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Threats to Retirement Security: Longevity, Long-Term Care and Leakage

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November 20, 2014

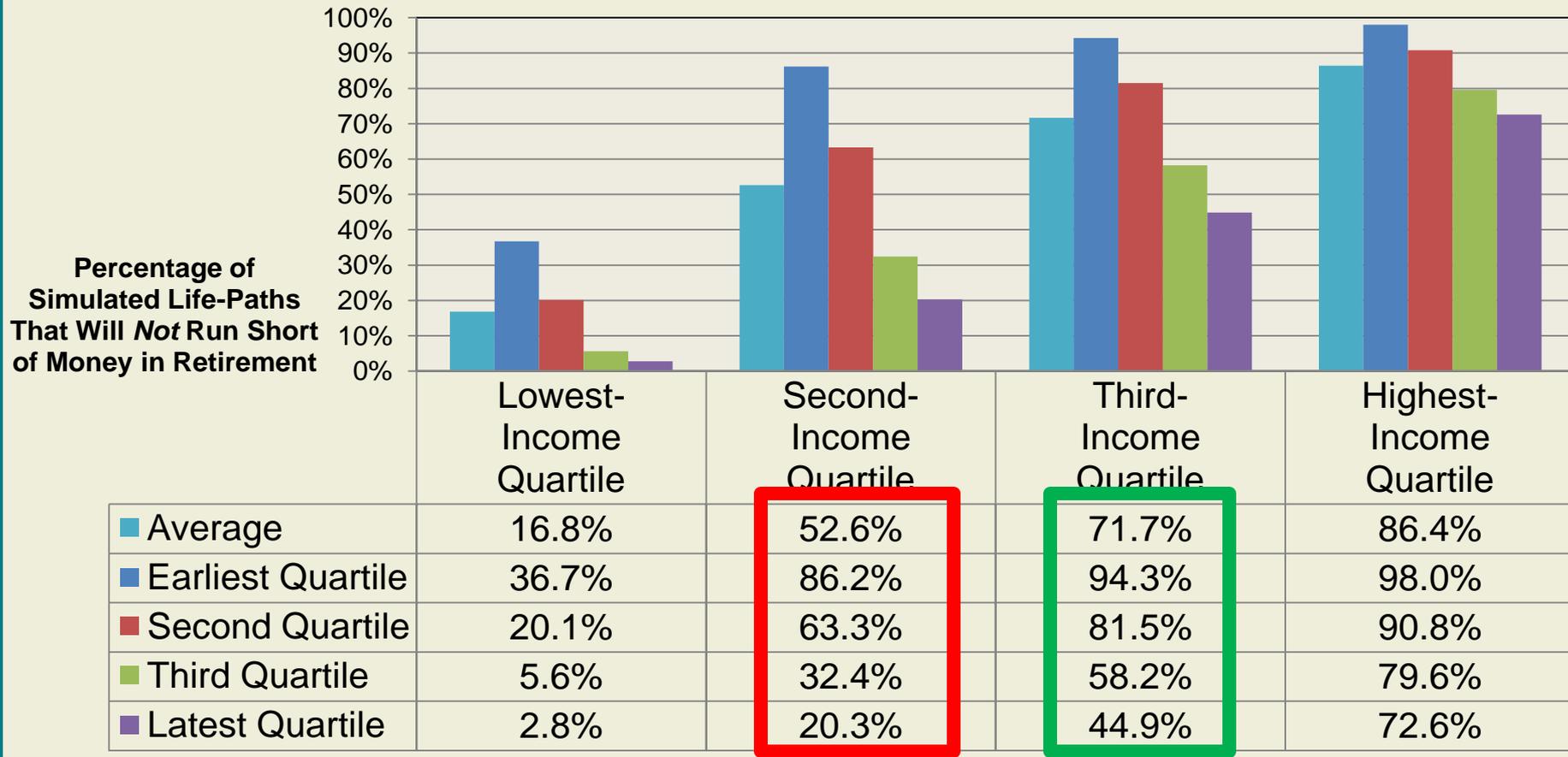
Outline

- **Quick summary of EBRI Retirement Security Projection Model®**
- **Longevity**
 - Relative longevity quartiles
 - Qualifying Longevity Annuity Contracts (QLACs)
- **Long-Term Care**
 - Relative PV of LTC quartiles
- **Leakage**
 - Impact of Leakages for Automatic Enrollment Plans
 - No leakages vs. all leakages (cashouts, hardship withdrawals with 6-month suspension of contributions and loan defaults)
 - Impact of each source of leakage individually
 - <http://bit.ly/ebri-2014-june-testimony>
 - Impact of Leakages for Voluntary Enrollment Plans
 - <http://bit.ly/ebri-2002-nov-ib>

