

# Utah's Demographic Transformation: A View into the Future

FirstWest Benefits Solutions

Orem, Utah

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University of Utah

# Demographic Drivers of Change

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1. Second Great Immigration Wave – 1980's and beyond
2. Aging of the population
  - ▶ Post WWII Baby Boomers reach retirement age
  - ▶ Increasing life expectancy
3. Differential fertility levels and trends

# Cumulative Impact → “New Utah”

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- ▶ Utah is *NOT* forever young, white, and culturally homogenous
- ▶ Changes are cumulative and irreversible
- ▶ Dimensions of ever-increasing diversity
  - ▶ Age
  - ▶ Nativity
  - ▶ Culture
  - ▶ Religion
  - ▶ Language
  - ▶ Ethnicity
  - ▶ Socioeconomics

# Generational Shift

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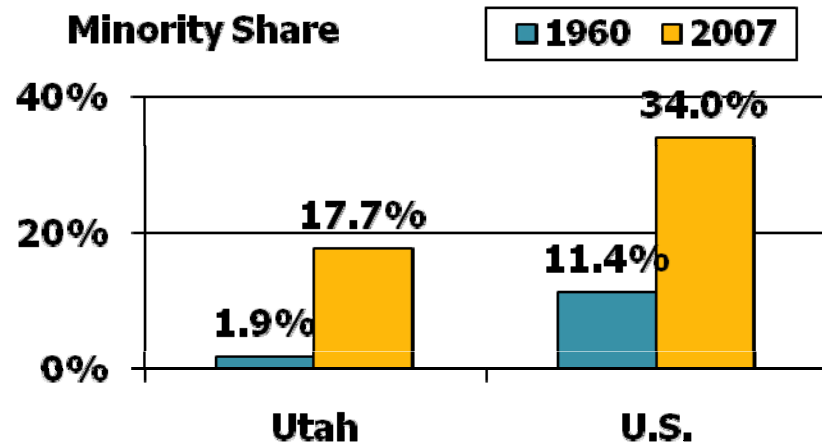
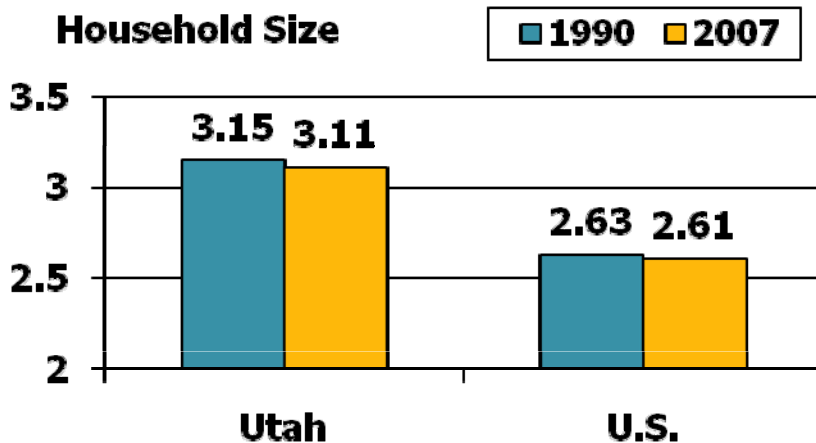
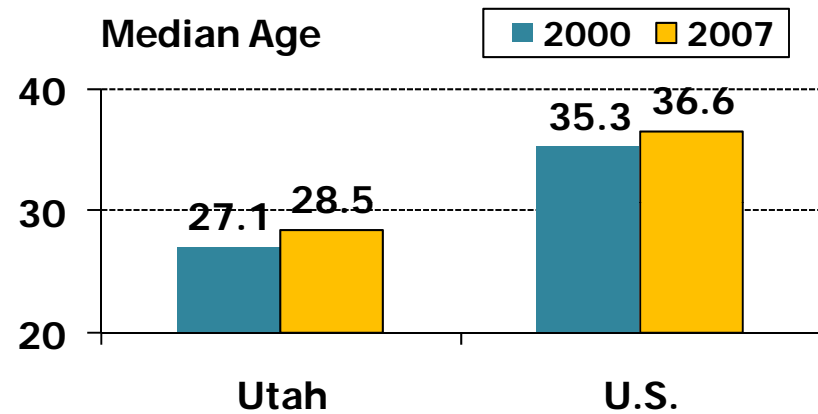
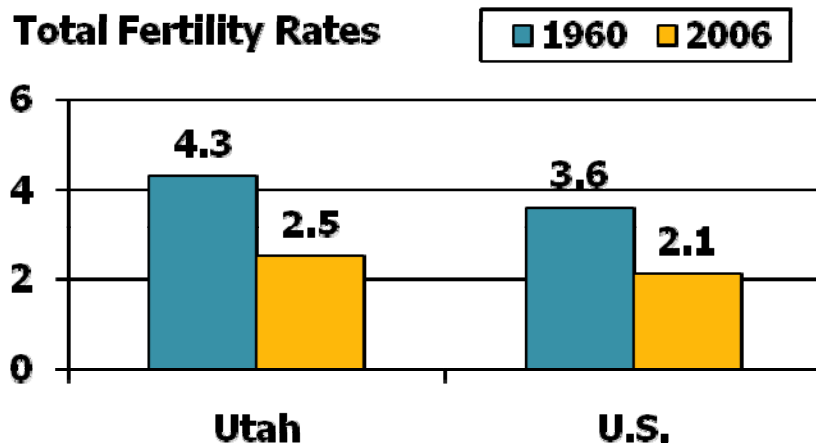
- ▶ Youth of today are:
  - ▶ At the forefront of these changes
  - ▶ Children of immigrants
  - ▶ Much more diverse than the population of elders
- ▶ These youth will eventually face:
  - ▶ A greater demographic burden (more elders as well as more children per capita)
  - ▶ Increasing technological complexities
  - ▶ Intensifying global competition
  - ▶ Economic, financial, and environmental legacies of previous generations

# Overview

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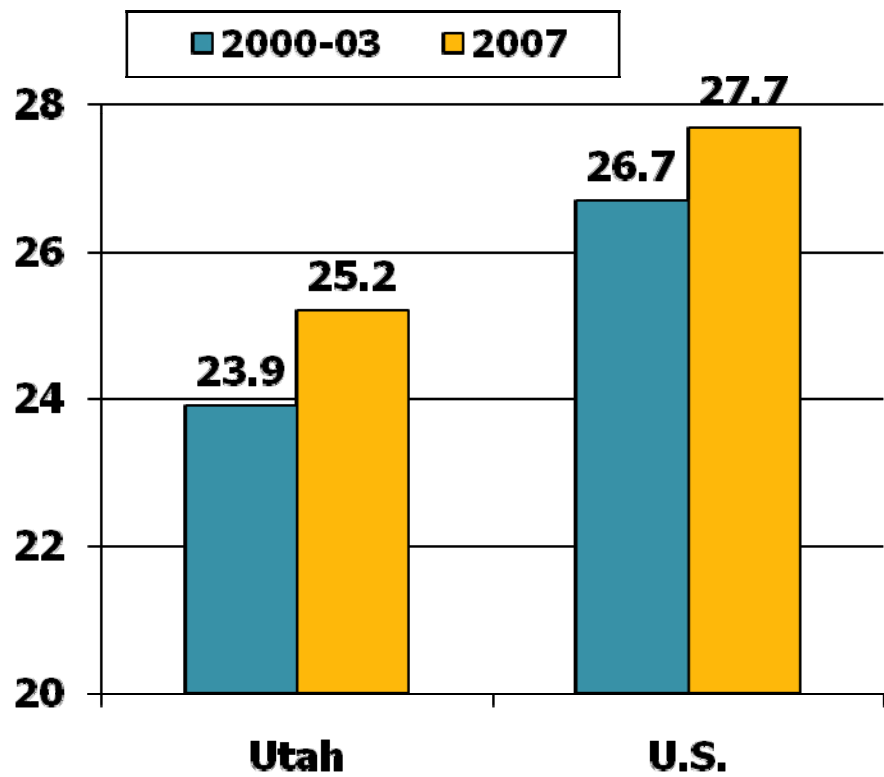
- ▶ Utah context
- ▶ Regional growth trends
- ▶ Immigration
- ▶ Racial / Ethnic diversity
- ▶ Age structure
- ▶ A view into Utah's future
- ▶ Implications for investment, policies, programs, and businesses
- ▶ Implications for insurers

# Utah: Signature Demographics Remain – But is Trending Toward the Nation

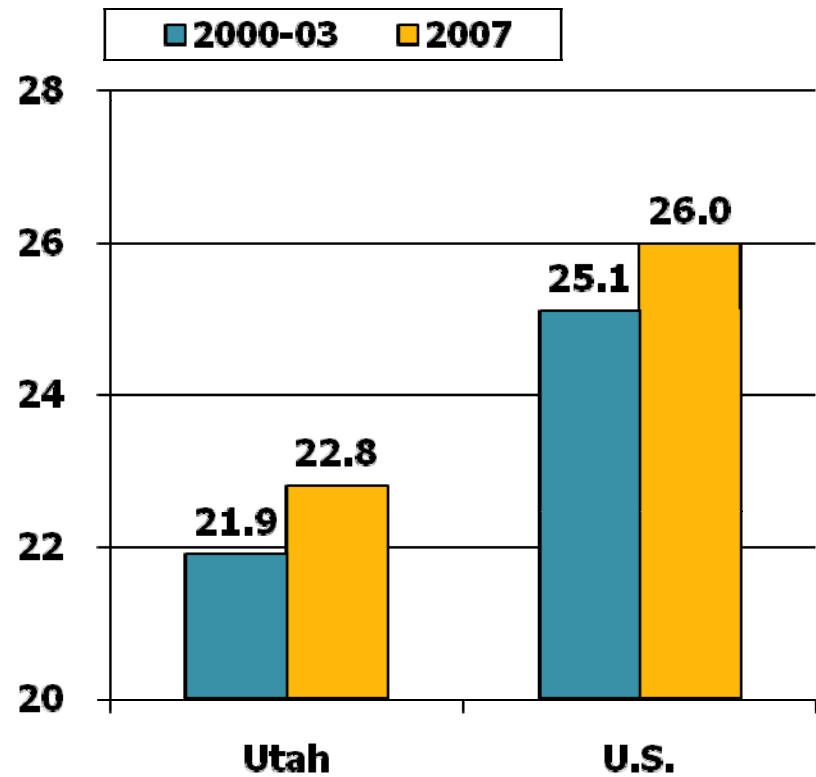


# Median Age at First Marriage: Utah Trends Towards Nation

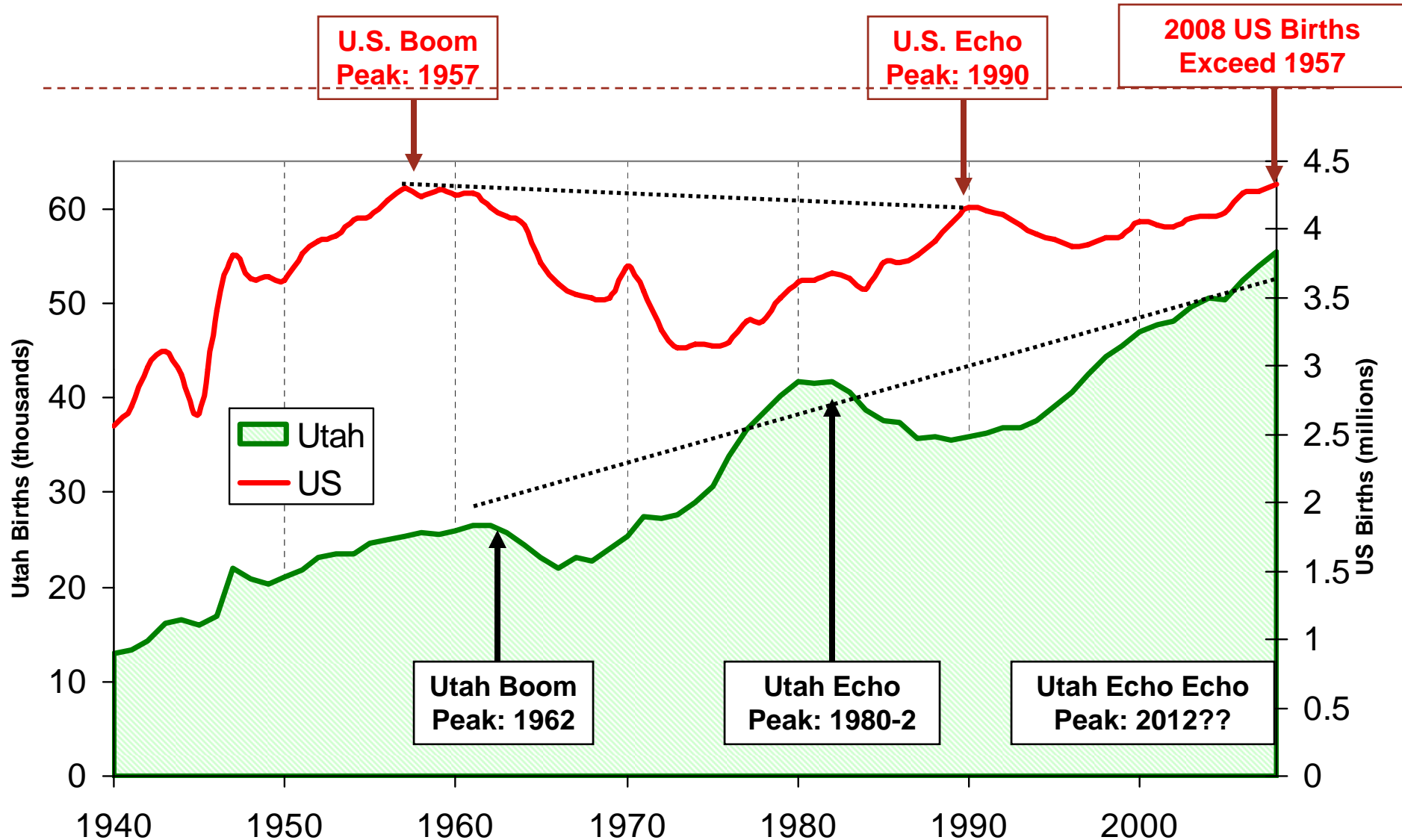
**Males**



**Females**

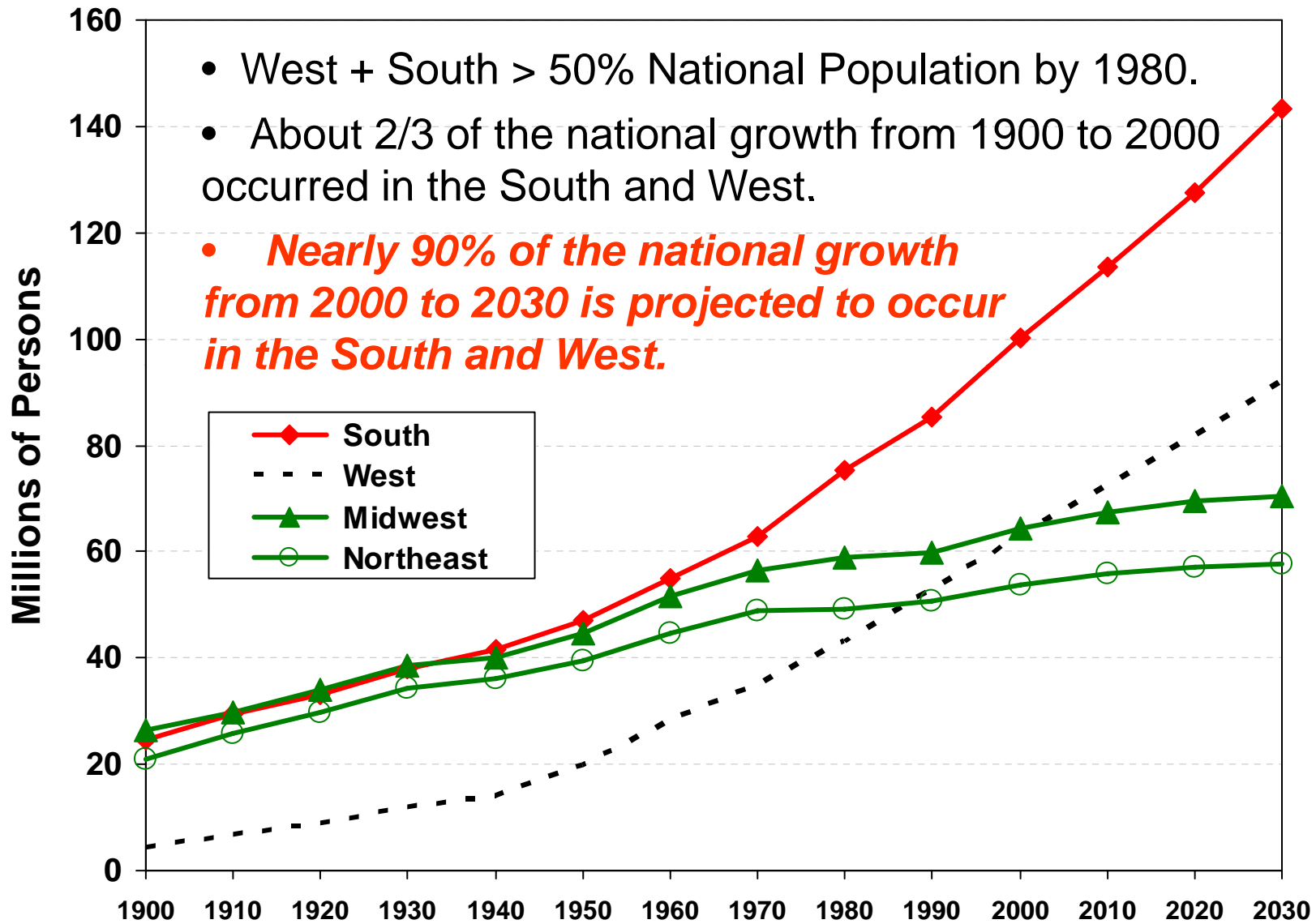


# Utah and U.S. Annual Births: 1940-2008



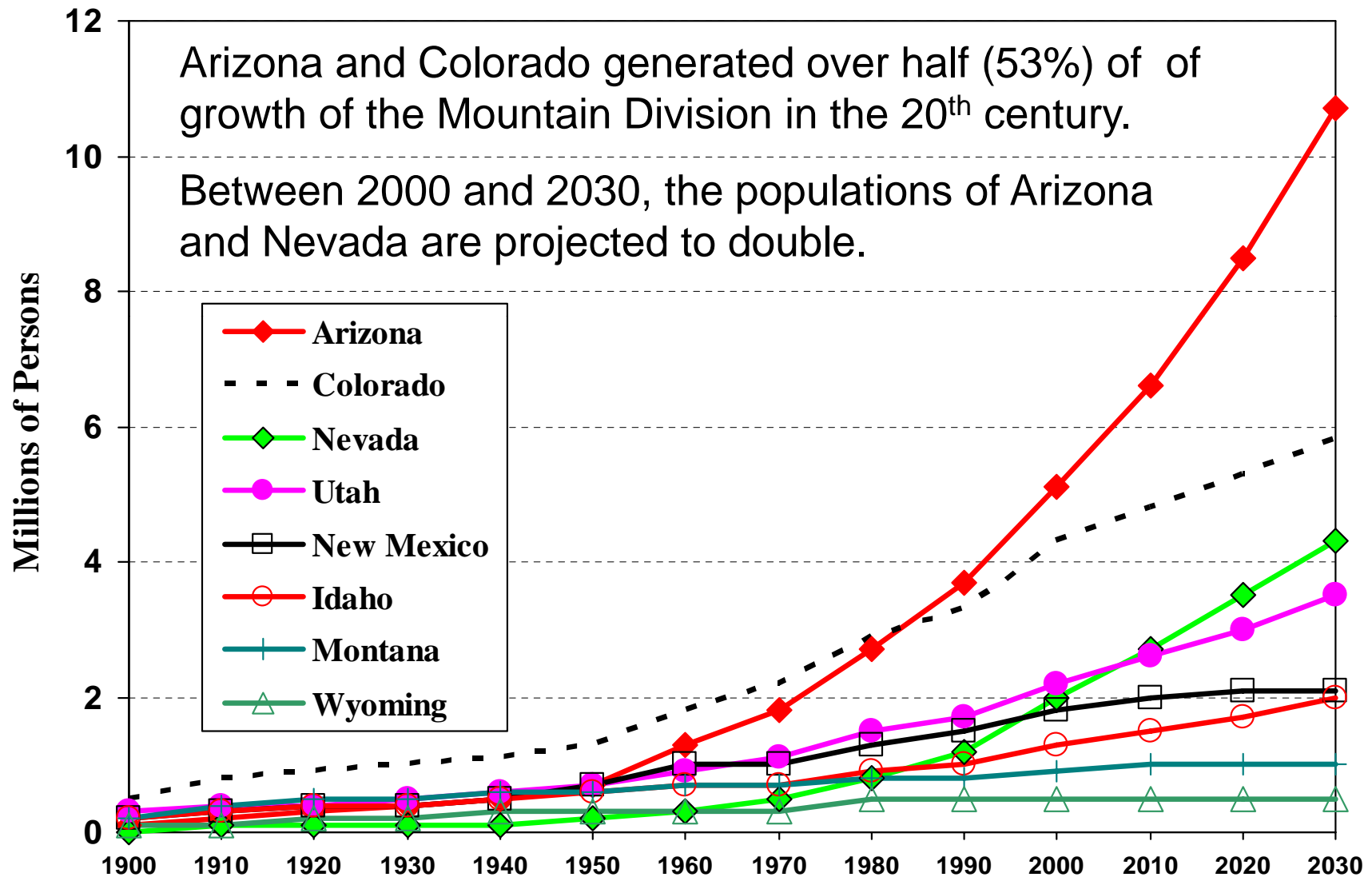
Source: BEBR analysis of data from the Utah Population Estimates Committee and the National Center for Health Statistics (revised 1/2009).

