

Implications of the COVID-19 Pandemic for the US Social Security Program

Steve Goss, Chief Actuary
Karen Glenn, Deputy Chief Actuary
Social Security Administration

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COVID-19: Some Background

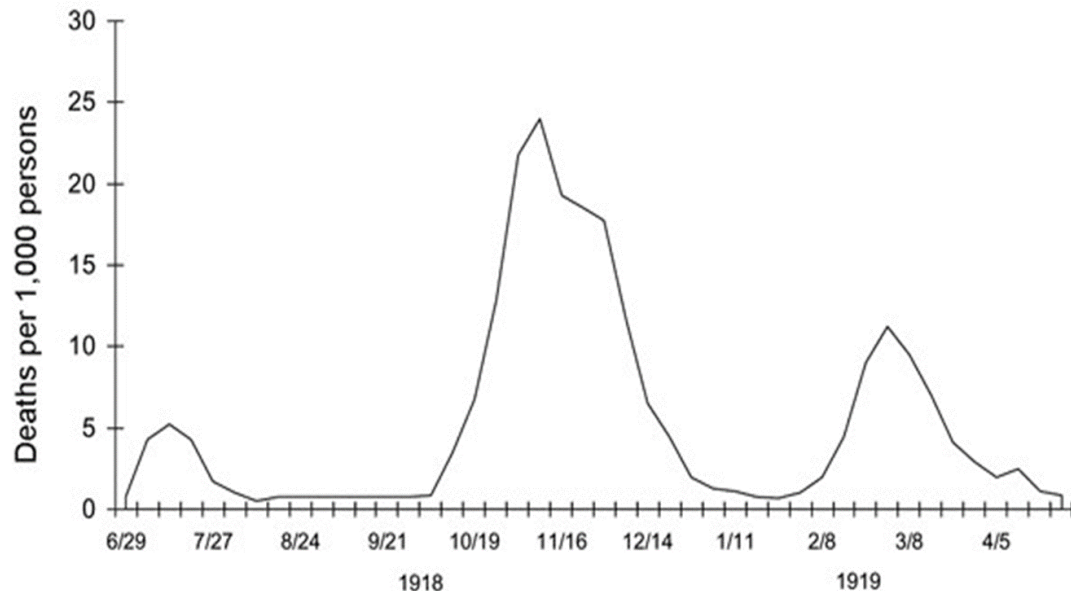
Characteristics of COVID-19

- Highly communicable
- Transmissible prior to symptoms
 - Some never show symptoms
- Immunity after infection appears to be limited
 - Less than 12 months; implications for “herd immunity”
 - Potential for repeated reinfection
- Death rate overall 0.4% to 1%: concentrated at high ages
- Compromise for survivors?
- Vaccine or therapy? How effective?

Potential Path Going Forward

1918: worst case scenario?

Figure 1. Death Rates of the Spanish Flu, June 1918 to May 1919



Source: The Spanish Flu and the Stock Market: The Pandemic of 1919
by Bryan Taylor | Feb 27, 2020 | Economics, Historical, Insights

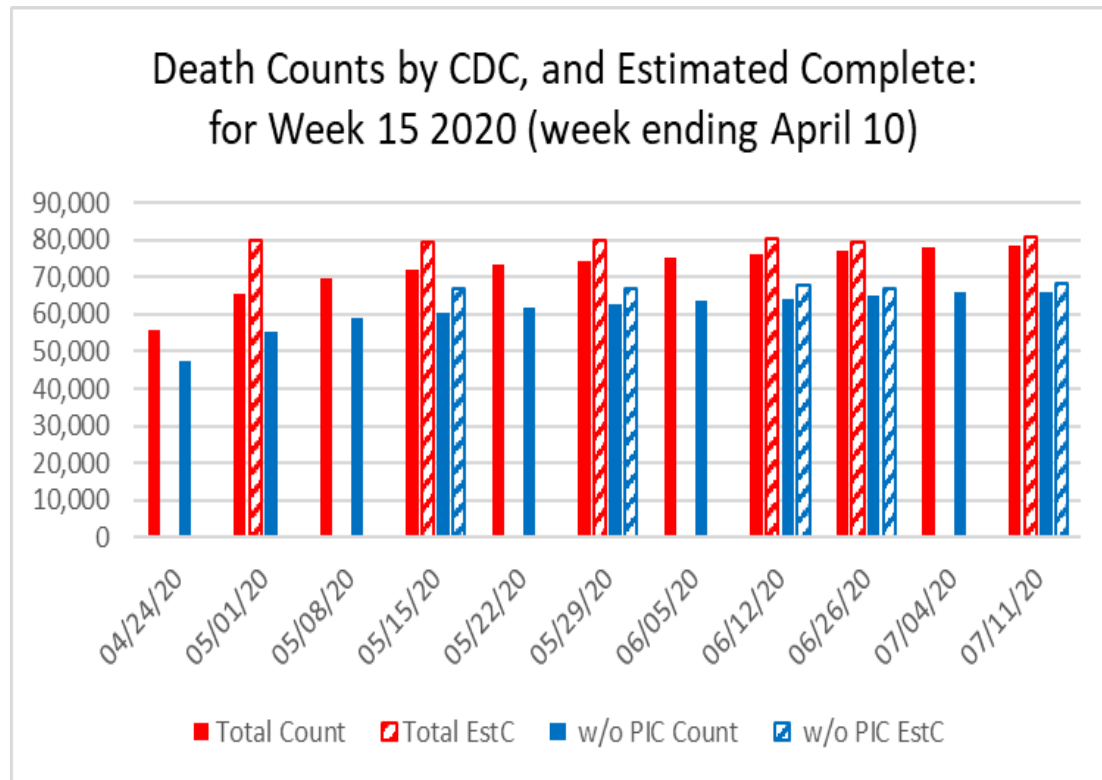
Will we do much better in 2020?

- Will we avert a substantial second wave in the fall? If so, we may be able to return to “normal” next year
- If not...

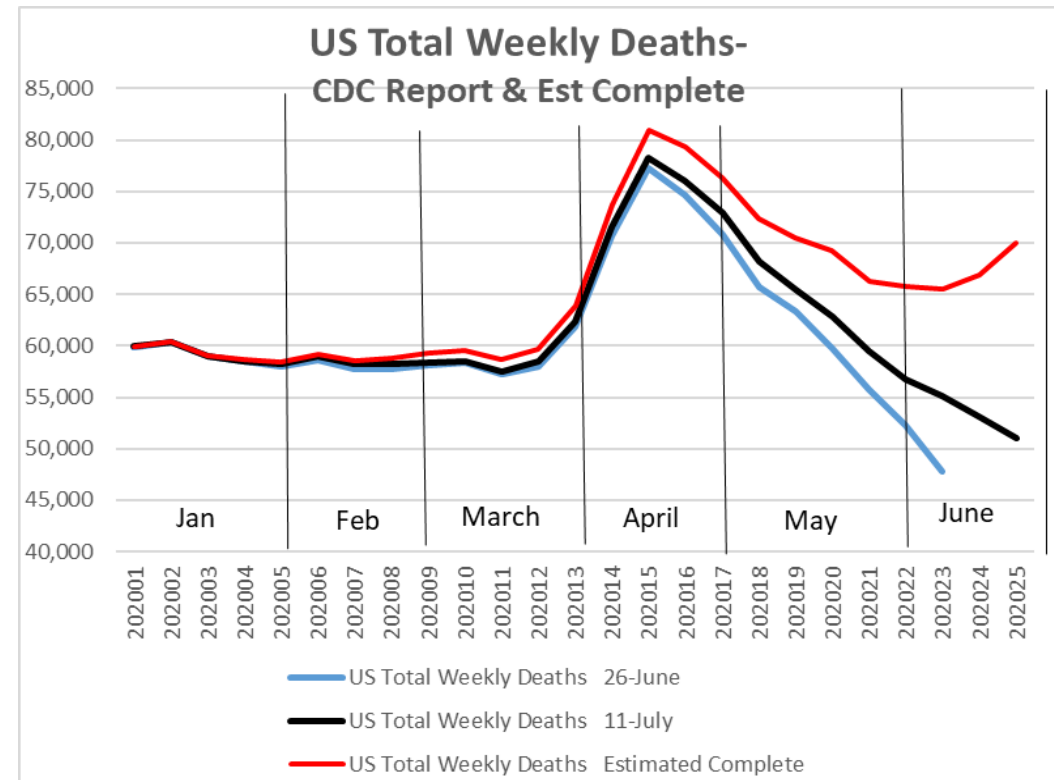
Assessing Where We Are Currently

- Infections are variable: undercounted by factor of 5-10, as seen by ratio to deaths
- Deaths may be miscoded—so look at total deaths?
- Also, many deaths are reported with a lag of several weeks; completeness analysis suggests deaths started rising in June

Based on analysis of lag, estimates of complete deaths in a week have been accurate...