EBRI Retirement Security Projection Model®

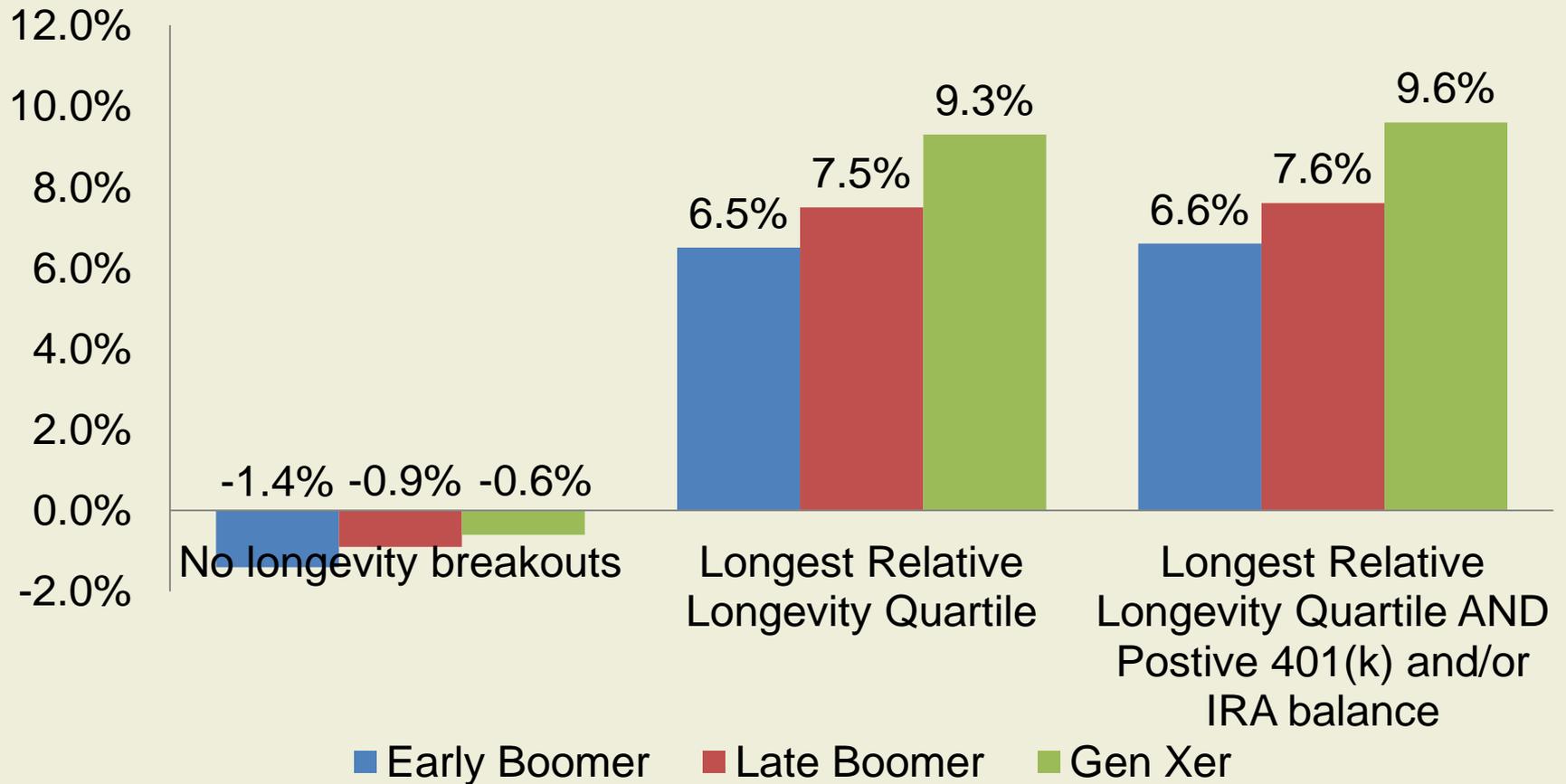
- Accumulation phase
 - Simulates retirement income/wealth for Boomers and Gen Xers from defined contribution, defined benefit, IRA, Social Security and net housing equity
 - Pension plan parameters coded from a time series of several hundred plans.
 - 401(k) asset allocation and contribution behavior based on individual administrative records
 - Annual linked records dating back to 1996
 - More than 24 million employees in 60,000 plans
 - More than 25 million IRA accounts owned by 20 million unique individuals
- Retirement phase
 - Simulates 1,000 alternative life-paths for each household, starting at 65
 - Deterministic modeling of costs for food, apparel and services, transportation, entertainment, reading and education, housing, and basic health expenditures.
 - Stochastic modeling of longevity risk, investment risk, nursing facility care and home based health care.
- Produces a Retirement Readiness Rating
 - Percentage of simulated life-paths that do NOT run short of money in retirement

