

How long will Baby Boomers and Gen Xers need to work for a 50, 70, and 80 percent probability of adequate retirement income?

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**Is There a Future for Retirement?**  
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## Key Points from Today's Presentation

- Review of Retirement Security Project Model (RSPM)
  - Retirement Readiness Ratings measures those “at risk” for inadequate retirement income
- What can be done for those “at risk”?
  - Increase savings during accumulation phase
    - What if the additional savings rate is too high to be feasible?
  - Deferring retirement age
    - We know mathematically that this will improve the probability of adequacy
    - But for how many households and at what retirement ages?
- RSPM simulations for percentage of households with adequate retirement income by retirement age
  - 50, 70 and 80 percent of simulated life paths
- Value of DC participation after age 64
- Isolating the impact of nursing home and home health costs

# Brief Chronology of the EBRI/ERF Retirement Security Projection Model™

- 2001, Oregon
  - Simulated retirement wealth vs. ad hoc thresholds for retirement expenses
- 2002, Kansas and Massachusetts
  - Full stochastic retiree model: Investment and Longevity risk, Nursing home and home health care costs
  - Net housing equity
- 2003, National model
  - Expanded to full national sample
- 2004, Senate Aging testimony
  - Impact of everyone saving another 5 percent of compensation
- 2004, EBRI Policy forum
  - Impact of annuitizing defined contribution/IRA balances
- 2006, EBRI Issue Brief
  - Evaluation of defined benefit freezes on participants
- 2006, EBRI Issue Brief
  - Converted into a streamlined individual version for the ballpark estimate Monte Carlo
- 2008, EBRI policy forum
  - Impact of converting 401(k) plans to automatic enrollment
- 2009, Pension Research Council
  - Winners/losers analysis of defined benefit freezes and enhanced defined contribution employer contributions provided as a quid pro quo
- 2010, EBRI Issue Brief (April)
  - Impact of modification of employer contributions when they convert to automatic enrollment for 401(k) plans
- 2010, EBRI Issue Brief (July)
  - Updated model to 2010, included automatic enrollment for 401(k) plans
- 2010, EBRI Notes (Sept and Oct)
  - Analyzes how eligibility for participation in a DC plan impacts retirement income adequacy
  - Computes Retirement Savings Shortfalls for Boomers and Gen Xers
- 2010, Senate HELP testimony
  - Analyzes the relative importance of employer-provided retirement benefits and Social Security
- 2011, EBRI Issue Brief (February)
  - Analyzes the impact of the 2008/9 crisis in the financial and real estate markets on retirement income adequacy

# Modeling Innovations in the EBRI/ERF Retirement Security Projection Model

- 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
  - 2009: More than 20 million employees in 50,000 plans.
- Stochastic modeling of nursing facility care and home based health care.

# Retirement Income

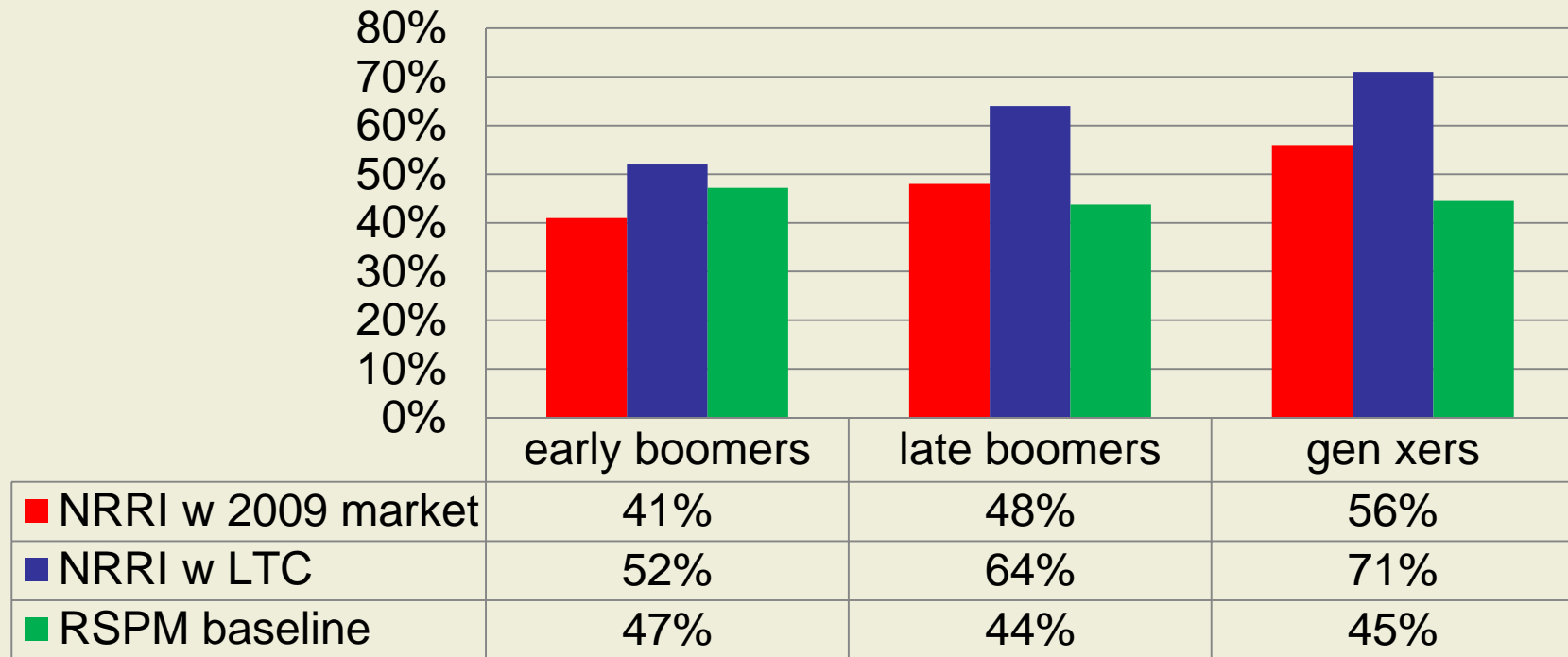
- Limited to income produced by
  - Public and private retirement plans (including IRAs)
  - Social Security
  - Housing equity
    - Not used in the baseline results shown today
- Original baseline assumes retirement income commences at age 65
  - Today's presentation will analyze the value of deferring retirement for baby boomers and gen Xers

