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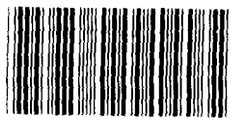
Report to the Commissioner of Social Security

February 1988

SOCIAL SECURITY FUNDS

Additional Measures Could More Fully Indicate the System's Financial Condition



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GAO

United States
General Accounting Office
Washington, D.C. 20548

Program Evaluation and
Methodology Division

B-227675

February 5, 1988

The Honorable Dorcas R. Hardy
Commissioner of Social Security

Dear Ms. Hardy:

We are sending you our analysis of some technical changes we believe should be made in how the social security trust fund reserves are reported. Specifically, we looked at how the trustees' report currently presents actuarial information regarding the balances and found several instances where additional actuarial data could more fully represent the status of the funds.

We are sending copies of the report to relevant committees of the Congress and to others who are interested, and we will make copies available to others on request.

Sincerely yours,

Eleanor Chelimsky
Director

Executive Summary

Purpose

The social security program, especially the Old-Age and Survivors Insurance and Disability Insurance (OASDI) trust funds, will soon be facing a financial challenge. At the same time that the size of the trust fund reserves is increasing, the long-term position of OASDI is becoming less favorable. Information quality is of great importance in such a context. Therefore, GAO examined issues in the presentation of actuarial information and developed additional measures that the Social Security Administration (SSA) could use to document the financial condition of the funds.

Background

In fiscal year 1986, OASDI income was $215 billion, largely payroll tax revenue. About 95 percent of the U.S. population reaching age 65 is now eligible for OASDI retirement benefits, while 80 percent of those 21-64 have disability protection.

An annual SSA trustees' report presents forecasts, or projections, for a 75-year period starting with the current year. The major measure of the financial condition of the trust funds in the trustees' reports is the actuarial balance, which represents the funds' average annual income rate minus their average annual cost rate over a 75-year period. The income and cost rates are expressed not in dollars but as percentages of annual taxable payroll. OASDI is considered "in close actuarial balance" for the 75 years if the projected average income rate is between 95 and 105 percent of the average cost rate. Using moderate, or the II-B, assumptions about the economy (the assumptions GAO applied throughout this report), the 1987 trustees' report shows OASDI in close actuarial balance for the 1987-2061 period, with an average income rate that is 95.4 percent of the average cost rate.

A second major indicator used in the trustees' report is the contingency fund ratio, which is defined as the assets in the OASDI trust funds at the beginning of a year expressed as a percentage of expenditures during the same year. The contingency fund ratio can be expressed as the number of years' worth of expenditures that the existing trust fund holds as a reserve. The ratio has been below 1 year's reserve every year since 1970.

The current OASDI trust fund projections show that substantial reserves are very likely to accumulate as "baby boomers" enter prime working years. The short-term growth in the funds will raise the fund ratio to an estimated maximum of 5.1 years in 2015. However, the later cost of baby boom retiree benefits and the slower growth of fund income

caused by lower recent and projected birth rates create long-term problems. The reserves are projected to be exhausted in 2049, which is expected to be followed by years of annual deficits.

At issue is how well currently reported information reflects the condition of the funds. GAO developed two specific new measures: the imbalance year, or the year the funds are projected to go out of actuarial balance, and the adjusted actuarial balance, an indicator that takes into account the possible buildup of trust fund reserves.

Results in Brief

The pending fluctuations of the trust funds create a need for developing and reporting more measures of an early warning nature. GAO has developed one such indicator, the "imbalance year." This is the year in which the trust funds would go out of close actuarial balance for the subsequent 75-year period if assumptions are realized. GAO calculates that 1988 or 1989 will be the imbalance year for OASDI.

GAO also developed a measure, the "adjusted actuarial balance," that gives a fuller representation of the financial position of the OASDI program than is now available. This measure takes into account accumulated reserves, if any, and sets as a standard a 1-year positive fund ratio at the end of the projection period. From the viewpoint of this measure, OASDI has already fallen out of close actuarial balance for the 75-year period 1987-2061.

GAO's projections suggest the emergence of two issues during the next 2 years. First, action will be needed soon if the trust funds are to remain in close actuarial balance, given the current actuarial balance. Second, as options for the social security system are studied, they are likely to include those that permit the accumulation of reserves in the near future as well as those that limit the reserve buildup. In both circumstances, GAO believes that the two new measures would be useful.

Findings

The Imbalance Year

The 1987 trustees' report indicates that the combined OASDI trust fund is in close actuarial balance; that is, expenditures, expressed as a percentage of expected payroll, are within 5 percent of income, also expressed as a percentage of expected payroll, on the average over the next 75

years. These same data also project the rapid buildup of substantial fund reserves as "baby boomers" enter prime working years and a relatively small number of retirees born in the depression years draws on the funds.

In about 20 years, however, the leading edge of the baby boom will reach 65 years of age and expenditures will accelerate, surpassing income by 2019. Each year that goes by eliminates a favorable year from the calculation of the actuarial balance and adds an unfavorable one. Assuming current projections are realized, the fund will go out of balance in a fairly short time.

GAO used data from SSA's extended projections and found that the imbalance year—the year the trustees' report will show an actuarial imbalance—is likely to be 1988 or 1989. SSA does not presently calculate the imbalance year. GAO believes it would be valuable as an early warning indicator of an impending actuarial imbalance in OASDI's long-term position and as a measure for assessing the consequences of proposed changes in benefits, cost-of-living adjustments or tax rates.

The Adjusted Actuarial Balance

The adjusted actuarial balance developed by GAO—unlike SSA's indicator—takes into account the assets at the start of the projection period and thus reflects the favorable financial effects of a substantial reserve buildup. The adjusted measure also incorporates 1 year's worth of expenditures at the end of the 75-year projection period as an acceptable reserve. GAO believes that both of these characteristics make the adjusted actuarial balance an improved measure of the financial condition of OASDI. Assuming reserves are allowed to build up as projected, the adjusted actuarial balance in coming years should give a markedly more positive view of OASDI than the current indicator. The trust funds are out of balance, however, on the adjusted measure for the 1987-2061 period, because the addition of the modest initial reserves is more than compensated for by the 1-year reserve for expenditures in 2062.

The status of the trust funds is already receiving considerable public and policy attention. The new GAO measures are likely to be useful in future debates on such topics as accumulation versus expenditure of the reserves, expansion of benefits, changes in the payroll tax rates, and other proposals concerning the financing of OASDI and expenditures of the trust funds.

Recommendation

GAO recommends to the Commissioner of Social Security that SSA, working through the Board of Trustees, calculate additional measures and report each in the long-range financing section of the summary of the annual trustees' report. Specifically, GAO recommends that the following measures be added: (1) the imbalance year and (2) the adjusted actuarial balance.

Agency Comments

The Department of Health and Human Services agreed with GAO that the current actuarial balance should be modified to give recognition to sizable fund accumulations. The Department took issue, however, with GAO's proposed specific measures, citing in particular the concern that reporting the additional information could be confusing to readers. GAO does not agree. The Department's letter and GAO's response are presented in appendix IV.

Contents

Figures

Abbreviations

CFR	Contingency fund ratio
COLA	Cost-of-living adjustment
DI	Disability Insurance
GAO	General Accounting Office
OASDI	Old-Age and Survivors Insurance and Disability Insurance
OASI	Old-Age and Survivors Insurance
SSA	Social Security Administration

Introduction

The social security system has had high visibility as a result of periodic financial crises in the last dozen years. Currently, the system is facing a different challenge; at the same time that the size of the trust funds is increasing, the long-term actuarial position of the funds is growing less favorable. In the upcoming decades, the system should develop substantial assets: increases in total benefit payments will slow down, reflecting a smaller supply of new retirees due to lower birth rates from 1925 through the great depression of the 1930's, while contributions to the system will jump as the entire post-World War II baby boom generation enters prime working years. But in the year 2010—about 20 years from now—those born in 1945 will turn 65. The demographics will then begin to create a long-term strain on the system because later generations are not expected to produce contributing workers at a pace to match the baby boom retirees.

Much already has been written about these matters; the special issue we addressed was the completeness of information, from an actuarial perspective, about the long-term outlook for the funds. We were concerned first about the adequacy of early warning information that might permit an incremental, and thus potentially more acceptable, array of approaches to dealing with anticipated problems. Our second concern focused on how assets likely to accumulate in the next 30 years are represented in the actuarial balances that will be reported in those years. The present definition of actuarial balance does not consider them and we believe it should. We recognize, of course, that the projections are based on assumptions about the state of the economy and workforce behavior that in themselves are difficult to predict and that, as the time horizons increase, so do uncertainties about what the state of the funds might be many years from now.

Background

This report concerns the social security system, specifically the Old-Age and Survivors Insurance and Disability Insurance (OASDI) program. This program consists of two trust funds—the Old-Age and Survivors Insurance (OASI) and the Disability Insurance (DI) trust funds—that are consolidated for many management and reporting purposes. The program is large, even by government standards. In fiscal year 1986, trust fund income was $215 billion ($195 billion for OASI and $20 billion for DI), consisting largely of proceeds of a payroll tax, split equally between

employees and their employers.[1] Disbursements, mainly consisting of benefit payments, were $199 billion ($179 billion for OASI and $20 billion for DI) for the same period. About 125 million people are estimated to be working in jobs covered by social security in 1987.[2] About 95 percent of the U.S. population reaching age 65 is eligible for retirement benefits, while about 80 percent of those 21-64 have long-term disability protection.[3]

With the large number of people making or receiving payments and the magnitude of the sums involved, the management and oversight of the trust funds is a major responsibility in which considerable resources are invested. The Board of Trustees oversees and the Social Security Administration (SSA) administers the trust funds. The Board of Trustees reviews projections of future trust fund income and disbursements, examines the measures of financial soundness, and submits an annual trustees' report to the Congress. This is the basic report on the financial status of the social security program. The calculations for the report are done by SSA staff, which is also responsible for maintaining earnings records, making and reviewing benefit determinations, and otherwise administering the program.

