Demographic Projections Used for the 2024 Social Security and Medicare Reports

PRESENTED TO THE FEDERAL-STATE COOPERATIVE FOR POPULATION PROJECTIONS
APRIL 9, 2025

PREPARED BY THE OFFICE OF THE CHIEF ACTUARY, SSA

2024 Trustees Report Background

Boards of Trustees and Trustees Reports

- There are four members of the Social Security and Medicare Boards of Trustees: the Secretaries of Treasury, HHS, and Labor, and the Commissioner of Social Security
- The Social Security Act requires that the Boards, among other duties, report annually to the Congress on the actuarial status and financial operations of the Social Security and Medicare trust funds
- The next Trustees Reports (TR) are scheduled to be released in spring 2025; the 2024 Social Security TR is available at https://www.ssa.gov/OACT/TR/2024/index.html

Trustees Reports—Projections

- To get a full sense of the future financial status of the Social Security program, we project out 75 years
- This is long enough to generally capture the expected period of benefit receipt for current workers
- And “is as long a period as can be expected to have a realistic basis for estimating purposes” (1965 Social Security Advisory Council)

Social Security Projections

The basic components of the main Social Security projection model are:

- Demography—the main topic of today's presentation; used for Medicare projections too
- Economics—size of the workforce and their covered earnings
- Beneficiaries—all categories of people receiving retirement, survivor, and disability benefits
- Trust Fund Operations—inflows (payroll taxes, taxation of benefits, interest on trust fund investments) and outflows (benefit payments and administrative expenses)

2024 Trustees Report Demographic Methodology

Fertility

Age-specific central birth rates: Births during the year to mothers at the specified age divided by the midyear female population at that age.

- Birth data comes from the National Center for Health Statistics.
- Population data comes from the Census Bureau.

Fertility

Total Fertility Rate (TFR): Sum of the age-specific central birth rates during the year.

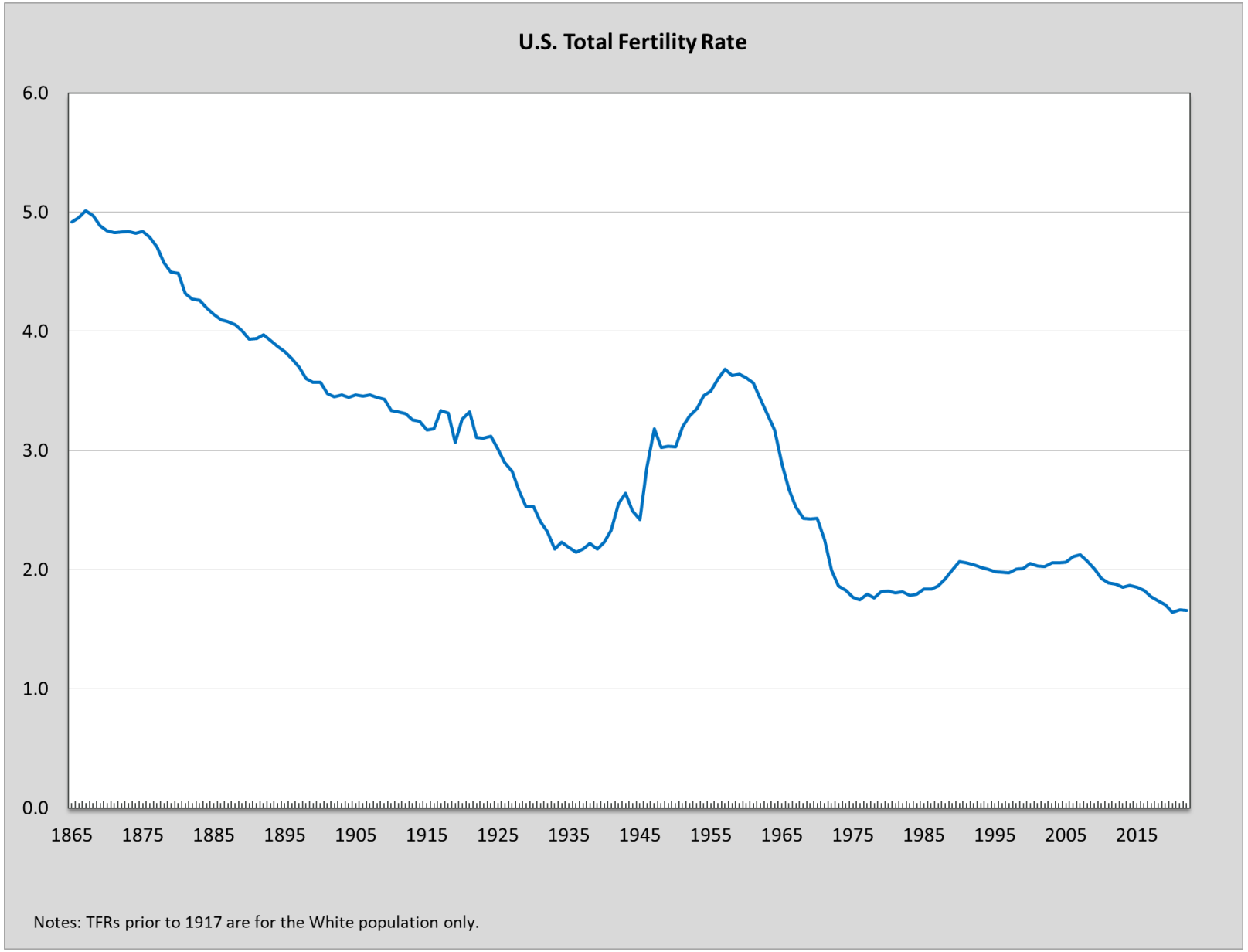
Can be interpreted as the number of children born to a woman if she were to survive her childbearing years and experience the age-specific birth rates of a particular year throughout her childbearing years.

Historical Total Fertility Rates

Historical TFRs were well above 3.0 prior to the 20th century but were falling drastically at the turn of the century.

The trend of the TFR changed direction as the baby boom set in and leveled out around 2.0 after that.

Since 2008, the TFR has been generally dropping, and demographers have been debating what this means for the future.



Fertility

Birth Rate Projections:

- By single year of age of mother (14 – 49).
- Historical period begins with 1917.
- Projections through 2100, but are constant beginning in 2040.
- Three sets of projections (intermediate, low cost, and high cost).

Fertility

Trustees Assumptions:

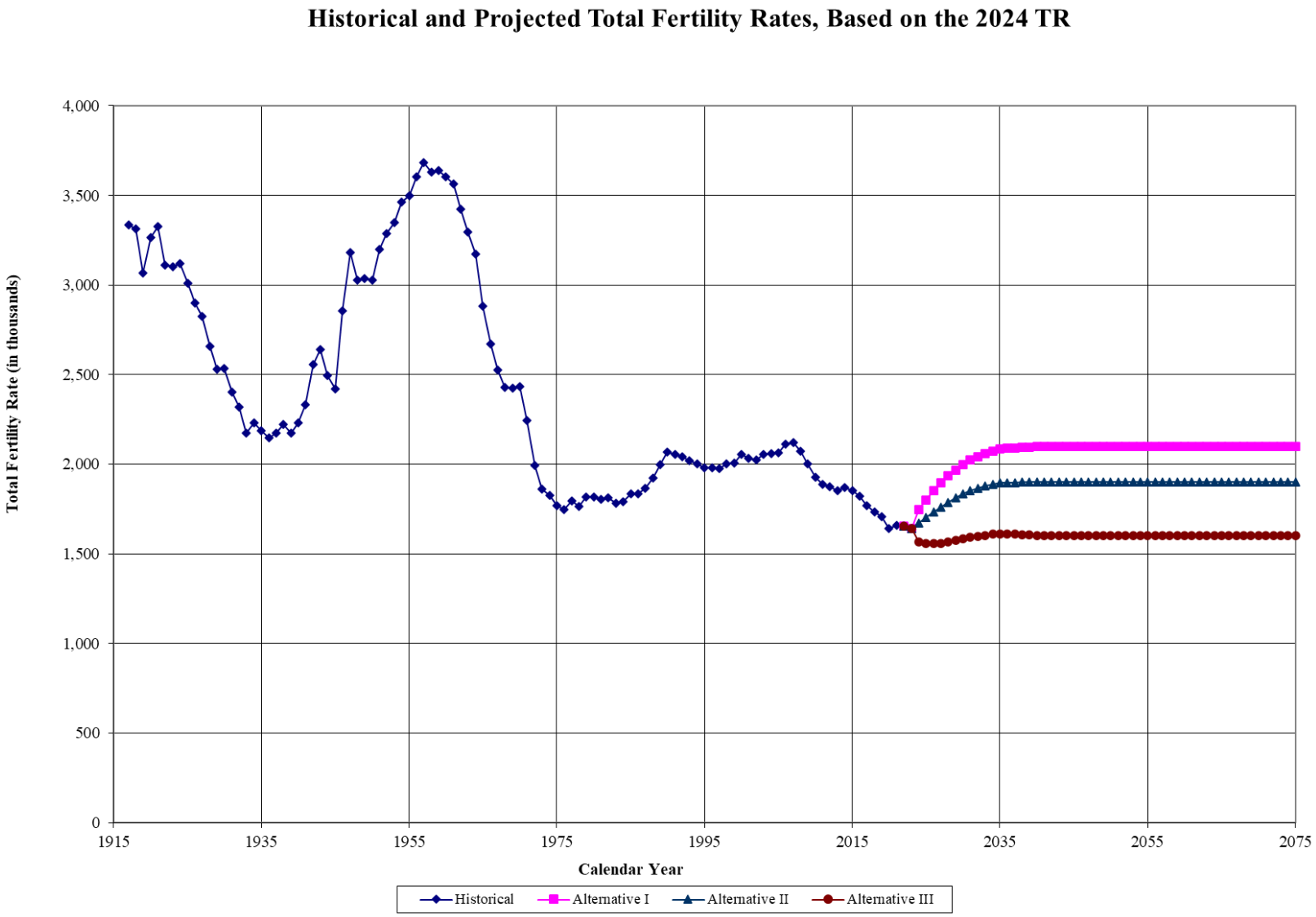
Alternative	Ultimate Year	Ultimate Total Fertility Rate
Low Cost (alt. 1)	2040	2.1
Intermediate (alt. 2)	2040	1.9
High Cost (alt. 3)	2040	1.6