# Retirement Expense Assumptions

- Decomposed total expenditures for retirees into:
  - Those that are deterministic:
    - ✓ Food, apparel and services, transportation, entertainment, reading and education, housing, and basic health expenditures.
  - Those that are stochastic:
    - ✓ Home health care and nursing home care.
- Performed annual simulations on U.S. families with a retiree to determine if each retiree would:
  - Require home health care,
  - Enter a nursing home,
  - Die, or
  - Continue to survive without incurring any of these stochastic health costs.

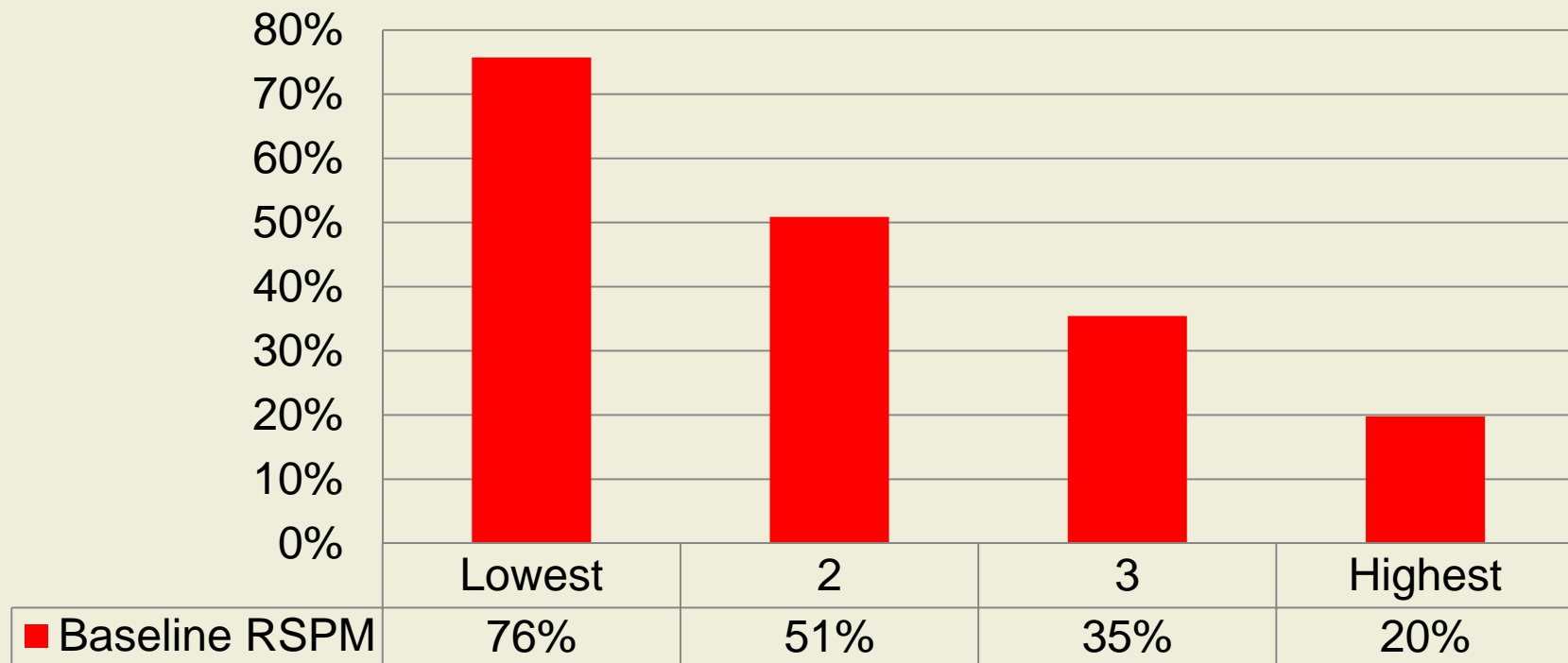
# EBRI 2010 Retirement Readiness Ratings vs. National Retirement Risk Index (NRRI)

