

# **“Social Security’s Solvency Challenge: Estimates for the Annual Trustees Reports and by CBO, 2002 through 2016”**

**Testimony by Stephen C. Goss, Chief Actuary, Social Security Administration  
House Committee on Ways and Means, Subcommittee on Social Security  
September 21, 2016**

Chairman Johnson, Ranking Member Becerra, and members of the subcommittee, thank you very much for the opportunity to speak to you today about the solvency challenge facing Social Security, with a focus on the differences between estimates from the Trustees Reports and those from the Congressional Budget Office. Trustees Reports have been produced and submitted to the Congress every year starting in 1941, the year after monthly benefits were first paid from a Social Security trust fund.

Since testifying to you just three months ago on the issuance of the 2016 Trustees Reports, the actuaries, demographers, and economists in our office have continued to work with the Board of Trustees, the Social Security Advisory Board, your and other Congressional staffs, the Administration, our auditors, and numerous academics and other interested parties in developing the next Trustees Report and numerous proposals to modify this program. It is a real honor and a great responsibility for us to provide the very best possible projections and estimates for the consideration of all policymakers and, in turn, the American people who both finance and benefit from the program.

The Social Security Act requires that the Trustees annually report on the expected financial operations of the Social Security trust funds over the next 5 years. The law further requires reporting on the “actuarial status” of the Social Security trust funds, as it does for the Medicare trust funds. Assessment of the long-range actuarial status of these programs requires projections extending well beyond 5 years, and thus involves very different methods and assumptions than those appropriate for a short-term projection. Our experienced staff of 45 actuaries and demographers, plus 8 economists and statisticians, has unparalleled experience and expertise for this task. Actuarial valuation is a highly interdisciplinary exercise. The broad capabilities of our team, plus the access we have to technical panels, the staffs of the Trustees, and others federal agencies, give us the ability to explore and evaluate the many demographic, economic, and other factors critical to evaluating the Social Security program.

Since the inception of CBO, we have worked closely with directors and staff there in areas of common practice. Starting around 2002, CBO started development of a long-term model (CBOLT), and we worked closely with them at that time. To this day, we continue to provide

extensive annual detail to CBO on specifics of our projections. This is just one part of the transparency we believe is critical to maintain credibility for our projections.

### **Process for the Trustees Reports**

The annual Trustees Reports are signed by the members of the Board, including the Secretary of the Treasury, the Secretary of Health and Human Services, the Secretary of Labor, the Commissioner of Social Security, and generally, two public Trustees nominated by the President and confirmed by the Senate. The Board and their staff provide a diverse and balanced group of highly knowledgeable individuals. We in the Office of the Chief Actuary work with the Trustees by proposing and discussing assumptions, developing the actuarial methods, producing the actuarial projections, and drafting the report. As an assurance that the assumptions used for the report are reasonable, the Social Security Act further requires that the Chief Actuary provide an actuarial opinion with each report speaking to the reasonableness of the assumptions and appropriateness of the methods. I am pleased to tell you that there has never been a need for the actuarial opinion to state that any assumption or method is unreasonable.

The projections we produce for the Social Security area population are also utilized for the Medicare Trustees Report and for the extended projections in the President's Budget. CBO used our population projections for their long-term estimates in 2004 through 2010. We also project Social Security cost and revenues for the President's Budget under the economic assumptions developed by the Administration for that report.

Fundamental to the projections we produce for the annual Trustees Reports is the concept of incremental change. It should be rare that new experience or insight from one annual report to the next would make a substantial change in the actuarial status. Enactment of legislation is the obvious exception to this principle. Boards of Trustees in all administrations have well understood the importance of making changes only gradually and after compelling evidence has accumulated. We have seen many cases where a measure appears to be moving in a new and different direction, only for that change to be reversed after a short time. Long-term projections should not react quickly to annual data, and the consistency of Trustees' projections is testament to the understanding of the current and past Boards of Trustees.

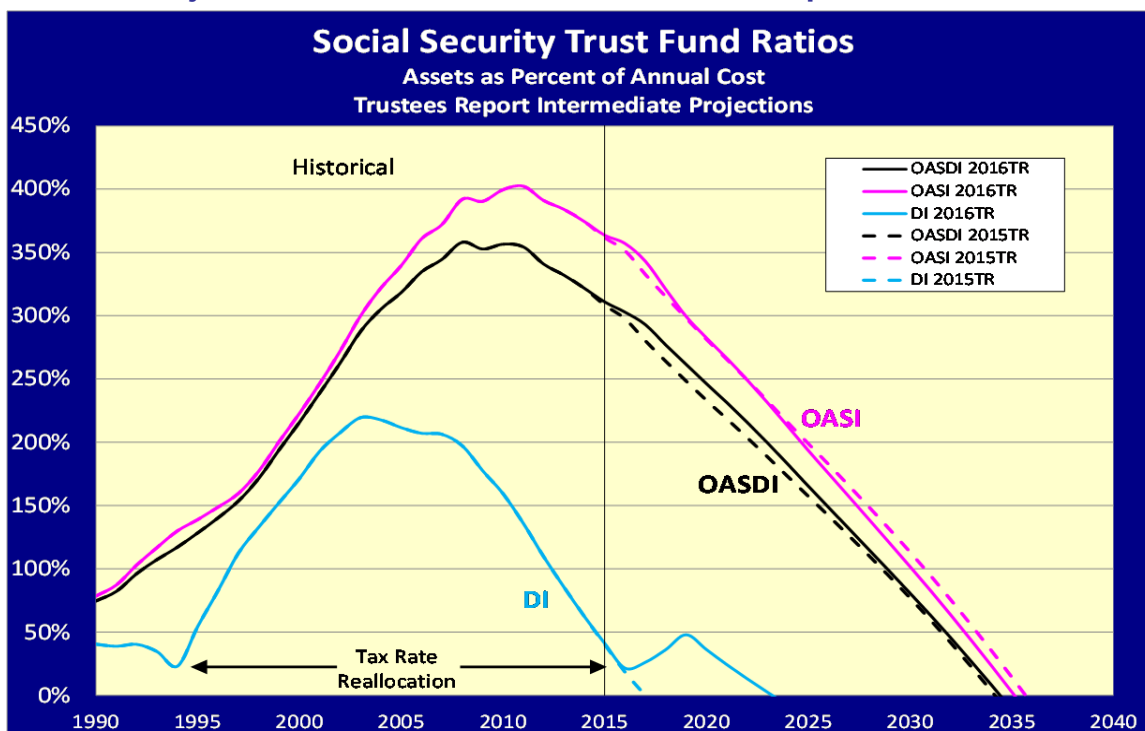
We have many levels of oversight. Our Social Security Advisory Board has continued the tradition of past Advisory Councils in commissioning Technical Panels every four years to evaluate our methods and assumptions and to make recommendations. Each panel is comprised of just a few individuals who must cover a very broad range of areas, and generally represent only one or two of several positions on a given area. We and the Trustees take the recommendations of the panels into consideration along with all other evidence we have at our disposal. Panels can at times become frustrated with our reluctance to adopt their recommendations and make abrupt changes, but often come to understand the value of

incrementalism. As one recent example, Alicia Munnell, chairperson of the 2015 Technical Panel, stated that she was glad the Trustees had not followed the recommendation of the panel to increase the assumed rate of decline in mortality for the 2016 Trustees Report (<http://crr.bc.edu/briefs/social-securitys-financial-outlook-the-2016-update-in-perspective/>).

### **Actuarial Status from the 2016 Trustees Report**

At the risk of redundancy, let me briefly present a small portion of the findings from the 2016 Trustees Report that we discussed at the Subcommittee's hearing on June 22.

#### **Social Security Solvency: 2016 Trustees Report Projected Combined Trust Fund Reserve Depletion in 2034**

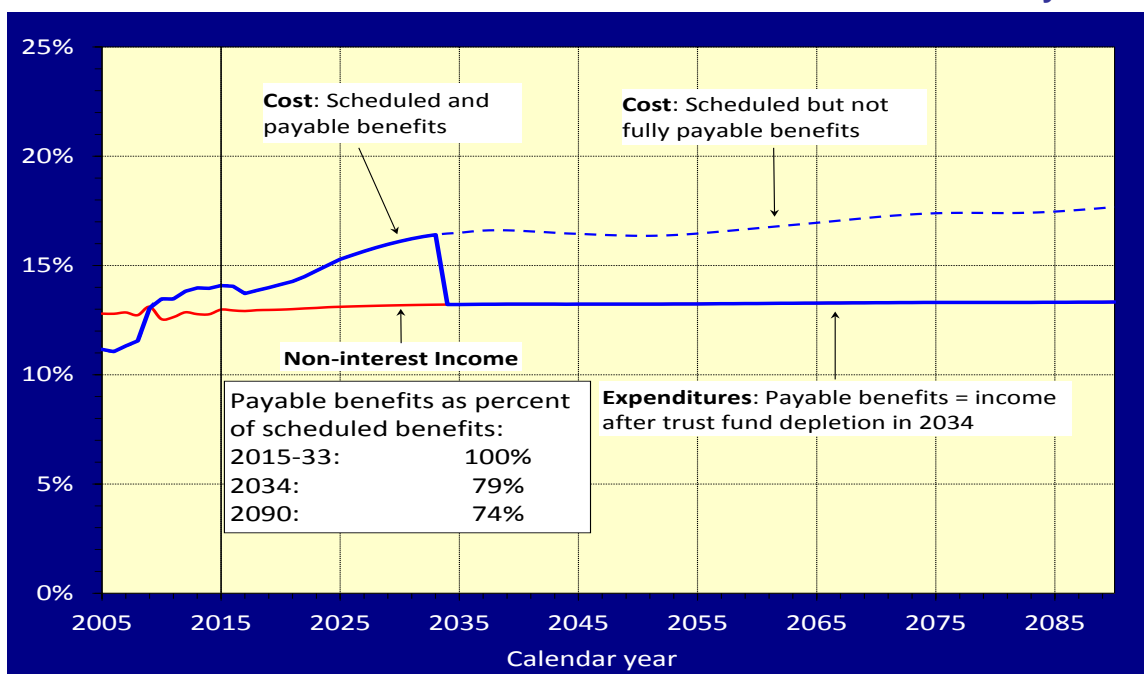


The figure above illustrates the projected dates of trust fund reserve depletion of the separate and combined Social Security trust funds. The Bipartisan Budget Act of 2015, which Congress passed last November, extended the date for DI reserve depletion by 6 years. Under the 2016 Trustees' intermediate assumptions, DI reserve depletion is now projected for 2023. The projected years of reserve depletion for the OASI fund (2035) and for the combined OASI and DI funds (2034) were unaffected by the BBA and by the new valuation for the 2016 Trustees Report.

The annual cost for the Social Security program will begin to exceed total income, including interest, in 2020. Cost already exceeds non-interest income. At the time of projected reserve depletion in 2034, we project that continuing revenue to the program will equal 79 percent of

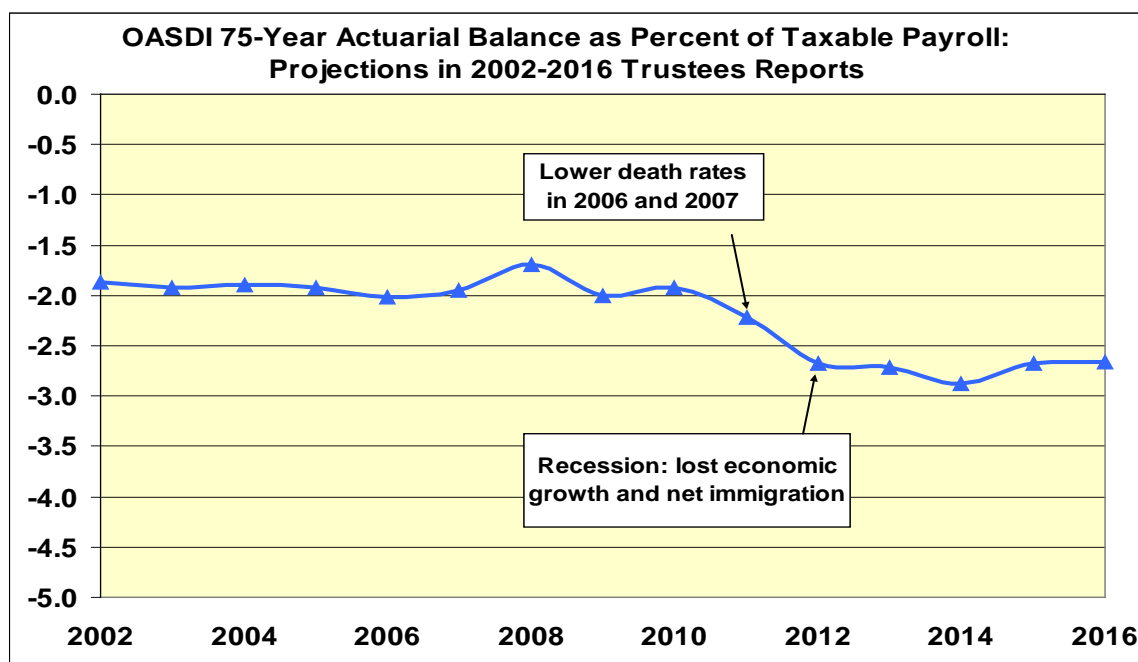
program cost. In the absence of Congressional action, full scheduled benefits would no longer be payable on a timely basis at that time. By the end of the 75-year projection period, if the Congress has not yet acted, we project that continuing revenue will equal 74 percent of the amount needed to pay full scheduled benefits. Because the trust funds have no borrowing authority, expenditures would be limited to continuing revenue in the event that reserves became depleted.

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



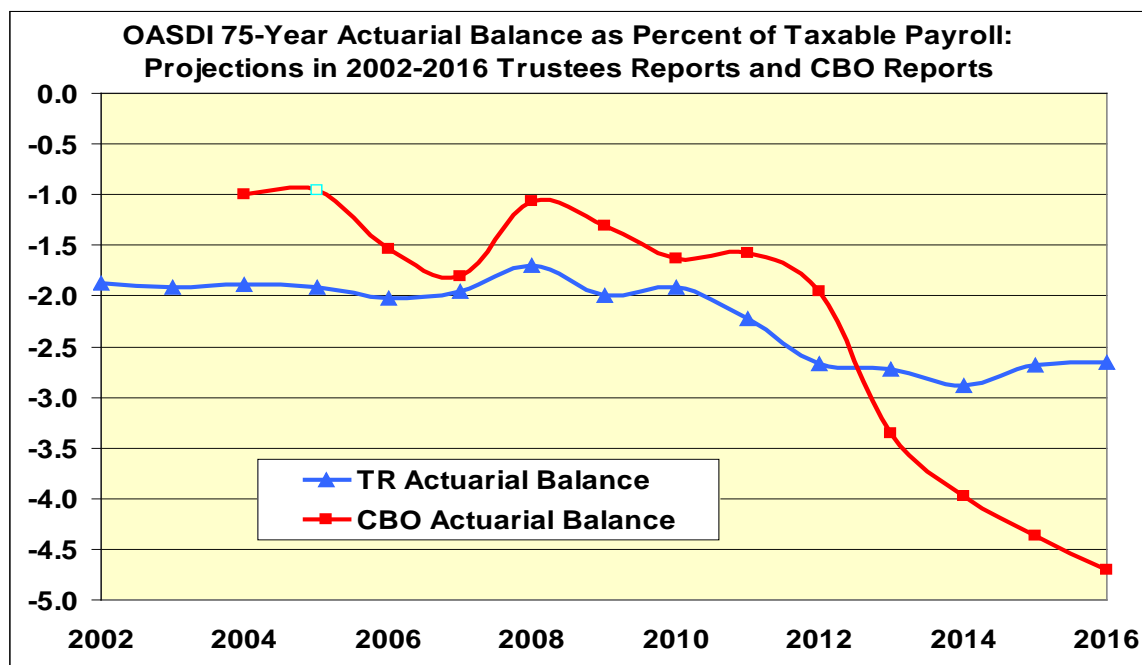
### Estimating the Size of the Solvency Challenge

The figure below illustrates the history of Trustees' projections of the size of the "actuarial balance" for the Social Security program. When the actuarial balance is negative, it may be referred to as an actuarial deficit. The 75-year deficit, expressed as a percent of payroll, may be loosely interpreted as the increase in the payroll tax rate that could be enacted immediately in order to fully finance the program over the 75-year period.



For years 2002 through 2010, the actuarial deficit remained consistently around 2 percent of payroll. In 2011 and 2012, the size of the deficit increased somewhat in response to faster-than-expected mortality declines in 2006 and 2007 and effects from the recession. These recession effects included (1) lower economic growth that was expected to permanently lower the level of GDP and earnings and (2) a temporary reduction in the level of net immigration into the country. It should be noted that even with these effects, the increase in the Trustees' actuarial deficit from 2002 to 2016 was only about 0.7 percent of payroll, less than the change expected from just the passage of time. With each new valuation, the projection period advances one year, thus including one additional year (the 76th year from the prior valuation) that has a large projected annual shortfall. This change in valuation period increases the actuarial deficit by about 0.06 percent of payroll annually. Between 2002 and 2016, we would have increased the actuarial deficit by about 0.84 (14 times 0.06) percent of payroll, in the absence of any changes in assumptions, methods, or unexpected experience.