Historical and Projected Total Fertility Rates

The alternative 2 total fertility rate is projected to rise to 1.90 by 2040. This is approximately the average value of the total fertility rate since its fall after the baby boom.

For alternative 1, the total fertility rate is projected to rise to 2.1 by 2040. This is about the height of the most recent peak in the total fertility rate.

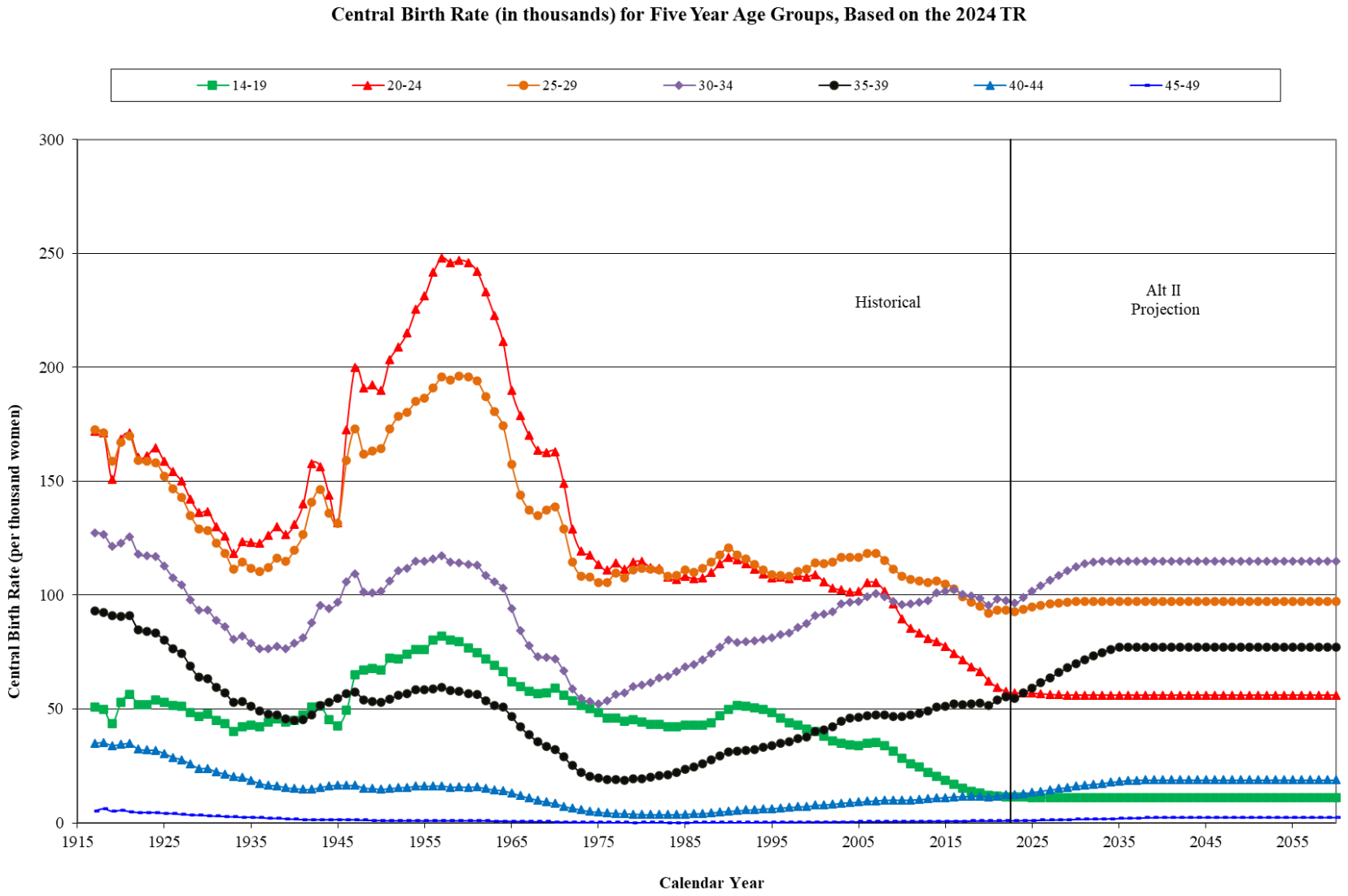
For alternative 3, the total fertility rate is projected to dip slightly but remain near current low levels, leveling off at 1.60 by 2040.



Central Birth Rates, Historical and Alt. 2

Birth rates for those under age 30 have been falling, while those for ages 30 and older have been rising.

The Trustees assume that the rates will level off near their current levels for younger ages but will continue to rise for older ages.



Mortality

Age-specific central death rates: Deaths during the year at the specified age divided by the mid-year population at that age.

- For ages under 65: Death data comes from the National Center for Health Statistics and population data from the Census Bureau.
- For age 65 and older: Death and population (enrollment) data come from the Centers for Medicare and Medicaid Services.

Mortality

Why use Medicare data?

- Single data source for numerator and denominator when calculating death rates.
- More accurate recording of age, as Medicare requires proof of age upon enrollment.

