

**DISAGGREGATION OF CHANGES IN THE LONG-RANGE ACTUARIAL BALANCE
FOR THE OLD AGE, SURVIVORS, AND DISABILITY
INSURANCE (OASDI) PROGRAM SINCE 1983**

by Sharon Chu, Seung H. An, and Kyle Burkhalter, FSA

Introduction

One measure that the Office of the Chief Actuary uses to summarize the long-range (75-year) actuarial status of the OASDI program is the long-range actuarial balance. This actuarial note documents the changes in actuarial status of the OASDI program since 1983 by providing a disaggregation of the change in actuarial balance into several components.

An actuarial balance of zero for any period indicates that cost for the period could be met for the period as a whole (but not necessarily at all points in the period), with a remaining trust fund reserve at the end of the period equal to 100 percent of the following year's cost. A negative actuarial balance for a period indicates that the present value of income to the program plus the trust fund at the beginning of the period is less than the combined present value of the cost of the program and the cost of reaching a target trust fund reserve of one year's cost by the end of the period.¹

Recent Trustees Reports include a table containing long-range OASDI actuarial balances shown in prior Trustees Reports. For example, table VI.B1 in the 2019 Trustees Report² shows actuarial balances for Trustees Reports from 1982 through 2019, and total year-to-year changes.

For the 1982 Trustees Report, the long-range actuarial balance was -1.82 percent of taxable payroll. The 1983 Amendments restored the long-range actuarial balance to 0.02 percent of taxable payroll. Since then, the long-range actuarial balance has decreased. Beginning with the 1983 report, each year's Trustees Report provides a disaggregation of the changes into the following six categories: (1) legislation and regulation, (2) valuation period, (3) demographic data and assumptions, (4) economic data and assumptions, (5) disability data and assumptions, and (6) methods and programmatic data. For example, Table IV.B7 of the 2019 Trustees Report shows the effects of changes on the long-range actuarial balance between the 2018 and 2019 reports, and the sur-

rounding text in the 2019 report provides detailed explanations of what changed and why.

Table 1 of this actuarial note presents the disaggregation of these annual changes among the six categories, beginning with the effects of changes on the actuarial balance between the 1983 and 1984 reports. Table 1 also shows the actuarial balance for the 1982 Trustees Report to give a frame of reference for the magnitude of change achieved by the 1983 Amendments. Finally, Table 1 shows the total change since 1983, the disaggregation of this total by category of change, and the percent of the total attributable to each category.

Categories for Change in Actuarial Balance

Legislation and Regulation

Changes in laws and regulations affecting Social Security program operations have effects on the long-range estimates of the actuarial status of the program.

In 1981, the Congress and the President appointed the National Commission on Social Security Reform (NCSSR), which was chaired by Alan Greenspan, to study and make recommendations regarding the short-term financing crisis and long-term shortfall facing Social Security. At that time, estimates indicated that the OASI Trust Fund reserves would deplete in July or August of 1983. The Greenspan Commission issued its Report in January of 1983. This Report was the foundation for the 1983 Social Security Amendments, which President Reagan signed into law (HR 1900, Public Law 98-21) on April 20, 1983. The Office of the Chief Actuary prepared cost estimates for many possible changes considered by the Commission, and worked closely with the Congress on the development of the final Bill that was enacted in 1983.

Since 1983, several changes in laws, regulations, policies, and court decisions have had significant effects on the long-range actuarial balance.

Valuation Period

If all assumptions, methods, starting values, and the law had remained unchanged from each prior Trustees

¹ Table IV.B6 of the 2019 Trustees Report illustrates the calculation of the long-range actuarial balance as of January 1, 2019, using the intermediate assumptions of the 2019 Trustees Report.

² The 2019 Trustees Report is located at: www.ssa.gov/OACT/TR/2019/index.html.

Report, and all projections had been realized, the long-range actuarial balance would still have decreased from one year to the next after 1983. The decrease primarily results from including the relatively large negative annual balance (difference between non-interest income and the cost of paying scheduled benefits) for the new ending year of each 75-year valuation period.

Demographic Data and Assumptions

This category for change includes any changes in ultimate demographic assumptions (for example, fertility rates, mortality rates, and net immigration/emigration), any changes in historical values, any updates to starting values and, if applicable, their effect on the transition to ultimate levels.

Economic Data and Assumptions

This category for change includes any changes in ultimate economic assumptions (for example, the real-wage differential and the annual rates of change in CPI, total employment, real GDP, and average annual wage in covered employment), as well as any changes in near-term economic assumptions. In addition, this category includes any updates to starting values and, if applicable, their effect on the transition to ultimate levels.

Disability Data and Assumptions

This category for change includes changes to ultimate disability incidence or termination rates from the prior report. In addition, this category includes any updates to historical disability experience and starting levels of beneficiaries and, if applicable, their effect on the transition to ultimate levels.