The figure below adds the 75-year actuarial balances for Social Security estimated by CBO in 2004 through 2016. CBO did not produce a new estimate for 2005, after their first long-term estimate in 2004. The value included is a rough estimate we calculated based on material CBO published for that year.

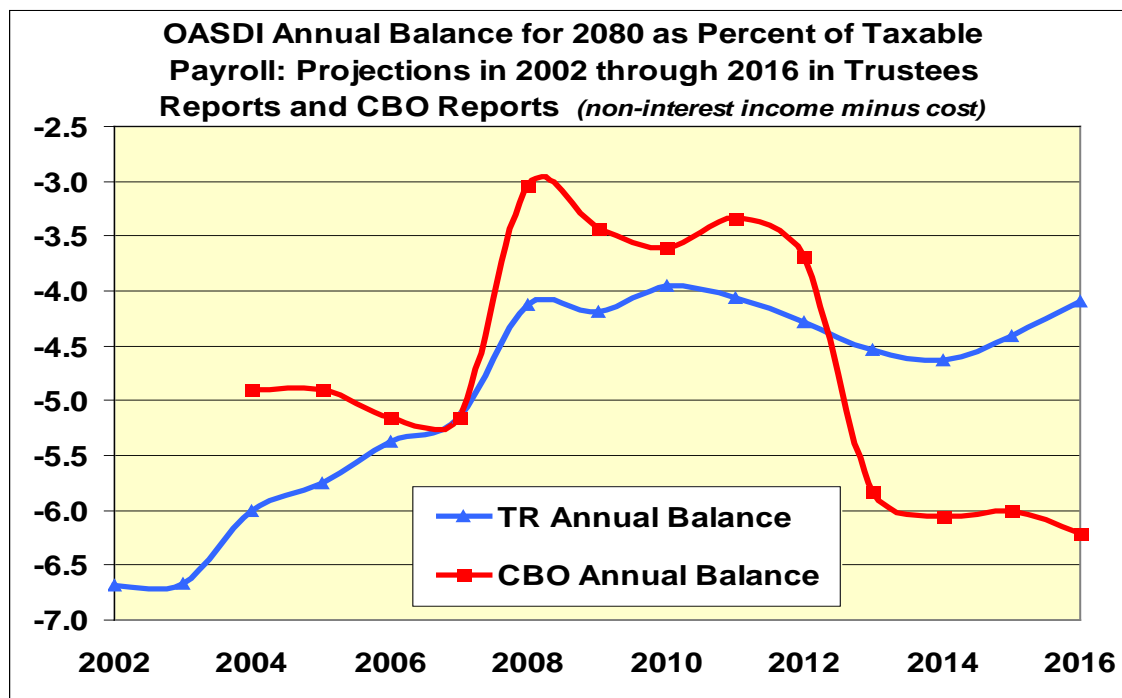


Initially, CBO projected lower benefits relative to tax revenue, and thus smaller deficits than in the Trustees Reports, even though CBO used the Trustees Report population projections in their entirety through 2010. Starting in 2013, CBO has used much more pessimistic demographic and economic assumptions, and the size of the actuarial deficit projected by CBO has been larger than that projected in the Trustees Report. Where CBO's projected actuarial deficit in 2004 was only half of that in the Trustees Report, CBO's projected deficit for 2016 was nearly double that in the Trustees Report.

It is worth noting that Social Security cost, income, and the projected shortfall under current law may also be looked at as a percent of Gross Domestic Product (GDP), and the Trustees Reports provide these values. These values are useful for comparing Social Security finances to other federal operations in the unified budget context. However, when considering "solvency" for Social Security, estimates as percent of taxable payroll are the most relevant and informative because the vast majority of revenue for the program derives from the payroll tax, and not from taxes more related to GDP. Because taxable payroll is about 35 percent as large as GDP, Social Security estimates expressed as a percent of GDP are measured to be about one third as large as when expressed as a percent of taxable payroll.

In addition to the summarized actuarial balance for the 75-year projection period, it is important to consider the size of annual shortfalls in the more distant years. These more distant shortfalls are critical in determining what changes to the program will be needed in order to pay scheduled benefits on a timely basis. The figure below compares the annual balance for the year 2080 projected for Trustees Reports and by CBO since 2002. It is worth noting that annual balances

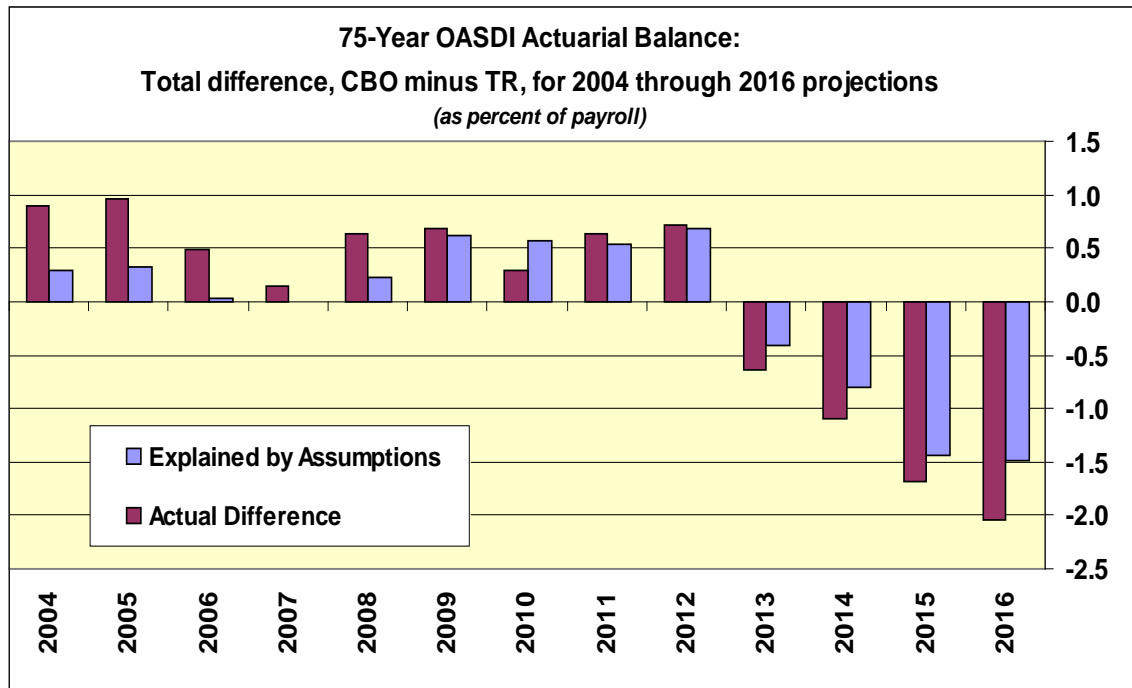
are unaffected by interest rates, which are largely irrelevant for a program financed on a pay-as-you-go basis.



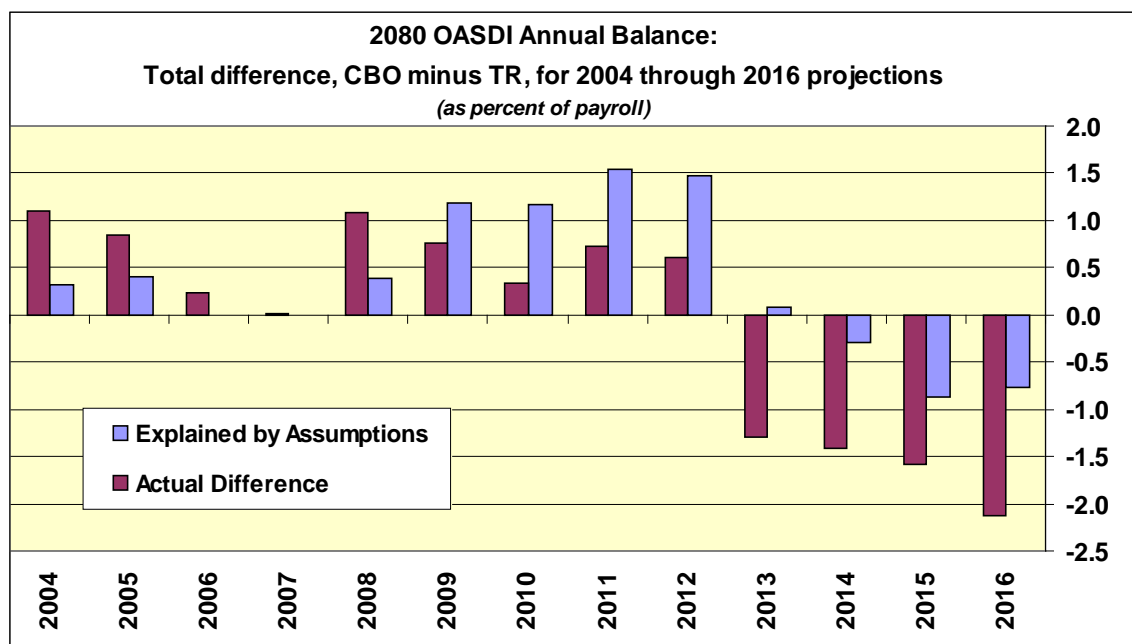
In Trustees Reports since 2002, projected annual deficits for 2080 that have generally decreased, reflecting evolving experience. Like the summarized actuarial deficits, annual deficits projected by CBO were smaller than those projected for the Trustees Reports through 2012, but have become progressively larger since 2013.

### Explaining the Differences between Trustees Report and CBO Projections

Based on CBO's published demographic and economic assumptions starting in 2004, we have used our sensitivity analyses to estimate how different projections for the Trustees Reports would have been if we had adopted CBO's assumptions. The red bars in the figure below show the actual difference in the actuarial balance estimated by CBO compared to that estimated for the Trustees Report. The blue bars show the amount of the difference we are able to explain based on our assessment of known assumptions. We do not expect to produce a full explanation of the differences, as we are unclear on the way some assumptions have been implemented in CBO's model. In addition, CBO's model is structurally different from the model we use for the Trustees Reports. As mentioned above, early CBO projections produced much lower benefits and thus lower deficits. This difference is not included in the blue bar for the early CBO projections, because we do not have a definitive sense of the effect. We do know that the difference in benefits appears to have diminished, or has been offset by other methods changes, so that we have largely explained the differences in actuarial balance for 2009 through 2012.



Starting in 2013, when actuarial deficits projected by CBO began to exceed those in the Trustees Reports by an increasing margin, we have not had as much success in explaining the differences. Therefore, we conclude that there have been changes in CBO's model that we are unaware of, or implementation of assumptions different from our understanding, that are resulting in larger increases in CBO-estimated actuarial deficits.





The differences between CBO's projections and our projections for annual balances for 2080 are even more difficult to explain. The pattern is quite different from that for the 75-year actuarial balances. For the 2080 annual balance, we explain too much positive balance for CBO relative to Trustees Reports for years 2009 through 2012, but far less of the excess CBO annual deficits projected in 2013 through 2016. This suggests that there is a substantial methodological factor in CBO's projections since 2009 that is more pessimistic than for our projections.

### **Differences We Can Explain**

The increase in 75-year actuarial deficits projected by CBO starting in 2013 is striking. Three demographic assumptions and three economic assumptions explain most of this increase.

In 2013, CBO stopped using Trustees Report mortality assumptions and began making their own assumptions. For the 2013 through 2015 projections, CBO reports that they assumed a roughly 1.2 percent annual rate of decline in death rates for all ages. This is dramatically different from historical experience and from the Trustees Report assumptions. In 2016, CBO modified their mortality assumptions, coming much closer to Trustees Report effects on actuarial balance, but roughly offset this effect by lowering their assumed birth rate to a level of 1.9 children per woman, below the 2.0 assumed for the Trustees Report. CBO also increased their disability incidence assumptions in 2013 and their net immigration assumptions in 2011, with partially offsetting effects on the actuarial balance. In 2016, CBO lowered their disability incidence assumption back to the level in the Trustees Report. One additional demographic factor that influences Social Security cost, differential mortality across individuals by their level of lifetime earnings, appears to be reflected in both models with roughly equal effect.

However, three changes in economic assumptions had an even larger combined effect. CBO's projected employment rates, and more specifically labor force participation rates, are far lower than recent experience and than the projections for the Trustees Reports. CBO has also assumed much more concentration of earnings for the top few percent of earners in their 2015 and 2016 projections. In addition, CBO has lowered the real interest rates assumed for trust fund reserve investments from over 3.0 percent through 2013 (higher than the Trustees Reports) to much lower rates starting in 2014. CBO's assumed real interest rates are considerably lower than long-term past experience and Trustees Report assumptions.

The table below identifies our estimates of the effects of differences in identifiable assumptions for the projections of actuarial balance presented in the 2015 and 2016 reports. For 2015, CBO's projected actuarial balance was 1.69 percent of payroll more negative than the projection in the Trustees Report. For 2016, CBO's projected actuarial balance was 2.04 percent of payroll more negative, nearly doubling the Trustees report actuarial deficit of 2.66 percent of payroll.

Four of the six differences in assumptions mentioned above are highlighted in the table below as particularly important determinants of the difference in estimated actuarial balance. These are

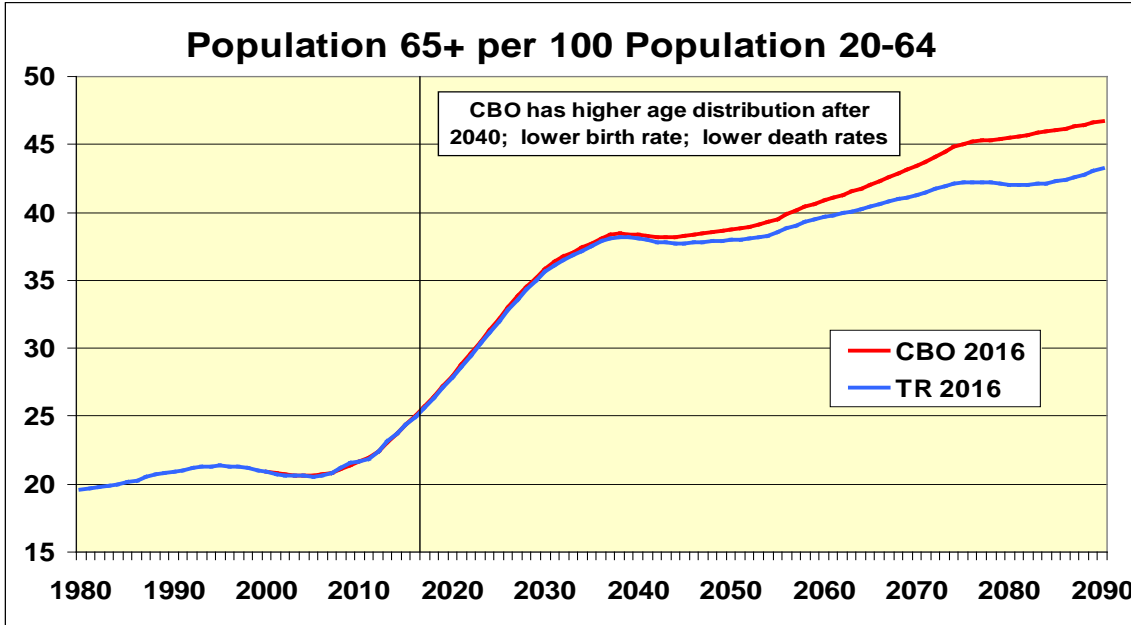
fertility, mortality, labor force/employment, and the effect on the “taxable ratio” of increased concentration of earnings for the highest earners. In both the 2015 and 2016 projections, these four assumptions account for 75 percent of the actual difference between the CBO and Trustees Report projections of actuarial balance. The remaining difference is largely attributed to unexplained model differences.

