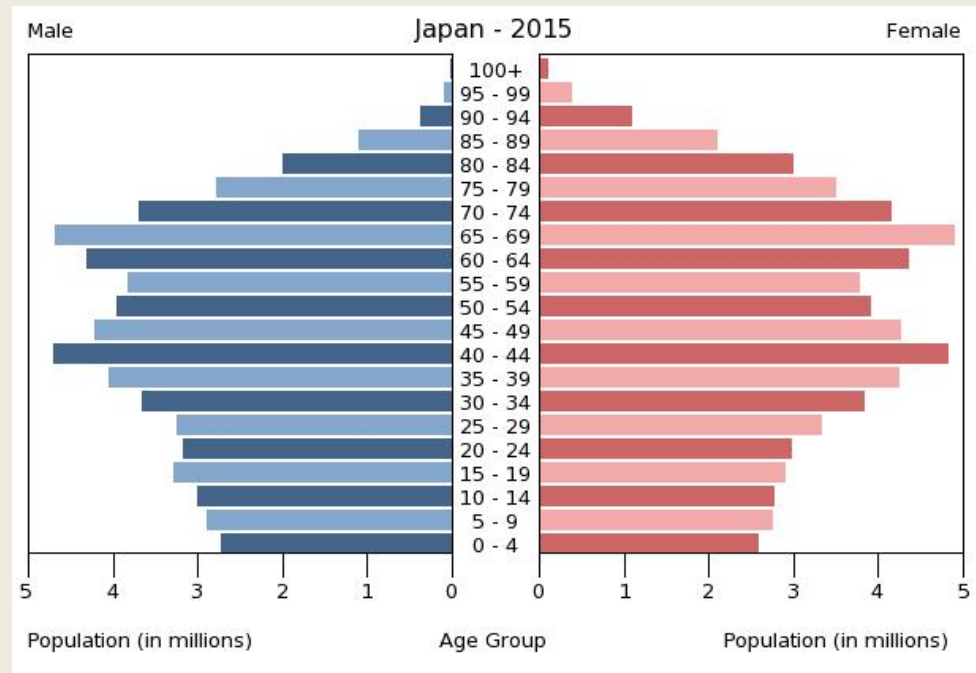




Stage 4

Some stage four countries are on the verge of a population decline.

Stage four countries can experience a demographic windfall as large number of workers have fewer dependents



Funding Allocations of Age Data to States & Localities

- Adult basic education programs
- Transportation services for elderly
- Social services for children under 5 yrs.
- Housing needs for elderly
- Supplemental food programs for children
- Job training programs for working age
- Delinquency prevention programs

Age Question

7. What is Person 1's age and what is Person 1's date of birth?

Please report babies as age 0 when the child is less than 1 year old.

Print numbers in boxes.

Age on April 1, 2010

--	--	--

Month

--	--

Day

--

Year of birth

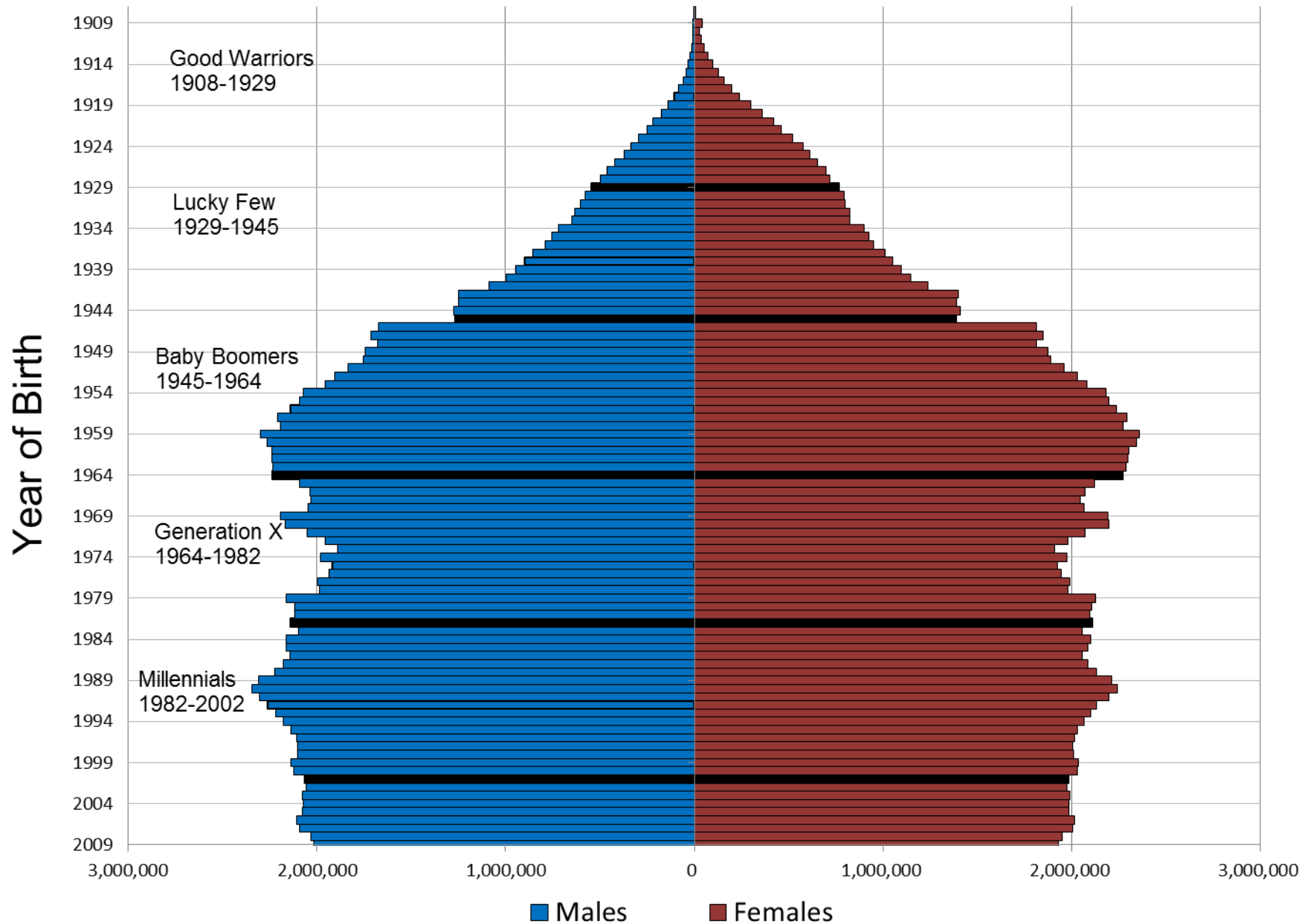
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DP-1-Geography-United States: Profile of General Population and Housing Characteristics: 2010
2010 Census Summary File 1

Subject	United States		Mississippi		Nebreska	
	Number	Percent	Number	Percent	Number	Percent
SEX AND AGE						
Total population	308,745,538	100	2,967,297	100	1,826,341	100
Under 5 years	20,201,362	6.5	210,956	7.1	131,908	7.2
5 to 9 years	20,348,657	6.6	205,672	6.9	128,928	7.1
10 to 14 years	20,677,194	6.7	208,248	7	122,706	6.7
15 to 19 years	22,040,343	7.1	224,619	7.6	128,930	7.1
20 to 24 years	21,585,999	7	210,894	7.1	129,276	7.1
25 to 29 years	21,101,849	6.8	199,082	6.7	129,076	7.1
30 to 34 years	19,962,099	6.5	188,171	6.3	116,100	6.4
35 to 39 years	20,179,642	6.5	187,368	6.3	110,361	6
40 to 44 years	20,890,964	6.8	187,579	6.3	110,477	6
45 to 49 years	22,708,591	7.4	208,369	7	128,491	7
50 to 54 years	22,298,125	7.2	208,607	7	130,235	7.1
55 to 59 years	19,664,805	6.4	186,569	6.3	117,686	6.4
60 to 64 years	16,817,924	5.4	160,756	5.4	95,490	5.2
65 to 69 years	12,435,263	4	120,523	4.1	68,834	3.8
70 to 74 years	9,278,166	3	93,946	3.2	54,292	3
75 to 79 years	7,317,795	2.4	69,876	2.4	46,435	2.5
80 to 84 years	5,743,327	1.9	51,703	1.7	37,808	2.1
85 years and over	5,493,433	1.8	44,359	1.5	39,308	2.2
Median age (years)	37.2	(X)	36	(X)	36.2	(X)
16 years and over	243,275,505	78.8	2,299,852	77.5	1,417,810	77.6
18 years and over	234,564,071	76	2,211,742	74.5	1,367,120	74.9
21 years and over	220,958,853	71.6	2,072,004	69.8	1,286,989	70.5
62 years and over	49,972,181	16.2	473,309	16	300,516	16.5
65 years and over	40,267,984	13	380,407	12.8	246,677	13.5

