Social Security: its importance and financial health

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1. Overview of who the beneficiaries are
2. What the program provides
3. Why we worry about 75 years projections for SS but not for other government programs
4. The title question--what is its financial health?
5. Funding and reform issues
Reform Issues: is the shortfall unexpected?

- How is the system funded?
- What types of projections are made now?
- How certain is the (size of the) funding shortfall?
- What was foreseen in 1934
- Reform proposals and major challenge
  - “Modifiers”
  - “Reformers”-private accounts
Some numbers-2007

- 49.2 million beneficiaries (1/6 U.S)
- Income: $783 billion
- Outlay: $594 billion
- Annual surplus $189 billion
- End of 2007 reserves: $2,237 billion (est.)

- U.S. budget outlays $2.3 trillion (est.)
- Budget deficit $543 billion (est.)
Topic 1: It isn’t all about Retirees: New Awards by type of benefit, 2005

Source: Fast Facts and Figures, 2006
Not all remain on OASDI and on same benefits—static picture is more retired-worker.
3.1 million kids on OASDI

Children of:

- Retired workers: 296
- Disabled workers: 1,564
- Deceased workers: 1,396
Gender differences in benefit type
(18+ beneficiaries, December 2005)

Source: Fast Facts and Figures, 2006
Topic 2. Part of the “Three Legged Stool” Insurance System

- Social Security
- Own savings/insurance
- Employer provided plans

Earnings
Social Security income—the longest leg for those 65+ (2004)
Does this with benefits that are not large but not immodest

Average Monthly Benefits: Dec. 2005

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retired-workers</td>
<td>$1,130</td>
<td>$867</td>
</tr>
<tr>
<td>Disabled worker</td>
<td>1,051</td>
<td>806</td>
</tr>
<tr>
<td>Spouses of R-W</td>
<td>285</td>
<td>503</td>
</tr>
<tr>
<td>Surviving spouse</td>
<td>782</td>
<td>969</td>
</tr>
</tbody>
</table>
Percent of the aged receiving Social Security by relative importance of benefits in total income, 2004
OASDI provides insurance against an array of lifetime risks

To Workers

– Income loss upon retirement (62+)
– Income loss upon severe and permanent disability (<65)
– Against not having pension coverage due to low wage or interrupted work
– Against retirement income costs of job transitions—(universal coverage)
To Family Members

– Income loss upon spouse death or disability
– Income loss upon death or disability of a parent (child <18)
– Disability of a child (disability < 18; lifetime benefits)
– Effect of divorce of homemaker on retirement security

To All

– Against consequences of “too long” life
– Against inflation during remaining lifetime
A defined contribution plan but with social insurance features

1. Pays a mandatory annuity (benefit for remaining life)
2. Annuity is fully inflation-adjusted
3. Benefit based on wage adjusted covered earnings
4. Progressive benefit formula: higher replacement to life-long low earnings
5. No reduction in worker’s benefits if worker has surviving spouse or children
6. Benefits to children <18 and if disabled without reduction in benefits
1. Mandatory annuity guards against uncertainty about length of life and inflation

<table>
<thead>
<tr>
<th>At age 65</th>
<th>males</th>
<th>females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations of life</td>
<td>16.6yrs</td>
<td>19.5yrs</td>
</tr>
<tr>
<td>TIAA-CREF</td>
<td>22.1</td>
<td>24.8</td>
</tr>
<tr>
<td>Percent alive at 85</td>
<td>36%</td>
<td>50%</td>
</tr>
<tr>
<td>TIAA-CREF</td>
<td>60%</td>
<td>71%</td>
</tr>
<tr>
<td>Percent alive at 90</td>
<td>18%</td>
<td>29%</td>
</tr>
<tr>
<td>TIAA-CREF</td>
<td>41%</td>
<td>53%</td>
</tr>
</tbody>
</table>

U.S. 2002 Life table
2. Guards against inflation's toll on purchasing Power

- 1.5%
- 3.0%
- 5.0%

<table>
<thead>
<tr>
<th>Age</th>
<th>$0</th>
<th>$2,000</th>
<th>$4,000</th>
<th>$6,000</th>
<th>$8,000</th>
<th>$10,000</th>
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</thead>
<tbody>
<tr>
<td>65</td>
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<td>67</td>
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<td>73</td>
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<td>81</td>
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<td>83</td>
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<td>85</td>
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<td>87</td>
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<td>97</td>
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<td>99</td>
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</tr>
</tbody>
</table>

real value vs. Age
3. The importance of wage adjustments (for worker 62 in 2000)

