

The Social Security System

- By Thomas Cosimano, Professor of Finance
- The Good, The Bad, and The Ugly.
- Mathematics 108 Wednesday April 20, 2005.

Social Security

- Supplemental Income for retirement, survivors and disabled.
- Pay as you go system. Charge employer and employee tax rate 6.12% up to \$87,900 income.
- Through about 2018 payroll tax proceeds exceed payments so that excess is placed in trust fund.
- However, the government spends the excess proceeds currently so that stated deficit is lower.
- Treasury places IOU's in trust fund, which means that Treasury must raise funds after 2018 to honor the obligations.

The Social Security System

- Social Security Outlays and Revenues as a Share of GDP in Selected Years Under the Scheduled Benefits Scenario, 2003 to 2100

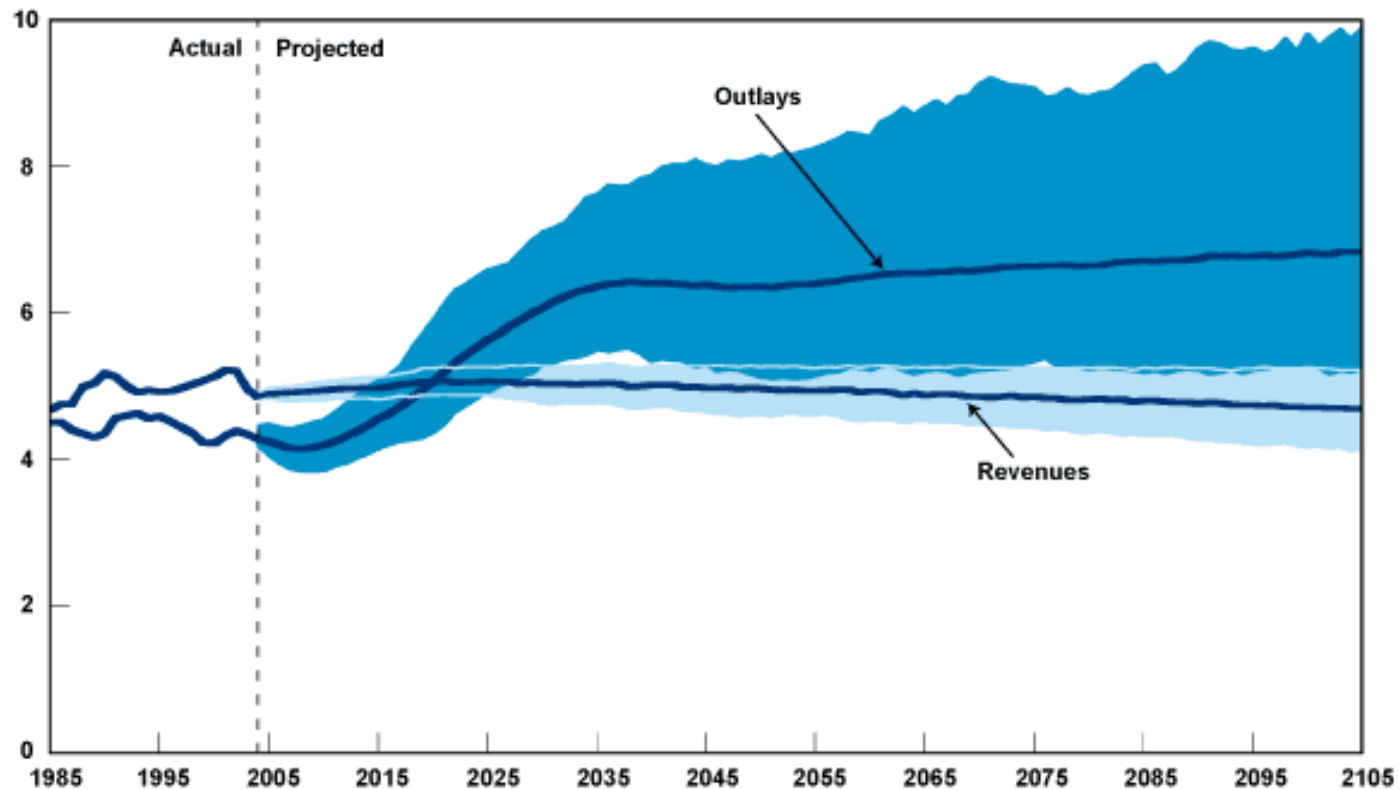
	Actual					
		2003	2025	2050	2075	2100
■						
■	Market-Value Outcome					
■						
■	Revenues	4.97	5.07	4.98	4.86	4.72
■	Outlays	4.35	5.64	6.37	6.65	6.82
■	Balance	0.62	-0.57	-1.39	-1.78	-2.11
■						