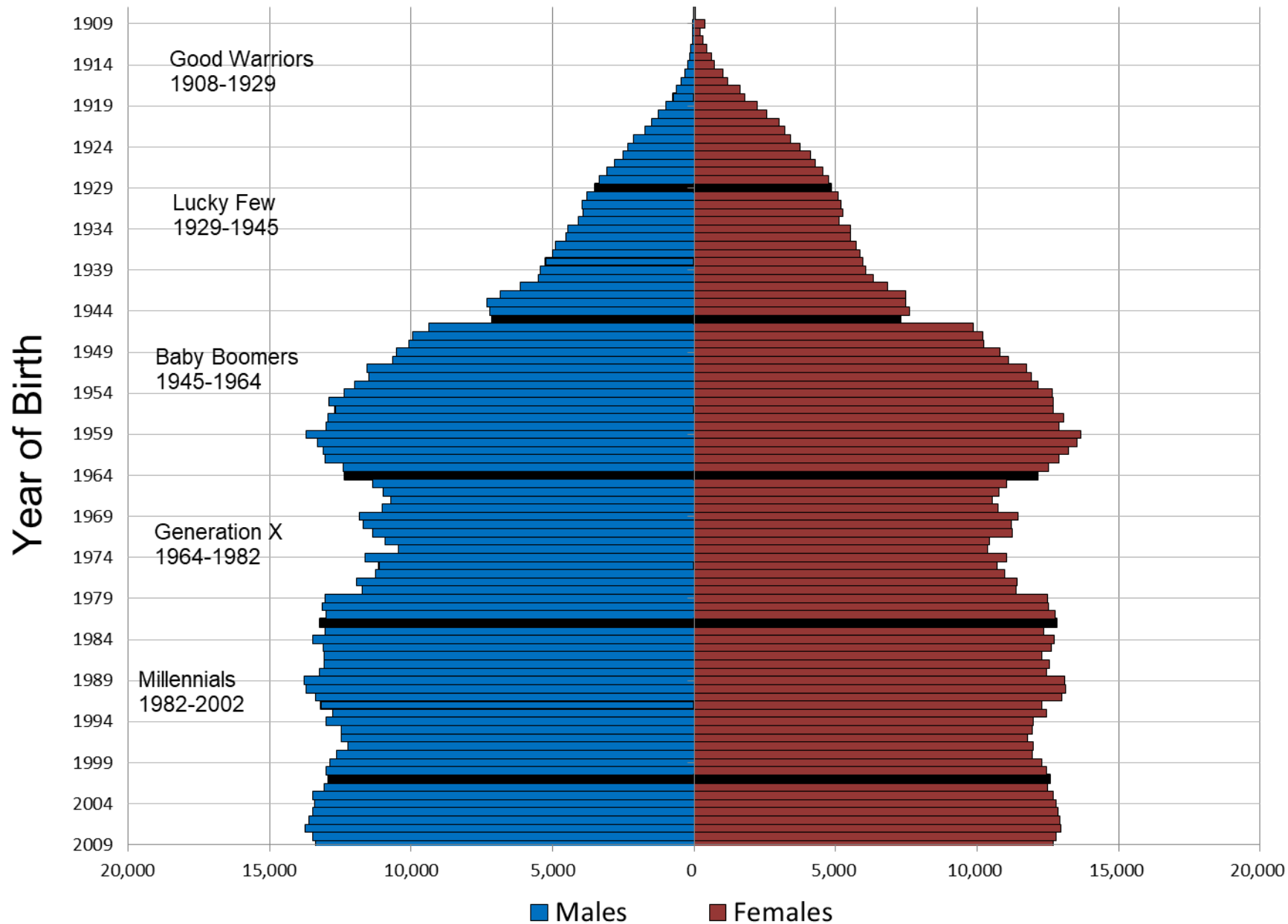
United States

Age/Sex Structure 2010



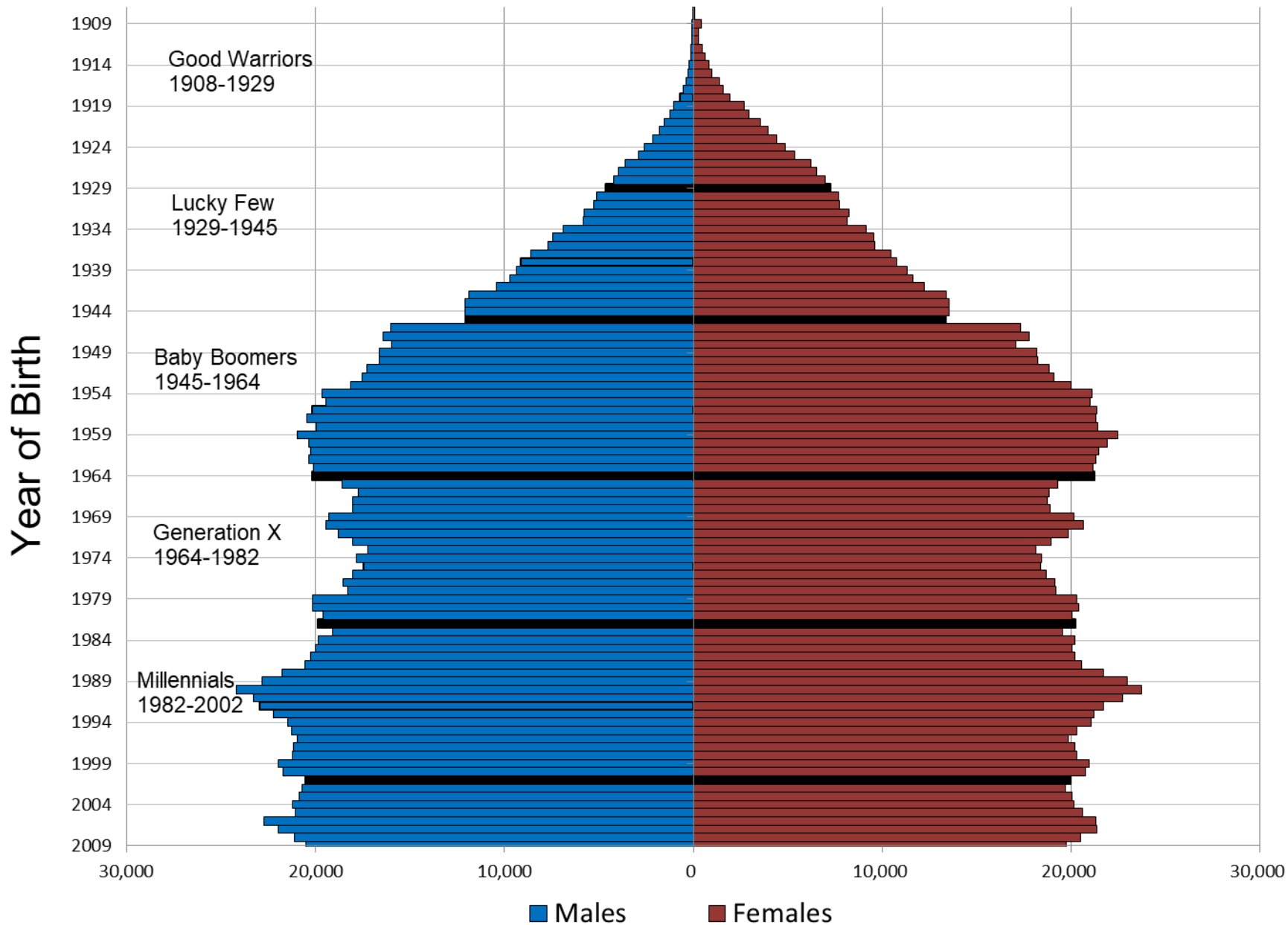
Nebraska

Age/Sex Structure 2010



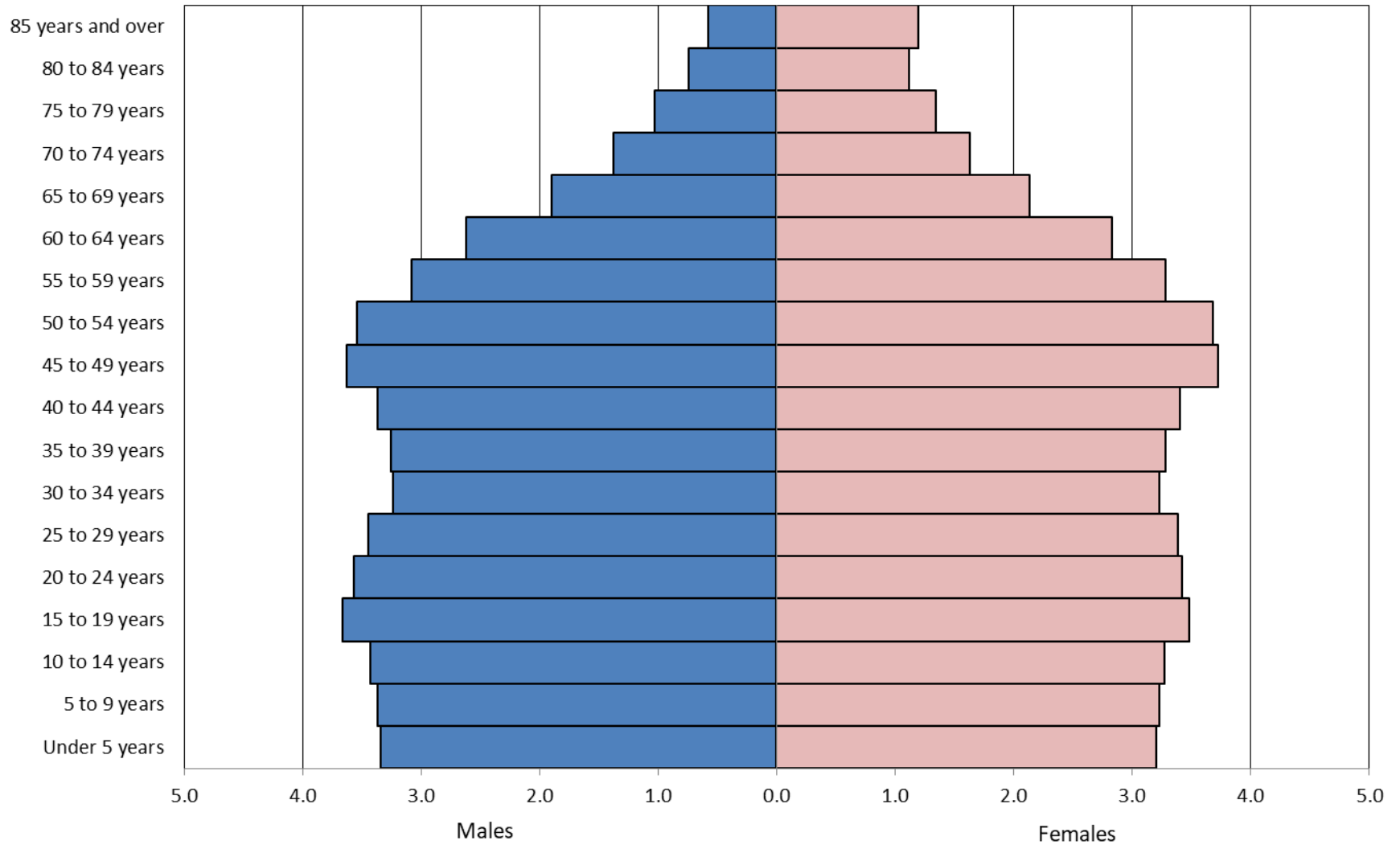
Mississippi

Age/Sex Structure 2010



Age-Sex Structure 2010

U.S. - Total population



2010 Census Summary File 1

Age-Sex Structure 2010

United States

Total population

85 years and over

80 to 84 years

75 to 79 years

70 to 74 years

65 to 69 years

60 to 64 years

55 to 59 years

50 to 54 years

45 to 49 years

40 to 44 years

35 to 39 years

30 to 34 years

25 to 29 years

20 to 24 years

15 to 19 years

10 to 14 years

5 to 9 years

Under 5 years

15,000,000

10,000,000

5,000,000

0

5,000,000

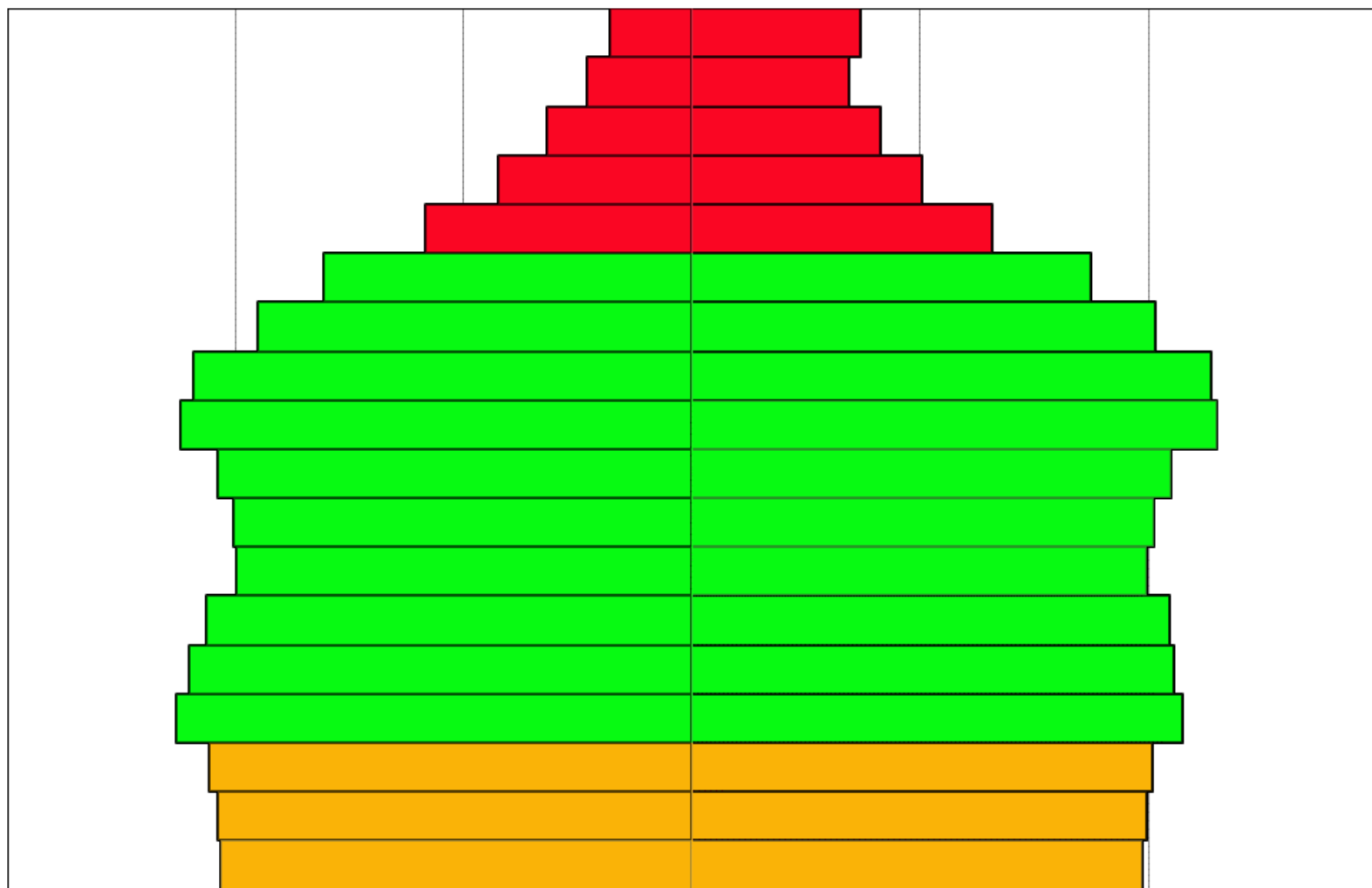
10,000,000

15,000,000

Males

Females

2010 Census Summary File 2



Age-Sex Structure 2010

United States

Total population

85 years and over

80 to 84 years

75 to 79 years

70 to 74 years

65 to 69 years

60 to 64 years

55 to 59 years

50 to 54 years

45 to 49 years

40 to 44 years

35 to 39 years

30 to 34 years

25 to 29 years

20 to 24 years

15 to 19 years

10 to 14 years

5 to 9 years

Under 5 years

15,000,000

10,000,000

5,000,000

0

5,000,000

10,000,000

15,000,000

Males

Females

2010 Census Summary File 2

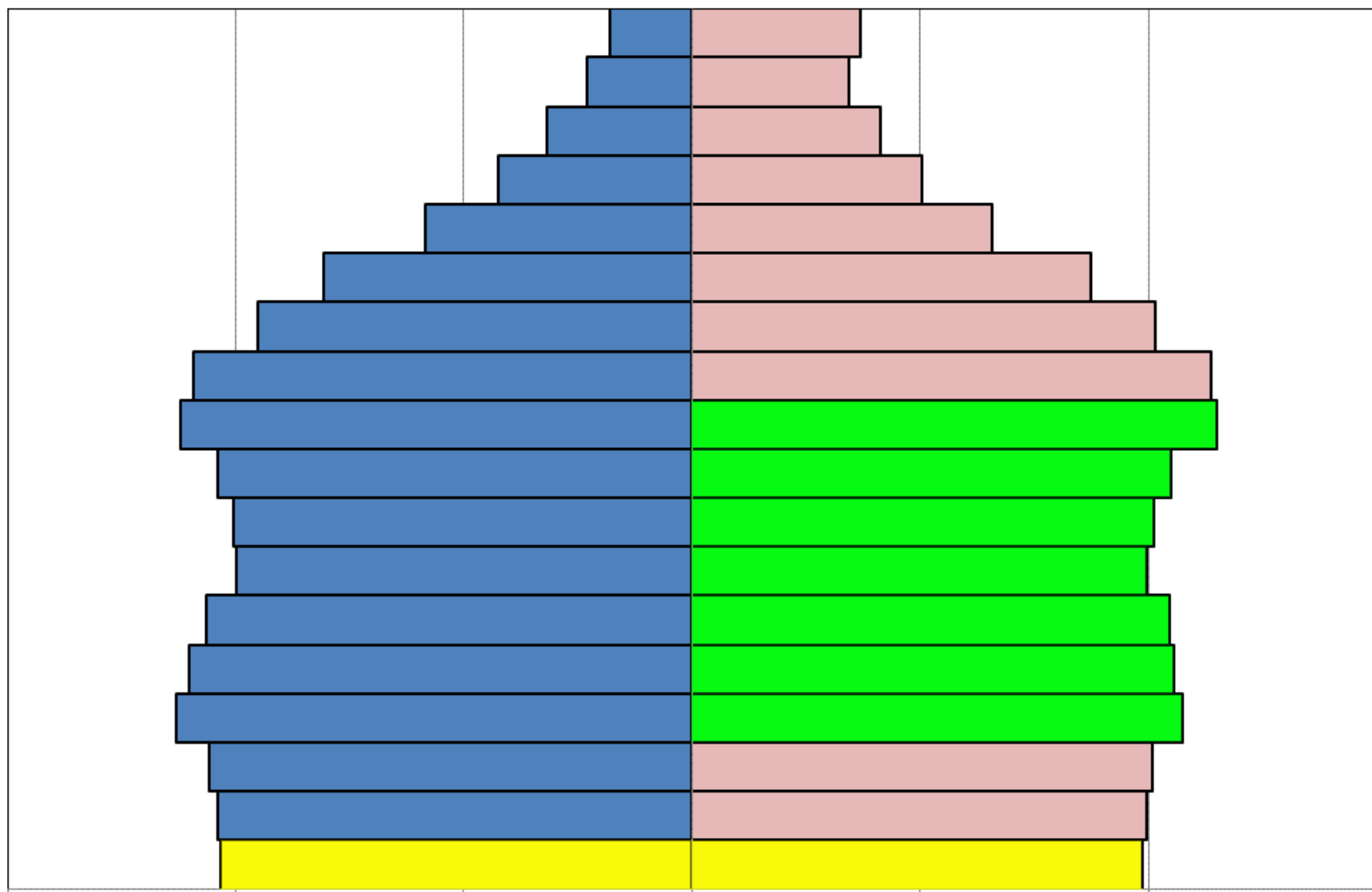
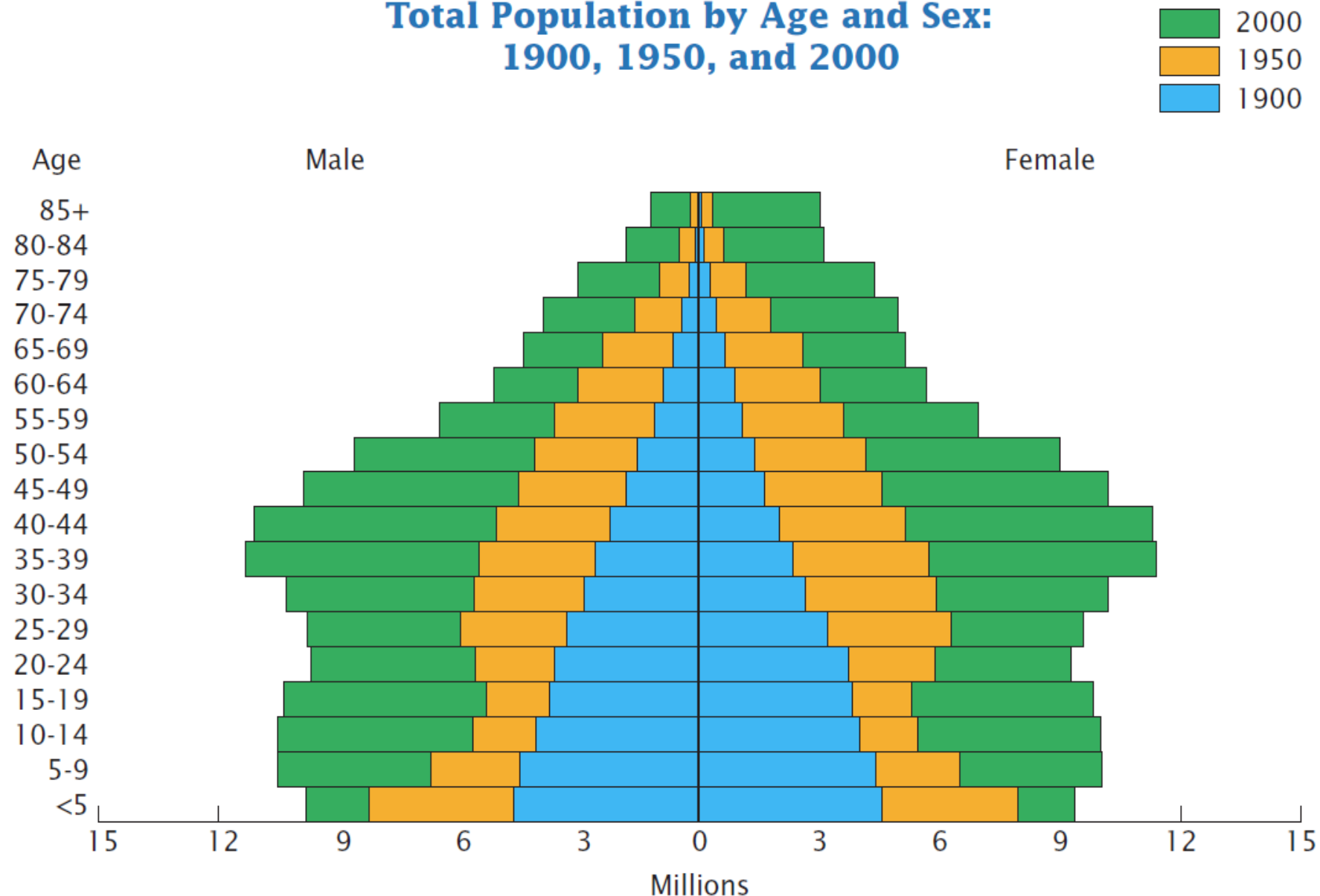