### Difference in Actuarial Balance: CBO Minus TR

	<u>2016 Projections</u>		<u>2015 Projections</u>	
	<u>percent of taxable payroll</u>	<u>percent of difference</u>	<u>percent of taxable payroll</u>	<u>percent of difference</u>
Total difference	-2.04	100%	-1.69	100%
Fertility	-0.23	11%	0.04	-2%
Mortality	-0.14	7%	-0.41	24%
Immigration	0.12	-6%	0.09	-5%
Real earnings growth	0.00	0%	0.05	-3%
CPI inflation	-0.04	2%	-0.07	4%
Unemployment rate	0.06	-3%	0.02	-1%
Real Interest rate	-0.16	8%	-0.25	15%
Disability incidence	0.00	0%	-0.05	3%
Differential mortality	0.00	0%	0.00	0%
Labor Force/employment	-0.60	29%	-0.52	31%
Taxable ratio	-0.57	28%	-0.39	23%
Taxation of benefits	0.07	-3%	0.07	-4%
Other, methods?	-0.55	27%	-0.26	15%

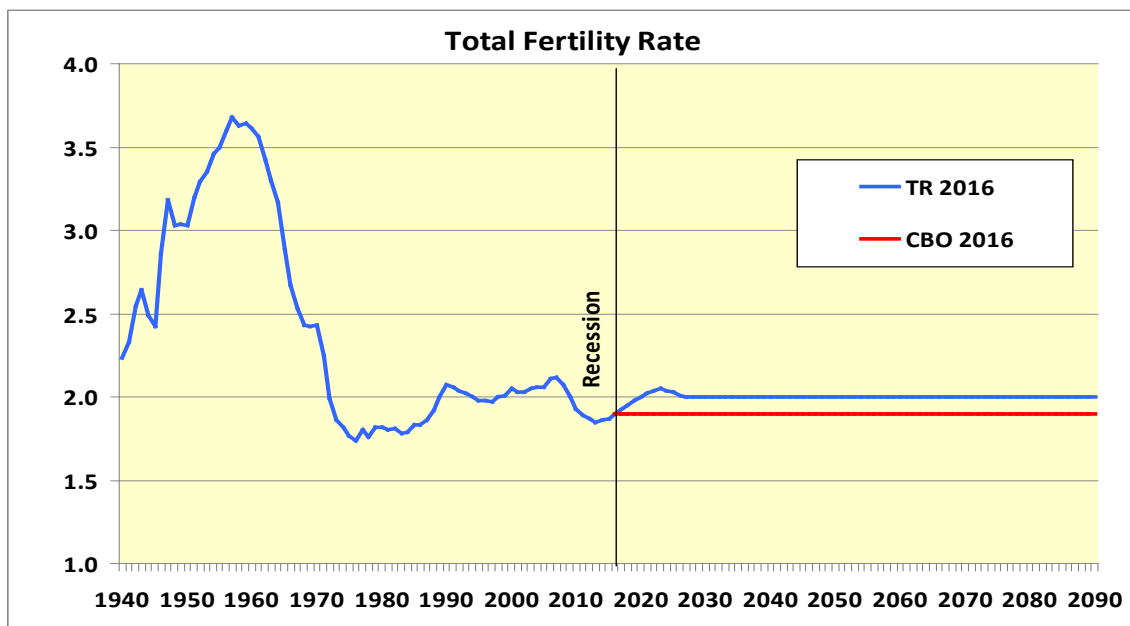
### Demographic Assumptions

One effective way to compare the implications of differences in demographic assumptions for the cost of Social Security is by considering the resulting age distribution of the population. A common proxy for the full age distribution is the “aged dependency ratio,” which is the ratio of the population age 65 and over to the population at ages 20 through 64. This ratio of beneficiary-age to working-age population is a good indicator of demographic effects on the cost of the program as a percent of the taxable payroll.

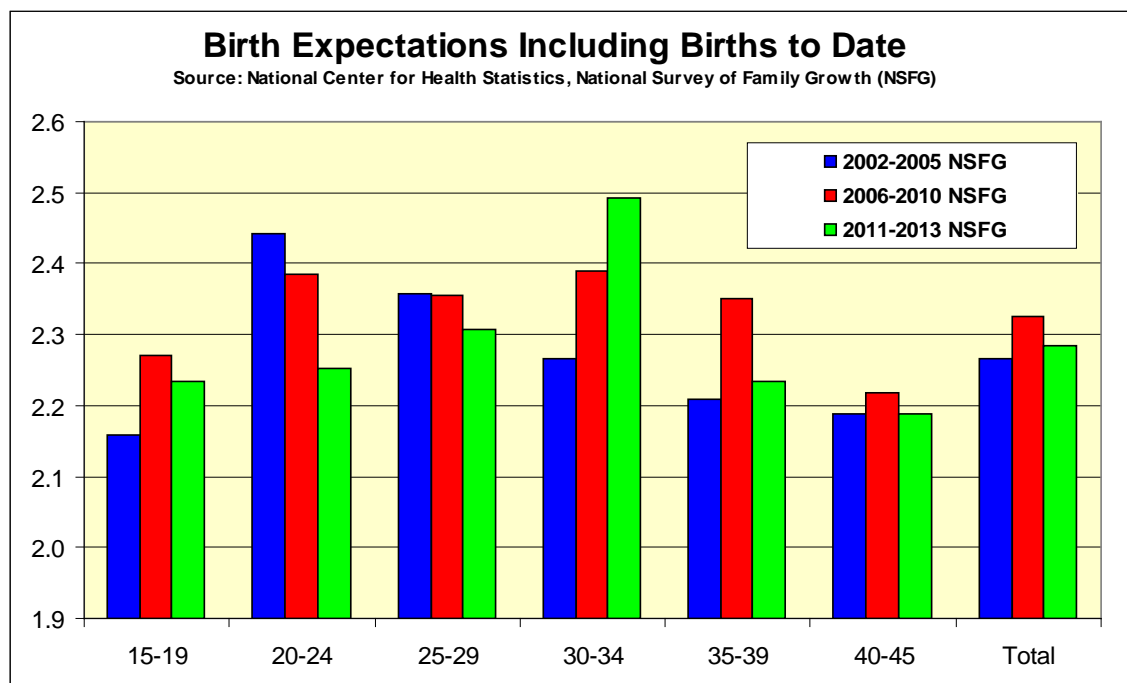


The figure above shows that for the 2016 projections, the combination of CBO’s fertility, mortality, and immigration assumptions yields a very similar age distribution through about 2040 compared to our projections. After 2040, however, CBO’s age distribution becomes much more weighted to individuals over age 65. This is consistent with lower birth rates and lower mortality.

The figure below illustrates the reduced total fertility rate (TFR) assumed by CBO starting with their 2016 projections. In particular, we note the dip in the TFR experienced in the recent recession, which CBO assumes will be permanent. This is in contrast to the prerecession period 1990 through 2008, when the TFR averaged above 2.0.



Surveys of women between ages 20 and 45 conducted periodically by the National Center for Health Statistics (NCHS) continue to indicate that women intend to have more than 2 children, on average, over their lifetime. This strongly suggests that the dip in birth rates during the recent recession may represent a temporary reduction, as opposed to a permanent reduction, in the TFR.

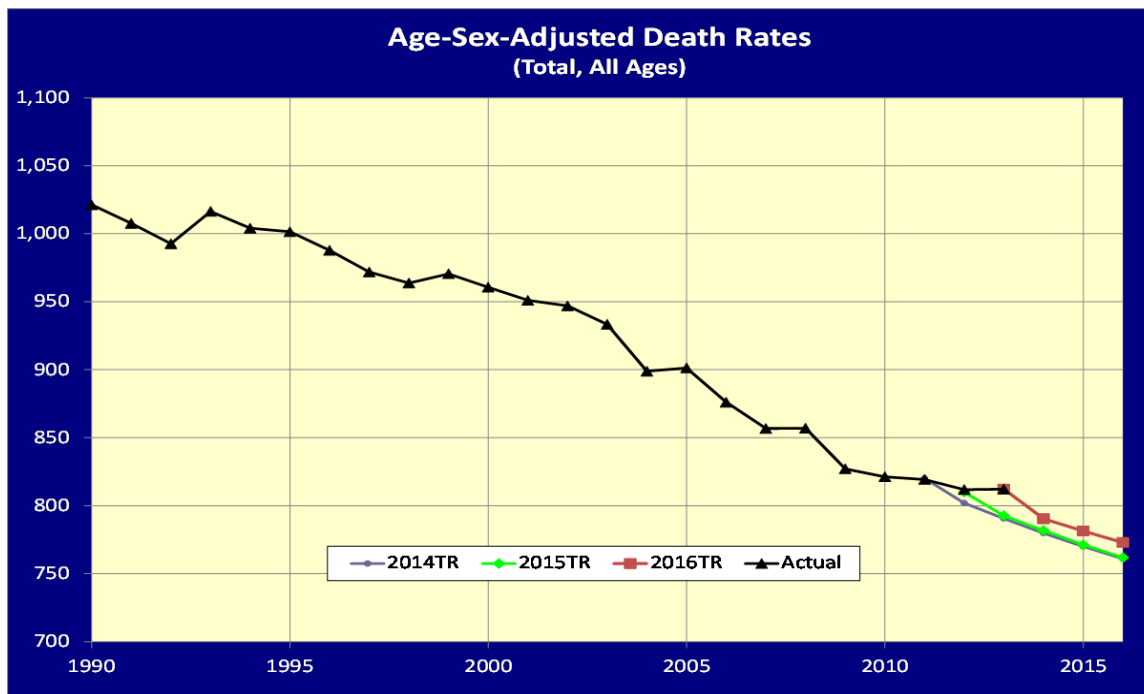


## **Mortality**

Mortality assumptions have been the subject of enormous discussion and controversy. Over long periods of time, death rates have declined rapidly at certain times and slowly at other times. The Office of the Chief Actuary recently published an actuarial note ([https://www.ssa.gov/OACT/NOTES/pdf\\_notes/note158.pdf](https://www.ssa.gov/OACT/NOTES/pdf_notes/note158.pdf)) that provides a comprehensive look at competing views. For Trustees Reports, we have always taken a long-term view of mortality improvement, setting ultimate rates of reduction based on expected future conditions. Our approach considers medical advances and spending, behavioral aspects of our population, and the historical persistent fact that death rates have declined much faster at younger ages than at older ages. Our approach has stood the test of time: the projected improvement from 1980 to 2010 in unisex life expectancy at age 65 that was included in the 1982 Trustees Report (the baseline used for development of the 1983 Social Security Amendments) has been realized almost exactly. Going forward, we project a continued “age gradient” in mortality improvement, but with a somewhat diminished difference between younger and older ages.

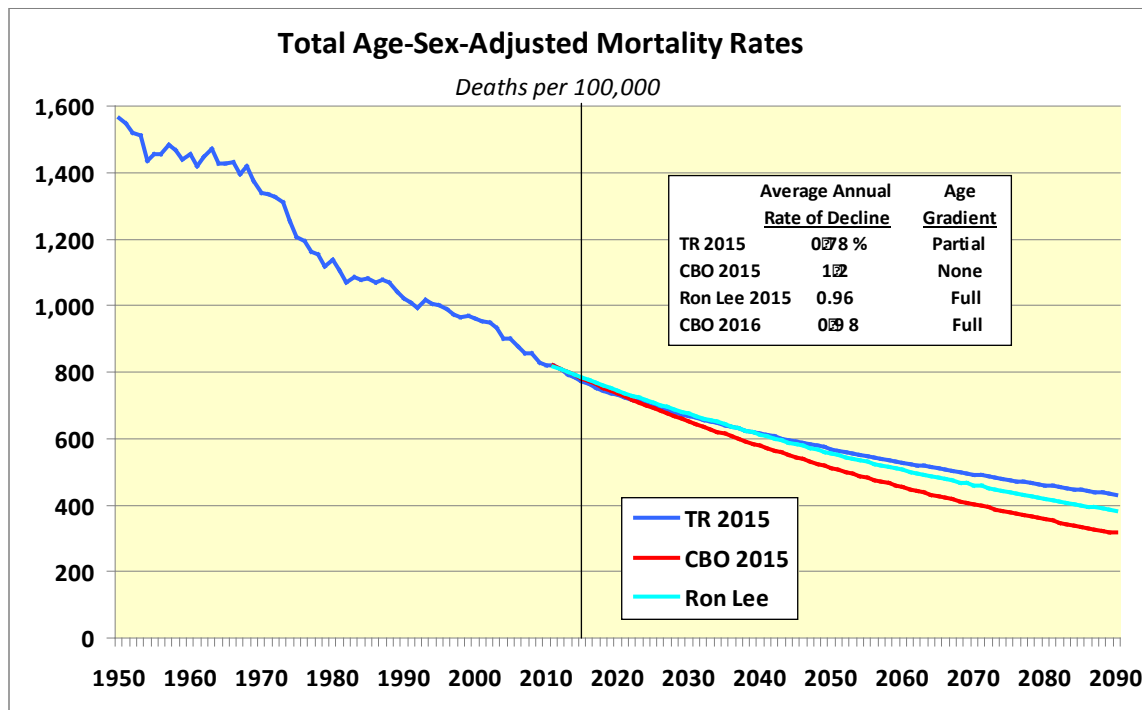
In 2013, CBO for the first time diverged from our mortality projections. CBO assumed a very high rate of improvement overall and applied this rate for all ages. CBO's approach produced slower mortality declines at younger ages and faster declines at older ages. Both of these changes increase the aged dependency ratio and the cost of the program as a percent of payroll.

Since 2009, mortality rate improvement has slowed markedly, resulting in small changes in the 2015 and 2016 Trustees Report mortality rate projections, as seen in the figure below.



Recently, noted demographer Ronald Lee made a new projection of future mortality rates, using for the first time the Medicare data for ages 65 and over. The Medicare data are universally accepted as the most accurate death rate data available. Lee fitted death rates to historical experience from 1950 through 2011 using his “Lee and Carter” method, which essentially assumes that mortality will decline at the same rate in the future as it has in the past, for each age and sex. As Actuarial Note 158 indicated, using Lee’s new projection resulted in the same overall Social Security actuarial status over the 75-year projection period as does our mortality projection. Lee’s method extrapolates a faster overall rate of decline, effectively assuming that the positive experience seen over the last 50 years, including the effects of dramatic health spending growth and the startup of Medicare and Medicaid, will be replicated in the future. His method also assumes that there will be no deceleration in mortality improvement in the future. However, these presumptions are offset by his method’s maintaining the same large age gradient in mortality of the past for the future. Overall, we believe that a slight decelerating rate of improvement in mortality with a lessened age gradient is the most likely scenario for the future.

As seen in the figure below, CBO's 2015 projections assumed a much faster rate of decline in mortality. (The same was true for their 2013 and 2014 projections.) However, recognizing the recent slowdown in mortality improvement, and the importance of the age gradient, CBO changed their mortality projection for 2016 to be close to what Ron Lee has produced. Again, while the new CBO projection has a faster overall rate of decline, it has a much larger age gradient than the projections for the Trustees Report. Overall, the 2016 difference in the CBO and Trustees aged dependency ratio and the cost of the program due to mortality assumptions is assumed to be much smaller than in 2015.

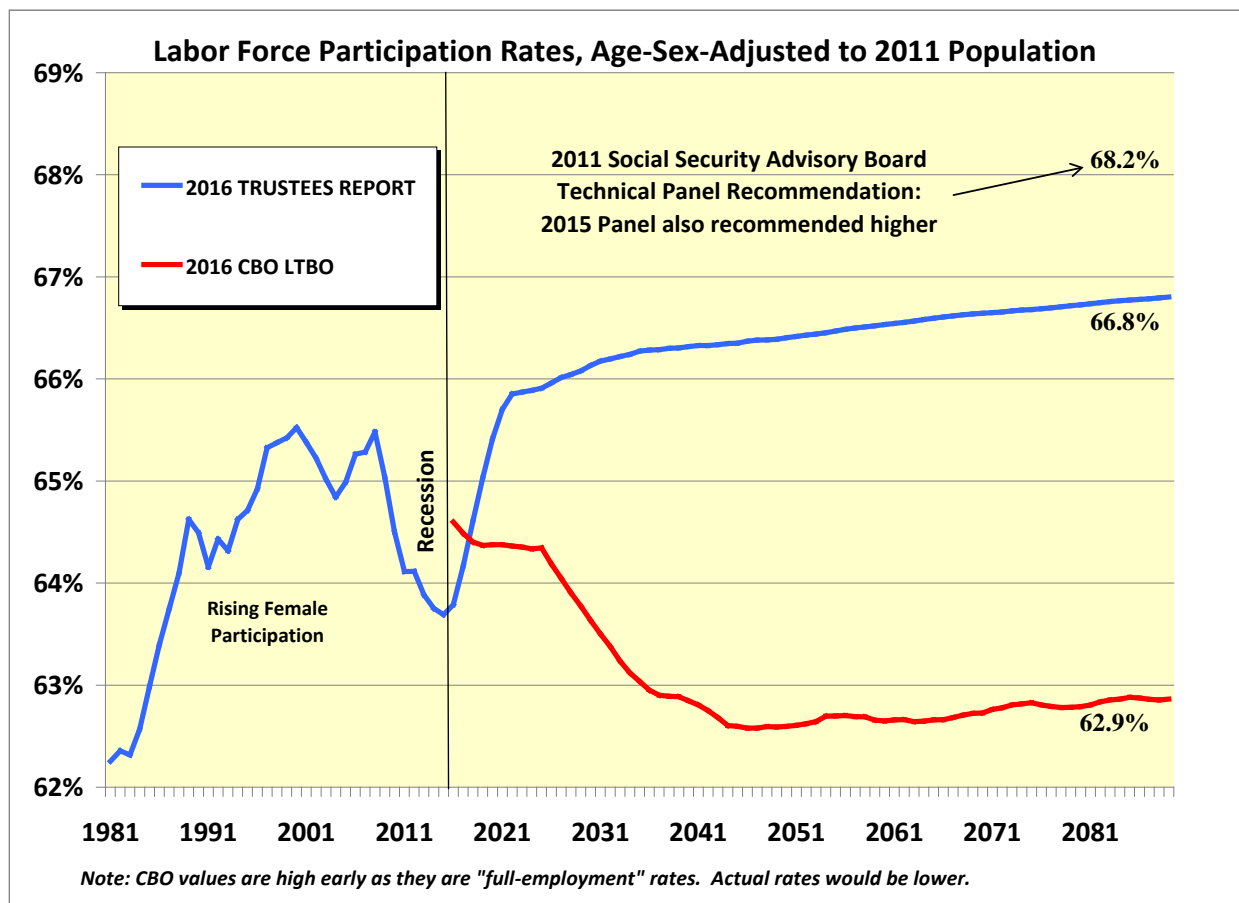


The 2015 Technical Panel appointed by the Social Security Advisory Board recommended that the Trustees retain the age gradient and the cause-specific mortality rates, but that we increase the average rate of decline to 1 percent. As mentioned above, after seeing the recent historical data, the chairperson of the panel stated that it is good that the Trustees did not follow the panel's recommendation for faster mortality reduction in the future.