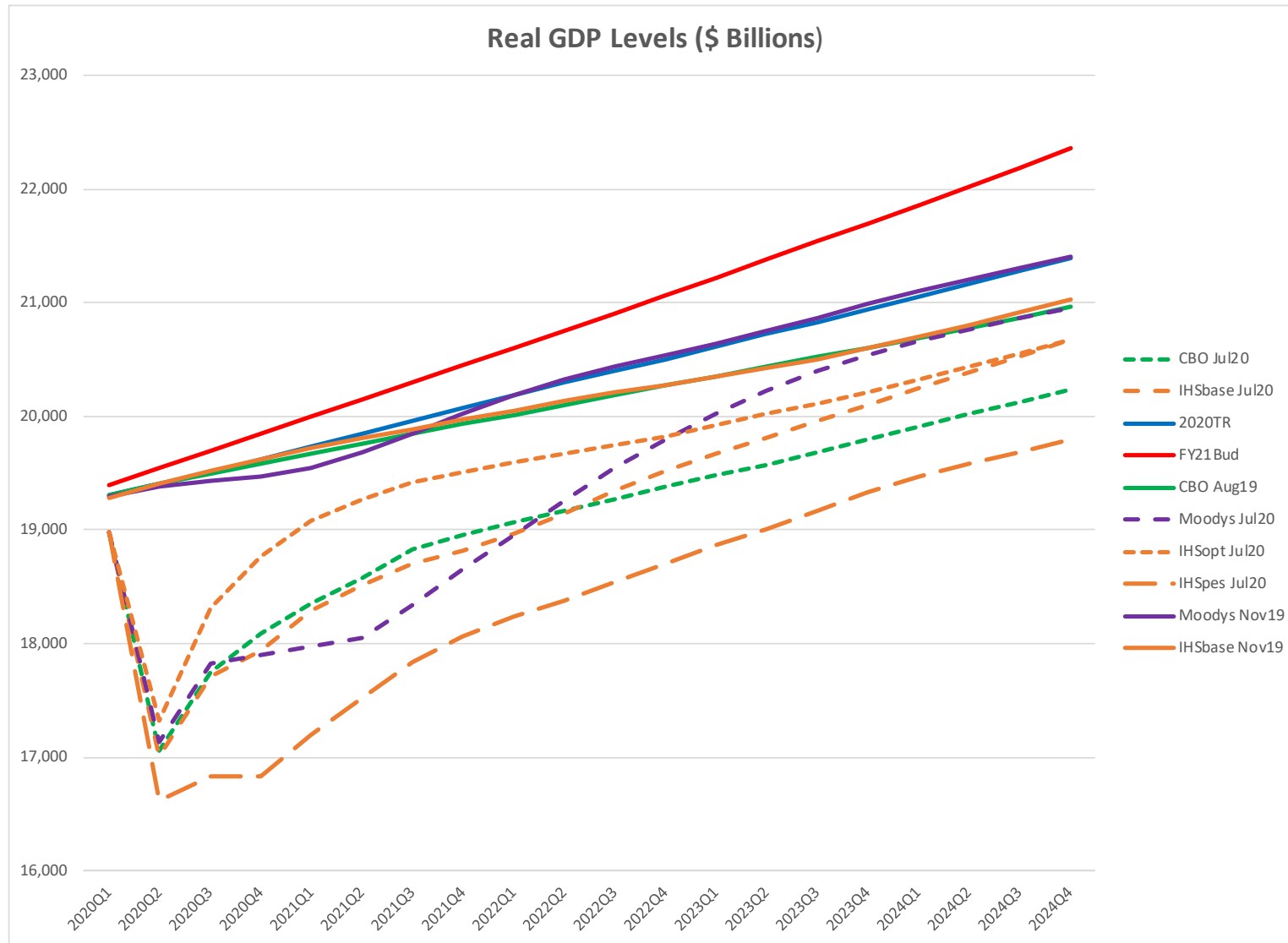
Estimated Complete Total U.S. Deaths Begin to Rise in June



Effects on Social Security: Economic

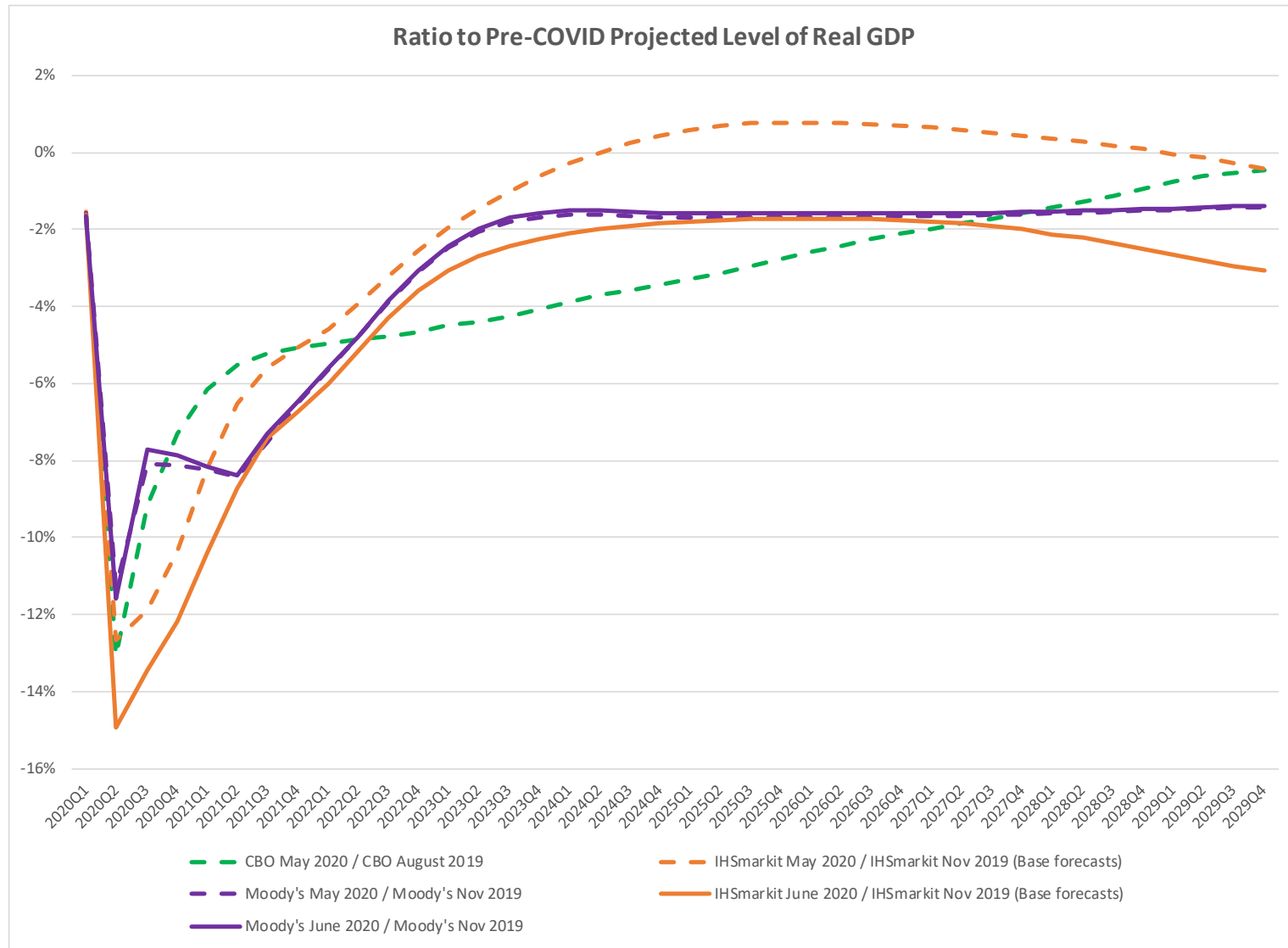
In the near term, effects will be largely due to reduced payroll tax, which in turn is due to reduced employment and GDP