Mortality

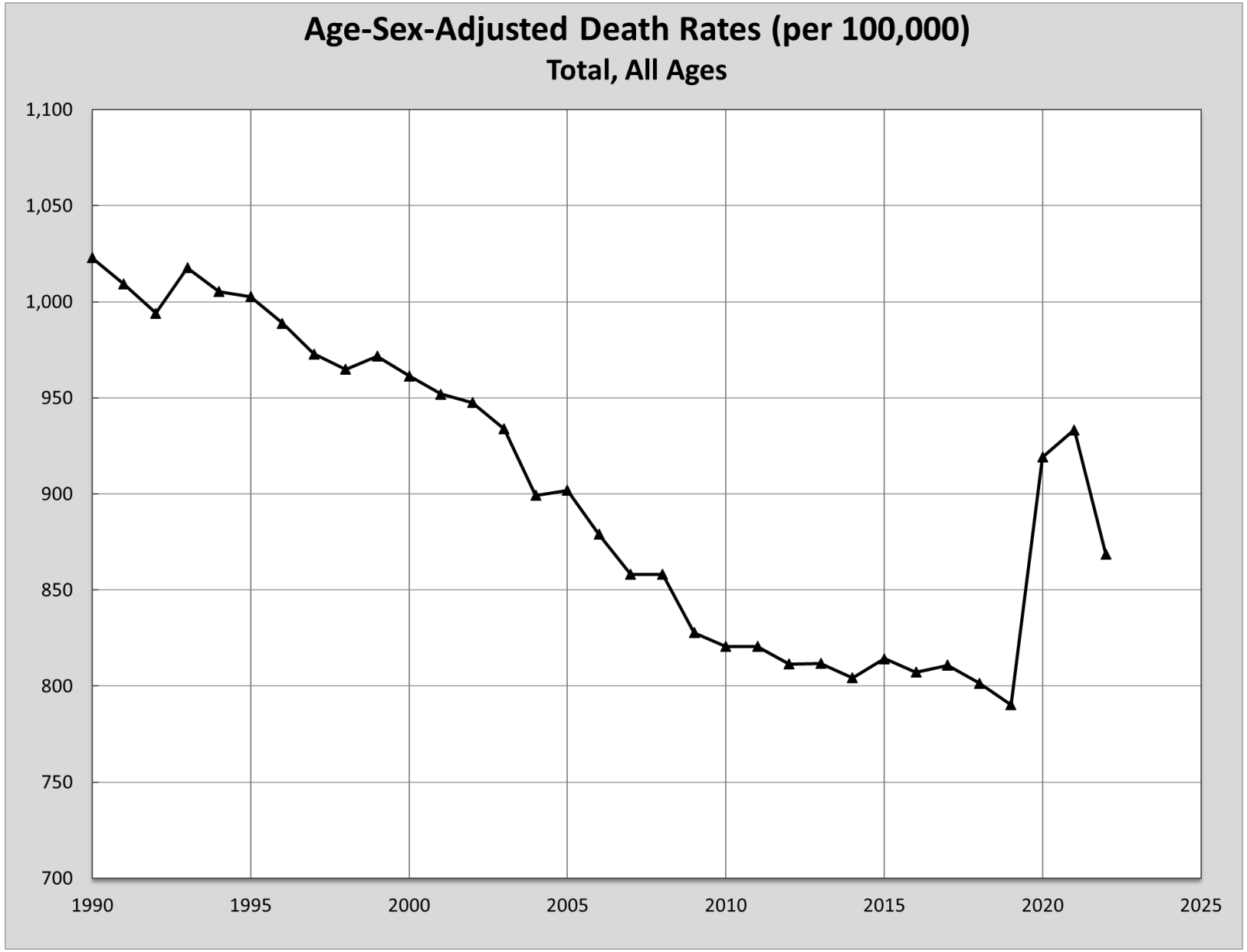
Summary Measures:

- **Age-sex-adjusted central death rates**: Central death rates for all ages combined using a standard population.
- **Life expectancy**: Average remaining number of years expected prior to death.

Age-Sex-Adjusted Death Rates

The recent historical period shows generally declining death rates, with a slowdown in the decline since about 2009.

COVID-19 had a huge effect on the age-sex-adjusted death rates.



Ultimate Rates of Mortality Improvement

Ultimate rates of improvement are used for the final 50 years of the 75-year projection period.

Two historical periods are displayed for comparison. One starts in 1979, as this is the period for which we have consistent data by cause of death.

The second is for the most recent 10 years of improvement data. Note that we only use data through 2019, due to COVID-19.

	Historical		Alternative II*		Historical		Alternative II*	
			2023 TR	2024 TR			2023 TR	2024 TR
	1979 to 2019	2009 to 2019	2047 to 2097	2048 to 2098	1979 to 2019	2009 to 2019	2047 to 2097	2048 to 2098
Under Age 15	**Male**				**Female**			
Cardiovascular Disease	1.93	2.18	1.9	1.9	1.66	1.58	1.9	1.9
Cancer	2.37	1.78	1.5	1.5	1.99	1.56	1.5	1.5
Violence and Accidents	2.39	0.28	1.0	1.0	2.06	-0.10	1.0	1.0
Respiratory Disease	2.27	2.02	2.0	2.0	2.44	2.59	2.0	2.0
Dementia	3.07	3.93	0.1	0.1	1.80	-1.78	0.1	0.1
Other	2.21	1.64	1.7	1.7	2.10	1.56	1.7	1.7
Resulting Total **	2.25	1.43	1.51	1.51	2.09	1.33	1.54	1.54
Ages 15 - 49	**Male**				**Female**			
Cardiovascular Disease	1.84	1.00	1.3	1.3	1.19	0.41	1.3	1.3
Cancer	1.94	2.50	1.5	1.5	1.57	1.76	1.5	1.5
Violence and Accidents	0.32	-2.28	0.7	0.7	-0.21	-2.35	0.7	0.7
Respiratory Disease	0.50	2.14	0.5	0.5	-0.47	2.08	0.5	0.5
Dementia	1.12	0.73	0.1	0.1	0.96	1.84	0.1	0.1
Other	0.20	0.54	0.8	0.8	-0.09	-0.07	0.8	0.8
Resulting Total **	0.77	-0.55	0.82	0.82	0.49	-0.21	0.89	0.89
Ages 50 - 64	**Male**				**Female**			
Cardiovascular Disease	2.42	0.42	1.5	1.5	1.94	0.01	1.5	1.5
Cancer	1.61	2.27	1.5	1.5	1.21	1.34	1.5	1.5
Violence and Accidents	-0.32	-3.08	0.5	0.5	-0.69	-2.77	0.5	0.5
Respiratory Disease	0.50	-0.11	0.7	0.7	-1.18	-0.81	0.7	0.7
Dementia	-2.46	-2.57	0.1	0.1	-3.25	-3.60	0.1	0.1
Other	-0.28	-0.41	0.6	0.6	-0.33	-0.88	0.6	0.6
Resulting Total **	1.29	0.27	0.95	0.95	0.80	-0.03	0.98	0.97
Ages 65 - 84	**Male**				**Female**			
Cardiovascular Disease	2.73	1.31	1.9	1.9	2.61	1.69	1.9	1.9
Cancer	1.07	2.18	0.9	0.9	0.34	1.84	0.9	0.9
Violence and Accidents	0.25	-1.79	0.5	0.5	-0.13	-1.58	0.5	0.5
Respiratory Disease	0.48	1.50	0.3	0.3	-1.83	1.07	0.3	0.3
Dementia	-6.66	-1.89	0.1	0.1	-7.73	-2.39	0.1	0.1
Other	-0.29	-0.64	0.3	0.3	-0.44	0.15	0.3	0.3
Resulting Total **	1.36	0.92	0.74	0.73	0.80	0.93	0.67	0.67
Ages 85 and older	**Male**				**Female**			
Cardiovascular Disease	1.67	1.01	1.5	1.5	1.87	1.24	1.5	1.5
Cancer	0.00	0.83	0.5	0.5	-0.29	0.13	0.5	0.5
Violence and Accidents	-0.83	-1.80	0.3	0.3	-1.18	-2.16	0.3	0.3
Respiratory Disease	-0.45	1.58	0.2	0.2	-1.58	0.51	0.2	0.2
Dementia	-9.48	-2.15	0.1	0.1	-10.32	-2.37	0.1	0.1
Other	-0.83	0.06	0.3	0.3	-0.78	0.74	0.3	0.3
Resulting Total **	0.35	0.38	0.58	0.58	0.23	0.16	0.53	0.53
Total	**Male**				**Female**			
Cardiovascular Disease	2.28	1.04	1.63	1.63	2.18	1.26	1.63	1.63
Cancer	1.06	1.93	0.91	0.90	0.62	1.43	0.96	0.96
Violence and Accidents	0.16	-2.26	0.58	0.58	-0.28	-2.17	0.56	0.56
Respiratory Disease	0.21	1.37	0.32	0.31	-1.54	0.68	0.33	0.33
Dementia	-7.71	-2.06	0.10	0.10	-8.77	-2.38	0.10	0.10
Other	-0.19	-0.19	0.43	0.43	-0.26	0.18	0.43	0.43
Resulting Total **	1.04	0.51	0.74	0.73	0.62	0.44	0.69	0.69

* Alternative 1 is 1/3 times Alternative 2; Alternative 3 is 2 times Alternative 2.

** For the "Alternative II" columns, resulting total represents average annual percent reduction in age-adjusted death rates for the last 50 years of the 75-year projection period.