## Economic Factors

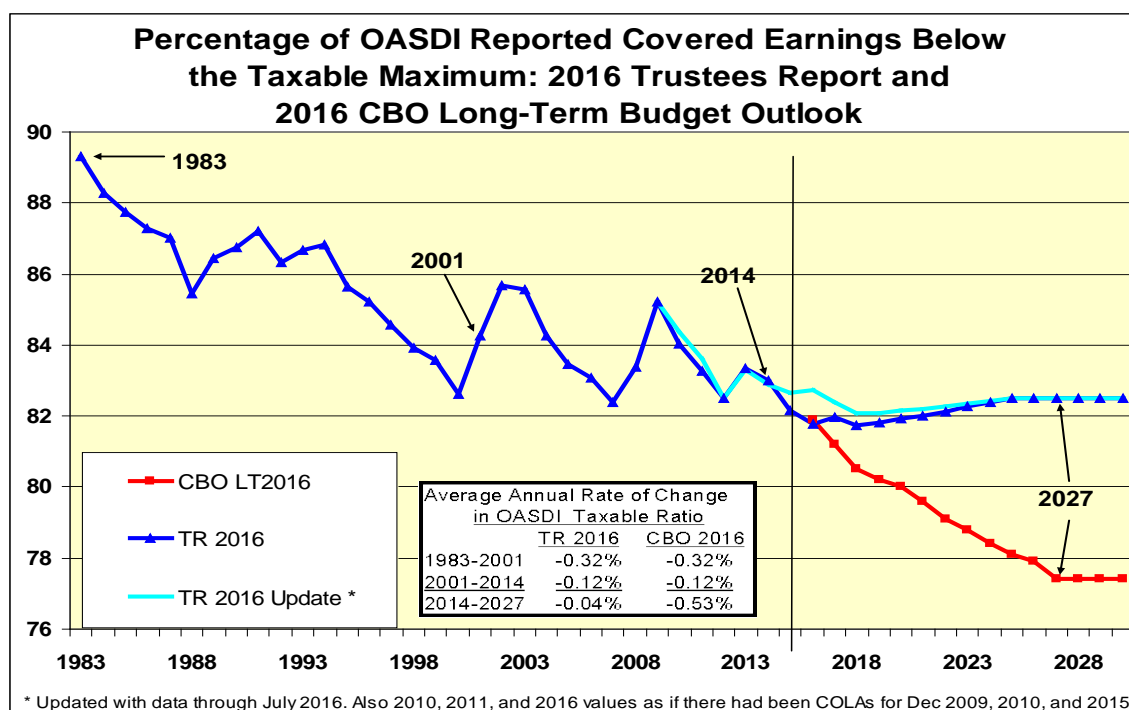
Projections of employment, and particularly labor force participation rates (LFPRs), are a source of substantial difference between CBO and the Trustees Reports. The recent extraordinary recession resulted in large reductions in employment and LFPRs, from which we have only begun to recover. The figure below shows historical and projected age-sex-adjusted LFPRs from the 2016 projections. CBO projections shown are for "full-employment" conditions as "actual" LFPR were not available from CBO at this time. By 2030, CBO values likely match their actual.

CBO projects little recovery from the recession with a steady decline in LFPRs to levels not experienced since the early 1980's, before women fully participated in the labor force. The Trustees Report includes projections with LFPRs basically recovering to prerecession levels and then rising very gradually after 2020, reflecting the assumed increasing health, longevity, and ability to work by the population over age 65 in the future. We note that the 2011 Technical Panel recommended even higher ultimate LFPRs. The 2015 panel also recommended higher LFPRs than assumed for the Trustees Reports. We continue to believe that the more conservative assumptions used in the Trustees Report are the most reasonable assumption at this time.



The second economic factor that contributes to the CBO's higher cost for Social Security is the difference in earnings growth between high earners and low earners. Since 1983, there has been a substantial increase in the concentration of earnings in the top few percent of workers.

Because annual earnings subject to the Social Security payroll tax for each worker are limited to \$118,500 in 2016, the top 6 percent of earners do not pay any tax on their earnings above this level. The increasing concentration at the top has reduced the percent of all covered earnings that are taxable from over 89 percent in 1983 to about 83 percent in 2014.

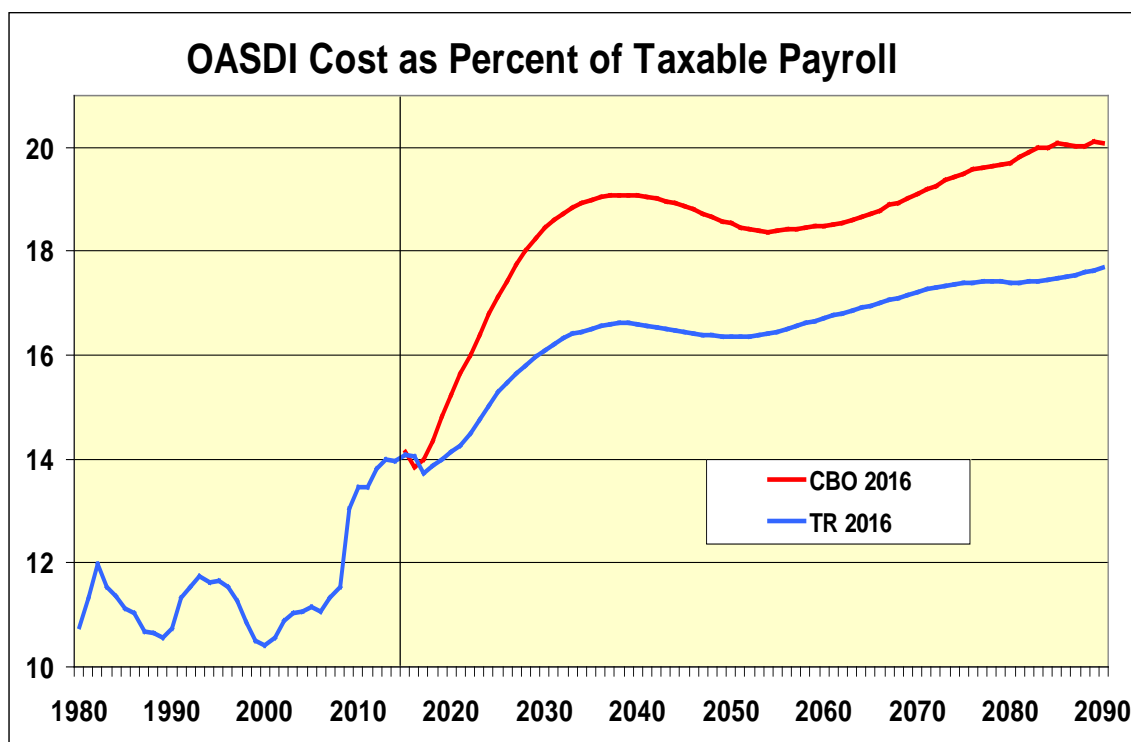


Fortunately, the rate of increase in such concentration has been decreasing. Between 2001 and 2014, the rate of decline in the percent of earnings taxable dropped to only one-third of the rate observed between 1983 and 2001. For the Trustees Report, we assume this deceleration will continue, with the rate of change in the taxable percentage declining between 2014 and 2027 at one-third the rate experienced from 2001 to 2014. However, CBO assumes a significant reacceleration in the concentration of earnings for the highest earners, with a rate of decline in the taxable percentage from 2014 to 2027 of almost double the rapid rate between 1983 and 2001, and over four times the rate experienced between 2001 and 2014. We do not expect that conditions over the next 11 years would result in this dramatic increase in the concentration of earnings for the highest earners.



### **Result: 2016 Trustees vs. CBO Cost Rate Projections**

The result of the differences in demographic and economic assumptions described above, plus the unexplained differences likely related to model structure, is a sharp and immediate rise in the CBO projected Social Security cost as a percent of taxable payroll, well above the level projected in the Trustees Report.



As seen above, the differences in demographic assumptions cause the CBO aged dependency ratio, and thus the cost as a percent of payroll, to exceed our projections after about 2040. The striking and increasing difference in the cost rate that occurs between 2016 and 2040 is largely the result of CBO's drop in LFPRs and increase in the concentration of earnings for the highest earners.

It is worth noting that differences in mortality by earnings and benefit level appear to be reflected similarly in the CBO and Trustees Report projections. This is also true for disability incidence rate assumptions, which CBO reduced for their 2016 projections, matching the assumptions used for the Trustees Report.

## **Conclusion**

An accurate estimate of Social Security's solvency challenge will be critical for lawmakers in the upcoming discussions on how to best address the program's financing shortfall. Since 1941, the Trustees Reports have provided the Congress, the Administration, and the American people carefully developed projections. These projections have proven to be reliable, consistent, transparent, and reflect the latest data and expectations incrementally. The Trustees Report projections have been subject to immense oversight, scrutiny, and care in preparation.

The 2016 Trustees Report projects an actuarial deficit of 2.66 percent of payroll. Lawmakers need to make changes by 2034 that provide: (1) 33 percent higher revenue, (2) 25 percent lower scheduled benefits, or (3) some combination of these changes. I and all in the Office of the Chief Actuary look forward to continued work with you and your staffs on developing options for consideration to best address that solvency challenge.

Please note that the 2016 and all prior year's Trustees Reports are available at <https://www.ssa.gov/oact/pubs.html>, along with a wide variety of additional actuarial analysis related to the reports, and to changes policymakers have considered for making adjustments to the program.

Again, thank you for the opportunity to talk about the actuarial status of the Social Security program. I will be happy to answer any questions you may have.

**Social Security's Solvency Challenge:  
Estimates for the Annual Trustees Reports  
and by CBO, 2002 through 2016**

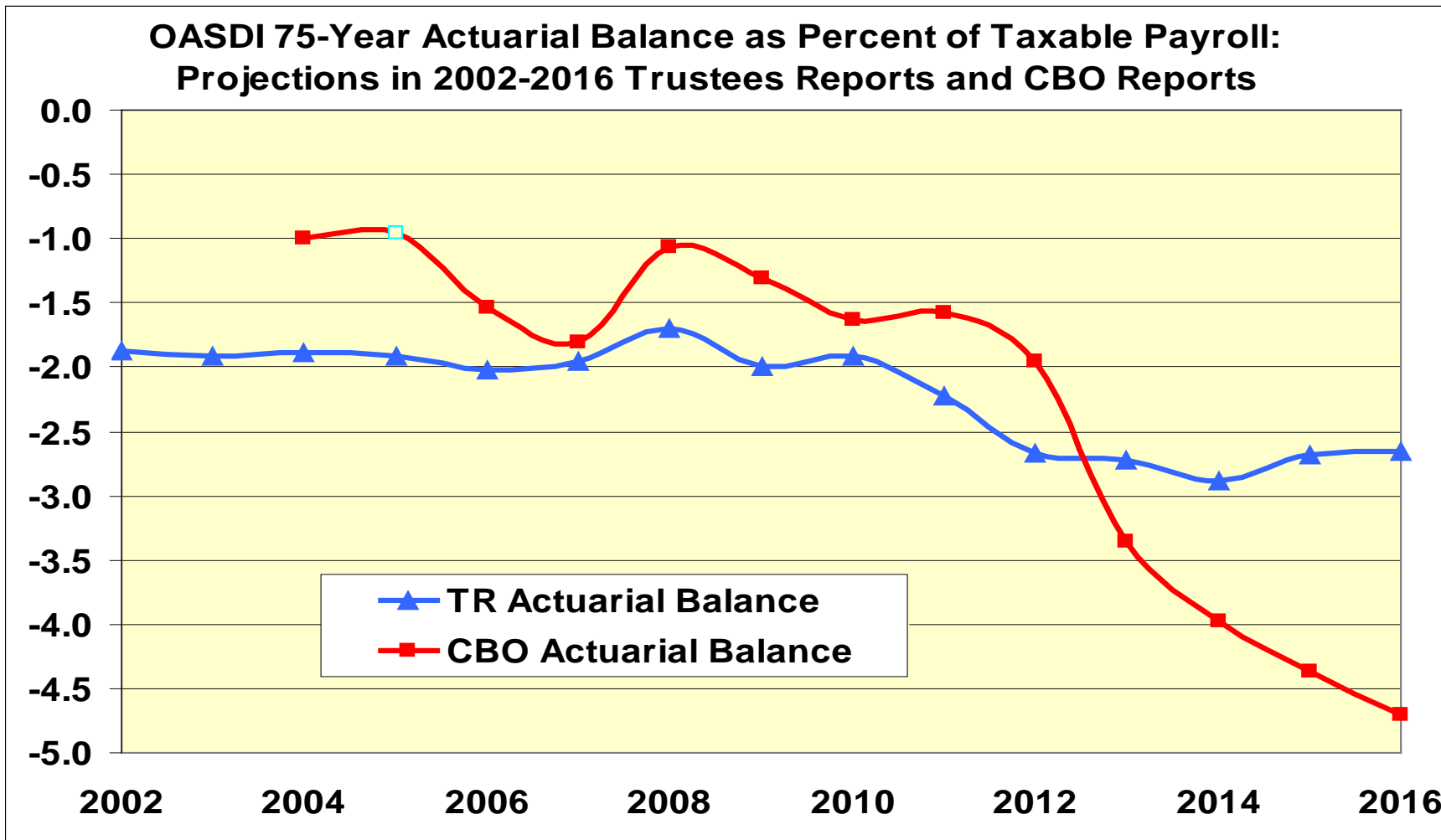
**Office of the Chief Actuary  
Social Security Administration**

# Baseline

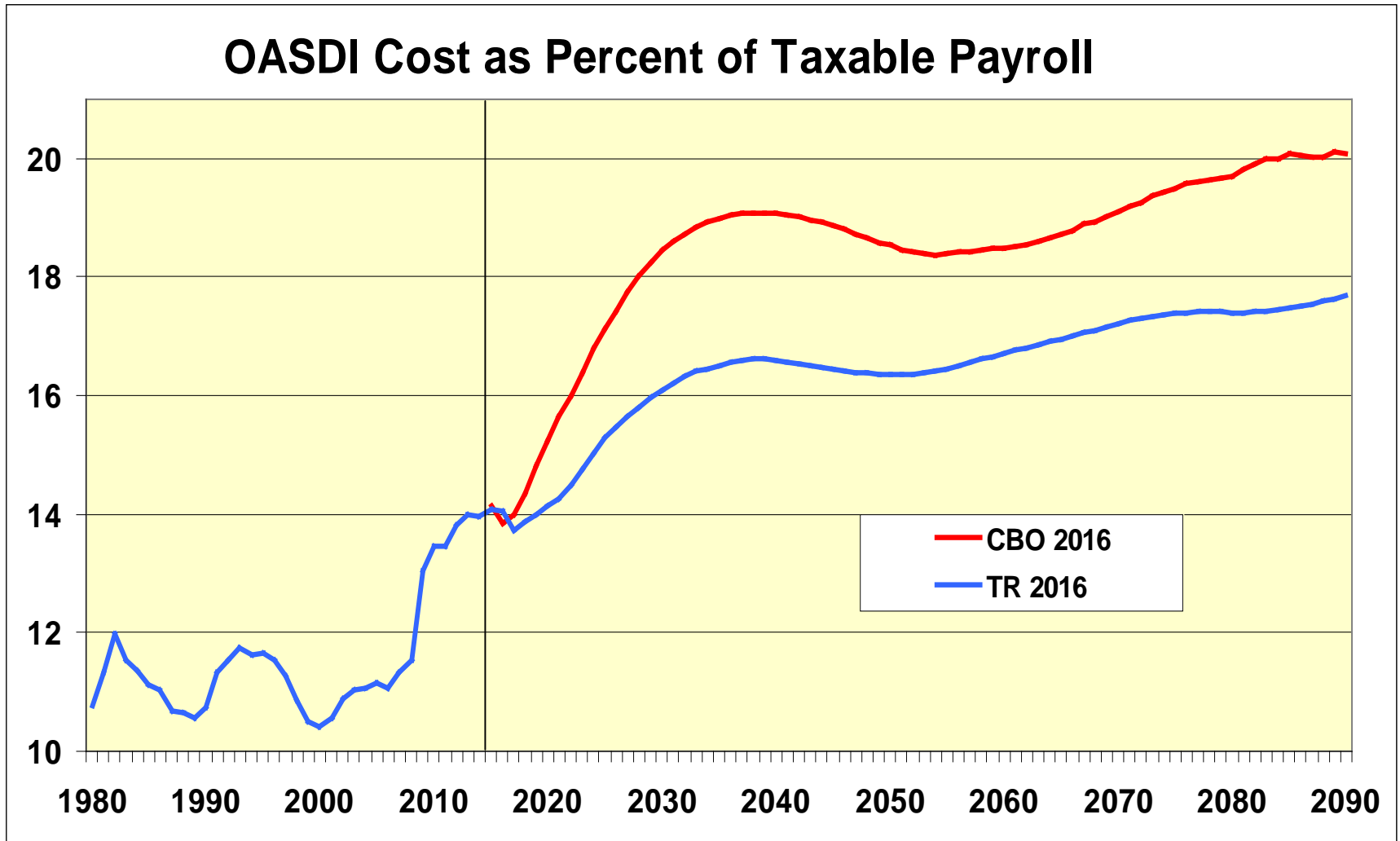
- Actuarial projections started before 1935
  - Critical to lawmakers at the start, and now
- Annual Trustees Reports each year 1941-2016
  - “Actuarial status” required by law: *75-year projections*
    - Our office has 45 actuaries and demographers
    - And 8 economists and statisticians
  - Trustees Report process: *what our office does*
    - We propose assumptions, develop methods, draft reports
    - Actuarial opinion required by law in the report
  - Transparency: *technical panels, full-scope audit, share all*
  - Incremental change: *stability essential for lawmakers*

