Session 004: Actuary of the Future and Social Insurance & Public Finance Joint Section Breakfast

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October 28, 2019

2019 ANNUAL MEETING & EXHIBIT

SOCIETY OF ACTUARIES®

Actuary of the Future Council: 2019 Updates

- New Mission Statement
  - *The Actuary of the Future section informs both credentialed and aspiring actuaries about the current and possible future state of the actuarial profession. We strive to provide a channel through which our members can learn about emerging technologies and evolving business environments that could reshape the roles of actuaries.*
- Monthly Hot Topics
- AOF LinkedIn Page
  - 30% membership growth between May '19 & September '19
- Other Business
  - Section Fee
  - Podcasts & Webcasts

Actuary of the Future Council: 2019 Updates

- Four AOF-Sponsored Sessions at 2019 SOA Annual Meeting

  - Session 004: Actuary of the Future and Social Insurance & Public Finance Joint Section Breakfast (YOU ARE HERE!)

  - Session 038: An Actuary, An Underwriter and a Data Scientist Walk into A Bar… Together in a New World

  - Session 100: The Rise of the Exponential Actuary: Part 1
    - *Co-sponsored with Leadership & Development Section*

  - Session 112: The Rise of the Exponential Actuary: Part 2
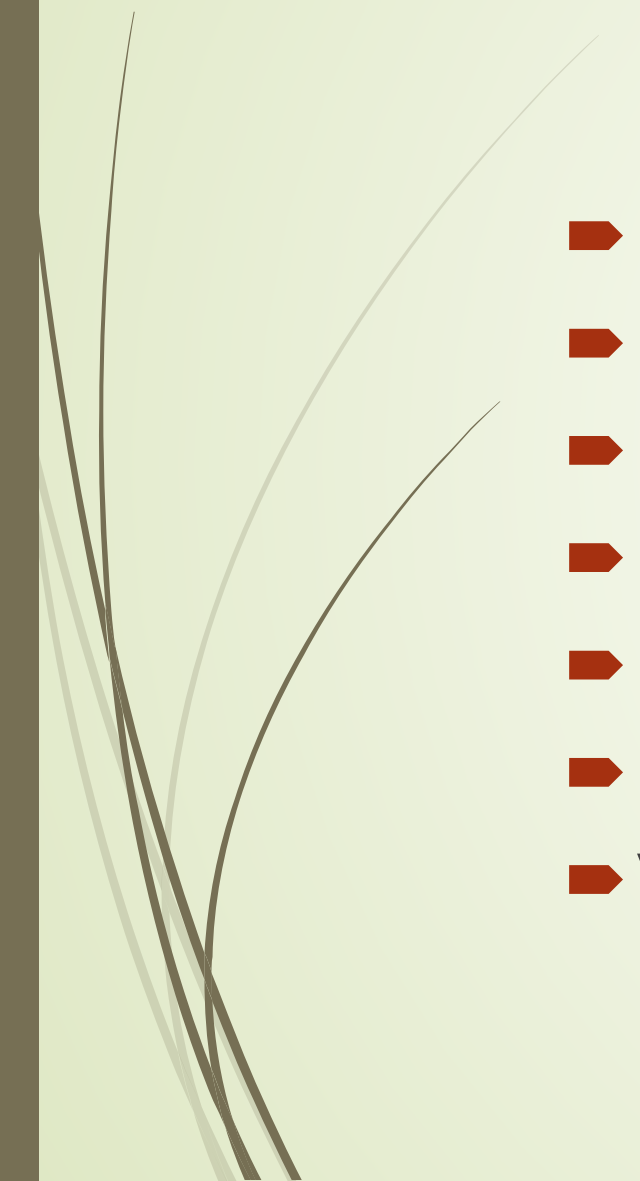   - *Co-sponsored with Leadership & Development Section*

Does America Face a Retirement Crisis?

A Critical Review of the Literature

George A. (Sandy) Mackenzie

The Presentation

- I. Issues a Good Study Must Address
-    A. Conceptual Issues
-    B. Special Risks Faced by Households
- II. Studies by Crisis Advocates
- III. Skeptical Studies
- IV. From the Horse's Mouth—Surveys
- V. Conclusions

Key Conceptual Issues

- The two replacement (RR) rates
- 1. How much money in retirement is needed per dollar of working income?
- 2. What RR is optimal? (the two must be distinguished, and need not be equal). An RR of 70% may adequately replace income, but is it feasible?
  - RRs should change when circumstances change.
- How to measure working income (e.g. average career; last five years?)