Direct GDP Effects



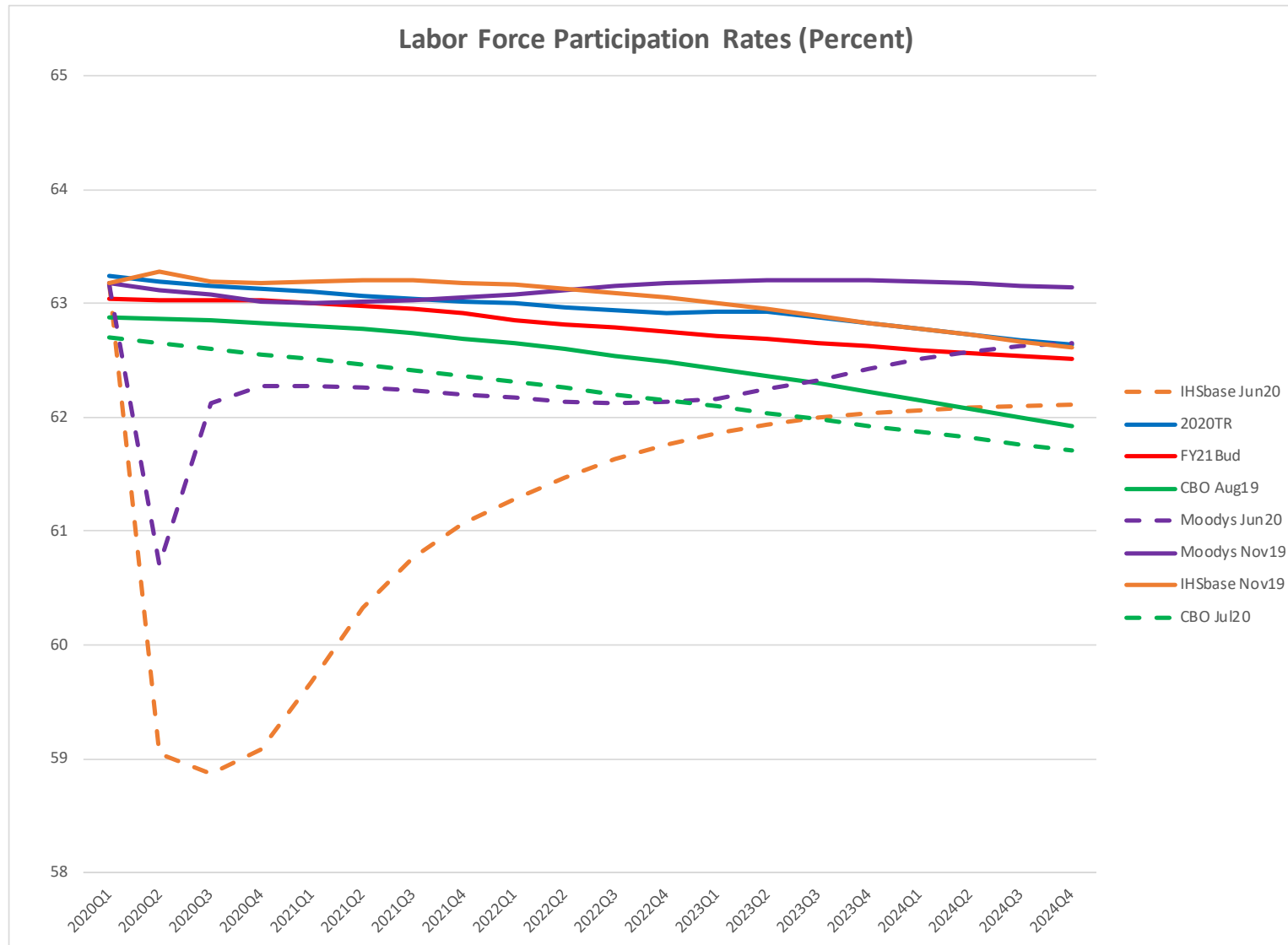
- What were the Trustees and other forecasters projecting before COVID (solid lines)?
- What about now (dashed lines)?
- Forecasts vary widely and are being updated frequently

Direct GDP Effects



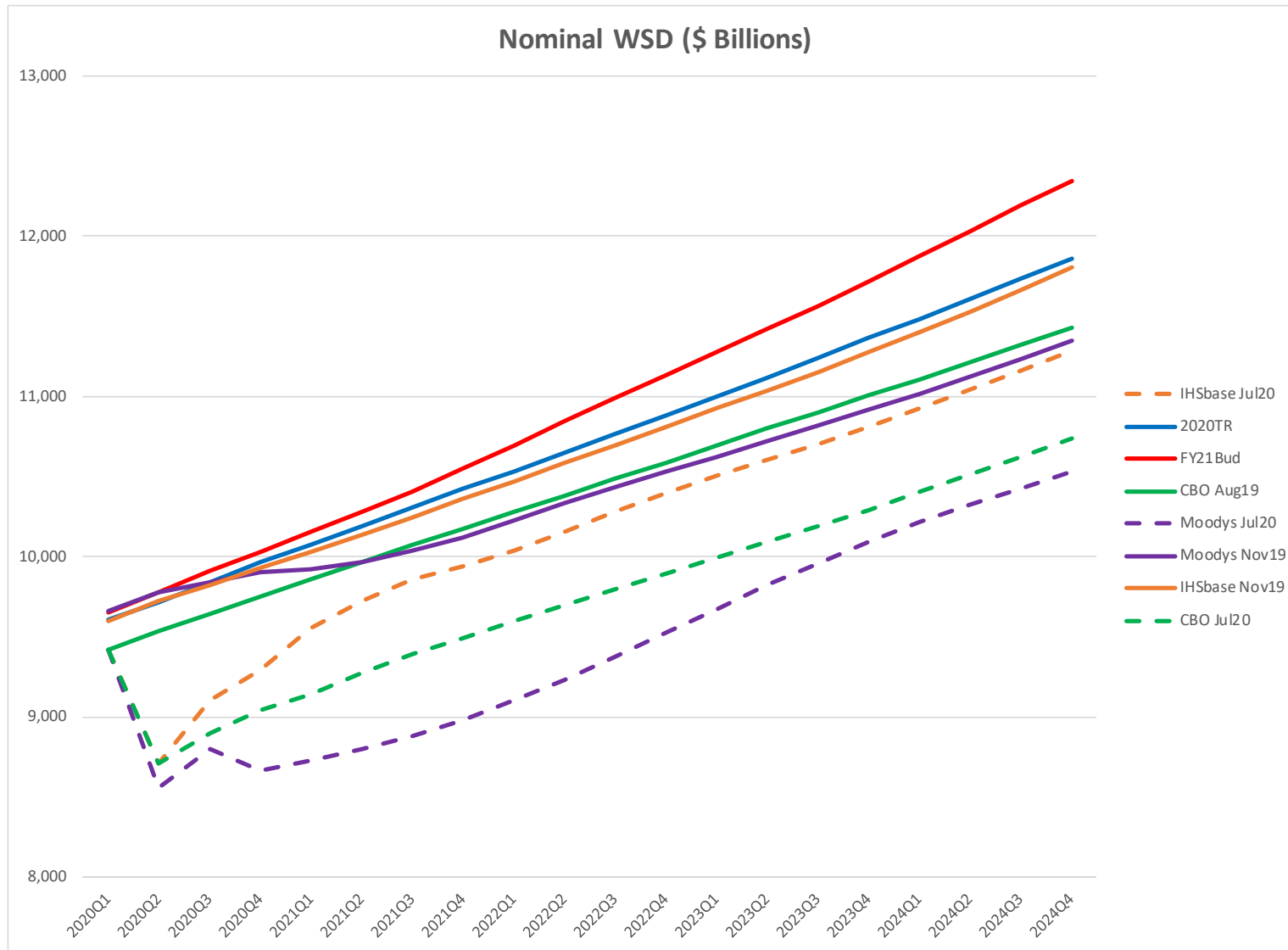
- Ratios of recent projections to pre-COVID projections
- Will GDP levels return pre-recession levels? Or will we see a permanent loss to future potential GDP, as has happened in other recessions?