# Estimating the solvency challenge: Trustees Reports have been consistent.

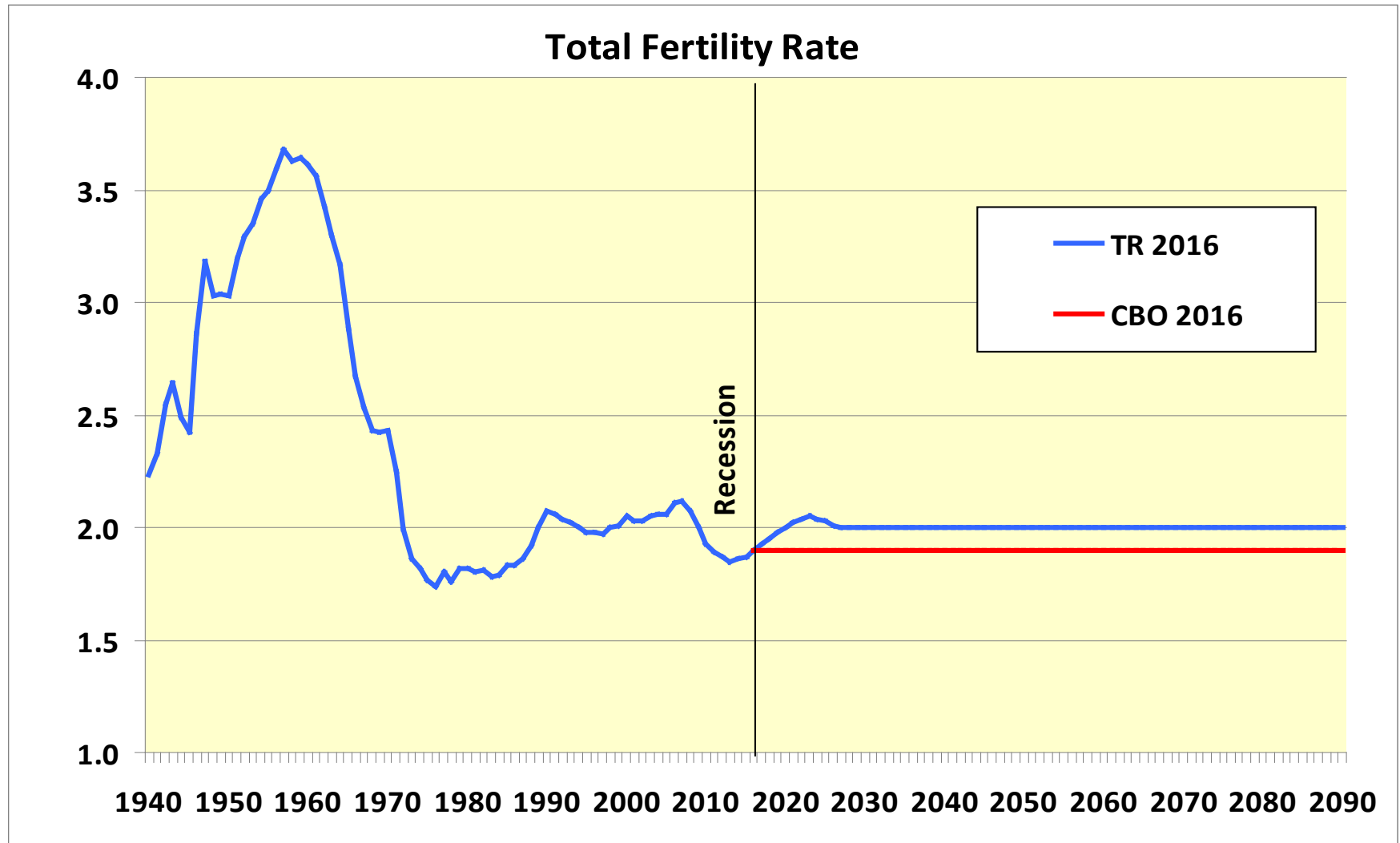
*Changes should be incremental.*



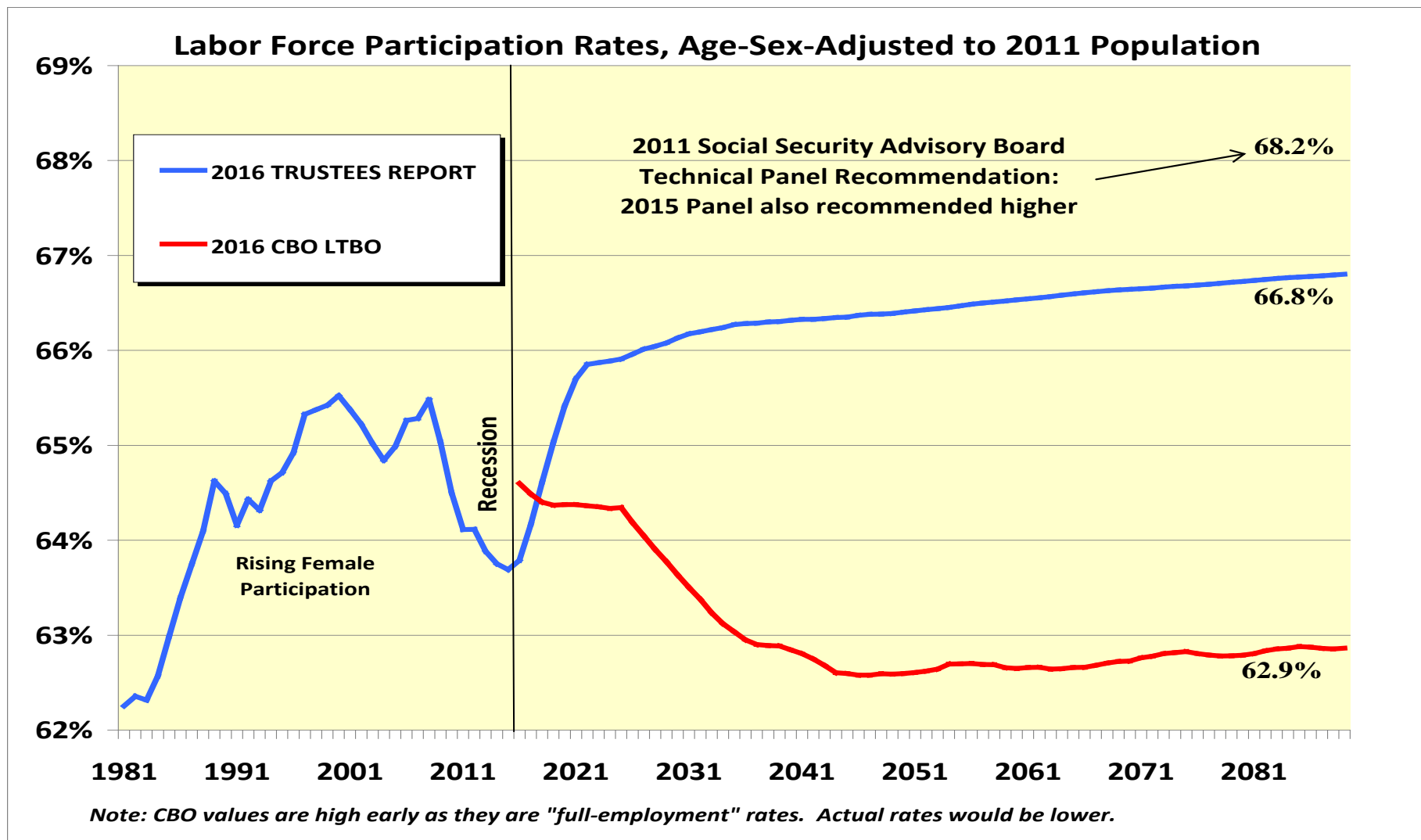
# Currently, 4 main reasons CBO projects higher cost: *births, employment, inequality, other.*



# Birth rates: Birth expectations consistently above 2 children per woman through 2013.

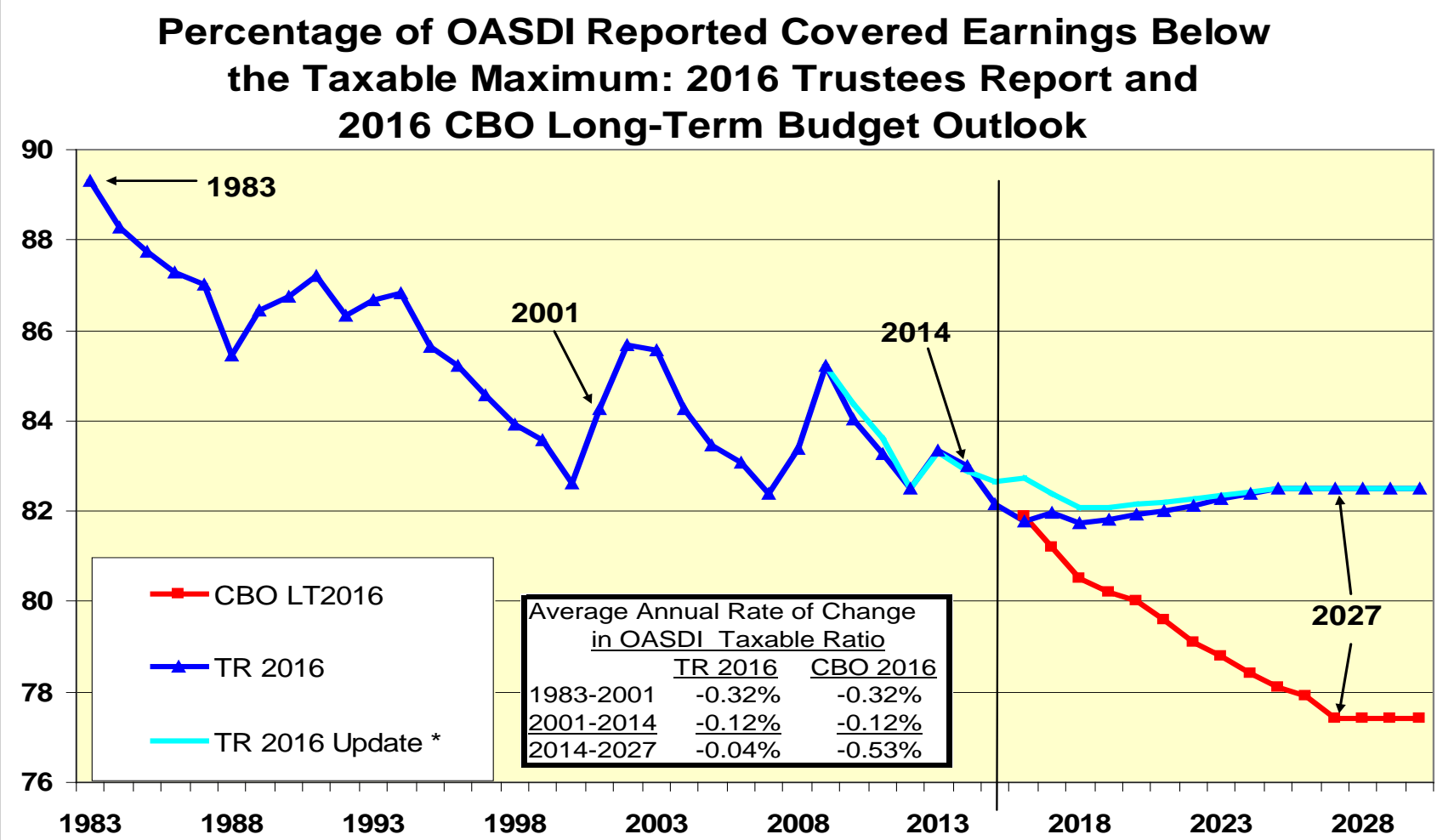


# Labor force participation: CBO never recovers, and goes much lower in the future.





**Earnings concentration at the top has decelerated since 2001. TR continues deceleration. But CBO assumes acceleration to nearly double the pace seen from 1983 to 2001.**



\* Updated with data through July 2016. Also 2010, 2011, and 2016 values as if there had been COLAs for Dec 2009, 2010, and 2015

# Conclusion

- Social Security's solvency challenge
  - Size of shortfall is critical for lawmakers
  - Trustees Reports since 1941
  - Reliable, consistent, transparent, incremental
  - Immense oversight, scrutiny, and care
- 2016 Trustees Report
  - Actuarial balance is -2.66 percent of payroll
  - Lawmakers need to make changes by 2034
    - 33 percent higher revenue, or
    - 25 percent lower scheduled benefits, or
    - A combination of these changes



**SOCIAL SECURITY**  
Office of the Chief Actuary

November 1, 2016

The Honorable Sam Johnson  
Chairman, Subcommittee on Social Security  
Committee on Ways and Means  
House of Representatives  
Washington, DC 20515

Dear Mr. Johnson:

Thank you again for the opportunity to testify before the Committee on Ways and Means, Subcommittee on Social Security at the September 21, 2016, hearing on “Social Security’s Solvency Challenge.” It is always a pleasure working with you, Amy Shuart, and everyone associated with the Subcommittee. I hope the information that I provided at the hearing will be helpful. Below I have restated the seven questions you sent to me on October 5, 2016, and have provided answers.

- 1. In your testimony you mention that the Trustees make gradual changes to assumptions and do so only after there’s “compelling evidence” for the change. What does it take for something to be “compelling evidence?”**

Thank you for the opportunity to clarify. Of course, we update our projections every year with all data available since the previous report. This often results in small changes in near-term assumptions over the first 5 or 10 years of the projection period. A 10-year window is generally used for budget estimates. However, a single year’s new data is seldom compelling as a basis for a change in the long-term or ultimate assumptions used for periods between 10 and 75 years into the future. These longer time horizons must be considered in assessing the actuarial status of the Social Security and Medicare Trust Funds. We have historically made significant changes in Trustees Report ultimate assumptions only when there has been a fundamental change in the long-range outlook for a particular parameter, based on accumulating experience that differs from the past and an understanding of changes in conditions that are expected to persist into the future. One example is the drop in the birth rate in the United States after 1965, when birth control became widely available and women participated much more in higher education and the workforce. This has proven to be a structural change in our society and Trustees Report ultimate assumptions reflect this. In other cases, experience can change temporarily due to cyclical conditions, like an economic recession or a recovery. Again, birth rates provide a good example. The birth rate has dropped somewhat in the recent

economic downturn, well below a level consistent with expectations of women in national surveys. In a case like this, a Trustees Report ultimate assumption is generally not modified unless the changed experience extends, and a rationale becomes evident for believing that the change will be permanent.

- 2. The Trustees and the Congressional Budget Office (CBO) are looking at the same, or at least very similar, historical data on earnings growth, but come to very different conclusions about the share of earnings that will be subject to payroll taxes. Can you please explain why this is? Please also provide the dollar values equivalent to 90% of covered earnings for each of the next 10 years.**

We monitor growth in average earnings levels and the distribution of earnings very closely. We determine the growth in average wage levels in the U.S. economy annually in order to update several program parameters, like the taxable maximum level of earnings covered under the program. As indicated in my testimony, the percentage of OASDI covered earnings that is below the taxable maximum has fallen between 1983 and 2001, from 89.3 percent to 84.3 percent. The ratio of taxable to total covered earnings declined at a rapid rate of 0.32 percent per year over this period. However, between 2001 and 2014, this ratio dropped from 84.3 to 83.0 percent, declining at a much slower rate of 0.12 percent per year. The overall drop in this ratio over the past 31 years (1983 to 2014) has been large, but slowing. We believe that this trend will continue to slow, with the ratio reaching 82.5 percent by 2027, declining at a slower rate of 0.04 percent per year. We believe that there is a limit to the degree to which earned income will be concentrated in only the top six percent of workers – in other words, workers who earn more than the taxable maximum amount (\$118,500 for 2016, and \$127,200 for 2017). CBO, on the other hand, assumes that concentration of earnings will accelerate to a pace not seen in the past. CBO projects a ratio of about 77.4 percent by 2027, for an average annual rate of decline of 0.53 percent, or nearly twice the rate of decline experienced from 1983 to 2001.

Under the intermediate assumptions of the 2016 Trustees Report, we project the dollar values for the annual taxable maximum amounts that would be needed to have 90 percent of covered earnings subject to the OASDI payroll tax for years 2016 through 2025 are \$269,700, \$282,900, \$295,800, \$307,800, \$318,900, \$330,000, \$339,300, \$347,700, 356,400, and \$365,400, respectively.

