Panel 3: New Ways to Insure Adequate Resources for Retirees

THE OHIO STATE UNIVERSITY

How Home Equity Extraction and Reverse Mortgages Affect the Financial Well-Being of Senior Households

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Motivation

Home equity is an important part of a senior household's financial portfolio:

- ✓ Approximately 80% of households over the age of 62 own their homes (Poterba et al. 2011)
- ✓ Equity comprises a large proportion of wealth for seniors (2013 SCF)
- ✓ Consumption smoothing motivations for equity extraction (Hurst & Stafford 2004; Mian & Sufi 2009; 2011)

Different options to extract equity:

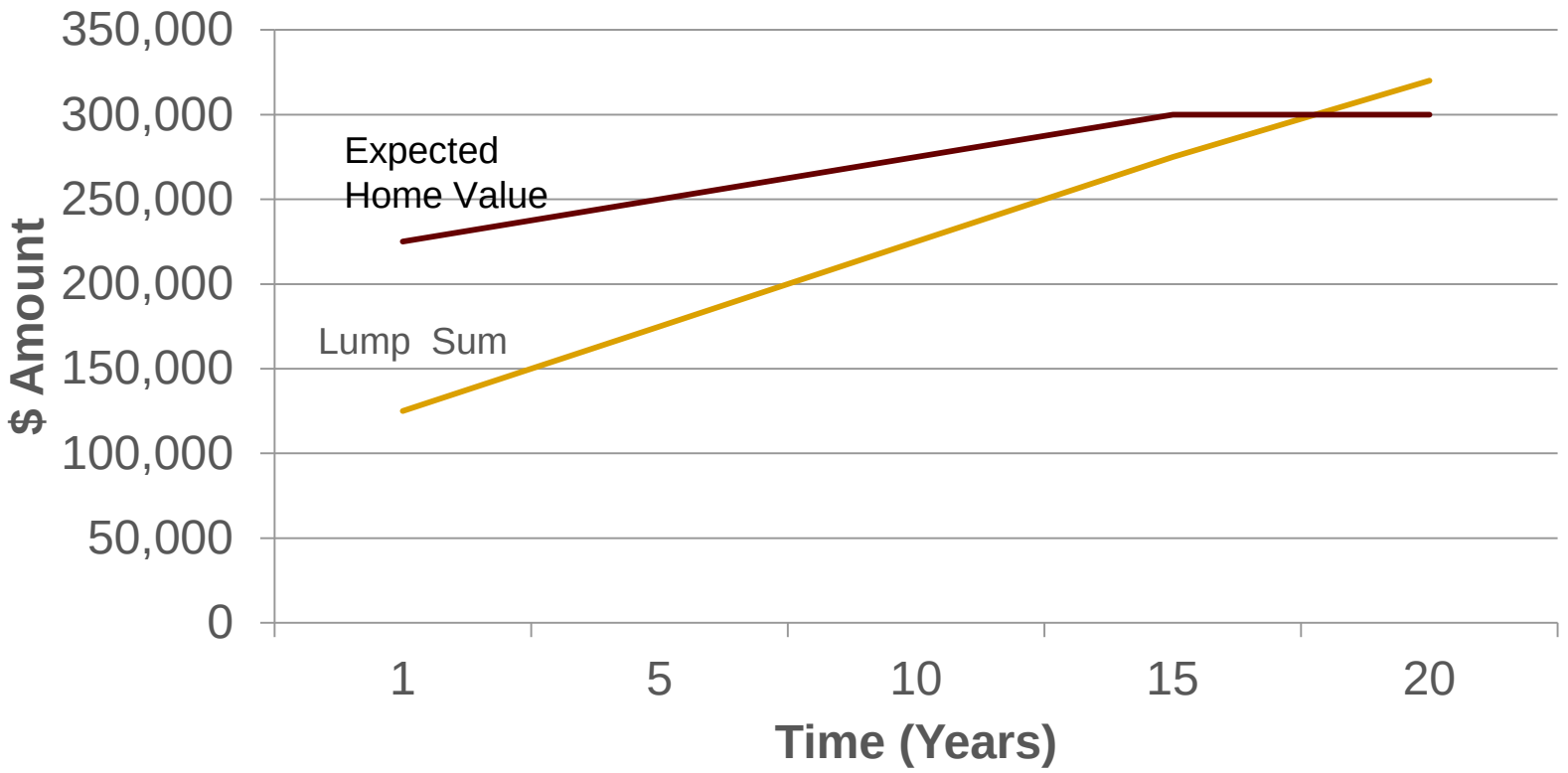
- ✓ Selling and moving
- ✓ Cash out refinancing, closed end second liens, or revolving HELOCs
- ✓ Reverse mortgages- federally insured HECMs

Reverse mortgages are an important yet complex financial product serving a potentially vulnerable population

- ✓ Since 2010, HUD has implemented a series of policy interventions with the intent of improving reverse mortgage decisions and outcomes

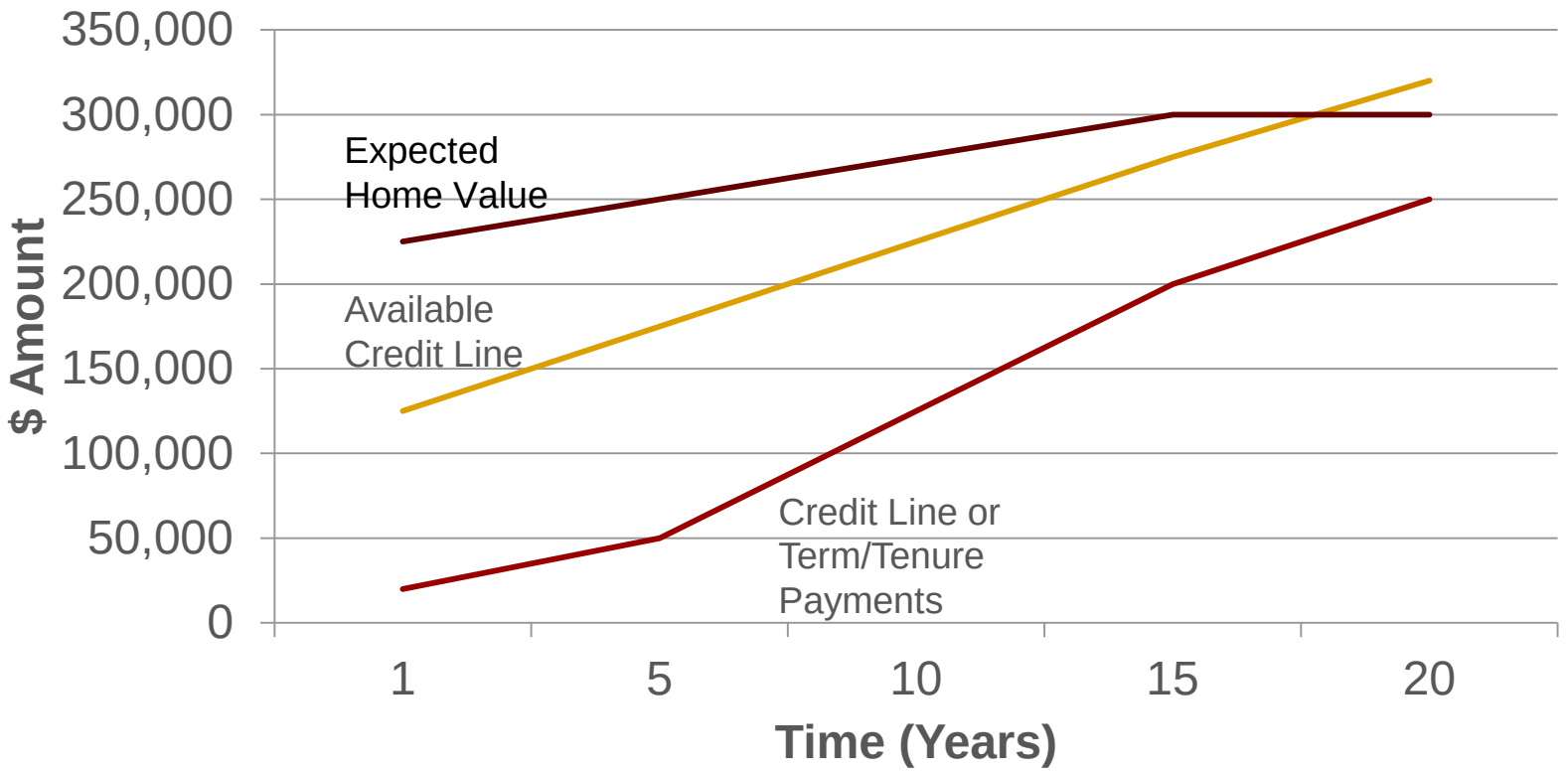
To what extent- and under what conditions- does a reverse mortgage lead to financial security, well-being and independence in older age?