Labor Force and Employment



- Again, solid lines are pre-COVID, and dashed lines are recent projections
- How severe and prolonged will declines in LFPR be?
- Employment has a direct effect on Social Security payroll tax revenue

Earnings and Payroll Tax Revenue



- Projections of wage and salary disbursements (WSD)
- Recent forecasts all reach pre-recession trends within the next few quarters
- Forecasters see lower nominal aggregate earnings:
 - Lower employment?
 - Lower CPI?
 - Lower real wage?

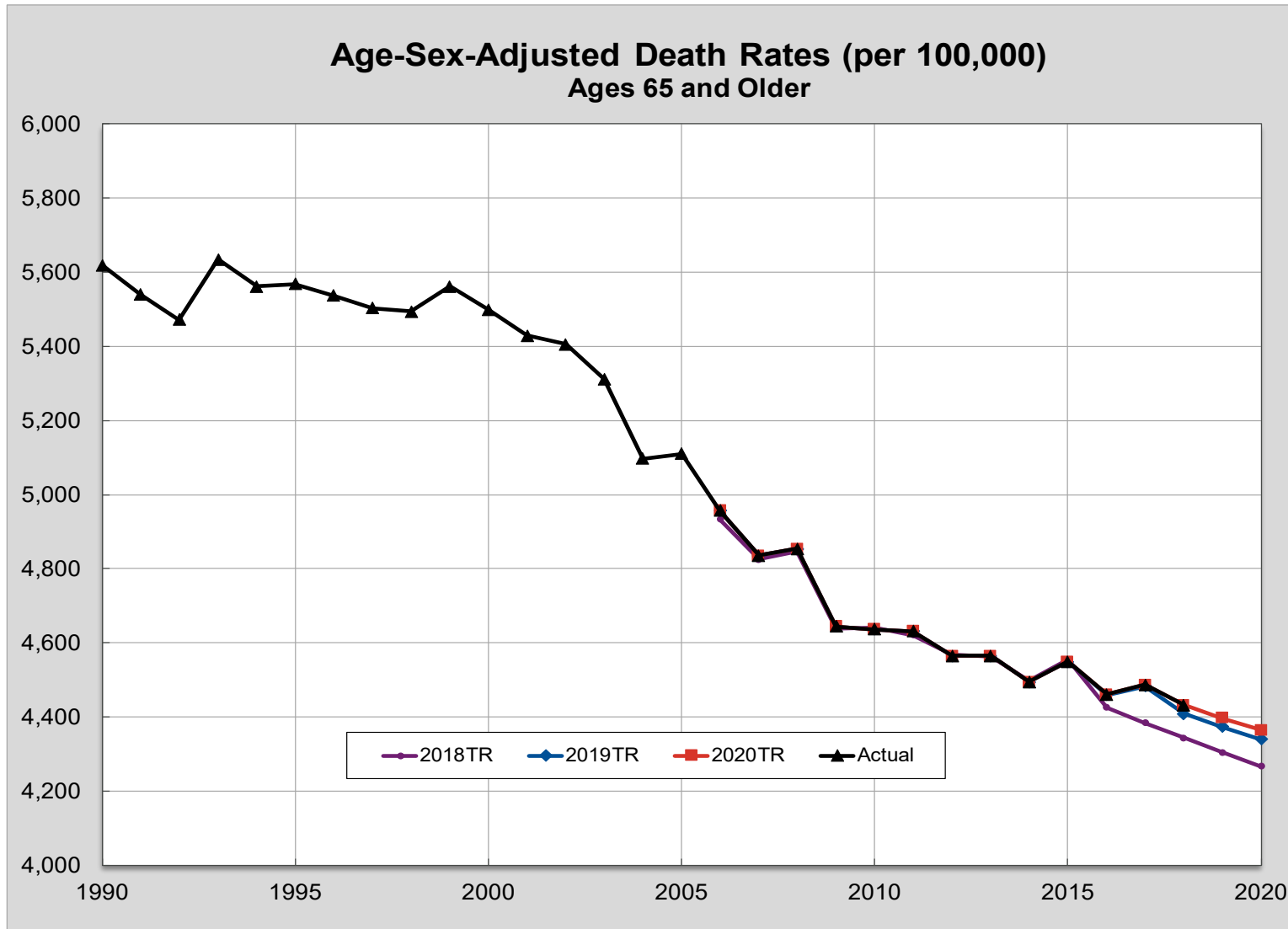
Earnings and Payroll Tax Revenue

- Social Security payroll tax revenue will certainly be lower than we projected for 2020—but by how much?
 - In April we offered examples including 15% lower earnings and payroll tax for 2020, but now 10% lower seems more likely—assuming no substantial second wave
- Good news: employer payroll tax deferral in COVID legislation does not affect revenue to the trust funds
- What will effects be beyond 2020?

Effects on Social Security: Demographic

Demographic factors will influence responses in the near term, but Social Security financial status will be affected only in the long term