Much of the analysis of the condition of the trust funds consists of projections, or forecasts, prepared by a group of actuaries using the long-range OASDI cost estimate model, which produces estimates of future expenses and future revenues and compares the two.[4] The model consists of a large set of mathematical equations converted into a form in which the necessary calculations can be made by computers. While the model is an abstract representation consisting of hundreds of equations and thousands of individual data points, it has a very concrete application. Its forecasts are central to monitoring the financial status of the social security program and assessing the need for changes in financing.

[1]Board of Trustees, 1987 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds (Washington, D.C., 1987), pages 50-51 and 54-55. In addition to net contributions of $205.1 billion, other OASDI fiscal year 1986 income included income from taxation of benefits ($3.6 billion), net interest ($3.4 billion), and payments from the general fund of the Treasury ($3.3 billion).

[2]Social Security Administration, Social Security Administration 1987 Annual Report to the Congress (Baltimore, Md., 1987), p. 1.

[3]Social Security Administration, Social Security Administration 1986 Annual Report to the Congress (Washington D.C., 1986), pp. 1-2.

[4]For more information on the OASDI cost estimate models, see General Accounting Office, Retirement Forecasting: Technical Descriptions of Cost, Decision and Income Models (Washington, D.C., GAO/PEMD-87-6B, Volume 2, December 31, 1986), pp. 13-23.

The future expenses and revenues for the trust funds depend heavily on how many people are retirees receiving benefits that become expenses for the trust funds and how many are working and contributing taxes that become the revenue. The input data for the model reflect this fact by including information varying from detailed characteristics of the population to patterns of retirement trends to assumptions about economic growth. Economic growth is critical because it determines the increase in average wages and the differential between wage growth and inflation. This differential is the growth in real wages and is a key variable in the projection of the financial status of social security.

Because the projections of the OASDI cost estimate model are very sensitive to the economic and other assumptions used, there are four alternative sets of assumptions. All tables in this report reflect SSA's "II-B", or moderate growth, set of assumptions.

Two other sets of assumptions (referred to as the "I" and "II-A" assumptions) are more optimistic than the ones we use and one set ("III") is more pessimistic. We use the II-B set alone because, on the one hand, this is not a report about the accuracy of the assumptions[5] and, on the other hand, the II-B assumptions are widely regarded as the trustees' central set of assumptions. The precision of our projections is heavily dependent upon how closely the II-B assumptions approximate actual experience. Although periods of underestimation and overestimation of economic growth could offset one another, our results would be significantly affected by long-term systematic inaccuracies in the values used in the II-B assumptions.[6]

Main Output of the Models

The most important measure of the financial condition of the trust funds is the actuarial balance. The long-range OASDI cost estimate model produces projections of the income rate, cost rate, and actuarial balance.

[5]For readers who are interested in the accuracy of the assumptions during the period of 1972-1983, see General Accounting Office, Social Security: Past Projections and Future Financing Concerns (Washington, D.C., GAO/HRD-86-22, 1986), chapter 3.

[6]For each of the many variables that are part of the model, SSA assumes values for each year in the projection period. Those values are subject to later revision; but until they are revised they become the input for the model. To illustrate the nature of those assumptions, we list values assigned to selected indicators for the year 1987 as reported on page 33 of the 1987 trustees' report: real gross national product increase, 2.3%; increase in average wages, 4.3%; increase in consumer price index, 3.2%; average annual interest rate, 7.6%; average unemployment rate, 7.1%. The I and II-A assumptions are more optimistic than this, showing a greater increase in the real gross national product, lower unemployment rates, and the like. The III assumptions are more pessimistic, showing a smaller increase in the real gross national product, higher unemployment rates, and the like.

The income and cost rates refer to the projected annual income and expenses of the trust funds, each expressed not in dollars but as percentages of annual taxable payroll.[7] Thus, the income rate represents the projected tax income as a percentage of taxable payroll and the cost rate represents the projected expenditures as a percentage of taxable payroll.[8] The actuarial balance represents the difference between the average income rate and the average cost rate over a given number of years, which in this case is the 75-year period represented by the long-range model. The program is called in "close actuarial balance" for the long-range period if the estimated average income rate is between 95 percent and 105 percent of the estimated average cost rate. The program is not considered to be in sound financial condition if the average income rate is estimated to fall below 95 percent of the average cost rate.

While the actuarial balance refers to the difference between the estimated average income rate and the estimated average cost rate, the annual balance reflects the difference between the estimated income rate for a given year and the estimated cost rate for that year. An actuarial balance figure represents the average of annual balances over a period such as 75 years. Note that neither the annual balance nor the actuarial balance is affected by the size of the trust funds at the beginning of the projection period.

Objectives, Scope and Methodology

The specific objectives of our review were the following:

1. Review, from an actuarial perspective, the measures used by SSA and the Board of Trustees to describe the financial condition of the trust funds.

2. Suggest any needed changes or additions to the measures used in the annual trustees' report on the trust funds.

The scope of our review is the OASDI trust fund over the long term. We exclude the Medicare program, which consists of the Hospital Insurance and the Supplementary Medical Insurance trust funds, because they are separate from OASDI. We also exclude another major SSA program, the Supplemental Security Income program for aid to the aged, blind, and

[7] 1987 Annual Report of the Board of Trustees, page 4.

[8] Income excludes interest income for reasons we discuss in chapter 4.

disabled, because it is financed from general revenues rather than social security taxes.

We analyzed a series of projections using the long-range OASDI cost estimate model that were produced to our specifications in late 1986 by SSA. We used these projections in two ways. The first develops information on when the trust funds are likely to go out of close actuarial balance. The second examines what the balances would be when reported with and without taking into account the reserves likely to accumulate in the future under different policy options. The second type of projections provides estimates for the 75-year period 2020-2094. We decided upon this extended time period because we needed—for reasons that will be clearer when the measure "adjusted actuarial balance" is discussed in chapter 3—a 75-year period which begins with substantial assets, or reserves, at the beginning of the period. A projection beginning any time during the period 2005-2025 meets this requirement, as will be shown in chapter 2.

We emphasize that our selection of options for analysis is intended to be illustrative of the value of our proposed new measures. Thus, we will make specific recommendations about the measures, but not about what options should be considered.

The Organization of This Report

Chapter 2 provides an analysis of the imbalance year, using the long-term outlook with consideration of the issue of the upcoming reserve buildup. Chapter 3 concerns the analyses of the adjusted actuarial balance, using the impacts of selected options to illustrate conclusions that might be drawn with and without taking the reserves into account. In chapter 4, we describe some additional measures of the financial condition of OASDI. The appendices contain technical information, a copy of the comments made on a draft of this report by the Department of Health and Human Services, and our response.

The Imbalance Year

Demographic trends have led to predictions that, over the next few years, increases in social security benefit payments will slow down because of lower birth rates during the 1930's, while income and trust fund assets accelerate as baby boomers enter prime working years. In about 20 years, however, those born in 1945 will turn 65. Other things being equal, benefit payments will then jump while income drops off and fund assets decline sharply. The post-World War II swing from low to high birth rates was rapid, creating a situation where, in a few years, the 75-year outlook for the OASDI trust funds should quickly turn from close actuarial balance to being notably out of balance.

An out-of-balance condition is likely to trigger concern about the trust funds and to create debate, under public pressure, to consider options for dealing with the situation. An early warning of when this situation is likely to occur can give the Board of Trustees and the Congress the opportunity to consider the condition of the funds under somewhat less pressure.

We have computed such an indicator, the imbalance year, and illustrate its application.

What Is Already Known About the Actuarial Balance

Anyone interested in the financial condition of the OASDI program should read the "Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds." The 1987 version of this document runs 126 pages and is packed with tables, descriptive text, and graphs. The trustees' report contains a wealth of information, including:

1. historical information about past financial results,

2. income and expense statements for OASI and DI,

3. short-term and long-term projections,

4. assumptions used for the several projections contained in the report, and

5. detailed lists of assets held.

Those concerned with the long-term financial condition of the trust funds find the long-range (75-year) actuarial balance to be the most important number in the report. The most significant trigger of concern

about the long-run financial condition of OASDI occurs when the system is found to be out of close actuarial balance. This happens when the average income rate is not within 95 to 105 percent of the average cost rate. We agree with the importance of the actuarial balance statistic.

Table 2.1 contains key actuarial balance statistics for the entire OASDI program and separately for the OASI and the DI trust funds. The actuarial balance of −0.51 percent of taxable payroll means simply that OASDI costs are projected to exceed revenues during the 75-year period 1986-2060. The last column of table 2.1 indicates that the combined OASDI fund and the component OASI fund meet the criterion of being in close actuarial balance. The income rates are estimated at 96.2 percent and 97.0 percent of the cost rates, respectively, for OASDI and OASI. The income rate for the smaller DI program is only about 90 percent of its cost rate, which means that it is not in close actuarial balance.

Table 2.1: Estimated 75-Year Average Income Rate, Cost Rate and Actuarial Balance by Trust Fund, Calendar Years 1986-2060

Trust fund	Income rate	Cost rate	Actuarial balance	Income rate as a percent of cost rate
OASI	11.46%	11.81%	−0.35%	97.0%
DI	1.43	1.59	−0.16	89.9
OASDI	12.89	13.40	−0.51	96.2

The numbers in this report differ somewhat from statistics published in the 1986 and 1987 trustees' reports. For example, the OASDI actuarial balance is −0.44 percent of taxable payroll in the 1986 trustees' report, −0.51 in table 2.1, and −0.62 percent in the 1987 trustees' report. All three projections are in close actuarial balance. The estimated average income rates are, respectively, 96.7 percent, 96.2 percent, and 95.4 percent of the estimated average cost rates. SSA performed the projections for this present analysis in the fall of 1986 after the publication of the 1986 trustees' report. Only some of the modifications to the projections resulting from changes enacted in the Tax Reform Act of 1986 were incorporated in the projections SSA prepared for us. All tables presented in this report are based on those fall 1986 projections, which SSA has not been able to update for us. We believe that the results using 1987 data or more completely adjusted 1986 data would not differ meaningfully from the projections shown.

Why the Fund May Soon Show an Imbalance

In this section, we expand our discussion of the long-term financial condition of the trust funds under the condition that the reserves will be allowed to accumulate. We assume first that the tax increase scheduled for 1990 will take place and will continue indefinitely. We then extend the current analyses, shown in table 2.2, to allow the calculation of 75-year actuarial balances up through 2020. This expanded projection, which is shown in table 2.3 (on page 19), extends the published results from 2061 through 2094.