## Percentage of population “at risk” for inadequate retirement income, by age cohort (baseline assumptions)



## Impact of “salary” on at risk probability

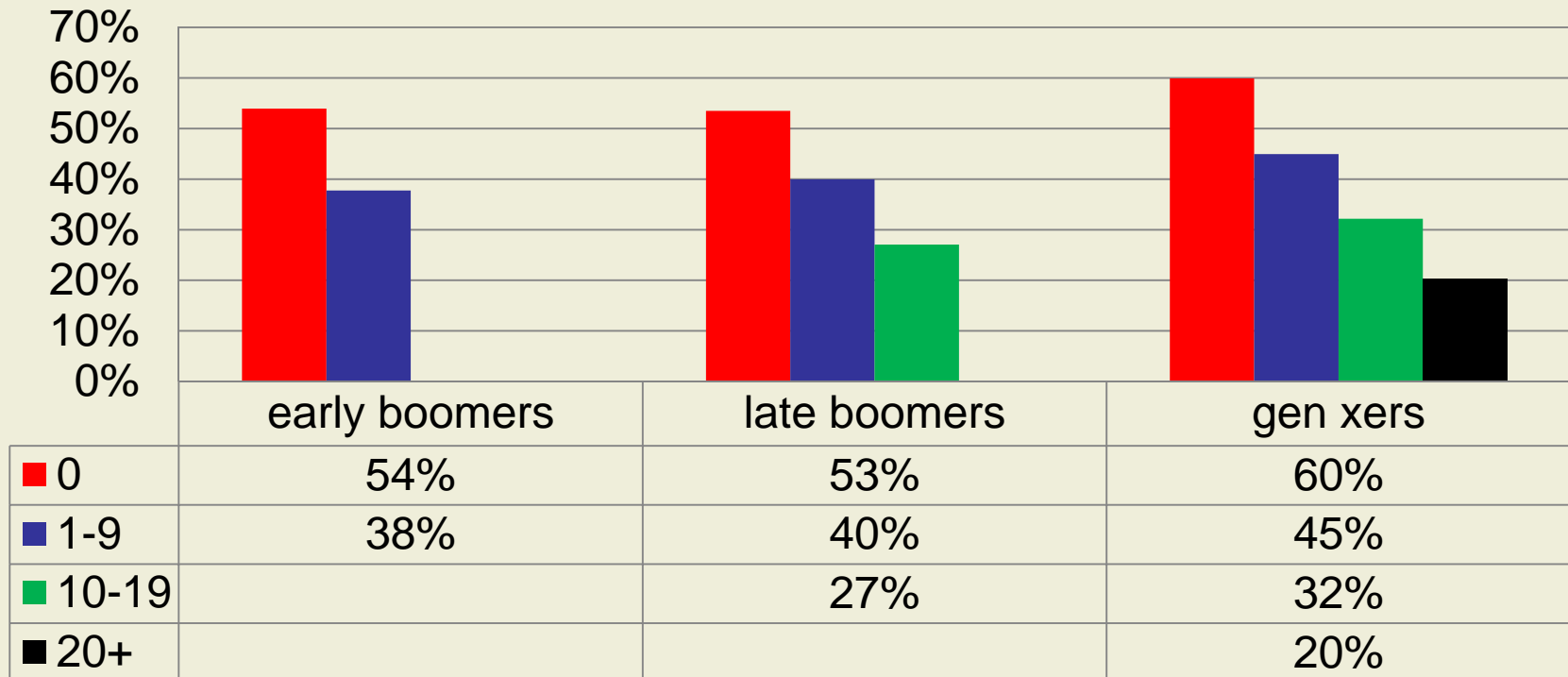
### Percentage of population “at risk” for inadequate retirement income, by age-specific remaining career income quartiles (baseline assumptions)