Mortality: Baseline Death Rates



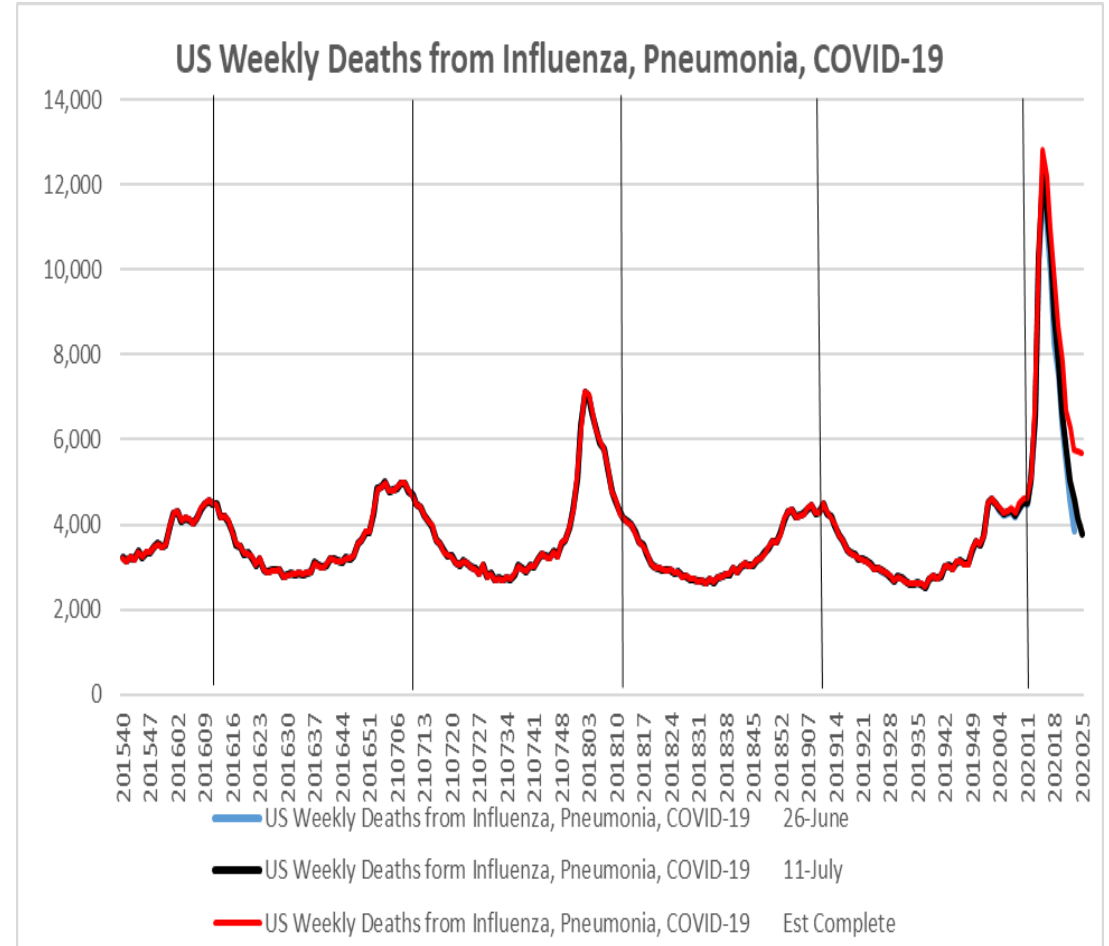
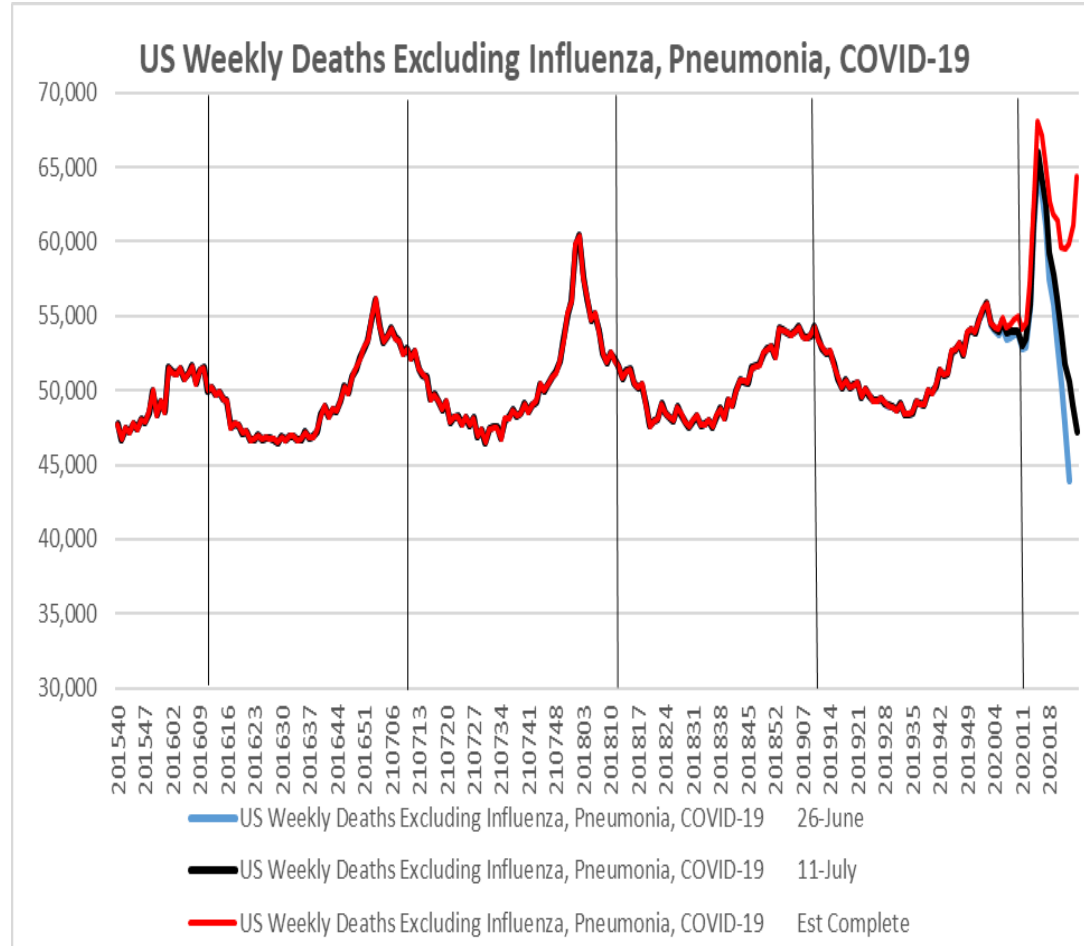
- We consider mortality experience at all ages, but ages 65 and older are critical
- In general, reductions in death rates at younger ages (<40) hurt program finances, while reductions at older ages help the program
- Reductions in death rates since 2009 continue to fall short of expectations

Mortality: COVID Effects

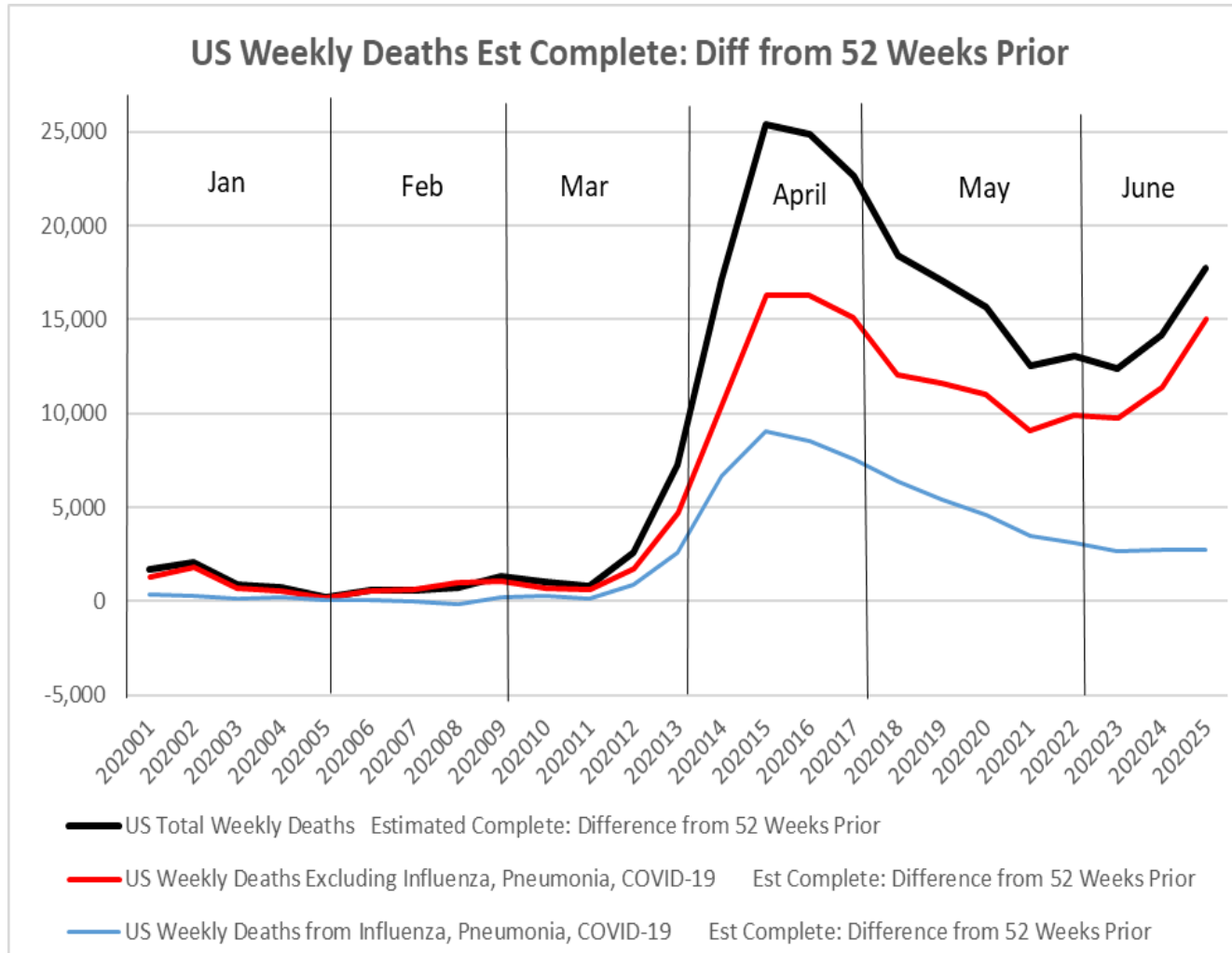
- How much of an effect will COVID deaths have?
- Will deaths continue to be concentrated at older ages?
- Will there be persistent and even cumulative effects on mortality in the longer term?
 - Direct virus-related immediate deaths
 - Increased deaths of despair/violence—suicide, homicide?
 - Decreased life expectancy from compromise for COVID survivors; how much?
- Data available to date and medical implications are as yet unclear