Table 2.2: Comparison of Estimated Income Rates, Cost Rates, and Annual Balances: Total and by Trust Fund, Calendar Years 1986-2060

	OASI			DI			OASDI		
Calendar year	Income rate	Cost rate	Annual balance[a]	Income rate	Cost rate	Annual balance[a]	Income rate	Cost rate	Annual balance[a]
1986	10.59	9.98	0.61	1.01	1.13	−.12	11.61	11.11	0.50
1987	10.59	9.93	0.66	1.01	1.09	−.07	11.60	11.02	0.59
1988	11.25	9.99	1.26	1.07	1.07	.00	12.32	11.07	1.26
1989	11.27	9.89	1.38	1.07	1.05	.03	12.34	10.94	1.40
1990	11.47	9.96	1.50	1.22	1.04	.18	12.69	11.00	1.69
1991	11.45	9.94	1.51	1.22	1.03	.19	12.66	10.96	1.70
1992	11.47	9.90	1.57	1.22	1.02	.20	12.69	10.92	1.77
1993	11.49	9.88	1.61	1.22	1.01	.20	12.71	10.90	1.82
1994	11.52	9.88	1.63	1.22	1.02	.20	12.74	10.90	1.84
1995	11.55	9.90	1.65	1.22	1.03	.20	12.77	10.92	1.85
2000	11.30	9.13	2.17	1.45	1.12	.33	12.75	10.25	2.50
2005	11.28	8.64	2.64	1.46	1.31	.15	12.74	9.95	2.79
2010	11.30	8.97	2.34	1.47	1.55	−.07	12.78	10.51	2.26
2015	11.36	10.08	1.28	1.48	1.69	−.21	12.84	11.77	1.06
2020	11.43	11.63	−0.20	1.49	1.77	−.29	12.92	13.40	−.48
2025	11.50	12.97	−1.47	1.49	1.88	−.38	12.99	14.84	−1.85
2030	11.55	13.86	−2.31	1.49	1.84	−.35	13.04	15.70	−2.66
2035	11.58	14.16	−2.58	1.49	1.78	−.29	13.07	15.94	−2.87
2040	11.59	14.01	−2.42	1.50	1.77	−.27	13.09	15.78	−2.69
2045	11.60	13.82	−2.22	1.50	1.83	−.33	13.10	15.65	−2.55
2050	11.60	13.83	−2.23	1.50	1.86	−.36	13.10	15.69	−2.59
2055	11.61	13.92	−2.32	1.50	1.85	−.35	13.11	15.77	−2.66
2060	11.61	13.95	−2.34	1.50	1.82	−.32	13.11	15.78	−2.67

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table 2.2 shows that after the base year 1986, the projected OASDI annual balance for selected individual years increases steadily to reach

a maximum annual balance of 2.79 percentage points in 2005. This annual balance then declines and becomes a deficit by 2020. The deficit increases and then seems to plateau in the range of −2.66 to −2.87 in the period 2030-2060. In short, the forecasts indicate that at the same time that the short-term position of the trust funds is favorable, the long-term position shows a prolonged period of deficits starting in 2019 and continuing through the remainder of the projection period to 2060. The 1987 trustees' report attributes this projected decline to the continuing retirements of baby boomers and the absence of a similar "boom" in the working age population in later generations. These estimates are highly dependent upon the accuracy of the II-B economic and demographic assumptions. Possible changes in the mortality rates associated with AIDS or cancer, for example, could significantly affect the accuracy of these estimates.

Each year, the trustees' report presents a new table updating numbers like those presented in tables 2.1 and 2.2, among many other data. In calculating the 75-year actuarial balance, the previous year is dropped, and an additional year is added. Thus, the 1988 figure will be based on the 75-year average for 1988 through 2062. In this manner, the actuarial balance over the 75-year period changes from year to year even if the II-B assumptions are perfectly realized.

Turning to the longer-term outlook, table 2.3 shows that the results from the extended period 2070-2094 reflect a gradual increase in the annual deficits. This contrasts with the plateau of deficits during the period 2030-2070. Thus, our new results for the extended time period indicate a long-term problem with regard to the actuarial balances for the trust funds. That is, the increasing negative values for the annual balance reflect a worsening annual cash flow because of an increasing cost rate combined with a stable income rate. Note that from 2070 to 2094 the estimated income rate increases by 0.03 percentage points while the estimated cost rate increases by 0.58 percentage points.

Because of the long-term demographic effects of cohorts already born, if these projections are accurate and there is no change in the law, the trustees' report for 2020 would show a much more severe financial problem for the trust funds than that reported for the 75-year period starting in 1986. Table 2.4 shows that the position of the fund might change from in close actuarial balance for the period 1986-2060 to being

Table 2.3: Comparison of Estimated Income Rates and Cost Rates for OASDI, Calendar Years 1986-2094

Calendar year	Income rate	Cost rate	Annual balance[a]
1986	11.61	11.11	0.50
1990	12.69	11.00	1.69
1995	12.77	10.92	1.85
2000	12.75	10.25	2.50
2005	12.74	9.95	2.79
2010	12.78	10.51	2.26
2015	12.84	11.77	1.06
2020	12.92	13.40	−0.48[b]
2025	12.99	14.84	−1.85
2030	13.04	15.70	−2.66
2035	13.07	15.94	−2.87
2040	13.09	15.78	−2.69
2045	13.10	15.65	−2.55
2050	13.10	15.69	−2.59
2055	13.11	15.77	−2.66
2060	13.11	15.78	−2.67
2065	13.11	15.75	−2.64
2070	13.11	15.79	−2.68
2075	13.12	15.92	−2.80
2080	13.12	16.08	−2.96
2085	13.13	16.21	−3.08
2090	13.13	16.30	−3.17
2094	13.14	16.37	−3.23

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

[b]The first negative balance appears in the year 2019 (not shown in table).

Table 2.4: Comparison of OASDI Actuarial Balances, 1986-2060 and 2020-2094 Projections

75-year average	Actuarial balance	Income rate as a percent of cost rate
1986-2060	−0.51%	96.2%
2020-2094	−2.64	83.2

severely out of balance for 2020-2094[1] . The 75-year actuarial balance is a deficit of 0.51 percent of taxable payroll in the 1986-2060 period, compared with a deficit of 2.64 percent of taxable payroll for 2020-2094.

[1]In the period 1986-2060, the income rate is estimated at 96.2 percent of the cost rate, which is within the range of 95-105 percent that defines close actuarial balance. The corresponding figure of 83.2 percent for 2020-2094 is well outside that range.

Thus, in the short term, these findings tell us something about what to expect in future trustees' reports. The findings suggest that the imbalance year is not far away. Put another way, the continued worsening of the annual balances in the period 2060-2080 means that the corresponding 75-year actuarial balances beginning in the years 1987-2007 will deteriorate unless revenues are increased or costs are reduced.

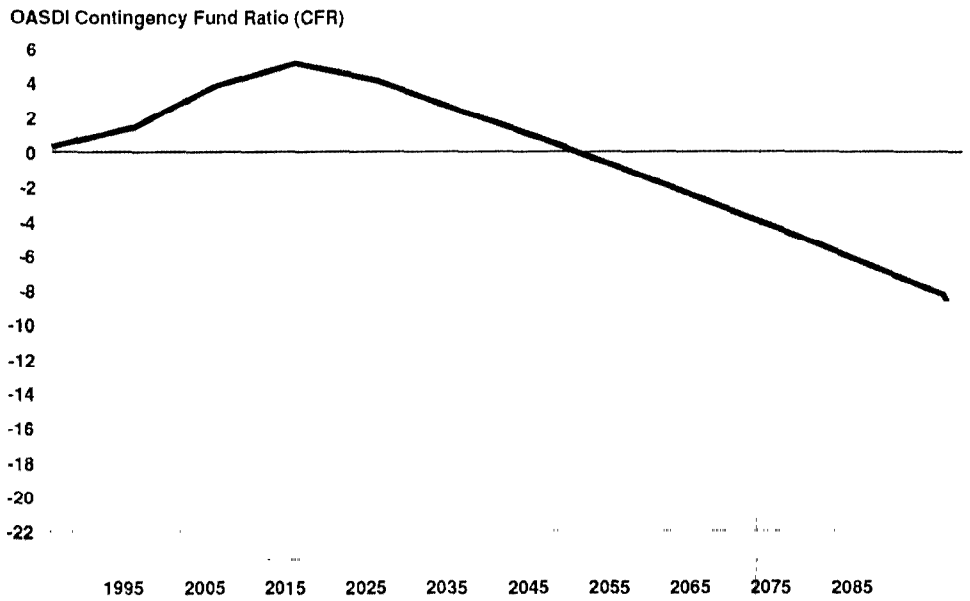
Another measure of the financial status of the trust funds used in the trustees' report is the contingency fund ratio (CFR). The CFR is defined to be the assets at the beginning of a year, or fund reserves, expressed as a percentage of expected expenditures during the same year. Thus, the CFR for 1988 represents the assets on hand on January 1, 1988 (including advance tax transfers for January) divided by the projected disbursements for 1988 times 100 percent. Put another way, the CFR represents the proportion of a particular year's expenditures that is available at the beginning of the year.[2] If one assumes that expenditures in later years will be the same as the year the ratio is based on, then one can divide the CFR by 100 to obtain the number of years' worth of expenditures available in reserve in the trust funds. For example, the CFR in 1955 was 405 percent, which can be expressed as a reserve of 4.05 years' worth of expenditures. The ratio dropped to 1.03 years by 1970 and 0.14 years by 1983, before rising to 0.29 years in 1986.[3]

Figure 2.1 shows the CFR rising to a maximum of about 5 years in 2015 and then dropping steadily with the fund reserves exhausted by 2050, after which the ratio grows increasingly negative, showing reserves of about −2 years in 2060 and about −8 years by the end of our projection in 2094. (The negative ratio is hypothetical, assuming credit is given and benefits continue to be paid, although the funds have been exhausted.) Comparing table 2.3 with figure 2.1, we see that a negative annual balance appears before a negative CFR (by 2020 compared with 2050). This means that the accumulated reserves could be used to meet the continuing annual deficits and enable the trust funds to continue paying benefits in these three decades (that is, from 2020 to 2050) assuming interchangeability of funds between OASI and DI. The most important fact illustrated by figure 2.1 is that the assets in the combined OASDI trust funds are exhausted by 2050.