# U.S. Population by Region: 1900-2030

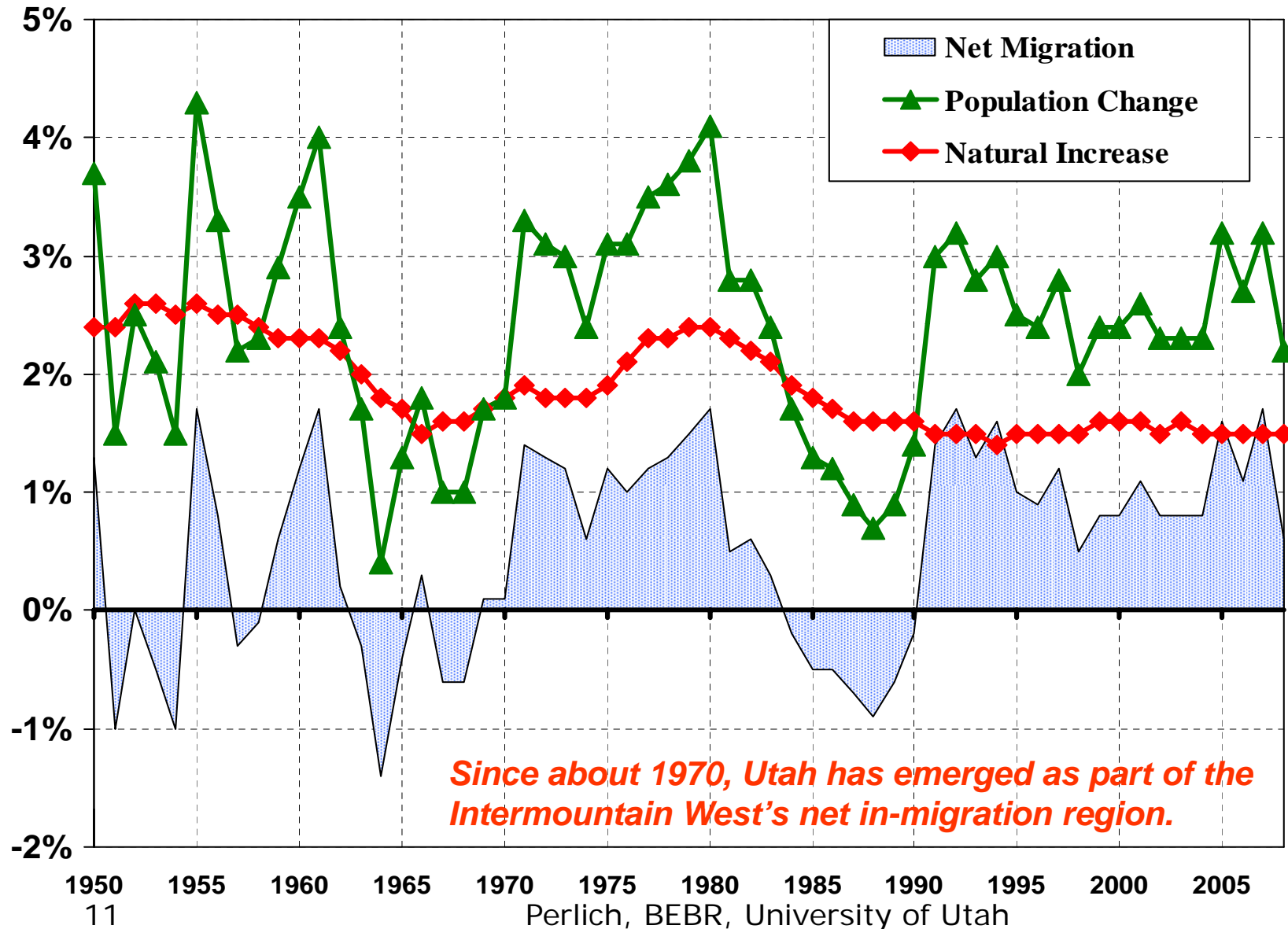


Source: U.S. Bureau of the Census 1995; 2000; 2005.

# Population in the Intermountain West: 1900 - 2030

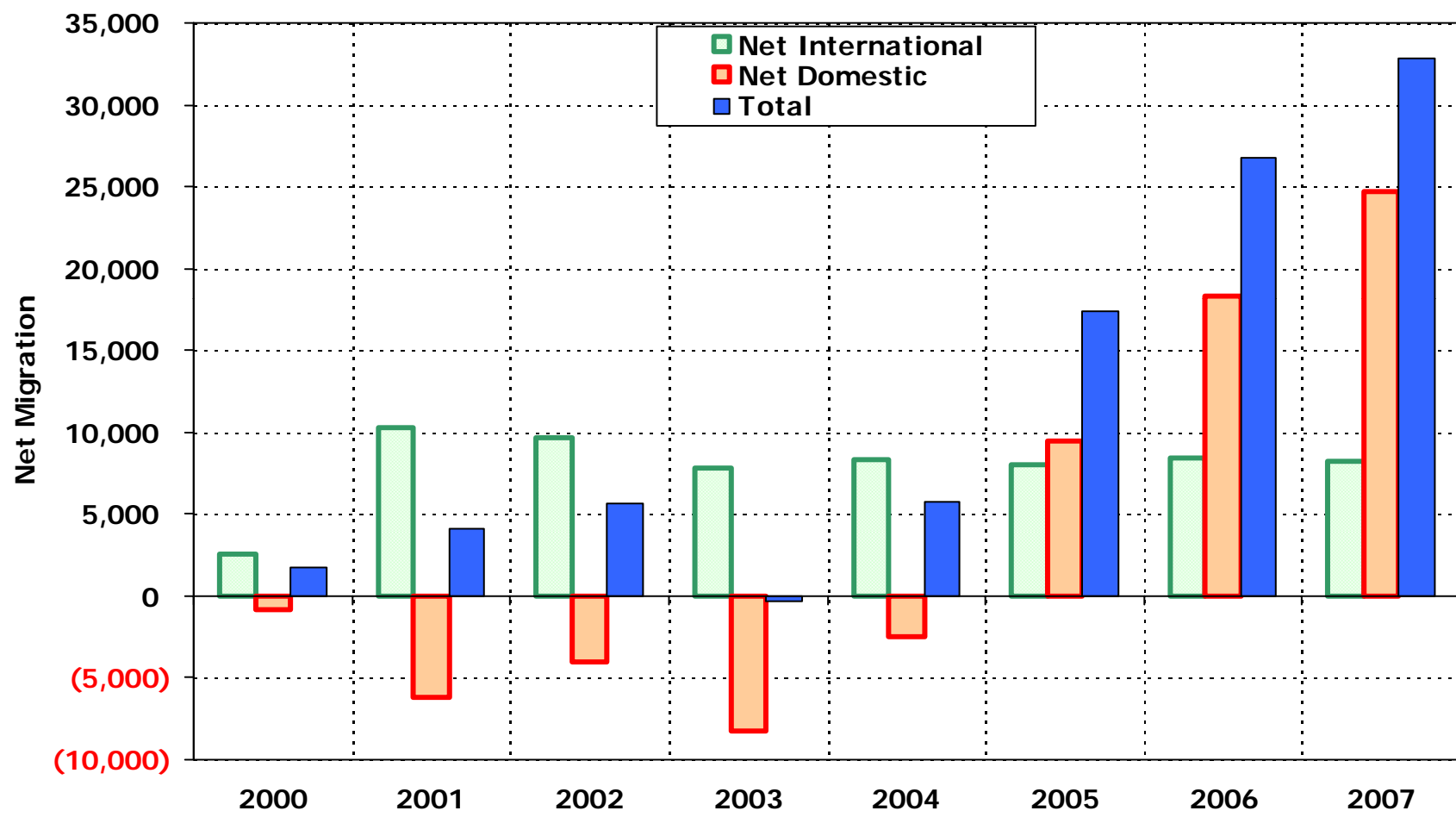


# Net Migration, Natural Increase, and Population Change: Annual Rates for Utah (1950-2008)



Source: BEBR, University of Utah Analysis of UPEC data.

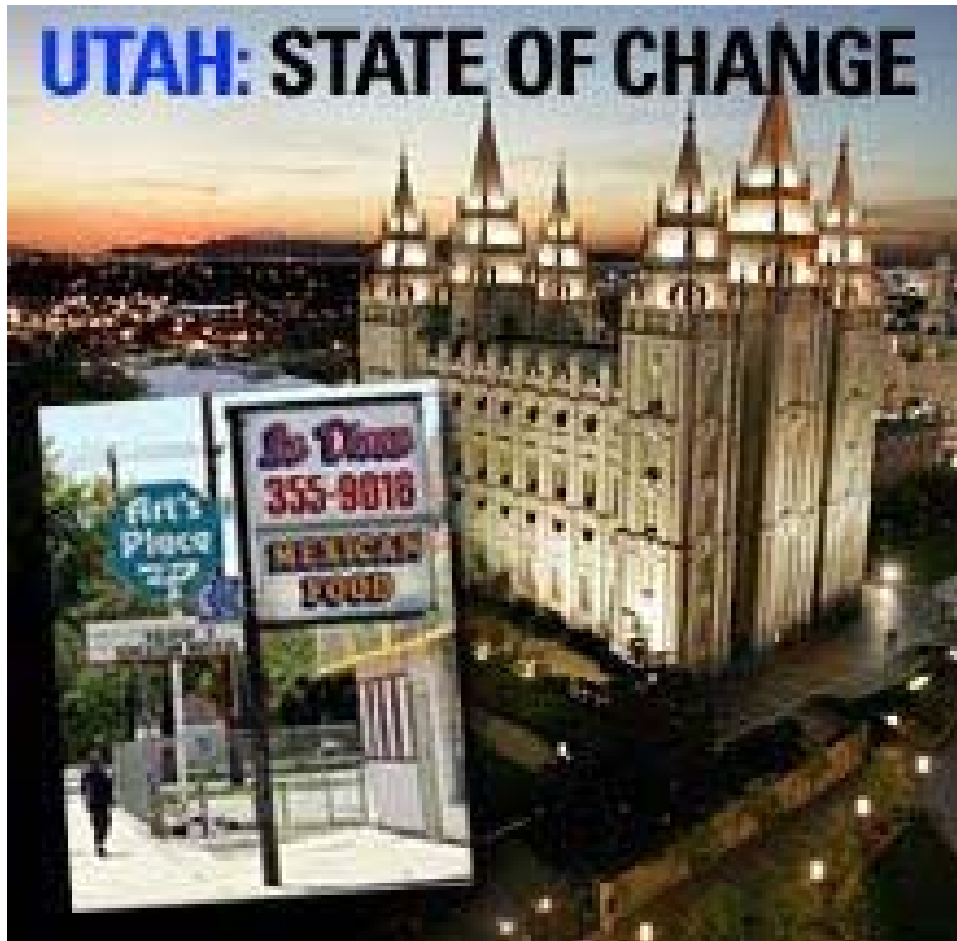
# State of Utah: Annual Net Migration International and Domestic: 2000-07



Source: U.S. Bureau of the Census, Population Estimates Program, NST-EST2007-alldata.

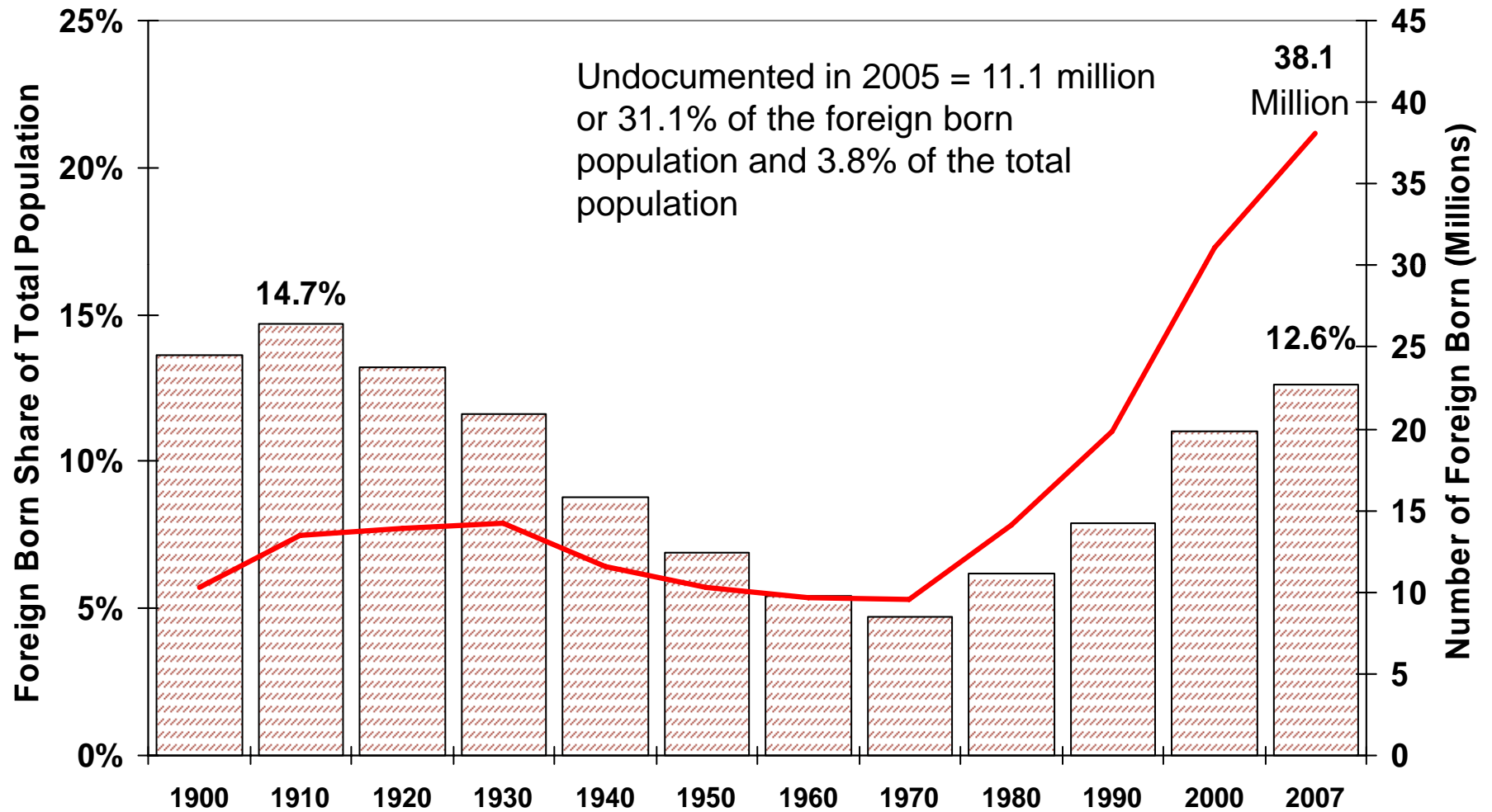


# “Immigrants Turn Utah into Mini-Melting Pot”



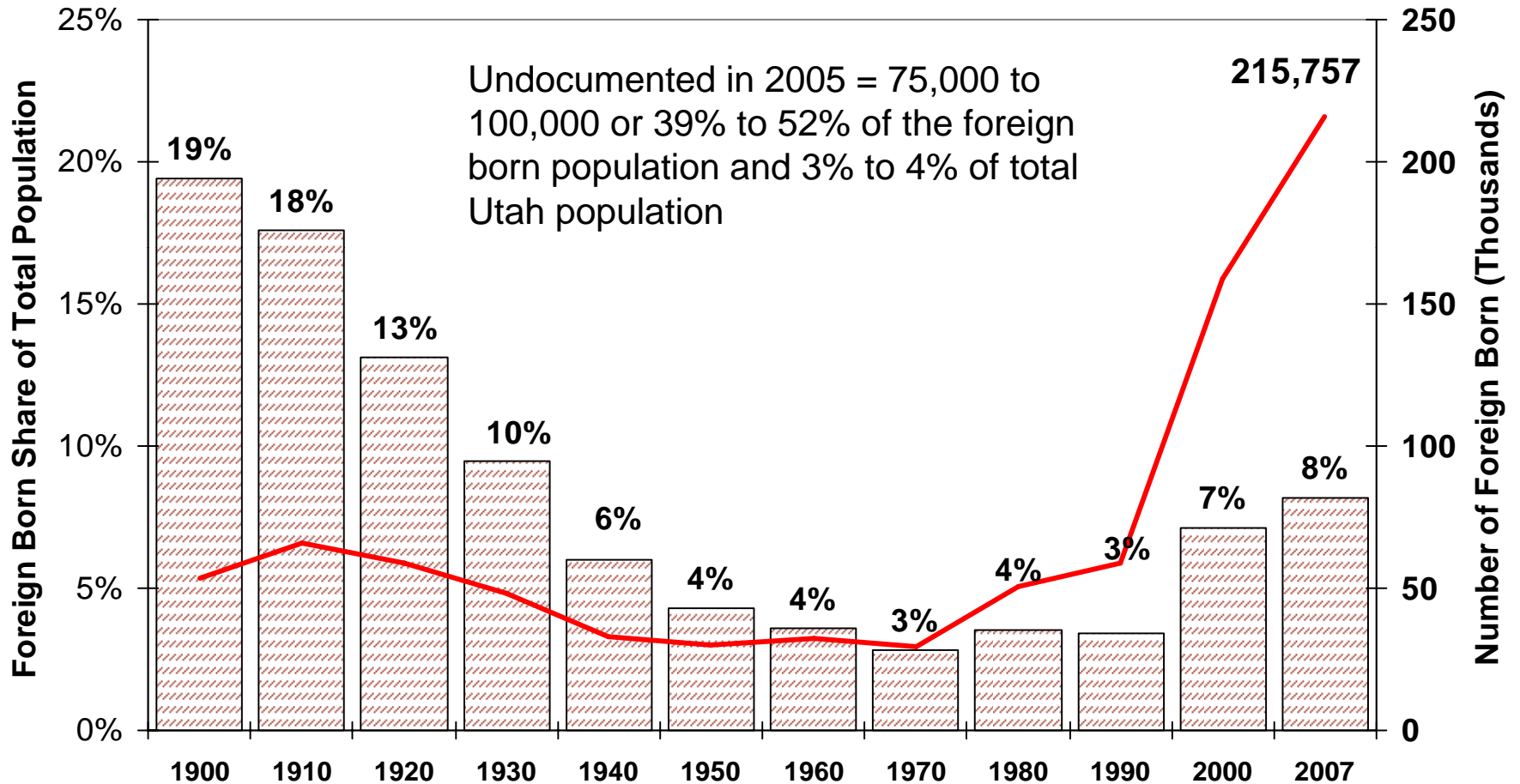
By Haya El Nasser,  
USA TODAY  
9/15/2006  
SALT LAKE CITY — In the shadow of the Mormon faith's majestic headquarters, the fountain at the center of the Gateway Plaza outdoor mall is a popular backdrop for weddings. On a scorching day, Hispanic and Anglo children run side by side through the pulsating sprays of water.