Cause of Problems

- Increase in life Expectancy.
- Increase in Wage inequality-
 - Maximum taxable now only covers 15% rather than 10% in 1983.
- Legacy Debt.
- Initial Benefits based on average wages through age 60. As a result, increase in productivity does not solve problem.
- Benefits are indexed to inflation once you retire currently about 67 years.

Social Security Outlays and Revenues Under the Scheduled Benefits Scenario

- Percentage of GDP

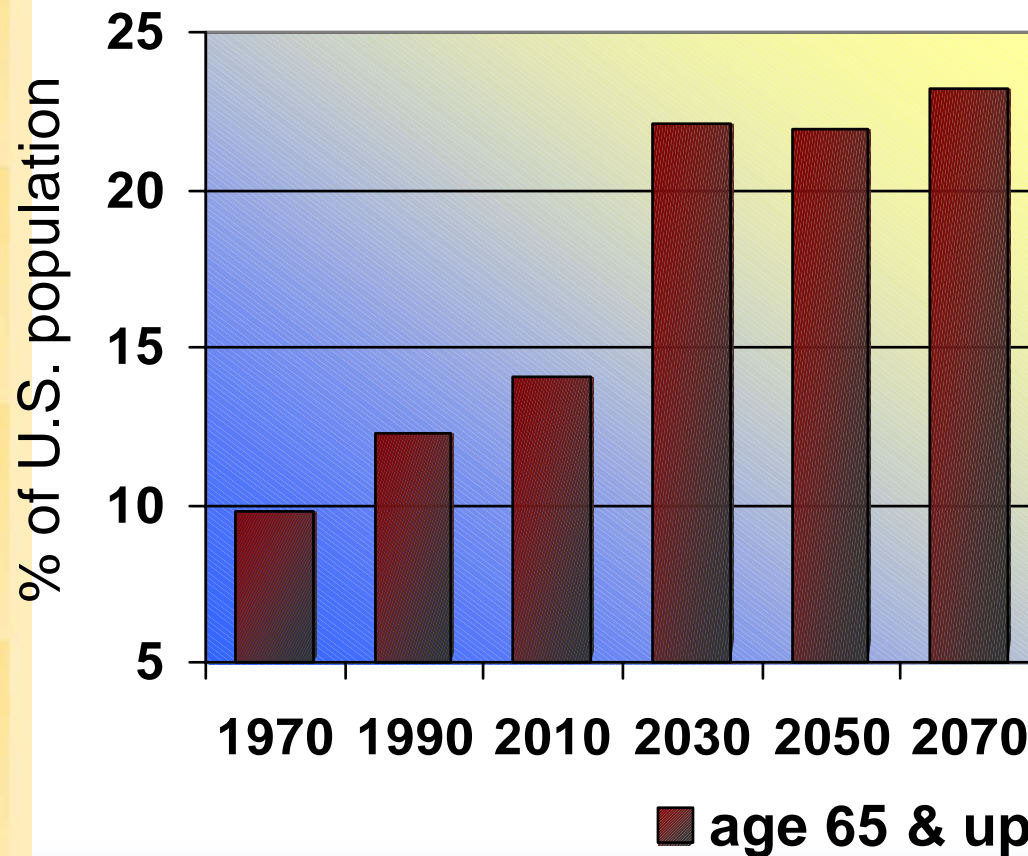


The Fiscal Future

- The number of people receiving Social Security, Medicare is growing faster than the number working, paying taxes