Reverse Mortgage Debt



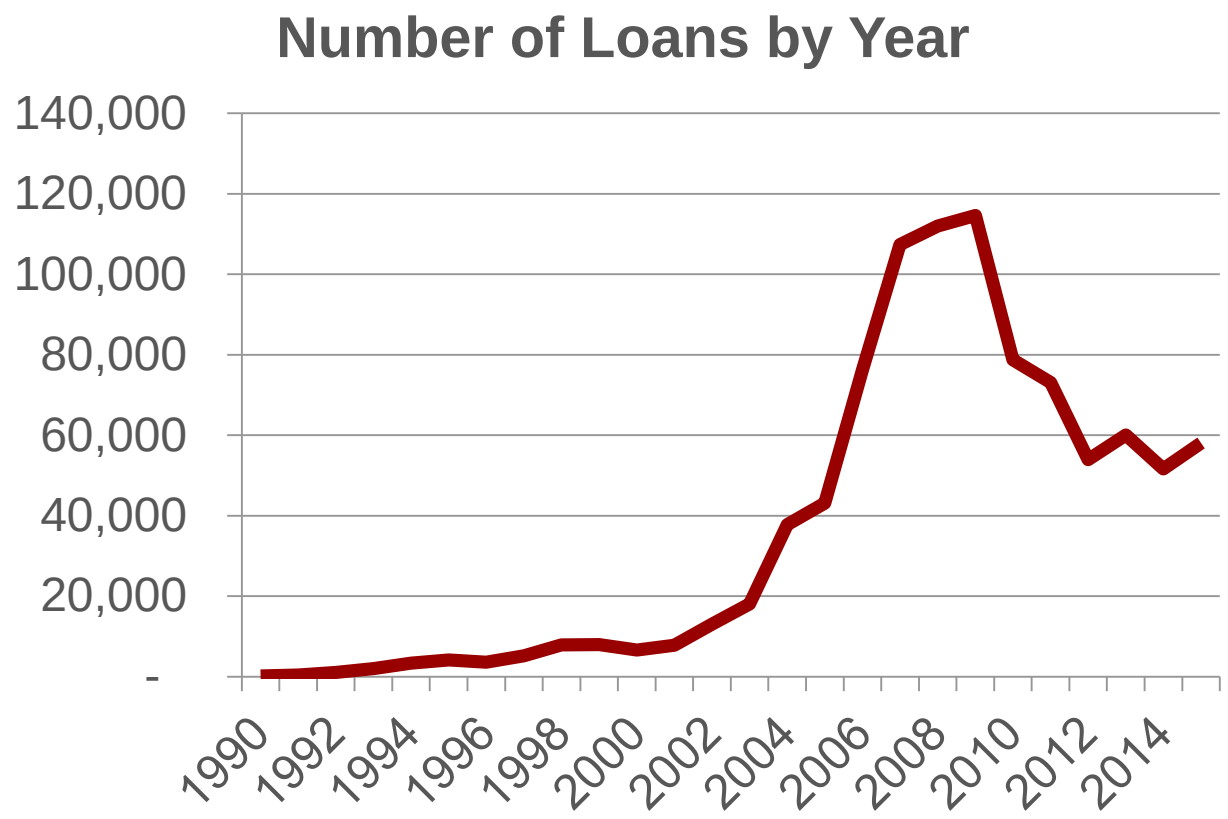
Maximum Claim Amount (home value at closing)= $225,000
Initial Principal Limit = $125,000

Reverse Mortgage Debt



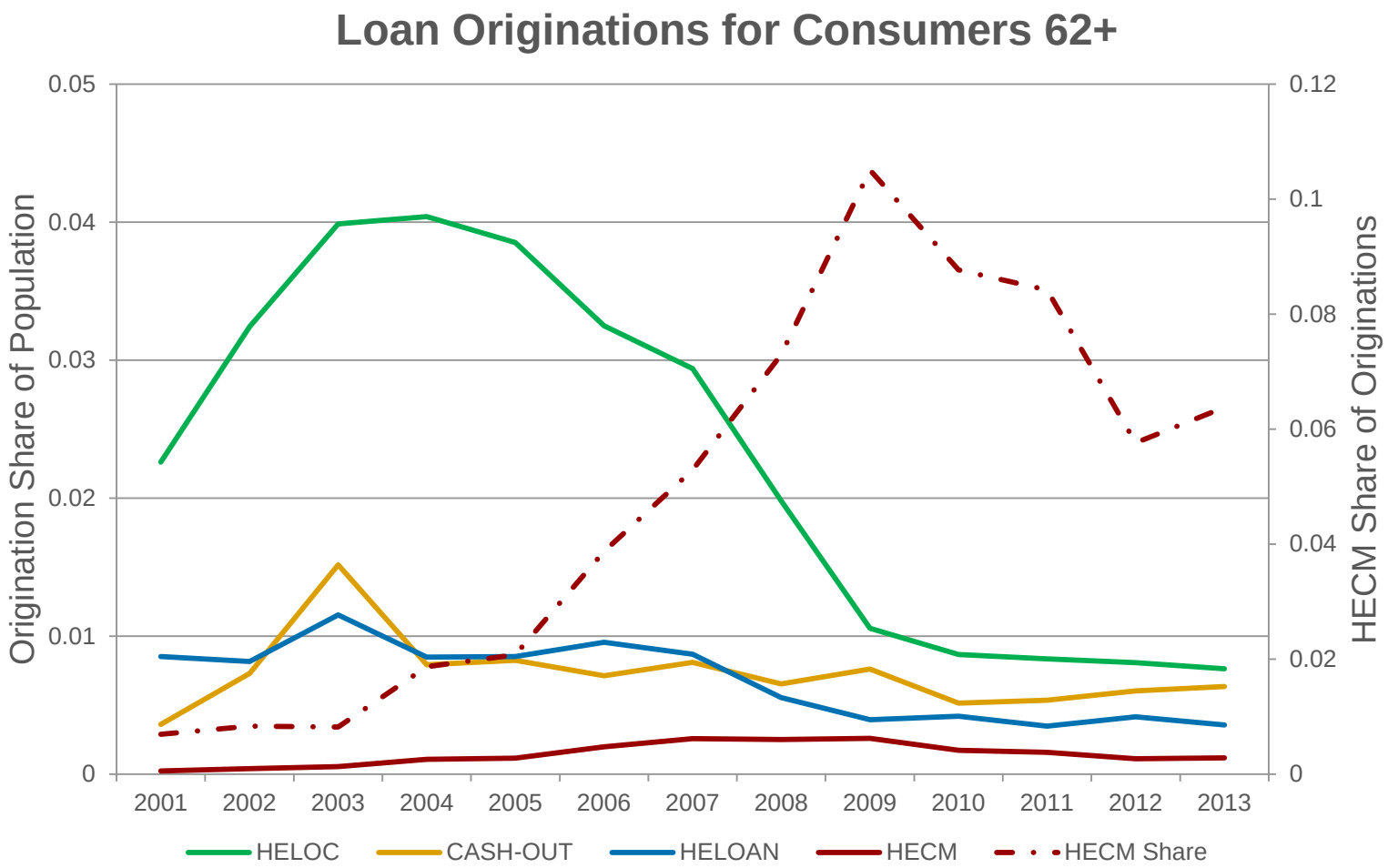
Maximum Claim Amount (home value at closing)= $225,000
Initial Principal Limit = $125,000

