An Actuarial Perspective on the 2011 Social Security Trustees Report

Highlights from the report and policy options to address Social Security’s long-term financial soundness

Janet M. Barr, ASA, MAAA, EA
Chair, Social Insurance Committee
Stephen C. Goss, ASA, MAAA
Member, Social Insurance Committee
American Academy of Actuaries

- American Academy of Actuaries
  - 17,000-member professional association whose mission is to serve the public and the U.S. actuarial profession.
  - The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues.
  - The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.
American Academy of Actuaries

- **Pension Practice Council**
  - Provides objective technical expertise to policymakers and regulators on pension and Social Security issues.

- **Social Insurance Committee**
  - Provides independent and objective analysis, advice, and education to stakeholders of social insurance plans with respect to:
    - Financing
    - Annual reporting
    - Managing system risks
    - Program Design
Agenda for Today’s Briefing

- Metrics for solvency and results of the 2011 Social Security Trustees Report
- Options for reform
- Current proposals
Key Questions

- How have Social Security’s financial projections changed from last year?
- What does it mean to say the system is not in actuarial balance?
- What is sustainable solvency?
- What are the implications of waiting to reform Social Security?
- What are the options for reform?
Metrics—Short-Range Test for Solvency

- Trust Fund Ratio =
  
  Trust Fund assets at beginning of year ÷
  Trust Fund costs during year

- The short-range test is applied to the Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI) trust funds separately.
Metrics—Short-Range Test for Solvency

Based on the trust fund ratio:

- If the ratio is > 100% at some point during the projection period, then it must remain above 100% for the 10-year projection period, or
- If the ratio is < 100% at the beginning of the projection period, then it must reach 100% within five years (without first reaching zero) and stay above 100% for the remainder of the projection period
Metrics—Short-Range Test for Solvency 2011 Results

Trust Fund Ratios

- OASI 2010
- DI 2010
- OASI 2011
- DI 2011

% Benefits Paid

<table>
<thead>
<tr>
<th>Year</th>
<th>OASI 2010</th>
<th>DI 2010</th>
<th>OASI 2011</th>
<th>DI 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>450</td>
<td>400</td>
<td>420</td>
<td>370</td>
</tr>
<tr>
<td>2011</td>
<td>400</td>
<td>350</td>
<td>390</td>
<td>340</td>
</tr>
<tr>
<td>2012</td>
<td>350</td>
<td>300</td>
<td>340</td>
<td>290</td>
</tr>
<tr>
<td>2013</td>
<td>300</td>
<td>250</td>
<td>300</td>
<td>240</td>
</tr>
<tr>
<td>2014</td>
<td>250</td>
<td>200</td>
<td>250</td>
<td>190</td>
</tr>
<tr>
<td>2015</td>
<td>200</td>
<td>150</td>
<td>200</td>
<td>140</td>
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<tr>
<td>2016</td>
<td>150</td>
<td>100</td>
<td>150</td>
<td>90</td>
</tr>
<tr>
<td>2017</td>
<td>100</td>
<td>50</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>2018</td>
<td>50</td>
<td>0</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>2019</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2020</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Metrics—Long-Range Solvency

1) Trust Fund ratios
2) Projected annual balance
3) Actuarial balance
Metrics—Long-Range Solvency
1) Trust Fund Ratios

- Trends/Events to look for:
  - Year of trust fund exhaustion
  - Stability during the period
  - Trend at the end of the period
1) Trust Fund Ratios

2010 and 2011 Trust Fund Ratios

- Blue line represents 2010
- Green line represents 2011


Percentage: 0%, 50%, 100%, 150%, 200%, 250%, 300%, 350%, 400%, 450%
Metrics—Long-Range Solvency
1) Trust Fund Ratios
2. Projected Annual Balance

- Projected Annual Balance = Annual Income Rate - Annual Cost Rate
- Expressed as a percentage of taxable payroll

Trends/Events to Look For:
- Year that Cost Rate exceeds Income Rate
- The stability during the period
- The trend at the end of the period
Metrics—Long-Range Solvency
2. Projected Annual Balance

2010 and 2011 Projected Annual Balance

-5% -4% -3% -2% -1% 0% 1%

2010 Annual Balance
2011 Annual Balance
Metrics—Long-Range Solvency

2. Projected Annual Balance

2011 Projected Annual Balance

- High
- Intermediate
- Low

2011
2013
2015
2017
2019
2025
2035
2045
2055
2065
2075
2085
Metrics—Long-Range Solvency
3. Actuarial Balance