The Fiscal Future

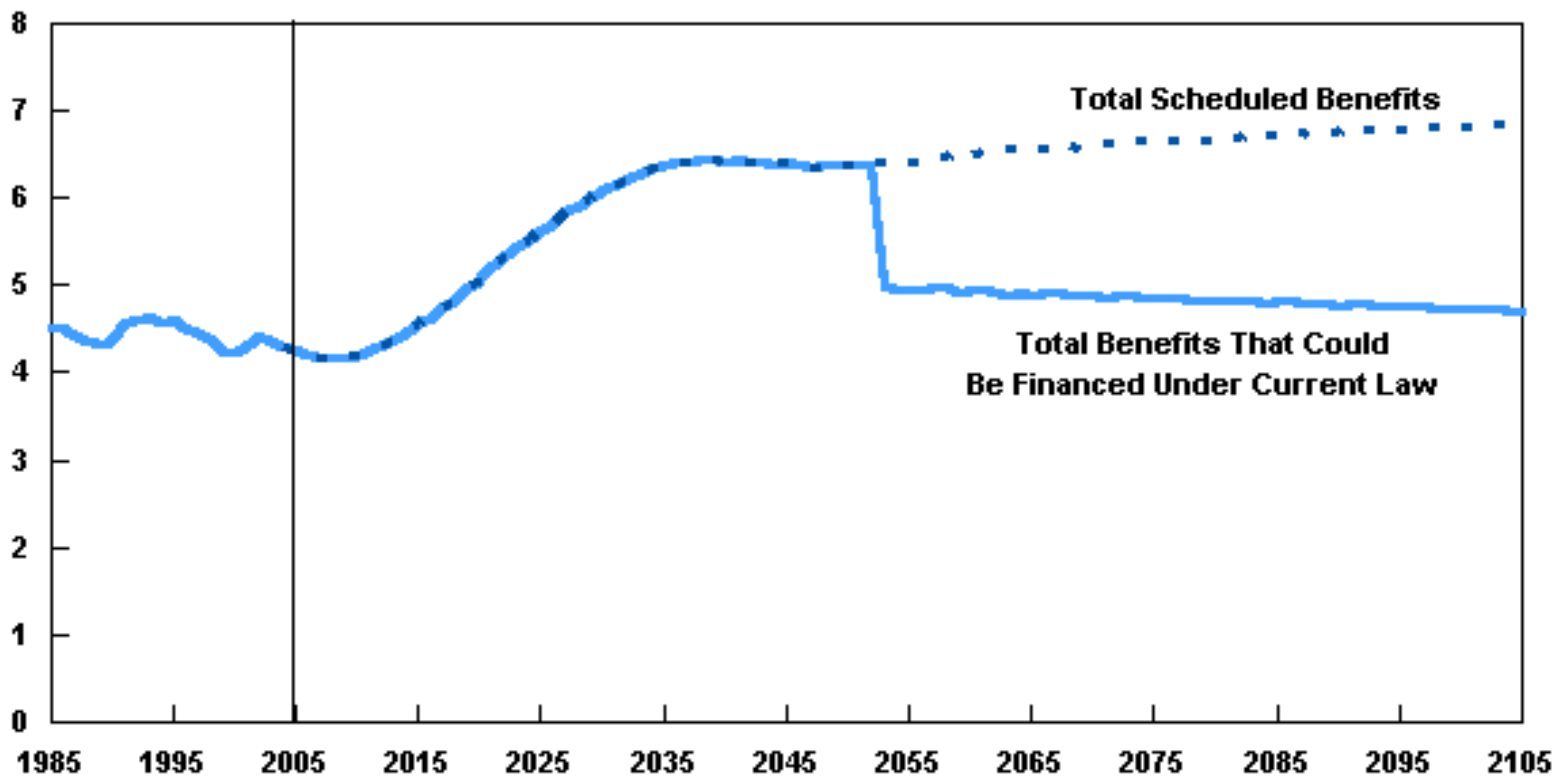


The aging population:

- lower birth rates
- increased life expectancy
- retirement of Baby Boomers

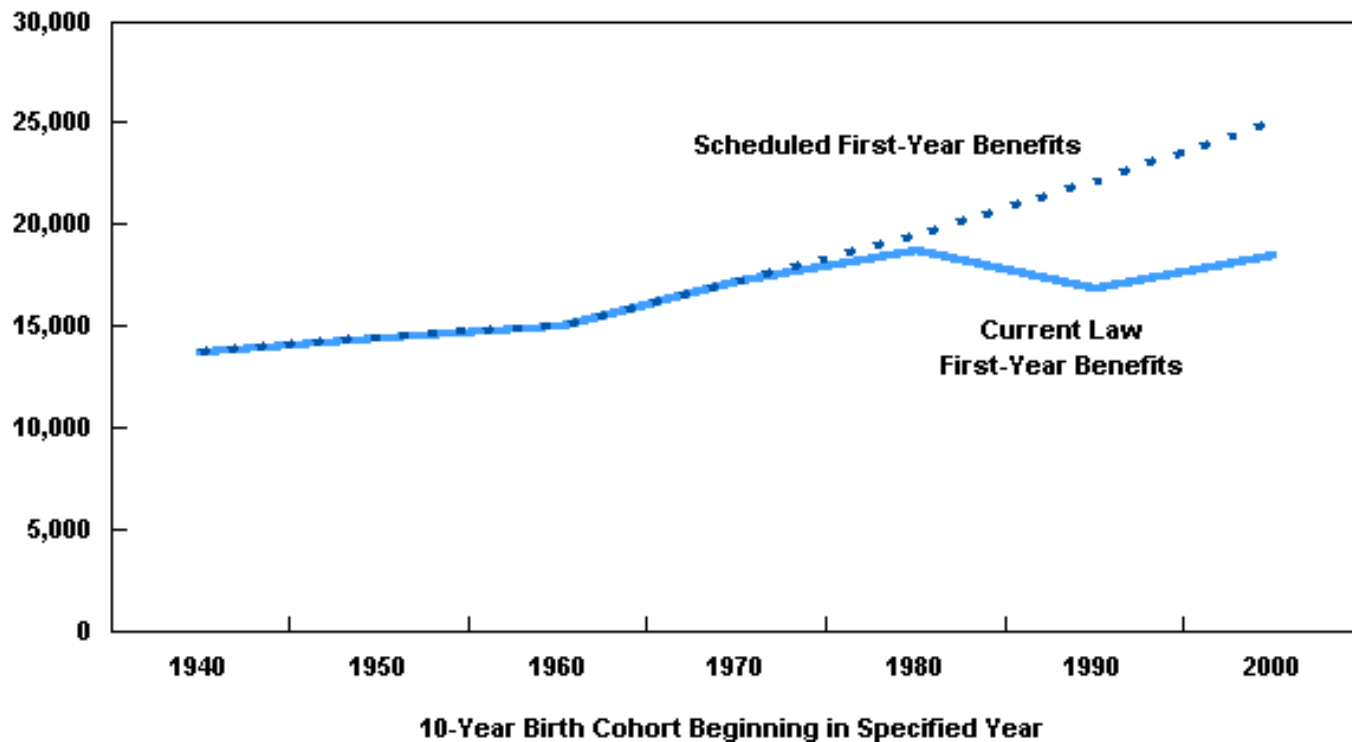
Outlays for Benefits Under Current Law and Under the Scheduled Benefit Scenario, 1985 to 2105