# U.S. Foreign Born Population: 1900 - 2007



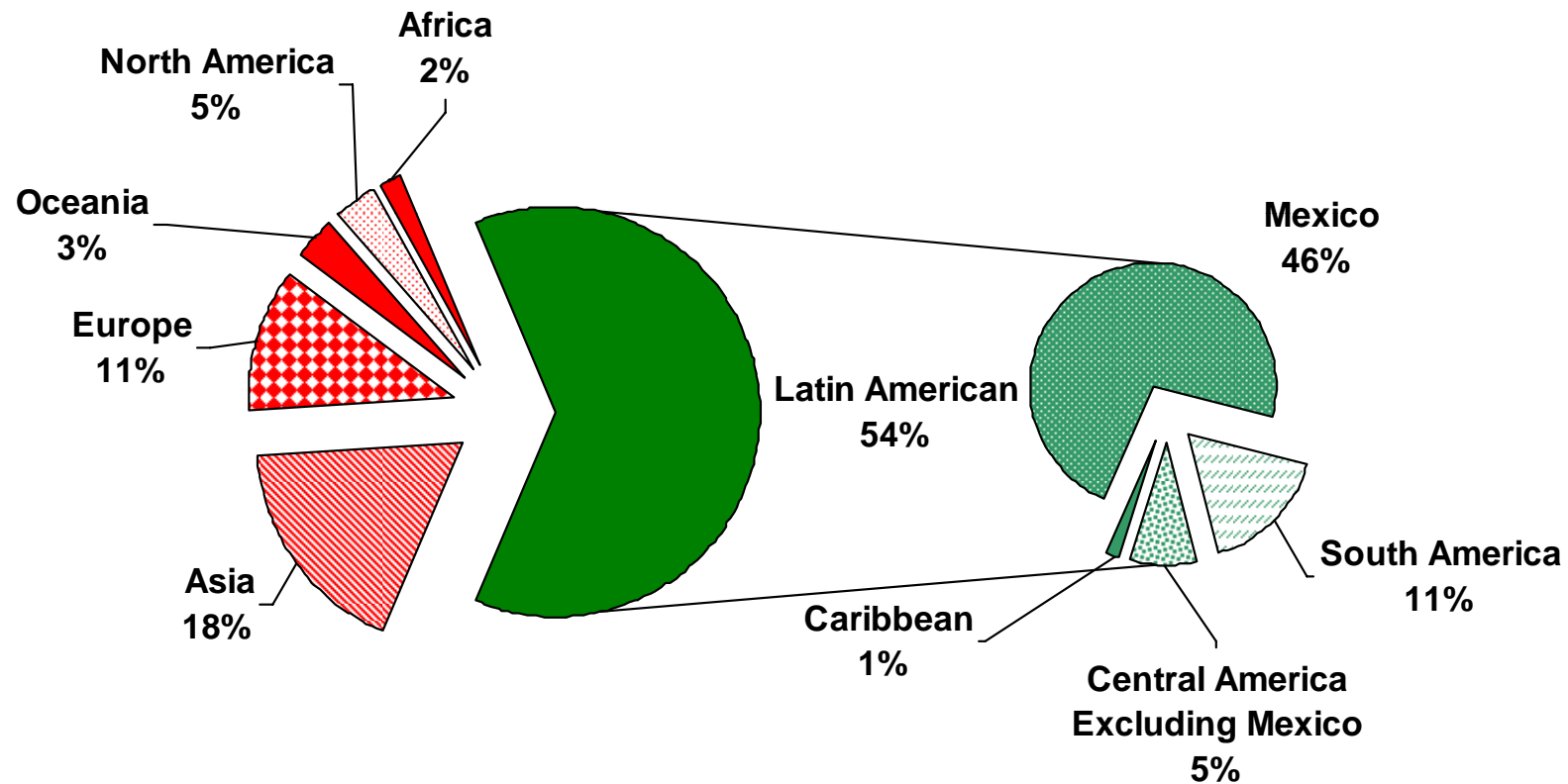
Sources: Bureau of the Census (decennial Censuses and 2007 American Community Survey), Pew Hispanic Center, BEBR Calculations.

# Utah Foreign Born Population: 1900 – 2007



Sources: Bureau of the Census (decennial Censuses and 2007 American Community Survey), Pew Hispanic Center, BEBR Calculations.

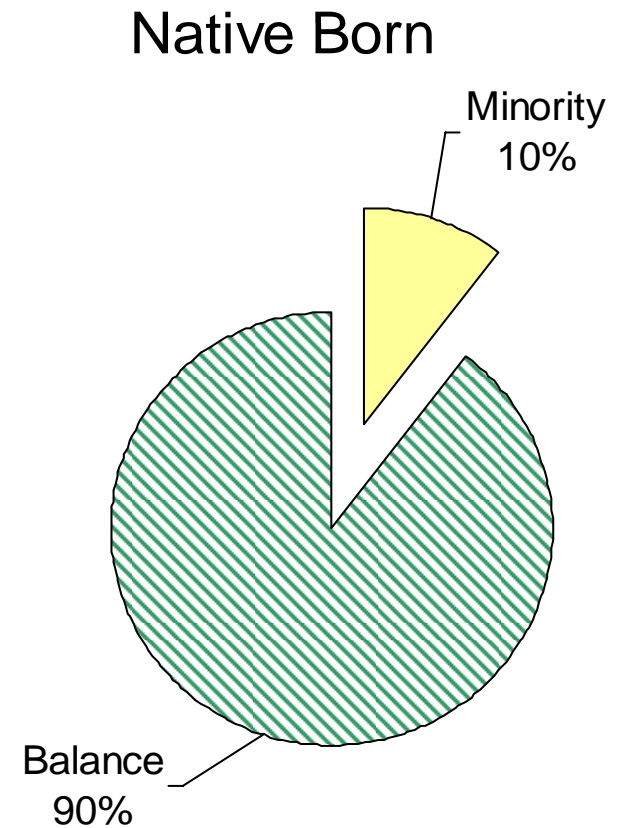
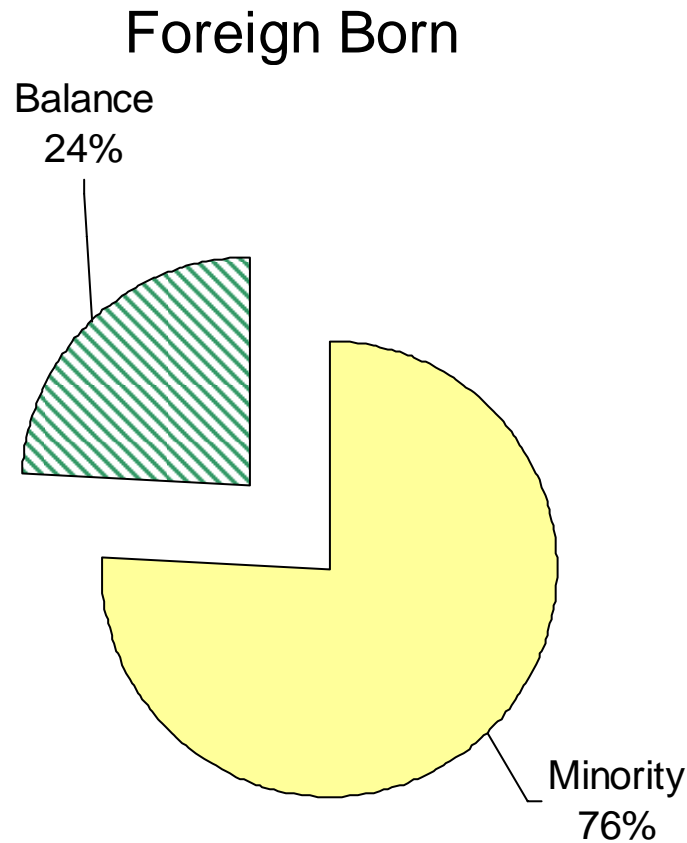
# Source Regions of Utah's Foreign Born Population (2007)



Source: U.S. Bureau of the Census, 2007 ACS.

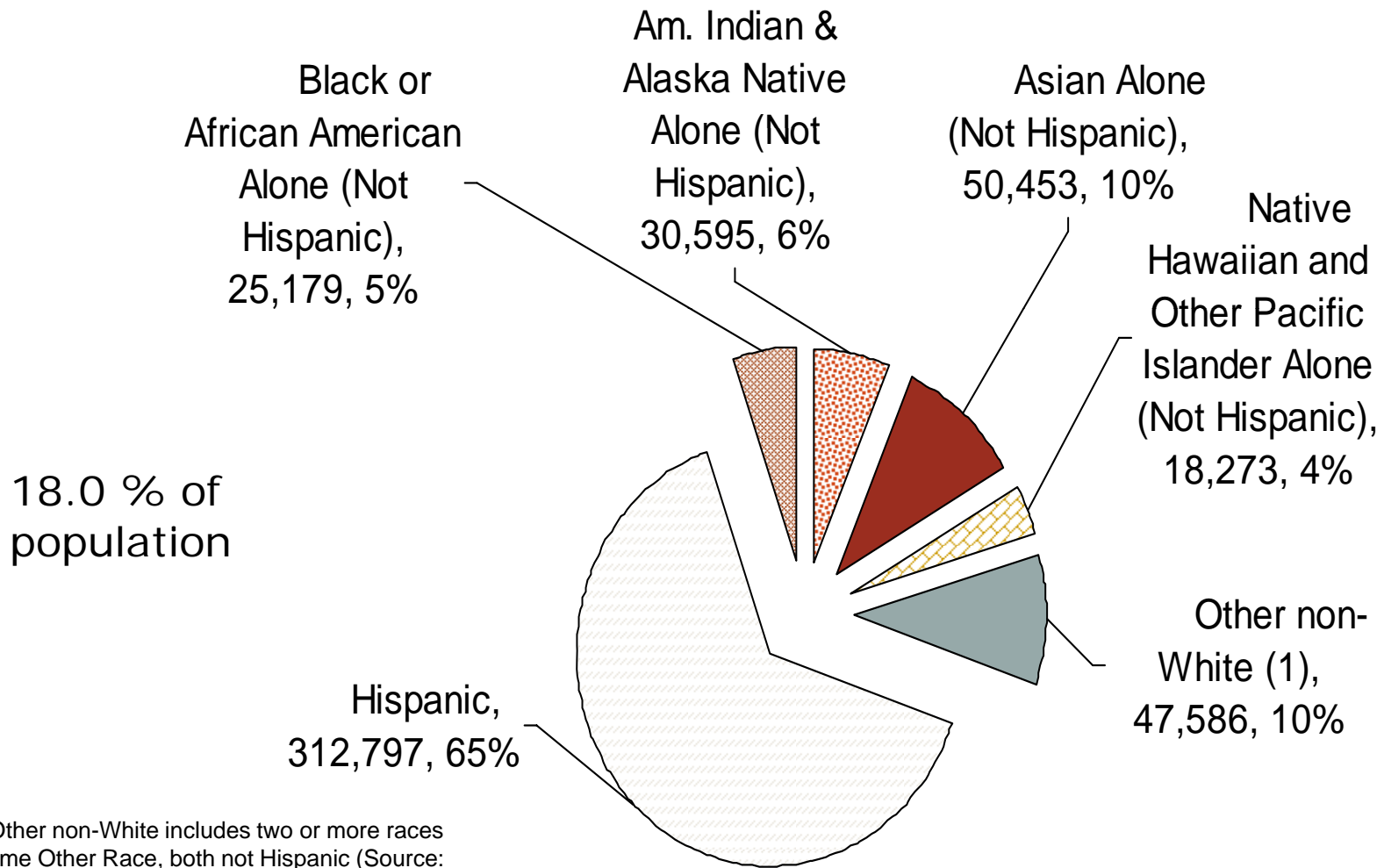
# Nativity by Minority Status: Utah - 2000

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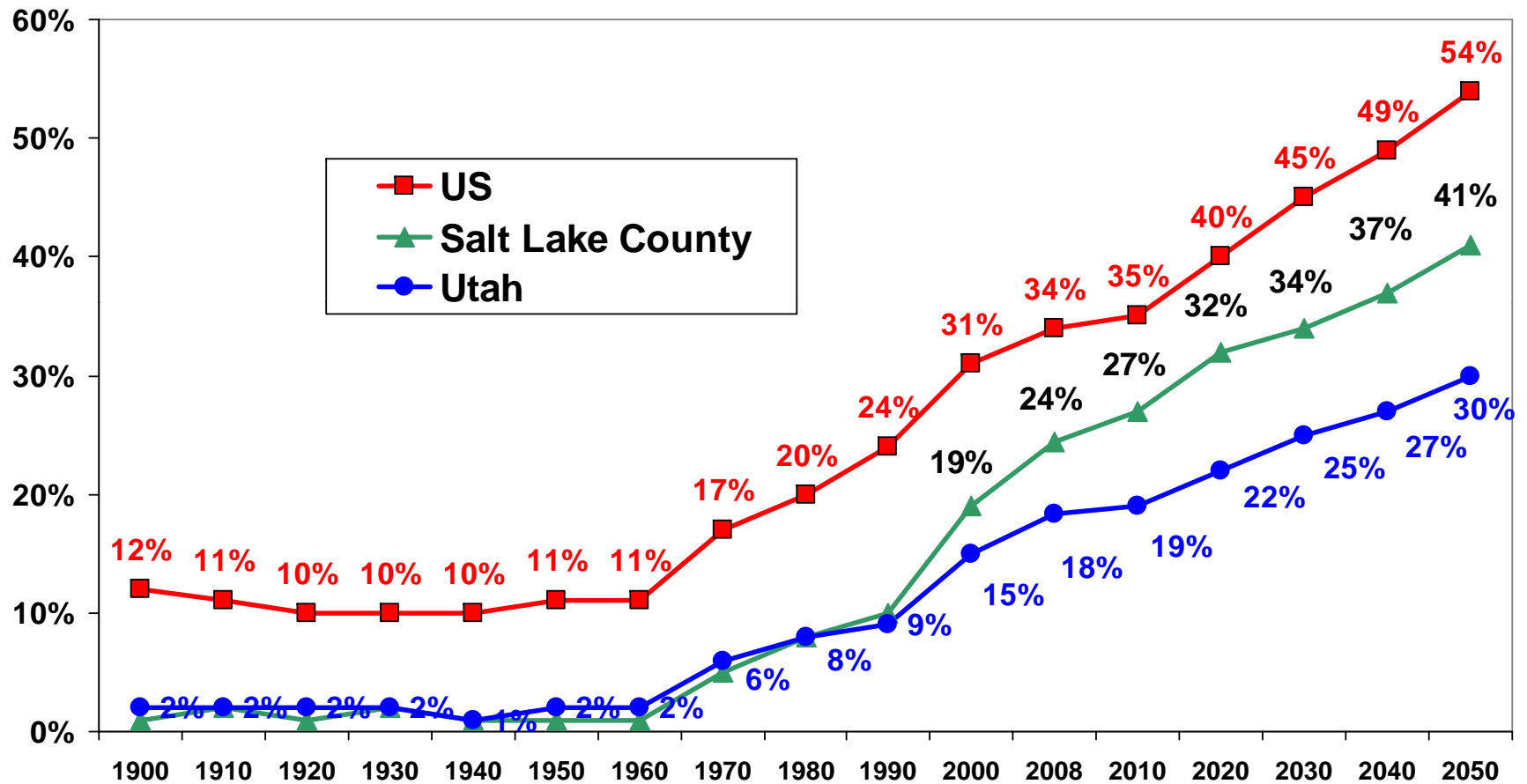
Source: Bureau of the Census, 5% PUMS, Census 2000.

# Utah's Minority Population: 2007



Note: Other non-White includes two or more races and Some Other Race, both not Hispanic (Source: BEBR Analysis of Bureau of Census and Utah Population Estimates data.)

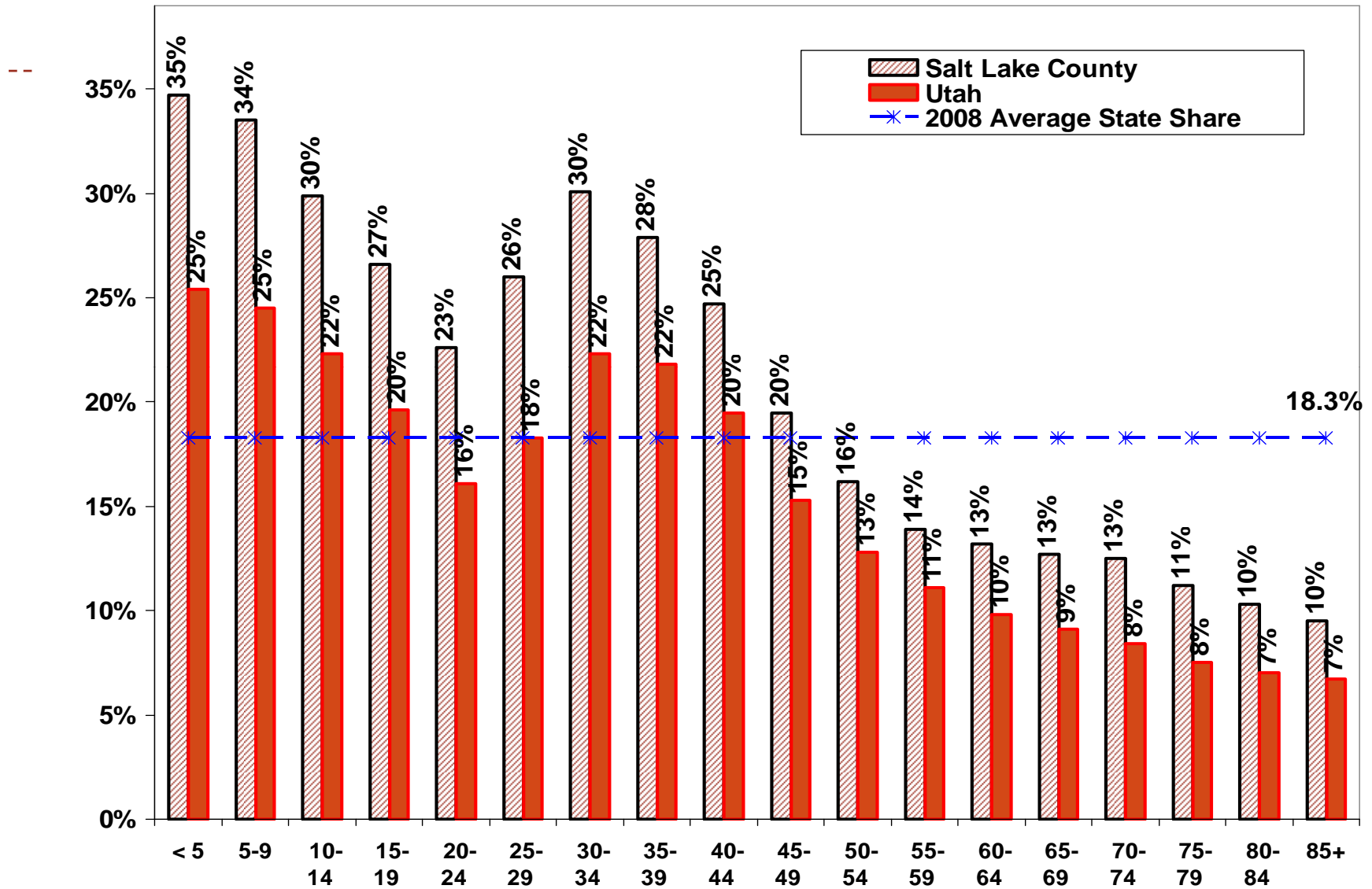
# Minority Share of the Population: U.S., State of Utah, and Salt Lake County



Sources: Bureau of the Census, Gibson and Jung (2002), Perlich (2002), BEBR computations using UPEC and BOC data.