Mortality

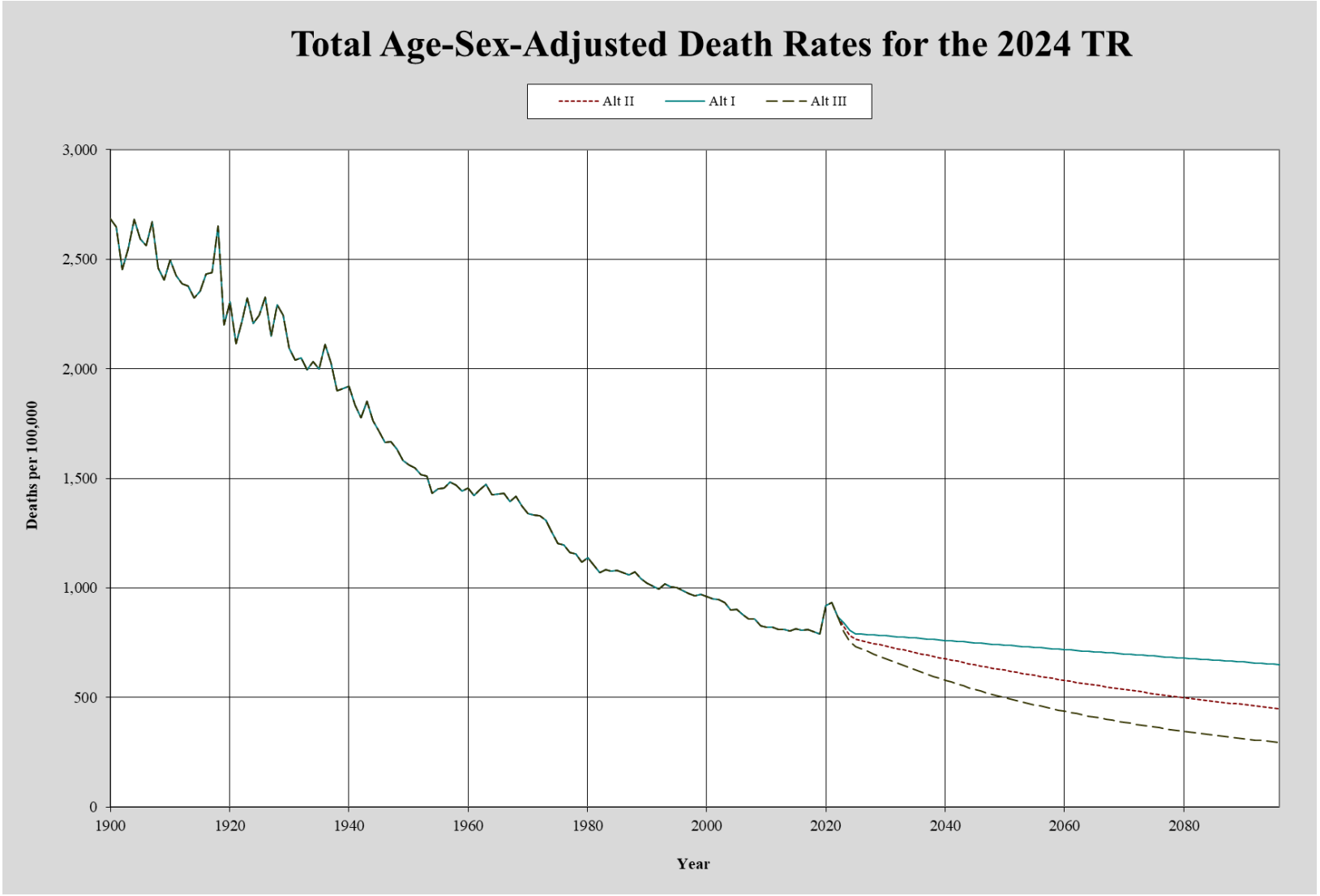
Central Death Rate Projections:

- Historical central death rates are calculated through 2019.
  - 21 age groups, 2 sexes, 6 causes of death.
- Calculate starting death rates and starting rates of improvement.
  - Uses a weighted average of the last 12 years of data (2008-2019).
- Grade into ultimate rates of improvement by 2048.
- Projections continue through 2100.
- Three sets of projections (intermediate, low cost, and high cost).

Age-Sex-Adjusted Death Rates, Historical and Projected

The longer historical period shows death rates generally declining, with some periods being more rapid than others.

The COVID bump is expected to dissipate by 2025, with mortality rates continuing to decline from there.



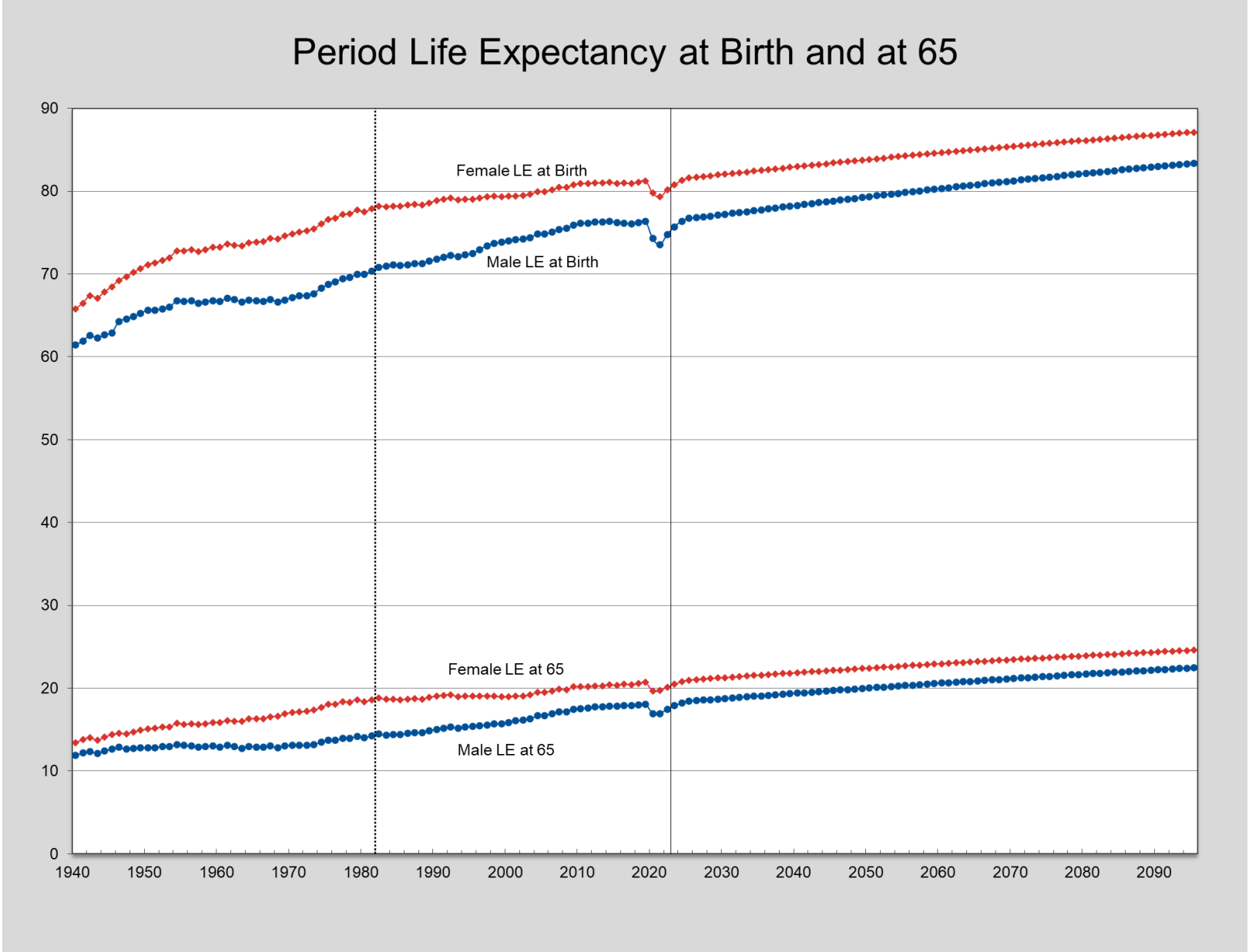
Period Life Expectancy

The difference in life expectancies between men and women was diverging through about 1982.

Subsequently, the gap started narrowing.

This likely had to do with trends in smoking.

In the future, the gap is projected to generally stay about where it is.



Immigration

Five Types of Immigration Flows:

- Lawful permanent resident (LPR) immigration
  - Annual number of persons who are lawfully admitted for permanent residence in the U.S.
- Adjustments of status (or Transfers)
  - Annual number of other-than-LPRs who adjust status to become LPRs.
- Legal emigration
  - Annual number of citizens or LPRs who leave the U.S. on a permanent basis.
- Other-than-LPR immigration
  - Annual number of persons entering the country who are not lawfully admitted for permanent residence.
- Other-than-LPR emigration
  - Annual number of other-than-LPRs who leave the Social Security area.