Mortality: Total Deaths Have Consistently Dropped After the 11th Week of the Year, But Not in 2020

Deaths have risen sharply for both COVID and non-COVID



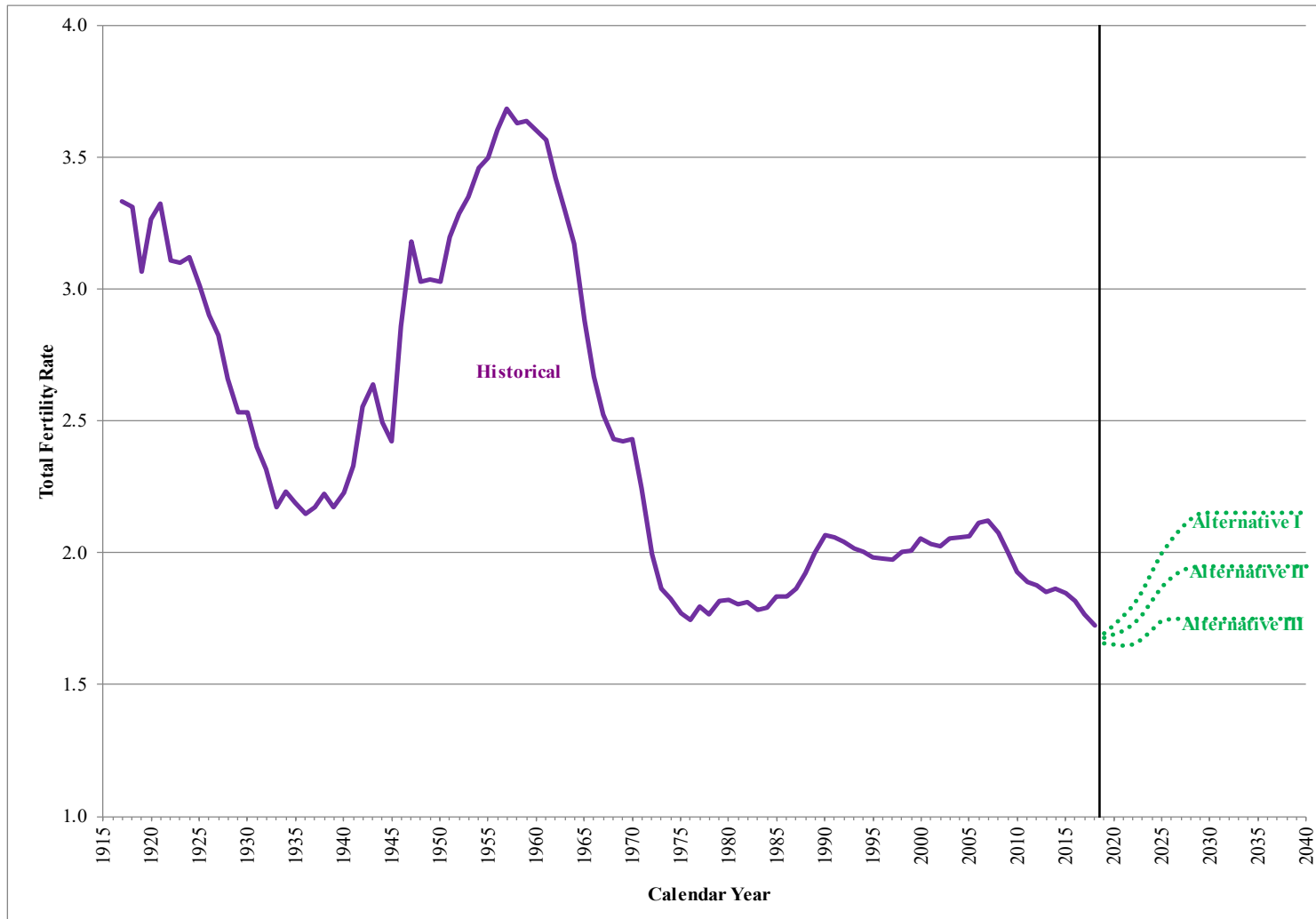
Mortality: Increased Deaths in 2020 by Cause



- The figure shows the difference in estimated complete deaths versus the prior year
- Starting in March, suggests that most increase over 2019 is **not** from COVID?
- Lag analysis independent for total and total excluding pneumonia/influenza/COVID
- Are COVID deaths being properly identified?
- Might there be an increasing portion of COVID being attributed to other causes?

Fertility

Historical and Projected Total Fertility Rates



- Fertility rates are a critical assumption for the program
- They directly affect the age distribution of the population, and in turn the ratio of workers to beneficiaries
- Fertility rates have been very low lately, but we have been assuming they will rebound over the next decade or so—birth expectations still above 2.0 children per woman
- Recessions tend to depress fertility on a period basis—but is this mainly a tempo (timing) or quantum (number) effect?

Immigration

- Effects of COVID on immigration are extremely speculative at this point
- Lawful immigration
 - Perhaps some timing effects due to delayed processing
 - In general, these folks have been waiting to immigrate and may not be deterred
- Unauthorized immigration
 - Note the program receives payroll tax revenue from many of these workers
 - Border closings will likely have effects—in both directions
 - Will the recession deter unauthorized immigration, as recessions have in the past?
 - Will varying impacts of COVID around the world affect migration patterns?

Effects on Social Security: Program-Specific

Average Wage Index (AWI)

- The national average wage index (AWI) for 2020 will likely decline and lower Social Security benefits for those who become “newly eligible” in 2022
 - For retired worker benefits, those who reach age 62 in 2022 (born in 1960)
 - For disabled worker benefits, those who are newly entitled for benefits in 2022
 - Survivors and auxiliary beneficiaries too
- The AWI is determined based on the ratio of total wages paid in the year to the total number of at-any-time workers in the year
- Therefore, it is very likely the AWI will decline significantly for 2020, due to the timing and abrupt drop of employment in this recession

Average Wage Index (AWI): “Notch”

- The first main effect of a drop in AWI can be referred to as the “notch”:
- Assume the following illustrative scenario:
 - Total wages for 2020 will be about 10% below the level projected in the 2020 Trustees Report (TR)
 - The number of workers with any earnings received in 2020 will be about 1% lower than projected in the 2020 TR
- Under this scenario, more than 4 million retired worker and disabled worker beneficiaries who become newly eligible for benefits in 2022 would receive a benefit that is 9.1% lower than expected, for life, as would all survivor and auxiliary beneficiaries paid on their account
- And the benefit would be 5.9% lower than the initial benefit for similar new beneficiaries in 2021

Average Wage Index (AWI): “Boost”