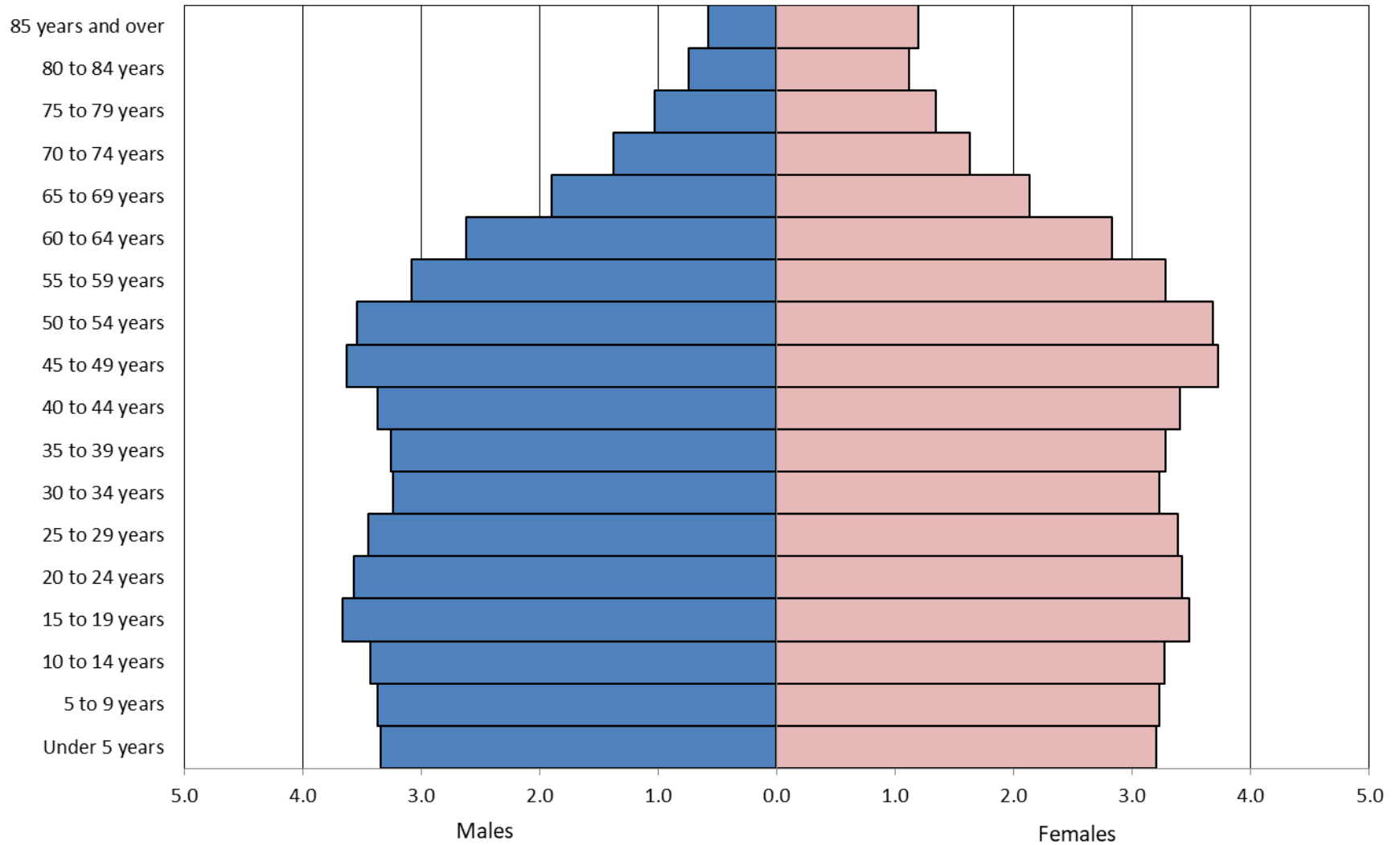
Figure 2-1.
**Total Population by Age and Sex:
 1900, 1950, and 2000**



Source: U.S. Census Bureau, decennial census of population, 1900, 1950, and 2000.