# Impact of age and future years of eligibility for participation in a defined contribution plan on at risk probabilities

**Percentage of population “at risk” for inadequate retirement income, by age cohort and future years eligible for participation in a defined contribution plan (baseline assumptions)**



Source: EBRI/ERF Retirement Security Projection Model™ version 100504e

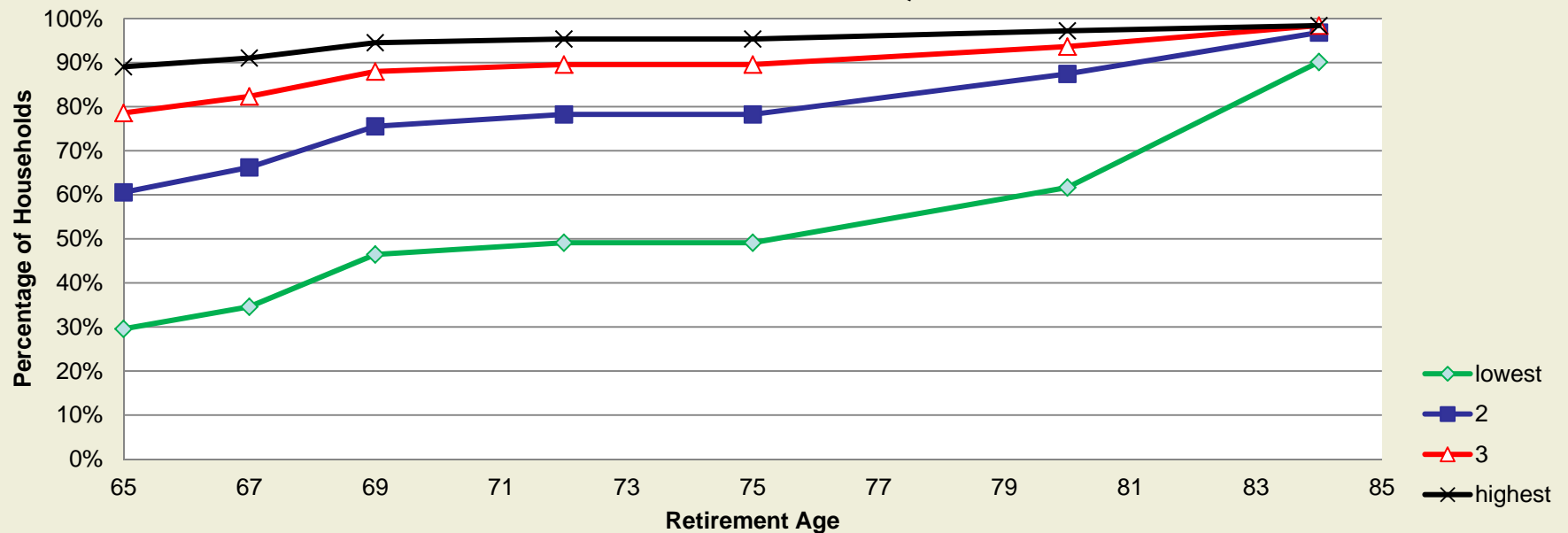
## Analyzing the importance of retirement age

- Figures 20-22 of the EBRI July 2010 Issue Brief presents additional savings (expressed as a percent of compensation) needed to achieve various probabilities of success for retirement age at 65
  - Unfortunately, the results for many combinations of age/income cohorts would be too high to be feasible
- We have always known that the other possibility may be to defer retirement age
  - Assumes this is feasible
    - I.E., no health problems for worker or spouse, job still available
    - The Retirement Confidence Survey has consistently found that a large percentage of retirees leave the work force earlier than planned
      - 45 percent in 2011
- Easy to do stylized examples, but what would the impact be for baby boomers and gen Xers?