Immigration

Data Sources:

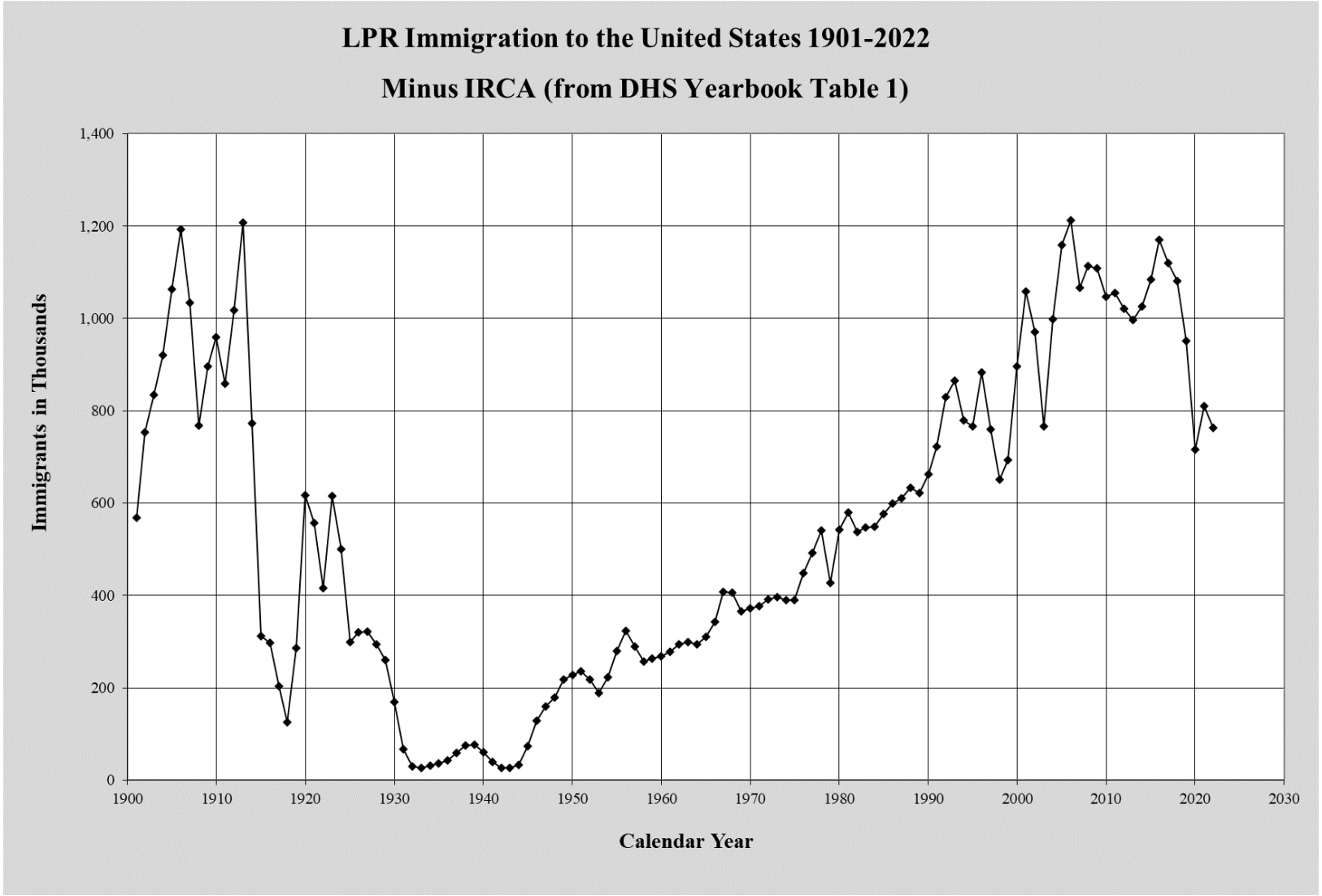
- LPR immigration and Transfers
  - Data from the Department of Homeland Security (DHS).
- Legal emigration
  - Estimates based on study done back in 1980.
- Other-than-LPR immigration and Other-than-LPR emigration
  - Estimates developed using Census Bureau's American Community Survey (ACS) data.

LPR Immigration

LPR Immigration levels have been generally rising since the end of the Great Depression and World War II.

Major immigration reform makes it difficult to analyze immigration trends over time.

- Immigration and Nationality Act of 1965
- Immigration Act of 1990



Immigration

Projections:

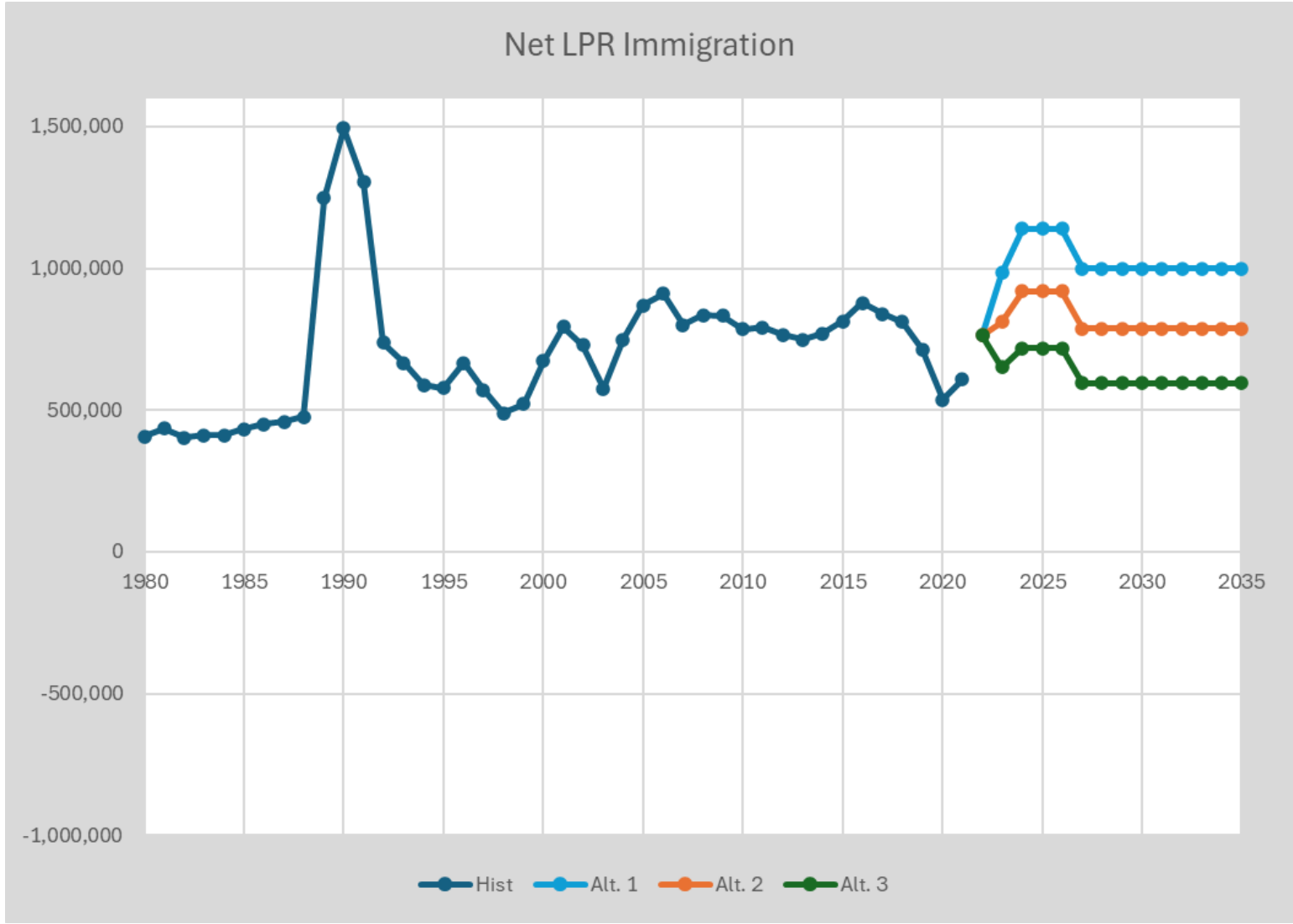
- Each of the immigration flows is projected as an absolute level, except for other-than-LPR, which is projected using rates of emigration.
- Legal emigration is assumed to be 25% of LPR immigration (for the intermediate assumptions).
- Ultimate values are attained by 2027.