<table>
<thead>
<tr>
<th>Year</th>
<th>Covered Earnings</th>
<th>Max taxable wage</th>
<th>Average wages (all wages)</th>
<th>Index factor</th>
<th>Indexed wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>$30,000</td>
<td>$25,900</td>
<td>$12,513</td>
<td>2.31</td>
<td>$69,300</td>
</tr>
<tr>
<td>1990</td>
<td>$30,000</td>
<td>$51,300</td>
<td>$21,028</td>
<td>1.37</td>
<td>$41,100</td>
</tr>
<tr>
<td>2000</td>
<td>$30,000</td>
<td>$76,200</td>
<td>$30,470</td>
<td>1.00</td>
<td>$30,000</td>
</tr>
<tr>
<td>1998</td>
<td>$30,000</td>
<td>$68,400</td>
<td>$28,861</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>$30,000</td>
<td></td>
<td></td>
<td></td>
<td>$46,800</td>
</tr>
</tbody>
</table>

Note: Example is for individual turning age 62 in 2000. Indexing factor is wage growth between year of earnings to 1998 (col. 4)
4: Progressive Benefit Formula

Average Indexed Monthly Wage (AIME) = Indexed wages averaged over 35 years

Primary Insurance Amount (PIA) = SUM(

- 90% of first $680 AIME
- 32% of $680 - $4100 of AIME
- 15% of Average Indexed Monthly earnings above $4,100
100% PIA payable at Full Retirement age

<table>
<thead>
<tr>
<th>Turning 62</th>
<th>Full Retirement Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 - 2016</td>
<td>66</td>
</tr>
<tr>
<td>2017</td>
<td>66 and 2 months</td>
</tr>
<tr>
<td>2018</td>
<td>66 and 4 months</td>
</tr>
<tr>
<td>2022 and later</td>
<td>67</td>
</tr>
</tbody>
</table>

Reduction 5/9 of 1% each month for first 36 earlier than FRA; 5/12 of 1% each additional month to 62
5. Survivor Benefit

Surviving widow(er): Up to 100% of deceased’s PIA

To divorced survivor if married 10 years

- Survivor receive higher of own or survivor benefit;

- Reduced for earnings if < age FRA (above $1,080 per month)

- Ineligible if remarried before age 60

- Eligible if nondisabled at age 60 (but reduced)

- If widowed again will receive the higher benefit from either spouse
Dual Entitlement Provision

Women aged 62 or older, by basis of entitlement, selected years

- Dependents only
- Dual entitlement
- Workers only
Progressive formula & survivor benefits affects “internal rates of return” on contributions

Estimates for person born in 2004, retiring 2069

<table>
<thead>
<tr>
<th>Earnings</th>
<th>single</th>
<th>couple</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>male</td>
<td>female</td>
</tr>
<tr>
<td>very low</td>
<td>4.48</td>
<td>4.71</td>
</tr>
<tr>
<td>low</td>
<td>3.39</td>
<td>3.65</td>
</tr>
<tr>
<td>Medium</td>
<td>2.35</td>
<td>2.65</td>
</tr>
<tr>
<td>High</td>
<td>1.72</td>
<td>2.05</td>
</tr>
</tbody>
</table>
Topic 3: Why Is There a Report on Financing?

The Social Security Act requires that the Board of Trustees report annually to the Congress on the financial and actuarial status of the OASI and DI Trust Funds.

- The Board: six members.
  - Secretary of the Treasury: Henry Paulson
  - Secretary of Labor: Elaine Chao
  - Secretary of Health and Human Services: Michael Leavitt
  - Public representatives appointed by President & confirmed by Senate
    John L. Palmer, Syracuse University
    Thomas R. Saving, Texas A & M University
LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND
FEDERAL DISABILITY INSURANCE TRUST FUNDS,
Washington, D.C., April 23, 2007

The Honorable Nancy Pelosi
Speaker of the House of Representatives
Washington, D.C.

The Honorable Richard B. Cheney
President of the Senate
Washington, D.C.

Dear Madam Speaker and Mr. Cheney:

We have the honor of transmitting to you the 2007 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund, the 67th such report.