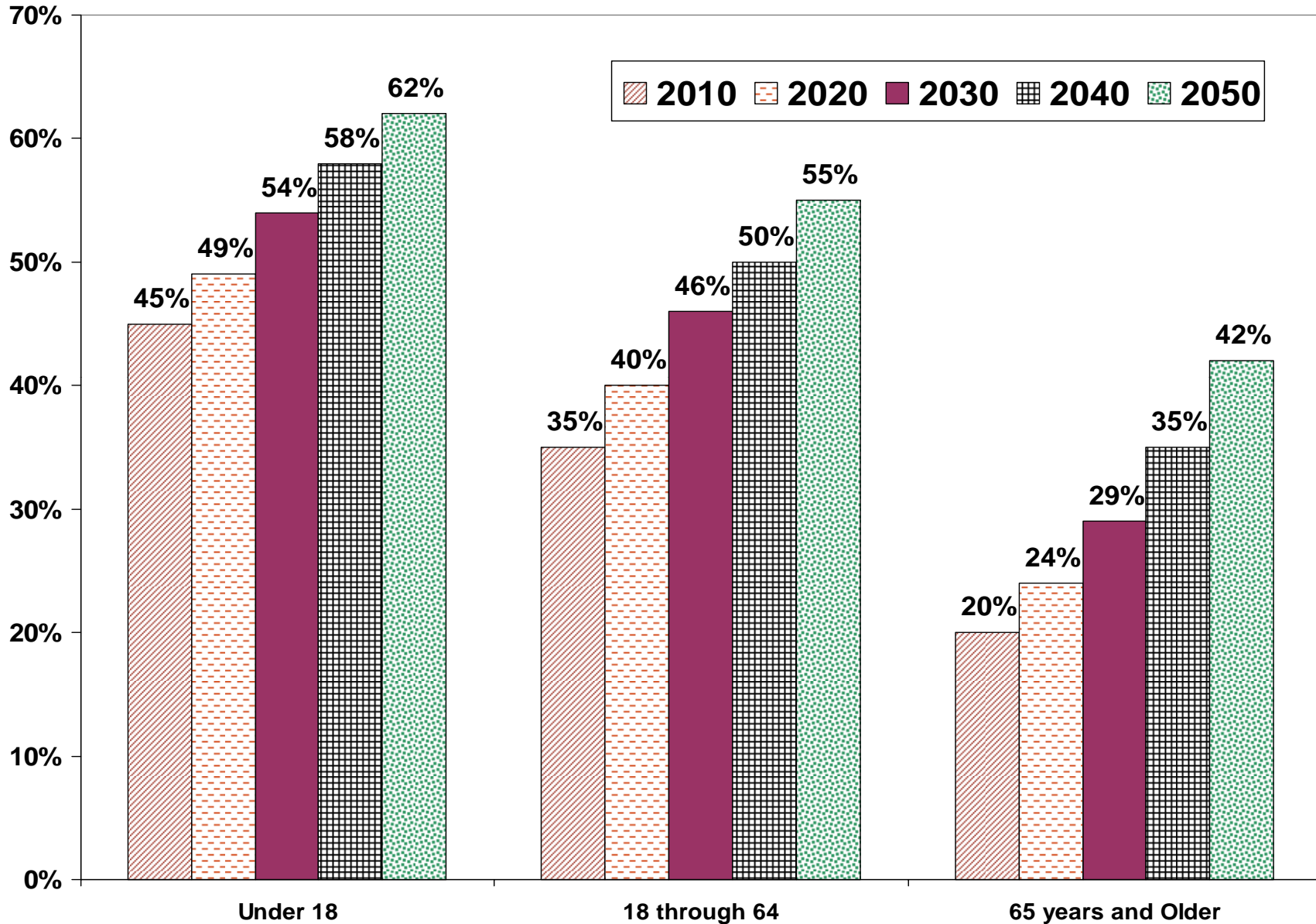
Note: Prior to 1970, minority is non-White. For 1970 and beyond, minority is non-White (may be Hispanic or non-Hispanic) plus Hispanic (may be of any race).

# Minority Share by Age Group - Utah and Salt Lake County: 2008



Sources: Bureau of the Census, 2008 Population Estimates.

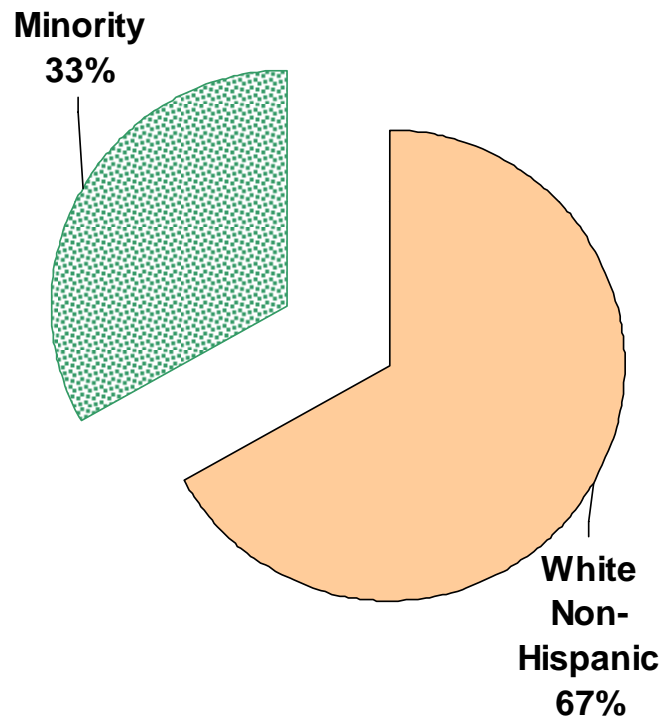
# U.S. Minority Share by Age Group: 2010-2050



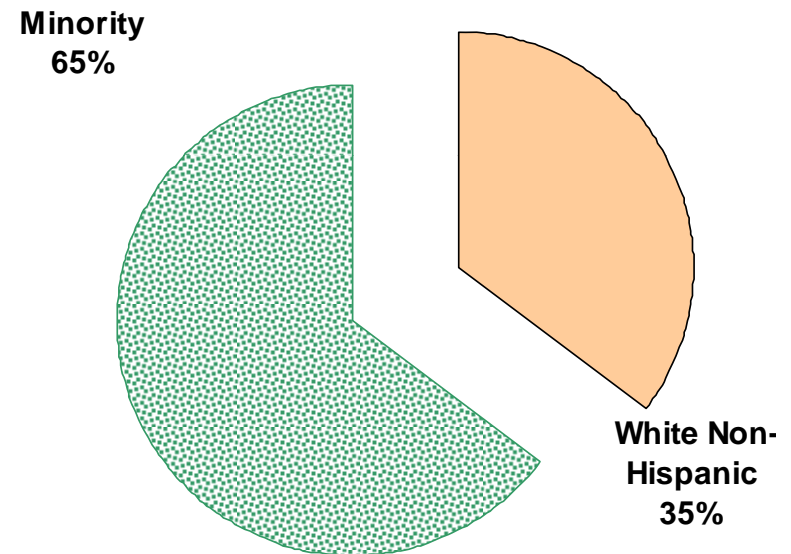
# Minority Contribution to Utah Population and School Enrollment Growth: 2000 to 2007

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## Population Growth

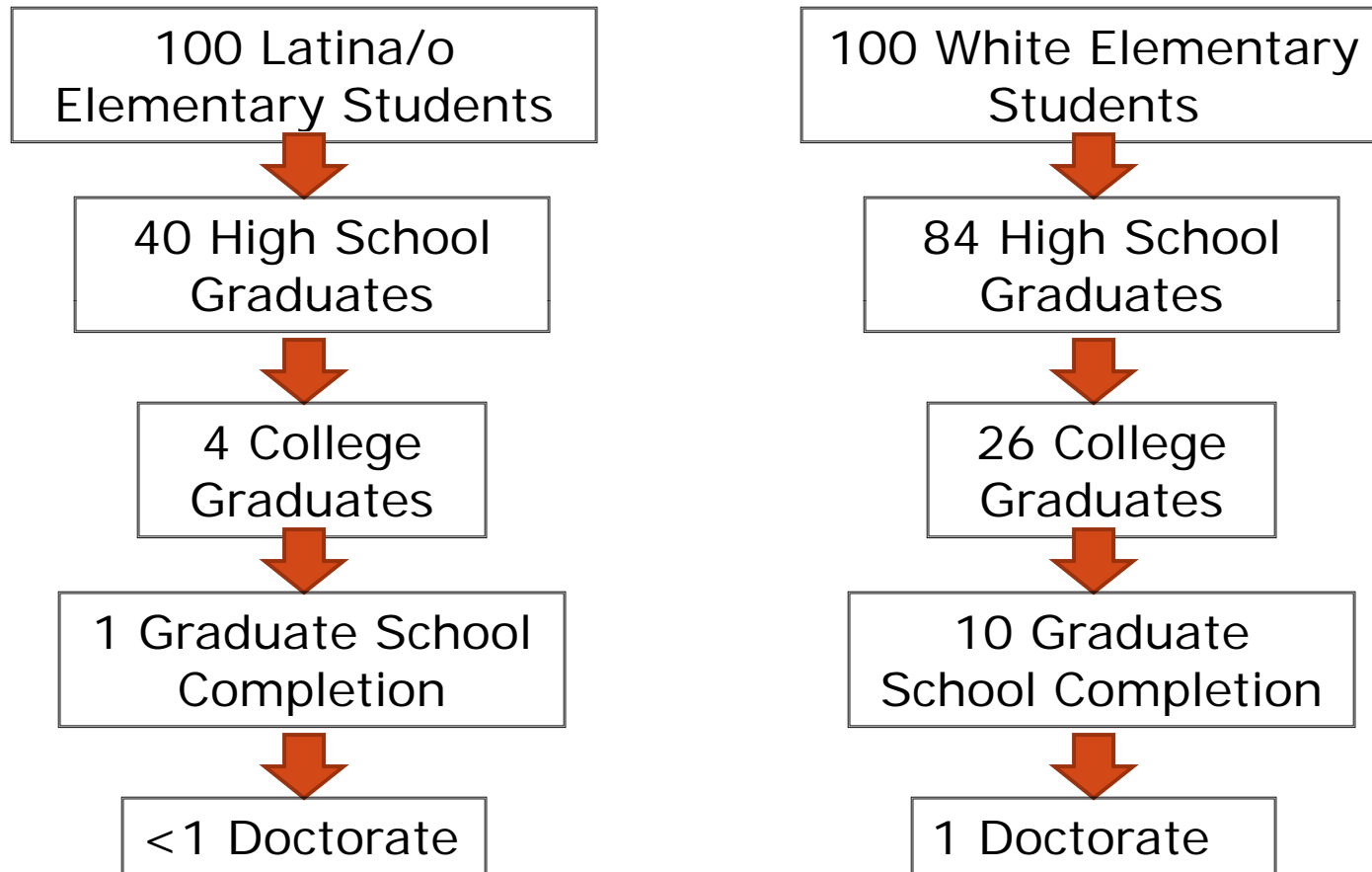


## Enrollment Growth



# Educational Transition Points

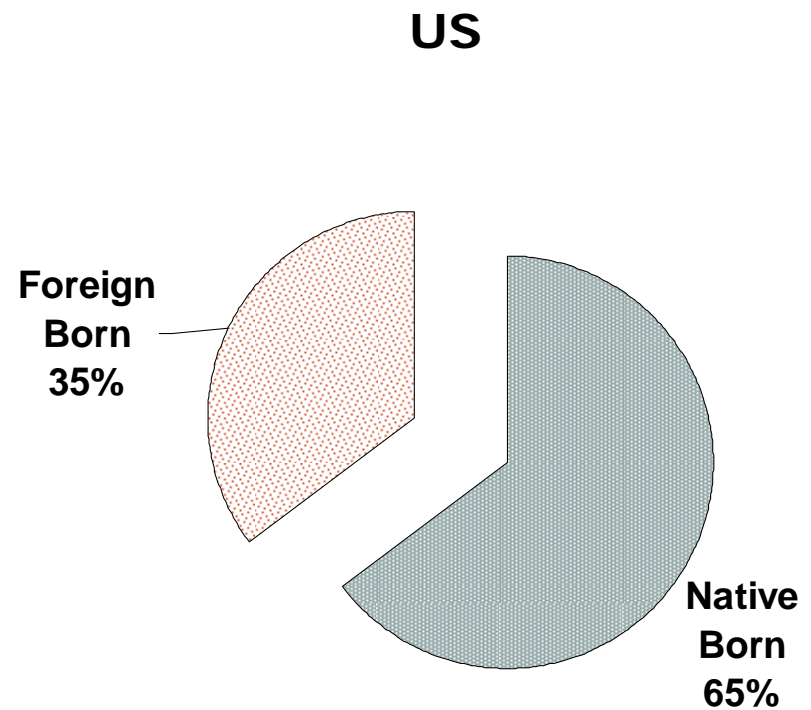
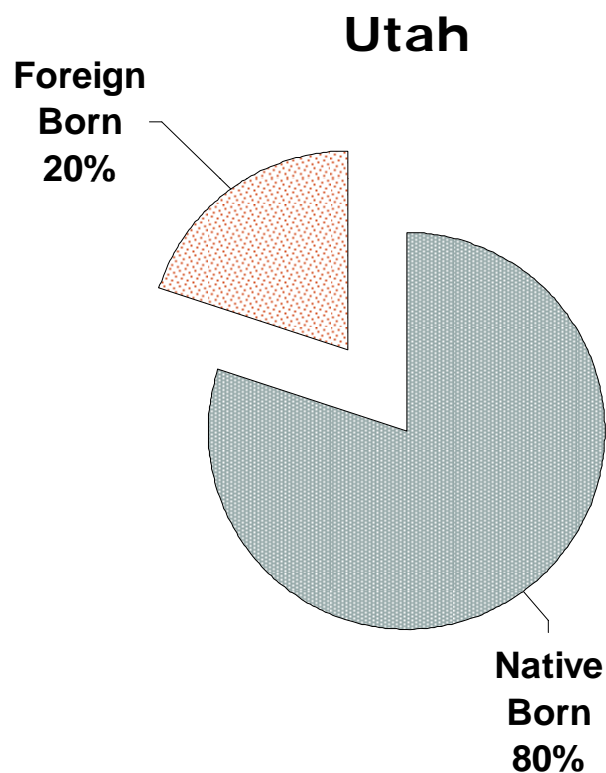
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Source: Octavio Vallalpando, University of Utah

# Foreign Born Contribution to Population Growth: Utah and the US, 1990-2000

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Source: U.S. Bureau of the Census, 2000 Census, Summary File 3; 1990 Census, STF3.

## US Population Growth: Immigrants, their Kids, and their Grandkids are 80% to 2050

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- ▶ “If current trends continue, the population of the United States will rise to 438 million in 2050, from 296 million in 2005, and 82% of the increase will be due to immigrants arriving from 2005 to 2050 and their U.S.-born descendants.”

Pew Research Center, 2008.

- ▶ We are (and have always been) a nation of immigrants.

# Top Occupations of Utah's Foreign Born

Assemblers & Fabricators	Laborers / Material Movers,
Cooks	Retail Salespersons
Maids, Housekeeping	Customer Service Rep.
Construction Laborers	Waiters and Waitresses
Janitors	Truck Drivers
Production Workers	Carpenters
Cashiers	Postsecondary Teachers
Grounds Maintenance Workers	Misc. Agricultural Workers

Source: U.S. Bureau of the Census, Census 2000, 5% PUMS.

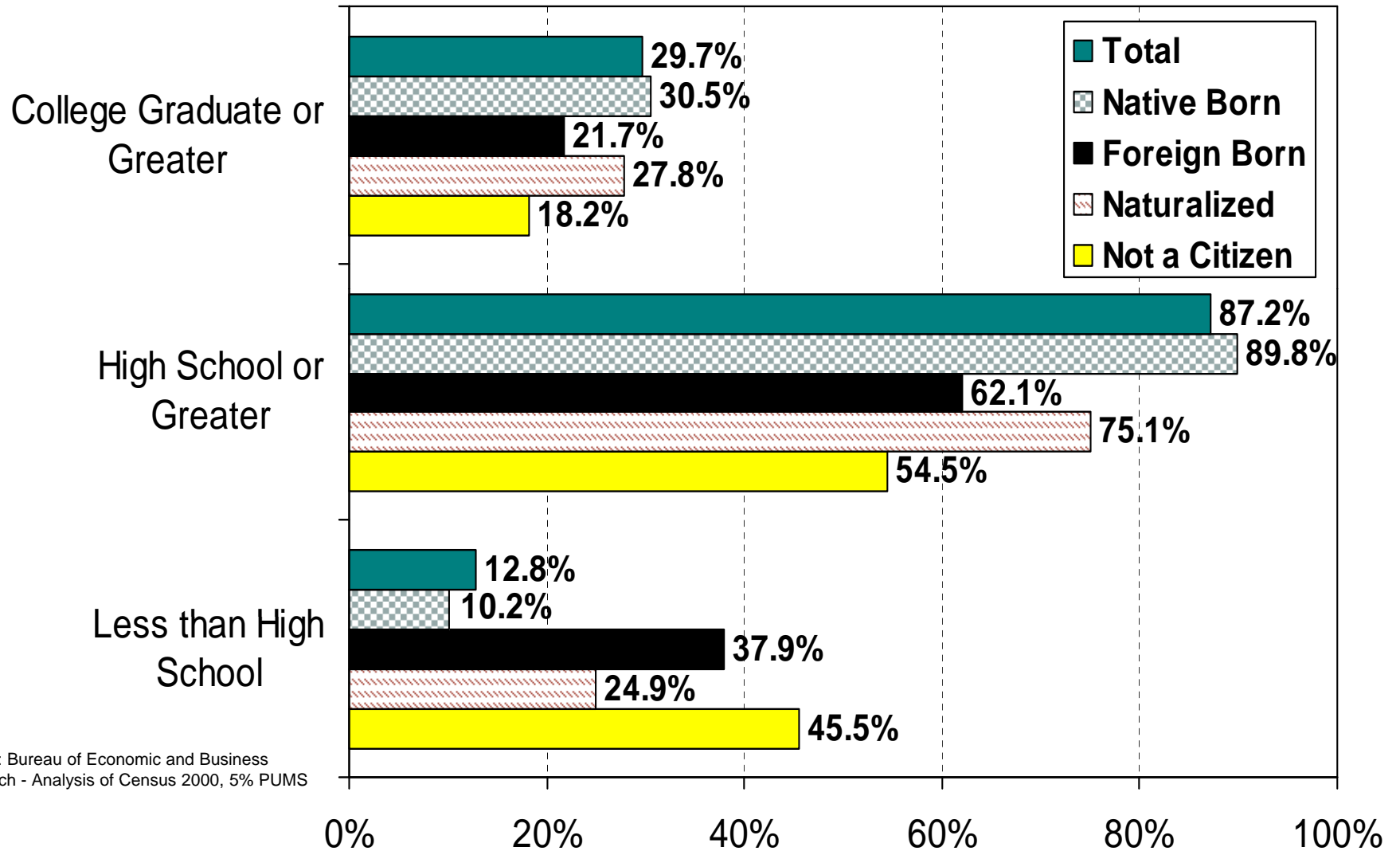
# Top Occupations Concentration Ratios of Utah's Foreign Born

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<b>Medical Scientists</b>	Maids and Housekeepers
Packaging Machine Operators	Fence Erectors
Plasterers & Stucco Masons	Sewing Machine Operators
<b>Chefs and Head Cooks</b>	Misc.Assemblers
Misc. Media Workers	Woodworking Mach. Ops.
Grinding, etc. Machine Ops.	<b>Astronomers &amp; Physicists</b>
Dishwashers	Drywall Installers
Baggage Porters	<b>Dancers &amp; Choreographers</b>

