

AEI: Improving the Social Security Trustees Report

2007 Technical Panel On Assumptions and Methods: Uncertainty and Demography

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Uncertainty

- Method Recommendation M-5: **Further develop stochastic modeling capabilities, and make much greater use of stochastic analysis to examine uncertainty, especially the effects interactions have on uncertainty.**

Uncertainty

- Method Recommendation M-4: Incorporate **asymmetrical risk** in the projections.

Fertility Asymmetry

The Panel believes that there is greater risk (and cost) to the trust funds associated with overestimating the total fertility rate over the next 75 years than underestimating it. We therefore recommend retaining the intermediate assumption of 2.0 from the 2007 Trustees Report, but we assume a high-cost total fertility rate of 1.5, 0.2 lower than that of the Trustees, and a low-cost rate of 2.1, rather than 2.3.

Mortality Asymmetry

For the intermediate-cost scenario, the Panel recommends that assumed ultimate rates of mortality decline by age and sex be increased to an average of 1.00 percent per year. Assumed ultimate rates of mortality decline for the low-cost projections should be held at their current levels.

Assumed ultimate rates of mortality decline for the high-cost projections should be increased to an average of 2.00 percent to reflect the potential for the U.S. to reach rates of mortality reduction seen in international data.

Uncertainty (con't)

Method Recommendation M-6: Consider **risk-adjusting discount rates for summarized balances**. Using the risk-free interest rate to discount uncertain future cash flows is inconsistent with valuation principles, and over-weights the outcomes that are most uncertain.

Understanding Uncertainty

- Economic Uncertainty Dominates 25 Year Period
- Demographic Uncertainty Dominates 75 Year Period
- 90% Probability Interval Widens over Time
 - Twice as Wide at 25 Year vs 75 Year Horizon
 - Analyzing Long-Run may promote overlooking important Medium-Run Effects