Age-Sex Structure 2010

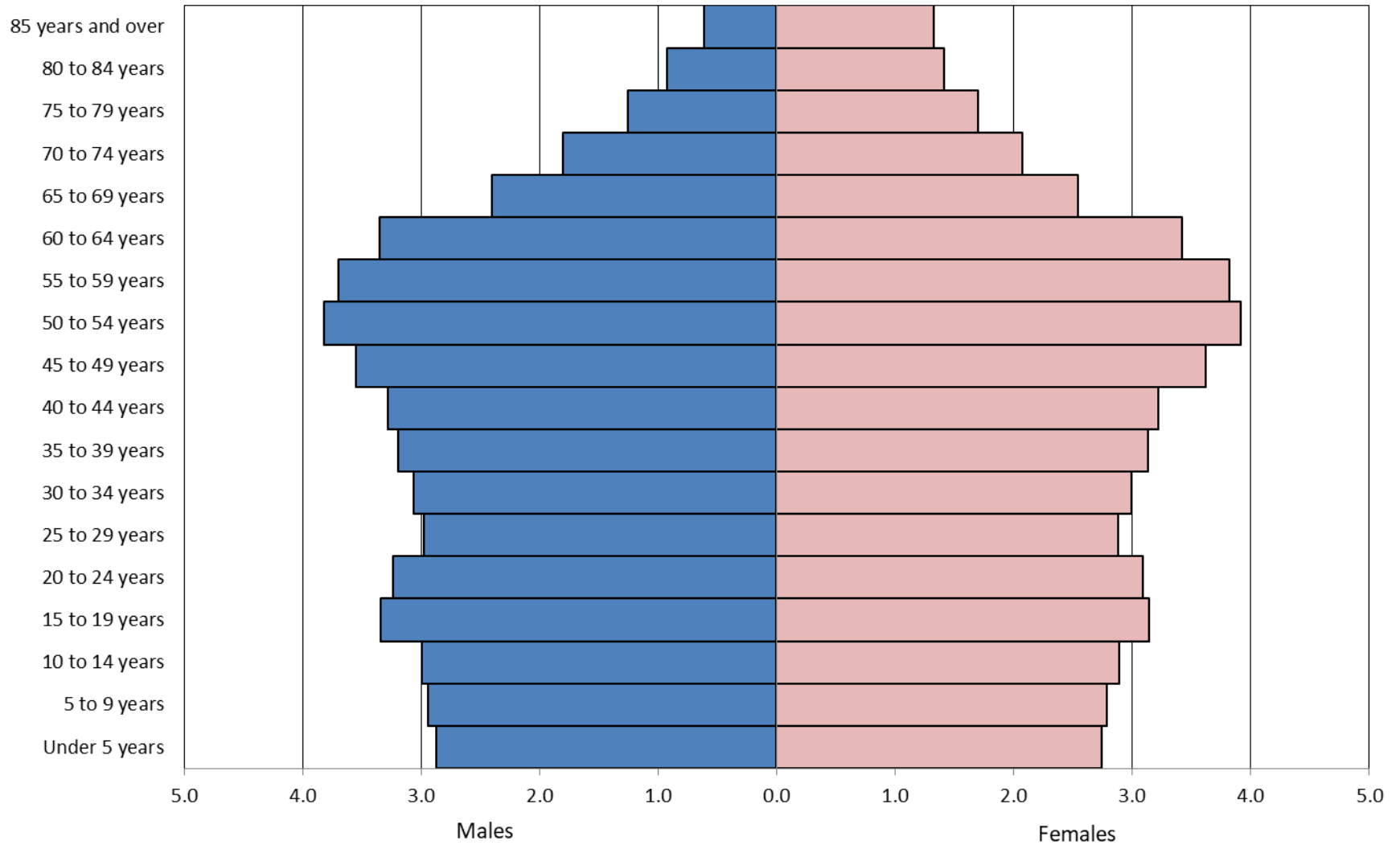
U.S. - Total population



2010 Census Summary File 1

Age-Sex Structure 2010

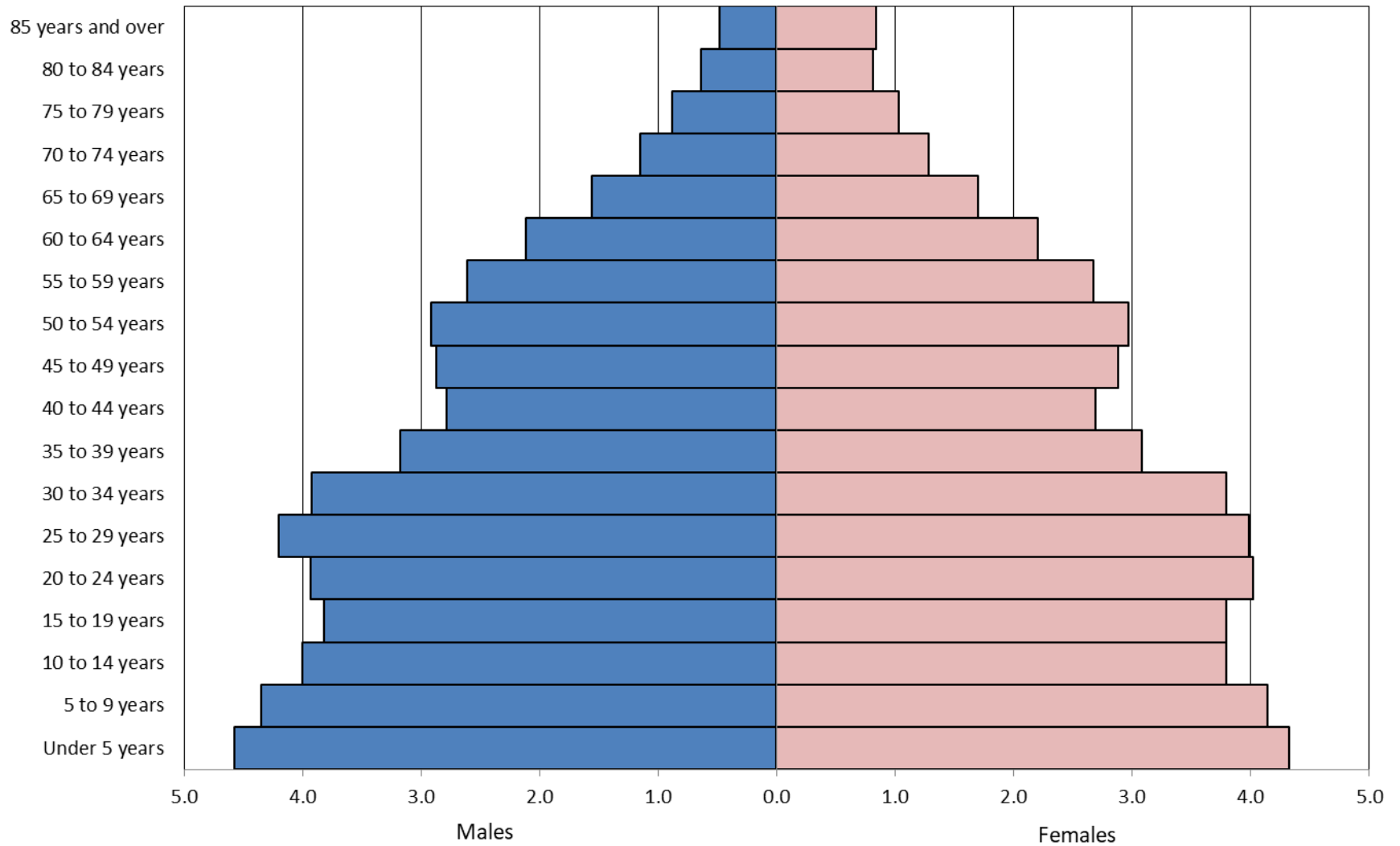
West Virginia-Total population



2010 Census Summary File 1

Age-Sex Structure 2010

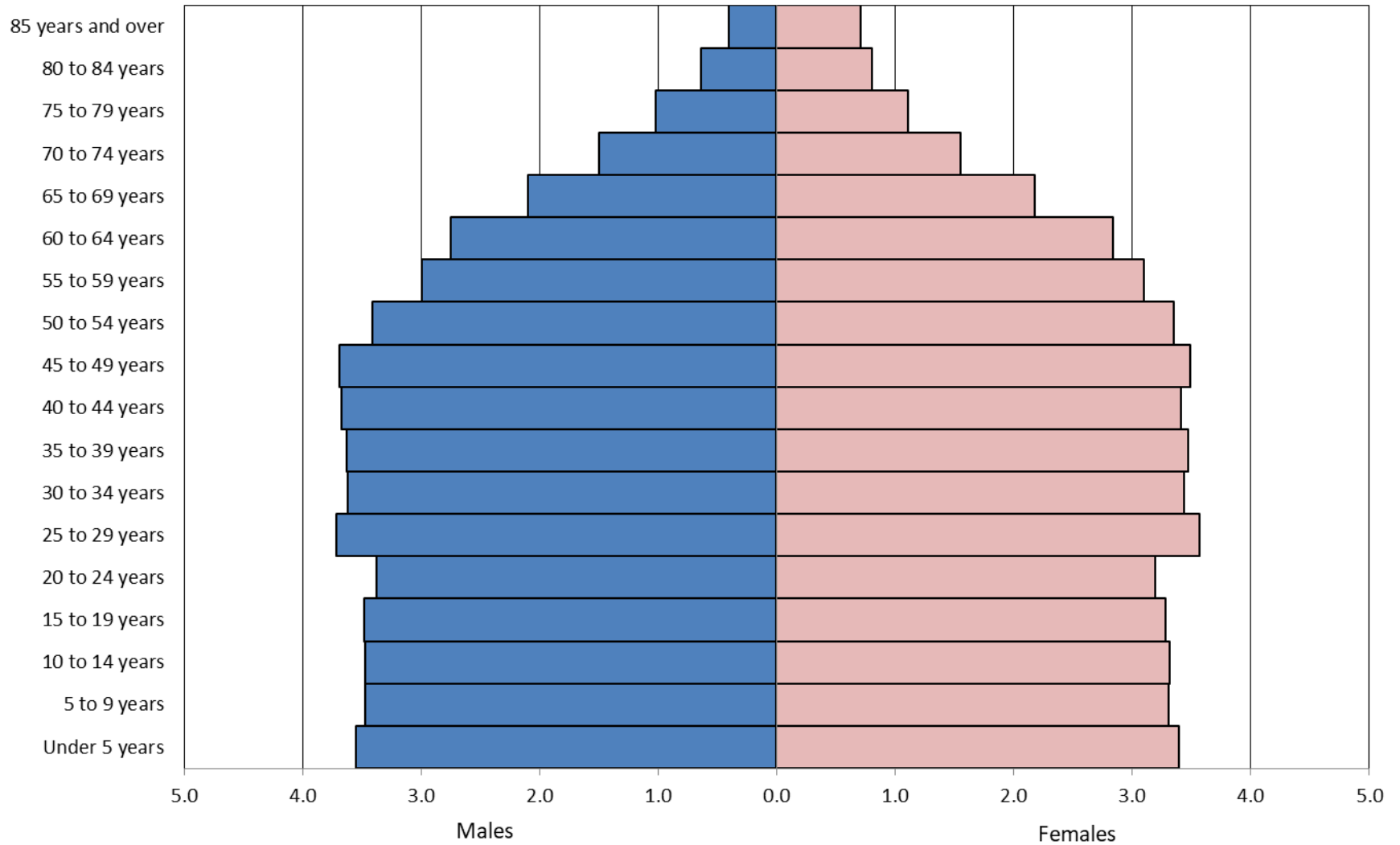
Utah-White alone, not Hispanic or Latino



