

EBRI's Retirement Security Projection Model (RSPM): Accurately Evaluating the "Retirement Crisis"

Is there a retirement crisis, and, if there is, what can be done to solve it? Policymakers and the retirement industry have been grappling with these questions for years, with varying answers and certainty. The uncertainty has had its roots in both the quality of data being used and the analytics applied.

In its *Issue Brief*, EBRI Retirement Security Projection Model® (RSPM) – Analyzing Policy and Design Proposals, researchers from the Employee Benefit Research Institute (EBRI) apply the EBRI RSPM to assess the potential size of the U.S. retirement deficit, and to understand the impact of various related policy initiatives currently under consideration.

But, the first question is critically important. At what point is a shortfall in national retirement savings considered a crisis? And, given that there are a multitude of expenses that can be faced by retirees, which should be included in calculating the shortfall?

Here, EBRI explores the importance of getting the analysis right—such as correctly assessing expenditures in retirement, accounting for risk, and incorporating possible long-term care costs.

Background

EBRI launched a major project to provide an accurate measurement of retirement income adequacy in the late 1990s by simulating households through retirement age, taking into account:

- Social Security.
- Defined contribution (DC) balances.
- IRA balances.
- Defined benefit (DB) annuities and/or lump-sum distributions.
- Net housing equity.

The advantages of the RSPM are that it is:

- **Time tested:** EBRI launched a major project to provide retirement income adequacy measurement in the late 1990s for three states concerned whether their future retirees would have sufficient income when they reached retirement age. It developed a national model in 2003—RSPM—and in 2010 the model was updated to incorporate several significant changes, including the impacts of DB plan freezes, automatic enrollment provisions for 401(k) plans, and the crises in the financial and housing markets.
- **Based on empirical data:** Assumptions EBRI makes concerning the defined contribution system are based on a database of actual account activity of some 24 million anonymized 401(k) participants—in other words, on actual participant behavior.
- **Comprehensive:** RSPM takes into account the risk of not having retirement income adequate to cover average deterministic expenses for retirees *and* uninsured health care costs (including long-term-care costs) at ages 65 or older throughout retirement in specific income and age groupings. It also factors in longevity risk and post-retirement investment risk.
- **Flexible:** RSPM can model a wide range of scenarios, taking into account various age-cohorts, retirement-plan-eligibility status, and possible retirement-expenditure scenarios. In addition, RSPM

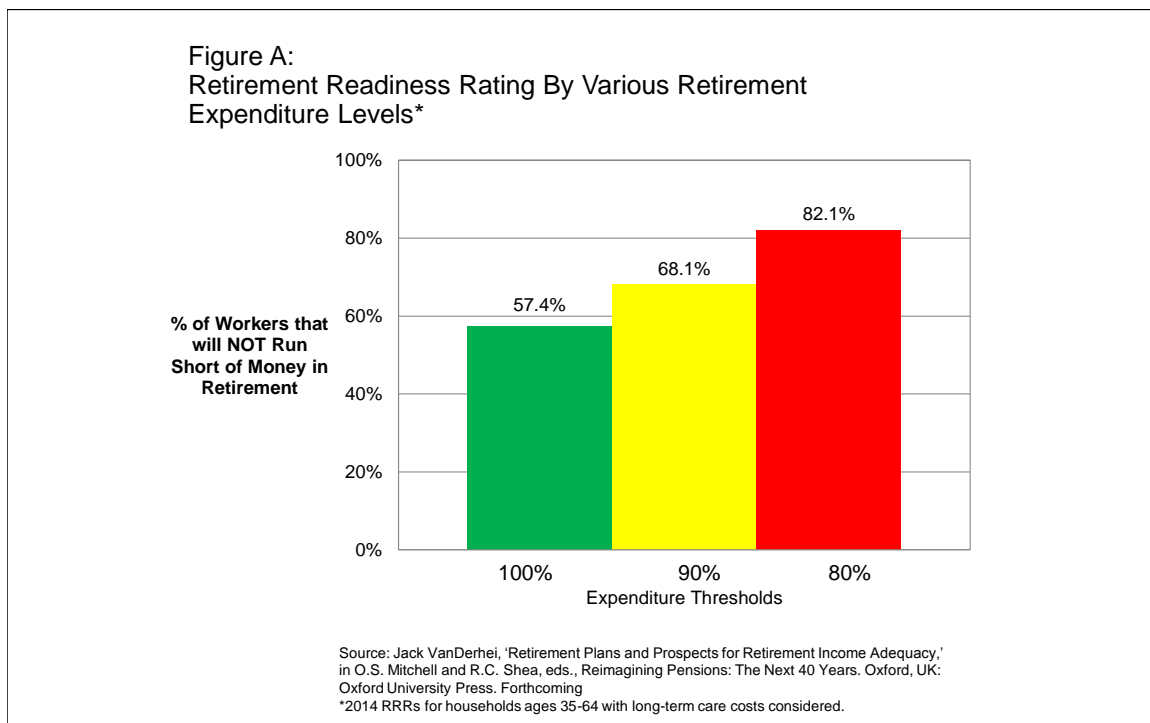
produces several output metrics: the Retirement Readiness Rating (RRR)TM and the Retirement Savings Shortfall (RSS).