- The second effect of a drop in AWI can be referred to as the “**boost**”:
- Again, assume the illustrative scenario, that the AWI will increase 9.1% less than expected in the 2020 TR
- Under this illustrative scenario, all workers with earnings in 2020 who first become eligible for benefits after 2022 will experience a 10% increase in the *indexed* value of their 2020 earnings used for their benefit computation ($1/0.909 = 1.1$)
- Because the increase is for only one year of earnings (one of up to 35 years used in the AIME for benefit calculation), the increase in benefit level for these workers will be generally less than 0.3% (averaging perhaps 0.15%)

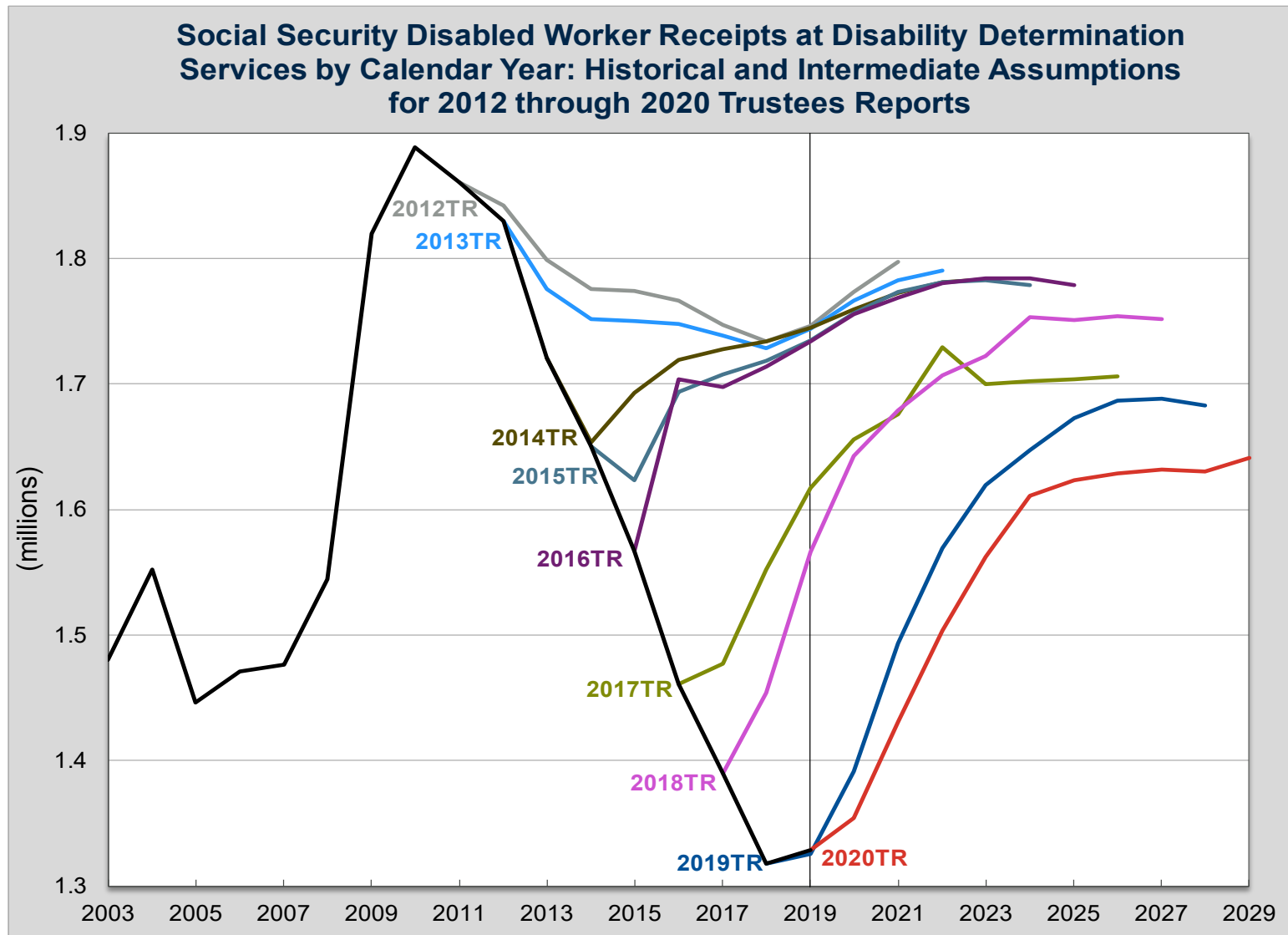
Average Wage Index (AWI): Legislation

- Two bills have been introduced to address these effects
- S. 4180, the “Protecting Benefits for Retirees Act,” was introduced on July 2 by Senators Tim Kaine and Bill Cassidy
 - Does not let the AWI decrease from one year to the next, beginning with 2020
 - Addresses both the “notch” and the “boost”
- H.R. 7499, the “Social Security COVID Correction and Equity Act,” was introduced on July 9 by Representative John Larson
 - Also does not let the AWI decrease from one year to the next, but only to address the “notch”; the “boost” remains in place
 - Also includes several provisions to raise benefits for calendar year 2020 only, similar to those in his comprehensive Social Security solvency bill (the *Social Security 2100 Act*)
 - We provided Rep. Larson an analysis of the effects (<https://www.ssa.gov/oact/solvency>)

OASI Beneficiaries

- There has been speculation in the press and elsewhere that the COVID-induced recession will cause workers to apply for retirement benefits earlier than they would have otherwise
- We are not seeing this in the data—yet
- Speculation is that folks are relying on extended unemployment benefits for now, but might start applying earlier if the recession persists
- Increases in survivor benefits will likely be limited
- Earlier benefit start for those with age-reduced benefits actually tends to lower longer-term cost