- **Actuarial Balance** =
  
  Summarized Income Rate - Summarized Cost Rate

- Trust Fund Balance is included in Income Rate

- Ending Target Fund included in Cost Rate

- Expressed as a percentage of the summarized taxable payroll
# Metrics—Long-Range Solvency

## 3. Actuarial Balance

<table>
<thead>
<tr>
<th>Actuarial Balance</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>75–Year</td>
<td>-1.92%</td>
<td>-2.22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2011 Actuarial Balance</th>
<th>Low</th>
<th>Intermediate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>75–Year</td>
<td>0.29%</td>
<td>-2.22%</td>
<td>-5.59%</td>
</tr>
</tbody>
</table>
Sustainable Solvency

- The Academy’s Social Insurance Committee believes any modifications to the Social Security system should include “sustainable solvency” as a primary goal.

- Sustainable solvency means that not only will the program be solvent for the next 75 years under the reforms adopted, but also that the timing of changes will result in stable trust fund ratios at the end of the 75-year period.
Now is the Time to Act

- If reform is enacted now, participants will have time to plan for revised levels of benefits and/or after-tax income

- Reforms can be phased-in more gradually over a longer period of time
  - In 2011, 75-year actuarial balance would require:
    - Increase tax rate from 12.4% to 14.55%, or
    - 13.8% decrease in benefits
  - In 2036, 75-year actuarial balance would require:
    - Increase tax rate from 12.4% to 16.45%, or
    - 23% decrease in benefits
Principles for Reform

- Are the principles on which Social Security was founded still appropriate or do changing times indicate a need for fundamental reform?

- Trade-offs:
  - Individual equity or social adequacy?
  - Pay-as-you-go funding versus pre-funding?
  - Means-tested or universality?

- Opportunity to make changes based on the program’s fundamental principles rather than just the need to balance income and outgo
## Design Principles

<table>
<thead>
<tr>
<th>Principle</th>
<th>Reform Design Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Equity</td>
<td>Tax increases paired with benefit increases, individual accounts, automatic adjustments to Normal Retirement Age (NRA)</td>
</tr>
<tr>
<td>Social Adequacy</td>
<td>Progressive formula for benefits, relate benefit levels to poverty level, minimum benefits</td>
</tr>
<tr>
<td>Benefit Adequacy</td>
<td>More emphasis on tax increases rather than benefit decreases, minimum benefits, age retiree increases</td>
</tr>
<tr>
<td>Generational Equity</td>
<td>Prefer pre-funding to pay-as-you-go funding, set taxes /benefits accordingly, automatic adjustments to NRA</td>
</tr>
<tr>
<td>Funding Uncertainty</td>
<td>Automatic adjustments to benefits or taxes</td>
</tr>
<tr>
<td>Minimize Trust Fund</td>
<td>Pay-as-you-go funding, gradual more frequent changes to benefits and/or taxes</td>
</tr>
</tbody>
</table>
Reform Options

To protect the program’s solvency, policymakers have a variety of reform options available, including:

- Raising the Social Security normal retirement age
- Raising the maximum taxable wage base
- Changing the primary insurance amount (PIA) formula
- Changing the cost-of-living adjustments (COLA)
Raising the Social Security Normal Retirement Age

<table>
<thead>
<tr>
<th>Year of Birth</th>
<th>Current Law Social Security Normal Retirement Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1943—1954</td>
<td>66</td>
</tr>
<tr>
<td>1955</td>
<td>66 and 2 months</td>
</tr>
<tr>
<td>1956</td>
<td>66 and 4 months</td>
</tr>
<tr>
<td>1957</td>
<td>66 and 6 months</td>
</tr>
<tr>
<td>1958</td>
<td>66 and 8 months</td>
</tr>
<tr>
<td>1959</td>
<td>66 and 10 months</td>
</tr>
<tr>
<td>1960 &amp; older</td>
<td>67</td>
</tr>
</tbody>
</table>
Raising the Social Security Normal Retirement Age