Impact of Relative Longevity Quartile* on 2014 Retirement Readiness Ratings™ for Boomers and Gen Xers by Preretirement Wage Quartile



* The longevity quartile is established relative to family status, gender, and age cohort.

Impact of a 25 percent QLAC on 2014 Retirement Readiness Ratings™ for Boomers and Gen Xers by Age Cohort (percent change)

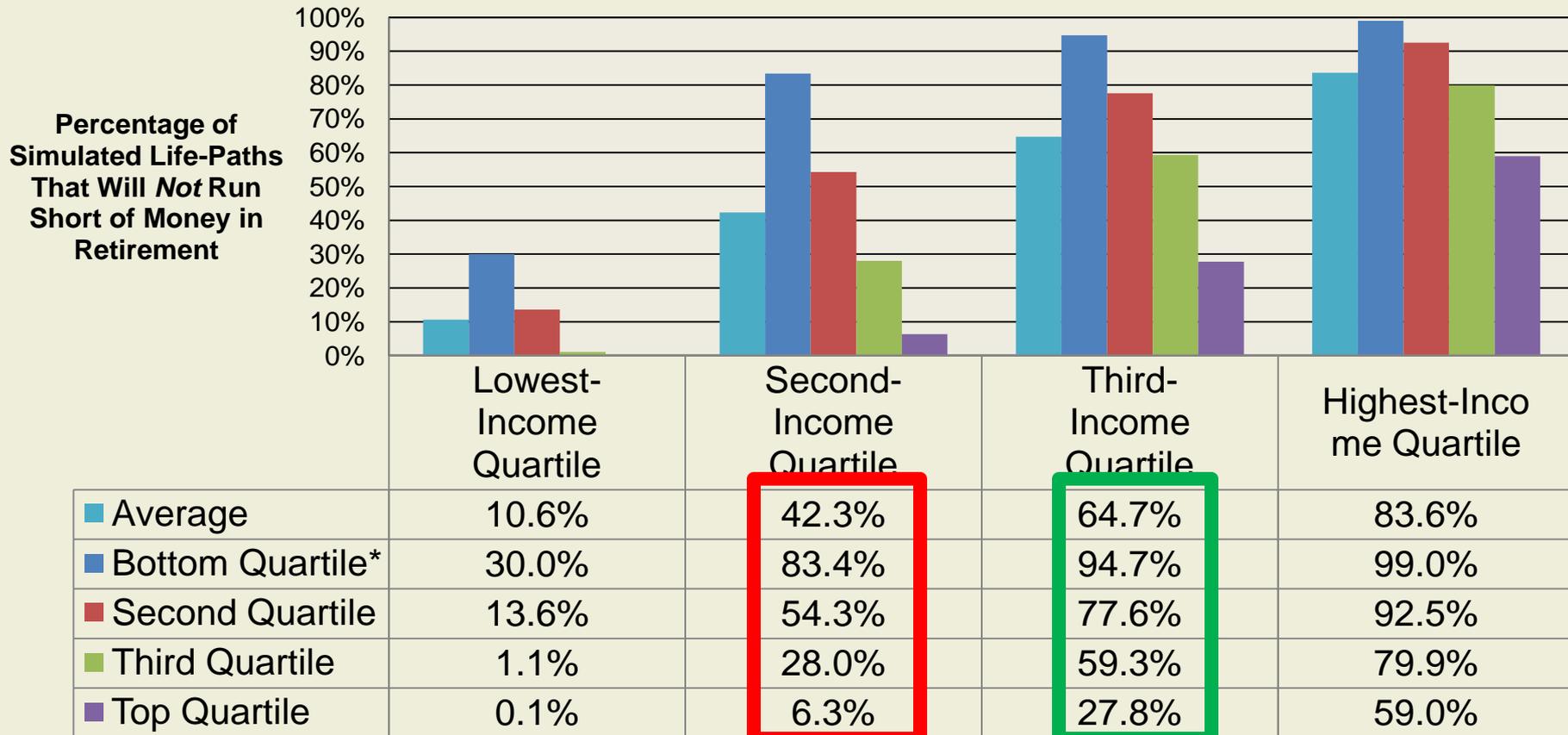


Assumptions

- Uses Society of Actuaries' (SOA's) RP-2014 Mortality Tables with Mortality Improvement Scale MP-2014
- Stochastic real ror of 4.3 percent for equity and 1.3 percent for fixed income
- 50 percent equity allocation in retirement (age-invariant)

Impact of Stochastic Health Care Costs on 2014 Retirement Readiness Ratings™ for Boomers and Gen Xers by Preretirement Wage Quartile

Only Those Simulated Retirement Paths With Stochastic Health Care Costs Greater Than Zero