Take-Up of HECMs



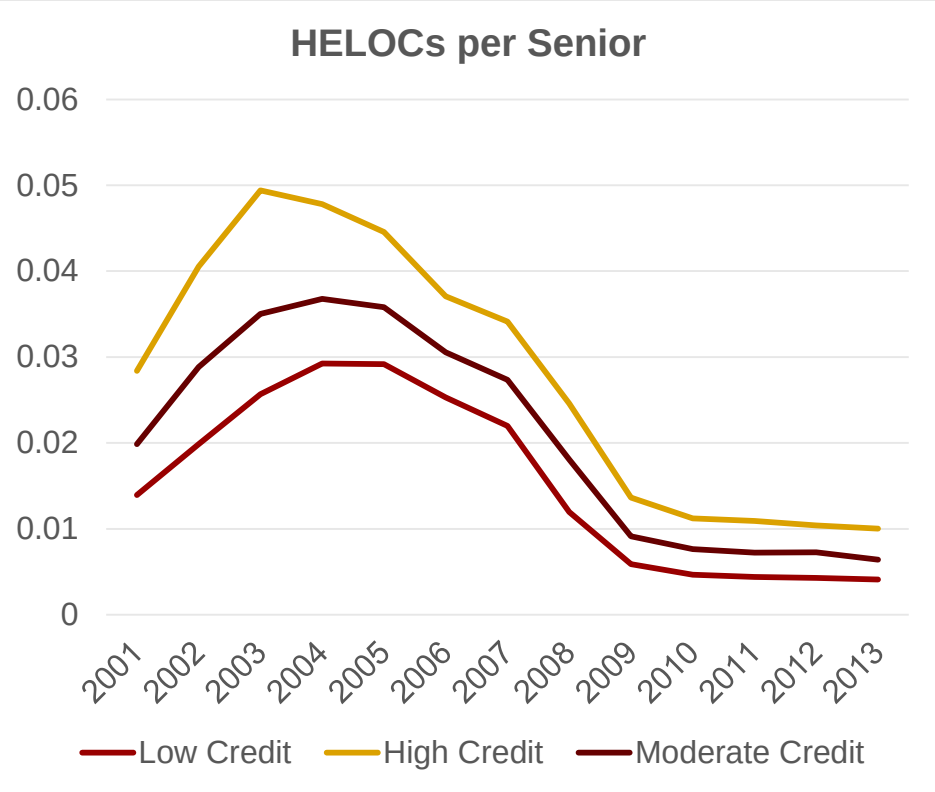
Source: Author's calculations from HUD HECM data

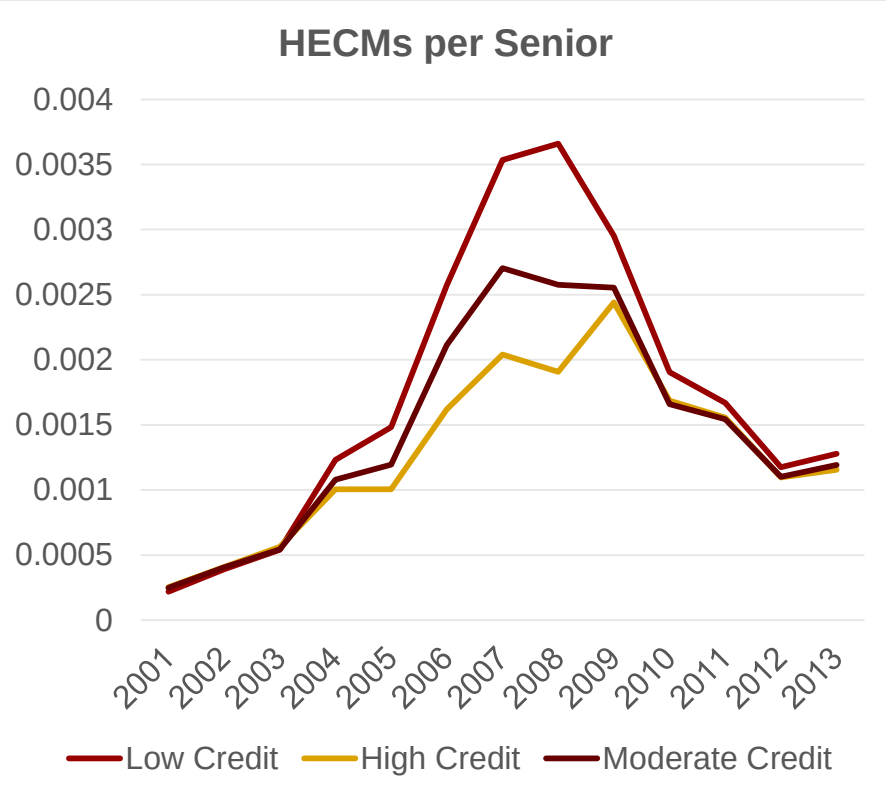
Origination Time Trends, by Channel



Source: Author's calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Loan Originations by Consumer Credit Conditions





Source: Author's calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

**Low credit areas are those in the top quartile for %seniors with Equifax Risk Scores under 720; high credit areas are those in the bottom quartile for %seniors with Equifax Risk Scores under 720.

Research Questions

How does home equity extraction, including but not limited to equity extracted through reverse mortgages, affect the financial well-being of seniors?

- Differences between extractors and non-extractors
  - ✓ Extracting equity through borrowing allows households to smooth consumption and access liquidity without the substantial costs of selling the home (Hurst and Stafford 2004; Mian and Sufi 2010; Mian and Sufi 2011); also may allow seniors to payoff higher cost debt, diversify asset portfolio and bring forward consumption
  - ✓ However, extracting equity raises overall LTV and monthly debt burdens; in 2006, extractors were 90 percent more likely to default on their mortgages within four years after extraction than non-extractors (Bhutta and Keys 2016)

- Differences by channel of extraction: HECMs
  - ✓ Unlike HELOCs, HECMs cannot be reset in future periods with decline in house values or borrower credit quality; limited underwriting for HECMs; federal insurance bears the cost of negative equity
  - ✓ Establishing a HECM may provide a buffer against financial shocks, thereby increasing liquidity and reducing default

Data Sources

New York Federal Reserve's Consumer Credit/Equifax Panel (CCP) database; 5% random sample, 40 million credit files per quarter (12 million age 62+)

- CCP Extractors: Consumers age 62 or older originating an extraction loan (HELOC, second loan or cash-out refinance) in 2008-2011
  - N=121,117
    - 54% HELOC; 26% CASH-OUT; 20% HELOAN
- CCP Non-Extractors: Consumers age 62 or older not originating an extraction loan at a similar baseline period, 20,000 randomly selected in each year from 2008-2011
  - N=80,000

Reverse Mortgage Credit Panel (RMCP) dataset; sample of seniors originating a HECM between 2008 -2011, annual credit data linked to HUD HECM loan data

- N=13,666
  - Of 378,503 HECM originations, about 3.5%

We follow each consumer in the credit data for 2 years prior to baseline (origination), at baseline (origination) and 3 years post baseline (origination)

- Unique consumers (without missing data)= 214,783
- # of Observations: 1,004,983

Methodology

FE Panel Regression (Differences in Differences)

$$y_{it} = a_i + \theta \text{Prior}_t + \lambda \text{Post}_t + \phi(\text{Channel}_{it} * \text{Prior}_t) + \delta(\text{Channel}_{it} * \text{Prior}_t) + \beta_j x_{it} + \varepsilon_{it}$$

y_{it} = credit card debt, installment debt, Equifax Risk Score, late payments, foreclosure
Prior = 1 if two years prior to baseline period (origination), 0 otherwise
Post = 1 if after baseline period (origination), 0 otherwise
Channel= dummy indicators for HELOC, FIRST, HELOAN and SECOND
X= control variables that vary over time and individual, including age and calendar year
*All models are estimated with individual fixed effects

Alternative specifications & robustness tests:

(1) Include period dummies, where each period (year) before and after baseline is interacted with the Channel treatment
(2) Include $ amount extracted up front by channel in addition to channel dummies, and their interactions
(3) Separately estimate the models for those with and without a prior credit shock
(4) Re-estimate the models with a matched sample of HECM borrowers, extractors and non-extractors, matching on baseline characteristics using CEM:
    - ZIP code, closing period, any mortgage balance (0 or 1), past due on mortgage (0 or 1), fico (in buckets) and credit shock

Summary Statistics

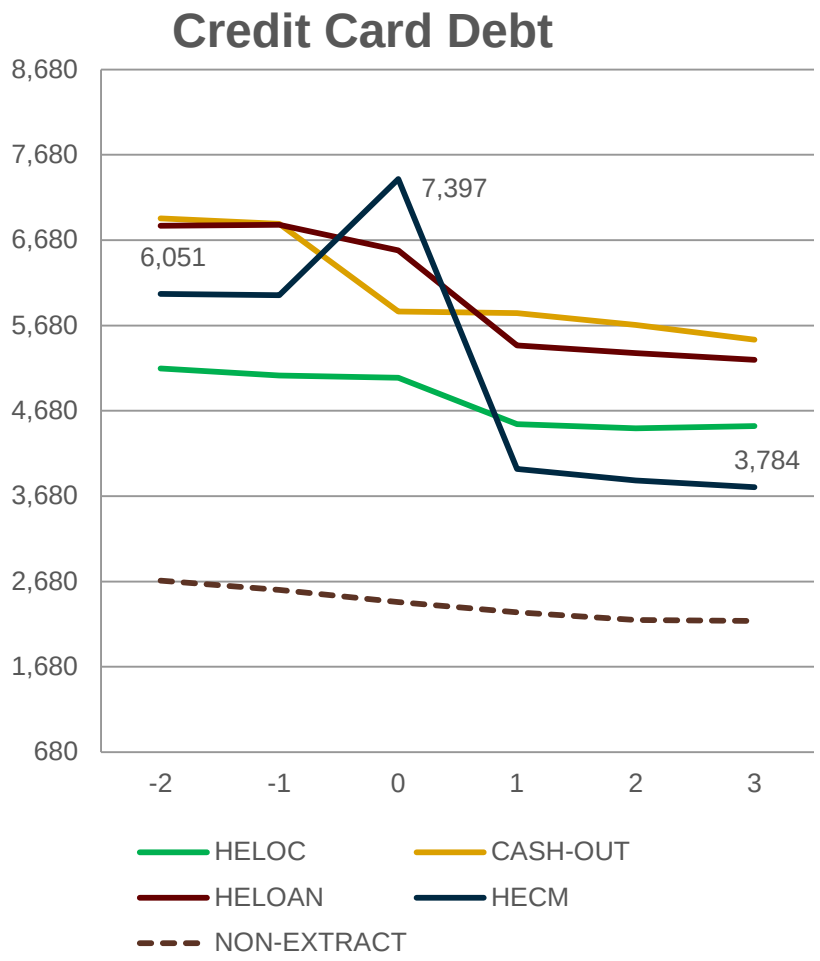
Baseline Characteristics

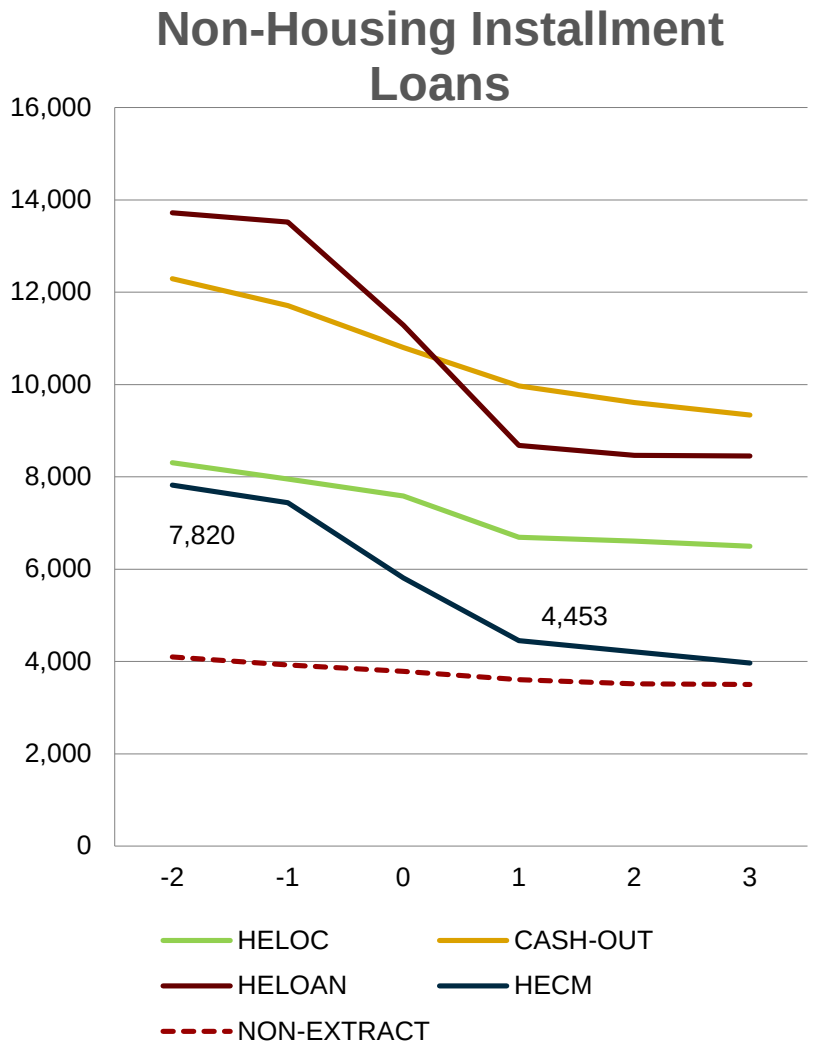
	Full sample 214,783		HECM 13,666	HELOC 64,743	CASH-OUT 31,812	HELOAN 24,562	Non-Extract 80,000
	Mean	Median	Mean	Mean	Mean	Mean	Mean
Credit card balance	$4,492	$839	$7,397	$4,996	$5,787	$6,561	$2,438
Installment loan balance	$6,875	$0	$5,812	$7,377	$10,670	$11,288	$3,787
Equifax Risk Score	756	784	695	782	755	743	750
Any >60 days past due	0.093		0.247	0.021	0.090	0.115	0.116
Any foreclosure on file	0.0069		0.0014	0.0008	0.0074	0.0202	0.0084
Extraction $ (ten thousands)	$2.89	$0.00	$4.84	$2.08	$9.57	$4.66	0.00
Mortgage balance	$73,613	$19,694	$60,841	$88,516	$159,684	$87,000	$25,398
Δ Equifax Risk Score	1.21	2.00	-12.34	2.55	1.76	-0.52	3.05
Credit shock	0.164		0.290	0.128	0.176	0.185	0.156
Age of borrower	70.57	68.00	72.04	68.58	67.93	68.49	73.61

Includes consumers age 62 and older extracting equity between 2008 and 2011 and a random sample of non-extractors during the same period; baseline characteristics as of the time of extraction

Data Source: Authors calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Descriptive Trends