## Assumptions for the new analysis

- Updated certain financial market and employee behavioral assumptions from the 2010 RSPM
- Started with a set of assumptions that would be most favorable to deferring retirement age (will relax these in future work)
  - Wages
    - No age/wage curves after 64; grows at average national wage growth
  - Job change, disability, unemployment
    - None after 64
  - Nursing home or home health care expenses for the worker
    - None prior to retirement
  - Defined contribution plans
    - Employee contributions continue at the age 64 contribution rate
      - Any auto escalation for AE plans is turned off at this age
    - Employer contributions
      - Match rates are assumed to remain constant
      - Nonelective contributions continue at the age 64 contribution rate
  - Social Security
    - Initial receipt deferred until retirement age or age 70

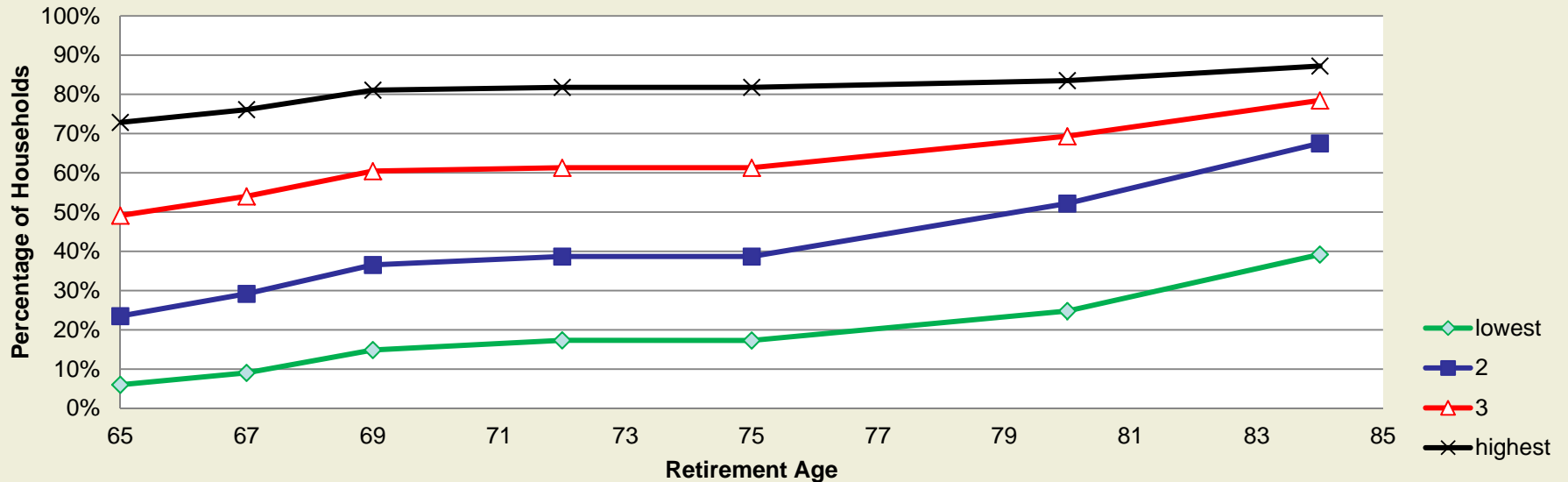
## Percentage of Baby boom and Gen X Households Simulated to Have Adequate\* Retirement Income for at Least 50 Percent of Simulated Life Paths After Retirement Age by Pre-Retirement Income Quartiles



Source: EBRI Retirement Security Projection Model® versions110410i.

\* An individual or family is considered have "adequate" retirement income in this version of the model if their aggregate resources in retirement are sufficient to meet aggregate minimum 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 expenses (at least until the point they are picked up by Medicaid). The resources in retirement will consist of Social Security (either status quo or one of the specified reform alternatives), account balances from defined contribution plans, IRAs and/or cash balance plans, annuities from defined benefit plans (unless the lump-sum distribution scenario is chosen) and (in some cases) net housing equity (either in the form of an annuity or as a lump-sum distribution). This version of the model is constructed to simulate "basic" retirement income adequacy; however, alternative versions of the model allow similar analysis for replacement rates, standard of living and other ad hoc thresholds.