- 3. The Social Security Advisory Board periodically convenes a Technical Panel to examine the Trustees' assumptions and methods. The Technical Panel then publishes a report with detailed recommendations for changes. These panels have consistently called for the Trustees to increase assumptions about life expectancy. However, the Trustees have not followed this recommendation. In general, how is the decision made about whether or not to accept the Technical Panels' recommendations? What is the process for determining which of the Technical Panel's recommendations to follow? Specifically, why have the Trustees not adopted the Technical Panel's life expectancy recommendations?**

Our recommendations to the Board of Trustees and their selections reflect careful consideration of information from all sources at our disposal. Technical Panels appointed by quadrennial Advisory Councils through 1996 and more recently by the Social Security Advisory Board are one of these sources. In the area of mortality analysis and projection, we work closely with medical professionals, biologists, medical researchers, and demographers. Recent Technical Panels have included demographers who model past trends and tend to assume that future trends will be similar to those in the past. Medical clinicians and researchers, as well as biologists, tend to take a different approach, by considering what advances have led to mortality improvement in the past and contemplating what advances are currently in process or are expected for the future.

In addition, biological considerations suggest that increases in life expectancy cannot continue at the pace that they did in the 20<sup>th</sup> century, because human beings are inherently subject to certain physiological limitations. For example, with all the advances in medicine, public health and safety, nutrition, and understanding of healthy human behavior, there is still no record of any person living beyond age 122. We believe that progress will continue and more people will approach this very high age, but it is unlikely that a significant number of people will live beyond that point. In the absence of dramatic breakthroughs that could stop or reverse the aging process, we agree with many biologists that the rate of decline in mortality will slow in the future.

The 2015 Technical Panel recommended retaining use of different rates of decline in mortality by age, and projecting by cause of death, as has been used for the Trustees Reports for many years. However, the panel did recommend a faster overall rate of decline than assumed in the Trustees Reports, suggesting a rate equivalent to the average rate experienced since about 1950. We believe that over the long run it is unlikely that such a rate will be sustained. Recent experience since 2009 has shown a marked reduction in mortality decline, and many who have suggested we will maintain the rate of the last 60 years are reassessing. In fact, the chairperson of the 2015 Technical Panel, upon publication of the 2016 Trustees Report showing continued slow improvement, stated that she was glad that the Trustees did not adopt the assumption for faster ultimate decline in mortality (see [http://crr.bc.edu/wp-content/uploads/2016/06/IB\\_16-10.pdf](http://crr.bc.edu/wp-content/uploads/2016/06/IB_16-10.pdf)).

It is informative to look at how actual experience compares to what we were projecting in the 1982 Trustees Report, which was the basis for the 1983 Social Security Amendments, where the normal retirement age was increased for the first time. At that time, we projected that the average of life expectancy at age 65 for men and women in 2013 would be 19.0 years, or 2.8 years higher than in 1978 (the last year for which final data were available). In fact, this life expectancy actually rose by 2.9 years over this period, to 19.1 years for 2013 (the last year for which final data were available for the 2016 Trustees Report).

- 4. Similarly, the Technical Panel has consistently called for lower expectations for interest rates, but the Trustees have not followed this recommendation. Why have the Trustees not adopted the Technical Panel's recommendation to reduce expectations for interest rates?**

The ultimate real interest rate was reduced from 3.0 to 2.9 percent for the 2006 Trustees Report, and was reduced further to 2.7 percent for the 2016 Trustees Report. While the 2015 Technical Panel recommended assuming a long-term ultimate real interest rate on Trust Fund reserves of 2.5 percent, the 2011 panel recommended 2.7 percent and the average recommendation of the last five technical panels is 2.7 percent. Real interest rates have been low since about 2000, reflecting several disruptions in the domestic and international economies, as well as the “great recession,” from which we are still gradually recovering. Given current economic conditions, it is too early to conclude whether the recent low interest rates represent a true and permanent reduction in the return to capital, or whether they are temporary. The gradual changes in ultimate interest rates made in Trustees Reports reflect the very long-term focus of analysis for assessing the actuarial status of the OASDI program. The federal budget traditionally focuses on much shorter periods, and it tends to reflect the very recent experience to a much greater degree.

- 5. In your testimony you allude to the role of the Trustees’ Working Group. Can you please specify who participates in the Trustees’ Working Group? Are the members of the Working Group political appointees or civil servants? What role does the Trustees’ Working Group play in developing the Trustees Report?**

The Trustees Working Group includes the Trustees themselves, to the degree they are able to participate. The Public Trustees traditionally participate directly, with some staff assistance provided by the Social Security Administration (SSA). The four ex-officio Trustees are generally represented in working group discussions by high-ranking political appointees in their agencies. Additionally, the Chief Actuaries of SSA and CMS, both civil servants, are members of the working group. Additional individuals from the four agencies and the actuarial offices participate in working group discussions.

In development of the Trustees Reports, the SSA Chief Actuary recommends assumptions related to demographic and economic factors, as well as OASDI program specific factors such as disability rates. The CMS Chief Actuary recommends assumptions related to Medicare utilization and reimbursement rates. The working group as a whole discusses these recommendation and then works directly with the Trustees to gain consensus. The actuarial offices draft the reports with review and input from the Trustees and the working group. Finally, the Chief Actuaries provide the actuarial opinions for each report as required by law.

- 6. At the beginning of an Administration, new appointees across the government must be confirmed, including the four positions that serve as Trustees in addition to their agency duties. This process can end after the statutory deadline for the Trustees Report, as was the case for President Obama’s first Secretary of Health and Human Services. In absence of a confirmed Administration Trustee, who makes decisions about the assumptions and methods that are used in the Trustees Report?**

Generally, the first Trustees Report issued in a new administration reflects little or no significant changes in ultimate assumptions. For reasons indicated in this question, there may not be time for careful consideration by the new administration without delaying the issuance of the reports. In some instances, one or more of the Trustees have been acting in their position at the time of report release (for example, in 2001). Following this conservative approach has generally avoided the need for decisions on any assumption or method changes in the absence of confirmed appointees from the new administration. Of course, additional data are reflected even when no changes in ultimate assumptions are made.

**7. The Office of the Chief Actuary has been making demographic and economic assumptions for years. Based on data from the past 10 years, please provide a table comparing your projected values for each assumption to what actually happened over that time period.**

The enclosed tables provide actual and projected values for calendar years 2005 through 2015 used for the 2007 through 2016 Trustees Reports. Tables are provided for the principal demographic and economic assumptions, and related summary measures that are defined in the Trustees Report. Note that in some cases “actual” values for historical years available at the time of one Trustees Report are later revised for use in subsequent reports. Values for many of these measures were heavily influenced by the recession that began in 2008, which was not anticipated, has been unusually severe, and from which recovery has been unusually slow.

I hope this further information will be helpful. If you have any additional questions or need assistance in any way, please let me know.

Sincerely,

A handwritten signature in cursive script that reads "Stephen C. Goss".

Stephen C. Goss, ASA, MAAA  
Chief Actuary

Enclosures

cc: Amy Shuart

**Actual vs. Projected Trustees Report Total Fertility Rates**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	2.04	2.05	2.06	2.07	2.06	2.06	2.06	2.06	2.06	2.06
<b>2006</b>	2.04	2.06	2.10	2.12	2.12	2.12	2.11	2.11	2.11	2.11
<b>2007</b>	2.04	2.06	2.10	2.12	2.13	2.13	2.12	2.12	2.12	2.12
<b>2008</b>	2.04	2.06	2.08	2.09	2.09	2.08	2.07	2.07	2.07	2.07
<b>2009</b>	2.04	2.06	2.08	2.09	2.03	2.01	2.00	2.00	2.00	2.00
<b>2010</b>	2.03	2.06	2.08	2.08	2.08	1.95	1.93	1.93	1.93	1.93
<b>2011</b>	2.03	2.05	2.07	2.08	2.07	2.03	1.89	1.89	1.89	1.89
<b>2012</b>	2.03	2.05	2.07	2.08	2.07	2.04	1.90	1.88	1.88	1.87
<b>2013</b>	2.03	2.05	2.07	2.07	2.07	2.05	1.91	1.89	1.87	1.85
<b>2014</b>	2.03	2.05	2.06	2.07	2.06	2.05	1.93	1.91	1.88	1.86
<b>2015</b>	2.03	2.04	2.06	2.07	2.06	2.06	1.95	1.94	1.91	1.87



**Actual vs. Projected Trustees Report Life Expectancy at Birth**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2005	77.2	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3
2006	77.3	77.4	77.4	77.6	77.6	77.6	77.6	77.6	77.6	77.6
2007	77.4	77.5	77.5	77.6	77.8	77.8	77.9	77.9	77.9	77.9
2008	77.5	77.6	77.6	77.8	77.8	77.8	77.9	77.9	77.9	77.9
2009	77.6	77.7	77.7	77.9	77.9	77.9	78.3	78.3	78.3	78.3
2010	77.7	77.8	77.8	78.0	78.1	78.1	78.3	78.5	78.5	78.5
2011	77.8	77.9	77.9	78.1	78.2	78.2	78.5	78.5	78.5	78.5
2012	77.9	78.0	78.0	78.2	78.3	78.3	78.6	78.7	78.6	78.6
2013	78.0	78.1	78.1	78.3	78.4	78.4	78.8	78.8	78.9	78.6
2014	78.1	78.2	78.3	78.5	78.5	78.5	78.9	79.0	79.0	78.9
2015	78.2	78.3	78.4	78.6	78.6	78.6	79.0	79.2	79.2	79.1

**Actual vs. Projected Trustees Report Life Expectancy at Age 65**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	17.8	17.9	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
<b>2006</b>	17.8	17.9	18.1	18.4	18.4	18.4	18.4	18.4	18.4	18.4
<b>2007</b>	17.8	18.0	18.1	18.3	18.6	18.6	18.6	18.6	18.6	18.6
<b>2008</b>	17.9	18.0	18.1	18.4	18.5	18.5	18.6	18.6	18.6	18.6
<b>2009</b>	17.9	18.1	18.2	18.5	18.6	18.6	18.9	18.9	18.9	18.9
<b>2010</b>	18.0	18.1	18.2	18.5	18.7	18.7	18.9	18.9	18.9	18.9
<b>2011</b>	18.0	18.2	18.3	18.6	18.8	18.8	19.1	19.0	19.0	19.0
<b>2012</b>	18.1	18.2	18.3	18.6	18.9	18.9	19.2	19.2	19.1	19.1
<b>2013</b>	18.1	18.3	18.4	18.7	19.0	19.0	19.3	19.3	19.2	19.1
<b>2014</b>	18.2	18.3	18.4	18.7	19.1	19.1	19.4	19.4	19.4	19.2
<b>2015</b>	18.2	18.4	18.5	18.8	19.2	19.2	19.5	19.5	19.5	19.4

**Actual vs. Projected Trustees Report Net Immigration (in thousands)**  
**(Estimated actual at time of report above the line, estimated/projected below the line)**

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	1,242	1,315	1,310	1,310	1,885	1,915	2,010	2,010	2,015	2,010
<b>2006</b>	1,075	1,330	1,375	1,375	1,585	1,620	1,710	1,710	1,715	1,710
<b>2007</b>	1,075	1,275	1,270	1,355	780	810	870	870	875	872
<b>2008</b>	1,000	1,255	1,235	1,310	35	65	75	75	80	81
<b>2009</b>	1,000	1,230	1,215	1,255	840	870	935	935	935	938
<b>2010</b>	1,000	1,195	1,190	1,215	820	840	835	835	840	838
<b>2011</b>	1,000	1,185	1,180	1,175	895	900	870	870	725	725
<b>2012</b>	1,000	1,180	1,175	1,170	960	960	1,075	1,165	1,010	1,011
<b>2013</b>	1,000	1,170	1,165	1,165	1,060	1,060	1,155	1,280	960	1,094
<b>2014</b>	1,000	1,165	1,160	1,160	1,160	1,160	1,225	1,345	1,150	1,316
<b>2015</b>	1,000	1,160	1,155	1,150	1,250	1,250	1,215	1,325	1,465	1,557

**Actual vs. Projected Trustees Report Age-Sex Adjusted Disabled-Worker Incidence Rates**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	5.4	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
<b>2006</b>	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
<b>2007</b>	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
<b>2008</b>	5.0	5.1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
<b>2009</b>	5.1	5.1	5.8	6.0	6.0	6.1	6.0	6.0	6.0	6.0
<b>2010</b>	5.2	5.2	6.5	6.6	6.3	6.4	6.4	6.4	6.4	6.4
<b>2011</b>	5.1	5.1	6.1	6.3	6.3	6.0	6.1	6.1	6.1	6.1
<b>2012</b>	5.2	5.2	5.6	6.2	6.2	6.0	5.8	5.8	5.8	5.8
<b>2013</b>	5.2	5.2	5.1	5.6	5.7	5.8	5.4	5.2	5.2	5.2
<b>2014</b>	5.2	5.2	5.1	5.4	5.5	5.7	5.6	5.0	4.6	4.7
<b>2015</b>	5.2	5.2	5.1	5.2	5.3	5.6	5.5	5.2	4.9	4.4

<sup>a</sup> Revised method for estimating disability-exposed population resulted in an increase in incidence rates.

Note: The disability incidence rate is the ratio of the number of new beneficiaries awarded benefits each year to the disability-exposed population, the number of individuals who meet insured requirements but are not yet receiving benefits. The historical disability-exposed population changes to reflect data updates.

**Actual vs. Projected Trustees Report Age-Sex Adjusted Disabled-Worker Death Rates**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	30.2	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
<b>2006</b>	29.5	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8
<b>2007</b>	27.4	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
<b>2008</b>	26.9	27.4	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7
<b>2009</b>	26.4	26.9	26.8	27.2	27.2	27.2	27.2	27.2	27.2	27.2
<b>2010</b>	26.0	26.4	26.4	26.5	26.3	26.3	26.3	26.3	26.3	26.3
<b>2011</b>	25.6	26.0	25.9	26.0	25.7	26.0	26.0	26.0	26.0	26.0
<b>2012</b>	25.1	25.6	25.5	25.6	25.0	25.4	26.5	26.5	26.5	26.5
<b>2013</b>	24.7	25.2	25.2	25.1	24.4	24.8	25.9	25.7	25.7	25.7
<b>2014</b>	24.3	24.9	24.8	24.7	23.9	24.2	25.3	25.1	25.6	25.6
<b>2015</b>	23.8	24.5	24.5	24.2	23.3	23.8	24.8	24.8	25.3	25.7

**Actual vs. Projected Trustees Report Age-Sex Adjusted Disabled-Worker Recovery Rates**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	13.5	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
<b>2006</b>	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
<b>2007</b>	11.6	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
<b>2008</b>	15.2	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
<b>2009</b>	16.2	11.0	10.7	9.1	9.4	9.4	9.4	9.4	9.4	9.4
<b>2010</b>	17.6	13.2	11.7	10.6	10.5	10.5	10.5	10.5	10.5	10.5
<b>2011</b>	14.8	11.0	10.6	9.6	11.2	9.9	9.9	9.9	9.9	9.9
<b>2012</b>	15.1	12.0	12.3	11.4	12.0	11.4	9.7	9.7	9.7	9.7
<b>2013</b>	15.2	12.1	13.1	11.9	12.8	12.3	11.3	8.5	8.5	8.5
<b>2014</b>	15.2	12.3	13.2	12.6	13.4	11.9	12.5	11.5	11.3	11.3
<b>2015</b>	15.1	12.6	11.8	13.0	13.0	11.1	13.0	12.6	11.8	13.4

**Actual vs. Projected Trustees Report Annual Percent Change in Total-Economy Labor Productivity**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	1.80	1.50	1.40	1.50	1.50	1.51	1.51	1.84	1.83	1.83
<b>2006</b>	2.00	1.00	0.90	0.80	0.80	0.82	0.82	0.84	0.84	0.84
<b>2007</b>	1.70	1.40	1.30	1.50	1.20	1.21	1.22	1.06	1.04	1.04
<b>2008</b>	2.10	1.90	1.80	1.40	1.10	0.75	0.74	0.77	0.75	0.75
<b>2009</b>	1.90	1.90	0.30	2.50	2.90	2.13	2.60	2.88	2.87	2.87
<b>2010</b>	1.90	1.80	2.80	3.70	2.70	3.07	2.39	2.52	2.55	2.55
<b>2011</b>	1.80	1.80	2.30	1.60	1.70	0.40	0.30	0.28	0.05	0.07
<b>2012</b>	1.80	1.80	1.90	1.50	2.00	1.09	0.66	1.04	0.58	0.47
<b>2013</b>	1.70	1.80	1.90	1.50	2.00	2.07	0.68	0.73	0.95	0.21
<b>2014</b>	1.70	1.70	1.80	1.40	1.90	2.10	1.96	1.57	0.56	0.49
<b>2015</b>	1.70	1.70	1.70	1.40	1.70	2.06	2.06	1.92	1.77	0.44

**Actual vs. Projected Trustees Report Annual Percent Change in Earnings as Percent of Compensation**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2005	-0.50	-0.40	-0.40	-0.40	-0.40	-0.43	-0.43	-0.22	-0.22	-0.22
2006	0.00	0.10	0.40	0.50	0.50	0.50	0.50	0.49	0.49	0.49
2007	0.10	0.00	0.40	0.20	0.40	0.39	0.39	-0.05	-0.05	-0.05
2008	0.00	0.00	-0.20	-0.20	-0.40	-0.62	-0.62	-0.06	-0.06	-0.06
2009	-0.10	-0.10	-0.20	-0.90	-1.20	-1.21	-1.04	-0.66	-0.66	-0.66
2010	-0.10	-0.10	-0.50	0.20	-0.10	0.25	0.20	-0.17	-0.10	-0.1
2011	-0.20	-0.20	-0.20	0.10	0.20	0.20	-0.04	0.34	0.28	0.28
2012	-0.20	-0.20	-0.20	0.20	0.20	0.04	0.03	0.31	0.49	0.4
2013	-0.20	-0.20	-0.30	0.10	0.00	-0.02	0.02	0.30	0.09	0.01
2014	-0.20	-0.20	-0.30	-0.20	-0.30	-0.17	-0.04	-0.14	0.15	0.39
2015	-0.20	-0.20	-0.10	-0.20	-0.30	-0.12	-0.01	-0.17	-0.10	0.11