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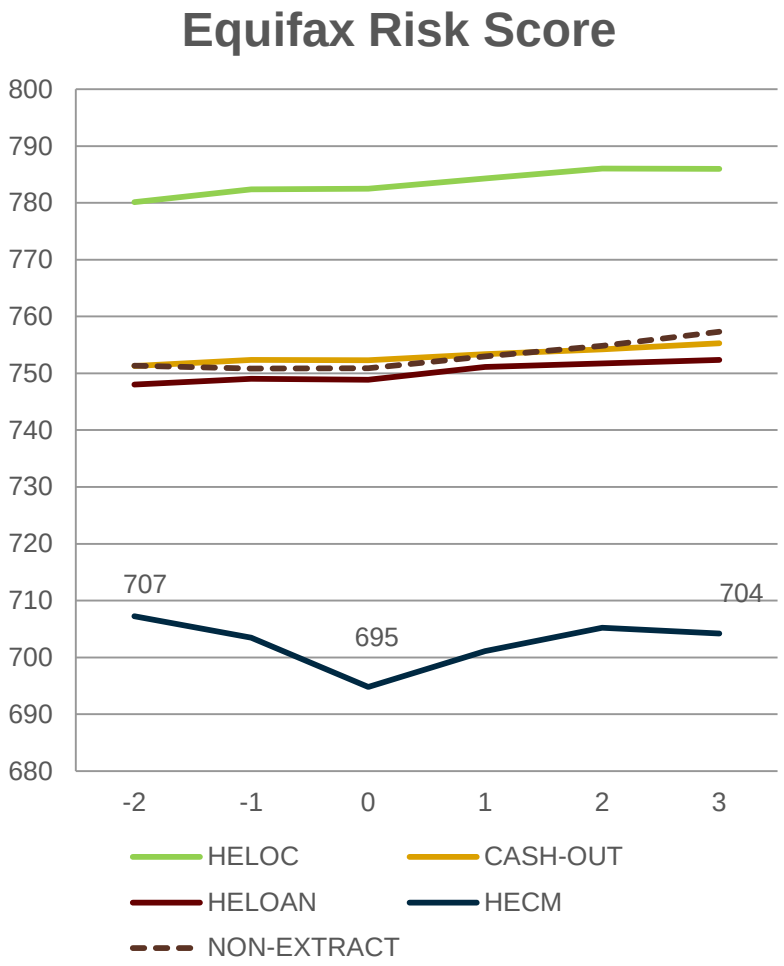

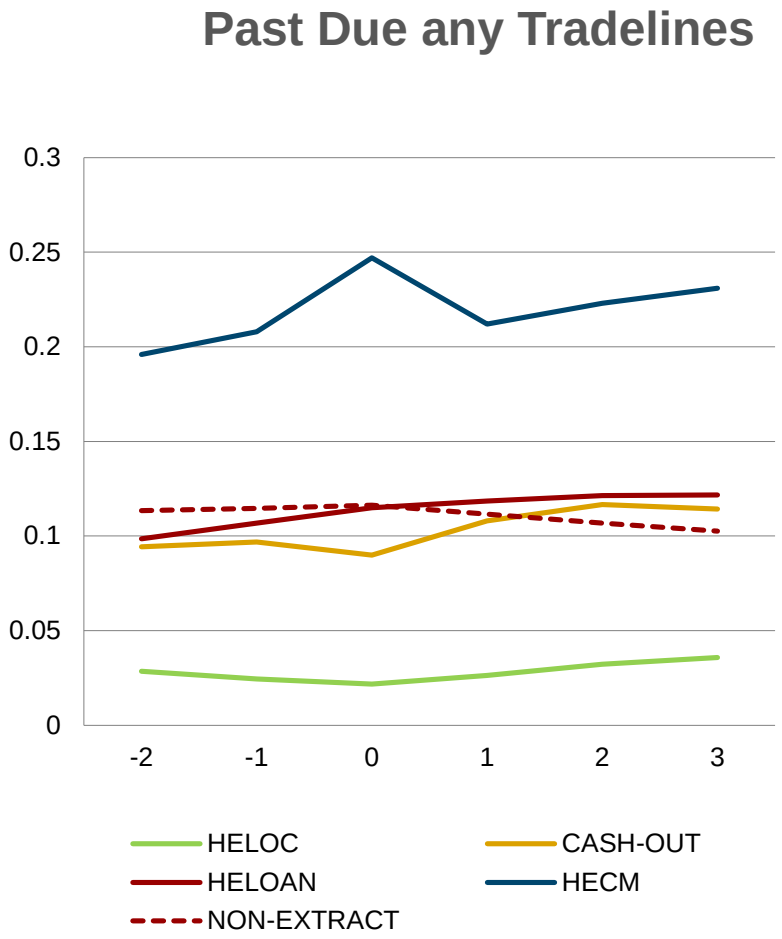

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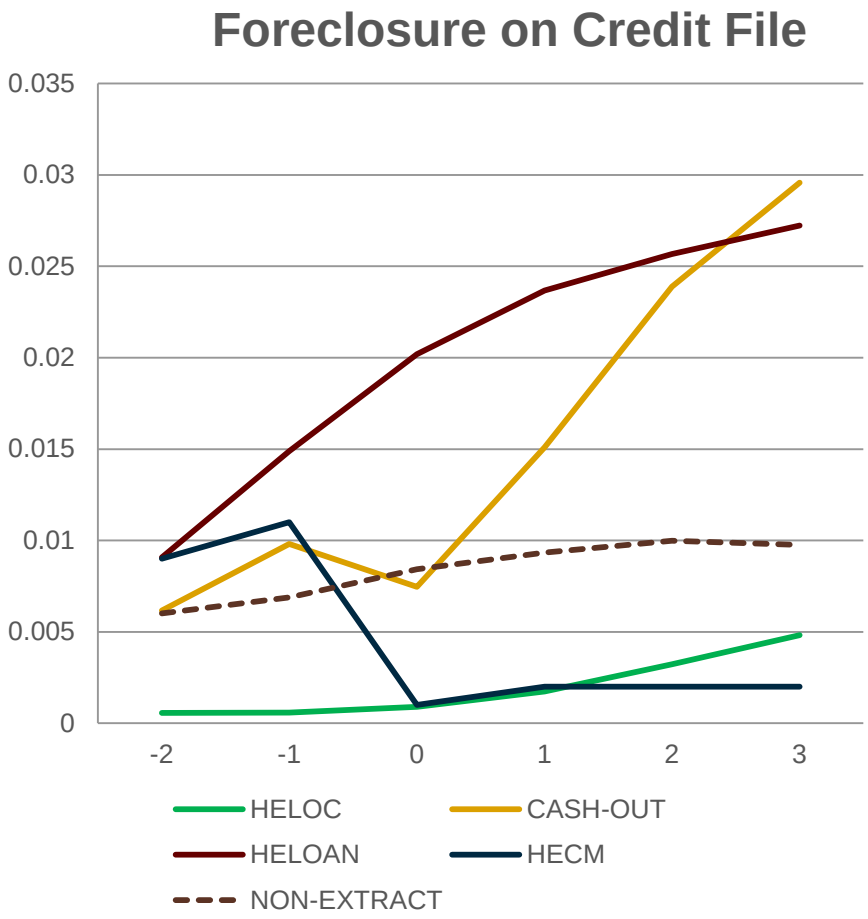

Source: Author's calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Difference in Difference Results

Fixed Effects Panel Regression, Extraction Channel on Credit Outcomes

	(1) Credit Card Balance	(2) Installment Balance	(3) Equifax Risk Score	(4) Past Due (any)	(5) Foreclosure
Prior (2 yrs)	-36.69	43.24	-0.150	0.014***	0.006***
Post baseline	-70.48***	42.96	1.048***	-0.012***	-0.004***
HELOC*Post	-160.8***	-314.1***	0.445**	0.013***	0
CASH-OUT*Post	235.8***	-506.4***	-1.775***	0.028***	0.014***
HELOAN*Post	-831.8***	-2,134***	1.416***	0.010***	0.003***
HECM*Post	-3,301***	-1,157***	4.692***	-0.019***	0
Channel*Prior	Y	Y	Y	Y	Y
Year & age dummies	Y	Y	Y	Y	Y
Constant	21,394	4,968	536.8***	-0.440	-0.200
Observations	1,004,983	1,004,983	998,915	1,002,451	1,004,983
R-squared	0.016	0.008	0.006	0.002	0.005
Number of cid_num	214,899	214,899	214,699	214,858	214,899

All models estimated with individual fixed effects and robust standard errors

*** p<0.01, ** p<0.05, * p<0.1

Data Source: Authors calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Difference in Difference, by Period

Fixed Effects Panel Regression, Channel by Time Period on Credit Outcomes (Only HECM Results shown)

