Infinity and beyond
or the OASDI infinite horizon calculations

Social Security Advisory Board's Technical Panel meeting

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Topics covered

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Current practice

- The first Trustees Report (TR) to include an infinite horizon projection was in 2003
- The 2014 TR includes a separate chapter, focusing on the present value of the unfunded obligation over the indefinite future ($24.9t) and ratios to taxable payroll (4.1%) and GDP (1.4%)
- Uses demographic and economic trends for the 75 year projections
- No discussion of associated uncertainty is included in the TR
- The Panel is not aware of such a projection being made for any other social security (or other) program outside the U.S.

Reasons for projecting to infinity

- Emphasize revenue minus cost margin and its trend at the seventy fifth year
- Reduce concern about the possibility of moving future revenue or costs past seventy five year period through program features
  - Or making assumption changes whose effects don't fully emerge over 75 years
- Provide a quantitative metric (present value of unfunded liability and ratio of it to taxable payroll and GDP) of very long-term sustainable solvency, defined as:
  - "If the projected trust fund ratio is positive throughout the period and is either level or increasing at the end of the period, then projected adequacy for the long-range period is likely to continue for subsequent reports."
- Provide quantitative basis to assess policy changes whose revenue or cost effects take more than 75 years to unfold

Past Technical Panels' views

- 2011
  - If the Panel's recommendation to expand the discussion of sustainable solvency (defined as on slide 4, included in the current TR) is accepted, eliminate the Infinite Horizon metric
    - Requires projections hundreds of years into the future, with no information provided regarding uncertainty for this period – although if expressed as a percent of GDP this concern is reduced
    - Sometimes quoted in policy discussions without its relation to GDP and may shift focus from more useful metrics
- 2007
  - For analysis of the trust funds, the disadvantages of very long-range forecasts outweigh the advantages; should shift attention toward 25 years, as it is more important to be straightforward about what is reasonably "knowable" than the remainder that is highly speculative
  - Small changes in assumptions or errors in estimates can lead to large projection effects/mistakes
- 2003
  - Endorsed the projection of the status of the trust funds into the infinite horizon
  - Infinite horizon projections can show different results than a 75 year projection and some reform proposals could take longer than 75 years to phase in
  - Makes it very important to look at how long each assumption should be allowed to change and whether or when to stabilize assumptions
  - Further study is important, with possibly simpler modeling called for after 75 years

Concerns with projections to infinity

- The degree of uncertainty around the projections increases with the length of the time horizon
  - Any confidence interval around projections extending into the infinite future would be so enormous as to make the central projection unhelpful as a guide to policy
  - As discussed elsewhere by the Panel, it is very difficult to illustrate uncertainty, and these challenges only grow at longer horizons
    - Showing the central estimate without a discussion of its uncertainty is an incomplete story
- It is difficult to frame the infinite horizon number in a manner that makes it meaningful or useful to policymakers or the public
  - This would especially be true if the growth rate in annual deficits exceeded the discount rate, which would lead to an infinite horizon deficit of infinity

Alternatives & preliminary recommendations

- Emphasize any trend in projections after 75 years
  - Either indicate whether margins are increasing, stable or decreasing after 75 years with (1) words or (2) a red/yellow/green indicator
  - Include a more extensive discussion of sustainable solvency
- To the extent that revenue or cost of any significant program feature has not fully emerged in 75 years
  - Include an explicit assessment of the direction and estimate of its quantitative effect after 75 years
- Assessment of policy proposals whose revenues/costs don't fully emerge in 75 years should be quantitatively assessed over a longer period
  - Use generational accounting approaches where warranted
- In Table II.D2, *Reasons for Change in the 75-Year Balance*
  - Separate the change in actuarial balance due to change in valuation period to emphasize the financial results in the 75th year and provide better perspective on the amount of changes in program operation and assumptions

Alternatives & preliminary recommendations (2)

- Concern regarding possible abuse in changes in revenue, costs or assumptions at the end of projection period can be addressed through use of actuarial opinion in TRs, audit of Statement of Social Insurance and reports of quadrennial Technical Panels
- Eliminate calculations to infinity
  - Because of extremely high degree of lack of reasonable basis for estimates, uncertainty and potentially misleading results
  - At the same time ensure that original reasons (see slide 4) for such projections are met through above alternative approaches