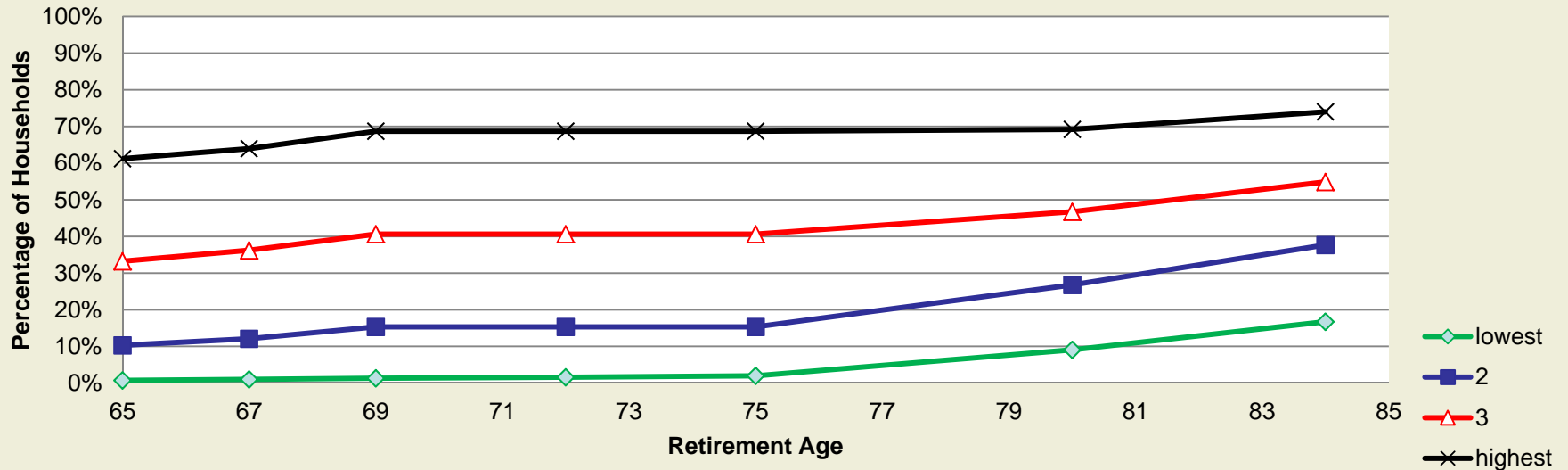
## Percentage of Baby boom and Gen X Households Simulated to Have Adequate\* Retirement Income for at Least 70 Percent of Simulated Life Paths After Retirement Age by Pre-Retirement Income Quartiles



Source: EBRI Retirement Security Projection Model® versions110410i.

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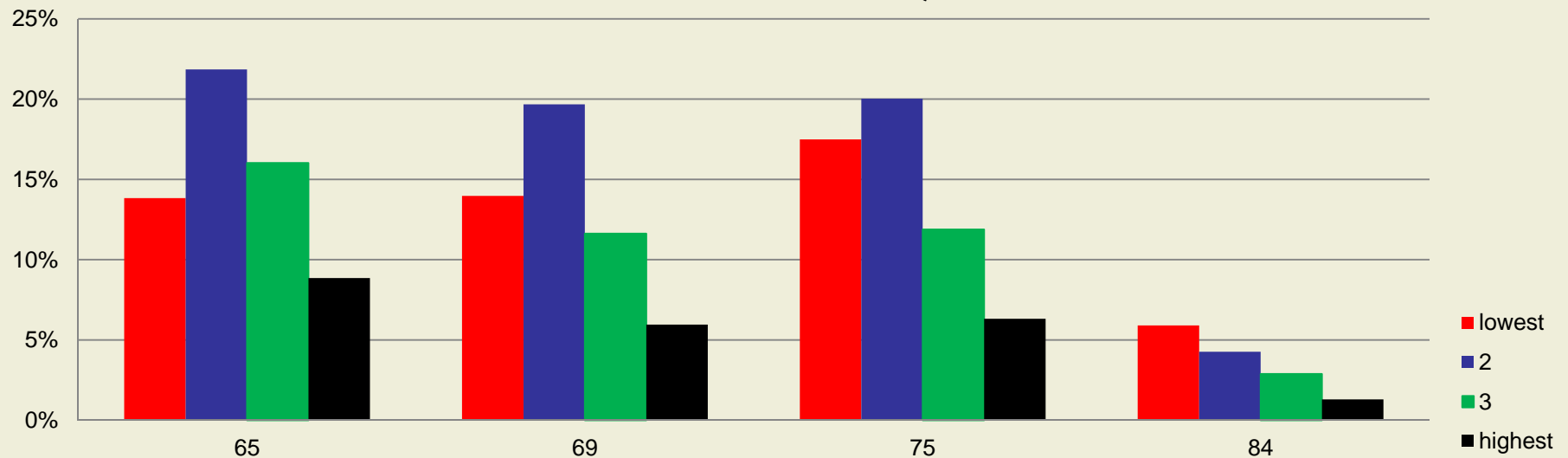
## Percentage of Baby boom and Gen X Households Simulated to Have Adequate\* Retirement Income for at Least 80 Percent of Simulated Life Paths After Retirement Age by Pre-Retirement Income Quartiles



Source: EBRI Retirement Security Projection Model® versions110410i.