Methods and Programmatic Data

This category for change includes any enhancements to models used by the Office of the Chief Actuary for making its estimates, including demographic models (for example, the lawful-permanent-resident immigration model), economic models (for example, the labor force participation model), and other actuarial models (for example, the model used to project the fully insured population). In addition, this category includes new programmatic data, including any updates or changes to data relevant to the program in the near term (for example, updating the historical beneficiary sample used to project benefit levels for workers newly entitled in the future).

Table 1.—Changes in the Estimated Long-Range OASDI Actuarial Balance Since the 1983 Trustees Report
(as percent of taxable payroll)

Year of Report	Legislation/Regulation	Valuation Period	Demographic Data and Assumptions	Economic Data and Assumptions	Disability Data and Assumptions	Methods and Programmatic Data	Total	Long-Range Actuarial Balance
1982 ^a								-1.82
1983								0.02
1984	b	-0.03	0.04	-0.01	-0.11	0.03	-0.08	-0.06
1985	-0.01	-0.03	-0.02	0.09	-0.04	-0.33	-0.35	-0.41
1986	b	-0.04	0.19	-0.10	-0.05	-0.03	-0.03	-0.44
1987	-0.05	-0.04	-0.09	0.02	-0.02	b	-0.18	-0.62
1988	b	-0.05	0.17	-0.13	0.02	0.03	0.04	-0.58
1989	b	-0.04	0.07	-0.11	-0.04	b	-0.13	-0.70
1990	-0.01	-0.05	0.03	-0.17	-0.01	b	-0.21	-0.91
1991	0.17	-0.05	0.04	-0.11	-0.01	-0.22	-0.17	-1.08
1992	b	-0.05	0.17	-0.10	-0.20	-0.19	-0.38	-1.46
1993	b	-0.05	0.11	-0.01	-0.08	0.03	b	-1.46
1994	b	-0.05	b	-0.18	-0.11	-0.31	-0.66	-2.13
1995	b	-0.07	0.12	0.02	-0.05	-0.07	-0.05	-2.17
1996	0.03	-0.08	-0.03	-0.04	-0.03	0.14	-0.02	-2.19
1997	0.03	-0.08	-0.03	0.06	-0.02	b	-0.03	-2.23
1998	b	-0.08	-0.05	0.16	0.01	b	0.04	-2.19
1999	b	-0.08	0.03	0.15	0.00	0.02	0.12	-2.07
2000	b	-0.07	-0.07	0.14	0.00	0.17	0.17	-1.89
2001	b	-0.07	0.09	0.02	0.02	-0.02	0.03	-1.86
2002	b	-0.07	-0.05	0.12	0.03	-0.04	-0.01	-1.87
2003	b	-0.07	-0.04	b	b	0.06	-0.04	-1.92
2004	b	-0.07	0.02	-0.04	0.04	0.08	0.03	-1.89
2005	b	-0.07	0.03	-0.06	-0.01	0.07	-0.04	-1.92
2006	b	-0.06	0.03	-0.06	-0.04	0.04	-0.09	-2.02
2007	b	-0.06	-0.03	0.02	0.06	0.08	0.06	-1.95
2008	b	-0.06	b	b	b	0.32	0.26	-1.70
2009	b	-0.05	-0.11	-0.15	-0.01	0.03	-0.30	-2.00
2010	0.14	-0.06	-0.05	0.00	-0.02	0.07	0.08	-1.92
2011	b	-0.05	-0.14	-0.06	-0.01	-0.05	-0.30	-2.22
2012	b	-0.05	-0.05	-0.21	-0.04	-0.08	-0.44	-2.67
2013	-0.15	-0.06	-0.17	-0.03	0.01	0.35	-0.05	-2.72
2014	-0.01	-0.06	0.04	-0.10	0.02	-0.05	-0.16	-2.88
2015	0.02	-0.06	-0.03	0.10	b	0.17	0.20	-2.68
2016	0.03	-0.06	b	-0.07	b	0.11	0.02	-2.66
2017	b	-0.05	-0.03	-0.08	0.03	-0.04	-0.17	-2.83
2018	b	-0.06	-0.01	-0.01	0.01	0.05	-0.02	-2.84
2019	b	-0.05	-0.06	-0.04	0.07	0.01	0.06	-2.78
Total since 1983 Report	0.19	-2.10	0.24	-0.98	-0.59	0.43	-2.80	
Percent of Total	-7%	75%	-9%	35%	21%	-16%	100%	

^a The table includes the actuarial balance in the 1982 Report to give a frame of reference for the magnitude of change achieved by the 1983 Amendments.

^b Between -0.005 and 0.005 percent of taxable payroll.

Notes: 1. Data in this table is based on tables in the current and prior OASDI Trustees Reports.

2. Totals do not necessarily equal the sum of rounded components.