Net LPR immigration

Net LPR immigration is new-arrival LPR immigration plus adjustments-of-status (to LPR) minus legal emigration.

The spike in 1989-1991 is due to IRCA.

The bump in years 2024-2026 represents a makeup of immigration levels that were depressed in prior years due to COVID.



Net Other-than-LPR Immigration

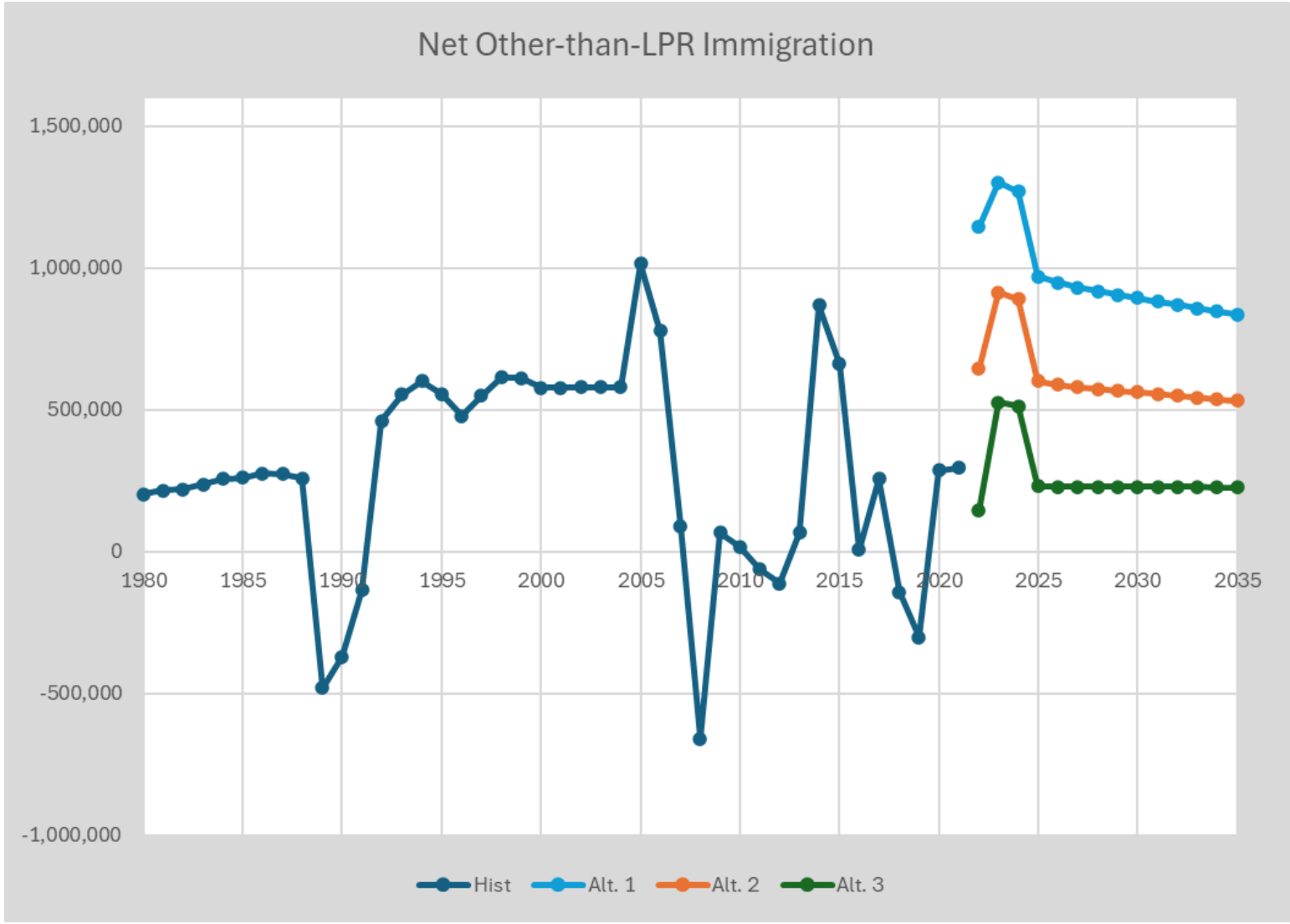
Net other-than-LPR immigration is new-arrival other-than-LPR immigration minus adjustments-of-status (to LPR) minus other-than-LPR emigration.

The drop in 1989-1991 is due to IRCA.

The drop in 2008 was likely related to the Great Recession.

The bump in 2014 was likely due to a combination of factors, including a surge of unaccompanied minors and recovery from the Great Recession.

The bump in years 2023-2024 represents a makeup of immigration levels that were depressed in prior years due to COVID.

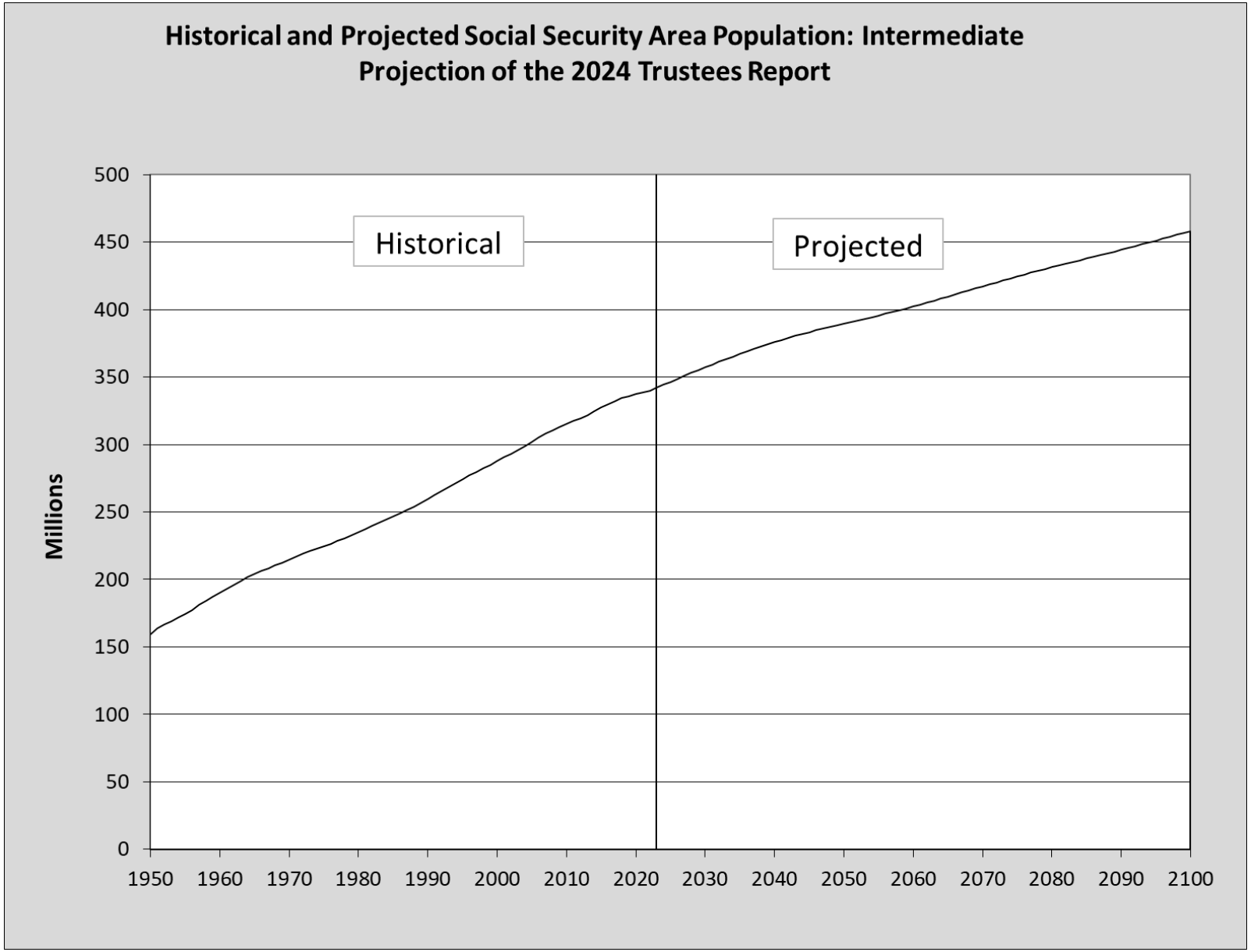


2024 Trustees Report Demographic Results

Social Security Area Population

The population has been steadily growing and is projected to continue growing, though not as rapidly as in the past.