- Since 1940, life expectancy at age 65 for the general population has increased approximately 5 years.
- Past and scheduled increases in the normal retirement age have totaled two years.
- To index normal retirement age for future increases in life expectancy, the normal retirement age would increase about one month every two years.
Raising the Social Security Normal Retirement Age

- American Academy of Actuaries Position Statement
  *Actuaries Advocate Raising Social Security’s Retirement Age* (August 2008)
  

- Life expectancy increases are uneven across the population

- Working longer may not be possible for workers in physically demanding jobs
Raising the Taxable Wage Base

- At the current taxable wage base (TWB) of up to $106,800 approximately 85% of earnings are subject to OASDI taxes.
- Historically 90% of earnings were subject to OASDI taxes.
- A return to 90% would require approximately a 25% increase in the TWB plus annual increases.
- A gradual rise to 90% by around 2050 would eliminate approximately 35% of deficit.*
- Limit applies to taxes and benefits.
- Removing the TWB limit for taxes but retaining a TWB for benefits would eliminate 100% of deficit.

*Based on the 2010 Trustees Report
Changing the PIA Formula

- PIA for those newly eligible in 2011
  - 90% of first $749 of monthly average earnings (AIME)
  - 32% of AIME in excess of $749 and less than $4,517
  - 15% of AIME in excess of $4,517

- “Bend points” increase with increase in average wages

- Price indexing

- Progressive price indexing

- Longevity indexing
Changing the Cost of Living Increase

- Applied to retirement benefits beginning at eligibility
- Based on Consumer Price Index for Urban Wage Earners and Clerical workers (CPI-W)
- Historical average annual rate of 4.4% for 1969—2009
- Chained CPI
- Development of new index
Current Proposals

- **National Commission on Fiscal Responsibility and Reform**
  - Charged in April 2010 by President Obama to identify policies to improve the fiscal situation in the medium-term and to achieve fiscal sustainability over the long-term
  - Issued the “Moment of Truth” report in December 2010
  - Recommended changes rely more on benefit reductions than tax increases
Current Proposals

- Bipartisan Policy Center’s Debt Reduction Task Force
  - Issued the “Restoring America’s Future” report in November 2010
  - Recommended changes rely more on tax increases than benefit reductions
National Commission on Fiscal Responsibility and Reform

- Index NRA and ERA to longevity, retain current ages for < 250% of poverty, partial index up to 400% of poverty

- Add new bend point for AIME greater than median, from 90%, 32%, and 15% to 90%, 30%, 10%, 5%

- Change to chained CPI in December 2011

- Enhanced special minimum benefit relative to poverty level, pro-rated for service less than 30 years
National Commission on Fiscal Responsibility and Reform

- Increases in 20th through 24th year after benefit eligibility
- Increase TWB to 90% of covered earnings by 2049, establish new bend point for wages above TWB of 5%
- Allow retirees to receive up to 50% of PIA at age 62 with actuarial reduction, remainder available at a later age
<table>
<thead>
<tr>
<th>Principle</th>
<th>Reform Design Elements</th>
</tr>
</thead>
</table>
| Individual Equity        | 1. Increase in NRA  
                          | 2. Paired increase in TWB with a benefit increase               |
| Social Adequacy          | 1. Adjusted NRA for low earnings  
                          | 2. Special minimum benefit for low earnings  
                          | 3. Tax increase for those earning more than current TWB         |
| Benefit Adequacy         | 1. Increases to aged retirees  
                          | 2. Adjustments to increased NRA if income is more than 4 times poverty level |
| Generational Equity      | Chained CPI                                                       |
| Funding Uncertainty      | Automatic future increases to NRA                                 |
| Minimize Trust Fund      | Gradual increase in TWB                                           |
### Fiscal Commission Impact on Actuarial Balance

<table>
<thead>
<tr>
<th>Provision</th>
<th>Change in Actuarial Balance*</th>
<th>Percentage of Deficit Solved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index NRA and ERA for longevity</td>
<td>.34</td>
<td>18%</td>
</tr>
<tr>
<td>Add new bend point</td>
<td>.86</td>
<td>45%</td>
</tr>
<tr>
<td>Chained CPI</td>
<td>.50</td>
<td>26%</td>
</tr>
<tr>
<td>Enhanced special minimum</td>
<td>-.15</td>
<td>-8%</td>
</tr>
<tr>
<td>Increase in 20(^{th}) through 24(^{th}) years</td>
<td>-.15</td>
<td>-8%</td>
</tr>
<tr>
<td>Increase TWB to 90% of covered earnings</td>
<td>.67</td>
<td>35%</td>
</tr>
<tr>
<td>Allow retirees to receive up to 50% of PIA at 62</td>
<td>0.00</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total including misc. and interactions</strong></td>
<td><strong>2.15</strong></td>
<td><strong>112%</strong></td>
</tr>
</tbody>
</table>