[2]1987 Annual Report of the Board of Trustees, page 30.

[3]1987 Annual Report of the Board of Trustees, page 47.

Figure 2.1: Estimated OASDI Contingency Fund Ratio, Calendar Years 1986-2094



The Imbalance Year

These analyses lead us to consider an additional measure that would specify the year that the trust funds go out of actuarial balance on the 75-year average basis. Put another way, this measure would predict in which year, for each of the four sets of assumptions, the trustees' report would have to state that OASDI was not in close actuarial balance. We would limit the period for predicting an imbalance year to 10 years. Thus, the 1988 trustees' report would note for each of the four sets of assumptions the year in which OASDI would go out of close actuarial balance, if that were projected to occur before 1998. This measure is needed because the years immediately after the current 75-year projection period 1987-2061 are forecasted to have substantially greater cost than income. (See table 2.3 and appendix II).

The imbalance year will help the Congress and the administration to understand better the implications of current social security financing trends and will foster greater attention toward possible actions to respond to them. Unfortunately, the prospect of reporting OASDI to be out of close actuarial balance is just around the corner.

The imbalance year using the II-B assumptions is 1988 or 1989. That is, the 1988 or 1989 trustees' reports will, we estimate, have to report that

OASDI is not in close actuarial balance. Specifically, our data predict that in 1990 the average income rate will be 94.9 percent of the average cost rate, which falls below the 95 percent minimum standard.[4] The more recent projections presented in the 1987 trustees' report suggest that the actual imbalance year may occur sooner—in 1988 or 1989—instead of 1990. Ironically, OASDI is projected to have its highest reserves in many years, while the 75-year outlook will be getting bleaker.

[4]For details, see appendix III, table 6.

The Adjusted Actuarial Balance

The projected short-term increase in fund assets and long-term excess of expenditures over income has already stimulated debate over how the OASDI should be funded and whether the reserves should be allowed to accumulate. In these debates, the actuarial balance will figure as a relevant measure of the long term health of the funds under different options.

The actuarial balance does not, at present, reflect trust fund reserves. That is, the measure is computed solely on the basis of projected income and expenditures. In the recent past, whether or not the actuarial balance included the reserves had little practical significance, since reserves were small.

We believe, however, that when a reserve buildup is likely, the size of these reserves should be reflected in the actuarial balances reported to the Congress and the public. To illustrate the different conclusions that might be reached about the consequences of different actions, we extended the 75-year projections to a starting year when the reserve buildup is expected to be large (2020) and calculated the actuarial balances that would then be reported with and without adjustments for the reserves.

Two Problems With the Current Actuarial Balance

The OASDI actuarial balance, as currently defined in the trustees' report, is a cleverly thought-out number that summarizes literally thousands of other numbers. In most instances it summarizes what is projected to go into and out of the combined trust funds and whether the funds are expected to increase (a positive actuarial balance) or decrease (a negative actuarial balance). However, the actuarial balance does not in any way reflect the starting assets in the trust funds. This omission limits its usefulness as a measure of the financial condition of the program. In projecting the financial condition of an individual or an organization, current assets—as well as projected income and expenditures—are vitally important.

In recent years the OASDI funds have been so small that ignoring them would not have much bearing on future financial prospects. However, from 2000 to 2020 the process of ignoring the trust fund reserves could lead to an incorrect appraisal of the funds' status because of the trillion dollar balances that are expected (see figure 2.1, estimated contingency fund ratio).

We have another criticism of the actuarial balance as a measure. It does not require the trust funds to have any reserves at the end of the 75-year period. If or when the beginning reserves are recognized as a plus in the calculation of the actuarial balance, some amount should be put on the other side of the balance sheet that reflects a goal of 1 year's expenditures in the trust funds. The rationale for selecting 1 year's expenditures as a target is somewhat arbitrary, but has come into fairly common acceptance. Presumably, the combined OASDI trust funds could withstand the normal downward business cycle if they started with a year's worth of expenditures.

The Adjusted Actuarial Balance

A second measure we believe should be reported is one we refer to as the adjusted actuarial balance. As noted earlier, the current SSA definition makes no allowance for the size of the funds at the beginning of the 75-year period of the valuation. Thus the current measure gives an idea of expected income versus expected expenditures, but the financial position of OASDI could also depend heavily on the starting funds' assets (and the interest income they would generate).

The argument is analogous to determining an individual's financial position from his or her income and expenses without considering savings such as stocks, bank accounts, and property. An individual with a six-figure bank account could outspend personal income by $2,000 per year indefinitely, while an individual with no savings would run into trouble taking that approach.

The adjusted actuarial balance starts with the existing measure and adds the starting fund reserves to the income for the first year. This means that the initial assets of the funds are combined with the first year tax income and the sum expressed as a percentage of the first-year taxable payroll. At the end of the period, the expected expenditures in the seventy-sixth year are added to the expenditures in the seventy-fifth year and the sum is expressed as a percentage of the seventy-fifth year's taxable payroll. This constitutes a subtraction that incorporates the goal of a 1-year fund reserve at the end of the period.

Our suggested measure will not differ much numerically from the current measure if the trust funds contain about 1 year's worth of expected expenditures at the beginning of the 75-year period. The measures will be identical if the fund reserves in the first year, as a percentage of the taxable payroll in the first year, are equal to the expenditures in the seventy-sixth year as a percentage of taxable payroll in the seventy-

fifth year. If trust fund assets rise above a reserve of 1 year's expenditures, the adjusted measure would provide a more favorable portrayal of the funds' position than the current measure, other things being equal. Conversely, if the reserves dip below 1 year's expenditures, the adjusted measure would provide a less favorable assessment. We believe that these characteristics make the adjusted actuarial balance a more meaningful indicator of the condition of the trust funds than the current measure.

Illustration of the Use of the Adjusted Actuarial Balance

As discussed in chapter 1, to illustrate the usefulness of the adjusted actuarial balance, we specified that the projections would be extended to the 75-year period beginning in the year 2020. We chose this year because it represents a situation where there may be potentially large reserves followed by a sustained period of annual deficits. These projections portray the situation the Congress would face in 2020 if (1) SSA's II-B assumptions proved to be accurate predictors of future economic and demographic trends, (2) current laws were not altered between now and 2020, and (3) the Congress were to decide at that time that it wished to eliminate the long-run deficit through changes in scheduled benefits or payroll tax revenues.

For illustrative purposes, we assumed that the Congress would at that time consider three possible courses of action: (1) increasing payroll tax rates with no change in scheduled benefits, (2) reducing basic benefits with no change in payroll tax rates, and (3) constraining future cost-of-living allowances (COLAs) with no change in tax rates. For the first approach—increasing the payroll tax rate—we also considered how the situation in 2020 would be affected by a prior decision to lower payroll tax rates and not allow the accumulation of large fund reserves. (Appendix II discusses the projections under these options more fully and notes the effects of some other possible illustrative combinations of benefit and tax adjustments.)

We selected these actions for study because each was a potentially plausible remedy and because data could be readily analyzed through the social security model. The analysis for other remedies—such as further changes in the normal retirement age—would have been more difficult and would have strained the resources that SSA provided to us.

The first requirement that we imposed on the projections was that the system be self-supporting through 2094 (that is, for the 75-year period starting in 2020). Specifically, we required that the trust funds' assets

never run out during the projection period. We then complicated matters somewhat by introducing some secondary criteria, including: maintaining a reasonable reserve rather than allowing the reserve to approach zero during the period, maximizing equity between those who are already retired and those who will retire during the period (except with regard to benefit cuts, where we recognize the difficulty in cutting benefits to those who have started receiving them), and avoiding frequent adjustments to the benefit levels or tax rates. Our goal was to try to avoid at least the more obvious impracticalities that could have been introduced through a mechanical application of criteria. Using these instructions, SSA calculated how large a tax increase, benefit cut, or COLA reduction was necessary to meet these specifications.

The first two of the four projections shown in table 3.1 increase revenues to remedy actuarial problems with the trust fund. These projections produce maximum tax rates of 14.6 percent and 15.0 percent, respectively. Since the tax rate is split between employers and employees, this means that the maximum rates for each are 7.3 percent and 7.5 percent, respectively. The impact of retaining the reserve buildup in projection 1 is to delay the tax increase until 2030 (in contrast with 2020 for projection 2), as well as to make the increase smaller. The annual deficits would be funded under projection 1 in part from the large reserve in the trust funds. Positive reserves are maintained throughout the period.

Table 3.1: Summary Description of Four Projections and Actuarial Outcome Data, by Projection

Method bringing fund into balance	Starting conditions for the projection	Year	OASDI tax rate	Benefit payments for new beneficiaries	COLA	Income rate as % of cost rate: 2020-2044	Income rate as % of cost rate: 2020-2094	Ranges of CFR (in years): 2020-2094
1. Tax increase	Reserve buildup.	1990	12.4					
		2030	14.6			93.6[a]	95.4	1.2 - 4.8
2. Tax increase	1 year reserves: Tax cut	1990	10.8					
		2020	15.0			102.0	99.8	0.9 - 1.6
3. Benefit cut	Reserve buildup	1990	12.4					
		2020	12.4	15% cut		91.9[a]	94.5[a]	1.2 - 4.8
4. COLA cut	Reserve buildup	1990	12.4					
		2020	12.4		cut to 2.8%	93.0[a]	94.5[a]	1.3 - 4.8

[a]Represents out-of-balance condition.

NOTES: (a) See appendix III, tables 8-11 for additional detail. (b)The allocation of the tax rates between OASI and DI varied somewhat over time in order to maintain the financial condition of the component trust funds as well as the overall OASDI trust fund.

Projection 3 relies upon cuts in the benefit payments to bring OASDI into balance. Since there is a widespread belief that it is unfair to reduce benefits for those who are already retired, we specified that benefits would be reduced only for those who become eligible to retire after 2020. Reducing benefits only for those people who are just becoming eligible for retirement adds only a 1-year cohort at a time, thus having a delayed effect on OASDI expenditures.

