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The Impact of “Rothification” on Retirement Deficits for 401(k)  
Participants: Stylized Simulations from EBRI’s Retirement Security  
Projection Model®

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## New EBRI survey

- In light of the possibility that a shift toward the Roth taxation approach – either partial or full – would be among the policy proposals considered by the new Congress and President, we have begun to develop the ability to run projections about the likely impacts of various policy changes on retirement adequacy, using EBRI’s Retirement Security Projection Model.
- One of the key assumptions is how individual participants might change their contribution amounts based on a shift from traditional pre-tax contribution (and taxable distribution) approach to the Roth taxable contribution (and non-taxable distribution) approach.
- So, we have developed an EBRI survey, with input from various EBRI members, to analyze survey data on possible participants’ behavioral reactions.

## New EBRI survey (continued)

- The survey will inquire about likely changes in contribution amounts if the following policy changes are adopted:
  - Full Roth tax treatment of employee contributions
  - Camp proposal for treatment of employee contributions
  - Full Roth tax treatment of employee contributions plus an enhanced Savers Credit
  - Full Roth tax treatment of employee contributions plus 402(g) dollar limits that are increased by 33%
  - Full Roth tax treatment of employee contributions with lower income tax rates.
- In each case, we not only state how the employee contributions would be taxed, but also how the contributions and income/gains in the plan would be taxed on withdrawal/distribution.

# EBRI Retirement Security Projection Model® (RSPM)

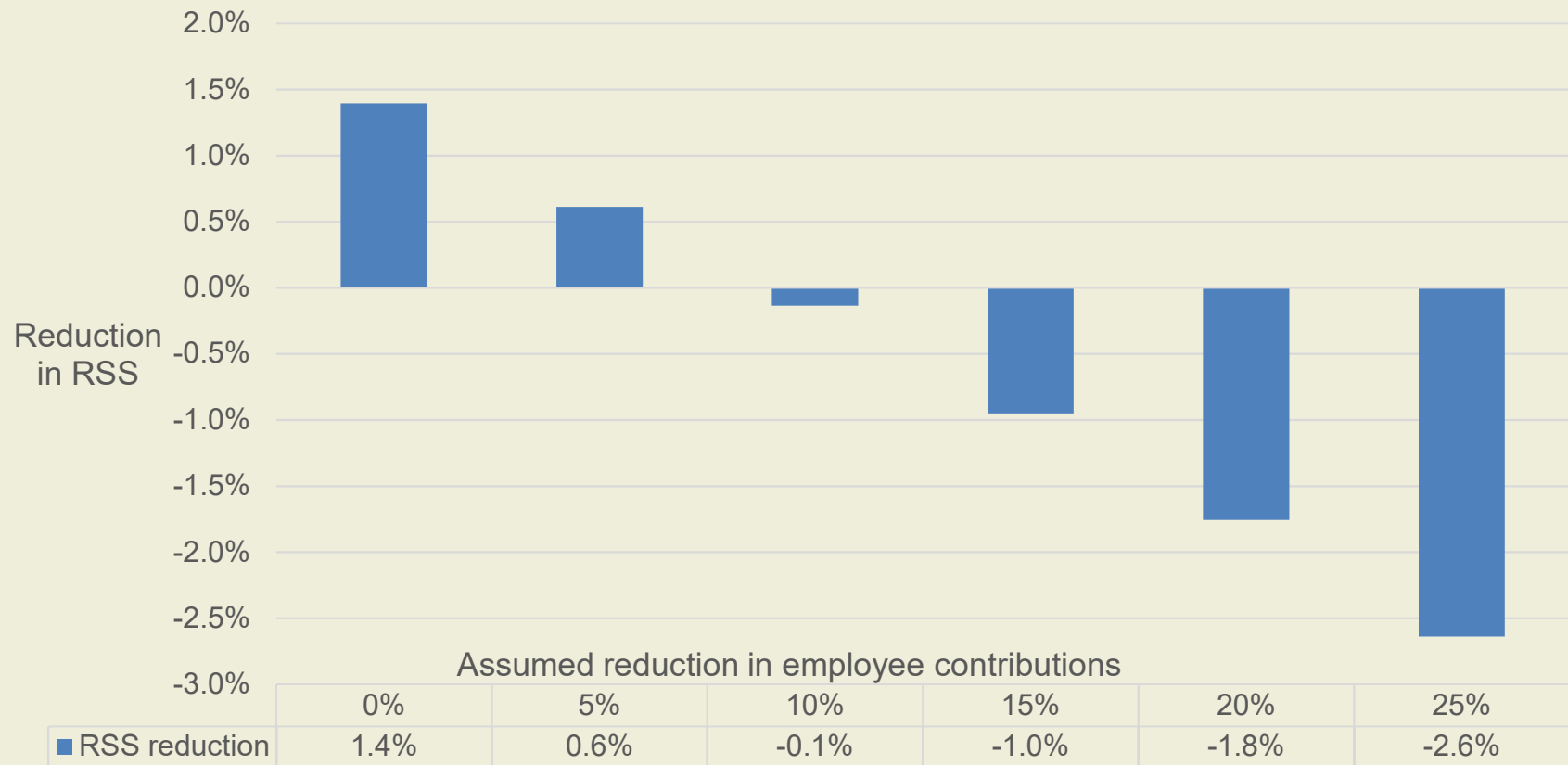
- Accumulation phase
  - Simulates retirement income/wealth to retirement age for HHs ages 35-64 from defined contribution, defined benefit, IRA, Social Security and net housing equity
    - Pension plan parameters coded from a time series of several hundred plans.
    - 401(k) participant behavior based on individual administrative records
      - Annual linked records dating back to 1996
      - Social security based on current statutory benefits for baseline
        - But sensitivity analysis is provided for scenarios in which Trust Fund is exhausted
- 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, long-term care (LTC) costs