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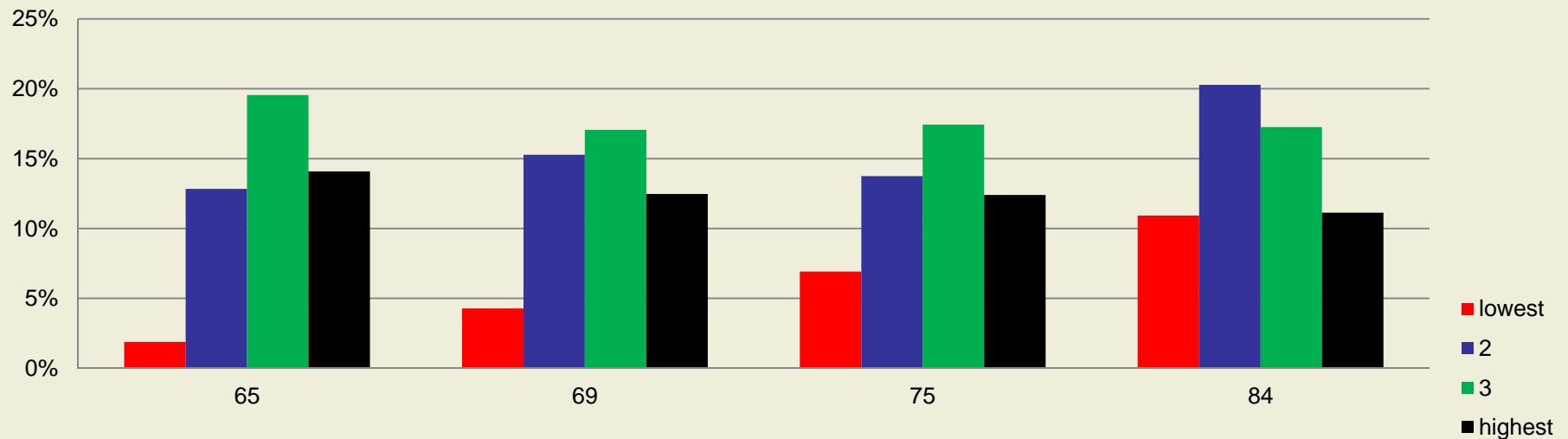
## Value of DC Participation After Age 64: Increase in the Percentage of Baby boom and Gen X Households Simulated to Have Adequate\* Retirement Income for at Least 50 Percent of Simulated Life Paths After Retirement Age by Pre-Retirement Income Quartiles



Source: EBRI Retirement Security Projection Model® versions110410i.

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## Value of DC Participation After Age 64: Increase in the Percentage of Baby boom and Gen X Households Simulated to Have Adequate\* Retirement Income for at Least 70 Percent of Simulated Life Paths After Retirement Age by Pre-Retirement Income Quartiles