Key conceptual issues, concluded

- Indexation: CPI versus a wage index. The latter can lower the RR substantially.

- Size of household: what happens when the kids leave the nest?

- Non-recurring expenditures: do retirement preparedness assessments take account of declines in college and mortgage payments?

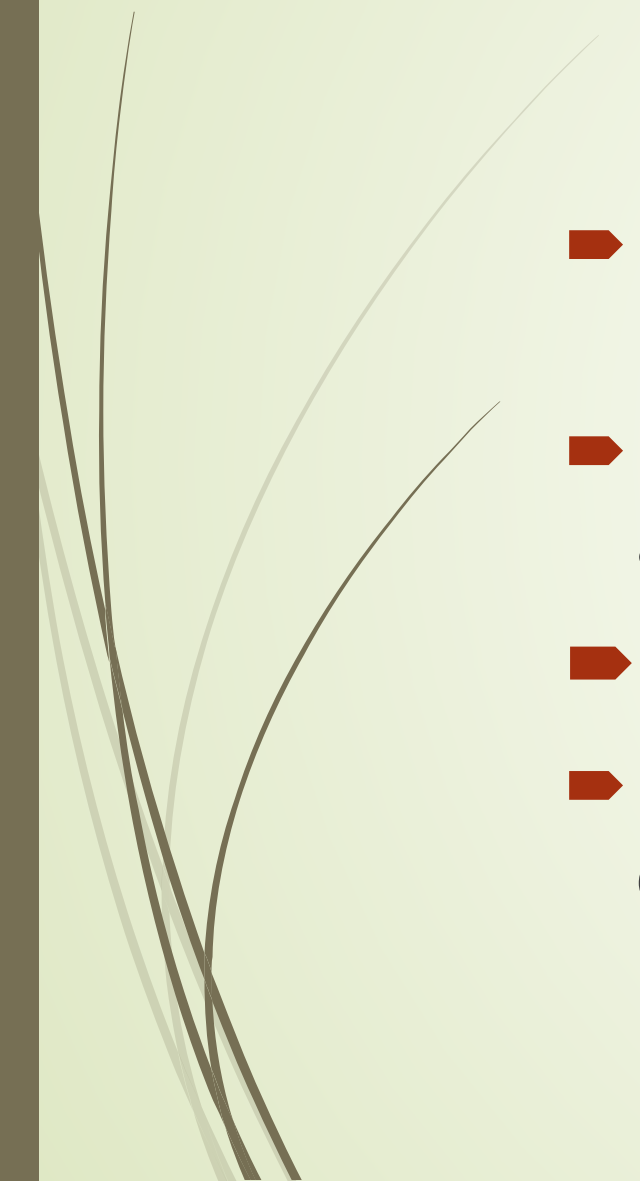- Can Reverse Mortgages make a difference?

Basic Risks for Retirees & Pre-Retirees

- Investment and sequence of returns risk
  - No investment is risk free. (More of an issue for better-off households (HHs)).
  - Laddering strategy for interest risk.
- Longevity risk
  - Social Security provides basic protection, esp. for poorer HHs.

Basic Risks, continued

- Americans don't like annuities, for both "rational" and "irrational" reasons.

- Basic self-insurance strategy: assume long life and conservative rate of return on nest egg.

- Heath care cost risk

- Medicare plus supplementary policy provides good protection for most, but some risks remain.

Basic Risks, continued

- HHs without Medicare can face substantial risks (need more be said)?

- Long-term Care (LTC) Cost Risk

- Covered by Medicaid. Most Americans qualify, but assets must be run down, subject to certain limits. Rules vary greatly by state and are poorly understood.

- Private LTC insurance too costly for most.

Basic risks, continued

- Political risk

- The SS Trust Fund runs out soon. That event will force some combination of increases in payroll taxes and cuts in benefits.

- Restoring 75-year balance with an across-the-board benefit reduction would require a cut greater than 20%.