- Percentage of GDP



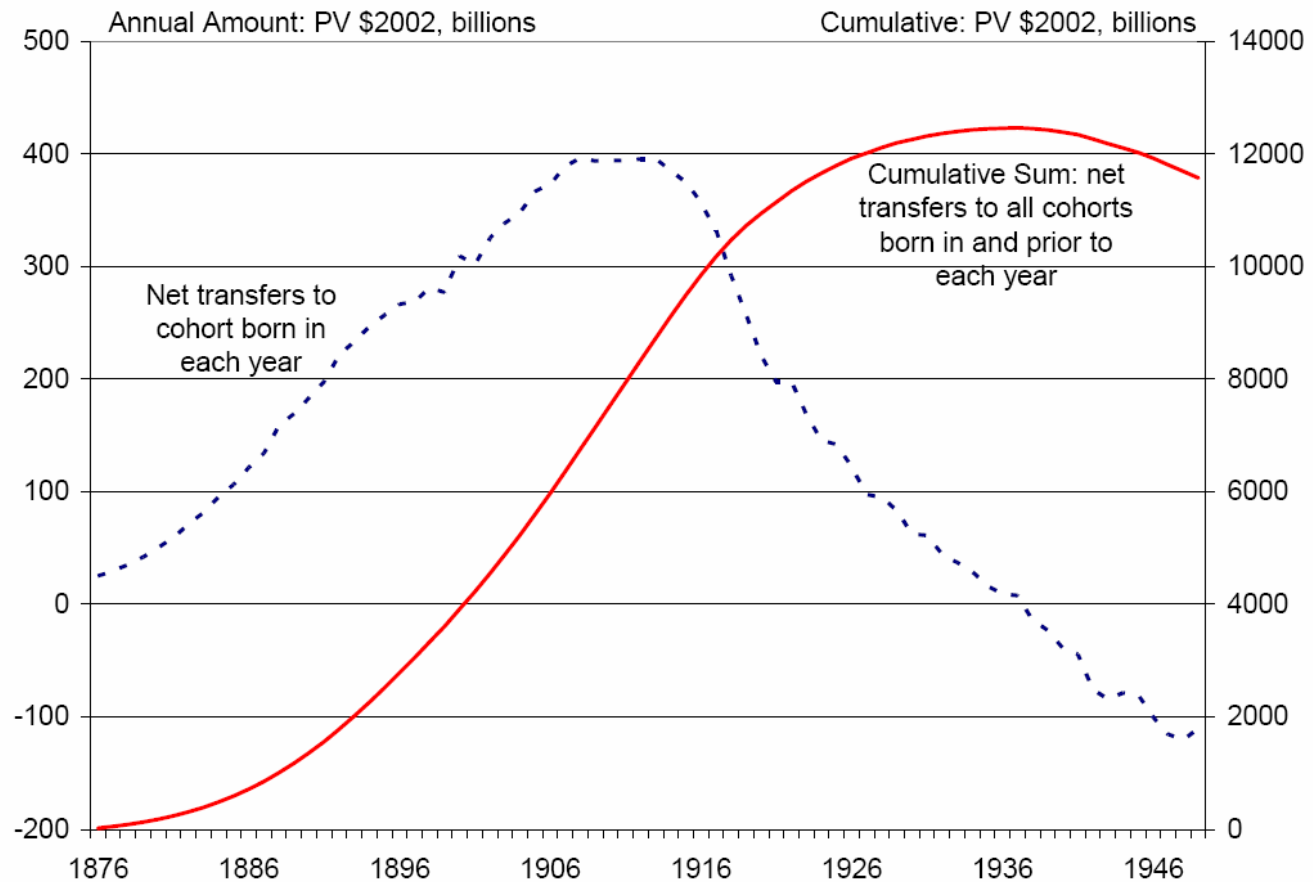
Median First-Year Retirement Benefits, by Birth Cohort

- 2004 Dollars



Legacy Debt-is the fact that the benefits paid to almost all current and past cohorts of beneficiaries exceeded what could have been financed with the revenue they contributed. (Diamond and Orszag 2004)

Figure 1: Legacy debt



Diamond and Orszag Reform

Table 1. Summary of Effects of Proposed Reforms
Percent

Proposed reform ^a	Effect on actuarial balance	
	As share of taxable payroll	As share of actuarial deficit ^b
Adjustments for increasing life expectancy		
Adjust benefits	0.26	13
Adjust revenue	0.29	15
Subtotal	0.55	29
Adjustments for increased earnings inequality		
Increase taxable earnings base	0.25	13
Reduce benefits for higher earners	0.18	9
Subtotal	0.43	22
Adjustments for fairer sharing of legacy cost		
Make Social Security coverage universal	0.19	10
Impose legacy tax on earnings over taxable maximum	0.55	29
Impose legacy charge on benefits and revenue	0.97	51
Subtotal	1.71	89