* Based on the 2010 Trustees Report
Bipartisan Policy Center’s Debt Reduction Task Force

- Subject all employer-sponsored group health insurance premiums to OASDI payroll tax
- Increase TWB to 90% of covered earnings by 2049
- Change to chained CPI in December 2012
- Reduce the 15% PIA factor to 10% by 2052
- Enhanced special minimum benefit relative to poverty level
- Index PIA formula for longevity increases
- Age 81–85 benefit increases
- Tax reform for businesses
- Tax reform for individuals
### Bipartisan Policy Center’s Debt Reduction Task Force

<table>
<thead>
<tr>
<th>Principle</th>
<th>Reform Design Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Equity</td>
<td>Decrease in PIA related to longevity</td>
</tr>
<tr>
<td>Social Adequacy</td>
<td>1. Special minimum benefit for near poverty level</td>
</tr>
<tr>
<td></td>
<td>2. Tax increase for those earning more than current TWB</td>
</tr>
<tr>
<td>Benefit Adequacy</td>
<td>1. Focused more on tax increase rather than benefit decrease</td>
</tr>
<tr>
<td></td>
<td>2. Increases for aged retirees</td>
</tr>
<tr>
<td>Generational Equity</td>
<td>Chained CPI</td>
</tr>
<tr>
<td>Funding Uncertainty</td>
<td>Automatic future decreases in PIA</td>
</tr>
<tr>
<td>Minimize Trust Fund</td>
<td>Gradual increase in TWB</td>
</tr>
</tbody>
</table>
## Bipartisan Policy Center Impact on Actuarial Balance

<table>
<thead>
<tr>
<th>Provision</th>
<th>Change in Actuarial Balance*</th>
<th>Percentage of Deficit Solved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase TWB to 90% of covered earnings</td>
<td>.60</td>
<td>31%</td>
</tr>
<tr>
<td>Chained CPI</td>
<td>.49</td>
<td>26%</td>
</tr>
<tr>
<td>Tax employer group health insurance, Section 125 plans, FSAs</td>
<td>1.15</td>
<td>60%</td>
</tr>
<tr>
<td>Reduce the 15% PIA factor to 10%</td>
<td>.07</td>
<td>4%</td>
</tr>
<tr>
<td>Enhanced special minimum benefit</td>
<td>-.09</td>
<td>-5%</td>
</tr>
<tr>
<td>Index PIA for longevity increases</td>
<td>.48</td>
<td>25%</td>
</tr>
<tr>
<td>Age 81–85 benefit increase</td>
<td>-.13</td>
<td>-7%</td>
</tr>
<tr>
<td>Tax Reforms for Businesses and Individuals</td>
<td>-.04</td>
<td>-2%</td>
</tr>
<tr>
<td><strong>Total including misc. and interactions</strong></td>
<td><strong>2.48</strong></td>
<td><strong>132%</strong></td>
</tr>
</tbody>
</table>

*Based on the 2010 Trustees Report
Change in Benefits for Illustrative Workers
Beginning Benefits at age 65 in 2030

Proposal scheduled benefits as a percent of present law
schedule benefit for a 30-year or more scaled earner

<table>
<thead>
<tr>
<th>Earnings Group</th>
<th>Fiscal Commission</th>
<th>Bipartisan Policy Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low–8.1% of retirees</td>
<td>139%</td>
<td>91%</td>
</tr>
<tr>
<td>Low–20.1% of retirees</td>
<td>106%</td>
<td>121%</td>
</tr>
<tr>
<td>Medium–31.4% of retirees</td>
<td>87%</td>
<td>91%</td>
</tr>
<tr>
<td>High–20.7% of retirees</td>
<td>73%</td>
<td>89%</td>
</tr>
<tr>
<td>Maximum–5.4% of retirees</td>
<td>66%</td>
<td>85%</td>
</tr>
</tbody>
</table>
The American Academy of Actuaries