2010 Census Summary File 1

Age-Sex Structure 2010

Nevada-Total population

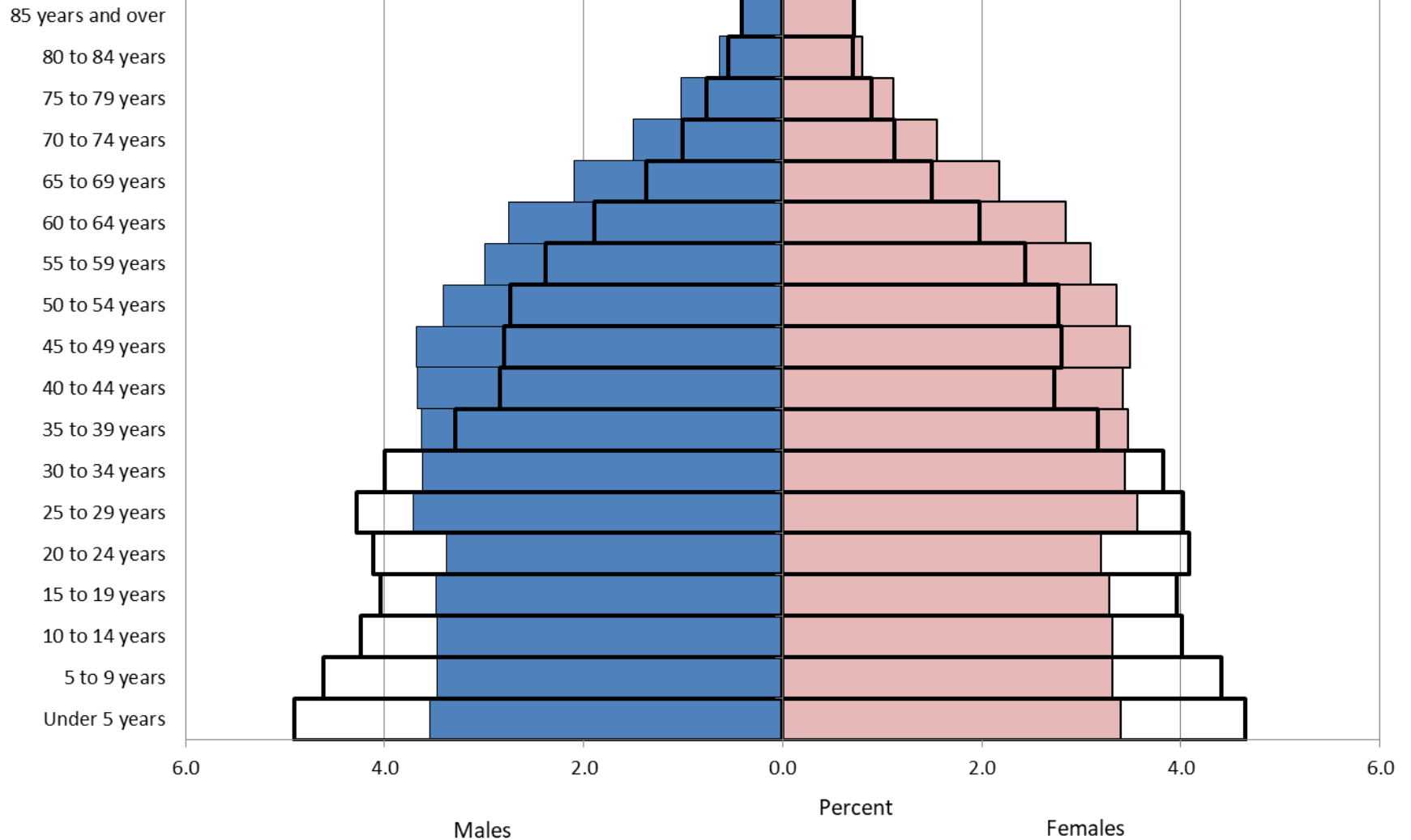


2010 Census Summary File 1

Age-Sex Structure Comparison 2010

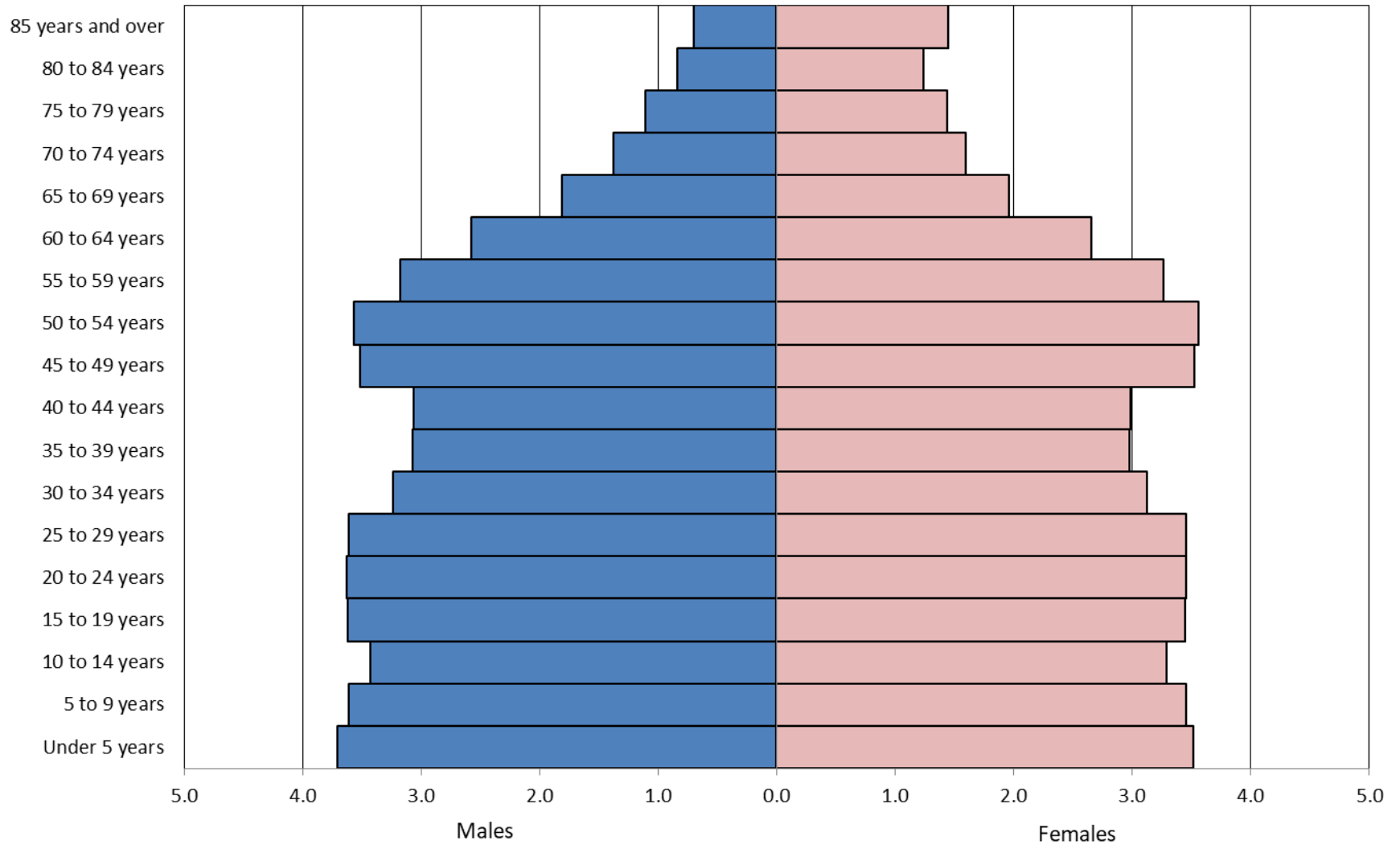
Shaded Area Nevada

Outlined Area Utah



Age-Sex Structure 2010

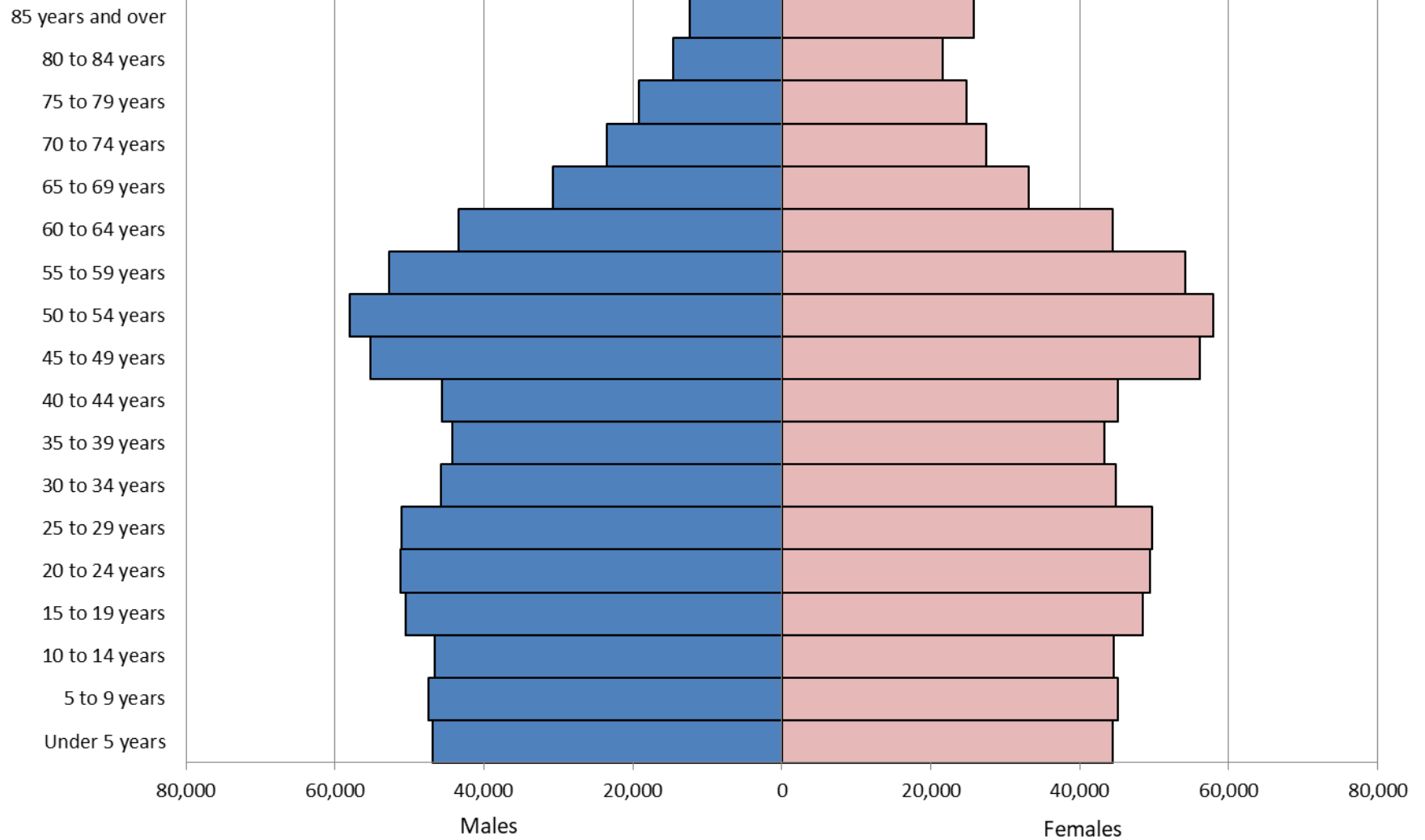
Nebraska-Total population



2010 Census Summary File 1

Age-Sex Structure 2010

Nebraska-White alone, not Hispanic or Latino

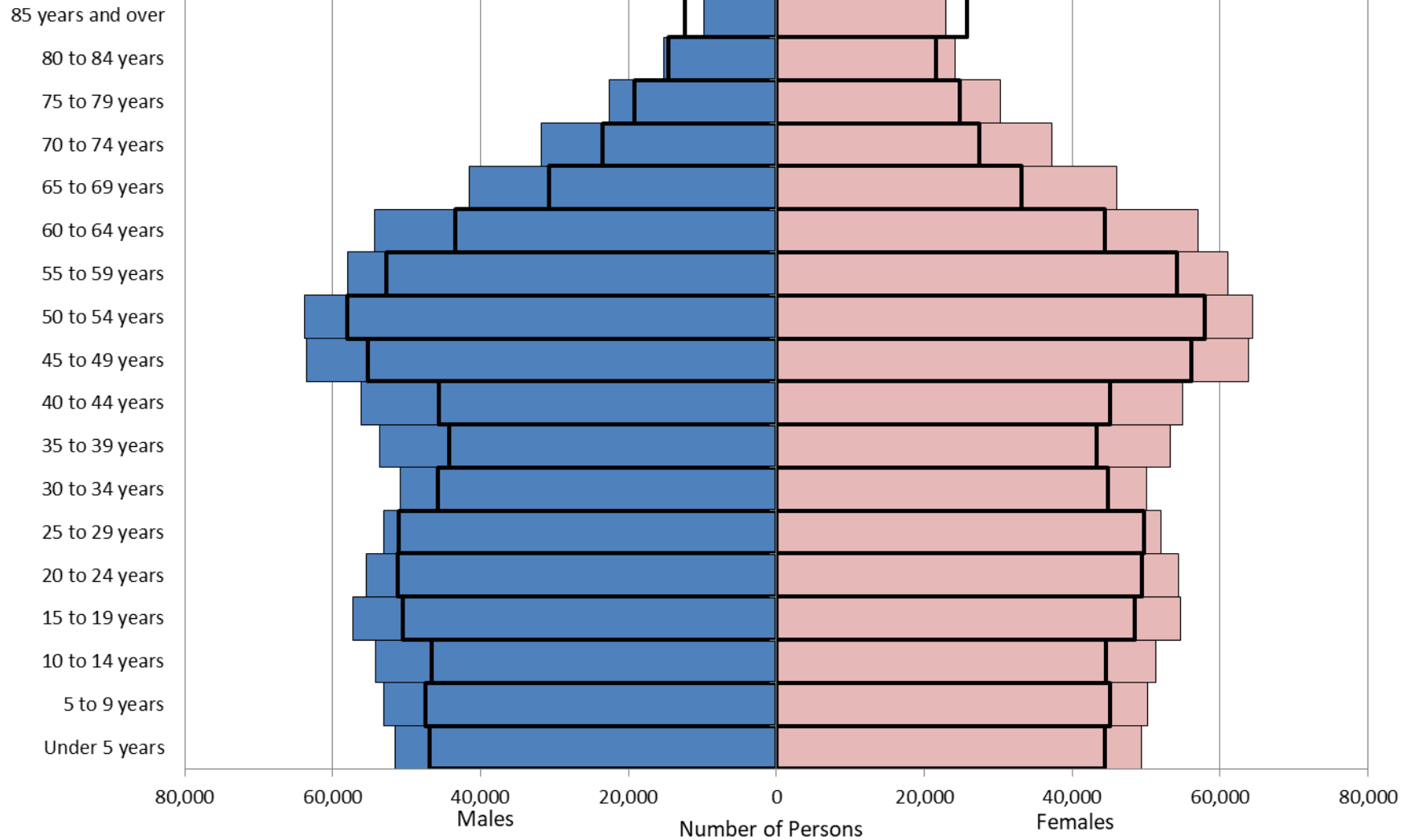


2010 Census Summary File 2

Age-Sex Structure Comparison 2010

Shaded Area Mississippi-White alone, not Hispanic or Latino

Outlined Area Nebraska-White alone, not Hispanic or Latino

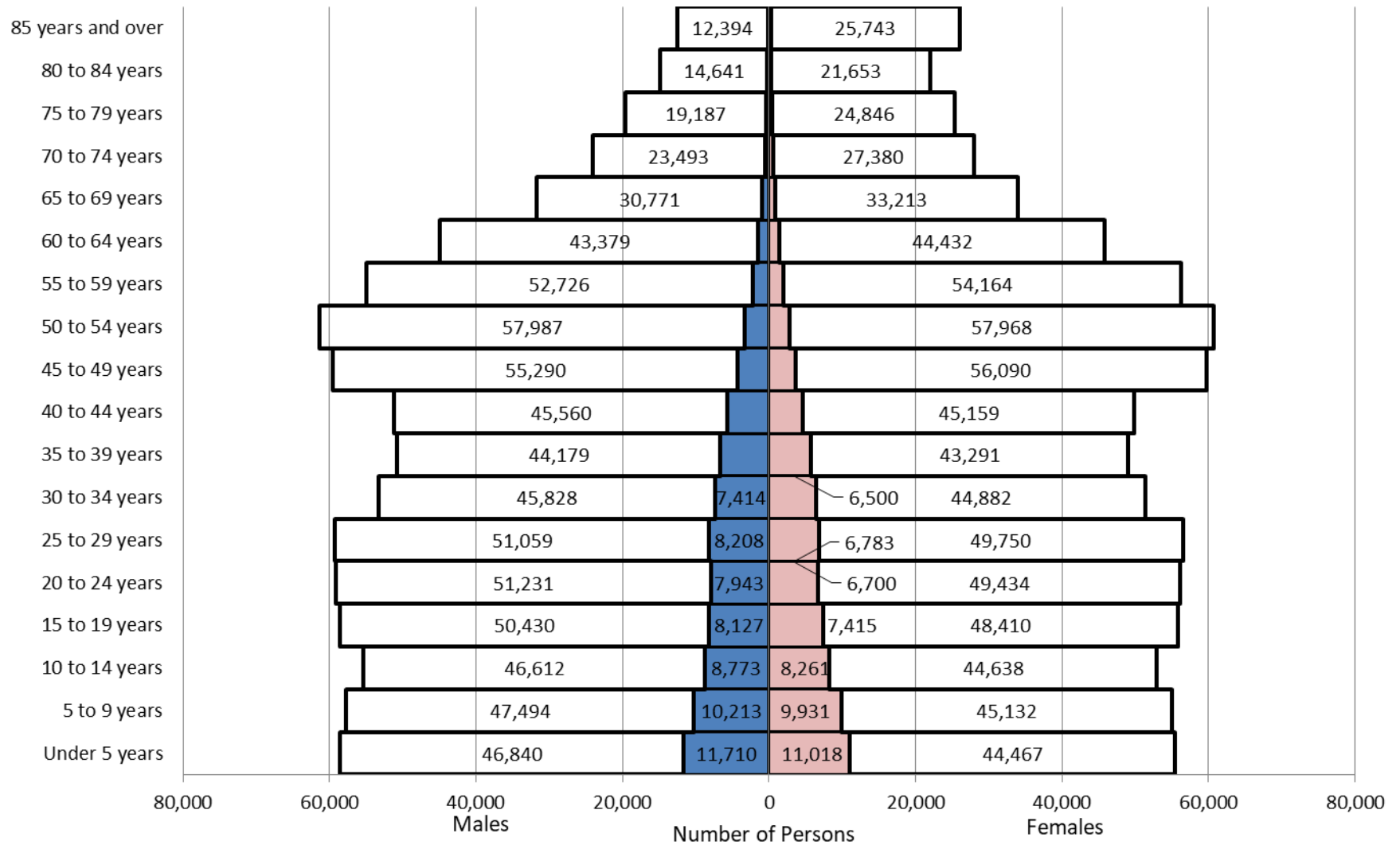


2010 Census Summary File 2

Age-Sex Structure Comparison 2010

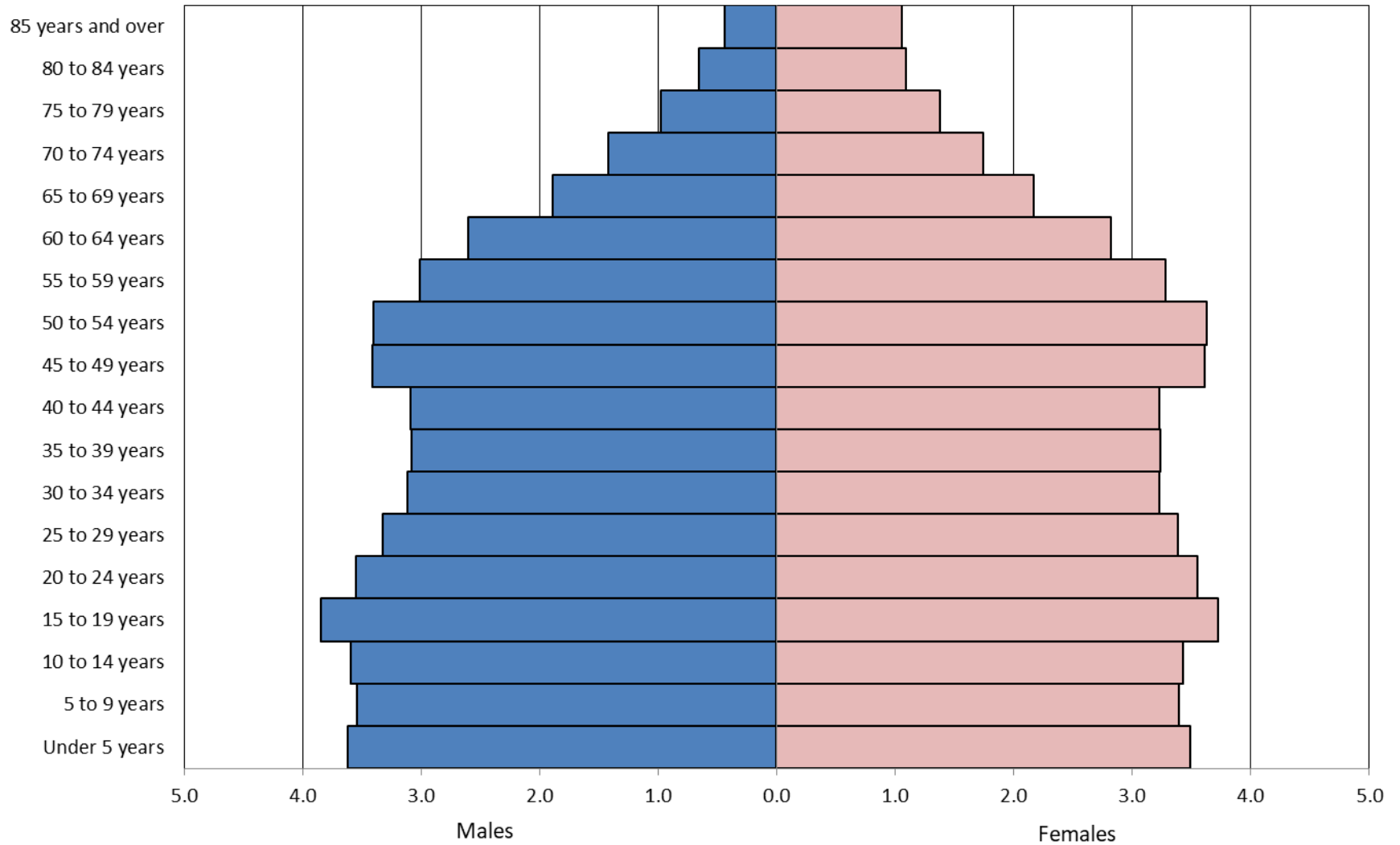
Shaded Area Nebraska-Hispanic or Latino (of any race)
(200-299)