Respectfully,

/S/
Henry M. Paulson, Jr., Secretary of the Treasury, and Managing Trustee of the Trust Funds.

/S/
Elaine L. Chao, Secretary of Labor, and Trustee.

/S/
Michael O. Leavitt, Secretary of Health and Human Services, and Trustee.

/S/
Michael J. Astrue, Commissioner of Social Security, and Trustee.

/S/
John L. Palmer, Trustee.

/S/
Thomas R. Saving, Trustee.
Topic 4: Why worry about financing?

Is financed as a PAYGO

Current FICA pays for current beneficiaries

Early programs always have high ratio of payers / beneficiaries

As the program “matures,” ratio must fall

With a “stable population” it is

Productivity growth, labor force and retirement timing increasingly matters
How do Trustees estimate fund over the next 75 years?

• Actuaries review the past and project
  – birth rates, death rates, life expectancy, marriage and divorce, immigration, unemployment, GDP, covered wages, inflation, productivity growth, interest rates, disability incidence, disability recovery
  – Make assumptions for the next 75 years
• Present three (deterministic) scenarios:
  I. Low cost;
  II. Intermediate (best estimate?)
  III. High cost;
PAYGO—current tax on covered payroll—no legislative changes expected

<table>
<thead>
<tr>
<th>FICA (as percent of taxable payroll)</th>
<th>Employer &amp; employee, each</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Age &amp; Survivor</td>
<td>5.30%</td>
<td>10.60%</td>
</tr>
<tr>
<td>Disability</td>
<td>0.90</td>
<td>1.80</td>
</tr>
<tr>
<td>Medicare (Part A)</td>
<td>1.45</td>
<td>2.90</td>
</tr>
<tr>
<td>Total</td>
<td>7.65</td>
<td>15.30</td>
</tr>
</tbody>
</table>
Intermediate Projections:
In long-run 60-70% benefits paid

Cost: Scheduled and payable benefits
Cost: Scheduled but not payable benefits

Payable benefits as percent of scheduled benefits:
2006-40: 100%
2041: 75%
2081: 70%

Expenditures: Income = payable benefits starting in the year the trust funds are exhausted (2041)
Long-Range OASDI Trust Fund Ratios Under Alternative Assumptions
(assets as a % of annual expenditures)

Actuarial Status of OASDI 2007-81: Alternative cost projections

(2007 Trustees’ Report)

<table>
<thead>
<tr>
<th></th>
<th>Intermediate</th>
<th>Low Cost</th>
<th>High Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuarial balance OASDI (OASI)</td>
<td>-1.95 (-1.69)</td>
<td>0.36 (.14)</td>
<td>-5.05 (-4.15)</td>
</tr>
<tr>
<td>Open group unfunded obligation (in trillions)</td>
<td>$4.6</td>
<td>($1.1)</td>
<td>$12.3</td>
</tr>
<tr>
<td>Year trust fund assets are depleted</td>
<td>2041 (2042)</td>
<td>1/</td>
<td>2033</td>
</tr>
</tbody>
</table>

1/. Fund is not estimated to be exhausted within the projection period
Comparison Projections of 2006 and 2007 reports

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year when outgo &gt; revenue</td>
<td>2017</td>
<td>2017</td>
</tr>
<tr>
<td>Year when reserves = zero</td>
<td>2040</td>
<td>2041</td>
</tr>
<tr>
<td>Long-range actuarial deficit</td>
<td>2.02</td>
<td>1.95</td>
</tr>
<tr>
<td>(percentage of payroll)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual deficit in 75(^{th}) year</td>
<td>5.38</td>
<td>5.20</td>
</tr>
</tbody>
</table>
But not all is certain: stochastic projections show trust fund probabilities. Intermediate consequence is only one
A shortfall—yes? How large?  The world is stochastic

<table>
<thead>
<tr>
<th>Peak year</th>
<th>2.50%</th>
<th>10%</th>
<th>30%</th>
<th>50%</th>
<th>70%</th>
<th>90%</th>
<th>97.50%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
<td>2015</td>
<td>2018</td>
<td>2018</td>
</tr>
<tr>
<td>Exhaustion year</td>
<td>2025</td>
<td>2028</td>
<td>2032</td>
<td>2037</td>
<td>2043</td>
<td>2063</td>
<td></td>
</tr>
</tbody>
</table>
Topic 5: Reform Questions

What is the funding problem?
How big is it?
How resolve it?
Does resolution of it continue social adequacy goals?
Who pays that cost?