DI Beneficiaries

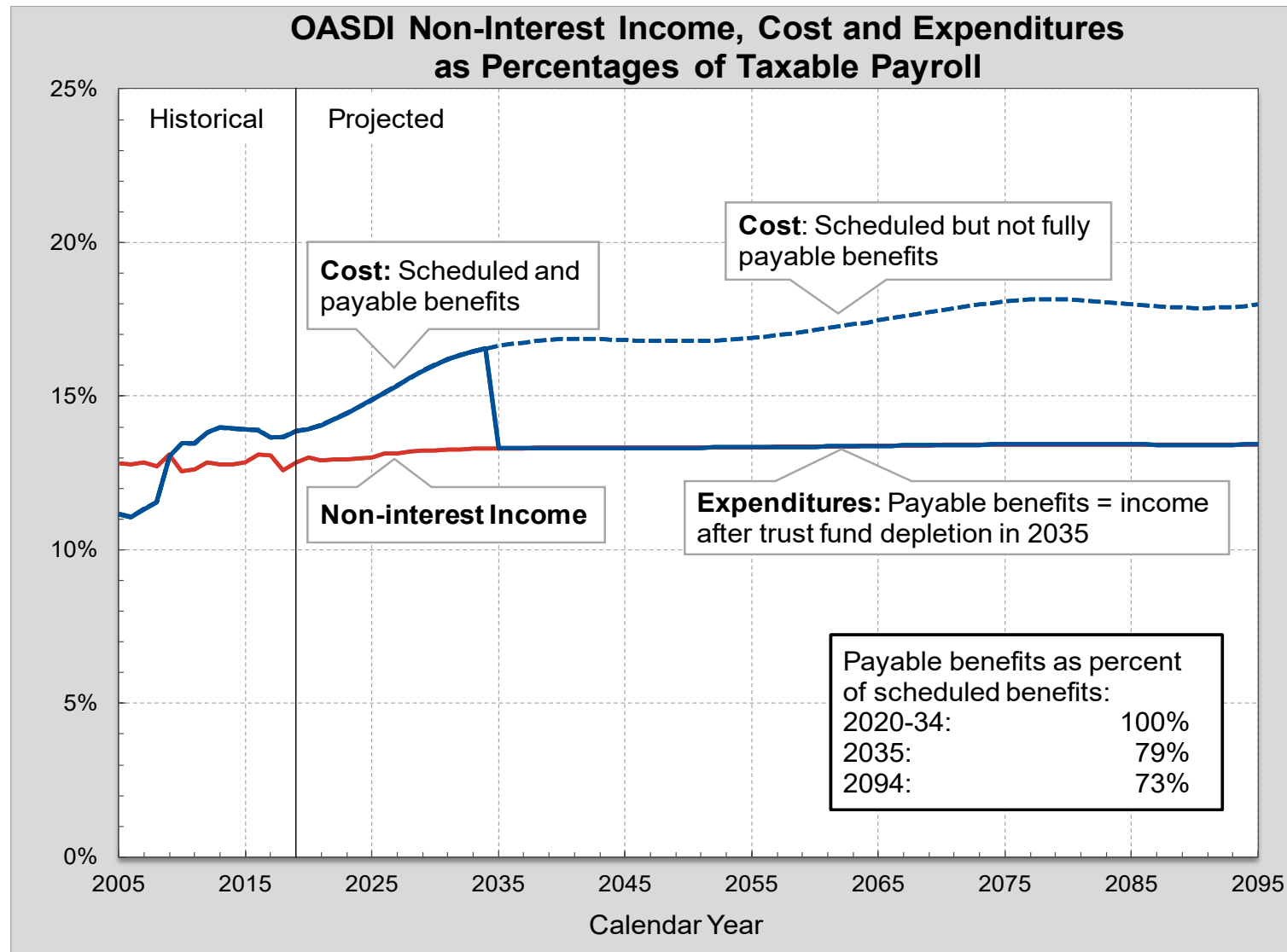


- Similarly, we aren't yet seeing evidence of increased DI applications
- Recessions have a delayed impact on applications ("receipts")
- Applications for disabled worker benefits increased rapidly in the last recession from 1.5 million in 2007 and 2008 to 1.8 million in 2009 and 1.9 million in 2010
- Also note what has happened since then!

OASDI Beneficiaries

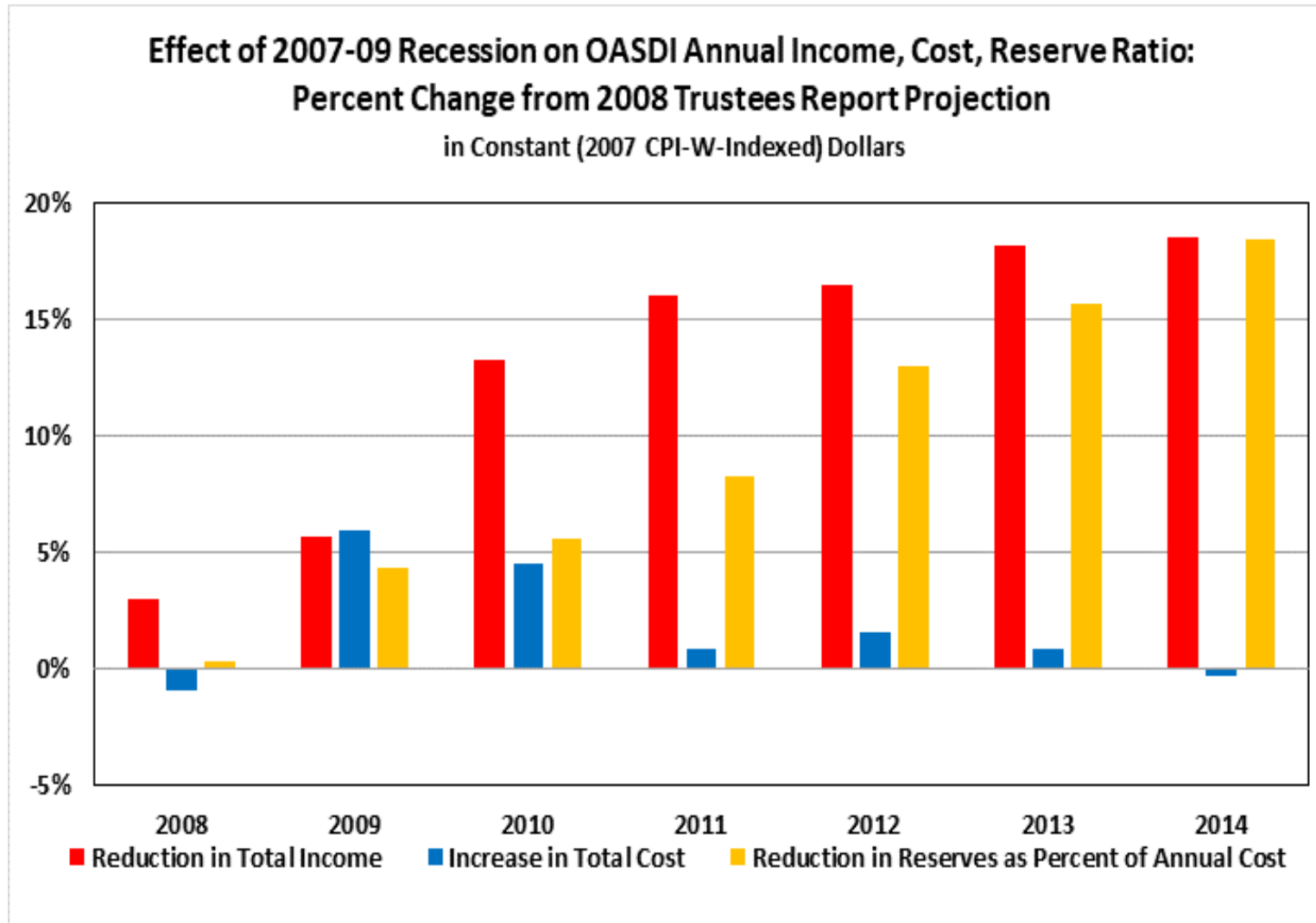
- There will clearly be competing effects on the size of the beneficiary population in the near term
- Decrease in beneficiaries due to increased deaths
- Increase in beneficiaries due to additional applications—assuming recession persists, and recovery is not as abrupt as the recession
- For example, if there are an additional 200K to 300K DI applications with about one-half allowed—will that be on the order of the number of additional OASDI beneficiary deaths in 2020?
- Could there be even more beneficiary deaths in 2021?

Bottom Line: Trust Fund Baseline: Pre-COVID



- Where do we stand?
This figure shows results from the 2020 TR—**with no COVID effects reflected**
- Reserve depletion projected in 2035
- 79% of benefits payable at that time, declining slowly over time to 73%

Bottom Line: Trust Fund Effects from Last Recession



- During the 2007-09 recession, reductions in annual trust fund income (compared to the 2008 TR projection) grew gradually, exceeding 10% for 2010 and 15% thereafter
- However, annual program cost (almost entirely benefit payments) exceeded the projection by only about 5% for 2009 and 2010, with little difference thereafter
- Increased benefit cost occurred with a delay, due to extended UI payments

Bottom Line: Effects on Trust Funds Under COVID

- In April we speculated 15% reduction in earnings and payroll tax for one or two years, and then full recovery: Trust Fund reserve depletion advanced from early 2035 to mid or early 2034
- Now, consider an illustrative scenario: assume total earnings in 2020 are reduced to 10% below the 2020 TR intermediate projection, with full recovery to expected earnings in 2021 and thereafter
 - This could happen if there is no substantial second wave in the fall, with resulting closure of the economy
 - Then payroll tax revenue would be reduced by about \$100 billion in 2020
 - The trust fund reserve depletion date for the combined OASI and DI Trust Funds would likely move from early in 2035 to mid-2034

Bottom Line: Effects on Trust Funds Under COVID

- If, instead, closure due to the pandemic extends through 2021, or if there is a permanent reduction in the level of economic activity, then negative effects on the actuarial status could be substantially larger
- Trust Fund reserve depletion could be earlier than 2034, and the percent of scheduled benefits payable after depletion could be reduced
- The degree of longer-term persistent effects on the level of economic activity and on demographic factors is as yet unknowable

Questions?