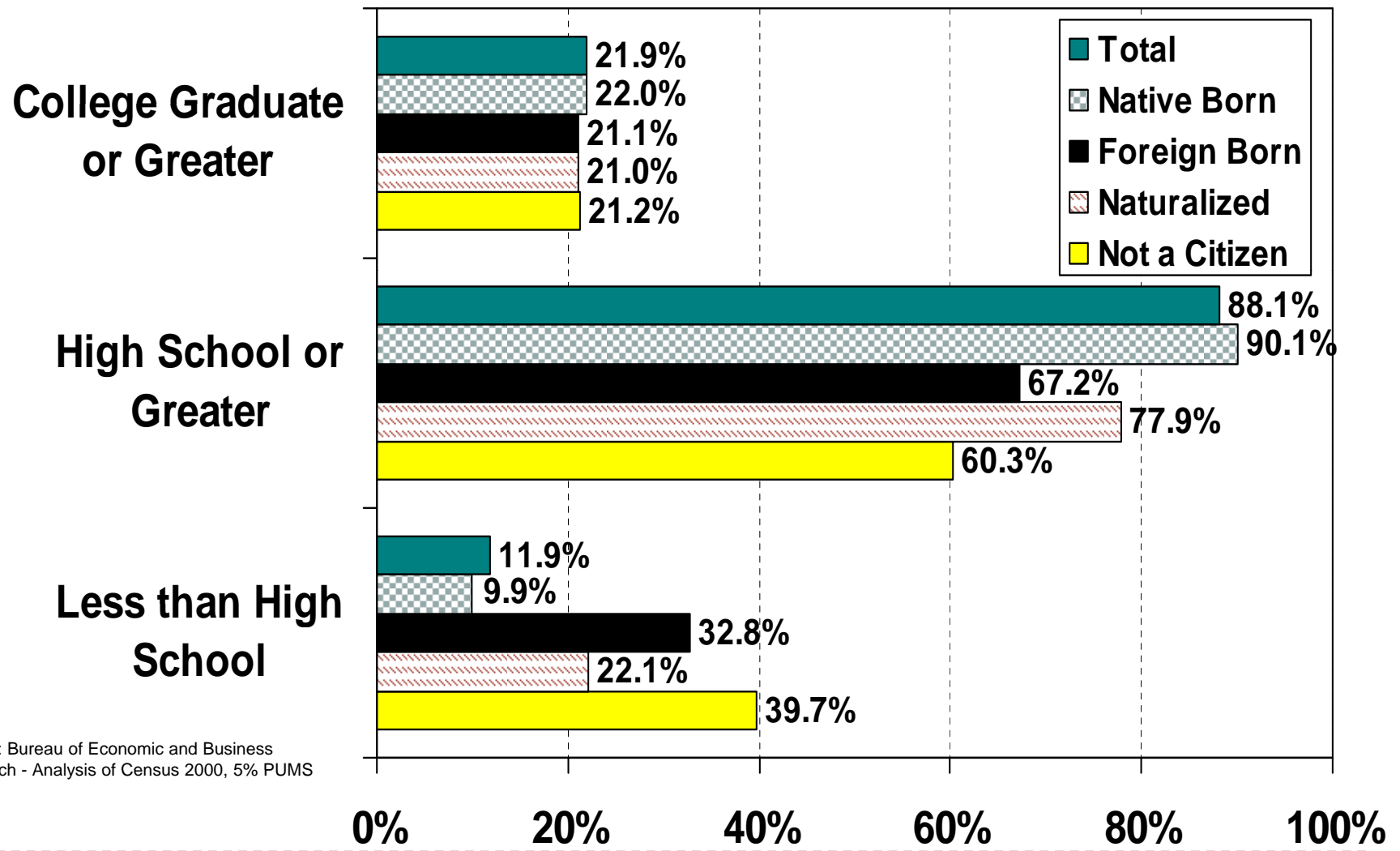
Source: U.S. Bureau of the Census, Census 2000, 5% PUMS.

# Utah Educational Attainment by Nativity: Males 25 Years and Older (2000)



Source: Bureau of Economic and Business Research - Analysis of Census 2000, 5% PUMS

# Utah Educational Attainment by Nativity: Females 25 Years and Older (2000)

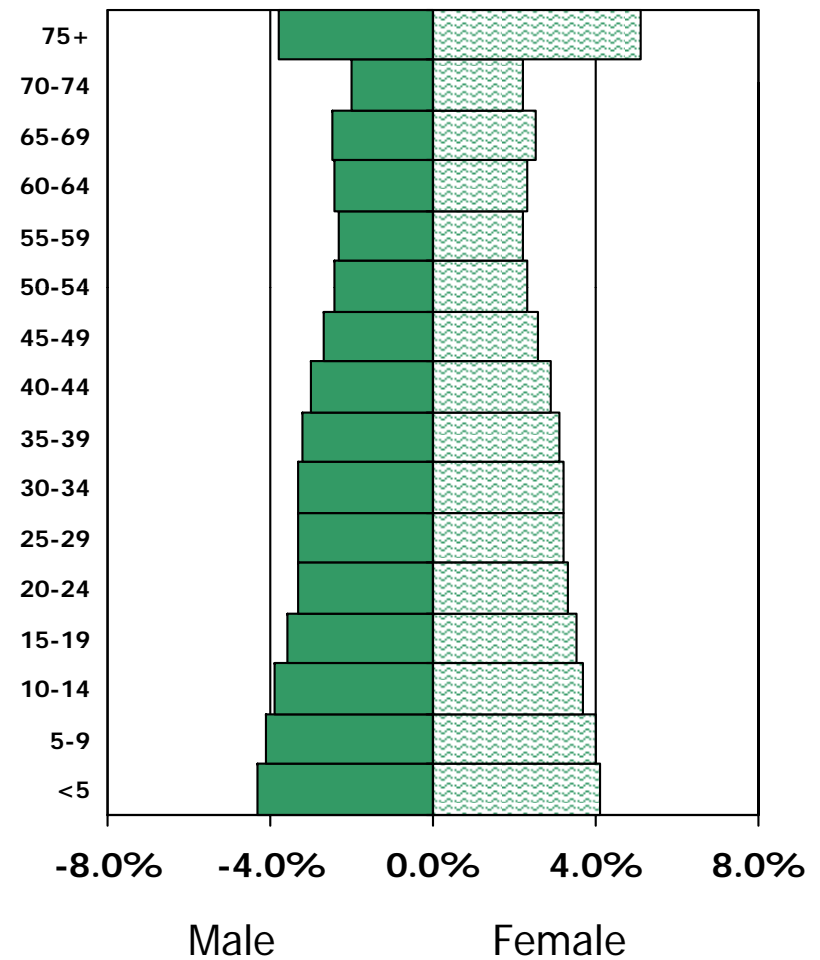
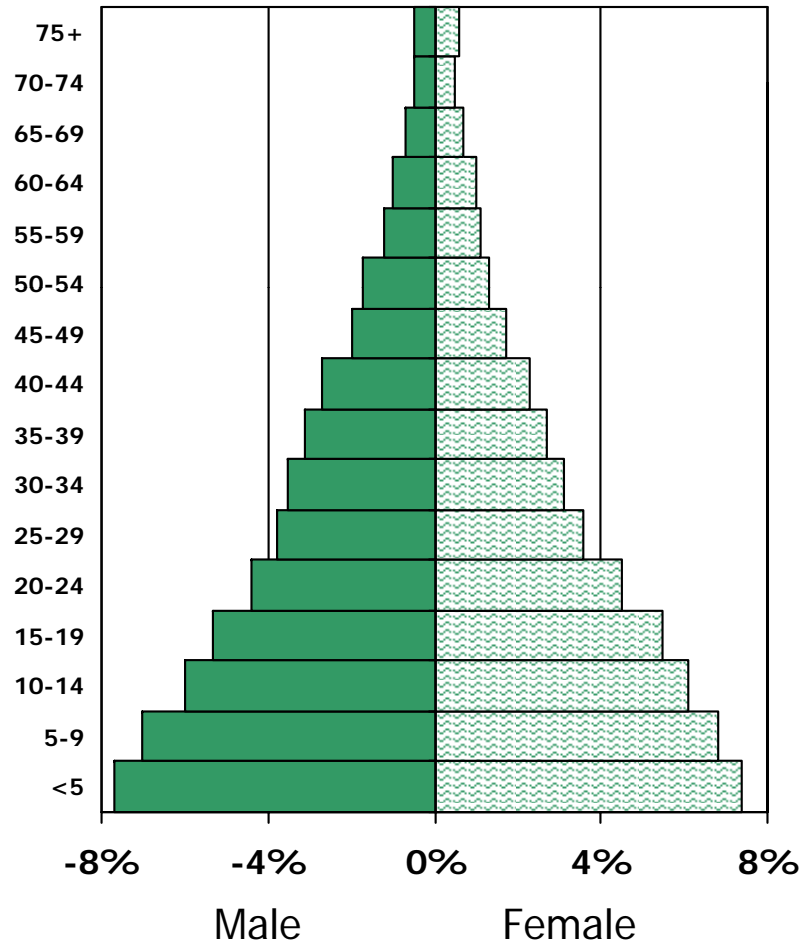


Source: Bureau of Economic and Business Research - Analysis of Census 2000, 5% PUMS

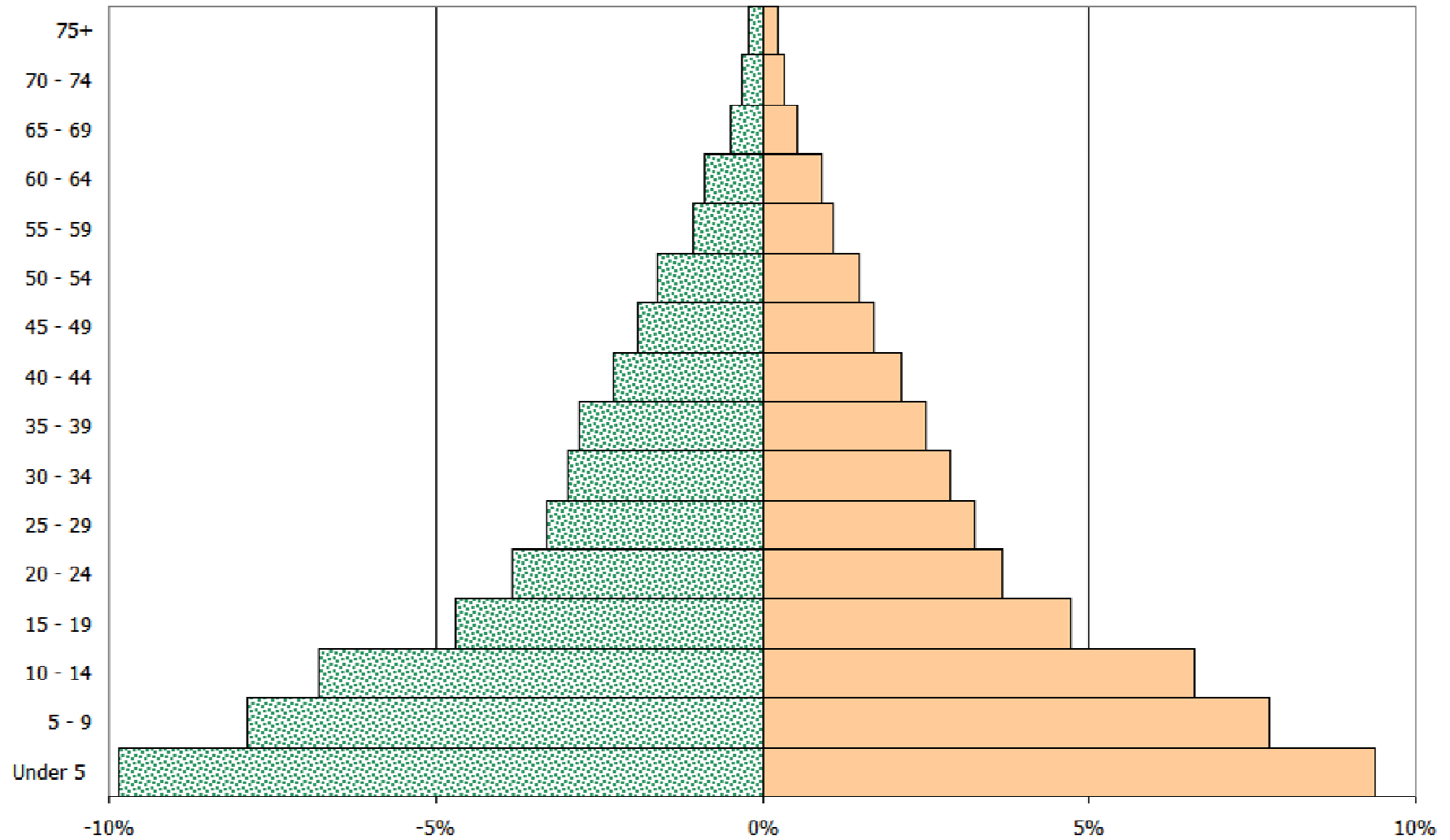
# Utah Age & Sex Distributions: 1900 & 2050

1900

2050



### Utah Age Structure: 1870



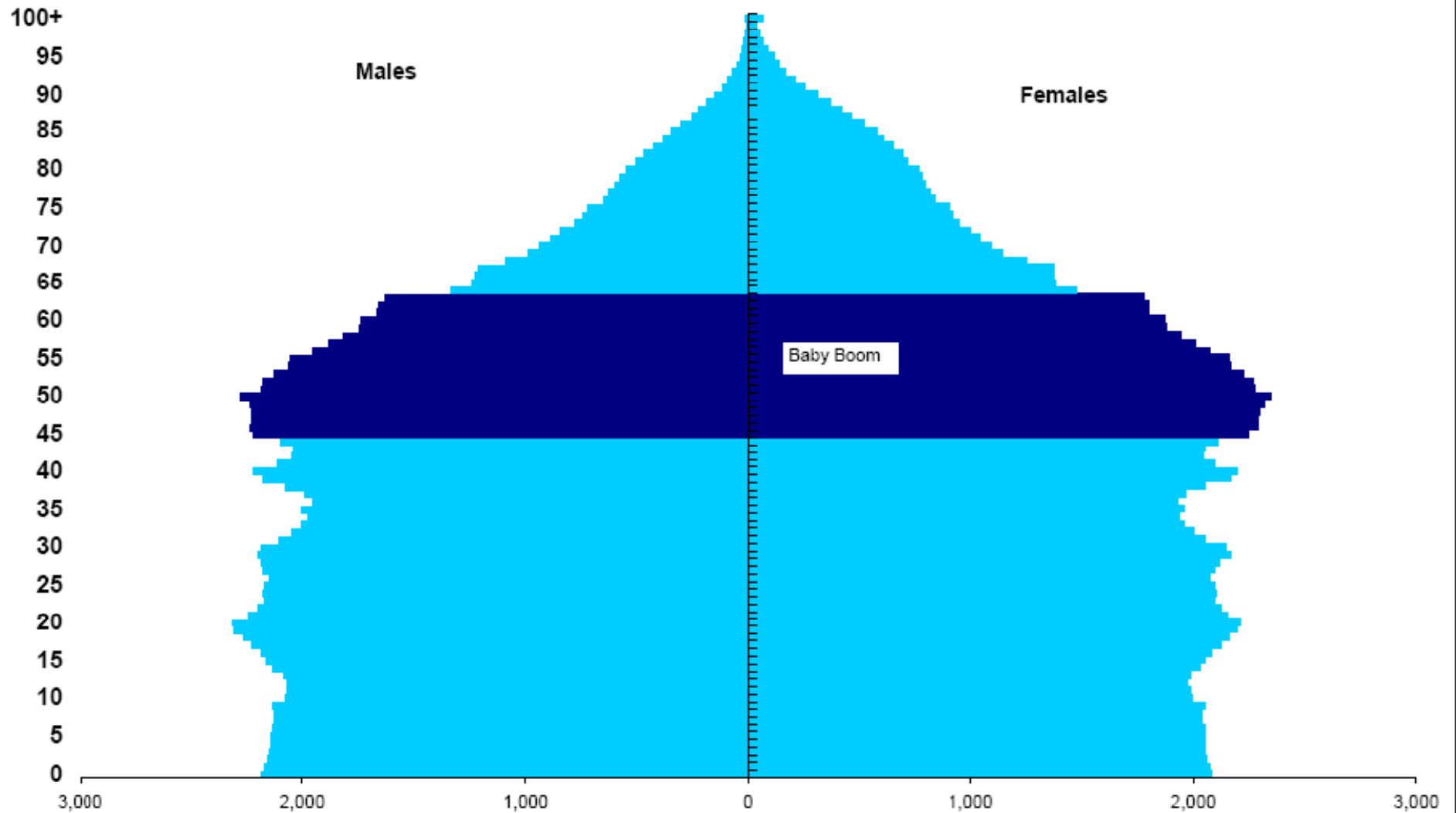
Prepared by P. Perlich, Bureau of Economic and Business Research, University of Utah, July, 2007.

MALES FEMALES

Data sources: Decennial censuses 1870 - 2000; Utah GOPB 2005 Baseline Projections.

# Projected U.S. Population by Age and Sex: 2010

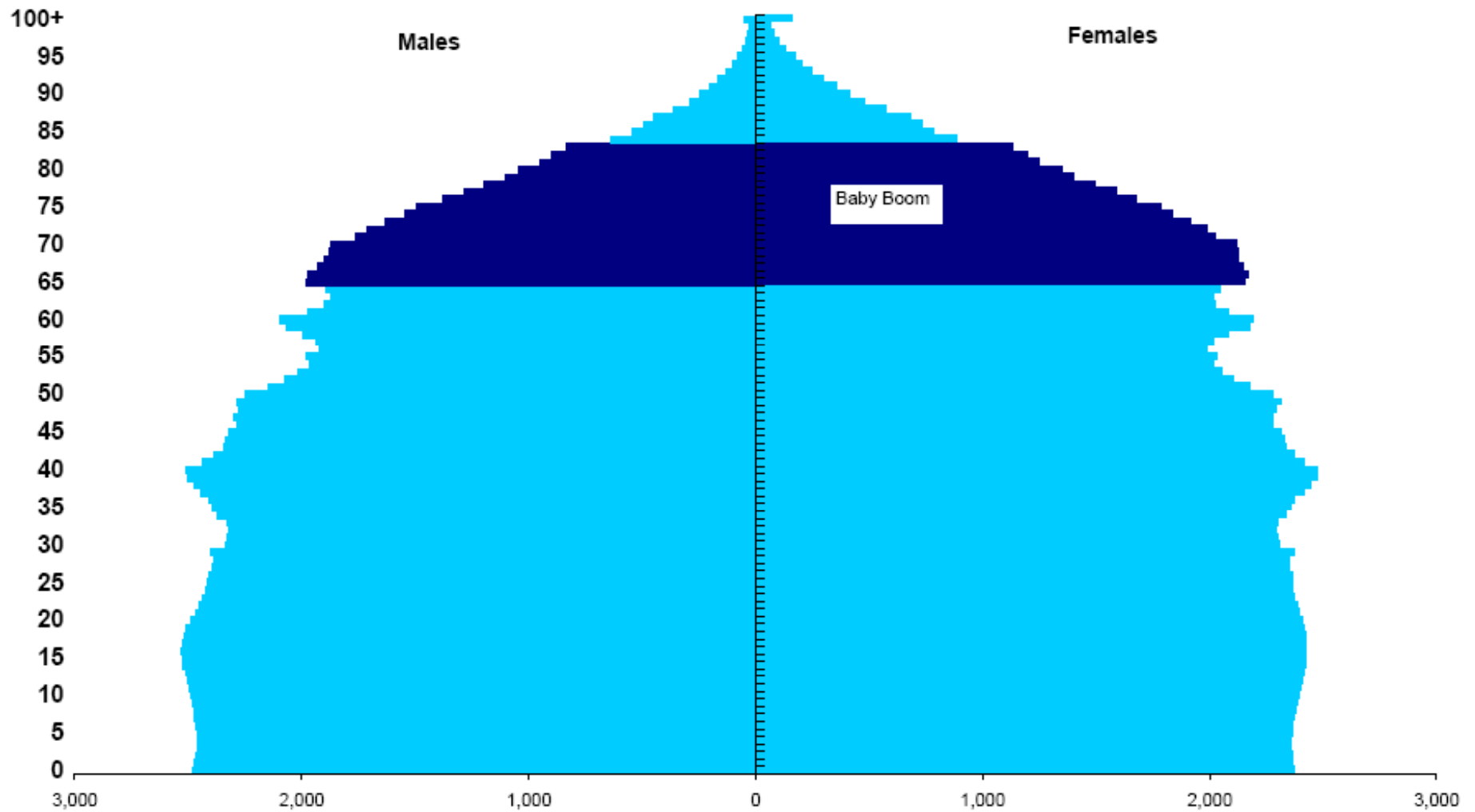
(in thousands)