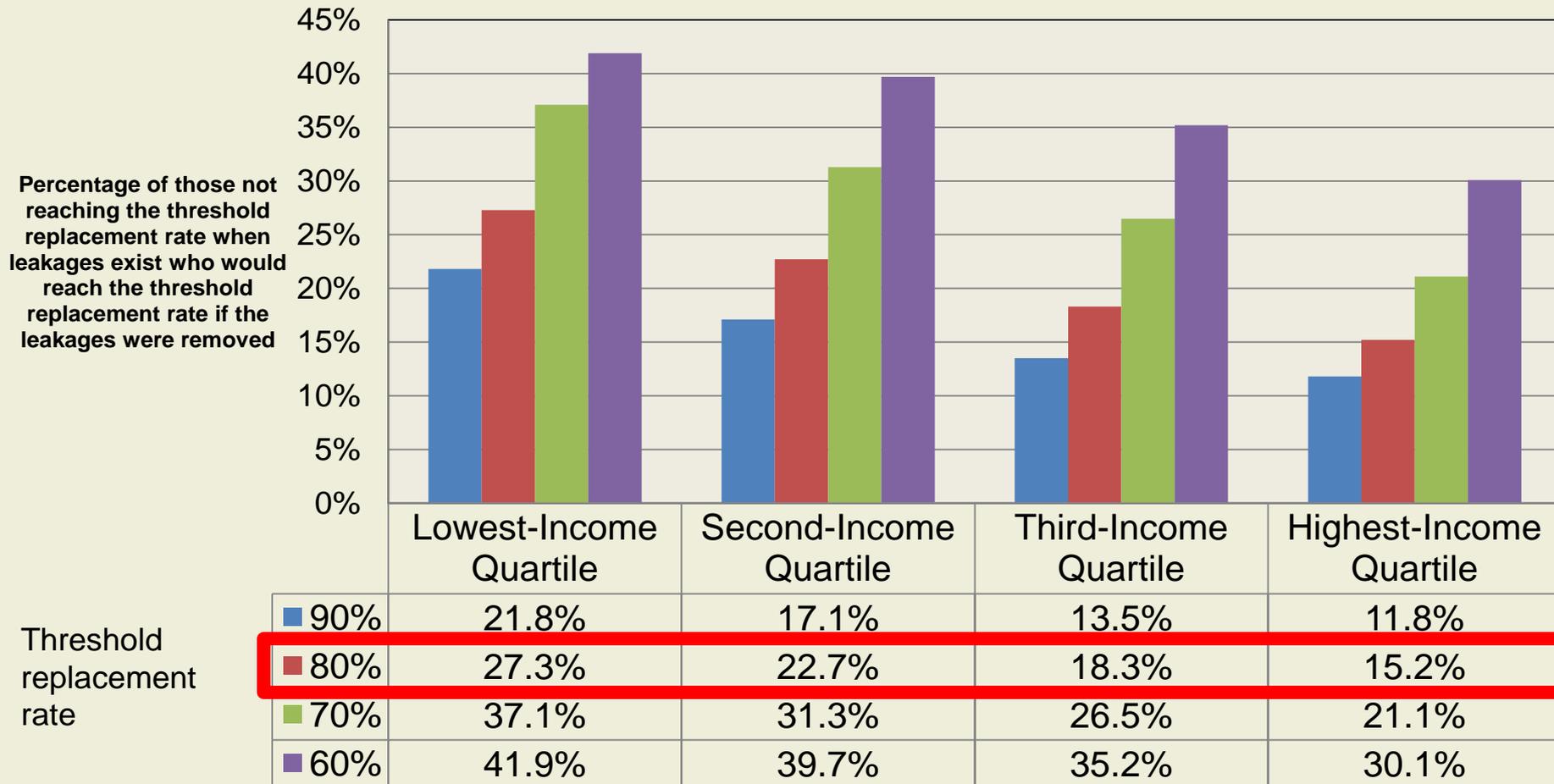


* Measured as quartile of present value at age 65 per capita stochastic health care costs in 2014 dollars.

Impact of Leakages for Automatic Enrollment Plans

Assuming No Participant Behavior Change for Participation, Contribution, or Asset Allocation

Comparison scenarios: **No leakages vs. all leakages** (cashouts, hardship withdrawals with 6-month suspension of cont)



Assumptions

- "Success" is defined as achieving an X percent real replacement rate from Social Security and 401(k) accumulations combined as defined in VanDerhei and Lucas (2010) where $X = 60, 70, 80$ or 90 .
- The population simulated consists of workers currently ages 25–29 who will have more than 30 years of simulated eligibility for participation in a 401(k) plan.
- Workers are assumed to retire at age 65 and all 401(k) balances are converted into a real annuity at an annuity purchase price of 18.62.
- Plans are assumed to have automatic escalation with a 1 percent of annual compensation increase and 3 percent default contribution rates.
- Employees are assumed to revert their level of contributions to the default rate when they participate in a new plan and opt-out of automatic escalation in accordance with the probabilities in VanDerhei (September 2007)

Key Take-aways on Threats to Retirement Security

- Once you control for relative level of income, one of the major threats to retirement security PRE-RETIREMENT is whether an employee works for an employer offering a retirement plan
 - Looking at the second and third income quartile (the “middle 50 percent”) of Gen Xers, the probability of NOT running short of money in retirement increases from 51 to 80 percent comparing those with no future years of eligibility in a defined contribution plan to those with 20+ years
- Once you are in a defined contribution system then the problem of leakages becomes important
 - More than 1 in 5 of the middle 50 percent who are simulated to run short of money in retirement with leakages present would be ok if leakages were prevented
 - Assuming no participant behavior change
- What happens at retirement age?
 - Longevity
 - 62 percent of the middle 50 percent are simulated to have sufficient retirement income
 - But those in the longest relative income quartile only have a 33 percent chance
 - LTC
 - Only 17 percent of the middle 50 percent who are in the top LTC quartile will have sufficient retirement income