**Actual vs. Projected Trustees Report Annual Percent Change in Average Hours Worked per Week**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2005	-0.40	-0.20	-0.20	-0.20	-0.20	-0.18	-0.18	-0.23	-0.23	-0.23
2006	-0.40	0.00	0.00	0.00	0.00	-0.02	-0.02	-0.04	-0.03	-0.03
2007	-0.10	-0.30	-0.40	-0.40	-0.40	-0.41	-0.42	-0.38	-0.38	-0.38
2008	0.00	-0.10	-0.20	-0.50	-0.70	-0.64	-0.63	-0.62	-0.60	-0.6
2009	0.00	0.00	-0.10	-1.20	-1.80	-1.87	-1.90	-1.89	-1.85	-1.85
2010	0.00	0.00	0.00	-0.40	0.70	0.53	0.59	0.57	0.56	0.56
2011	0.00	0.00	0.00	0.40	0.20	0.81	0.94	0.99	0.98	0.97
2012	0.00	0.00	0.00	0.40	0.00	0.22	-0.21	-0.07	-0.06	-0.05
2013	0.00	0.00	0.00	0.20	0.00	0.00	0.30	0.11	0.27	0.29
2014	0.00	0.00	0.00	0.10	0.00	0.06	0.09	0.17	0.19	0.31
2015	0.00	0.00	0.00	0.00	0.00	0.10	0.17	0.08	0.21	0.37

**Actual vs. Projected Trustees Report Percent Change in Annual GDP Price Index**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	3.00	3.20	3.30	3.30	3.30	3.32	3.32	3.21	3.22	3.22
<b>2006</b>	2.90	3.20	3.20	3.30	3.30	3.24	3.24	3.07	3.07	3.07
<b>2007</b>	2.00	2.70	2.70	2.90	2.90	2.90	2.90	2.66	2.67	2.67
<b>2008</b>	2.00	2.00	2.20	2.10	2.20	2.20	2.20	1.92	1.93	1.93
<b>2009</b>	2.30	2.10	1.10	1.20	0.90	1.08	0.89	0.80	0.79	0.79
<b>2010</b>	2.40	2.40	1.10	1.30	1.00	1.16	1.34	1.22	1.23	1.23
<b>2011</b>	2.40	2.40	1.50	1.40	1.20	2.13	2.13	1.96	2.06	2.06
<b>2012</b>	2.40	2.40	1.90	1.90	1.30	1.70	1.84	1.75	1.80	1.84
<b>2013</b>	2.40	2.40	2.20	2.30	1.50	1.43	1.83	1.39	1.49	1.63
<b>2014</b>	2.40	2.40	2.50	2.40	1.60	1.63	1.71	1.44	1.54	1.64
<b>2015</b>	2.40	2.40	2.40	2.40	1.60	1.72	2.02	1.55	1.00	1.01

**Actual vs. Projected Trustees Report Annual Percent Change in Average Wage in Covered Employment**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	3.90	3.70	3.60	3.60	3.70	3.72	3.72	3.70	3.69	3.71
<b>2006</b>	4.90	5.00	4.80	4.70	4.60	4.76	4.74	4.72	4.71	4.74
<b>2007</b>	4.60	4.40	4.20	4.70	4.70	4.47	4.48	4.50	4.52	4.49
<b>2008</b>	4.60	4.10	3.30	2.00	2.30	2.23	2.23	2.47	2.34	2.41
<b>2009</b>	4.30	4.20	0.70	-0.60	-1.80	-1.35	-1.47	-1.52	-1.43	-1.59
<b>2010</b>	4.20	4.00	3.40	5.10	2.90	2.45	2.62	2.69	2.62	2.58
<b>2011</b>	4.10	3.90	4.10	3.80	4.10	3.60	2.68	3.16	3.13	3.12
<b>2012</b>	4.20	4.00	4.10	4.70	4.50	3.75	2.32	2.69	3.21	3.35
<b>2013</b>	4.00	4.00	4.20	4.80	4.60	3.93	2.67	1.92	1.10	1.13
<b>2014</b>	3.80	3.90	4.10	4.60	4.20	4.59	4.60	3.78	3.24	3.44
<b>2015</b>	3.90	3.90	4.20	4.30	3.90	4.79	5.52	4.92	3.38	2.74

**Actual vs. Projected Trustees Report Percent Change in Annual CPI-W**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	3.50	3.50	3.50	3.50	3.50	3.52	3.52	3.52	3.52	3.52
<b>2006</b>	3.30	3.20	3.20	3.20	3.20	3.19	3.19	3.19	3.19	3.19
<b>2007</b>	1.90	2.80	2.90	2.90	2.90	2.88	2.88	2.88	2.88	2.88
<b>2008</b>	2.40	2.80	4.30	4.10	4.10	4.09	4.09	4.09	4.09	4.09
<b>2009</b>	2.70	2.50	-1.00	-0.70	-0.70	-0.67	-0.67	-0.67	-0.67	-0.67
<b>2010</b>	2.80	2.80	1.70	2.00	2.10	2.07	2.07	2.07	2.07	2.07
<b>2011</b>	2.80	2.80	2.30	1.70	1.20	3.70	3.56	3.56	3.56	3.56
<b>2012</b>	2.80	2.80	2.70	2.30	1.70	2.01	2.07	2.10	2.10	2.10
<b>2013</b>	2.80	2.80	3.10	2.70	1.90	1.93	1.80	1.43	1.37	1.37
<b>2014</b>	2.80	2.80	3.10	2.80	2.00	2.03	2.21	1.61	1.49	1.50
<b>2015</b>	2.80	2.80	2.80	2.80	2.00	2.12	2.42	1.95	0.20	-0.40

**Actual vs. Projected Trustees Report Real Wage Differential**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	0.30	0.10	0.10	0.10	0.20	0.20	0.20	0.18	0.17	0.19
<b>2006</b>	1.60	1.80	1.60	1.50	1.40	1.57	1.55	1.53	1.52	1.54
<b>2007</b>	2.70	1.60	1.30	1.80	1.80	1.59	1.61	1.62	1.64	1.62
<b>2008</b>	2.20	1.30	-1.00	-2.10	-1.80	-1.85	-1.85	-1.62	-1.74	-1.68
<b>2009</b>	1.70	1.70	1.80	0.00	-1.20	-0.68	-0.79	-0.85	-0.76	-0.91
<b>2010</b>	1.40	1.30	1.80	3.10	0.80	0.38	0.55	0.62	0.55	0.51
<b>2011</b>	1.30	1.10	1.80	2.20	2.90	-0.10	-0.88	-0.39	-0.42	-0.43
<b>2012</b>	1.40	1.20	1.40	2.40	2.90	1.74	0.25	0.59	1.11	1.25
<b>2013</b>	1.20	1.20	1.10	2.20	2.70	2.00	0.87	0.49	-0.27	-0.24
<b>2014</b>	1.00	1.10	1.00	1.80	2.20	2.56	2.40	2.18	1.75	1.94
<b>2015</b>	1.10	1.10	1.40	1.50	1.90	2.67	3.10	2.97	3.18	3.17

**Actual vs. Projected Trustees Report Real Annual Unemployment Rate**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
<b>2006</b>	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
<b>2007</b>	4.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
<b>2008</b>	4.9	4.8	5.7	5.8	5.8	5.8	5.8	5.8	5.8	5.8
<b>2009</b>	5.0	5.0	8.2	9.3	9.3	9.3	9.3	9.3	9.3	9.3
<b>2010</b>	5.1	5.2	8.8	10.0	9.7	9.6	9.6	9.6	9.6	9.6
<b>2011</b>	5.2	5.3	7.9	9.5	9.5	9.0	9.0	8.9	8.9	8.9
<b>2012</b>	5.3	5.4	6.8	8.6	8.9	8.9	8.1	8.1	8.1	8.1
<b>2013</b>	5.4	5.5	6.2	7.7	8.0	8.7	8.0	7.4	7.4	7.4
<b>2014</b>	5.5	5.5	5.8	7.0	7.2	8.2	7.8	6.9	6.2	6.2
<b>2015</b>	5.5	5.5	5.6	6.3	6.5	7.4	7.2	6.7	5.5	5.3

**Actual vs. Projected Trustees Report Annual Percent Change in Labor Force**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2005	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
2006	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
2007	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2008	1.0	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
2009	0.9	1.1	0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
2010	0.9	1.1	0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
2011	0.9	0.9	1.0	0.7	0.5	-0.2	-0.2	-0.2	-0.2	-0.2
2012	0.7	0.8	1.1	1.1	0.7	1.2	0.9	0.9	0.9	0.9
2013	0.6	0.7	1.0	1.1	0.9	0.7	0.8	0.3	0.3	0.3
2014	0.5	0.7	0.9	1.1	1.0	0.8	1.1	0.8	0.3	0.3
2015	0.5	0.6	0.7	0.9	0.9	0.9	0.6	1.1	0.6	0.8

**Actual vs. Projected Trustees Report Annual Percent Change in Employment**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2005	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
2006	1.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
2007	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2008	0.8	0.4	-0.4	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
2009	0.9	0.9	-2.3	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7
2010	0.8	0.9	-0.4	-0.9	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
2011	0.8	0.7	2.0	1.2	0.7	0.5	0.6	0.6	0.6	0.6
2012	0.6	0.7	2.2	2.0	1.4	1.3	1.8	1.8	1.8	1.8
2013	0.5	0.6	1.7	2.1	1.7	0.8	1.2	1.0	1.0	1.0
2014	0.4	0.7	1.2	1.9	1.9	1.3	1.3	1.3	1.5	1.6
2015	0.5	0.6	0.9	1.6	1.7	1.8	1.7	1.3	1.3	1.7



**Actual vs. Projected Trustees Report Annual Percent Change in Real GDP**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	3.2	3.1	2.9	3.1	3.1	3.1	3.1	3.4	3.3	3.3
<b>2006</b>	3.3	2.9	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7
<b>2007</b>	2.6	2.2	2.0	2.1	1.9	1.9	1.9	1.8	1.8	1.8
<b>2008</b>	3.0	2.3	1.1	0.4	0.0	-0.3	-0.3	-0.3	-0.3	-0.3
<b>2009</b>	2.8	2.8	-0.9	-2.4	-2.6	-3.5	-3.1	-2.8	-2.8	-2.8
<b>2010</b>	2.6	2.7	1.2	2.3	2.8	3.0	2.4	2.5	2.5	2.5
<b>2011</b>	2.6	2.5	2.0	3.3	2.7	1.7	1.8	1.8	1.6	1.6
<b>2012</b>	2.4	2.5	2.1	4.0	3.4	2.6	2.3	2.8	2.3	2.2
<b>2013</b>	2.2	2.5	1.9	3.9	3.8	2.9	2.2	1.8	2.2	1.7
<b>2014</b>	2.1	2.4	1.6	3.5	3.8	3.5	3.4	3.1	2.3	2.4
<b>2015</b>	2.2	2.3	1.4	3.1	3.5	4.0	4.0	3.3	3.3	2.6

**Actual vs. Projected Trustees Report Real Interest Rates for First Year after Issue**  
 (Estimated actual at time of report above the line, estimated/projected below the line)

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2005	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
2006	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2007	2.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
2008	2.2	1.9	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6
2009	2.5	1.9	4.7	4.4	4.4	4.4	4.4	4.4	4.4	4.4
2010	2.8	2.3	1.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9
2011	2.9	2.8	1.6	1.7	1.5	-0.9	-0.7	-0.7	-0.7	-0.7
2012	2.9	2.9	2.3	2.2	1.4	0.4	0.4	0.3	0.3	0.3
2013	3.0	3.0	2.6	2.9	2.5	0.5	-0.3	0.0	0.1	0.1
2014	3.0	3.0	3.0	3.2	3.1	1.4	-0.6	0.3	0.4	0.4
2015	3.0	3.0	3.2	3.3	3.2	2.3	0.4	0.9	2.1	2.7

**Actual vs. Projected Trustees Report Taxable Ratio <sup>a</sup>**  
**(Estimated actual at time of report above the line, estimated/projected below the line)**

Year	Year of Issuance of Trustees Report									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>2005</b>	83.4	83.3	83.6	83.4	83.3	83.4	83.3	83.3	83.4	83.5
<b>2006</b>	82.9	83.0	83.1	83.0	83.1	83.0	82.9	83.0	83.0	83.1
<b>2007</b>	82.8	82.4	82.4	81.9	82.1	82.2	82.2	82.3	82.3	82.4
<b>2008</b>	82.8	82.9	83.8	82.3	83.2	83.4	83.3	83.2	83.3	83.4
<b>2009</b>	82.7	82.9	84.9	85.1	85.0	84.9	85.0	85.0	85.0	85.2
<b>2010</b>	82.8	82.9	84.2	84.3	83.9	83.9	83.7	83.7	83.8	84.0
<b>2011</b>	82.7	82.9	83.3	83.6	83.4	82.6	83.2	82.9	83.0	83.3
<b>2012</b>	82.8	82.8	83.5	83.6	83.1	82.6	83.3	82.5	82.3	82.5
<b>2013</b>	82.7	82.8	83.2	83.2	82.8	82.5	83.5	82.4	82.8	83.3
<b>2014</b>	82.8	82.7	83.0	82.9	82.7	82.3	83.0	82.5	82.4	83.0
<b>2015</b>	82.7	82.7	82.8	82.8	82.6	82.1	82.4	82.2	82.2	82.2 <sup>b</sup>

<sup>a</sup> Ratio of effective taxable payroll to total OASDI covered earnings.

<sup>b</sup> Revised estimate for 2015 based on data available after the 2016 Trustees Report is 82.7.

# COMMITTEE ON WAYS AND MEANS

U.S. HOUSE OF REPRESENTATIVES

WASHINGTON, DC 20515

October 5, 2016

Stephen C. Goss  
Chief Actuary  
Social Security Administration  
6401 Security Boulevard  
Room 700 Altmeyer Building  
Baltimore, MD 21235

Dear Mr. Goss,

Thank you for your testimony before the Committee on Ways and Means Subcommittee on Social Security at the September 21, 2016 hearing on “Understanding Social Security’s Solvency Challenge.” In order to complete our hearing record, we would appreciate your responses to the following questions:

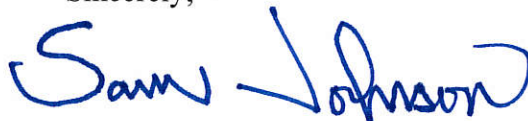
1. In your testimony you mention that the Trustees make gradual changes to assumptions and do so only after there’s “compelling evidence” for the change. What does it take for something to be “compelling evidence?”
2. The Trustees and the Congressional Budget Office (CBO) are looking at the same, or at least very similar, historical data on earnings growth, but come to very different conclusions about the share of earnings that will be subject to payroll taxes. Can you please explain why this is? Please also provide the dollar values equivalent to 90% of covered earnings for each of the next 10 years.
3. The Social Security Advisory Board periodically convenes a Technical Panel to examine the Trustees’ assumptions and methods. The Technical Panel then publishes a report with detailed recommendations for changes. These panels have consistently called for the Trustees to increase assumptions about life expectancy. However, the Trustees have not followed this recommendation. In general, how is the decision made about whether or not to accept the Technical Panels’ recommendations? What is the process for determining which of the Technical Panels’ recommendations to follow? Specifically, why have the Trustees not adopted the Technical Panel’s life expectancy recommendations?
4. Similarly, the Technical Panel has consistently called for lower expectations for interest rates, but the Trustees have not followed this recommendation. Why have the Trustees not adopted the Technical Panel’s recommendation to reduce expectations for interest rates?

5. In your testimony you allude to the role of the Trustees' Working Group. Can you please specify who participates in the Trustees' Working Group? Are the members of the Working Group political appointees or civil servants? What role does the Trustees' Working Group play in developing the Trustees Report?
6. At the beginning of an Administration, new appointees across the government must be confirmed, including the four positions that serve as Trustees in addition to their agency duties. This process can end after the statutory deadline for the Trustees Report, as was the case for President Obama's first Secretary of Health and Human Services. In absence of a confirmed Administration Trustee, who makes decisions about the assumptions and methods that are used in the Trustees Report?
7. The Office of the Chief Actuary has been making demographic and economic assumptions for years. Based on data from the past 10 years, please provide a table comparing your projected values for each assumption to what actually happened over that time period.

We would appreciate your responses to these questions by **October 19, 2016**. Please send your response to the attention of Amy Shuart, Staff Director, Subcommittee on Social Security, Committee on Ways and Means, U.S. House of Representatives, B-317 Rayburn House Office Building, Washington, DC 20515. In addition to a hard copy, please submit an electronic copy of your response in Microsoft Word format to [mm.russell@mail.house.gov](mailto:mm.russell@mail.house.gov).