Source: Population Division, U.S. Census Bureau  
Released: August 14, 2008

# Projected U.S. Population by Age and Sex: 2030

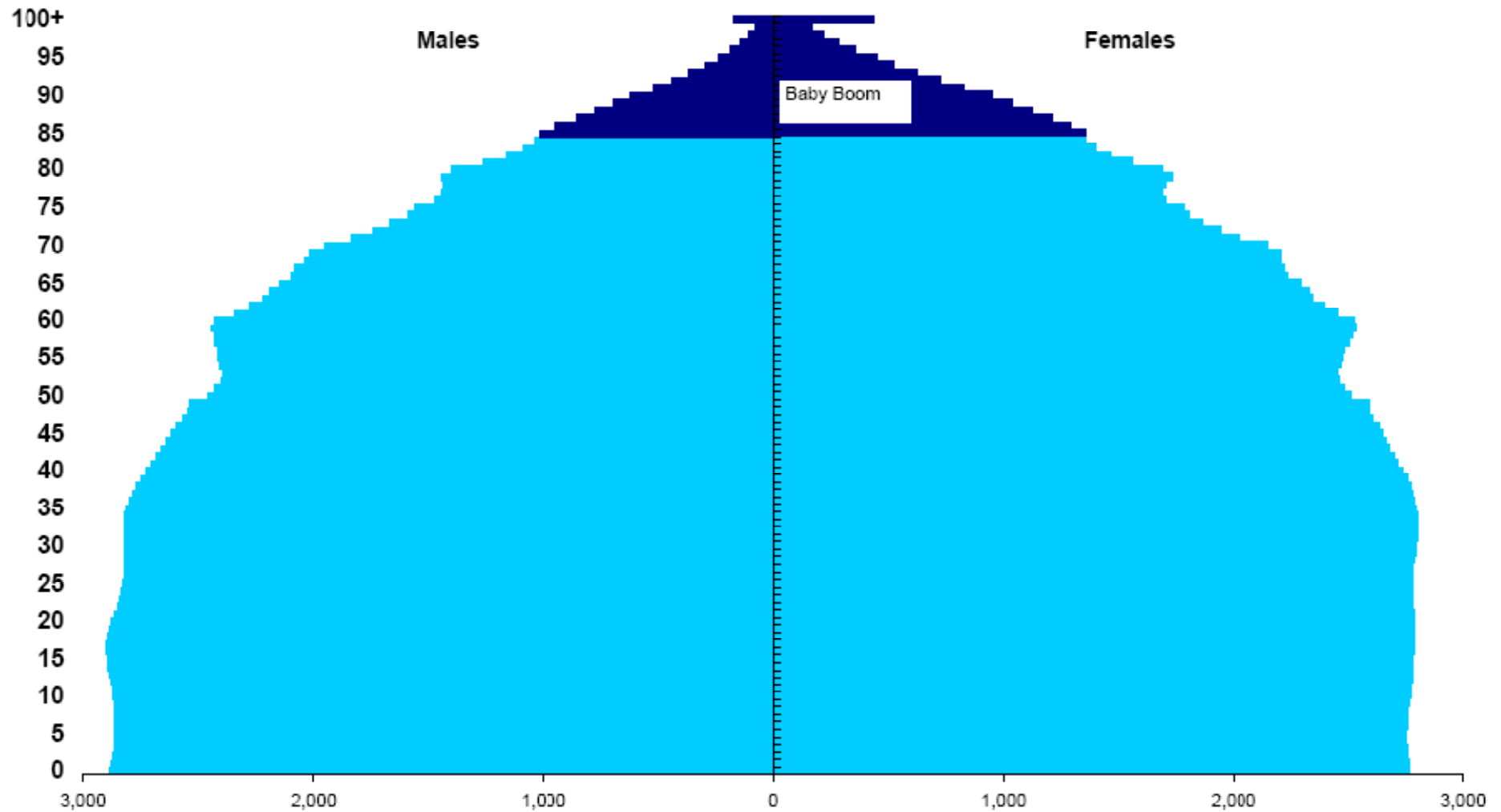
(in thousands)



Source: Population Division, U.S. Census Bureau  
Released: August 14, 2008

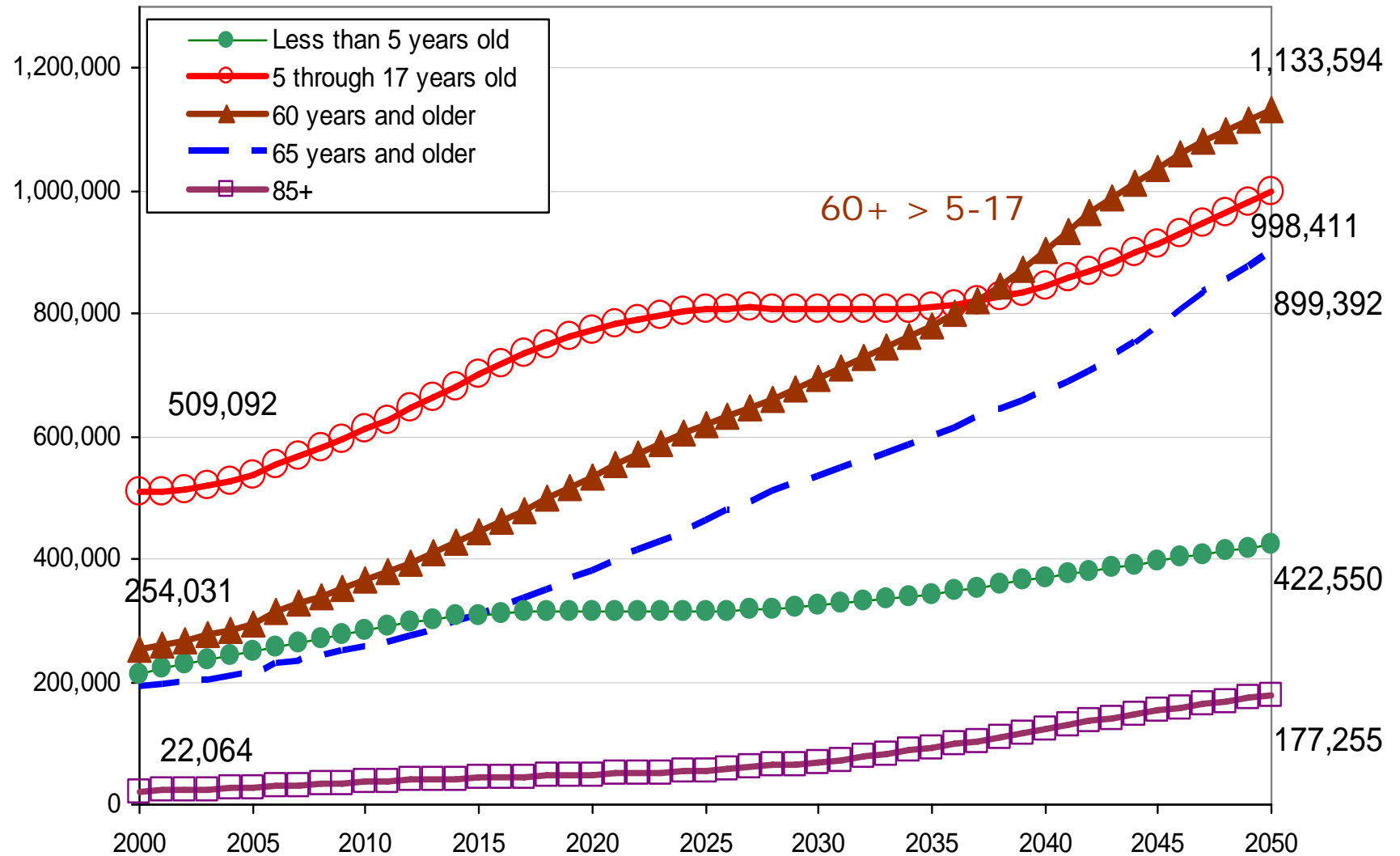
# Projected U.S. Population by Age and Sex: 2050

(in thousands)

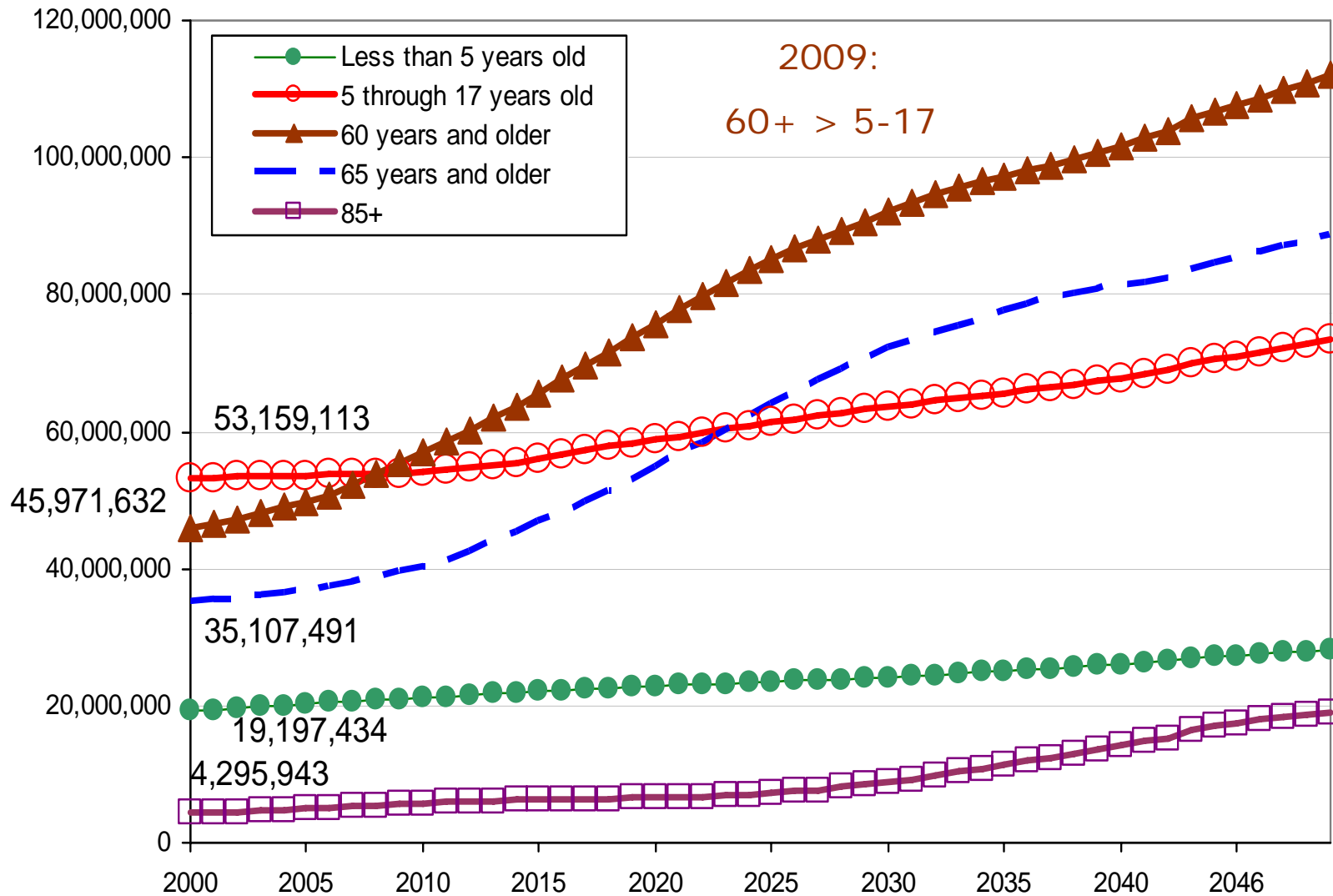


Source: Population Division, U.S. Census Bureau  
Released: August 14, 2008

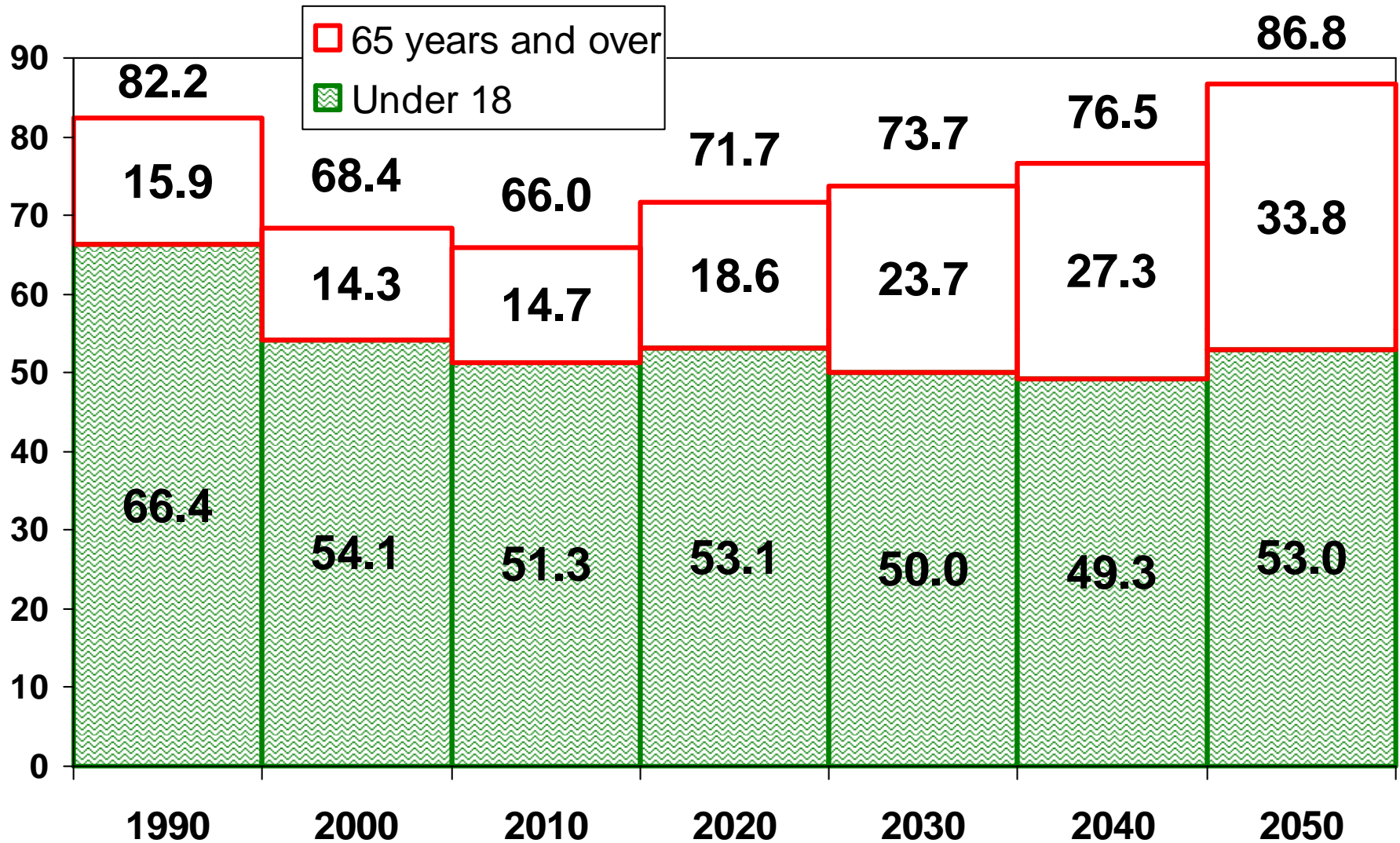
# Selected Age Group Projections for State of Utah: School Age, 60 and Over, and 65 and Older



# Selected Age Group Projections for the U.S: School Age, 60 and Over, and 65 and Older

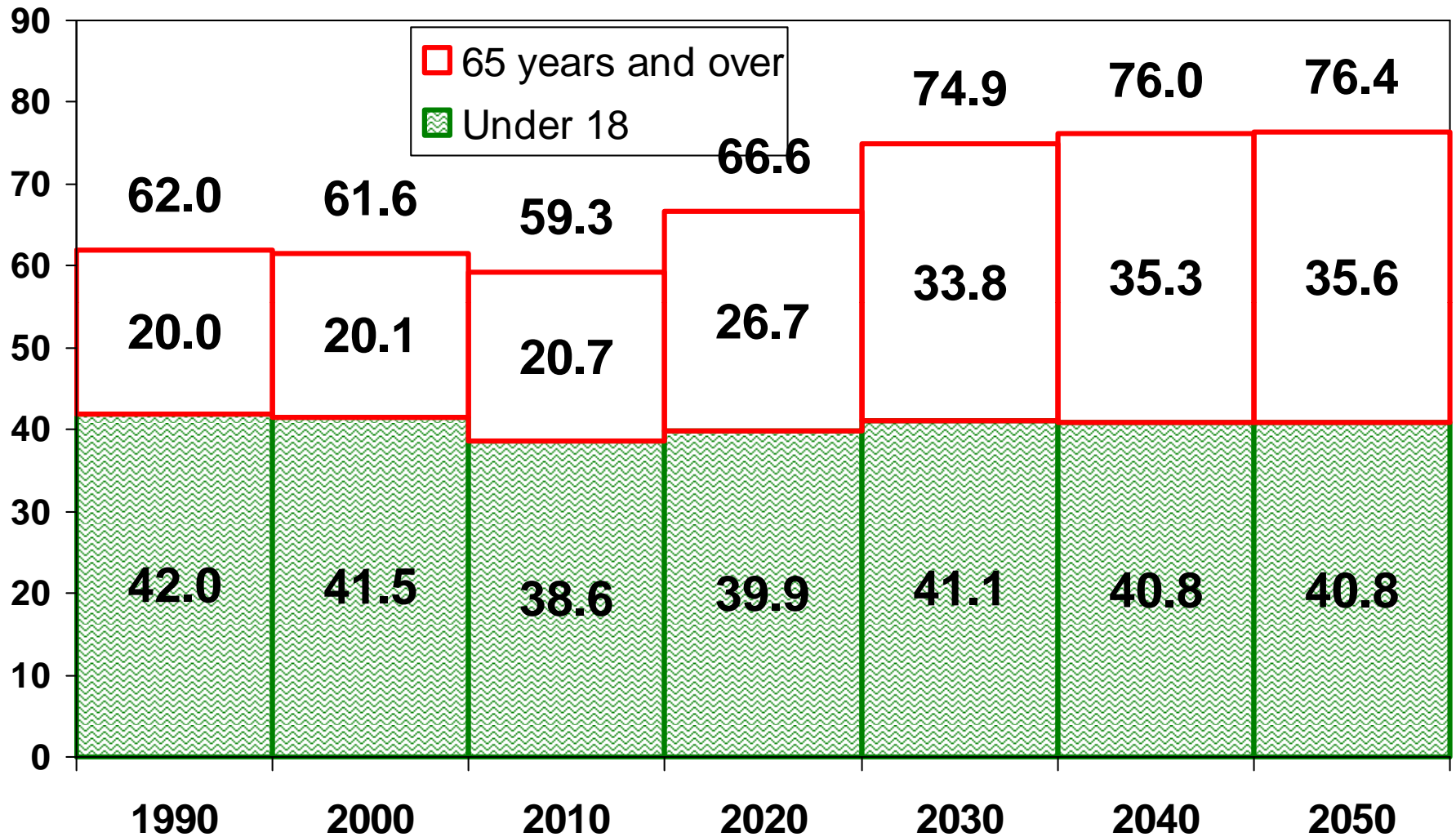


# State of Utah Dependency Ratios



Sources: BEBR, University of Utah, 2008 Baseline Projections.

# U.S. Dependency Ratios



Sources: U.S. Bureau of the Census, 2008 Baseline Projections.