## EBRI Retirement Security Projection Model® (RSPM)

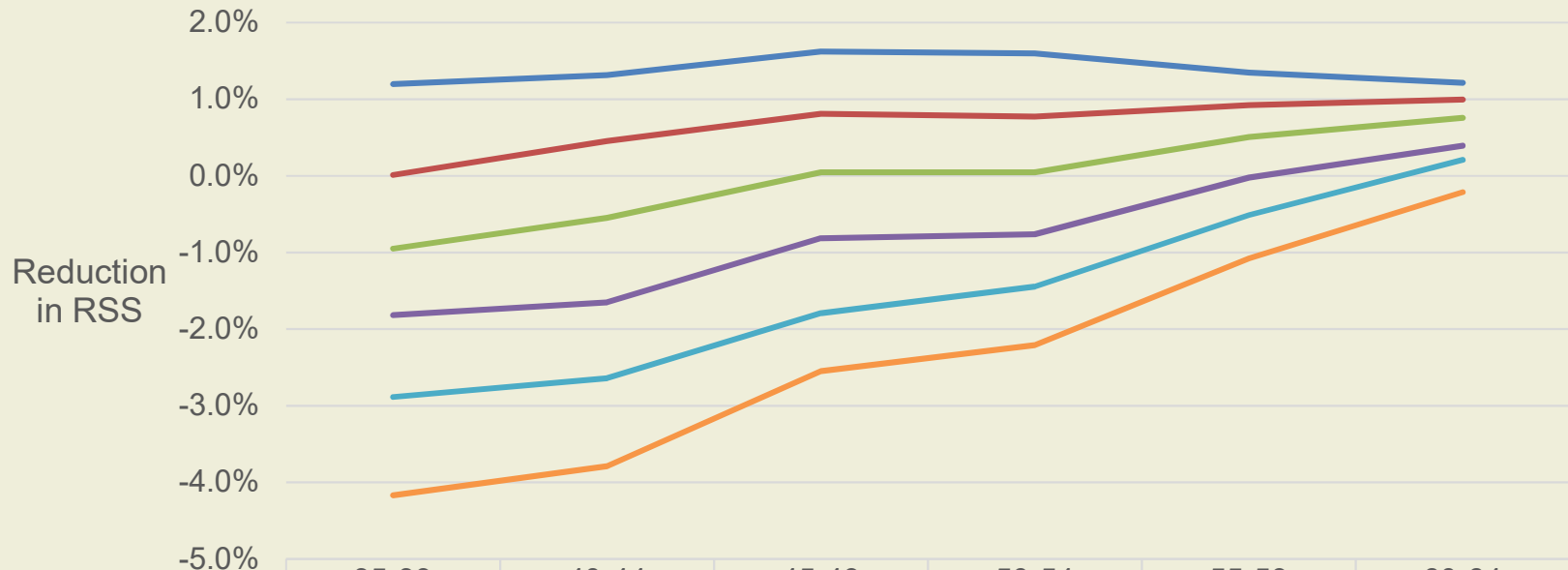
- Produces a Retirement Readiness Rating (RRR) and Retirement Savings Shortfall (RSS)
  - RRR: Percentage of simulated HH life-paths that do NOT run short of money in retirement
    - If all the retirement savings are exhausted and if the Social Security and defined benefit payments are not sufficient to pay expenses, the HH is designated as having run short of money at that point.
  - RSS: Present value of simulated retirement deficits at retirement age
    - **NB: this only includes HHs simulated to have a deficit**
      - E.g., If a HH is currently simulated to have no deficits, increasing their account balances at retirement will not change either RRR or RSS
      - **Very important for the Roth simulation results in the next slides**