- **The RRR** represents the percentage of households that are *not* expected to run short of money in retirement.¹ In other words, the RRR is a measure of “retirement success.”
- **The RSS** measures the present value of simulated retirement deficits at retirement age. The RSS, in this way, measures retirement savings shortfalls.²

One of the advantages of EBRI membership is personal access to EBRI researchers to create analysis that meets specific member needs.

Measuring “Retirement Success”

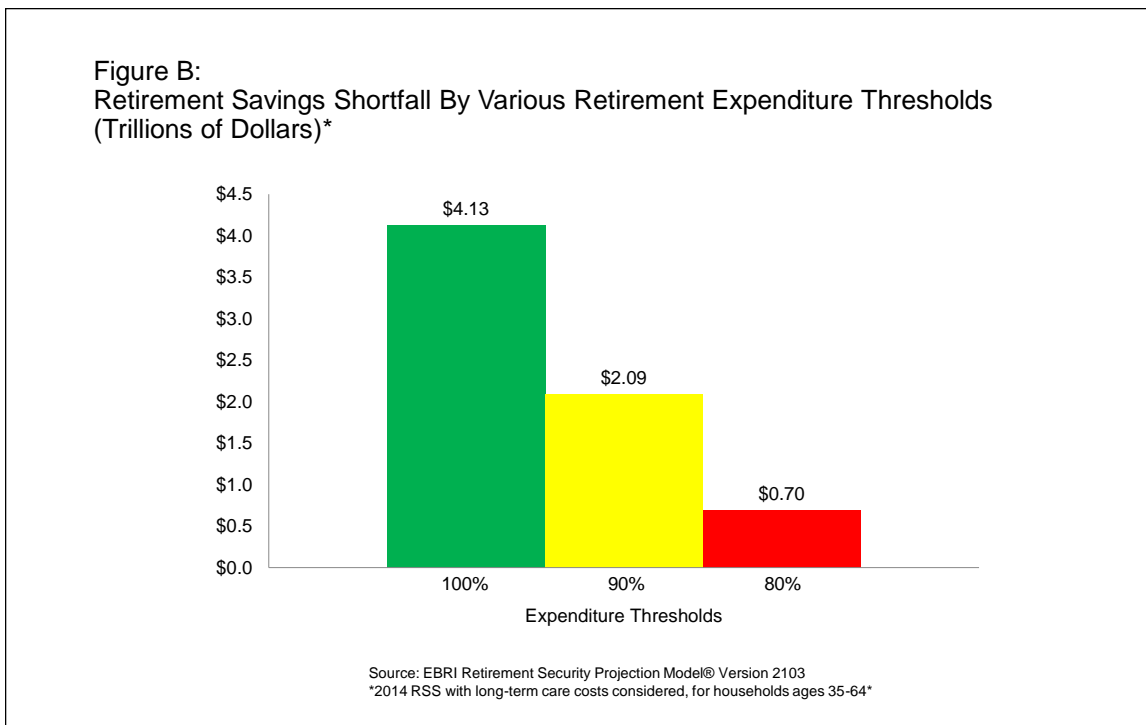
Examining households headed by individuals ages 35-64 that are seeking to cover 100 percent of the deterministic average costs for retirees in their age-, income-, and family-status cohorts, the RSPM® finds that **57.4 percent** are simulated to *not* run short of money in retirement. In other words, just over half of U.S. households are on track for “retirement success” by this measure (Figure A). Of course, that means nearly 43 percent of households are projected to run short—and are not on track for “retirement success”—according to the model.