Brief Chronology of the EBRI Retirement Security Projection Model®

- EBRI's Retirement Security Projection Model® (RSPM) grew out of a multi-year project to analyze the future economic well-being of the retired population at the state level. The Employee Benefit Research Institute (EBRI) and the Milbank Memorial Fund, working with the office of the governor of Oregon, set out in the late 1990s to see if this situation could be evaluated for the state. The resulting analysis (VanDerhei and Copeland, September 2001) focused primarily on simulated retirement wealth with a comparison to ad hoc thresholds for retirement expenditures.
- The April 2001 *EBRI Issue Brief* (VanDerhei and Copeland, April 2001) highlighted the changes in private pension plan participation for defined benefit (DB) and defined contribution (DC) plans and used the model to quantify how much the importance of individual-account plans was expected to increase because of these changes.
- With the assistance of the Kansas Insurance Department, EBRI was able to create the EBRI Retirement Readiness Rating™ (RRR) based on a full stochastic, decumulation model that took into account the household's longevity risk, post-retirement investment risk, and exposure to long-term nursing-home and home-health-care risks. The first state-level RSPM results were presented to the Kansas' Long-Term Care Services Task Force on July 11, 2002 (VanDerhei and Copeland, July 2002), and the results of the Massachusetts study were presented on Dec. 1, 2002 (VanDerhei and Copeland, December 2002).
- RSPM was expanded to a national model—the first national, micro-simulation, retirement-income-adequacy model, built in part from administrative 401(k) data. The initial results were presented at the EBRI December 2003 Policy Forum (VanDerhei and Copeland, 2003).
- The basic model was subsequently modified for testimony for the Senate Special Committee on Aging to quantify the beneficial impact of a mandatory contribution of 5 percent of compensation. (VanDerhei, January 2004).
- The model was enhanced to allow an analysis of the impact of annuitizing defined contribution and individual retirement account (IRA) balances at retirement age (VanDerhei and Copeland, 2004).
- Additional refinements were introduced to evaluate the impact of purchasing long-term care insurance on retirement income adequacy (VanDerhei, 2005).
- The model was used to evaluate the impact of DB freezes on participants by simulating the minimum employer-contribution rate that would be needed to financially indemnify the employees for the reduction in their expected retirement income under various rate-of-return assumptions (VanDerhei, March 2006).
- Later that year, an updated version of the model was developed to enhance the EBRI interactive Ballpark E\$timate® by providing Monte Carlo simulations of the replacement rates needed for specific probabilities of retirement income adequacy under alternative-risk-management treatments (VanDerhei, September 2006).
- RSPM was significantly enhanced for the May 2008 EBRI Policy Forum by allowing automatic enrollment of 401(k) participants with the potential for automatic escalation of contributions to be included (VanDerhei and Copeland, 2008).
- Additional modifications were added for a Pension Research Council presentation that involved a "winners/losers" analysis of DB freezes and the enhanced employer contributions provided to defined contribution plans at the time the DB plans were frozen (Copeland and VanDerhei, 2010).
- Also in 2009, a new subroutine was added to allow simulations of various styles of target-date funds for a comparison with participant-directed investments (VanDerhei, June 2009).
- In April 2010, the model was completely re-parameterized with 401(k)-plan design parameters for sponsors that had adopted automatic-enrollment provisions (VanDerhei, April 2010).
- A completely updated version of the national model was produced for the May 2010 EBRI Policy Forum and used in the July 2010 *EBRI Issue Brief* (VanDerhei and Copeland, 2010).
- The new model was used to analyze how eligibility for participation in a defined contribution plan impacts retirement income adequacy in September 2010 (VanDerhei, September 2010), and was later used to compute Retirement Savings Shortfalls (RSS) for Baby Boomers and Generation Xers in October 2010 (VanDerhei, October 2010a).

Brief Chronology (continued)