Projection 4 reduces expenditures by cutting the COLA from 4.0 percent—the II-B assumption for future cost-of-living increases—to 2.8 percent.

In all four cases, the CFR is positive throughout the 75-year projection period. The reserves dip to as low as 11 months (shown as 0.9 years in table 3.1) and generally are maintained at levels that are above those of recent experience.

Adjusted Versus Current Actuarial Balance

To illustrate the potential usefulness of the adjusted actuarial balance, we projected the trust funds forward to a period when reserves would be high. Table 3.2 shows that the adjusted and current measures are similar for the second projection, which does not involve a reserve buildup. The other projections—all of which include a substantial reserve buildup—reflect those reserves in the adjusted measure but not in the current measure. The current measure actually shows the trust funds to be out of close actuarial balance in projections 3 and 4 in spite of the fact that the reserves are positive in every year of these projections. Note that we are defining close actuarial balance in the same fashion for the adjusted measure as for the current measure (namely that the average income rate must be at least 95 percent of the average cost rate). The trust funds are not exhausted in any of the four projections and, therefore, the adjusted measure—which shows them to be in close actuarial balance—better describes their condition as of 2020.

Table 3.2: Comparison of Estimated Adjusted Actuarial Balance and Unadjusted Actuarial Balance for Each of the Four Projections for Calendar Years 2020-2094

Method of bringing fund into balance	Starting condition for the projection	Adjusted actuarial balance (GAO measure)		Unadjusted actuarial balance (SSA measure)	
		Balance	Income rate as a % of cost rate	Balance	Income rate as a % of cost rate
1. Tax increase	Reserve buildup	−0.09	99.4	−0.73	95.4
2. Tax increase	1 year reserves: tax cut	−0.04	99.8	−0.03	99.8
3. Benefit cut	Reserve buildup	−0.09	99.4	−0.76[a]	94.5[a]
4. COLA Cut	Reserve buildup	−0.09	99.4	−0.76[a]	94.5[a]

[a]Represents out-of-balance condition; see table 3.1.

If the 1987 trustees' report had included the adjusted actuarial balance, it would have reported that the system was out of close actuarial balance under this new measure. Under the II-B assumptions, the 1987 adjusted actuarial balance represents an average income rate that is only 94.4 percent of the average cost rate for 1987-2061. This result underscores our argument that the long-term situation of social security is such that additional information will serve to inform public policymaking.

We also note that in January, 1987, the Committee on Social Insurance of the American Academy of Actuaries issued a report that advocated a different set of criteria for measuring the financial condition of the trust funds. The Committee recommended retaining the existing requirement that the estimated average income rate be between 95 percent and 105 percent of the estimated average cost rate. However, the Committee also recommended that for the 75-year period (1) there should be no year in which the CFR exceeds 125 percent and (2) once the CFR has initially risen to 75 percent, there should be no year in which the CFR is below 75 percent (at least for the first half of the 75-year period). The Committee bases its recommendation primarily on the premise that the funding basis for the social security program is current cost rather than advance funding. The Committee's report notes legislative alternatives for ensuring that a current-cost basis is in fact adopted in practice.[1]

We have not taken a position on how social security should be funded or on what should be done about prospective large reserve buildups. As a result, the limits that the Committee wants to place on the CFR are

[1]Committee on Social Insurance, "Measurement of the Actuarial Status of the Social Security System," American Academy of Actuaries, January 1987.

outside the scope of this report. There is nothing in the current law to prevent the trust funds from becoming huge.

We believe that our treatment of the initial fund assets in the adjusted actuarial balance measure is appropriate. At the same time, the retention of the existing actuarial balance calculation will remain useful for reporting continuity and for certain other uses as noted in the next section.

Calculating and Reporting the Adjusted Actuarial Balance

Our specific recommendations on how the adjusted actuarial balance should be used are as follows (reference is to the 1987 trustees' report):

1. The discussion on page 1 should refer only to the adjusted actuarial balance.

2. The same goes for the table on page 7 which gives four actuarial balances for the four different estimates, optimistic, intermediate II-A, intermediate II-B, and pessimistic.

3. Discussions of the average annual deficit or surplus over a 25-year period should use the current or unadjusted measure.

4. Table 26 should be the way it reads now except for two additional lines which show the positive adjustment for the starting actuarial balance and the negative adjustment which recognizes the goal of 1 year's expenditures in the trust funds. Both the adjusted and the current actuarial balances should be shown in the table. The same comments would be applicable to table E3 in appendix E and table F1 in appendix F.

5. All the tables in appendix B show the sensitivity of the actuarial balance to changes in assumptions. The bottom lines on these tables should show the adjusted actuarial balances. However, the other lines, which contain 25-year actuarial balances, need not be altered.

6. Table 30 traces the beginning-of-the-year actuarial balance through all the changes occurring within the year to the end-of-the-year actuarial balance. This table should be based on the adjusted actuarial balance.

Other Improvements to Information on the Condition of the OASDI Program and Recommendation

In the course of our analyses, we identified two additional points. The first concerns some further improvements to the reported actuarial measures. The second concerns the issue of how interest on the trust fund reserves is considered in the calculation of the actuarial balance. The current procedure has been questioned, but we believe it is sound and should be continued.

Two Additional Measures

In our examination of measures of the financial condition of the OASDI trust funds and in the context of our findings on the imbalance year, we noted the usefulness of two additional measures. The first additional measure is the tax rate that would need to be imposed in the year that the trust funds are projected to be exhausted (the year of exhaustion) in order to continue paying benefits during the year. Using our data, the funds are projected to be exhausted in 2049. (We noted in chapter 2 that the CFR becomes negative in 2050; its last positive year is 2049.) If the tax rate were raised from 12.4 percent to 14.97 percent in 2049, the OASDI program would break even that year.

The second additional measure is the tax rate needed in the seventy-fifth year if annual income is to equal expenditures (without regard to interest) for that year. In the case of our 2020 projection, the annual balance is projected to be −3.23 percent of taxable payroll in the year 2094. A tax rate of 15.63 percent instead of 12.4 percent would be sufficient to bring the annual balance up to zero.

The year of exhaustion is available in the trustees' report, although not prominently displayed, while the income and cost rates in that year are not generally shown. The seventy-fifth year break-even tax rate could be determined from the currently scheduled tax rate and annual balance in that year. However, the seventy-fifth year annual balance is not generally presented in the report, although a close approximation can be made.

Interest and Computation of the Balances

In the course of drafting this report, we have received questions from several sources asking why the anticipated interest that the OASDI funds will receive is not included in the income rate and, therefore, is not considered in the calculation of the average income rate or the actuarial balance.

The answer to this is closely related to the issue in the first section of appendix II in which present values and arithmetic averages of projected incomes and expenditures, as a percentage of taxable payrolls, are compared. In essence, when the taxable payroll has a rate of increase that is identical to the interest rate, the conversions of incomes and expenditures to percentages of taxable payroll is the same thing as discounting, or present valuing, them by the anticipated interest rate.

When one is already implicitly discounting incomes and expenditures by the interest rate, it would be redundant and incorrect to consider anticipated interest with the other anticipated income. The use of discounting intrinsically considers any interest that would be earned on the excess of income over expenditures.

To verify this, consider table I.1 from appendix I. This table is used to demonstrate the circumstance under which the arithmetic average of the actuarial balance is identical to present valued, or discounted, calculations. Table 4.1 represents the same hypothetical case as table I.1 but contains additional information related to interest income. Table 4.1 will be used to compare an actuarial balance calculation in which interest

Table 4.1: Actuarial Balances With and Without Interest Income

Year	Beginning fund balance	Income not including interest[a]	Outgo	Interest	Income including interest[b]	Ending balance	Taxable payroll	Income as % of payroll	Income & interest as % of payroll	Outgo as % of payroll
1	$0	$10,000	$5,000	$0	$10,000	$5,000	$100,000	10.00%	10.00%	5.00%
2	5,000	10,000	5,860	500	10,500	9,640	110,000	9.09	9.55	5.33
3	9,640	10,000	6,867	964	10,964	13,738	121,000	8.26	9.06	5.68
4	13,738	10,000	8,047	1,374	11,374	17,064	133,100	7.51	8.55	6.05
5	17,064	10,000	9,431	1,706	11,706	19,340	146,410	6.83	8.00	6.44
6	19,340	10,000	11,052	1,934	11,934	20,222	161,051	6.21	7.41	6.86
7	20,222	10,000	12,952	2,022	12,022	19,292	177,156	5.64	6.79	7.31
8	19,292	10,000	15,178	1,929	11,929	16,043	194,872	5.13	6.12	7.79
9	16,043	10,000	17,788	1,604	11,604	9,860	214,359	4.67	5.41	8.30
10	9,860	10,000	20,846	986	10,986	0	235,795	4.24	4.66	8.84
Average								6.76%	7.55%	6.76%

[a]Actuarial balance not considering interest explicitly: 0.00%.

[b]Actuarial balance with interest added to other income: +0.79%.

income is added to other income with one in which it is not. The reader can see that the desired and correct result is achieved when the interest income is implicit to the process and not when it is explicitly added to other income.

Although the fund breaks even during the 10-year period, the second calculation of the actuarial balance produces a positive value. This sample calculation of the actuarial balance demonstrates that the explicit inclusion of interest income can distort the calculation rather than improve it.

Recommendation to the Commissioner of Social Security

We believe that steps could be taken to provide the Congress and the public with more information and more adequate early warnings of future problems in the financial condition of the social security system.

We recommend that the Social Security Administration calculate additional measures and report each in the long-range financing section of the summary of the annual trustees' report. We specifically recommend that the following measures be added:

1. the imbalance year and

2. the adjusted actuarial balance.

If our recommendation to report the adjusted actuarial balance is adopted, the imbalance year should be calculated using the adjusted actuarial balance. We noted earlier that the trust funds are not in close actuarial balance now under the adjusted measure and we estimate they will go out of balance in 1988 or 1989 under the current measure.

We noted in chapter 3 specific places in the trustees' report where the adjusted actuarial balance could replace the current measure. Consideration should also be given to more prominent display of the other measures discussed in the present chapter.