However, this doesn't tell the whole story. The age distribution of the population is very important.

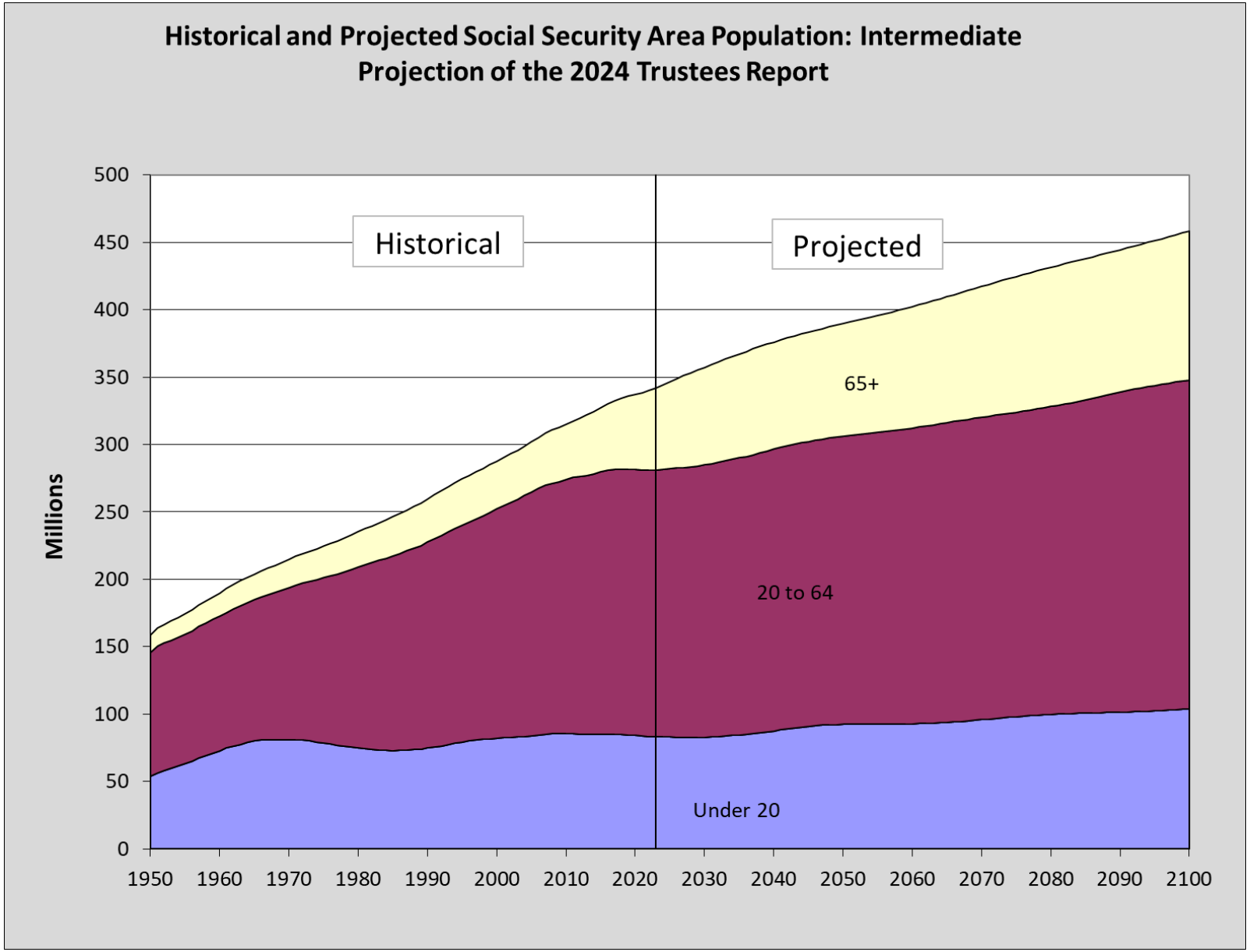


Social Security Area Population by Broad Age Group

The working-age population (typically considered ages 20-64) is projected to continue to grow, but nowhere near as rapidly is it did historically.

As people continue to live longer, the age 65+ population is projected to continue growing at a more rapid pace than the working-age population.

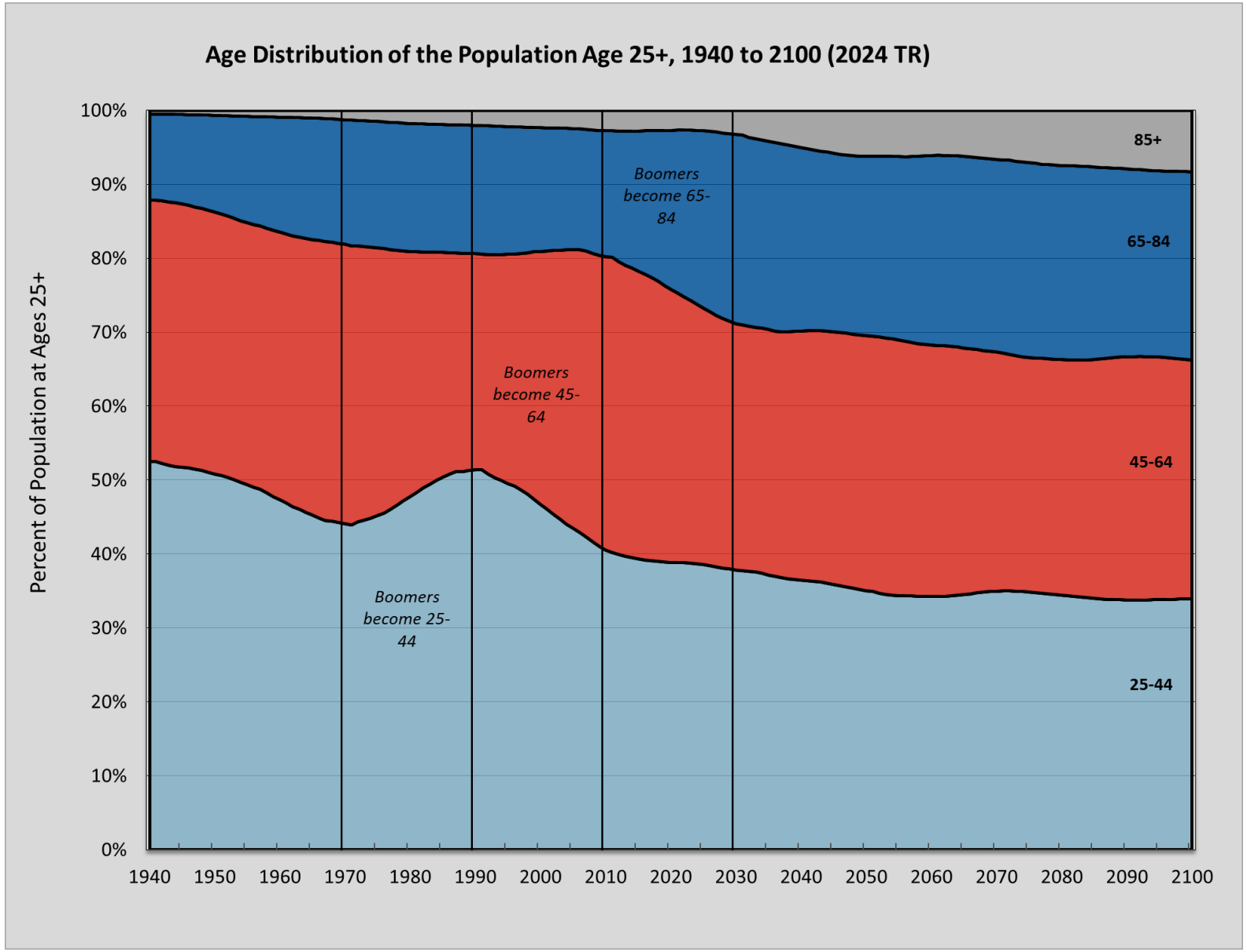
The age 65+ population is a far larger share of the population in the projection period than it was historically.



Age Distribution of the Population Age 25+

The share of the population aged 25-44 is shrinking, as is the share of the population aged 45-64.