Outlined Area Nebraska-White alone, not Hispanic or Latino



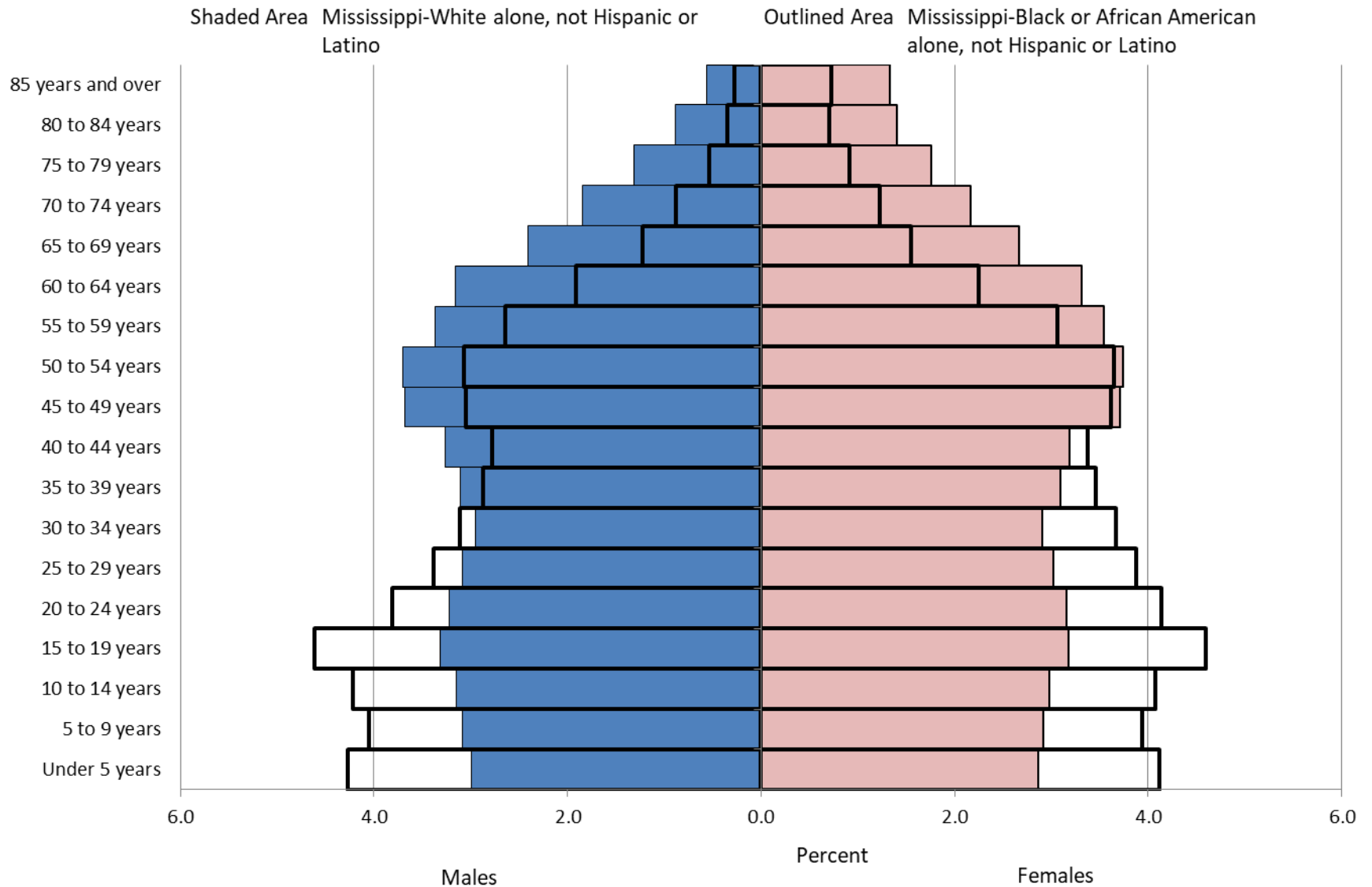
Age-Sex Structure 2010

Mississippi-Total population



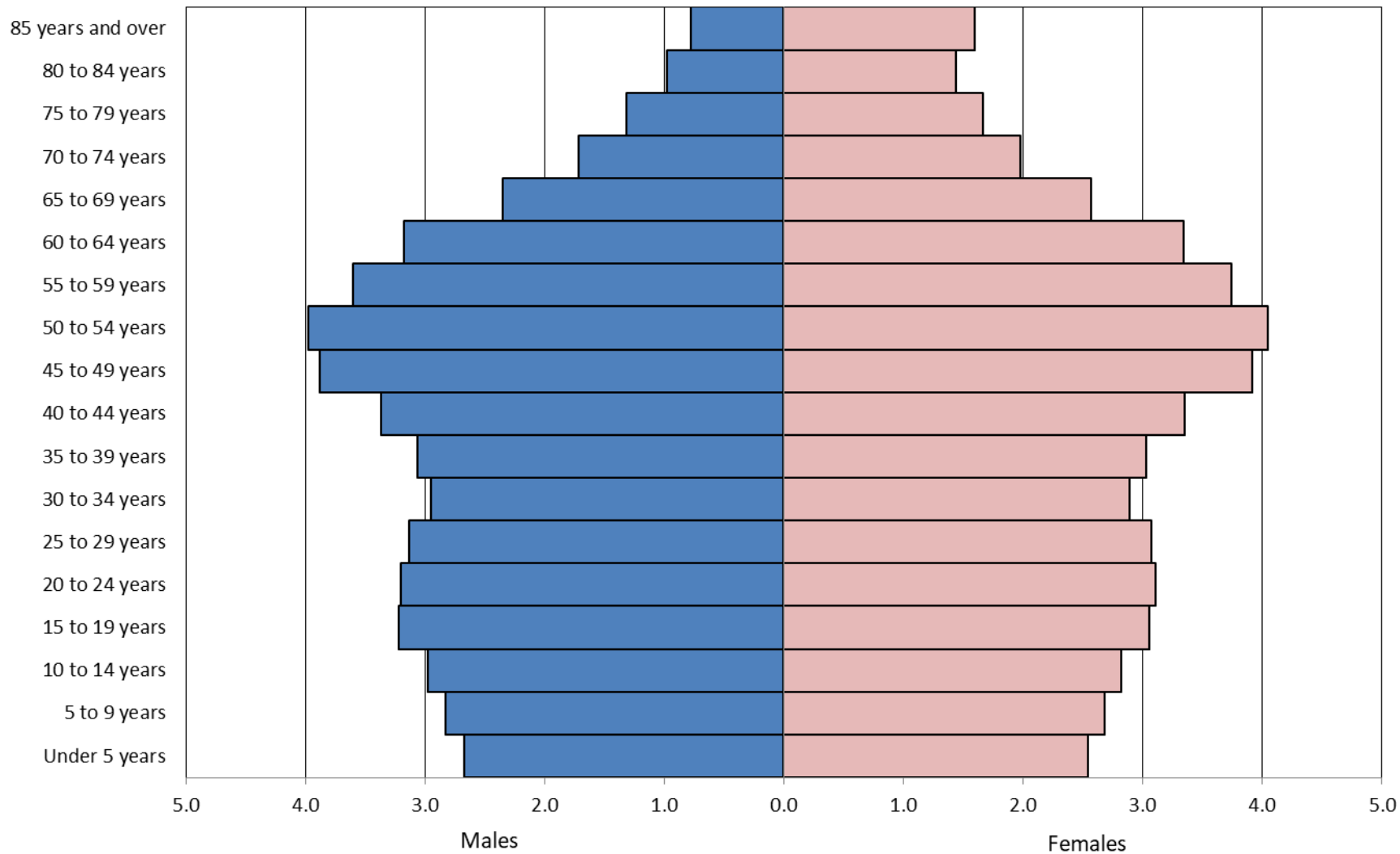
2010 Census Summary File 1

Age-Sex Structure Comparison 2010



Age-Sex Structure 2010

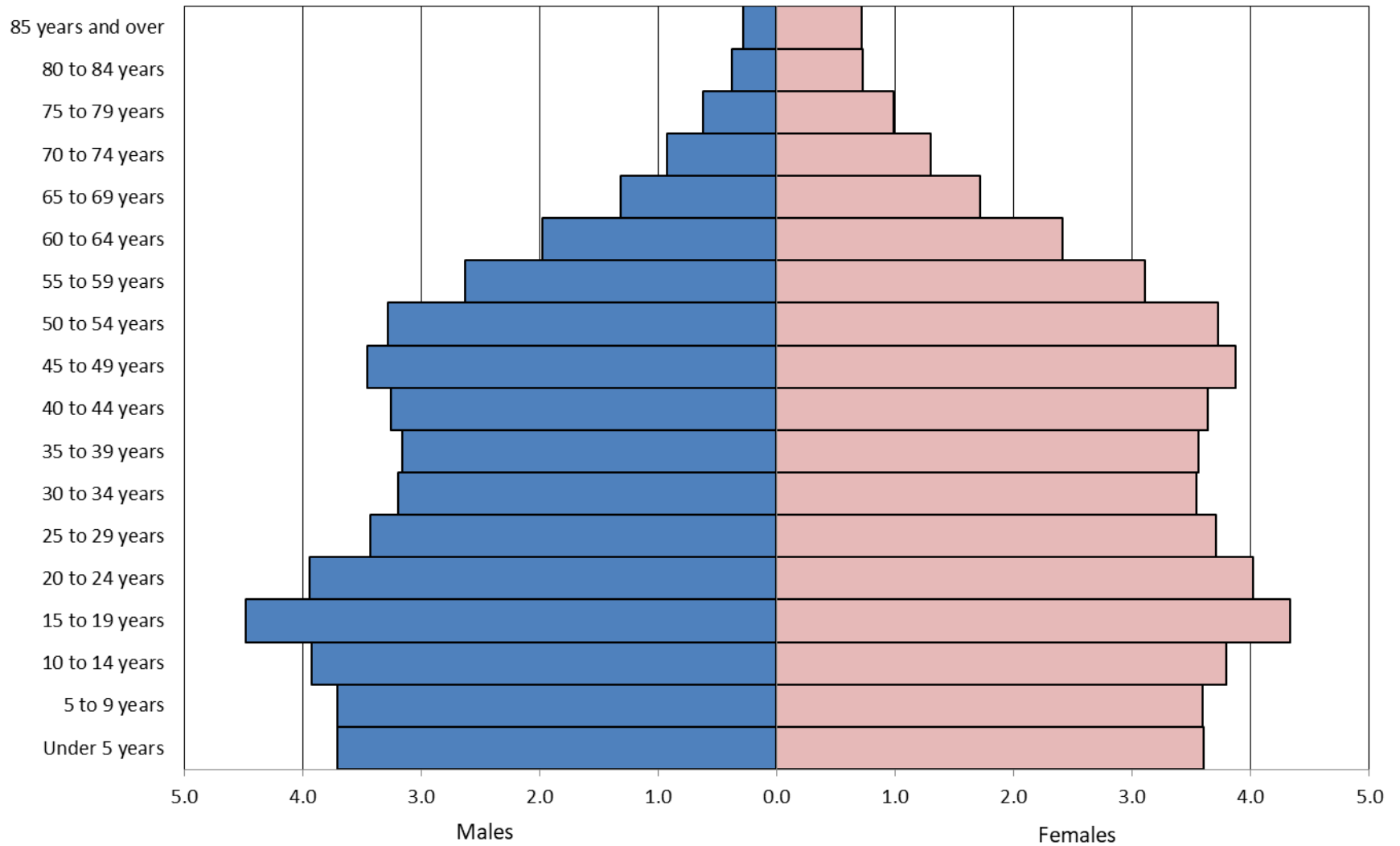
U.S. - White alone, not Hispanic or Latino



2010 Census Summary File 1

Age-Sex Structure 2010

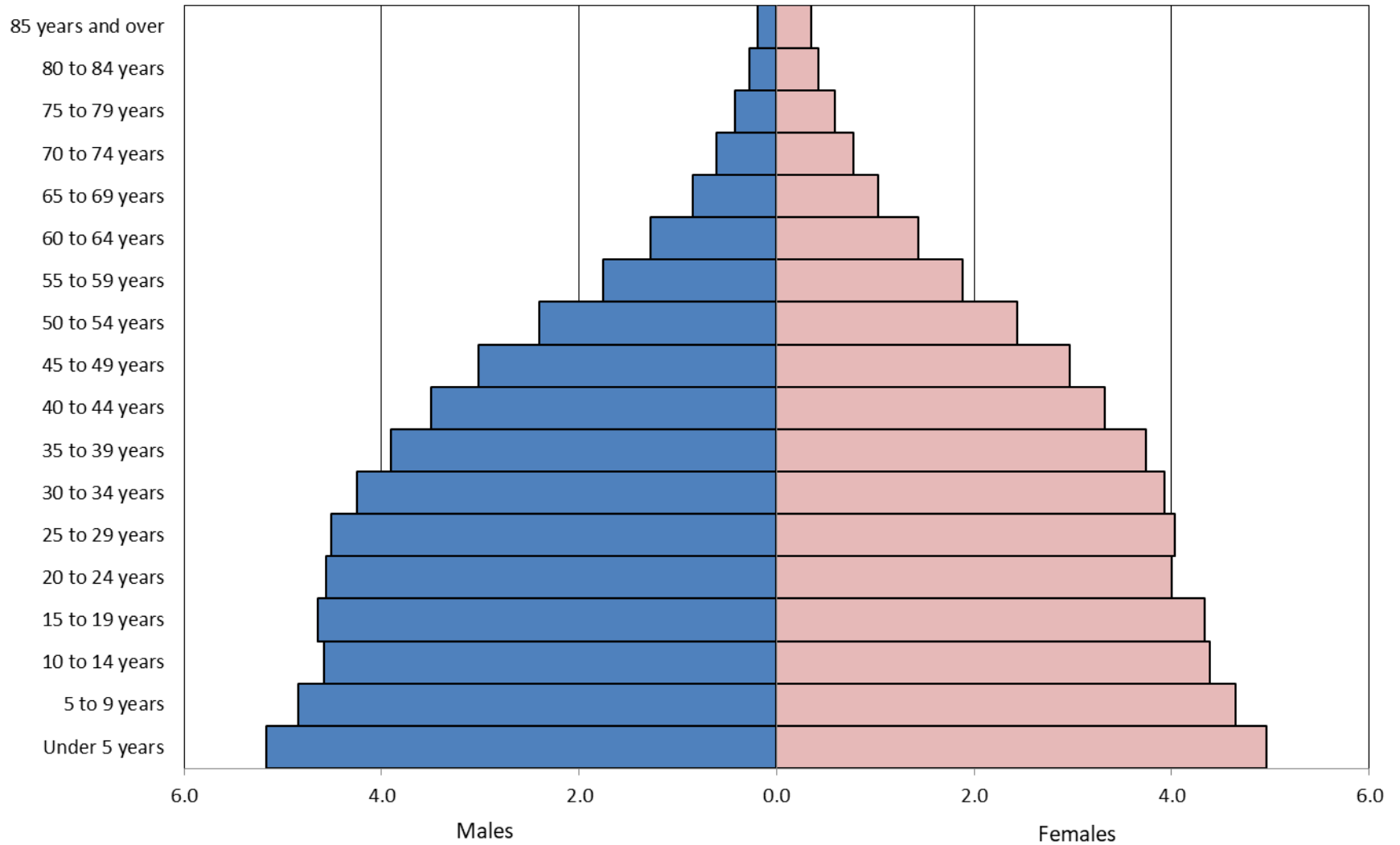
U.S. - Black or African American alone, not Hispanic or Latino



2010 Census Summary File 1

Age-Sex Structure 2010

U.S. - Hispanic or Latino (of any race) (200-299)