- In October testimony before the Senate Health, Education, Labor and Pensions Committee on “The Wobbly Stool: Retirement (In)security in America,” the model was used to analyze the relative importance of employer-provided retirement benefits and Social Security (VanDerhei, October 2010b).
- The November 2010 *EBRI Issue Brief* expanded upon earlier work by EBRI to provide the first results of a new simulation model that estimated the impact of changing 401(k) plan design variables and assumptions on retirement income adequacy. Until recently however, there was extremely limited evidence on the impact of automatic contribution escalation (VanDerhei and Lucas, 2010).
- In February 2011, the model was used to analyze the impact of the 2008–2009 crisis in the financial and real estate markets on retirement income adequacy (VanDerhei, February 2011).
- An April 2011 article introduced a new method of analyzing the results from RSPM (VanDerhei, April 2011). Rather than simply computing an overall percentage of the simulated life-paths in a particular cohort that would not have sufficient retirement income to pay for the simulated expenses, the new method computed the percentage of households that would meet that requirement more than a specified percentage of times in the simulation.
- As explored in the June 2011 *EBRI Issue Brief*, RSPM allowed retirement income adequacy to be assessed at retirement ages later than 65 (VanDerhei and Copeland, June 2011).
- In a July 2011 *EBRI Notes* article (VanDerhei, July 2011), RSPM was used to provide preliminary evidence of the impact of the “20/20 caps” on projected retirement accumulations proposed by the National Commission on Fiscal Responsibility and Reform.
- The August 2011 *EBRI Notes* article (VanDerhei, August 2011) used RSPM to analyze the impact of DB plans in achieving retirement income adequacy for Baby Boomers and Gen Xers.
- In September, it was used to support testimony before the Senate Finance Committee (VanDerhei, September 2011) in analyzing the potential impact of various types of tax-reform options on retirement income. This was expanded in the November 2011 *EBRI Issue Brief* (VanDerhei, November 2011).
- A March 2012 *EBRI Notes* article (VanDerhei, March 2012) used new survey results to update the analysis of the potential impact of various types of tax-reform options on retirement income.
- The May 2012 *EBRI Notes* article (VanDerhei, May 2012) provided 2012 updates for the previously published RRRs as well as the RSS.
- The June 2012 *EBRI Notes* article (VanDerhei, June 2012) introduced severity categories in the RSS projections for Gen Xers.
- The August 2012 *EBRI Notes* article (VanDerhei, August 2012) provided additional evidence on whether deferring retirement to age 70 would provide retirement income adequacy for the vast majority of Baby Boomers and Gen Xers.
- The September 2012 *EBRI Notes* article (VanDerhei, September 2012) analyzed the impact of increasing the default-contribution rate for automatic enrollment 401(k) plans with automatic escalation of contributions.
- The November 2012 *EBRI Notes* article (VanDerhei, November 2012) reclassified the RRRs to provide additional information on those substantially above the threshold; close to the threshold; and substantially below the threshold.
- The March 2013 *EBRI Notes* article (VanDerhei and Adams, March 2013) used a modified version of RSPM to assess the probability that respondent households would not run short of money in retirement if they did, in fact, accumulate the amount they said would be required in the 2013 Retirement Confidence Survey.
- The June 2013 *EBRI Issue Brief* (VanDerhei, June 2013a) used RSPM to provide a direct comparison of the likely benefits under specific types of DC and DB retirement plans.

Brief Chronology (continued)

- The June 2013 *EBRI Notes* article (VanDerhei, June 2013b) used RSPM to show that 25–27 percent of Baby Boomers and Gen Xers who would have had adequate retirement income under return assumptions based on historical averages were simulated to end up running short of money in retirement if today's historically low interest rates were assumed to be a permanent condition.
- The August 2013 *EBRI Issue Brief* (VanDerhei, August 2013) used RSPM to analyze the Obama administration's fiscal year (FY) 2014 budget proposal to include a cap on tax-deferred retirement savings that would limit the amounts accumulated in specified retirement accounts to that necessary to provide the maximum annuity permitted for a tax-qualified DB plan under current law.
- The December 2013 *EBRI Notes* article (VanDerhei, December 2013) used RSPM to expand the analysis in the June 2013 *Issue Brief*. Rather than trying to reflect the real-world variation in DB accruals, the baseline analysis in the previous analysis used the median accrual rate in the sample (1.5 percent of final compensation per year of participation) as the stylized value for the baseline counterfactual simulations. The new research computed the actual final-average DB accrual that would be required to provide an equal amount of retirement income at age 65 as would be produced by the annuitized value of the projected sum of the 401(k) and IRA rollover balances.
- The January 2014 *EBRI Notes* article (VanDerhei, January 2014) used RSPM to model the likelihood that 401(k) participants currently ages 25–29 would have sufficient 401(k) accumulations that, when combined with Social Security benefits, could replace 60, 70 or 80 percent of their preretirement income on an inflation-adjusted basis.
- The February 2014 *EBRI Issue Brief* (VanDerhei, February 2014) focused on how the probability of not running short of money in retirement varies with respect to longevity, investment return, and potential long-term health care costs in retirement (e.g., nursing home costs).
- The June 2014 *EBRI Notes* article (VanDerhei, June 2014a) provides new results showing how many years into retirement Baby Boomer and Gen Xer households are simulated to run short of money, by preretirement income quartile.
- The simulation results for the June 2014 ERISA Advisory Council testimony (VanDerhei, June 2014b) suggest that, assuming no participant behavior change for participation, contribution or asset allocation resulting from reduced access to 401(k) balances, retirement balances from 401(k) plans, and IRA rollovers originating in 401(k) plans, may be increased substantially for young employees with thirty or more years of eligibility if cashouts at job turnover, hardship withdrawals (and the accompanying suspension of contributions) and plan loan defaults were substantially reduced or eliminated.

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