(Discussion typically based on Intermediate assumptions)
Challenge: all proposals must bring any “pay as you go” component into balance

Modifiers do it with combination

- Increased revenues and reductions in benefits;

Reformers

- Private accounts divert 4-6 % FICA to IA
- System out of balance by 2.02 + diversion %.
- In short run funds must come from somewhere to finance this now larger shortfall (transition costs)
- In long run benefit reductions to meet reduced (~employer-only) FICA revenue
Reforms not simple because of “social insurance” and “defined benefit” components of current system.

- **Insurance** protection against income risks and for all family members

- **Predictable** and **inflation adjusted** benefits

- Benefits not subject to **market risks**; private pensions increasingly shifting market, inflation, survival risks onto workers
Modifiers’ proposals: Increase limit on covered earnings that are taxed

- **Proposal**: Raise cap to historic 90% of earnings and use current benefit formula: resolves **43%** of deficit.

- Now 84% of taxable earnings vs 92% in 1937):
  - Increase averaging years to 38  **14%**
  - Tax like pensions  **17.2%**
Modifiers: Deficit reduced by other tax and benefit changes

Cover currently uncovered state and local: 12%

Speed rise in Full retirement age remove hiatus: 7%

Change COLA post-benefit adjustments COLA – 1 percentage point: 78%

40 percent of Trust Funds into equities with 5% real return: 33.3%
Tax as pensions---17.2 percent

FICA by 2.0 percentage points 102.1%
Reformers: Who pays the cost of diversion to private accounts?

In long run system must be brought into balance by reductions in SS benefits such that can be funded by payroll tax less contributions diverted to Individual Accounts.

In short run General Fund transfer required to cover SS benefits until all individual account system is mature.
Reformers—diversion of FICA to private accounts

- Divert 4-6% of employee FICA;
  - Individual chooses among limited number of funds approved by some central authority
  - Retirement annuity based on account accumulation
    - Reduced when split with spouse or at divorce
    - Retiree must purchase inflation adjusted joint & survivor annuity; survivor benefits reduce worker annuity
  - Some share of diverted FICA used to fund disability
Competing claims in Individual Accounts—whose are they?

- Who has property rights to accounts?
- Are accounts individual or marital property?
- What happens to accounts upon divorce?
- Is a joint & survivor annuity mandated in all cases?
- What about children’s claims on accounts?
Most recent proposal to ACT

- Senator Robert Bennett, Vice Chair, Joint Economic Committee (May 2006)
  - progressive indexing of scheduled Old-Age and Survivor’s Insurance (OASI) benefits,
  - accelerate the increase in the normal retirement age to 67
  - provide for longevity indexing for OASI benefits,
  - transfers from the General Fund when needed to maintain a contingency trust fund reserve.
  - Achieves solvency
Bennett proposal—a combination

- additional bend point above 30th percentile of career-average earners-starting with 2012 cohort
- No break in rise in NRA to 67
- 2018 cohort: bend points indexed (reduced) by increase in life expectancy.
- General fund transfers: needed 2046-2080 but not after ($627 billion).
What was foreseen by original designers? 1938 SS Advisory Council

“Unless present tendencies are sharply reversed, this country will attain a stationary population in 20 or 25 years and, by the end of the century, a stable distribution of population by age groups. By that time at least one-eighth [12.5%] of the total population will be 65 years of age and over.”

2005=12%
the 1938 Advisory Council was not far off on payroll costs

“Several members of the Council believe... old-age and survivors' benefits...should be kept within 10 per cent of payrolls”

“Information now available indicates that the benefit structure...will involve financing from all sources of an annual disbursement equivalent to 10 to 12% of covered payroll by 1980”

OASI 1980 = 9.04%; now = 10.6% of payroll
What the Council on Economic Security saw in 1938

Figure 2-9.
Population by Age and Sex: 1940

Age
85 and over
80 to 84
75 to 79
70 to 74
65 to 69
60 to 64
55 to 59
50 to 54
45 to 49
40 to 44
35 to 39
30 to 34
25 to 29
20 to 24
15 to 19
10 to 14
5 to 9
0 to 4

Note: The reference population for these data is the resident population.
Source: U.S. Bureau of the Census, 1943, Table 2. For full citation, see references at end of chapter.