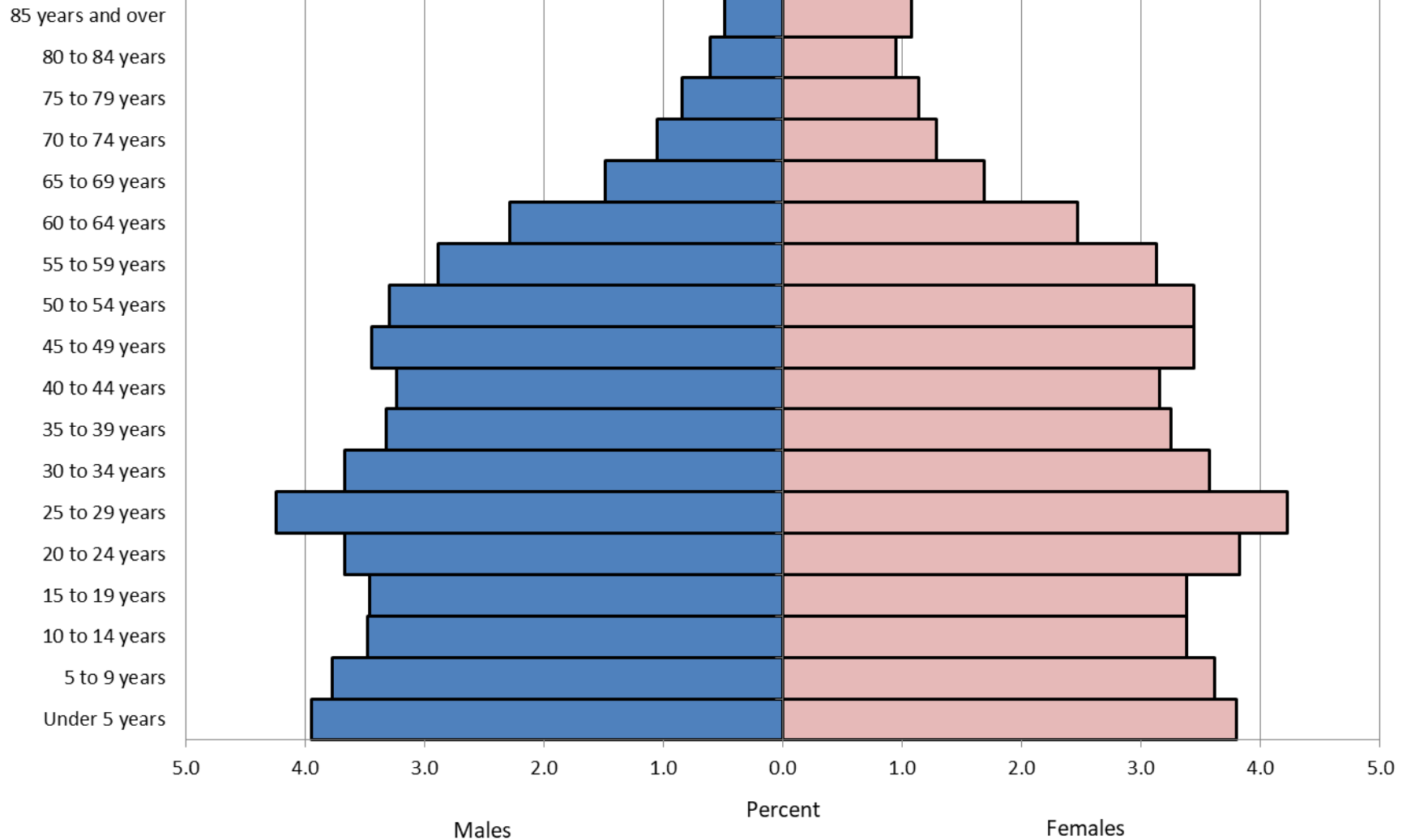


2010 Census Summary File 1

Age-Sex Structure 2010

Douglas County, Nebraska

Total population

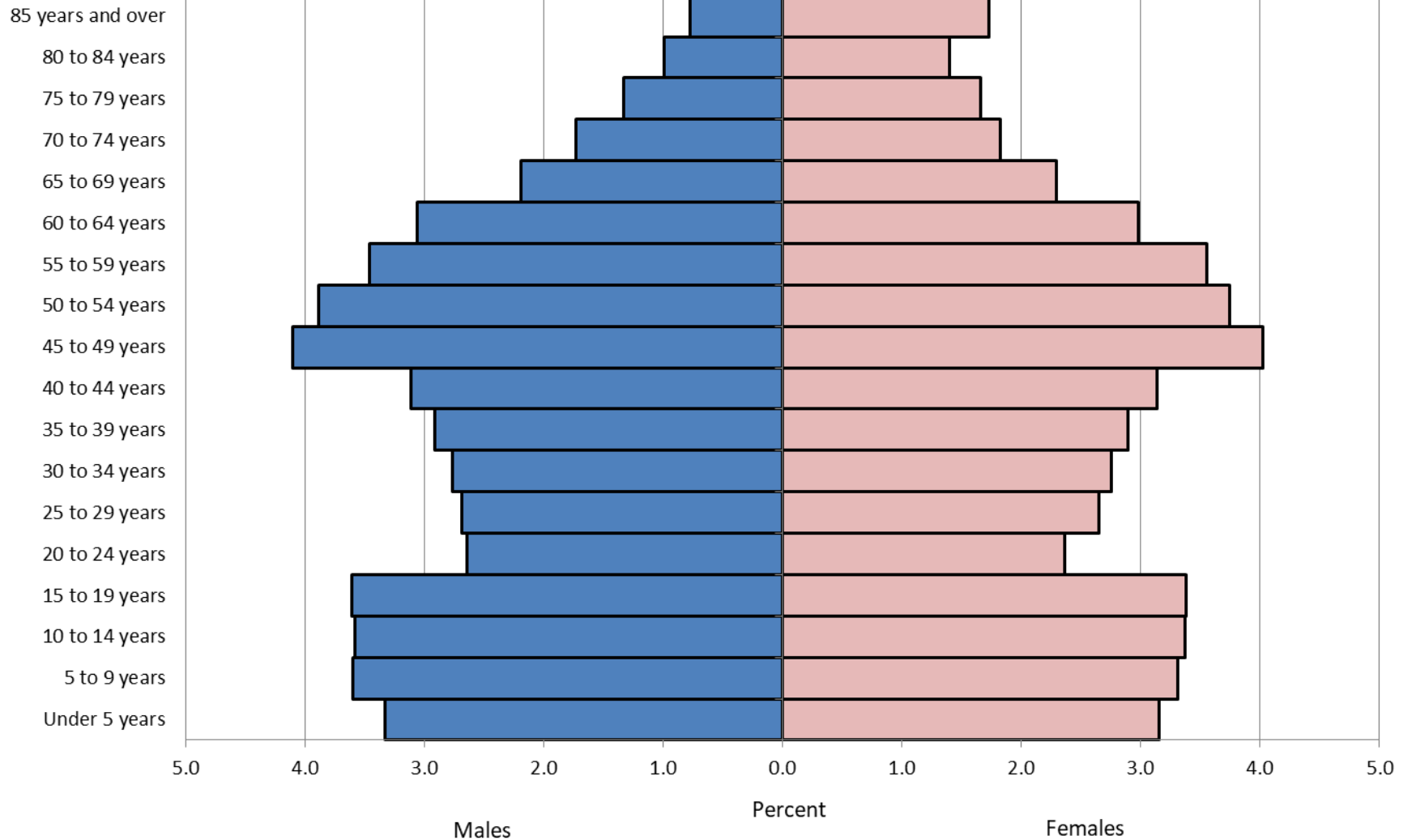


2010 Census Summary File 2

Age-Sex Structure 2010

Cass, Dodge, Saunders, and Washington

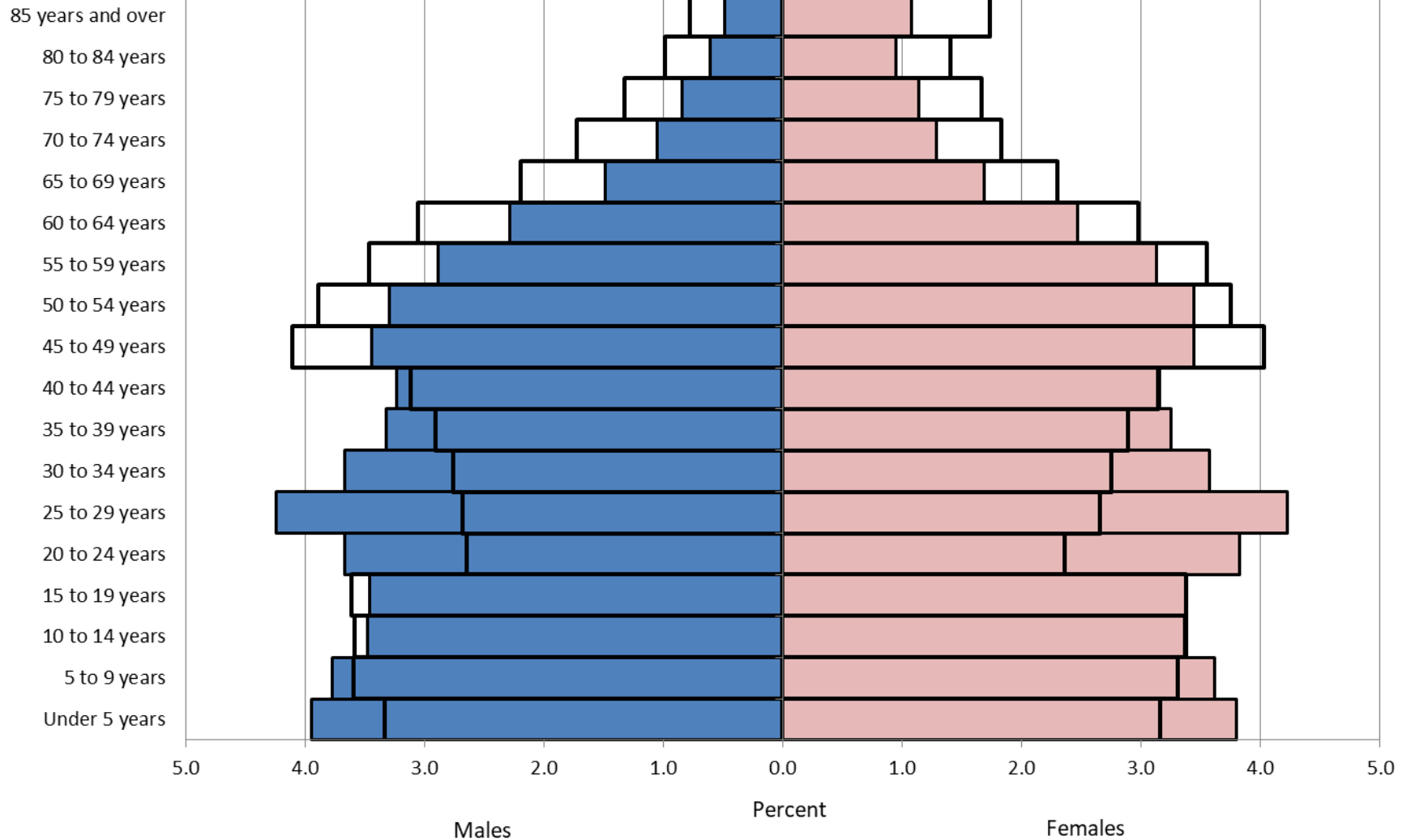
Total population



Age-Sex Structure Comparison 2010

Shaded Area Douglas County, Nebraska
Total population

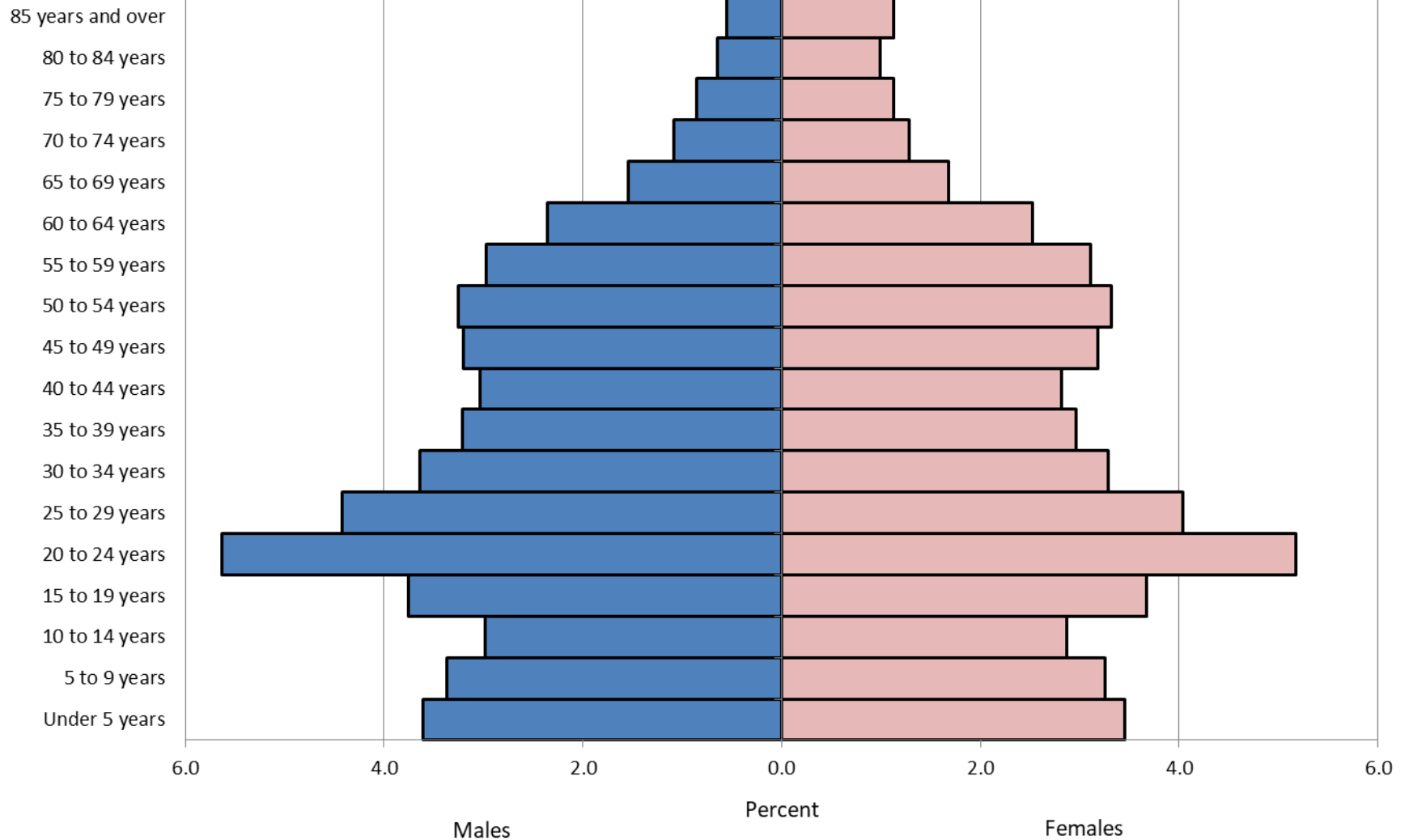
Outlined Area Cass, Dodge, Saunders, and Washington
Total population