## RSS improvement assuming full Roth status in 2018 as a function of assumed reduction in employee contributions.

(Limited to those with at least one year of future participation in a 401(k) plan)

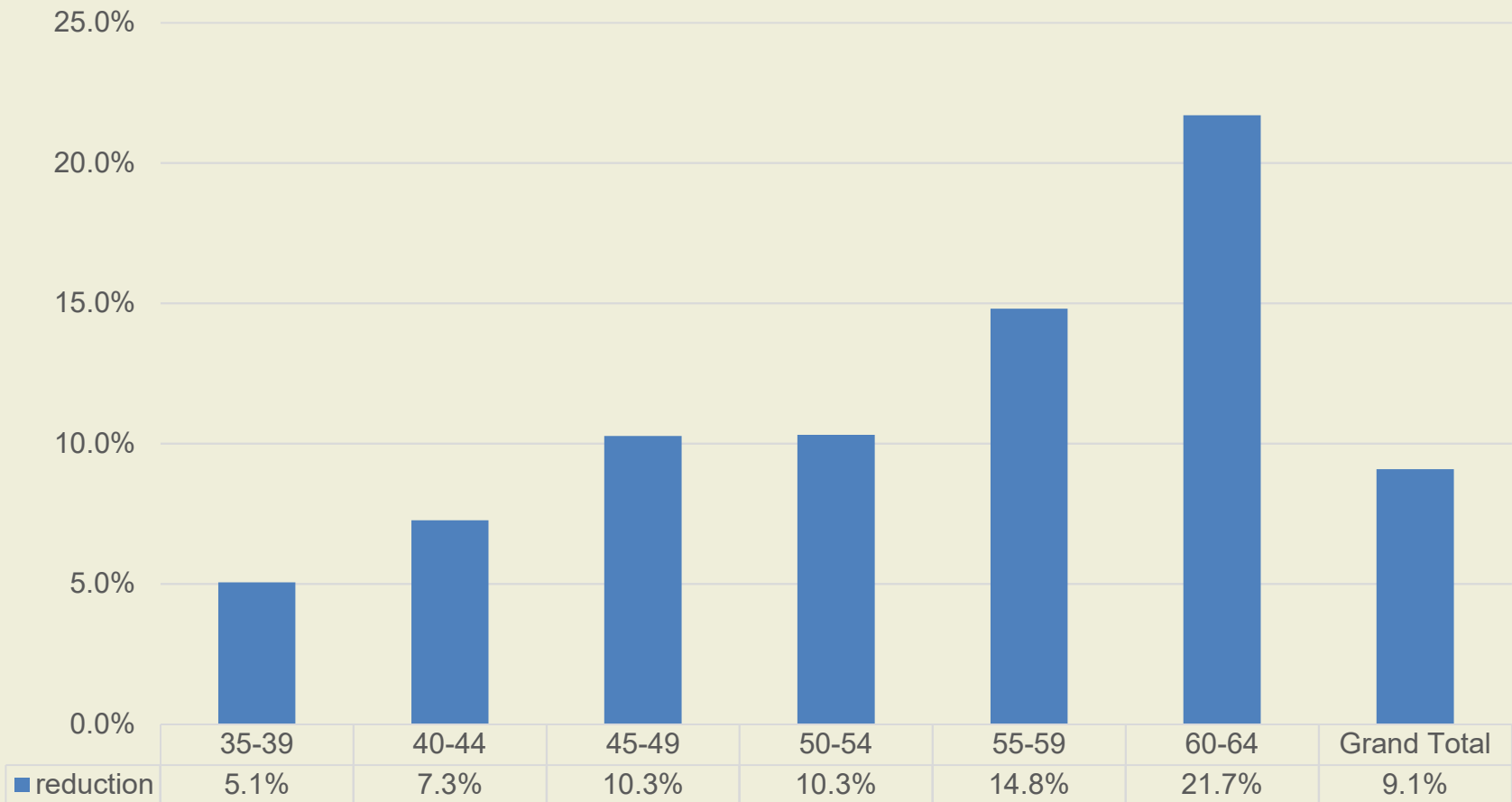


RSS improvement assuming full Roth status in 2018 as a function of age and assumed reduction in employee contributions.  
 (Limited to those with at least one year of future participation in a 401(k) plan)



	35-39	40-44	45-49	50-54	55-59	60-64
0.0%	1.2%	1.3%	1.6%	1.6%	1.3%	1.2%
5.0%	0.0%	0.5%	0.8%	0.8%	0.9%	1.0%
10.0%	-1.0%	-0.5%	0.0%	0.0%	0.5%	0.8%
15.0%	-1.8%	-1.7%	-0.8%	-0.8%	0.0%	0.4%
20.0%	-2.9%	-2.6%	-1.8%	-1.4%	-0.5%	0.2%
25.0%	-4.2%	-3.8%	-2.6%	-2.2%	-1.1%	-0.2%

## Reduction in employee contributions that result in a zero change in RSS, by age





## Next steps

- Parameterize the RSS simulations with employee behavioral responses from the Roth survey
- Interactions with Roth taxation
  - Enhanced savers credit
  - Higher contribution limits
  - Full Roth tax treatment of employee contributions with lower income tax rates
- Additional breakouts
  - Income
- Additional output metrics
  - Create a “surplus” version of RSS
  - Show the impact on AUM
- Additional scenarios
  - Impact of tax rates increasing/decreasing in the future

# APPENDIX

## When is a household considered to run short of money in EBRI's simulation model?

- If aggregate resources in retirement are not sufficient to meet average retirement expenditures
  - This version of the model is constructed to simulate retirement income adequacy
  - Alternative versions of the model allow similar analysis for replacement rates, standard-of-living calculations, and other ad hoc thresholds.
- The baseline version of the model 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)
  - to the extent that the sum of their expenses and uninsured medical expenses exceed the projected after-tax annual income from those sources
    - They immediately begin to withdraw money from their individual accounts (defined contribution and cash balance plans, as well as IRAs).

## When is a household considered to run short of money (continued)?

- 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.