Thank you for taking the time to answer these questions for the record. If you have any questions concerning this request, you may reach Amy at (202) 225-9263.

Sincerely,



Sam Johnson  
Chairman  
Subcommittee on Social Security



**SOCIAL SECURITY**  
Office of the Chief Actuary

December 6, 2016

The Honorable Xavier Becerra  
Ranking Member, Subcommittee on Social Security  
Committee on Ways and Means  
House of Representatives  
Washington, DC 20515

Dear Mr. Becerra:

Thank you again for the opportunity to testify before the Committee on Ways and Means, Subcommittee on Social Security, at the September 21, 2016, hearing on “Understanding Social Security’s Solvency Challenge.” It is always a pleasure working with you, Kathryn Olson, and everyone associated with the Subcommittee. I hope the information that I provided at the hearing will be helpful. Below I have restated the seven questions you sent to me on November 4, 2016, and have provided answers.

**1. Please describe the model or approach the Office of the Chief Actuary (OCACT) uses for making long-range projections, and what you know of the model and approach used by the Congressional Budget Office (CBO), comparing and contrasting the relative strengths and weaknesses of each approach.**

The model our office employs for making long-range projections is motivated by the requirement in the law for annual reporting on the “actuarial status” of the OASI and DI Trust Funds. Our model has been under constant development and refinement for over 80 years, since before the original Social Security Act was signed in 1935.

Because the Social Security and Medicare programs provide coverage for virtually the entire United States population, plus several outlying areas, we start with a comprehensive projection of the entire “Social Security area” population, reflecting detailed assumptions about birth, death, immigration, marriage, and divorce assumptions by age and sex. Great detail is necessary due to the differences in employment experience and benefit options for these groups.

These population projections are then passed to separate models for projecting the percentages of the population by age, sex, and marital status that are employed, become insured for potential receipt of benefits, and ultimately receive benefits. Additional models then build on the projected beneficiary population, developing detailed

distributions of benefit levels and total amounts of benefits as scheduled in the law. A final model combines the projected benefit costs with projected payroll tax revenue, projected income tax on the benefits, and interest on trust reserves to project the annual levels of reserves on hand. This determines the solvency of the trust funds and the degree to which Congress will need to make adjustments in program specifications so that future scheduled benefits can be paid in full on a timely basis.

The main actuarial model described above incorporates both a short-term 10-year actuarial model and a long-term 75-year actuarial model that are developed separately but are closely coordinated to assure both perspectives are reflected in the results. The model uses various types of analyses, including, for example, regression models for labor force projections and microsimulation models for projecting benefit levels for those who begin receiving monthly benefits. Extensive documentation of the model, assumptions, and results are publicly available and reviewed on a regular basis by a range of oversight entities, both formal and informal. We strive for transparency in all aspects of our model, except for disclosing data that could compromise personally identifiable information.

In addition, our office develops and regularly runs separate comprehensive stochastic and microsimulation models to assure that the main actuarial model can be informed by all that these separate models offer. In this way, we are able to take advantage of the strengths of all of these models in developing not only the projected actuarial status under current law, but also the implications of potential modifications of the Social Security Act considered by Congress and other policymakers.

Our understanding of the models employed by CBO is less detailed. We understand that projections for the first 10 years are provided by various divisions outside of the division responsible for long-term projections. CBO's long-term projections use a microsimulation model (CBOLT) that was developed around 2000. Comprehensive microsimulation models, like CBOLT and our Polisim model, are very useful in developing distributional analysis of the individuals simulated in the model. However, because "transitional probabilities" must be developed and applied on an individual person basis, such comprehensive microsimulation models can be complex and cumbersome, while at the same time potentially limited in the numbers of individuals that can be included in the simulation. As a result, microsimulation models can produce somewhat uneven results over time and across age groups. Given the complexity of making many transition determinations for each simulated individual for each year, it can be difficult to manage overall aggregate results from such models. It is for this reason that we utilize microsimulation in our main actuarial model only for limited areas where detailed distributional results are essential. Beyond these general considerations based on our extensive experience with all types of models, we are unable to provide specific analysis of the CBO model, much of which is closely held by CBO.

- 2. Please elaborate further on your projections regarding changes in the rate of labor force participation, and the reasoning behind the assumptions you make about the future, compared to past experience. Also, why are these rates shown in**

**presentation after adjustment for age and sex, and what is the impact of this on your modeling and projections?**

Our labor-force participation rate model reflects historical experiences and future expectations for disability prevalence, marital status and child presence, the state of the economy, trends in educational attainment, and trends in longevity. We also incorporate cohort effects where appropriate. We find these factors are related to changes in labor force participation rates (LFPR) by age and sex, particularly the declines in male rates at ages 25-54. Over the past several decades, increases in disability prevalence and the percent never married appear to explain most of the decline.

In order to understand the effects of changes in LFPR over the past and the future, we look at age and sex specific rates, summarizing these rates into an age-sex-adjusted rate by applying all age-sex-specific rates across years to a single standard population. This approach allows us to see the specific rate of engagement in the labor force, free of the effects of a changing age distribution of the population over time. Effects from the changing age distribution of the population are best considered separately from the basic propensity to engage in the labor force by age and sex. If LFPR is presented for the adult population as a whole on a “gross” basis (total number of individuals in the labor force divided by the total population age 16 or over), the time trend provides an inconsistent comparison of tendency to engage in the labor force. In addition, if underlying population projections produce different age distributions for the adult population (as for our projections and CBO projections), then gross LFPR is not even comparable for the same year. Age-sex-specific, or age-sex-adjusted LFPRs are necessary to make a valid comparison over time or across two or more projection models.

Our LFPR model projects that once the economy returns to full employment, the age-adjusted LFPR for males will rebound to nearly the same historical levels as seen in the 1990’s and early 2000’s, and the age-adjusted LFPR for females will rebound to levels higher than seen in this historical period. Thereafter, our model projects some modest further increase in age-adjusted LFPRs based on the assumption that increasing longevity will reflect in part better health and ability to work to higher ages. In fact, our 2011 and 2015 Technical Panels both recommended that we project LFPRs even higher than we have for recent Trustees Reports.

One area of difference among some forecasters is the extent to which recent declines in LFPRs, particularly at ages under 25, will persist as the cohort ages. Some believe that the reduction for those under age 25 will be permanent for the rest of their lives, and will result in lower LFPRs for all future generations at all ages. We have not seen a convincing rationale for this dramatic permanent level shift in LFPR at all ages. In addition, we do not believe that the slow recovery from a very deep recession should be interpreted as evidence of a permanent shift. The degree to which LFPRs by age and sex may have been permanently affected by the recent recession is yet to be determined.



**3. Please elaborate further on your projections regarding the rate of increase in income inequality, and the rationale for the assumptions you make about the future, compared to past experience.**

We focus carefully on several aspects of income distribution and changes in the distribution. The share of national income from the sale of all products and services that is paid in the form of employee compensation and self-employment earnings is important, and has been relatively constant in the past. The share of employee compensation that is paid in the form of wages and salaries is particularly important, because most “fringe benefits” are not subject to the Social Security payroll tax. We project a small rate of decline in the share of employee compensation that will be paid in wages and salaries, largely based on expected increases in the cost of health insurance provided to employees by their employees.

Most important for the past several decades has been the increasing concentration of earnings (wages, salaries, and self-employment income) among the top 6 percent of our workforce. In the early 1980’s, Congress set the Social Security taxable maximum level with the intent that about 90 percent of all covered earnings would be below that taxable maximum and thus subject to the payroll tax. For 1983, the share of earnings below the taxable maximum was about 89 percent. In order to maintain this share, Congress specified that the taxable maximum would be indexed to the annual rate of increase in the economy-wide average wage level. Had the relative distribution of the workforce by earnings level remained as it was in 1983, the share of earnings that is taxable would have remained at 89 percent. Instead, this “taxable share” has declined to about 83 percent.

As we have detailed in testimony, the increasing concentration of earnings among the top 6 percent of earners has reduced the share that is below the taxable maximum at a rapid rate of 0.34 percent per year between 1983 and 2001. However, this rate of reduction in the taxable share slowed considerably between 2001 and 2014, to only 0.12 percent per year. Our current projections continue this slowing to 0.04 percent per year between 2014 and 2027. We believe that there is a limit to such earnings concentration, and that the deceleration we have seen recently signals that we are approaching that limit.

We understand that CBO projects a strong reacceleration in earnings concentration and reduction in the taxable share of covered earnings between 2014 and 2027. A further drop in the taxable share from the current 83 percent to just 77.4 percent by 2027, as projected by CBO, suggests substantial structural changes in the economy and employment in the near future.

As a further note, we believe that the actuarial status of the Social Security program should be assessed relative to taxable payroll, which is the tax base available to support the program. Considering Social Security cost as a percent of Gross Domestic Product (GDP) is interesting, but is not directly relevant to the actuarial status of the trust funds. Moreover, comparing program costs, income, or shortfalls as a percent of GDP across two or more projection models can be misleading. For example, in a model where payroll

is declining as a share of GDP (as it does if the model assumes increasing earnings inequality), considering cost as a percent of GDP makes the cost of the program appear to be small and rising slowly. At the same time, the cost of the program will be rising faster as a percent of taxable payroll, the actual revenue base for the program.

**4. Are there special considerations that should be taken into account when making long-term (75 year) projections as compared to making near-term projections, such as the 1, 5 or 10 years that have long been a focus for CBO?**

Projections of 5 years or less for the economy, the population, and operations of the trust funds are generally done by extrapolating very recent trends. It is difficult in this short time frame to accurately project turning points in trends and changes in underlying conditions. For a long-term projection of 50 or 75 years, it is essential to make judgments about the ultimate average levels or rates of change for parameters, reflecting expected changes in underlying conditions and movements within economic and other cycles. A 10-year projection is generally too long to use a simple extrapolation of recent trends and requires consideration of how and when recent trends will transition into long-term ultimate levels or rates.

For long-term assumptions, we generally consider longer-term historical average levels or trend rates of change as a starting point. However, analysis of the underlying conditions that contributed to the historical experience, and an assessment of the degree to which these underlying conditions are likely to change in the future, is critical. Every long-term assumption should be analyzed for reasonableness.

**5. Please discuss the notion of making incremental changes in assumptions from year to year, and how you approach whether and to what extent your assumptions should reflect recently-observed changes in economic and demographic behavior.**

In selecting longer-term assumptions, it is important to be clear on why the future value or trend for each parameter is expected to be the same or different from the past. Recently observed changes in any parameter can be simple aberrations due to unexpected one-time events, or stages of a cycle. Such recent changes should be given little weight in selecting long-term ultimate assumptions. However, some recently observed changes are the result of well-understood fundamental modifications in conditions that are highly likely to persist, such as the drop in the birth rate after 1965, increased labor force participation by women over the last three decades, and of course changes in law. Changes of this sort should be reflected in long-term assumptions quickly, potentially even before substantial new experience is recorded to reflect the changing condition.

When recently observed changes persist for several years without evidence that they represent a cyclic movement, then some incremental change in the expected ultimate level or trend rate is reasonable. If the change persists longer, then further modification in the long-term assumption may be warranted to the degree that a fundamental or structural change in underlying conditions can be identified. The credibility of long-term

assumptions and projections depends on the reasonableness of the rationale for maintaining or deviating from long-term past levels or trends.

Adherence to the principle of incremental change has served us well in producing consistent and stable projections of the actuarial status of the Social Security Trust Funds in the annual Trustees Reports starting in 1941.

**6. What is the oversight structure regarding your projections – what other entities review or have input into the development of the assumptions, the methods, and the results produced by the staff working on the projections?**

The assumptions and methods used for the projections in the Trustees Reports are subject to a very substantial level of oversight and demand for transparency. The methods and assumptions are reviewed and approved by the members of the Boards of Trustees each year, and are certified to be reasonable by the Social Security and Medicare Chief Actuaries, as required by the law.

In addition, Technical Panels composed of actuaries, demographers, and economists from outside of the Trustees' process have been appointed by the independent Social Security Advisory Board (and earlier by Advisory Councils) every 4 years for several decades. These Panels openly and publicly review our assumptions and methods and make recommendations for any changes they feel appropriate. Their conclusions are made public, along with their rationale for suggested changes. In addition, the Trustees Report projections are subject to an annual full-scope audit by the SSA's inspector general (IG), including participation by both a major auditing firm selected by the IG and the Government Accountability Office. Their findings are published in the agency's Annual Financial Reports.

OACT publishes extensive documentation, so our methods, assumptions, and the projections themselves are scrutinized by a wide range of academics, interest groups, and members of Congress. Questions and criticisms that arise from this transparency push us to continually develop and refine our projections. In addition, we continually engage with outside experts in relevant areas, through conferences and informal contacts, in order to solicit other views and discuss the widest possible range of considerations for future assumptions. For these reasons, we believe that our projections and methods are the best possible at this time and will continue to be in the future.

**7. Why is the discipline of actuarial science relied upon for making long-term valuations of insurance systems?**

Actuarial science has existed and has been evolving for centuries. It combines knowledge and understanding of demographics, economics, insurance risks, and actuarial valuation. These multidisciplinary aspects are necessary to assess the "actuarial status" as required by law for our major national social insurance programs.

Making a valuation of any insurance system requires a precise understanding of the nature of the coverage and the basis for its financing. The solvency of the insurer is the first priority, to assure that insured status that has been earned by paying premiums will be met with benefits as prescribed. Actuaries are uniquely educated, trained, and equipped to make these valuations.

Unlike most other professions, actuaries focus on long-term analysis, which is fundamental for many types of insurance. Individuals who have attained insured status for Social Security benefits may be decades away from the time when they may claim and begin receiving benefits. Thus, experience and training in long-term modeling and risk considerations are essential in developing credible valuations of the actuarial status of the Social Security program.

In addition to training, actuaries are subject to a stringent credentialing process, involving exams assessing competency in the multidisciplinary aspects of the profession. Once credentialed, actuaries are subject to strict continuing education requirements, standards of practice, and counseling and discipline imposed by the profession. For these reasons, actuaries are essential for performing the valuations required by the Social Security Act. Finally, due to the special nature of social insurance at the national level, our office employs not only actuaries, but also specialists in demography, and economists experienced in all aspects of employment and earnings analysis and modeling. This integrated team of professionals carries on the legacy of Bob Myers, who started the actuarial work on the Social Security program, even before enactment in 1935.

I hope this further information will be helpful. If you have any additional questions or need assistance in any way, please let me know.

Sincerely,

A handwritten signature in black ink that reads "Stephen C. Goss". The signature is written in a cursive style with a large initial 'S'.

Stephen C. Goss, ASA, MAAA  
Chief Actuary

Enclosures

cc: Kathryn Olson

# COMMITTEE ON WAYS AND MEANS

U.S. HOUSE OF REPRESENTATIVES  
WASHINGTON, DC 20515

November 4, 2016

Stephen C. Goss  
Chief Actuary  
Office of the Chief Actuary  
Social Security Administration  
6401 Security Boulevard  
Baltimore, MD 21235

Dear Mr. Goss:

Thank you for your testimony before the Subcommittee on September 21 at its hearing on “Understanding Social Security’s Solvency Challenges.” In order to complete the record for the hearing, please respond to the following questions:

1. Please describe the model or approach the Office of the Chief Actuary (OCACT) uses for making long-range projections, and what you know of the model and approach used by the Congressional Budget Office (CBO), comparing and contrasting the relative strengths and weaknesses of each approach.
2. Please elaborate further on your projections regarding changes in the rate of labor force participation, and the reasoning behind the assumptions you make about the future, compared to past experience. Also, why are these rates shown in presentation after adjustment for age and sex, and what is the impact of this on your modeling and projections?
3. Please elaborate further on your projections regarding the rate of increase in income inequality, and the rationale for the assumptions you make about the future, compared to past experience.
4. Are there special considerations that should be taken into account when making long-term (75 year) projections as compared to making near-term projections, such as the 1, 5 or 10 years that have long been a focus for CBO?
5. Please discuss the notion of making incremental changes in assumptions from year to year, and how you approach whether and to what extent your assumptions should reflect recently-observed changes in economic and demographic behavior.
6. What is the oversight structure regarding your projections – what other entities review or have input into the development of the assumptions, the methods, and the results produced by the staff working on the projections?

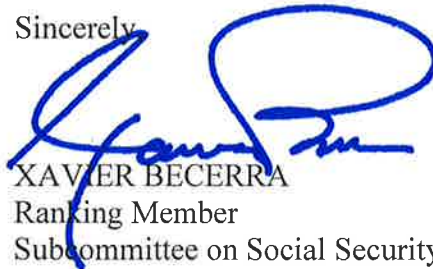
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7. Why is the discipline of actuarial science relied upon for making long-term valuations of insurance systems?

I would appreciate receiving your response to these questions by November 28, 2016. Please send your response to the attention of Kathryn Olson, Democratic Staff Director, Subcommittee on Social Security, Committee on Ways and Means, 2017 Rayburn House Office Building, Washington, DC 20515. In addition to a hard copy, please submit an electronic copy of your response to [Kathryn.Olson@mail.house.gov](mailto:Kathryn.Olson@mail.house.gov) and to the Subcommittee clerk at [MM.Russell@mail.house.gov](mailto:MM.Russell@mail.house.gov).

Thank you again for your testimony and your attention to these questions.

Sincerely,



XAVIER BECERRA

Ranking Member

Subcommittee on Social Security