# Comparing Migration Waves

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- ▶ First Great Migration wave
  - ▶ Utah was geographically isolated
  - ▶ Industries: agriculture and extractive
  - ▶ Fewer source regions of foreign born
- ▶ Second Great Migration Wave
  - ▶ Utah is integrated into the global economy
  - ▶ Economy is much more diversified
  - ▶ Economic success of state grounded in success of knowledge economy
  - ▶ Many more source regions of foreign born

# Today's Youth = Key to the Future

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- ▶ Are coming of age in a more demographically diverse, technically complicated, and globally competitive environment.
- ▶ Will be asked to shoulder a heavier demographic burden (more dependents).
- ▶ Are being educated in a more complicated and diverse environment that was experienced by Baby Boomers.

# Utah is Forever Changed

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- ▶ Utah is in the midst of a cultural, economic, and demographic transformation
- ▶ Labor market conditions continue to bring people to Utah
  - ▶ Creates a permanent “youth movement” to Utah
  - ▶ Immigrants are a major part of the story
- ▶ Diversity: increasing through migration and births
- ▶ Population is aging
  - ▶ People live longer
  - ▶ Baby Boom retirees

# Implications for Insurance Industry

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Changes in Socioeconomic and Demographic Characteristics



Risk Factors / Actuarial Table



Expectation of Payments by Insurers



Rate Adjustments to Allow Insurers Profitability

# General Implications Insurers

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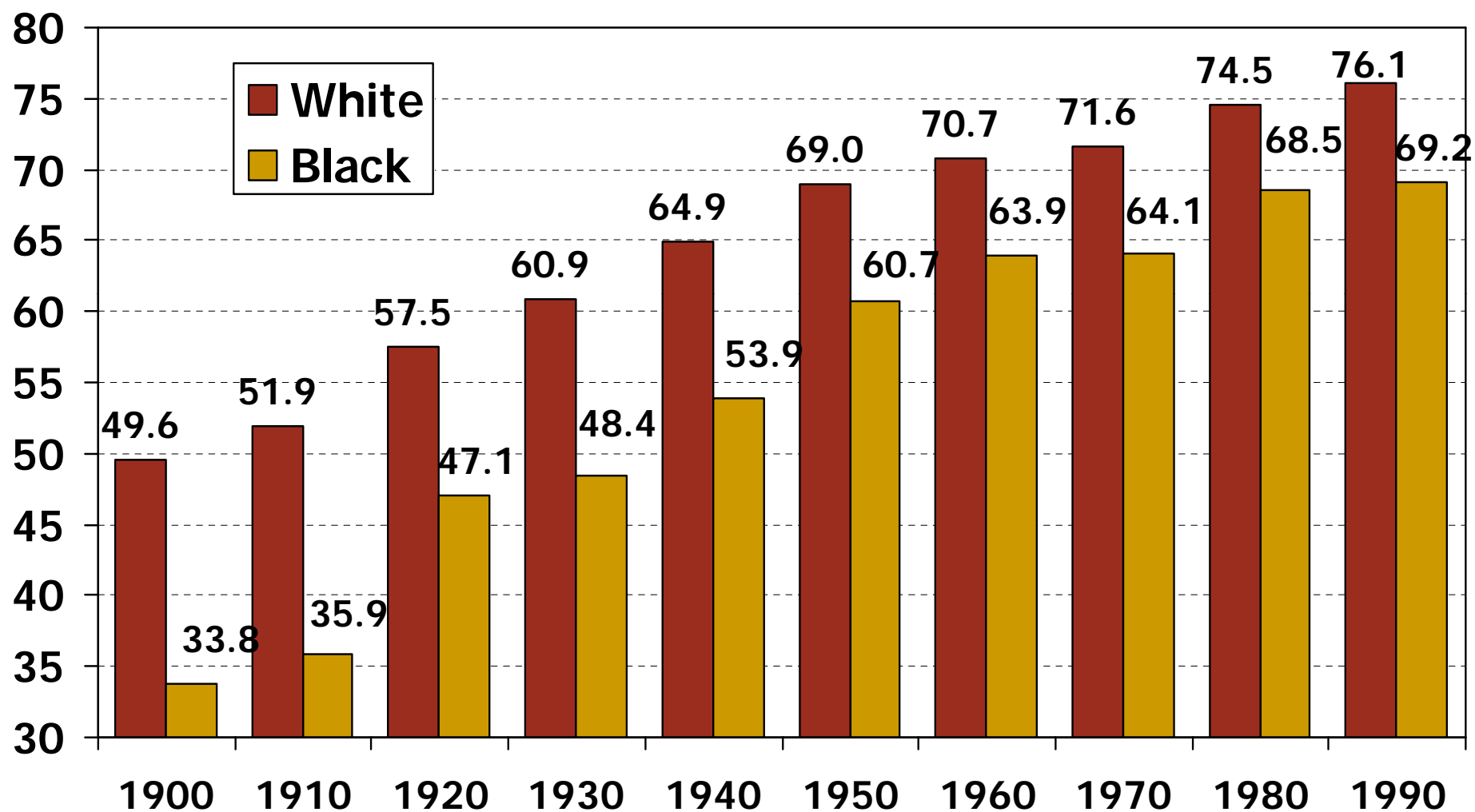
- ▶ Changes in demographic characteristics affects actuarial tables and risk factors
  - ▶ Life Expectancy / Mortality
  - ▶ Health / Morbidity
  - ▶ Safety / Accidents
- ▶ Language ability → risk factors
- ▶ Immigrants / immigration status -

# Detailed Example: Life Tables

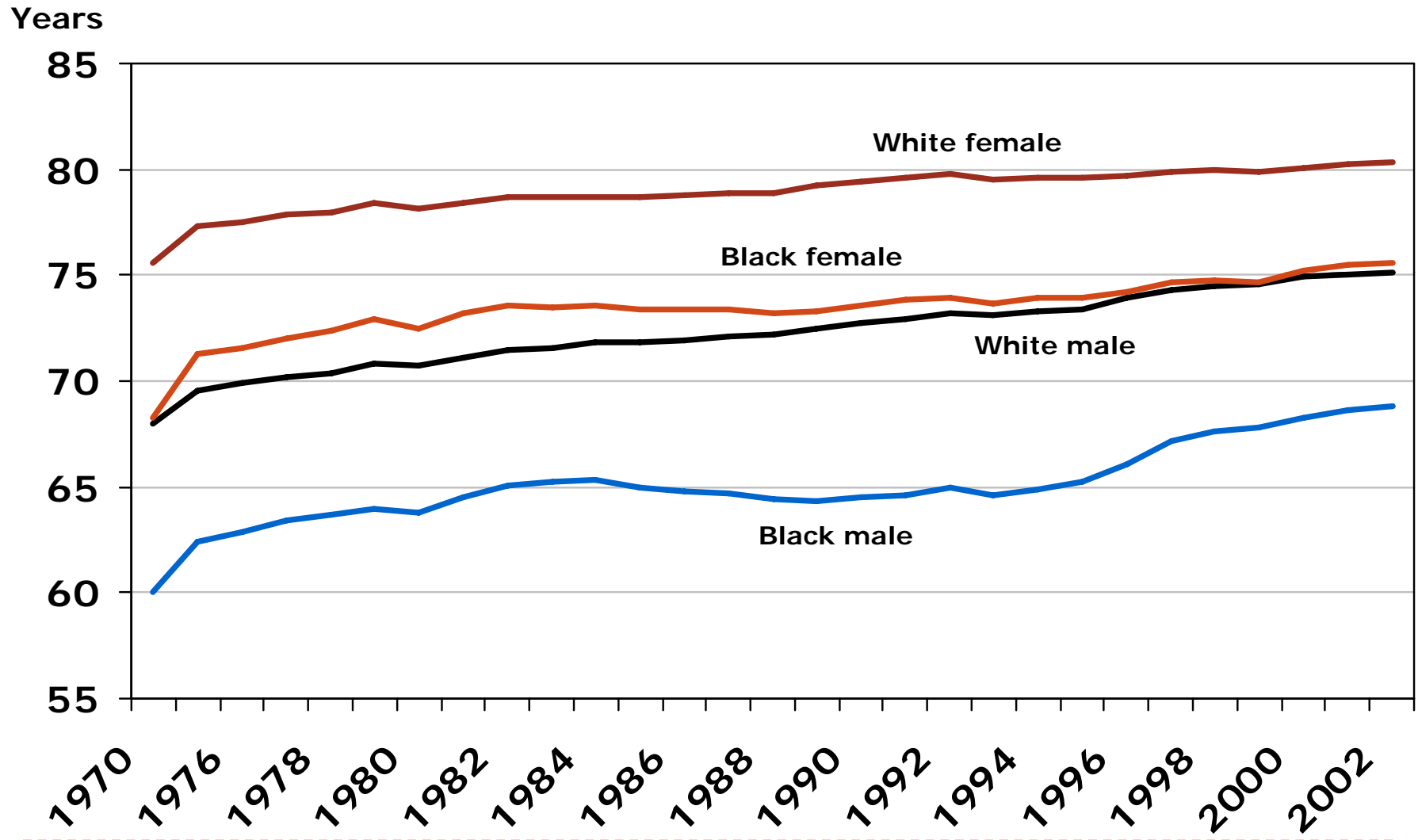
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- ▶ Life Expectancy / Mortality varies by:
  - ▶ Race, ethnicity, and nativity
  - ▶ Socioeconomic status
- ▶ Source for following life expectancy research: *Some Trends and Comparisons of United States Life Table Data: 1900-1991*, National Center for Health Statistics, 1999, online at [http://www.cdc.gov/nchs/data/lifetables/life89\\_1\\_3.pdf](http://www.cdc.gov/nchs/data/lifetables/life89_1_3.pdf)

# US Life Expectancy at Birth by Race

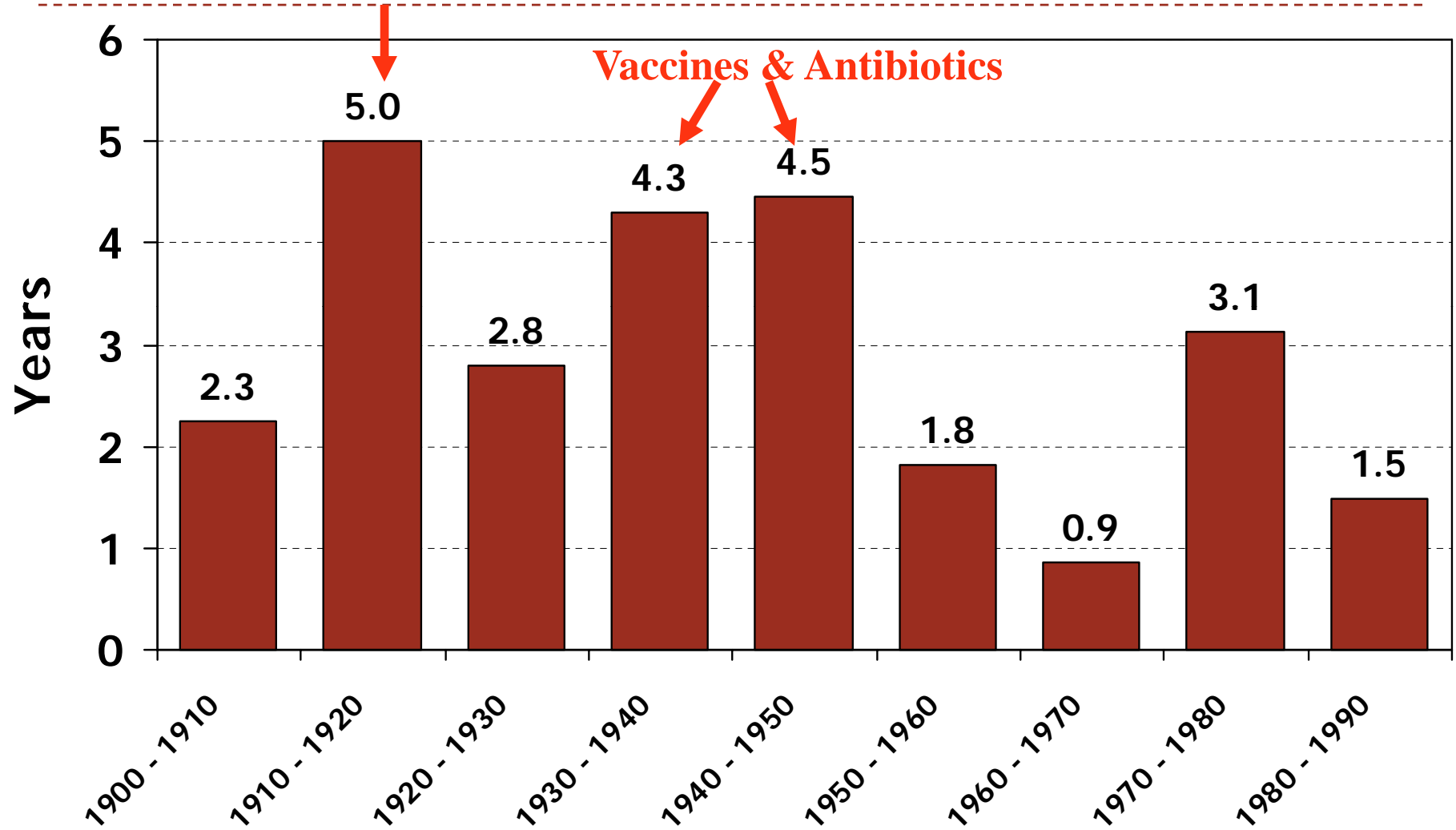


# US Life Expectancy by Sex and Race



# Change in US Life Expectancy at Birth

Survivors of 1918 flu epidemic



**Table A. Life expectancy at birth in years and change from previous period, by race and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 1989–91**

Period	Total			White			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Life expectancy at birth									
1989–91 . . . . .	75.37	71.83	78.81	76.13	72.72	79.45	69.16	64.47	73.73
1979–81 . . . . .	73.88	70.11	77.62	74.53	70.82	78.22	68.52	64.10	72.88
1969–71 . . . . .	70.75	67.04	74.64	71.62	67.94	75.49	64.11	60.00	68.32
1959–61 . . . . .	69.89	66.80	73.24	70.73	67.55	74.19	<sup>1</sup> 63.91	<sup>1</sup> 61.48	<sup>1</sup> 66.47
1949–51 . . . . .	68.07	65.47	70.96	69.02	66.31	72.03	<sup>1</sup> 60.73	<sup>1</sup> 58.91	<sup>1</sup> 62.70
1939–41 . . . . .	63.62	61.60	65.89	64.92	62.81	67.29	53.85	52.26	55.56
1929–31 . . . . .	<sup>2</sup> 59.3	<sup>2</sup> 57.8	<sup>2</sup> 61.1	<sup>2</sup> 60.9	59.12	62.67	<sup>1,2</sup> 48.4	47.55	49.51
1919–21 . . . . .	<sup>2</sup> 56.5	<sup>2</sup> 55.7	<sup>2</sup> 57.5	<sup>2</sup> 57.5	56.34	58.53	<sup>1,2</sup> 47.1	47.14	46.92
1909–11 . . . . .	51.49	49.86	53.24	<sup>2</sup> 51.9	50.23	53.62	<sup>1,2</sup> 35.9	34.05	37.67
1900–1902 . . . . .	49.24	47.88	50.70	<sup>2</sup> 49.6	48.23	51.08	<sup>1,2</sup> 33.8	32.54	35.04
Change in life expectancy									
1900–1902 to 1989–91 . . . . .	26.13	23.95	28.11	26.53	24.49	28.37	35.36	31.93	38.69
1979–81 to 1989–91 . . . . .	1.49	1.72	1.19	1.60	1.90	1.23	0.64	0.37	0.85
1969–71 to 1979–81 . . . . .	3.13	3.07	2.98	2.91	2.88	2.73	4.41	4.10	4.56
1959–61 to 1969–71 . . . . .	0.86	0.24	1.40	0.89	0.39	1.30	<sup>3</sup> 0.20	– <sup>3</sup> 1.48	<sup>3</sup> 1.85
1949–51 to 1959–61 . . . . .	1.82	1.33	2.28	1.71	1.24	2.16	<sup>3</sup> 3.18	<sup>3</sup> 2.57	<sup>3</sup> 3.77
1939–41 to 1949–51 . . . . .	4.45	3.87	5.07	4.10	3.50	4.74	<sup>3</sup> 6.88	<sup>3</sup> 6.65	<sup>3</sup> 7.14
1929–31 to 1939–41 . . . . .	<sup>3</sup> 4.3	<sup>3</sup> 3.8	<sup>3</sup> 4.8	<sup>3</sup> 4.0	3.69	4.62	<sup>3</sup> 5.5	4.71	6.05
1919–21 to 1929–31 . . . . .	<sup>3</sup> 2.8	<sup>3</sup> 2.1	<sup>3</sup> 3.6	<sup>3</sup> 3.4	2.78	4.14	<sup>3</sup> 1.3	0.41	2.59
1909–11 to 1919–21 . . . . .	5.0	<sup>3</sup> 5.8	<sup>3</sup> 4.3	<sup>3</sup> 5.6	6.11	4.91	<sup>3</sup> 11.2	13.09	9.25
1900–1902 to 1909–11 . . . . .	2.25	1.98	2.54	<sup>3</sup> 2.3	2.00	2.54	<sup>3</sup> 2.1	1.51	2.63

