

Comments On:

**Social Security Advisory Board
2007 Technical Panel Report**

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Overall Impressions

- Excellent report; continues Tech Panel tradition of thoughtful insights and innovative suggestions.
- Methodology first, where it belongs!
- Very little disagreement with Panel suggestions; focus on refinements and pushing the envelope

Comments In Three Areas

- Uncertainty (M-4, M-5, P-4)
- Modeling, Transparency, Data (M-1, M-2, M-7)
- Assessing System Finances (M-6, M-7, P-1, P-5)

Uncertainty

- M-4 Incorporate asymmetrical risk
- M-5 Further develop stochastic modeling capabilities, especially interactions
- P-4 Increase the graphical representations of uncertainty

Uncertainty: Priors

- Low cost trust fund ratio outside and trends away from 97.5% stochastic confidence interval; what does it even mean?
- Many users dislike stochastic analysis; can they only tolerate three lines?
- Probability “statements” about various “events” could help communication

Uncertainty: JS-1

- Eliminate all scenario analysis in TR
- Give people three lines: choose two percentiles (15th and 85th?) and describe those as “low” and “high” cost
- Report probabilities of “events” like cost exceeds income by x%, trust fund < 0, etc
- Do same calculations for reform analysis

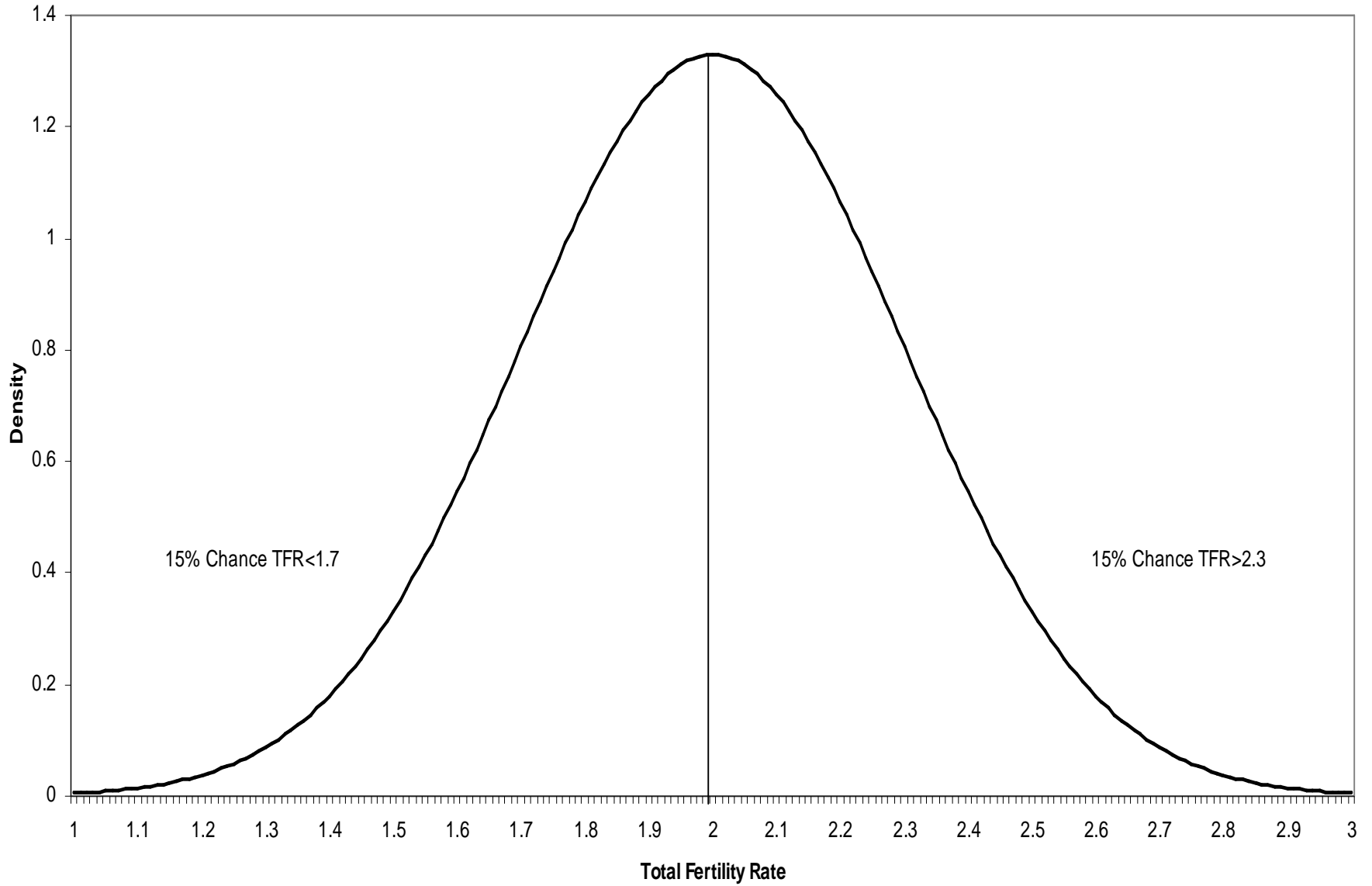
Example Event Probability Table

Estimated Probability						
		Cost Rate Exceeds Income Rate By At Least				
Year	Cost Rate Exceeds Income Rate	One Percent of Payroll	Two Percent of Payroll	Three Percent of Payroll	Four Percent of Payroll	Five Percent of Payroll
2008	X%	X%	X%	X%	X%	X%
2009	X%	X%	X%	X%	X%	X%
2010	X%	X%	X%	X%	X%	X%
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2080	X%	X%	X%	X%	X%	X%

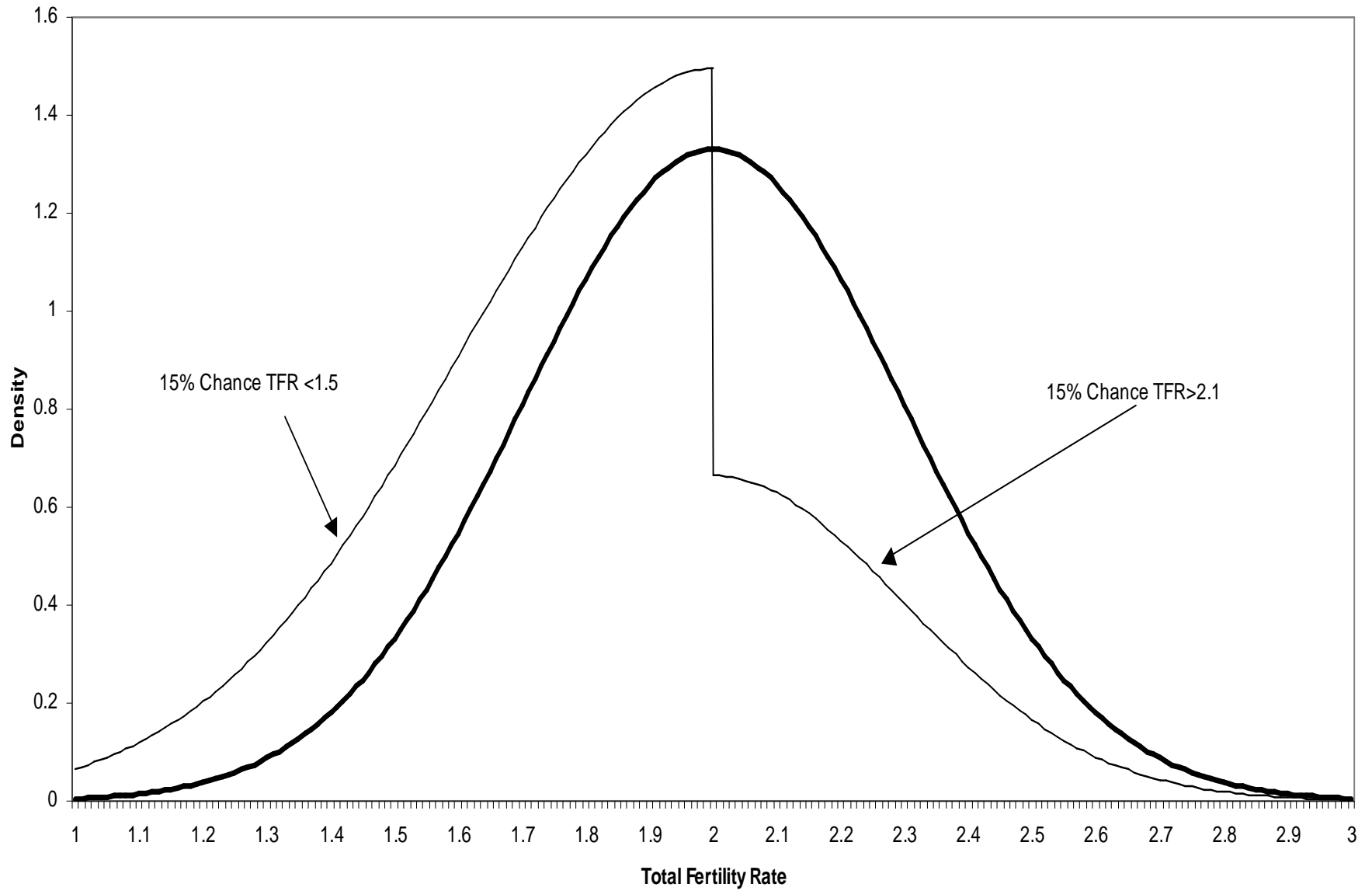
Uncertainty: Asymmetry?