	(1) Credit Card Balance	(2) Non-Mortgage Debt Balance	(3) Equifax Risk Score	(4) Past Due (any)	(5) Foreclosure
HECM*Prior	-1,910***	-555.7**	14.24***	-0.0514***	0.0094***
HECM*Post 1 yr	-3,275***	-4,219***	3.866***	-0.0310***	-0.0003
HECM*Post 2 yrs	-3,334***	-4,673***	5.974***	-0.0167***	-0.0004
HECM*Post 3 yrs	-3,306***	-5,166***	4.205***	-0.0093**	0
Channels*Periods	Y	Y	Y	Y	Y
Year and age dummies	Y	Y	Y	Y	Y
Constant	24,194*	24,339	545.9***	0.645	-0.188
Observations	1,004,983	1,006,904	998,915	1,002,451	1,004,983
Number of cid_num	214,899	214,899	214,699	214,858	214,899

All models estimated with individual fixed effects and robust standard errors

*** p<0.01, ** p<0.05, * p<0.1

Data Source: Authors calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Difference in Difference, Initial Extraction Amount

Fixed Effects Regression, Channel & Amount on Credit Outcomes

	(1) Credit Card Balance	(2) Installment Balance	(3) Equifax Risk Score	(4) Past Due (any)	(5) Foreclosure
HELOC*Post	-82.81**	-118.8	0.996***	0.0112***	-0.0006*
HELOC $*Post	-36.52***	-59.97**	-0.252***	0.0006***	0.0002***
CASH-OUT*Post	162.0**	-287.5*	-0.271	0.0194***	0.0105***
CASH-OUT $*Post	8.790*	-15.03	-0.138***	0.0008***	0.0003***
SECOND*Post	-636.2***	-418.7**	2.457***	0.0031	-0.0006
SECOND $*Post	-41.12***	-369.7***	-0.221***	0.0014***	0.0008***
HECM*Post	-2,862***	-920.1***	4.137***	-0.0188***	-0.0008
HECM $*Post	-92.09***	-52.45*	0.110	0	0.0001
Channel*Prior	Y	Y	Y	Y	Y
Prior & Post dummies	Y	Y	Y	Y	Y
Year & age dummies	Y	Y	Y	Y	Y
Observations	1,004,983	1,004,983	998,915	1,002,451	1,004,983
Number of cid_num	214,899	214,899	214,699	214,858	214,899

All models estimated with individual fixed effects and robust standard errors
*** p<0.01, ** p<0.05, * p<0.1

Over 3 years, an Initial extraction amount of $10k = $3k reduction in credit card debt;

Extraction amount of $80k = $3.6k reduction in credit card debt

Data Source: Authors calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Difference in Difference, Credit Shock Subsamples

Fixed Effects Sub-Sample Regressions, by Prior Credit Shock

	Credit Card Balance		Past Due (any)		Foreclosure	
	With prior credit shock	No prior credit shock	With prior credit shock	No prior credit shock	With prior credit shock	No prior credit shock
HELOC*Post	-1,193***	-233***	0.037***	0.007***	-0.004**	0.001***
CASH-OUT*Post	-942***	525***	0.032***	0.028***	0.027***	0.012***
SECOND*Post	-2,088***	-489***	-0.018**	0.018***	0.004	0.002***
HECM*Post	-5,326***	-2,372***	-0.056***	0.003	-0.003**	0
Channel*Prior	Y	Y	Y	Y	Y	Y
Year & age dummies	Y	Y	Y	Y	Y	Y
Observations	138,606	718,971	138,606	718,971	138,606	718,971
R-squared	0.064	0.015	0.079	0.008	0.021	0.004
Number of cid_num	29,027	148,199	29,027	148,199	29,027	148,199

All models estimated with individual fixed effects and robust standard errors

*** p<0.01, ** p<0.05, * p<0.1

Data Source: Authors calculations from HUD HECM data and the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP)

Discussion

Credit trends pre and post extraction vary considerably by extraction channel:

- ✓ Seniors extracting equity through HECMs are more likely to undergo a **credit shock** within the 2 years prior to extraction; these consumers appear to have the most improvement in credit outcomes after extraction;
  - Compared to non-extractors, borrowers using other channels of extraction not more likely to have had a prior credit shock
  - Seniors extracting equity through HELOCs have stronger credit profiles that remain relatively stable pre and post extraction

- ✓ Increase in **foreclosure risk** for cash-out and second lien borrowers, while HELOC and HECM borrowers not significantly more likely to experience foreclosure (relative to non-extractors) post extraction (although the risk increases for HELOC borrowers as they extract more $ up front)

- ✓ HECM borrowers have a spike in **credit card balances** prior to origination of the HECM, and then a sharp decline in credit card balances that persists thereafter; this is a unique pattern not observed for other extraction channels
  - May indicate need for liquidity that is met with credit cards in the short term, and then substituted with home equity borrowing through a HECM; to the extent that HECM borrowing is lower cost than credit card borrowing, could lead to improved financial well-being

Policy Implications

- As of April 2015 HECM lenders must assess a borrower's "ability to pay" and follow minimum credit, debit and affordability standards
  - In a prior paper, we estimate a **6 percent reduction in HECM volume** due to the **credit portion of the policy**, based on the proportion of households who would "fail" the criteria and be unable to afford an escrow for taxes and insurance.
  - We estimate that the policy could reduce tax and insurance default by as much as **40 percent**.

- Important to monitor how seniors seeking HECMs are being affected by the policy change
  - Are those seniors who experienced a prior credit shock less likely to be approved for a HECM post the policy change? What happens to the credit profiles (e.g. card balances, payment delinquencies) of seniors who are unable to borrow through a HECM?
  - A policy challenge for the HECM program moving forward is to preserve access of the program to seniors who may be cut-off from other home equity borrowing channels, while minimizing the risk that borrowers will be unable to afford to maintain the home, including payment of property taxes and homeowners insurance.

Research Program (2012-2017)

1. Empirical Modeling of Reverse Mortgage Borrower Behavior
   - Take-up of HECMs (and other equity extraction products among seniors)
   - HECM technical default (property tax and insurance default)
   - HECM loan terms, withdrawal behaviors and termination outcomes
   - Equity extraction (including HECMs) and longer term credit outcomes

2. Survey of Counseled Seniors
   - Longer term well-being of HECM borrowers
   - May 2014-July 2015, about 2,000 respondents: (1) current HECM borrowers, (2) terminated HECM borrowers, and (3) seniors who sought counseling but did not get a reverse mortgage.

3. Post Origination Monitoring Pilot
   - RCT design; financial planning and reminders after closing
   - Launched January, 2015

Thank You!

How Home Equity Extraction and Reverse Mortgages Affect the Financial Well-Being of Senior Households: A Discussion

Lori A. Trawinski, Ph.D., CFP®
Director, Banking and Finance
AARP Public Policy Institute

Retirement Research Consortium
August 4, 2016

AARP® Real Possibilities
Public Policy Institute

Why is this paper important to a discussion about resources for retirees?

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What do the results tell us?