Vaccines and antibiotics

Survivors of 1918 flu epidemic

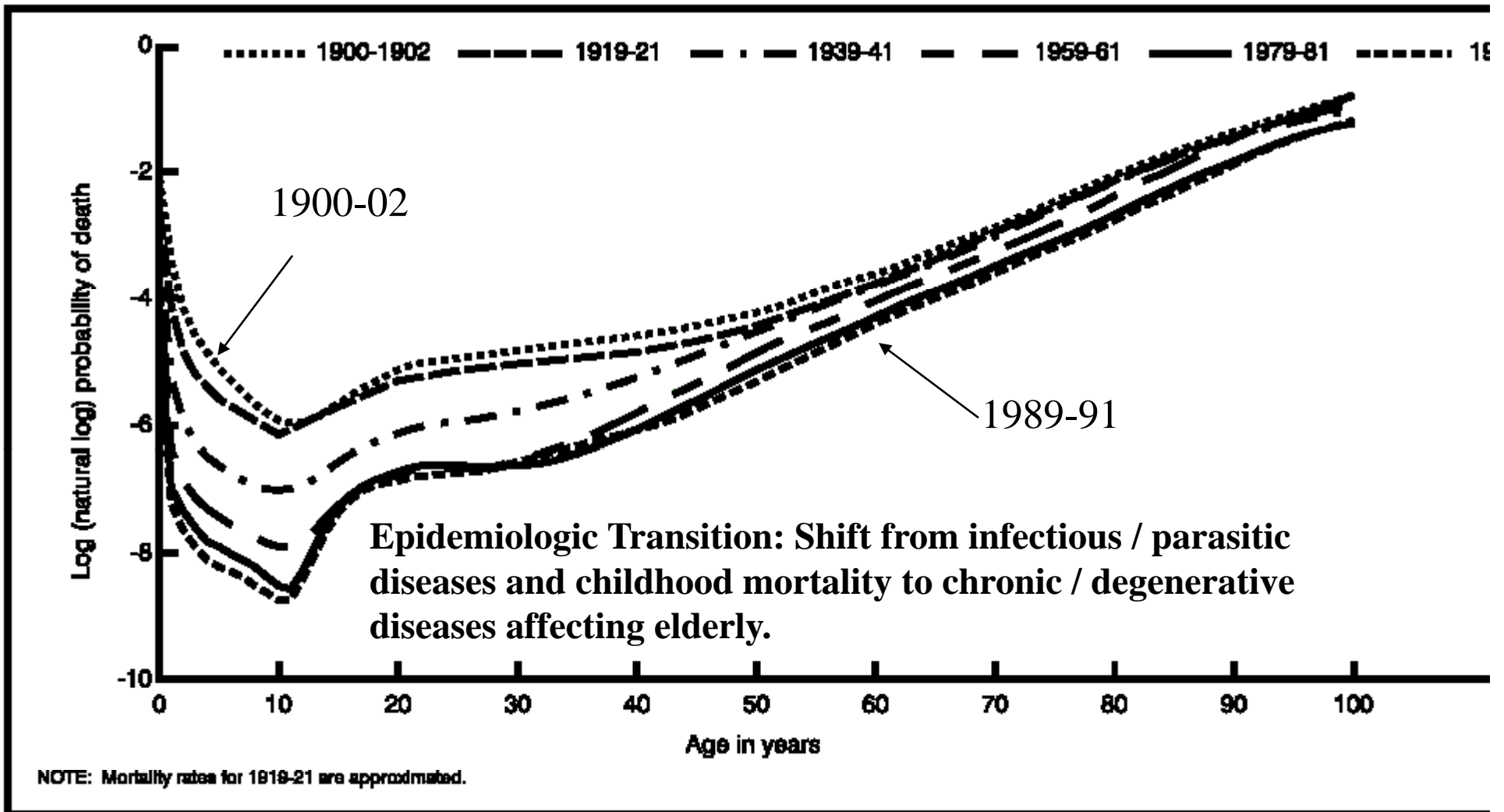
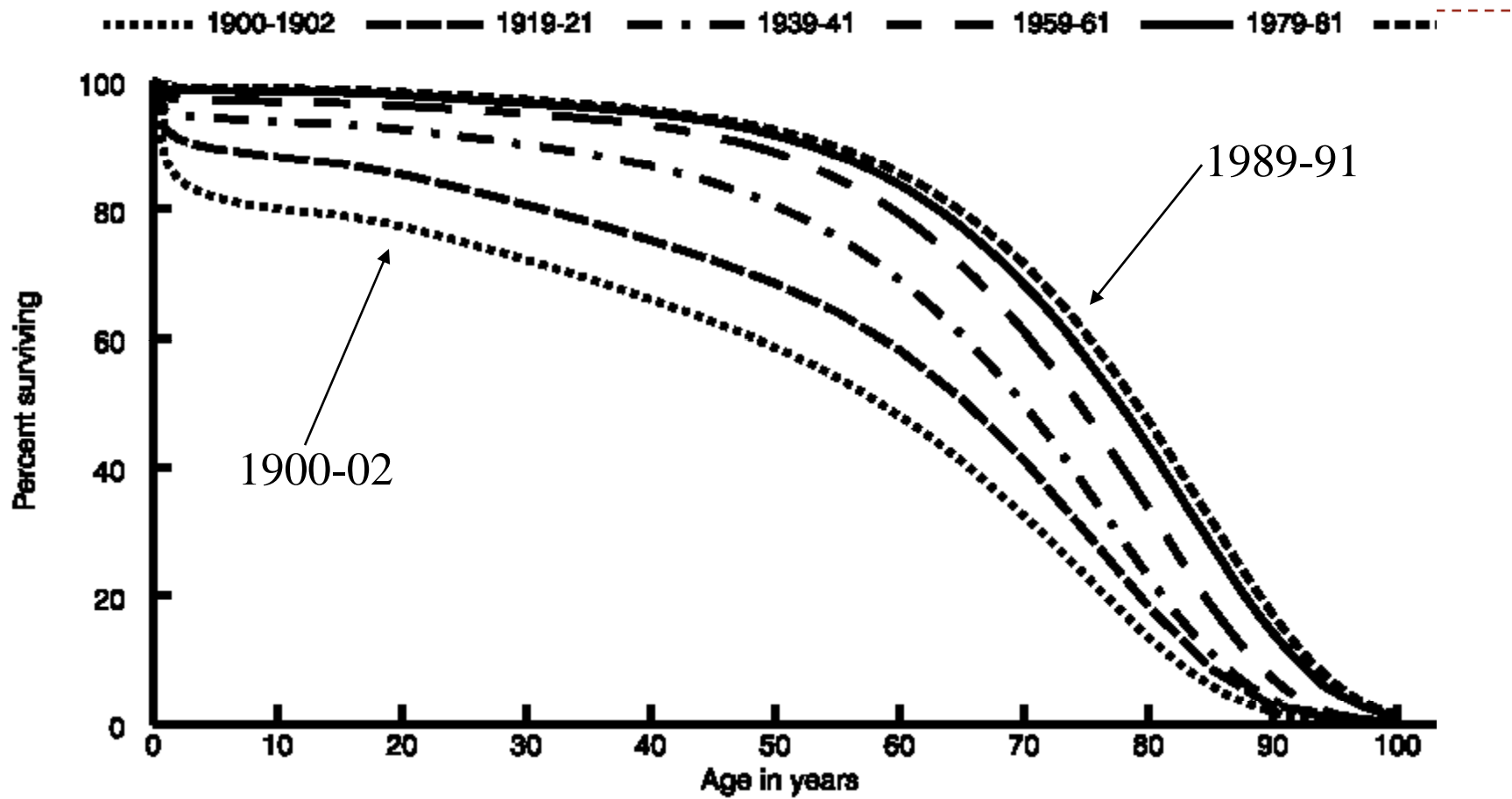


Figure 1. Log of the probability of dying ( $q$ ) by age: Death-registration States, 1900–1902 to 1919–21, and United States, 1939–1989–91

# Percent Surviving by Age



# Percent Surviving by Age

Age	Percent survivorship					
	1900–1902	1919–21 <sup>1</sup>	1939–41	1959–61	1979–81	1989–91
0 . . . . .	100.0	100.0	100.0	100.0	100.0	100.0
10 . . . . .	80.1	88.1	93.7	96.8	98.3	98.8
20 . . . . .	77.2	85.4	92.4	96.1	97.7	98.2
30 . . . . .	72.0	80.6	90.1	94.9	96.5	97.1
40 . . . . .	65.9	75.1	86.7	93.1	94.9	95.4
50 . . . . .	58.5	68.4	80.5	88.8	91.5	92.4
60 . . . . .	47.9	58.1	68.9	79.1	83.7	85.5
70 . . . . .	32.4	41.1	49.7	60.9	68.2	71.4
80 . . . . .	13.5	18.3	22.9	33.6	43.2	47.1
90 . . . . .	1.9	2.8	3.8	7.1	14.2	17.0
100 . . . . .	0.03	0.04	0.1	0.2	1.2	1.4
Median age at death . .	58	66	70	74	78	79

# Change in Survival (Years)

Age	Change in survival				
	1900–1902 to 1919–21 <sup>1</sup>	1919–21 <sup>1</sup> to 1939–41	1939–41 to 1959–61	1959–61 to 1979–81	1979–81 to 1989–91
0	0.0	0.0	0.0	0.0	0.0
10	8.0	5.6	3.1	1.5	0.5
20	8.2	7.0	3.7	1.6	0.5
30	8.6	9.5	4.8	1.6	0.6
40	9.2	11.6	6.4	1.8	0.5
50	9.9	12.1	8.3	2.7	0.9
60	10.2	10.8	10.2	4.6	1.8
70	8.7	8.6	11.2	7.3	3.2
80	4.8	4.6	10.7	9.6	3.9
90	0.9	1.0	3.3	7.1	2.8
100	0.0	0.1	0.1	1.0	0.2
Change in median age at death	8	4	4	4	1

# Percent Surviving by Age & Sex

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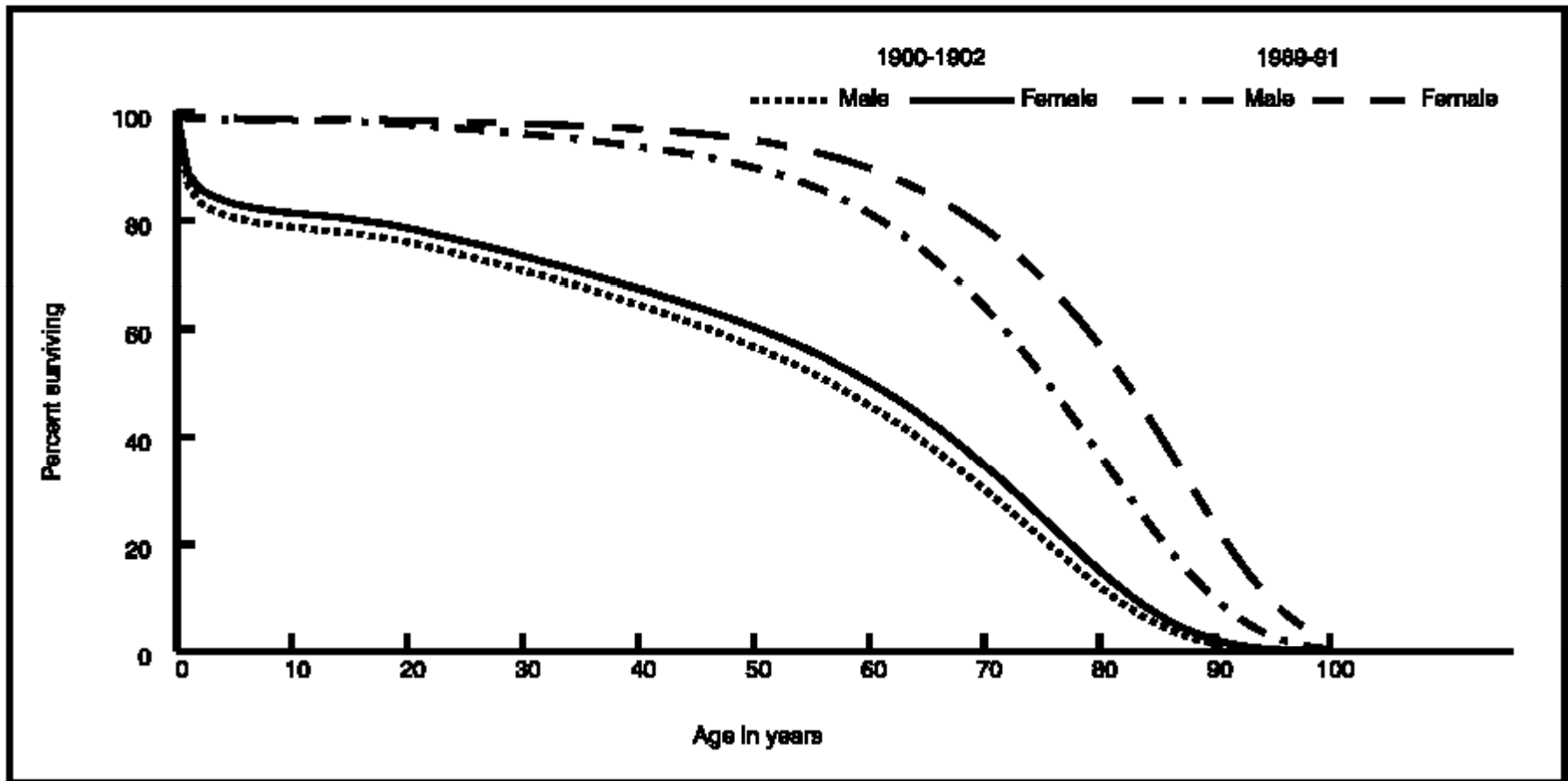


Figure 3. Percent surviving by age and sex: Death-registration States, 1900-1902, and United States, 1989-91

# Life Expectancy Differences

Years	Difference between female and male life expectancy			Difference between white and black life expectancy		
	All races	White	Black	Both sexes	Male	Female
1989–91 . . . . .	6.98	6.73	9.26	6.97	8.25	5.72
1979–81 . . . . .	7.51	7.40	8.78	6.01	6.72	5.34
1969–71 . . . . .	7.60	7.55	8.32	7.51	7.94	7.17
1959–61 . . . . .	6.44	6.64	<sup>1</sup> 4.99	<sup>1</sup> 6.82	<sup>1</sup> 6.07	<sup>1</sup> 7.72
1949–51 . . . . .	5.49	5.72	<sup>1</sup> 3.79	<sup>1</sup> 8.29	<sup>1</sup> 7.40	<sup>1</sup> 9.33
1939–41 . . . . .	4.29	4.48	3.30	11.07	10.55	11.73
1929–31 . . . . .	<sup>2</sup> 3.3	3.55	1.96	<sup>2</sup> 12.5	11.57	13.16
1919–21 . . . . .	<sup>2</sup> 1.8	2.19	-0.22	<sup>2</sup> 10.4	9.20	11.61
1909–11 . . . . .	3.38	3.39	3.62	<sup>2</sup> 16.0	16.18	15.95
1900–1902 . . . . .	2.82	2.85	2.50	<sup>2</sup> 15.8	15.69	16.04

# Percent Surviving by Age, Race, and Sex: 1900-02

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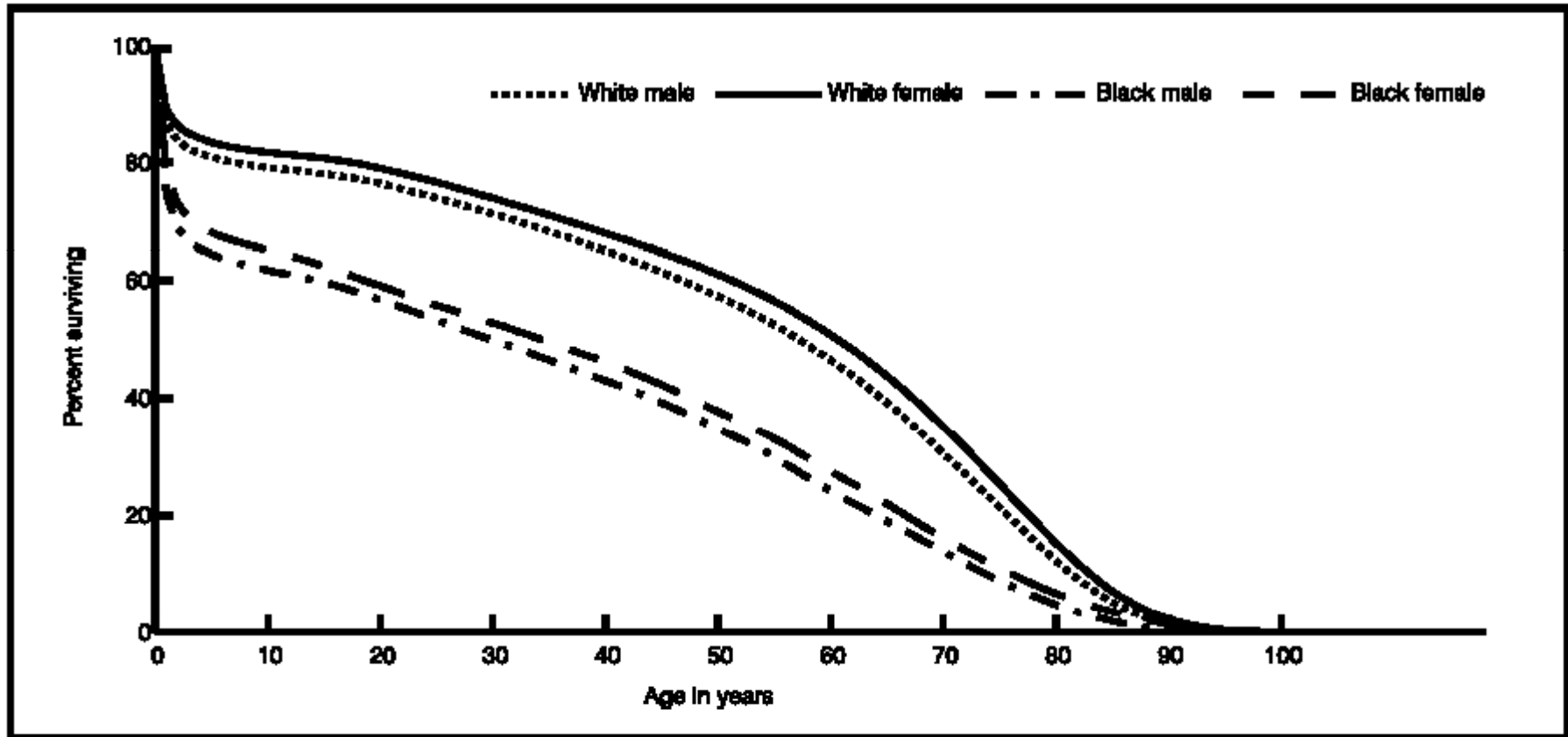


Figure 4. Percent surviving by age, race, and sex: Death-registration States, 1900-1902

# Percent Surviving by Age, Race, and Sex: 1989-91

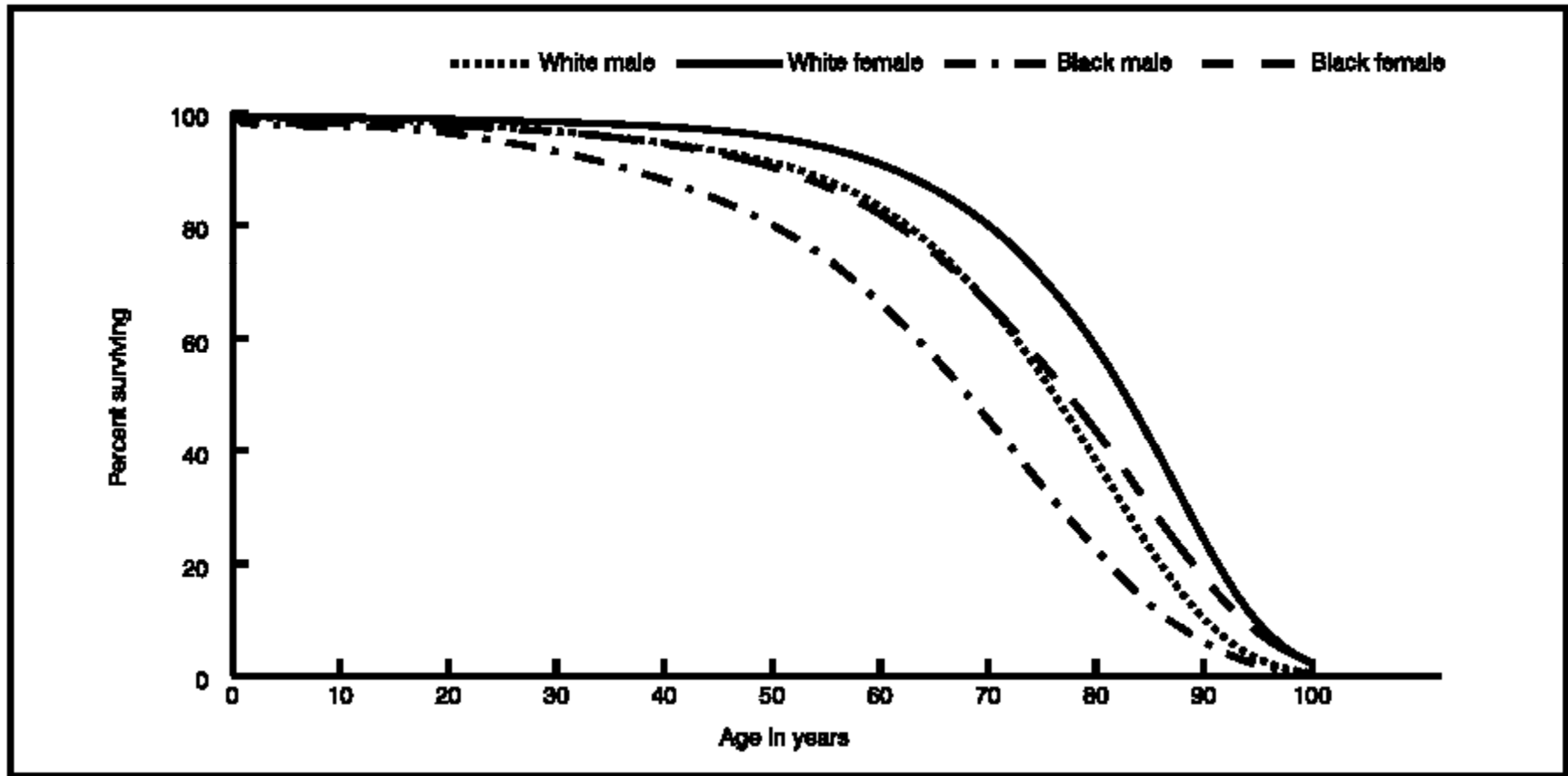


Figure 5. Percent surviving by age, race, and sex: United States, 1989-91

# Planning for the New Utah

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- ▶ Planning for the future cannot be based on an obsolete view that the future population is simply a supersized version of an idealized past.
- ▶ How do we restructure our institutions and communities to not only accommodate but benefit from these changes?
- ▶ How do businesses adjust their operations and products to adapt to these changes?
- ▶ How do we redesign our policies and plans to ensure the best possible future for this New Utah?

# Contact Information

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