Diamond (cont)

Reforms to strengthen social insurance functions ^c		
Enhanced benefits for lifetime low earners	-0.14	-7
Increased benefits for widows	-0.08	-4
Hold-harmless provisions for disabled workers and young survivors	-0.21	-11
Completion of inflation protection of benefits ^d	0.0	0
Subtotal	-0.43	-22
Interactions of above reforms	-0.26	-14
Total effect	2.00	104
Alternative: reform existing estate tax ^e	0.60	31

Source: Authors' calculations.

a. See text for details of specific proposed reforms.

b. The seventy-five-year deficit is currently estimated to be 1.9 percent of taxable payroll over that period. Numbers may not sum to totals because of rounding.

c. These reforms and their separate impacts on actuarial balance are described below.

d. Not included in the package of reforms officially scored by the Office of the Chief Actuary, but should have *de minimis* actuarial effect.

e. This reform could be enacted in place of one of the other proposed reforms that affect primarily higher earners.

Net Benefit Cut for Average Worker

Table 3. Benefit Reductions under Proposed Reform for Average Earners

Age at end of 2004	Change in benefits from scheduled benefit baseline (percent)	Inflation-adjusted benefit at full benefit age relative to 55-year-old ^a
55	0.0	100
45	-0.6	110
35	-4.5	118
25	-8.6	125

Source: Authors' calculations.

a. For a retired worker with scaled medium preretirement earnings pattern. This scaled earnings pattern allows wages to vary with the age of the worker but ensures that lifetime earnings are approximately equal to those of a worker with the average wage in every year of his or her career.

Net payroll tax

Table 4. Payroll Tax Rates under Proposed Reform
Percent of earnings

Year	Employee rate	Combined employer-employee rate
2005	6.20	12.40
2015	6.22	12.45
2025	6.35	12.69
2035	6.59	13.18
2045	6.84	13.68
2055	7.09	14.18

Source: Authors' calculations.

The Coming Generational Storm by Kotlikoff and Burns

- Personal Security System
 - Accrual of additional Social Security retirement benefits is eliminated.
 - Current retirees and workers receive their accrued retirement benefits.
 - Payroll tax is eliminated and replaced with equivalent compulsory contribution to PSS accounts.
 - A new retail sales tax is used to pay off the accrued benefits under old system.

Personal Security System

- PSS is shared 50-50 with spouses.
- Government makes contribution to PSS for disabled and unemployed.
- The government matches PSS on a progressive basis.
- All PSS balances are invested in a single market weighted global index fund of stock, bond and real estate.
- The government places a put option on PSS.
- Between ages 57-67 the PSS balances are gradually sold off and placed in inflation protective annuity.
- If a worker dies before age 67 PSS balances are transferred to heirs.

All Federal Obligations.

Table 1.

Federal Outlays by Category, 1950 to 2075

(As a percentage of GDP)

Fiscal Year	Social Security	Medicare	Medicaid	Social Security, Medicare, and Medicaid Combined	Other Spending, Excluding Interest Expense	Total, Excluding Interest Expense
1950	0.3	n.a.	n.a.	0.3	13.5	13.8
1960	2.2	n.a.	n.a.	2.2	14.2	16.4
1970	2.9	0.7	0.3	3.9	12.8	16.7
1980	4.3	1.2	0.5	6.0	13.7	19.7
1990	4.3	1.9	0.7	6.9	11.7	18.6
2000	4.2	2.2	1.2	7.6	8.5	16.1
2010	4.4	2.7	1.8	8.8	7.6	16.4
2020	5.4	3.6	2.3	11.3	7.1	18.4
2030	6.2	4.9	2.8	13.9	7.1	21.0
2040	6.2	6.0	3.4	15.5	7.1	22.6
2050	6.0	6.7	3.9	16.7	7.1	23.8
2060	6.1	7.7	4.3	18.1	7.1	25.2
2070	6.2	8.9	4.9	20.0	7.1	27.1
2075	6.2	9.6	5.3	21.1	7.1	28.2

Source: Congressional Budget Office.

Note: n.a. = not applicable.