- Asymmetry principle was put forth by Panel in context of scenarios (contradicts JS-1)
- Using stochastic analysis does not rule out asymmetry, but need more input from Panel
 - What probability picture is in your minds?
 - Have to override time-series principles?

Probability Distribution for Total Fertility Rate Outcomes
One Standard Deviation ($\sigma=0.3$) Corresponds to High/Low at 1.7/2.3



Asymmetric Probability Distribution for Total Fertility Rate Outcomes
Overall 75% Chance TFR < 2.0; Sigma Left = .4, Sigma Right = .3



Modeling, Transparency, Data

- M-1 Further document models; make replicable; make data available to others
- M-2 Explicitly model and document relevant interactions
- M-7 Increase the use of microsimulation to analyze and display interaction effects

Modeling, Etc: Priors

- Models like this very challenging; quickly become idiosyncratic and cumbersome
- Microsimulation offers big potential payoff, but at the cost of increased complexity
- Solution is more resources and openness to letting outsiders work on the data/models

Why Microsimulation?

- Microsimulation is natural evolution of cell-based, just adding more details to “cells”
- Panel did a good job on examples where microsimulation adds real value: mortality differentials, labor force participation, etc
- Internal consistency of earnings/benefits and macro/distributional analysis also important

Modeling, Etc: JS-2

- Goal should be nothing short of web-based facility to re-solve projections under various assumptions and alternative transition modules/equations
 - Until then, detailed input and output files on web
 - Documentation is good, data is better
- Expand use of microsimulation, set up “switches” in model between cell-based and micro
- Solicit resources from outside academics and from analysts within SSA: IPAs, seminars, etc

Assessing System Finances

- M-6 Consider risk-adjusting discount rates for summarized balances
- P-1 Shift emphasis toward intermediate horizon and cost/income rates rather than summarized
- P-5 Improve explanation of trust fund accounting and its implications
- M-7 Increase the use of microsimulation

Assessing Finances: Priors

- Every statement about trust fund solvency has a corresponding statement about benefit outcomes and money's worth across cohorts
 - Trust funds may not hold resources, but are useful when accounting for cohort-level taxes and benefits
 - *Should* separate Social Security from rest of budget
- Acknowledge uncertainty—especially about the very distant future—and build that into our assessment and presentation of financial status

Assessing Finances: JS-3

- Stop reporting summary actuarial balances, then appropriate discount rate won't matter!
- Main financial presentations should be things like the probability distributions for trust fund ratio, gap between cost and income, etc (above)
- Even better, use microsimulation and show (e.g.) percent of lifetime benefits payable by birth cohort

Example Distributional Table

	Estimated Probability, Share of Lifetime Benefits That Are Payable					
Birth Cohort	100%	90% or More	80% or More	70% or More	60% or More	50% or More
1940-44	X%	X%	X%	X%	X%	X%
1945-49	X%	X%	X%	X%	X%	X%
1950-54	X%	X%	X%	X%	X%	X%
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2000-04	X%	X%	X%	X%	X%	X%