- Who will pay? Current retirees would probably be held harmless.

Basic risks, concluded

- Young workers and future labor force entrants most likely to take the hit.

- Medicare/Medicaid imbalances also substantial.

- The uncertainty surrounding the substance and the timing of changes to these entitlement programs must be unsettling to many.

The Debate—Crisis Advocates (Two exemplars)

I. National Institute of Retirement Security (NIRS)

➡ Calculates retirement wealth (W) to income (Y) ratios from Fed's Survey of Consumer Finances (SCF) data, then compares ratios with norm for HHs by age of HH head.

➡ Assumes RR 85%, above-average fixed life span from age 65, and takes W/Y ratios from another study.

NIRS, continued

Conclusions:

A very high share of HHs of all ages are found to be ill-prepared:

- Almost 70% of HHs with head aged 55 to 64 years are ill-prepared using net worth as the wealth measure.

- Even higher figures are calculated with other wealth measures.

NIRS, concluded

Observations:

- Assumed 85% RR is high.
- Assumed linear Increases in target W/Y ratios by HH head age—too mechanical?
- Targeted W/Y ratios are far above actual median values, even for the early years of the SCF.
- Limited treatment of basic risks, but model's simplicity is a virtue.

The Debate—Crisis Advocates. continued

II. Employee Benefit Research Institute (EBRI)

➤ A complex model incorporating longevity, investment and LTC cost risks. Large employee dataset. Model allows policy simulations (e.g. effect of auto-enrollment, increased 401(k) coverage).

➤ Expenditure has a deterministic and a stochastic component (LTC costs).

➤ Calculates probability of ruin, not RRs. Unlike the model of RRC at Boston College, EBRI does not annuitize all resources at retirement.

EBRI, continued

- The deterministic component of expenditure is derived from the 2008 Consumer Expenditure Survey.

- There are three benchmark expenditure targets for the retired: one for incomes (in 2008$) less than $20,000; one for incomes up to $39,999; and one for incomes of $40,000 and up.

- Results very sensitive to longevity, particularly for low-income HHs.

EBRI, concluded

Observations:

- EBRI's model is the most comprehensive and sophisticated in its treatment of the basic risks.

- Its complexity is an issue.

- Use of three income classes may affect results. A HH with an income of $100,000 is in the same group as one with an income of $41,000. Are their chances of meeting the benchmark the same?
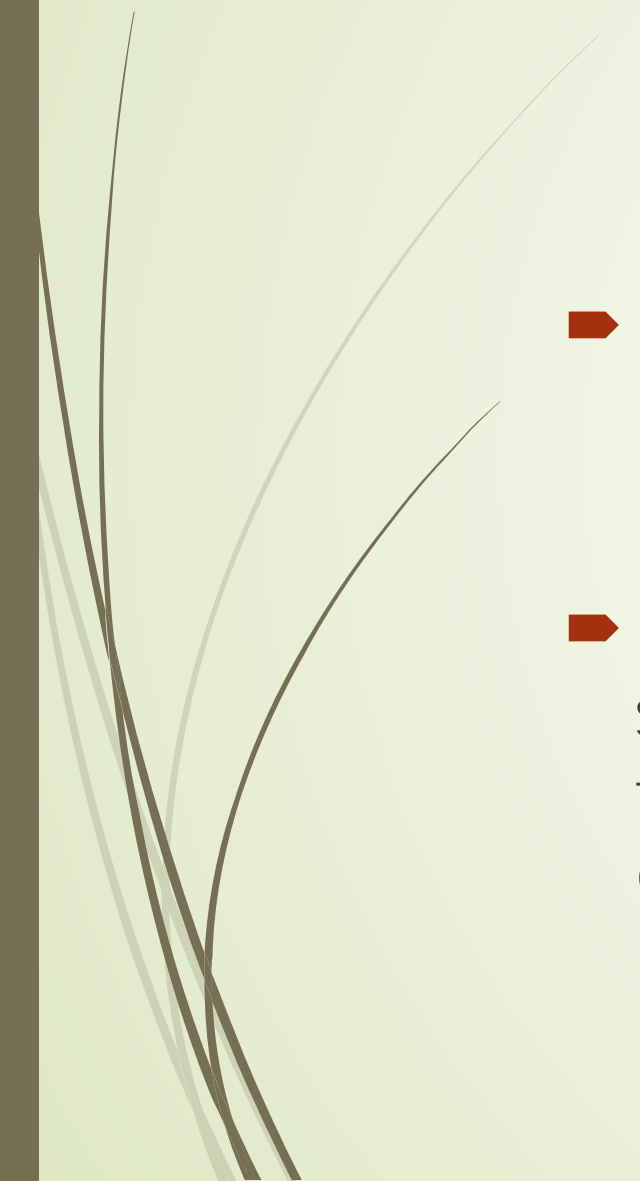
Crisis Skeptics—Models and Analyses