Age-Sex Structure 2010

Lancaster County, Nebraska

Total population

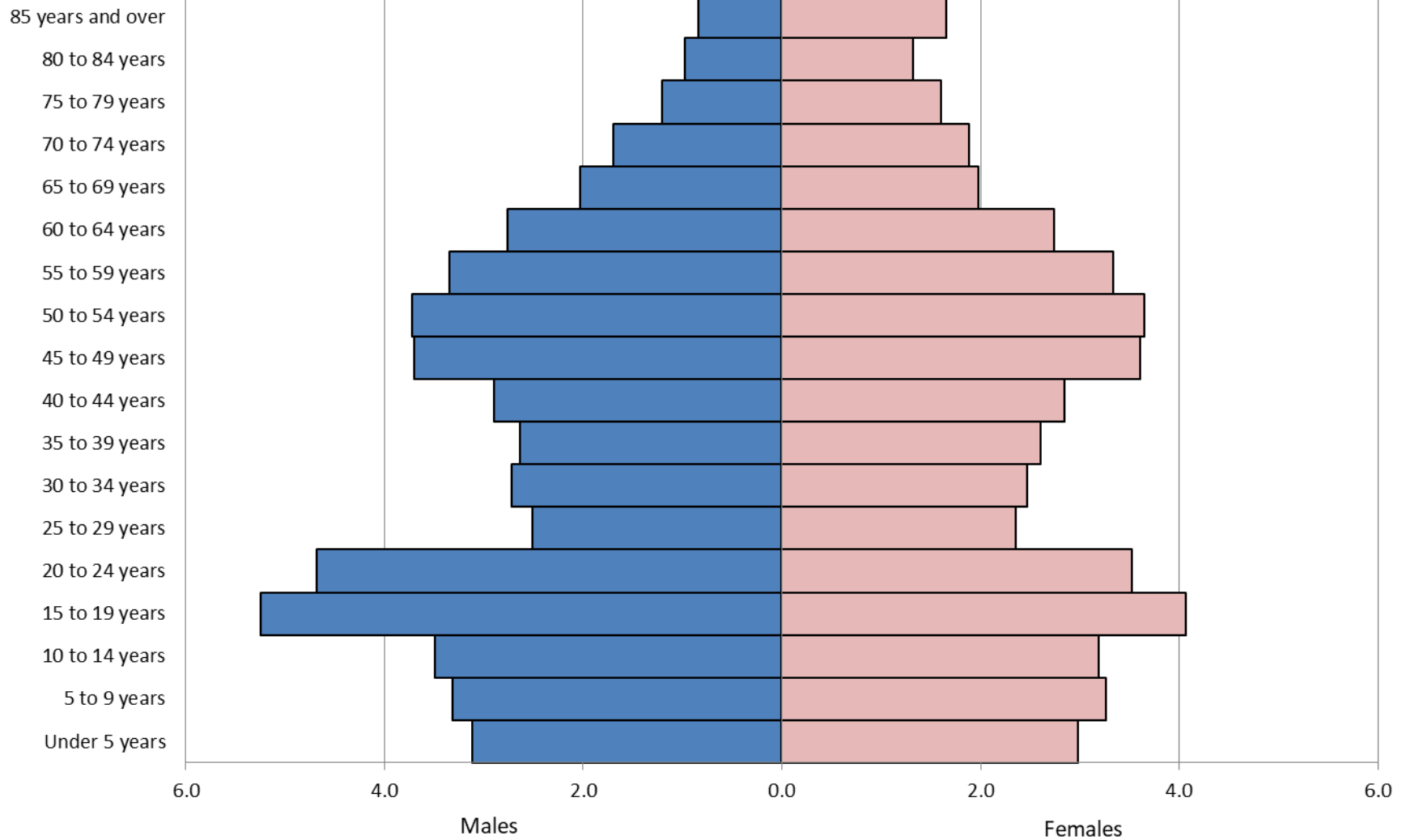


2010 Census Summary File 2

Age-Sex Structure 2010

Seward County, Nebraska

Total population

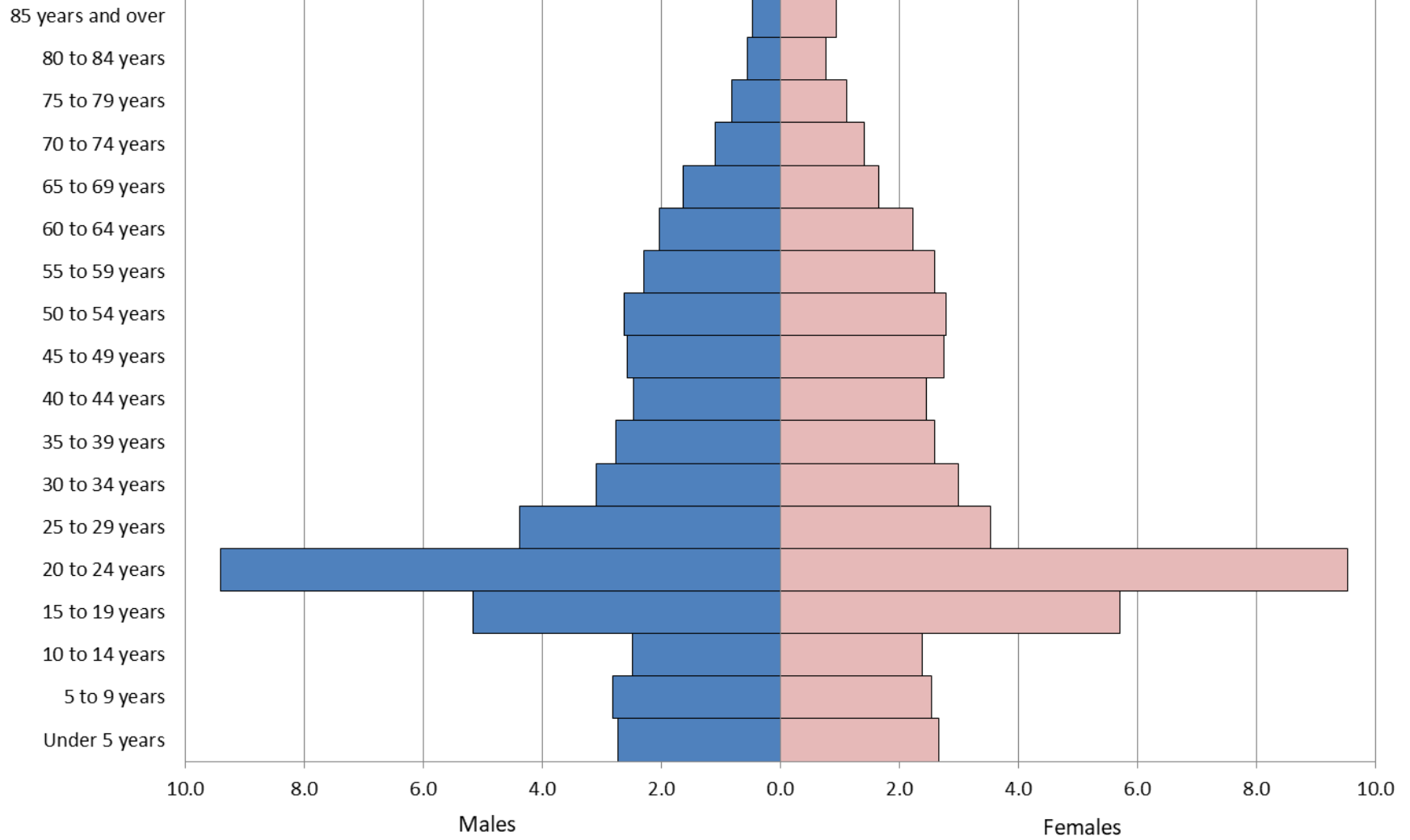


2010 Census Summary File 2

Age-Sex Structure 2010

Lafayette County, Mississippi

Total population



2010 Census Summary File 2

Population Estimates: Estimating the Unknown

Demographic Balancing Equation

- $P_{t2} = P_{t1} + B_{(t1-t2)} - D_{(t1-t2)} + I_{(t1-t2)} - O_{(t1-t2)}$

P_{t2} = population at time 2.

P_{t1} = population at time 1.

$B_{(t1-t2)}$ = Births between time 1 and time 2.

$D_{(t1-t2)}$ = Deaths between time 1 and time 2.

$I_{(t1-t2)}$ = In-migration between time 1 and time 2.

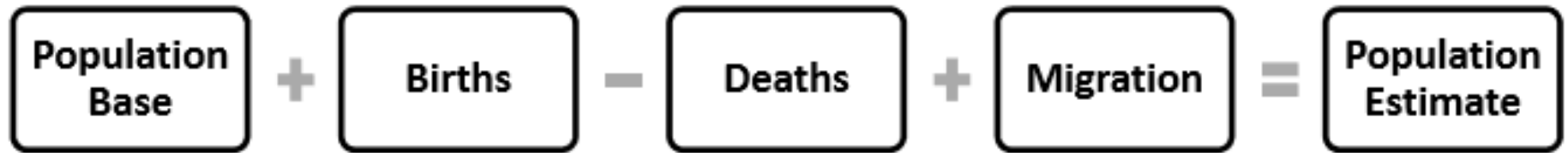
$O_{(t1-t2)}$ = Out-migration between time 1 and time 2.

- $\text{Population}_{t2} = \text{population}_{t1} + \text{Natural Increase}_{(t1-t2)} + \text{Net Migration}_{(t1-t2)}$

Demographic Balancing Equation

- $\text{Population}_{t_2} = \text{population}_{t_1} + \text{Births}_{(t_1-t_2)} - \text{Deaths}_{(t_1-t_2)} + \text{in-migration}_{(t_1-t_2)} - \text{out-migration}_{(t_1-t_2)}$
- $\text{Population}_{t_2} = \text{population}_{t_1} + \text{Natural Increase}_{(t_1-t_2)} + \text{Net Migration}_{(t_1-t_2)}$

Estimates Methodology



Census

Vital Statistics

IRS and
Medicare

PEPANNRES: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016
 2016 Population Estimates

Geography	April 1, 2010		Population Estimate (as of July 1)						
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016
United States	308,745,538	308,758,105	309,348,193	311,663,358	313,998,379	316,204,908	318,563,456	320,896,618	323,127,513
Mississippi	2,967,297	2,968,103	2,970,322	2,978,162	2,984,945	2,990,482	2,992,400	2,989,390	2,988,726
Lafayette County, Mississippi	47,351	47,359	47,563	48,416	50,367	51,633	52,154	53,014	53,796
Nebraska	1,826,341	1,826,334	1,830,051	1,842,283	1,855,725	1,868,559	1,881,145	1,893,765	1,907,116
Douglas County, Nebraska	517,110	517,116	518,675	524,557	531,307	537,483	543,312	549,168	554,995

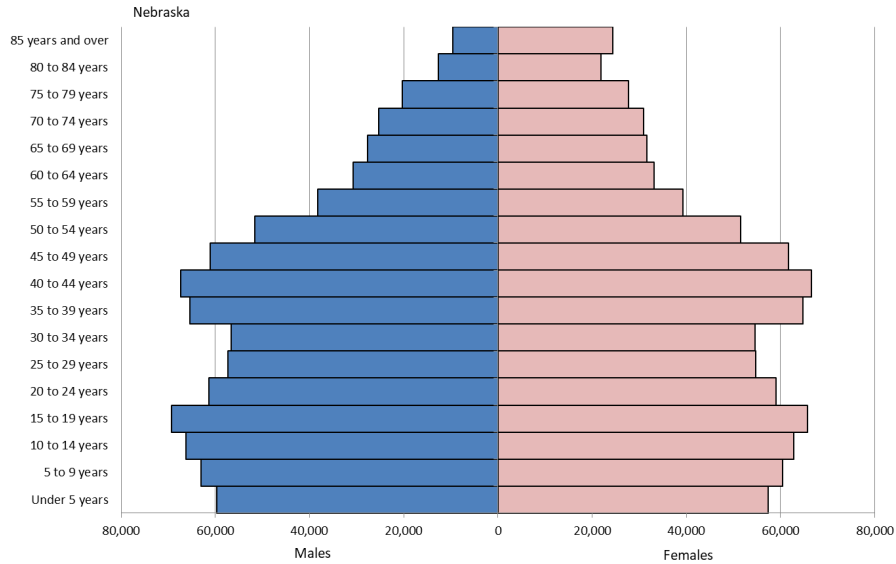
PEPTCOMP: Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2016
 2016 Population Estimates

Geography	Cumulative Estimates of the Components of Population Change						
	April 1, 2010 to July 1, 2016						
	Total Population Change [1]	Natural Increase	Vital Events		Net Migration		
			Births	Deaths	Total	International [2]	Domestic
United States	14,369,408	8,527,205	24,762,895	16,235,690	5,842,203	5,842,203	(X)
Mississippi	20,623	54,752	241,975	187,223	-35,013	14,296	-49,309
Lafayette County, Mississippi	6,437	1,088	3,419	2,331	5,073	394	4,679
Nebraska	80,782	66,791	163,686	96,895	14,572	24,303	-9,731
Douglas County, Nebraska	37,879	28,789	52,908	24,119	10,067	9,405	662

Suggested Citation:
 Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016
 Source: U.S. Census Bureau, Population Division
 Release Dates: For the United States, regions, divisions, states, and Puerto Rico Commonwealth, December 2016. For counties, municipios, metropolitan statistical areas, micropolitan statistical areas, metropolitan divisions, and combined statistical areas, March 2017. For cities and towns (incorporated places and minor civil divisions), May 2017.

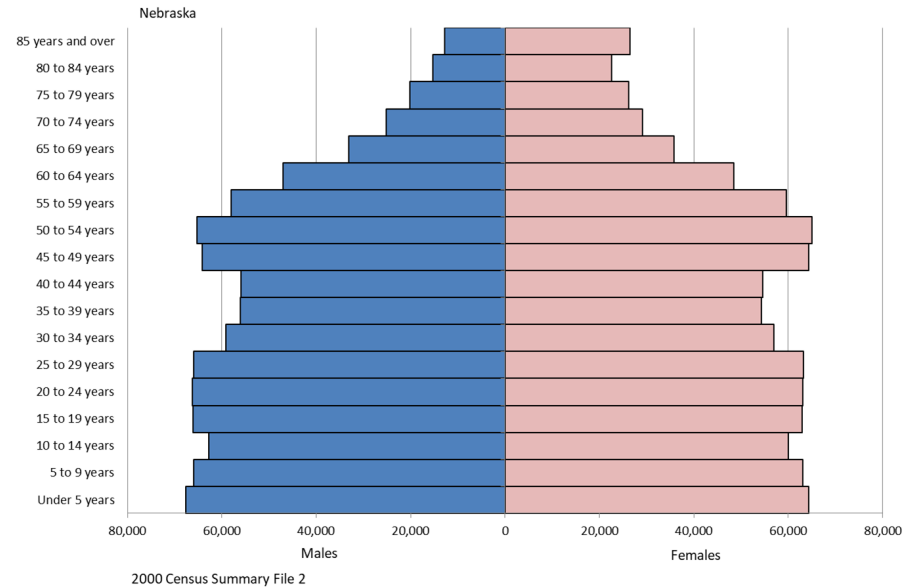
$$\text{Population Change} - \text{Deaths} = \text{Net-migration}$$

Age-Sex Structure 2000



Estimating Net-migration

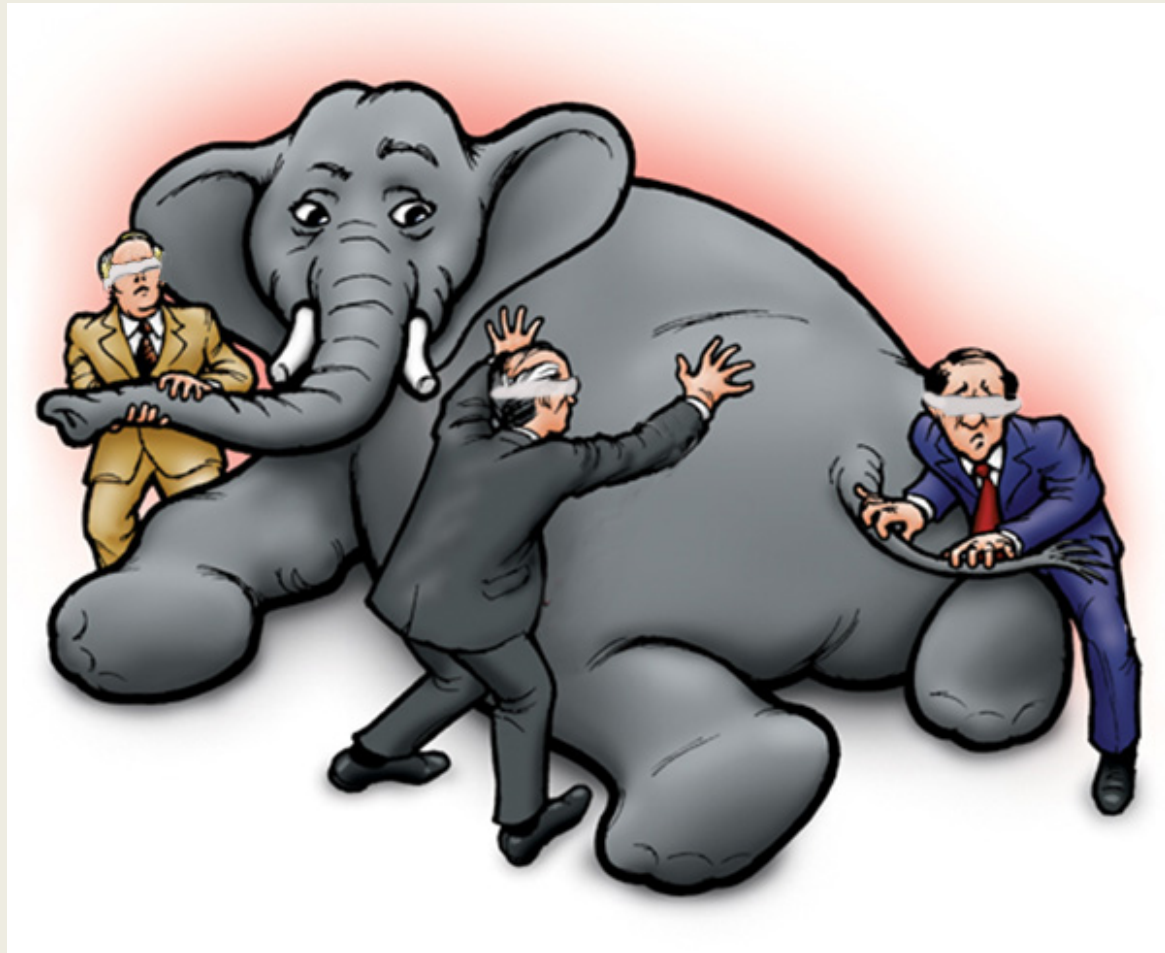
Age-Sex Structure 2010



Censuses, Surveys and Estimates

- Decennial Census—Provides detailed geographic, and demographic data, benchmark data for estimates and projections
- American Community Survey—estimates demographic, social, economic characteristics of people & housing stock
- Population estimates—Combines census figures, vital statistics and administrative data to provide up-to-date estimates of the number of people by age, sex and race.

Questions?



University of Mississippi Center for
Population Studies and the State Data
Center of Mississippi