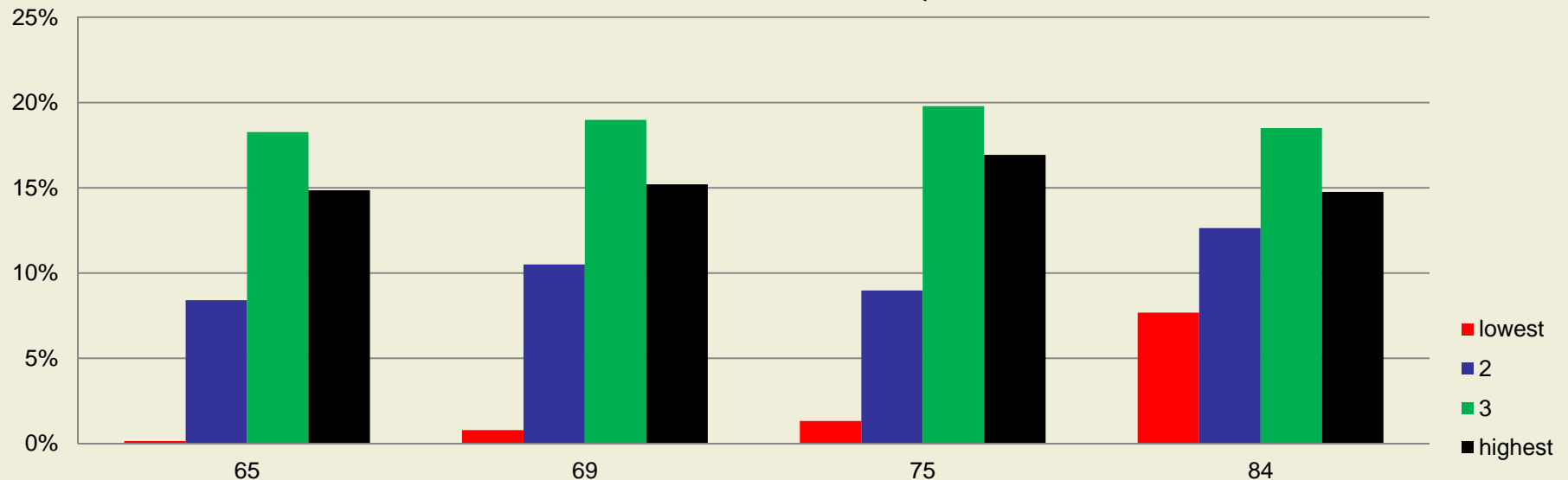


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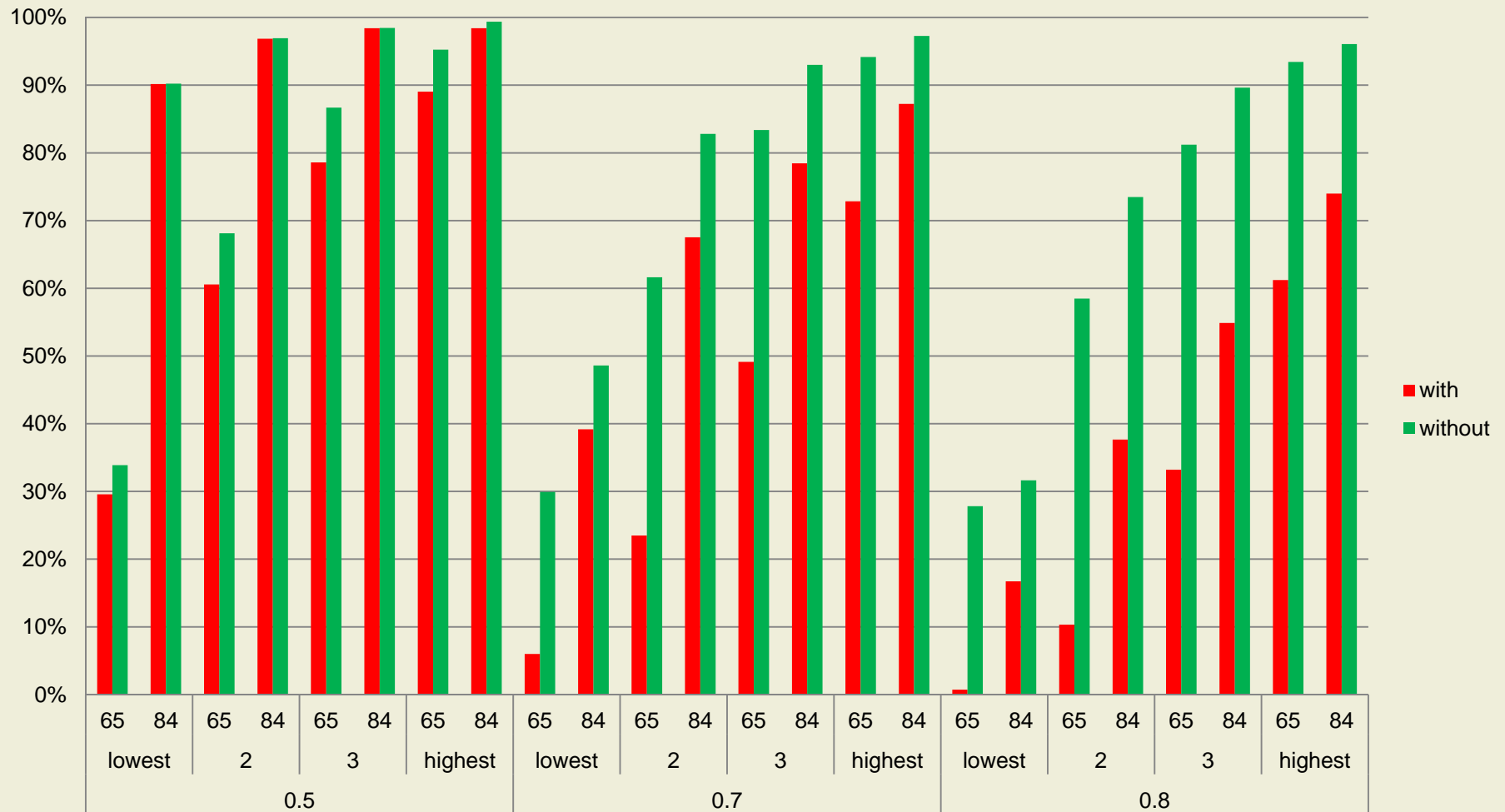
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## Impact of excluding nursing home and home health costs at retirement ages 65 and 84 by income quartile and probability of success



# SUMMARY/CONCLUSIONS

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