1. Hurd and Rohwedder

➤ Michael Hurd and Susan Rohwedder of RAND develop a sophisticated model based on successive waves of Michigan's HHS.

➤ Longitudinal study of older cohorts.

➤ Does not rely on RRs; instead, derives a "normal" expenditure pattern—the change from one wave to the next—for older HHs based on education, age and gender (sex).

Hurd and Rohwedder, continued

- Using longevity estimates from HHS, calculates probability of resource exhaustion.

- Concludes that 77% of married couples and 49% of singles are well prepared for retirement—that they face no more than a 5% chance of a shortfall. Overall, 71% of HHs are prepared for retirement.

Hurd and Rohwedder, concluded

Conclusions and observations:

➡ H&R is the most optimistic quantitative study. Single, ill-educated least likely to be prepared.

➡ Approach assumes that the average HH approaching retirement is the norm. Results are robust to change in assumption re spending at beginning of retirement.

The skeptics (continued)

2. Peter Brady

➤ Brady focuses on individual workers, and asks: how do workers fare who contribute consistently to 401(k) plans, and how much and for how long must they contribute?

➤ He concludes: given SS's progressivity, low-income workers don't have join a 401(k) plan as they enter the labor force, and required contribution rates, given the assumed RR, are not high. High income workers should contribute for most of their career, but even their contribution rate is not onerous.

Peter Brady, continued

Observations:

- Brady's unit of analysis—individual workers, not HHs-- means that comparing his work with that of most other researchers requires some interpretation.

- He believes that an optimality approach is the ideal; a RR analysis can, however, be a useful exercise.

- His basic finding is not a surprise: his projections are "normative" or illustrative. Retirement security would not be the issue in the U.S. if DC plan participation and length of contributory periods were much higher than they are.

The skeptics, continued

3, Johan Scholtz and his collaborators

- Scholtz does not pursue a RR-type of analysis, and investigates a quite different question: are Americans saving optimally for retirement?

- An optimality investigation is critically different from an adequacy study. Informally, optimal behavior is what is best under the circumstances. No result is guaranteed.

- Key point: RRs are endogenous; they can vary greatly across HHs.

- The studies focus on a single cohort. A very high share of the cohort is found to be making optimal saving decisions. This conclusion is at odds with the behavioral literature and surveys.

The skeptics, continued

4. Syl Schieber, Andrew Biggs, and Meir Statman

➡ These researchers are not model builders. Schieber and Biggs attack the assumptions of some crisis advocates, but agree that poorer HHs face a problem, as does Statman. They see no generalized crisis.

➡ Biggs has criticized SS's assumption of wage rather than CPI indexation, arguing that it is inconsistent with the life-cycle theory of personal expenditure.

➡ Schieber has emphasized that the LTC cost issue is an insurance problem, unsuited to the RR approach.

Schieber, Biggs and Statman, concluded

- Statman has emphasized the unsuitability of some proposed reforms for the poor:

- Annuities are totally unsuitable, given their cost. (In any case, the share of the wealth of poorer households annuitized by SS is already extremely high.)

- The poor need a compulsory saving program, albeit not necessarily one with a high contribution rate.

From the horse's mouth: retirement confidence surveys

- The Society of Actuaries, EBRI and others conduct regular surveys of the views of retirees and pre-retirees.

- Some basic takeaways:

- Retirees are generally more confident than pre-retirees, perhaps because reality is less daunting than expected.

- There is general confidence in the ability to handle routine expenditures.

- Ominous evidence of a lack of planning for contingencies.