We believe that the annual reports submitted by the Board of Trustees represent a system of reporting that in many ways serves as a model for other programs to study. The above recommendation is offered in the spirit of an interest in further improvements that would make this system even more useful and more responsive to future challenges facing the social security program.

Additional Technical Considerations

During our examination of the actuarial measures of the trust funds' financial condition, we considered several additional technical matters. We discussed two of these in chapter 4 and present two others here.

Present Values Versus Arithmetic Averages

In preparing the trustees' report, the Social Security Administration and the Board of Trustees make compromises between technical details that would overwhelm the average reader and simplification that could introduce potentially serious errors into the calculations and the presentation of the results. One important conflict of this kind was decided by SSA in favor of simplification. Instead of the more theoretically correct present values, they have chosen to calculate incomes and costs as percentages of taxable payroll and then use arithmetic averages of these percentages.

The procedure used by SSA results in a twofold simplification. First, arithmetic averages are simpler than present values. Present value calculations require converting a series of payments to a single value using interest rates and sometimes risk factors such as mortality, disability, and retirement. Secondly, numbers in the social security actuarial projections are so large that a typical reader is staggered by them. The percentages that are part of the arithmetic average method are easier conceptually for the reader. The absolute numbers are also used in the trustees' report but more for the short-range and historical tables. The portion of the report involving long-range projections is restricted to showing costs and income as a percentage of payroll. Appendix B of the report summarizes the financial results with averages for 25- and 75-year periods.

We have calculated the actuarial balance caused by the substitution of arithmetic averages for present values and have not found sufficient distortion to merit a recommendation to use present values. The use of present values would not affect the calculated financial status of the program as of 1986, nor any of the valuations that we did as of 2020, to a great degree.

It should be pointed out that the present value method is the more precise way of calculating the actuarial balance. Interestingly, it is widely used in actuarial valuations of private pension plans, state and local pension plans, and plans for federal employees. The arithmetic average method is peculiar to social security.

There are circumstances under which the arithmetic average method could distort the results of the valuation. Table I.1 illustrates that the present value method is more accurate than the arithmetic average method, although this example uses extreme assumptions. The interest rate is 10 percent, while the taxable payroll is increasing only 2 percent a year. The results would differ much less with more plausible assumptions.

Table I.1: Actuarial Balances Comparing Present Value Method and the Arithmetic Average Method

Year	Beginning fund balance	Income	Outgo	Interest	Ending balance	Taxable payroll	Income percent	Outgo percent	Interest factor	Present value income	Present value outgo
1	$0	$10,000	$5,000	$0	$5,000	$100,000	10.00%	5.00%	0.909	$9,091	$4,545
2	5,000	10,000	5,860	500	9,640	102,000	9.80	5.74	0.826	8,264	4,843
3	9,640	10,000	6,867	964	13,738	104,040	9.61	6.60	0.751	7,513	5,159
4	13,738	10,000	8,047	1,374	17,064	106,121	9.42	7.58	0.683	6,830	5,496
5	17,064	10,000	9,431	1,706	19,340	108,243	9.24	8.71	0.621	6,209	5,856
6	19,340	10,000	11,052	1,934	20,222	110,408	9.06	10.01	0.564	5,645	6,239
7	20,222	10,000	12,952	2,022	19,292	112,616	8.88	11.50	0.513	5,132	6,646
8	19,292	10,000	15,178	1,929	16,043	114,869	8.71	13.21	0.467	4,665	7,081
9	16,043	10,000	17,788	1,604	9,860	117,166	8.53	15.18	0.424	4,241	7,544
10	9,860	10,000	20,846	986	0	119,509	8.37	17.44	0.386	3,855	8,037
Total										**$61,446**	**$61,446**
Average							9.16%	10.10%			

The hypothetical series of incomes and outgoes result in the fund starting with a zero balance and ending with a zero balance. The current valuation method used by SSA shows the 10-year average outgo exceeding average income by 10.10 percent to 9.16 percent, leading to a deficit of 0.94 percent and an out-of-balance condition. On the other hand, the total present value of the income ($61,446) is exactly equal that of the outgo. This modest example demonstrates how in some circumstances the present value method can be superior to the use of arithmetic averages.

Open Group Versus Closed Group Valuations

A closed group pension valuation assumes that there will be no new entrants into the pension plan. Benefits for current workers, retirees, and terminated participants with vested rights are predicted. Then a pattern of contributions is derived that, together with the existing assets of the plan, will pay for the predicted benefits. All private plans by law and most public plans use closed group valuation methods.

An open group valuation includes benefit predictions for new entrants as well. The contribution schedule accordingly considers the future salaries that these participants will earn or their future years of service, whichever is the key to triggering the future contributions. Since the existing participants of a pension plan are older, and therefore closer to retirement than new participants, they are usually more expensive than prospective participants. As a result, some actuaries think open group valuations water down the closed group cost by bringing in a subset of participants with low costs.

An actuary who uses a closed group method is not actually predicting that there will be no new entrants, but rather is intentionally choosing not to rely on them for the contribution base to help fund the benefits of existing participants.

We do not recommend that SSA go from an open group to a closed group method of valuing OASDI for determining the annual contributions needed to support it or for reporting its financial condition. The change would have a huge effect on the calculations and an undetermined effect on OASDI because closed group valuations are designed to fund the benefits of retirees during their active working lives. The resulting financing pattern would be inconsistent with the relatively low CFRs of the last 20 years. The open group method has been studied by private plans (where it is referred to as the forecast valuation method), but it is not permitted by the Internal Revenue Service as a legitimate method for funding a private pension plan.

Additional Analyses

In this appendix, we give more detailed information on our calculations of the long-term outlook for the trust funds, including a profile of the condition of the trust funds with and without the accumulation of the upcoming surplus. Given discussions of the anticipated reserve buildup, we also projected a reduction in these reserves through both a tax cut and a benefit increase to determine what the long-term impact of a policy to reduce the reserves might be. The results are similar for the two policies, showing the long-term problems to be considerably more severe and to begin sooner when the short-term reserve balance is removed.

Background

Some observers—including Dorcas Hardy, the current Commissioner of Social Security—have argued that the buildup in the reserve balance must be retained and used ultimately to help fund the retirement of the baby boom generation by serving to moderate the drain upon the reserves that will occur when those retirements occur.[1] Others argue that it is not politically realistic to maintain large reserves over a substantial period of time and that they should be dissolved through social security tax cuts or benefit increases or dissipated through reallocation of surplus social security funds to non-social security matters in order to reduce the overall federal budget deficit.[2] Still others argue that it is unnecessary to build the surplus and that social security should be financed on a "pay-as-you-go" or "current cost" basis.[3] We believe that use of the long-range OASDI cost estimate model to project the condition of the trust funds with and without the reserve accumulation will inform debate on this important subject.

We asked SSA to prepare projections that did and did not reduce the reserve buildup so that we could study the effects of such a change on the adjusted and current actuarial balances. The criteria that we used were that: (1) the CFR should reach a level of about 1 year's expenditures in 2020, the start of our projection period for our other analyses;

[1]"Social Security Reserves Greatly Exceed Forecast," Baltimore Sun (December 21, 1986); "Topic: Social Security," USA Today, June 24, 1987.

[2]Rauch, Jonathan, "False Security," National Journal, February 14, 1987, pp. 362-65; Boskin, Michael J., Too Many Promises: The Uncertain Future of Social Security, Homewood, Illinois: Dow-Jones-Irwin, 1986; Thompson, Lawrence H., "The Social Security Reform Debate," Journal of Economic Literature, December 1983, pp. 1425-67.

[3]Advisory Council on Social Security, Old-Age and Survivors Insurance, A Report to the Senate Committee on Finance, April 20, 1948, pp. 13 and 45; Munnell, Alicia H. and Lynn E. Blais, "Do We Want Large Social Security Surpluses?" New England Economic Review, Sept/Oct. 1984, pp. 5-21; Myers, Robert J., Social Security, Third Edition, Homewood, Illinois: Richard D. Irwin, Inc., 1985, p. 444; and Myers, Robert J., "Social Security Roller Coaster," Washington Post, August 20, 1987.

(2) the reduction of the reserves to a level of about 1 year should be reasonably smooth rather than abrupt; and (3) the reserve should be reduced in one projection through a tax reduction starting in 1990 and in a second projection through a benefit increase to all beneficiaries starting in 1990. We viewed a CFR of 1 year as a conservative fund level to which the buildup could be reduced, even though it represents a higher level than any since 1970. Some authorities argue that larger reserves may be desirable to protect the funds against severe and protracted economic downturns.[4] SSA then calculated the tax cut or benefit increase that would be sufficient to reduce the reserves in a manner consistent with the above three criteria.

Tax Reduction

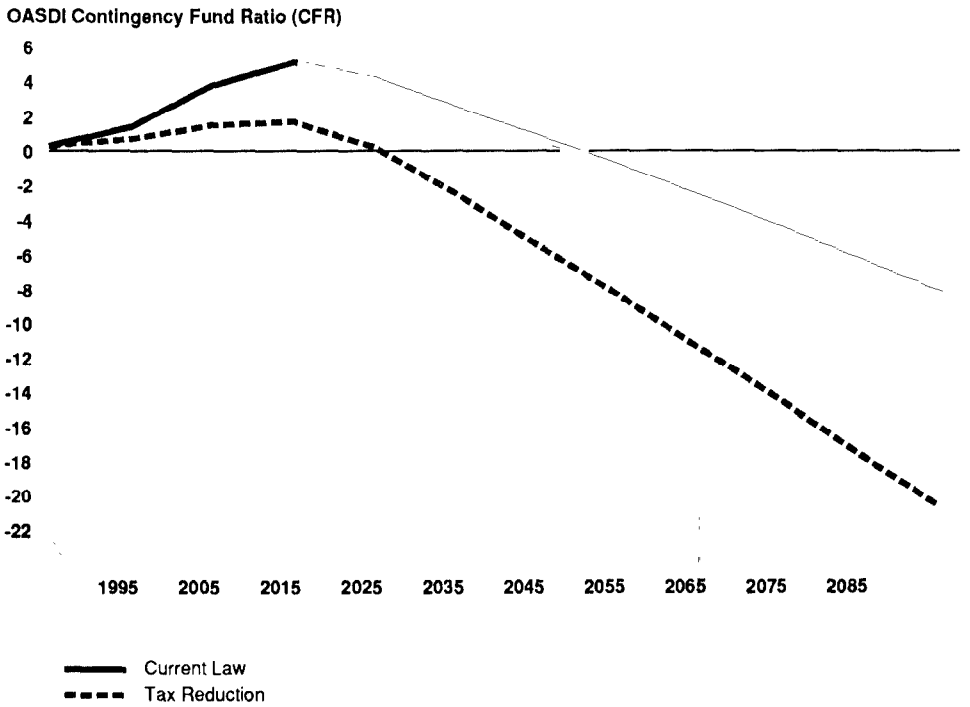
The combined tax that employers and employees pay for OASDI was 11.4 percent before 1988, is now 12.12 percent, and is scheduled under current law to rise to 12.4 percent in 1990.[5] The tax rate calculated for 1990 and beyond by our projection was 10.8 percent, which is 0.6 percentage points below the pre-1988 rate, 1.32 percentage points below the current rate, and 1.6 percentage points below the scheduled 1990 rate. As shown in figure II.1, the projection reduces the CFR from about 5 years to 1 year in 2020. The long-term impact is dramatic. With this tax reduction, the funds reserve are exhausted sooner—by 2025 instead of 2050—than under current law. In the long term, the CFR in 2094 is about −21 with the tax reduction, as opposed to −8 under current law.