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Policy Implications

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Suggestions for further research

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The Potential Impact of State Mandated Pension Programs on Retirement Savings

Barbara Butrica and Karen Smith
Urban Institute

August 4, 2016

Research Question

- Problem: low retirement savings
  - Workers with employer-sponsored retirement plans save more than those without (EBRI 2016)
  - Yet one in three private-sector workers are in jobs that don't offer retirement plans (BLS 2015)
- Possible solution: employer IRAs
  - Mark Iwry and David John proposed workplace automatic IRAs
  - Since 2012, 31 states have enacted, proposed, or considered legislation that would mandate employer pension plans (Pew 2016)
- This paper analyzes the potential impact of state mandated pension programs on retirement savings

Methods

- Urban Institute's DYNASIM microsimulation model
- Starts with individuals from 1990 to 1993 panels of the Survey of Income and Program Participation (SIPP)
- Ages them each year to 2087 using parameters estimated from longitudinal data sources
- Projects important lifecourse events such as birth, schooling, marriage, work, disability, retirement, and death
- Projects earnings, job changes, employer-sponsored retirement plans, participation, and contributions
- Also projects the major sources of retirement wealth and income

Primary Policy Simulation

- Employers that do not offer a pension plan will offer a mandated plan beginning in 2020
  - Only employers with firm size > 10 employees
  - Mandated plan is a Roth IRA
  - No employer contribution
- Automatic enrollment
  - 3% default contribution rate
  - Assigned to 1 of 40 target date funds
  - Portfolios are rebalanced annually to maintain TDF glide path based on worker's age
- Workers may opt out

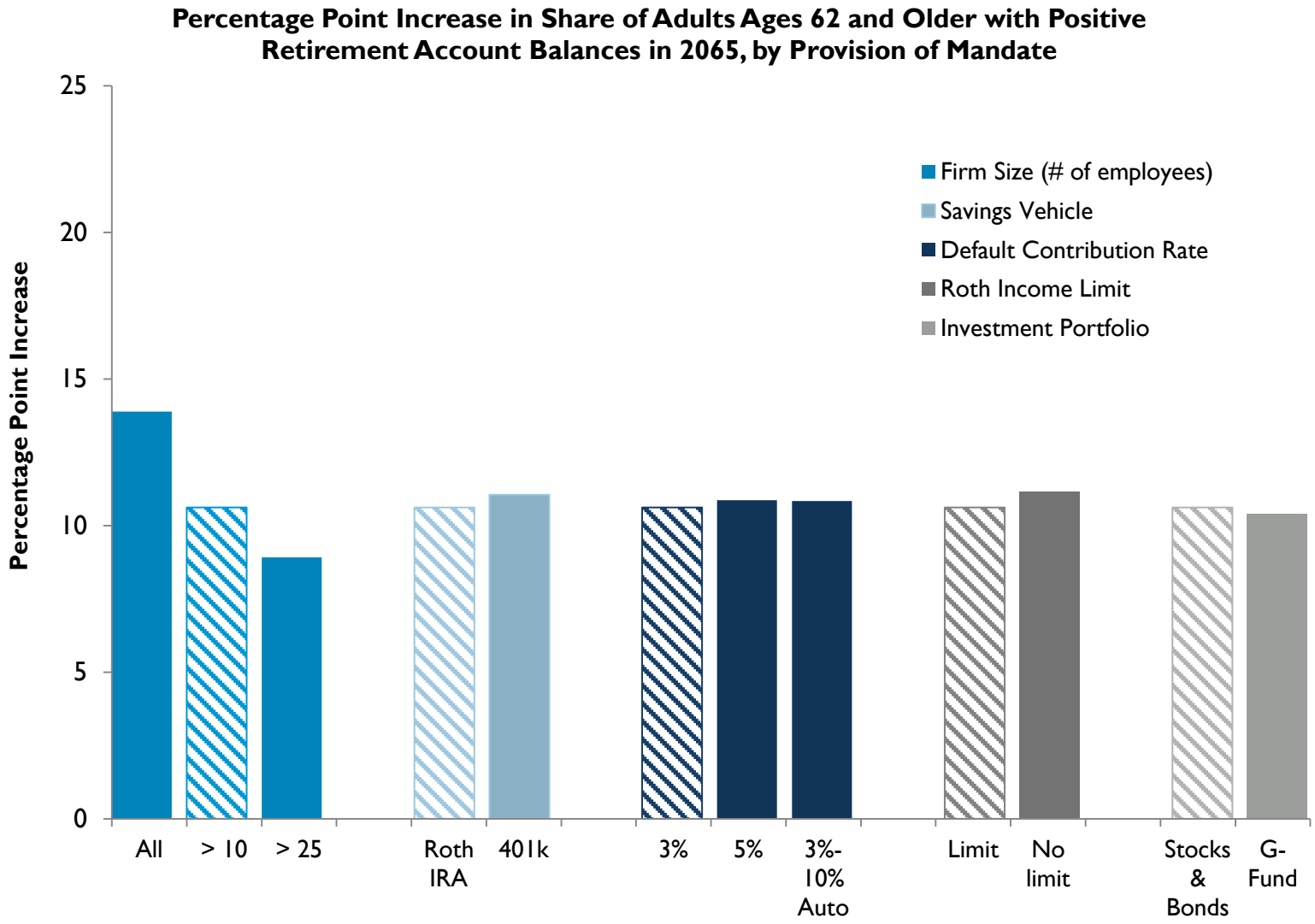
Analysis

-
-
- Vary provisions of the primary policy simulation
  - Firm size (# employees covered by mandate)
  - Savings vehicle (Roth IRA vs. 401k)
  - Default contribution rate
  - Roth income limit
  - Investment portfolio