¹ A household is considered to run short of money in this model if aggregate resources in retirement are not sufficient to meet average retirement expenditures, defined as a combination of deterministic expenses from the Consumer Expenditure Survey (as a function of income) and some health insurance and out-of-pocket, health-related expenses, plus stochastic expenses from nursing-home and home-health care (at least until the point such expenses are covered by Medicaid).

² The baseline version of the model that has been used for this analysis assumes all workers retire at age 65, that they immediately begin drawing benefits from Social Security and defined benefit plans (if any), and, to the extent that the sum of their expenses and uninsured medical expenses exceed the projected, after-tax annual income from those sources, immediately begin to withdraw money from their individual accounts (defined contribution and cash balance plans, as well as IRAs). If there is sufficient money to pay expenses without tapping into the tax-qualified individual accounts, those balances are assumed to be invested in a non-tax-advantaged account where the investment income is taxed as ordinary income. Individual accounts are tracked until the point at which they are depleted. At that point, any net housing equity is assumed to be added to retirement savings in the form of a lump-sum distribution (not a reverse annuity mortgage (RAM)). If all the retirement savings are exhausted and if the Social Security and defined-benefit payments are not sufficient to pay expenses, the household is designated as having run short of money at that point.

How does 43% of Americans running short of money in retirement translate into a retirement deficit? Assuming retirement expenditures (1) are a full 100 percent of the deterministic average costs for retirees in their age-, income- and family-status cohorts and (2) include long-term care costs, the aggregate retirement deficits for households in this cohort would be \$4.13 trillion in 2014 dollars (Figure B).



Sensitivity Analysis

It is important to consider the sensitivity of any model—including RSPM—to its inputs. For example, one might argue that retirees could cut back expenses if it appears they are beginning to running out of money. In other words, is it reasonable to assume that retirees will spend the same amount throughout retirement on deterministic expenses in retirement?

We can adjust our assumption so that expenditures are 90 percent of the average costs for retirees. In that case, those simulated to experience retirement success -- to *not* run short of money -- increases to 68.1 percent. If we assume retirement expenses are 80 percent of average expenses, 82.1 percent are simulated to *not* run short.

This change in assumption has a significant impact on the projected retirement deficit. If the retirement expenditure threshold is reduced to 90 percent, the projected retirement saving shortfall drops from \$4.13 trillion to \$2.09 trillion—a decline of nearly 50 percent. Moving the threshold to 80 percent provides an even larger relative decrease with the RSS value falling to \$0.70 trillion (Figure B).

Likewise, some models do not take into account long-term care costs. This can have a very material impact on projected outcomes. Removing long-term care costs from the equation, we find that the proportion of workers projected to experience a successful retirement -- to *not* run short of money -- increases from 57.4 percent to 75.5 percent, or nearly a third in the baseline scenario.

Conclusion

Accurately understanding the size of the retirement deficit and the impact of changes to the system are clearly critically important. At various times, policymakers have contemplated changes to the system intended to increase

defined contribution plan coverage, keep money in the defined contribution system, and reduce tax deferrals by limiting pretax contributions through caps and other mechanisms. An accurate depiction of the magnitude of the “retirement crisis” and what might help to solve it relies on high quality data, proper assumptions, and objective modeling techniques.

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