The impact of the reserve reduction through a tax cut to 10.8 percent in 1990 is sufficiently powerful that a hypothetical 1986 trustees' report reflecting that lower rate would have shown the system to be out of balance for the period 1986-2060. Our projection for 1986-2060 shows that, with this tax cut, the system would have an actuarial balance of −2.03 percent of taxable payroll and would be out of balance with an average income rate of only 84.8 percent of the average cost rate. The results of our projection as of the year 2020 show even more serious problems for the trust funds. It is not surprising that a substantial tax cut in the face of the anticipated long-term actuarial deficit would create a problem for the system. Our point here is to provide some measure of that problem. In the longer term, such a tax cut would not, of course, prevent a future tax increase or other actions that could replenish the

[4]Munnell and Blais, page 12.

[5]The total tax for 1988 is 15.02 percent, 12.12 percent for OASDI and 2.90 percent for Hospital Insurance (Medicare). These amounts are split equally between employees and employers.

Figure II.1: Estimated OASDI Contingency Fund Ratio With and Without a Tax Rate Reduction to 10.8 Percent in 1990, Calendar Years 1986-2094



trust funds, as advocated by those who favor pay-as-you-go financing for social security.

Benefit Increase

Projecting a reduction in the CFR to about 1 year's expenditures in 2020 was accomplished by a benefit increase in 1990 of 15 percent for new and current beneficiaries. The estimated impact of that benefit increase upon the CFR provided results so similar to figure II.1 as to be indistinguishable from the tax cut results. The reserves are exhausted in 2025, the same as in the tax cut projection. The actuarial balance data for 1986-2060 and for 2020-2094 are essentially identical to those produced by the projected tax reduction (see appendix III, tables III.2-III.5).

Observations

In terms of the actuarial balances and the CFR, there is a significant long-term problem with the financial condition of the OASDI trust funds. A projected series of annual surpluses will build up a reserve, but the long-term drain of the retiring baby boomers and lower subsequent birth rates for replacement workers (and contributors to social security) is

projected to eliminate that reserve by 2049. We found that the indicators of the long-range condition of the trust fund are substantially worsened in analyses that assume the short-term surpluses will be reduced. This conclusion applies both to an illustrative analysis that reduced the taxes collected to support the trust funds and a similar analysis that increased benefits to program participants.

Opinions differ on the meaning of these reserve accumulations. Some are concerned that the projected reserve buildup exceeds the current national debt, implying that if the national debt stops growing, at some point social security trust funds may have to be invested in either state and local government or private sector financial assets. Others argue, however, that this is unlikely to be a problem since the total federal debt is also likely to continue to grow.[6] In a related issue, some are concerned that under certain circumstances the post-baby boom generations could wind up paying higher taxes even if there is a buildup in the OASDI reserves. A detailed consideration of these issues is beyond the scope of our report.[7]

[6]Even if the total revenues and total outlays of the federal government were exactly balanced in every future year, the existence of a surplus in the social security trust funds—such as is currently projected—implies the existence of a deficit of equal size in the non-social security portion of the budget, even without reliance upon the currently existing deficit. In this situation, the deficit in the non-social security portion will be financed by issuing debt instruments to the social security funds. This process ensures that the debt of the general fund will always grow rapidly enough to allow the social security surpluses to be fully invested in federal securities so long as the total revenues of the government are no greater than its total outlays.

[7]For a discussion of these and related issues, see General Accounting Office, Social Security: Past Projections and Future Financing Concerns (Washington, D.C., GAO/HRD-86-22, 1986), pages 64-70. We also note that further studies might provide a more complete understanding of the nature of the long-term financing problems facing the social security system and of optimal remedies to those problems. One possible topic, given the closeness of the imbalance year, would be the likely effectiveness of various remedies, such as changes in the normal retirement age and other combinations of tax and benefit changes that produce the optimal results, with and without retaining the reserves. Another might be the examination of the broader context of the long-term problem, such as a study of the impact of selected social security tax increases upon the economy. Also useful might be analyses that combine the OASDI and Hospital Insurance (Medicare) programs on the grounds that despite the independence of their trust funds, they are critically linked due to their common dependence upon the payroll tax for revenue.

Supplementary Tabulations

Actuarial Assumptions for the Years Beyond 2060

We asked the Social Security Administration to extend its 2060 projection through the year 2094 in order for us to make the analyses in this report. We specified the alternative II-B assumptions where possible and some logical extension of them for the period 2060-2094, as follows:

1. interest rate: 6%

2. consumer price index: 4%

3. average wages in covered employment: 5.5%

4. average annual unemployment: 6%

The important fertility rate assumption was 2.00. This represents the average number of children that are born to a woman in her lifetime assuming she survives through her childbearing years. The age-adjusted mortality rate is assumed to continue its slight improvement after 2060. The reduction in mortality between 2060 and 2094 is 18 percent. Net immigration is assumed to be 500,000 per year.

Table III.1: Actuarial Balance Data Assuming No Change in the Law, 2020-2094

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
2020-2044	13.04	15.34	−2.30	85.0
2045-2069	13.11	15.74	−2.63	83.3
2070-2094	13.12	16.11	−2.98	81.4
75-year periods				
2020-2094	13.09	15.73	−2.64	83.2

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.2: Actuarial Balance Data Assuming a Reduction in the Surplus Through a Tax Reduction, 1986-2060

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
1986-2010	11.27	10.55	+0.73	106.8
2011-2035	11.35	13.91	−2.57	81.6
2036-2060	11.50	15.75	−4.25	73.0
75-year periods				
1986-2060	11.37	13.40	−2.03	84.9

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.3: Actuarial Balance Data Assuming a Reduction in the Surplus Through a Tax Reduction, 2020-2094

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
2020-2044	11.44	15.34	−3.91	74.6
2045-2069	11.51	15.74	−4.23	73.1
2070-2094	11.52	16.11	−4.59	71.5
75-year periods				
2020-2094	11.49	15.73	−4.24	73.0

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.4: Actuarial Balance Data Assuming a Reduction in the Surplus Through a Benefit Increase, 1986-2060

Periods	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
1986-2010	12.66	11.85	+0.81	106.8
2011-2035	13.03	15.98	−2.95	81.5
2036-2060	13.20	18.09	−4.89	73.0
75-year periods				
1986-2060	12.96	15.31	−2.34	84.7

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.5: Actuarial Balance Data Assuming a Reduction in the Surplus Through a Benefit Increase, 2020-2094

Periods	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
2020-2044	13.13	17.62	−4.49	74.5
2045-2069	13.21	18.08	−4.87	73.1
2070-2094	13.23	18.51	−5.28	71.5
75-year periods				
2020-2094	13.19	18.07	−4.88	73.0

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.6: Actuarial Balance Data Assuming No Change in Current Law, 1990-2064

Periods	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
1990-2014	12.75	10.55	2.20	120.8
2015-2039	12.99	14.68	−1.69	88.5
2040-2064	13.10	15.73	−2.63	83.3
75-year periods				
1990-2064	12.95	13.65	−0.70	94.9

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.7: Actuarial Balance Data Assuming No Change in Current Law, 1986-2060

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate
25-year periods				
1986-2010	12.62	10.54	+2.07	119.7
2011-2035	12.95	13.91	−0.97	93.1
2036-2060	13.10	15.75	−2.65	83.2
75-year periods				
1986-2060	12.89	13.40	−0.51	96.2

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

Table III.8: Projection Number 1: Selected Actuarial Data for Calendar Years 2020-2095

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate	Approximate Reserve Ratio in terms of years and months			
					Minimum		Maximum	
					years	months	years	months
25-year periods								
2020-2044	14.36	15.34	−0.98	93.6	2	11	4	9
2045-2069	15.31	15.73	−0.43	97.3	2	5	2	11
2070-2094	15.32	16.10	−0.78	95.2	1	3	2	4
75-year periods								
2020-2094	15.00	15.72	−0.73	95.4	1	3	4	9
Individual Year								
2020	12.92	13.40	−0.48	96.4	4[b]	9		
2050	15.30	15.69	−0.38	97.5	2	10		
2095	15.34	16.39	−1.05	93.6	1	2		

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

[b]For individual years, the projected reserve ratio is shown under the minimum.

Table III.9: Projection Number 2: Selected Actuarial Data for Calendar Years 2020-2095

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate	Approximate Reserve Ratio in terms of years and months			
					Minimum		Maximum	
					years	months	years	months
25-year periods								
2020-2044	15.64	15.33	+0.30	102.0	1	2	1	7
2045-2069	15.71	15.73	−0.02	99.9	1	6	1	6
2070-2094	15.72	16.10	−0.38	97.6	0	11	1	6
75-year periods								
2020-2094	15.69	15.72	−0.03	99.8	0	11	1	7
Individual Year								
2020	15.52	13.40	+2.11	115.8	1[b]	2		
2050	15.70	15.68	−0.02	117.2	1	6		
2095	15.74	16.38	−0.65	96.1	0	10		

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

[b]For individual years, the projected reserve ratio is shown under the minimum.