Crude Birth Rate, 1920–2001

Births (per 1,000 people)

Source: AmeriStat, analysis of data from the National Center for Health Statistics.
What they couldn’t and didn’t anticipate: the baby boom
Total Fertility Rate, 1940–2001

Average number of births per woman

Note: The total fertility rate is the average number of children that would be born to a woman during her lifetime, given the age-specific fertility rates of a given year.

Source: AmeriStat, analysis of data from the National Center for Health Statistics.
Total Fertility Rates: U.S. is a relatively “young” country

<table>
<thead>
<tr>
<th>Country</th>
<th>Fertility Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>2.1</td>
</tr>
<tr>
<td>Sweden</td>
<td>1.8</td>
</tr>
<tr>
<td>Ireland</td>
<td>1.8</td>
</tr>
<tr>
<td>Canada</td>
<td>1.7</td>
</tr>
<tr>
<td>Britain</td>
<td>1.7</td>
</tr>
<tr>
<td>France</td>
<td>1.6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.5</td>
</tr>
<tr>
<td>Germany</td>
<td>1.3</td>
</tr>
<tr>
<td>Italy</td>
<td>1.2</td>
</tr>
<tr>
<td>Japan</td>
<td>1.5</td>
</tr>
<tr>
<td>China</td>
<td>1.8</td>
</tr>
<tr>
<td>S. Korea</td>
<td>1.8</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.8</td>
</tr>
<tr>
<td>Russia</td>
<td>1.3</td>
</tr>
</tbody>
</table>
Figure 2-11. Population by Age and Sex: 1980

Note: The reference population for these data is the resident population.
Source: U.S. Bureau of the Census, 1983, Table 44. For full citation, see references at end of chapter.

Figure 2-12. Population by Age and Sex: 2000

Note: The reference population for these data is the resident population.
Source: U.S. Census Bureau, 2001, Table PCT12. For full citation, see references at end of chapter.
Figure 2-13. Population by Age and Sex: 2020

Note: The reference population for these data is the resident population.

Source: U.S. Census Bureau, 2004. For full citation, see references at end of chapter.

Figure 2-14. Population by Age and Sex: 2040

Note: The reference population for these data is the resident population.

Source: U.S. Census Bureau, 2004. For full citation, see references at end of chapter.
Labor Force Participation Rates of Men and Women, by Age Group, 1948-2000
THE DEMOGRAPHIC U.S. IN 1950

Graph showing the distribution of the U.S. population by age and gender in 1950.
The Demographic World of the Future

Overview: There is a financing problem

Total shortfall estimated = $4.6 trillion, though predicted with uncertainty.

In long-term: tax and benefits must be sufficient to balance system

Diversion of FICA in Individual Accounts MUST increase shortfall in short run and must lead to smaller traditional benefits than currently payable because no pooling of risk.

Question for all reforms and modifications:
How important is the social insurance nature of Social Security?

Who will pay for balancing and the transition?
beneficiaries with benefit reductions?
covered workers with higher FICA?
general tax payers?

What projections will guide the time-line?

Are there other (labor market) policies?
Retirement costs of baby boomers mirrors their educational costs

Your Questions
Income Received by Social Security Trust Funds
Estimates for Calendar Year 2006

Employer and employee Social Security taxes 84%
Interest on reserves 14%
Income taxes on benefits 2%
Figure 1.
Medicare Non-Interest Financing by Source as a Percent of GDP

Year:
- 2005
- 2010
- 2020
- 2030
- 2040
- 2050

Source of Financing:
- HI Deficit
- General Revenue
- Premiums
- Other
- Payroll Taxes

Percent of GDP:
- 0.0
- 1.0
- 2.0
- 3.0
- 4.0
- 5.0
- 6.0
- 7.0
- 8.0
- 9.0
- 10.0

Source of Trustees 2006.
OASI, DI, and HI Trust Fund Ratios
[Assets as a percentage of annual expenditures]
OASDI and HI Tax Income Shortfall to Pay Scheduled Benefits, and the 75 Percent General Fund Revenue Contribution to SMI (Percentage of GDP)
Social Security and Medicare Cost as a Percentage of GDP

Historical vs. Estimated costs over time, with lines indicating growth from 1970 to 2080.
How the Year of Retirement Affects Income-Replacement Rates in a System of Private Accounts Invested in Stocks or Bonds