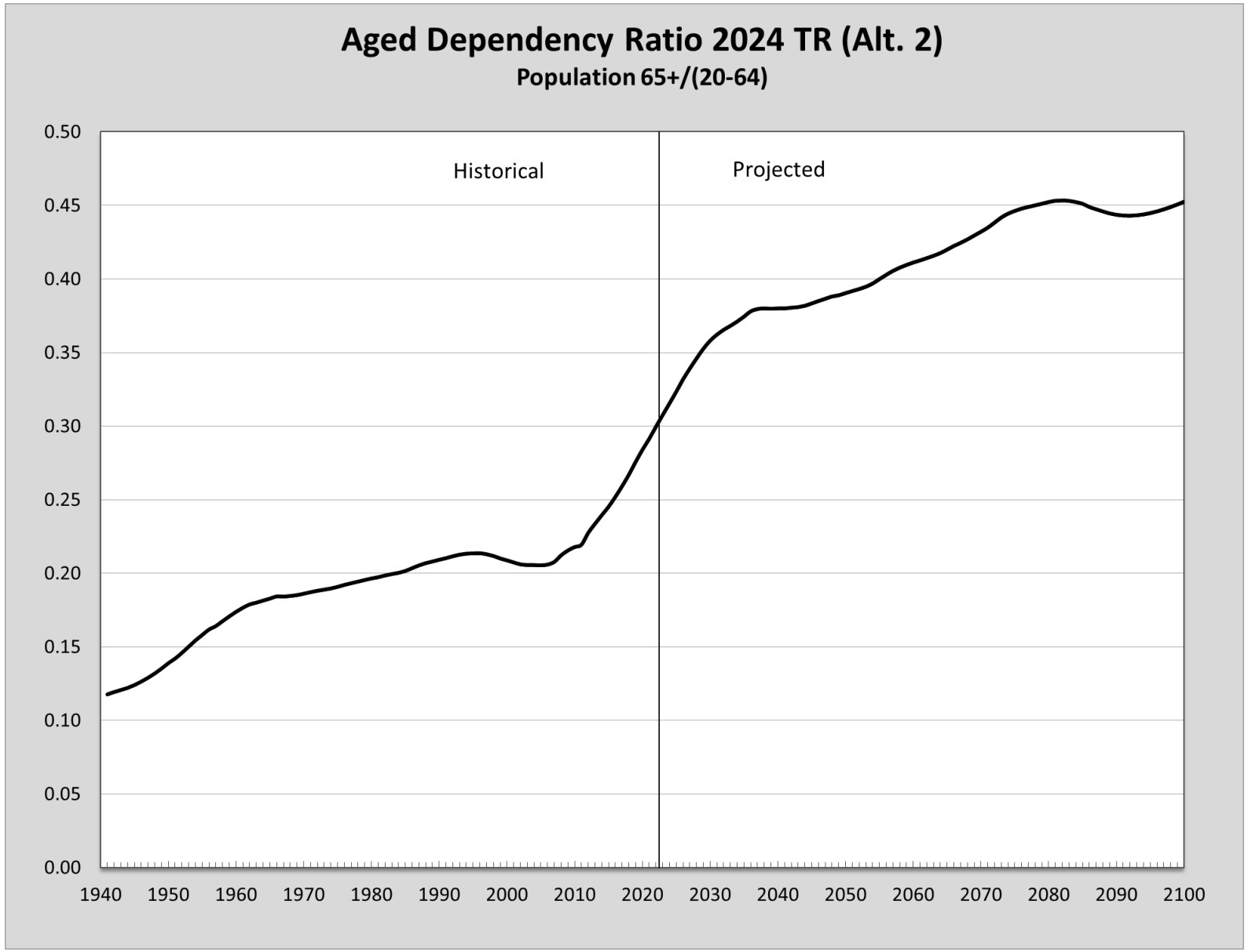
The share of the population aged 65-84 and 85+ is growing rapidly.



Aged Dependency Ratio

The aged dependency ratio is the ratio of the population aged 65 and older over the population between ages 20 and 64.

This is also an approximation of the ratio of retirees to the working-age population.

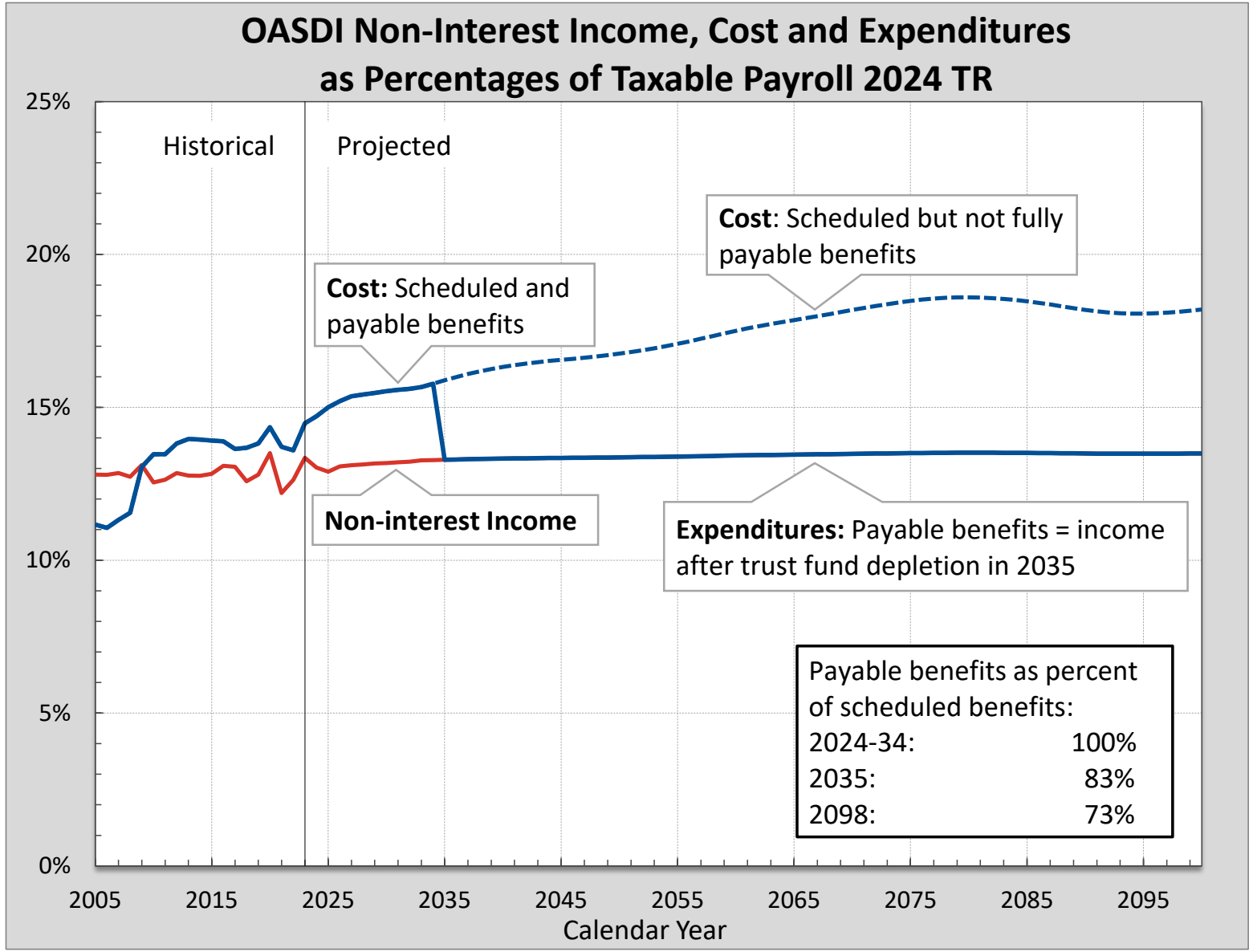


2024 Trustees Report Results

OASDI Annual Cost and Non-Interest Income as Percent of Taxable Payroll

Persistent negative annual cash-flow balance starting in 2010.

83 percent of scheduled benefits still payable at trust fund reserve depletion.



How to Eliminate the Social Security Long-Term Funding Shortfall

- Congress needs to make choices addressing OASDI shortfall 2035-2098:
  - Raise scheduled revenue by 2035 by about one-third
  - Reduce scheduled benefits by 2035 by about one-fourth
  - Or some combination of the two
- Comprehensive changes must be ***implemented*** by 2035

For More Information Go to http://www.ssa.gov/oact/

- There you will find:
  - The 2024 and all prior OASDI Trustees Reports
  - Detailed single-year tables for recent reports
  - Our estimates for comprehensive proposals and individual provisions
  - Actuarial notes and actuarial studies
  - Extensive databases
  - Congressional testimonies
  - Presentations by OCACT employees