Table III.10: Projection Number 3: Selected Actuarial Data for Calendar Years 2020-2095

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate	Approximate Reserve Ratio in terms of years and months			
					Minimum		Maximum	
					years	months	years	months
25-year periods								
2020-2044	12.99	14.14	−1.16	91.9	3	0	4	10
2045-2069	13.00	13.45	−0.45	96.7	2	5	3	0
2070-2094	13.02	13.70	−0.69	95.0	1	3	2	5
75-year periods								
2020-2094	13.00	13.76	−0.76	94.5	1	3	4	10
Individual Year								
2020	12.91	13.37	−0.45	96.6	4[b]	10		
2050	13.00	13.46	−0.46	96.6	2	11		
2095	13.03	13.94	−0.91	93.5	1	2		

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

[b]For individual years, the projected reserve ratio is shown under the minimum.

Table III.11: Projection Number 4: Selected Actuarial Data for Calendar Years 2020-2095

Period	Income rate	Cost rate	Balance[a]	Income rate as a percent of cost rate	Approximate Reserve Ratio in terms of years and months			
					Minimum		Maximum	
					years	months	years	months
25-year periods								
2020-2044	12.98	13.96	−0.98	93.0	3	5	4	9
2045-2069	13.01	13.53	−0.53	96.2	2	7	3	4
2070-2094	13.02	13.78	−0.76	94.5	1	4	2	7
75-year periods								
2020-2094	13.00	13.76	−0.76	94.5	1	4	4	9
Individual Year								
2020	12.92	13.40	−0.48	96.4	4[b]	9		
2050	13.00	13.51	−0.51	96.2	3	3		
2095	13.03	13.99	−0.96	93.1	1	3		

[a]The difference between the income rate and the cost rate may not equal the annual balance due to rounding.

[b]For individual years, the projected reserve ratio is shown under the minimum.

Comments From the Department of Health and Human Services

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

DEPARTMENT OF HEALTH & HUMAN SERVICES Office of Inspector General

Washington, D.C. 20201

1988

Mr. Richard L. Fogel
Assistant Comptroller General
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Fogel:

The Secretary asked that I respond to your request for the Department's comments on your draft report, "Social Security Funds: Additional Measures Could More Fully Indicate The System's Financial Condition." The enclosed comments represent the tentative position of the Department and are subject to reevaluation when the final version of this report is received.

We appreciate the opportunity to comment on this draft report before its publication.

Sincerely yours,

Richard P. Kusserow
Inspector General

Enclosure

COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES ON THE GENERAL ACCOUNTING OFFICE DRAFT REPORT, "SOCIAL SECURITY FUNDS: ADDITIONAL MEASURES COULD MORE FULLY INDICATE THE SYSTEM'S FINANCIAL CONDITION"

General Comments

This report presents the results of the General Accounting Office (GAO) examination of the issues involved in the development and presentation of actuarial information. The report notes that the current major measure of the financial condition of the trust funds is the actuarial balance. (The actuarial balance represents the average income rate minus the average cost rate over a 75-year period. Presently, the Old-Age and Survivors and Disability Insurance (OASDI) trust funds are considered in "close actuarial balance" for the 75-year period if the estimated average income rate is between 95 and 105 percent of the estimated average cost rate. Using moderate assumptions about the economy, the 1987 Trustees' Report shows the OASDI fund in close actuarial balance for the period 1987-2061.) GAO considered the concept of "close actuarial balance" and other major indicators currently used to project the financial condition of the trust funds and recommended that additional measures be adopted to provide early warning information.

GAO recommended two new measures be employed in the presentation of actuarial information in the annual Trustees' Report. The recommendations are based upon the concept of "close actuarial balance." In our view, the term "close actuarial balance" should probably be supplemented or replaced with measures that are more meaningful to policymakers throughout Government. The Social Security Administration (SSA) is currently pursuing this with the staff of the Board of Trustees. However, we believe that the recommendations by GAO do not represent improvements in the presentation of the system's financial condition and, in fact, would exacerbate the public's confusion over the system's well-being. Our comments below expand on this position.

GAO Recommendation

SSA should calculate additional measures and report each in the Long-Range Financing section of the summary of the annual Trustees' Report. The following measures should be added:

1. The year that the trust fund is projected to go out-of-balance, and

2. The adjusted actuarial balance.

Department Comments

We disagree. Both GAO recommendations involve additional information to be included in the annual Trustees' Report. Neither recommendation would simplify the report, but would make it more difficult to understand and more confusing. The data that GAO recommends be added to the report are not sufficiently different from what are already presented (and GAO implicitly suggests be continued). Including this data would increase the possibility of users of the Trustees' Report confusing the measures and using them interchangeably when they should not. We favor improving the quality of the Trustees' Report, and are working toward that end, but we cannot support adding information that would make the report more difficult to understand.

The Trustees' Report is intended to be a statement of the financial condition of the OASDI program with the implicit purpose of indicating whether the program can be financed as it stands or whether modifications are (or will be) needed. In either case, that indication should be the starting point for a decision to keep the program as it is or to modify it. It is essential that each annual report state clearly, one way or the other, whether the program is or is not in good financial position for the long-range period.

See comment 1.

The combination of statements proposed by the GAO draft report would not be acceptable because it would say, on the one hand, that the program is in close actuarial balance, and on the other, that in 3 or 4 years it will not be in close actuarial balance. Such a combination of statements does not provide clear advice on which to base decisions about the program.

See comment 2.

The recommendation regarding an adjusted actuarial balance raises some valid questions. If sizable funds accumulate in the program, a way of recognizing them in the actuarial balance may need to be adopted. But having two sets of actuarial balances in the same Trustees' Report is hardly the solution. In any event, there is no need to rush into a modification such as the adjusted actuarial balance that is being proposed; it will be several more years before the funds accumulate to a level that may require a modification in the measure. Good reason must be given for having 76 years of expenditures in the measure, while having only 75 years of income. The measure involves the adoption in principle of the concept of a 100 percent fund ratio. This and similar concepts have been proposed in the past, but none has endured.

Nonetheless, as stated above, we believe that the strict measure of "close actuarial balance" may not, by itself, adequately reflect the current status or trend of the system's health. Therefore, we believe that we should regularly evaluate the

appropriateness of the measures used for determining the actuarial status of the OASI and DI programs. As part of such an evaluation we have suggested that the staffs of the trustees discuss this matter over the next few months as they prepare for the 1988 Trustees' Report.

Other Comments

Now page 16.

See comment 3.

The report acknowledges on page 2-5 that "The numbers in this report differ somewhat from statistics published in the 1986 and 1987 Trustees' Reports." This use of hybrid 1986/87 Trustees' Report estimates causes us some concern. The figures are unique and not supported by the kinds of descriptions and analysis that appear in every Trustees Report. Additionally, the frequent shifting from one set of estimates to another confuses the reader, even though the figures are all similar.

Finally, the report refers recommendations to the "administrator of the Social Security Administration" or "Director, Social Security Administration." The proper statutory title is "Commissioner of Social Security."

The following are GAO's comments on the January 21, 1988, letter from the Department of Health and Human Services.

GAO Comments

1. The Department of Health and Human Services asserts that presenting the imbalance year would make the trustees' report confusing and, thus, would not provide clear advice on which to base decisions. For example, the Department argues that it would be unacceptable to report that OASDI is presently in close actuarial balance but is likely to be out of balance in 3 or 4 years. We disagree.

We do not believe that the readers of a technical publication like the trustees' report should have difficulty in distinguishing between present and future data. The proposed additional information on the imbalance year tells whether or not the program is likely to be out of balance in the coming 10 years. Presumably, an impending imbalance would turn attention to whether or not this is a problem and, if so, to possible solutions. We believe such decisions can benefit from some advance warning. This would allow time to examine options in a less charged atmosphere than when the program is reported to be out of balance. Further, reporting both the present status and a projection of the near future is more informative than simply reporting the present status alone.

2. We are pleased that the Department sees the need for a way of recognizing sizable fund balances in the actuarial balance. In fact, our adjusted actuarial balance does just that. Further, we believe that this measure is sound, that it presents policy-relevant information not currently available, and that it is an improvement over what is presently reported.

We are also pleased to learn that the Department has directed the staff of the Board of Trustees to consider the meaning of "close actuarial balance" and the appropriateness of measures used for determining the actuarial status of the OASI and DI programs.

With regard to concern about this specific measure, the Department asserts that presenting both GAO's adjusted actuarial balance and the current actuarial balance would increase the possibility of users of the trustees' report confusing the measures and using them interchangeably when they should not. In order to minimize the potential for reader confusion, we have recommended that the adjusted actuarial balance replace the current measure in all key sections of the trustees' report.

The current balance can be retained in certain tables for the sake of historical continuity.

The Department states that it will be several years before trust funds accumulate to a level that may require modification of the actuarial balance and, thus, that there is no need to rush into a modification. We disagree. By our analyses, the adjusted actuarial balance already shows the funds to be out of close actuarial balance, a different picture than the current measure gives. When and if sizable funds accumulate, the proposed measure would provide a much more favorable, as well as accurate, picture of the funds' position than would the current measure.

The Department suggests that the proposed measure may be internally inconsistent because it involves 76 years of expenditures but only 75 years of income. Again, we disagree. Because the trust funds should be recognized in the measure, the adjusted actuarial balance includes 75 years of income, 75 years of expenditures, the current fund balance added to the income, and a projected 1-year fund balance added to the expenditures. There is no internal inconsistency in this formulation.

The Department notes that the adjusted actuarial balance involves the adoption in principle of the concept of a 100-percent fund ratio. We agree; we developed the adjusted balance with the 100-percent fund ratio in mind and endorse the concept as actuarially prudent.

3. We tried to obtain 1987 analyses and to avoid having to use hybrid statistics. Although the Social Security Administration was helpful in providing the data we originally requested, they were unable to update these data for our report. We believe we have been clear about the basis for each of the figures in our report and the reason why we were unable to provide a single basis. We do not believe our recommendations would have been affected by the availability of 1987 data.

U.S. G.P.O. 1988-201-749:60243

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