International comparisons, briefly

➥ The pension systems of the U.S., the U.K. and Canada are similar in overall coverage.

➥ Coverage is higher in Australia because of the compulsory employer-provided DC plan, but its means-tested public component (the Age Pension) increases the poverty rate.

International comparisons, briefly, concluded

➣ The U.S. heath system, at least for anyone less than 65 years old, compares poorly by just about any metric with those of the other industrial countries:

➣ It is far more costly than even the second-most costly.

➣ Life expectancy (LE), even at age 65 is at the bottom of the league. LE at birth has been declining among poor white males ("deaths of despair").

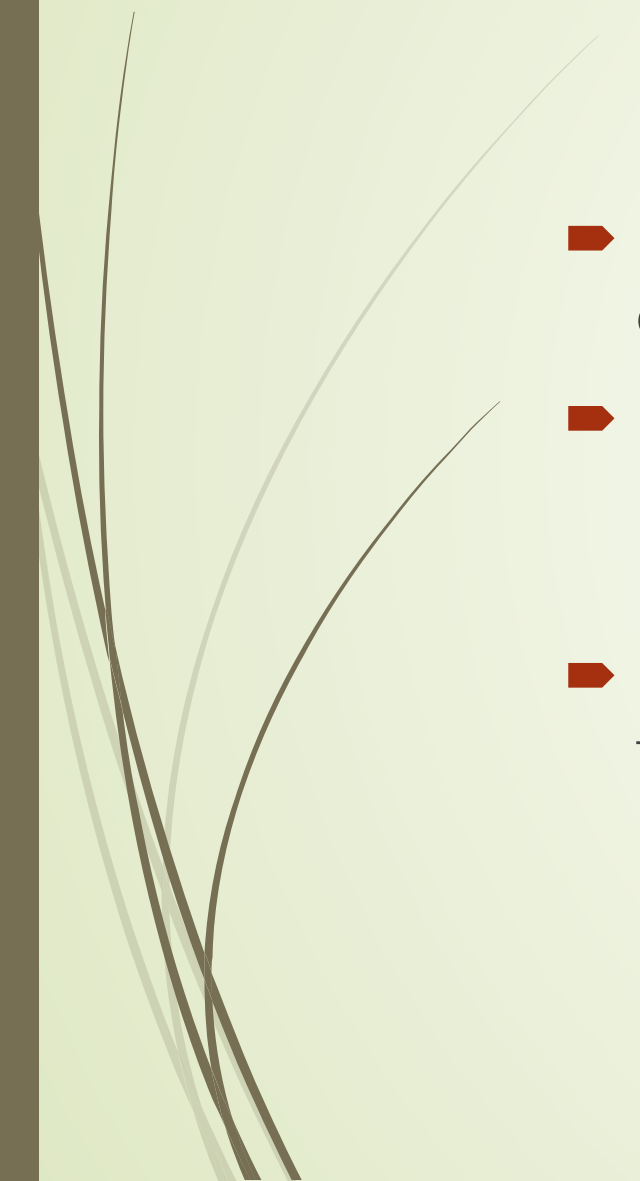➣ Relative survival rates for particular diseases are higher.

Is there a retirement crisis in America?

"Crisis" may be in the eyes of the beholder. But a Supreme Court justice supposedly observed that although he couldn't define pornography, he knew it when he saw it.

➡ The numbers are revealing: close to 30 % of HHs may be under water even according to the most optimistic study. EBRI's sophisticated model projects much higher rates in the absence of reform.

➡ There is general agreement regarding the ill-preparedness of poor HHs, despite SS's progressivity.

Is there a retirement crisis in America? (Continued)

- Uncertainties abound, quite apart from the general economic and financial environment:

- The behavior of expenditure in retirement should be better understood, as well as the role of changing household size and the scope for longer careers.

- The response of Congress to entitlement program financial difficulty is unpredictable; so is the trend of medical costs. This political risk is downplayed.

Is there a retirement crisis in America? (Concluded)

➤   Younger HHs are likely to be forced to save more to counter cuts in SS. Retired HHs and those nearing retirement are likely to be spared.

➤   Health care and LTC costs are a major issue. The rules applying to coverage of LTC are complex and poorly understood.

➤   *I look forward to your questions and comments!*