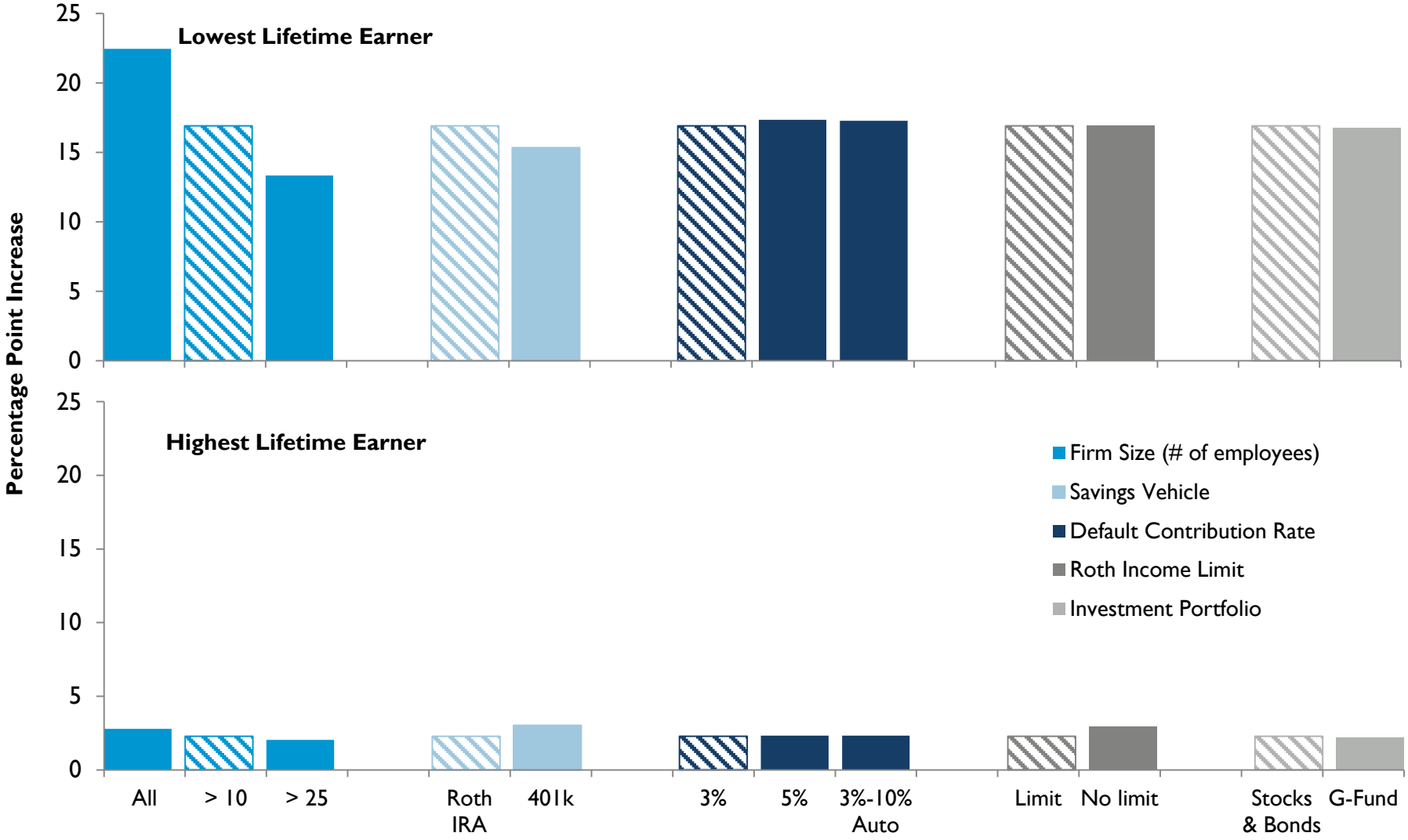
FINDINGS

Adults Ages 62 and Older in 2065

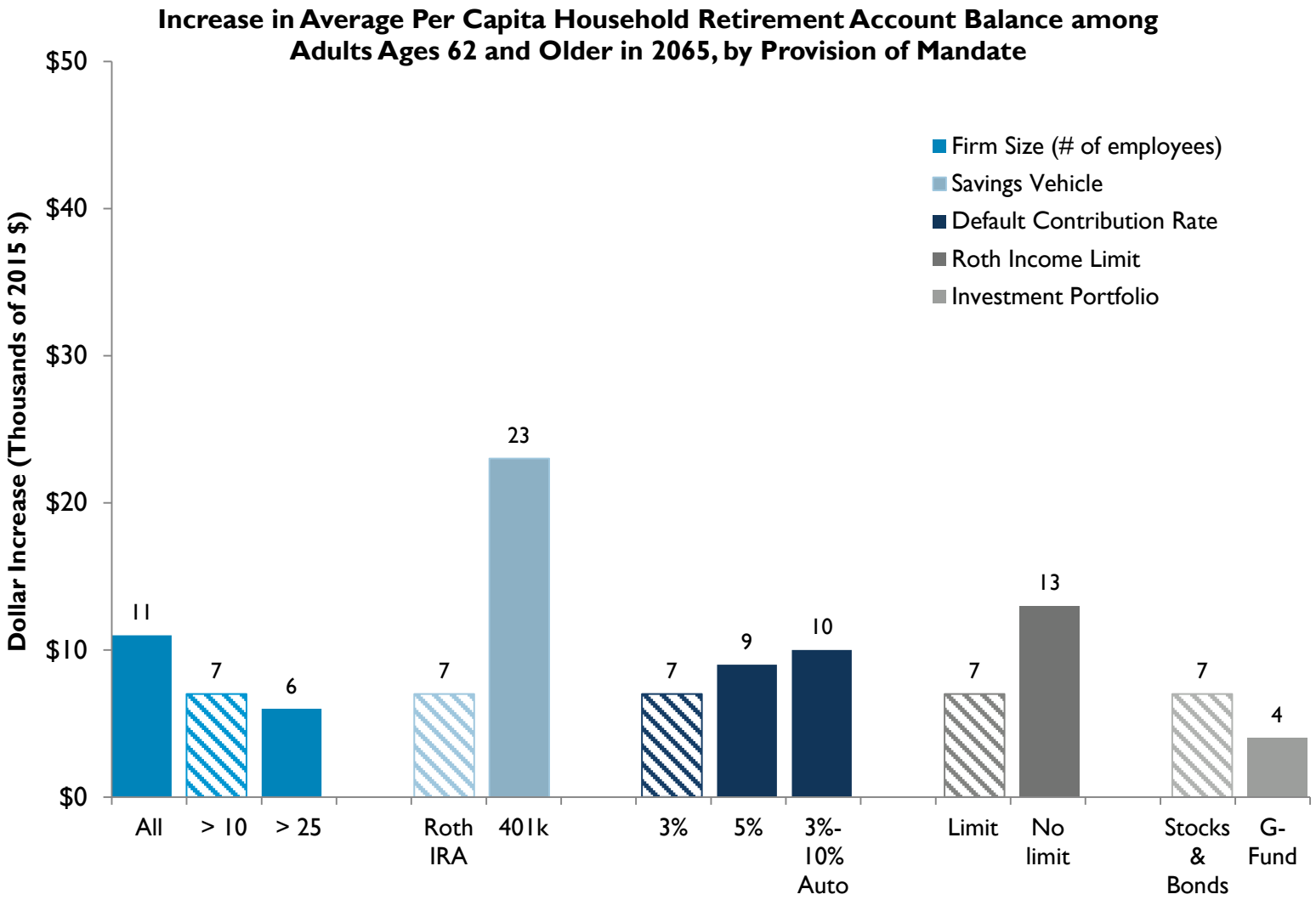
The share of older adults with positive account balances increases by 11 percentage points under most provisions.



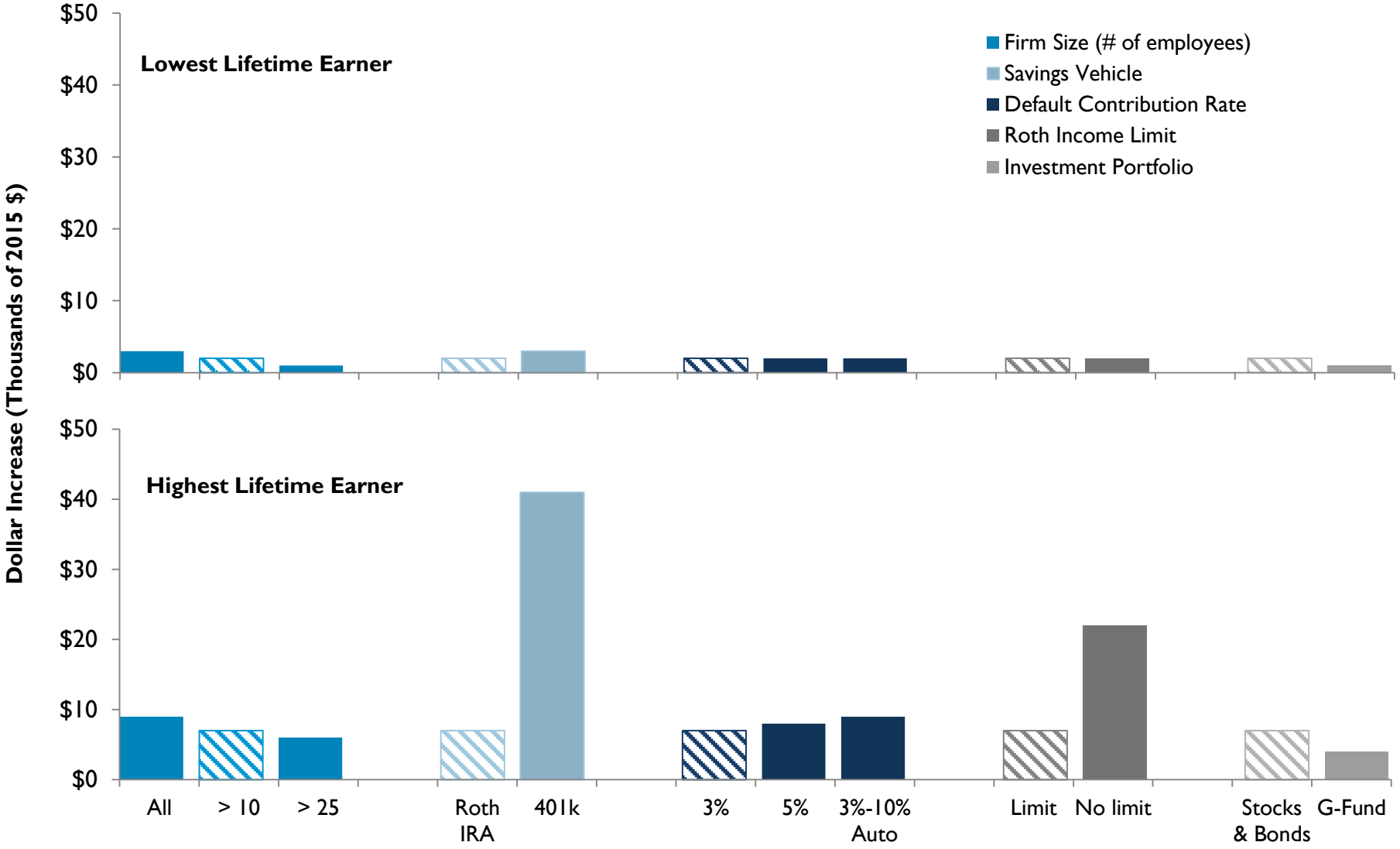
The mandates have a significantly larger impact on participation for the lowest lifetime earners.



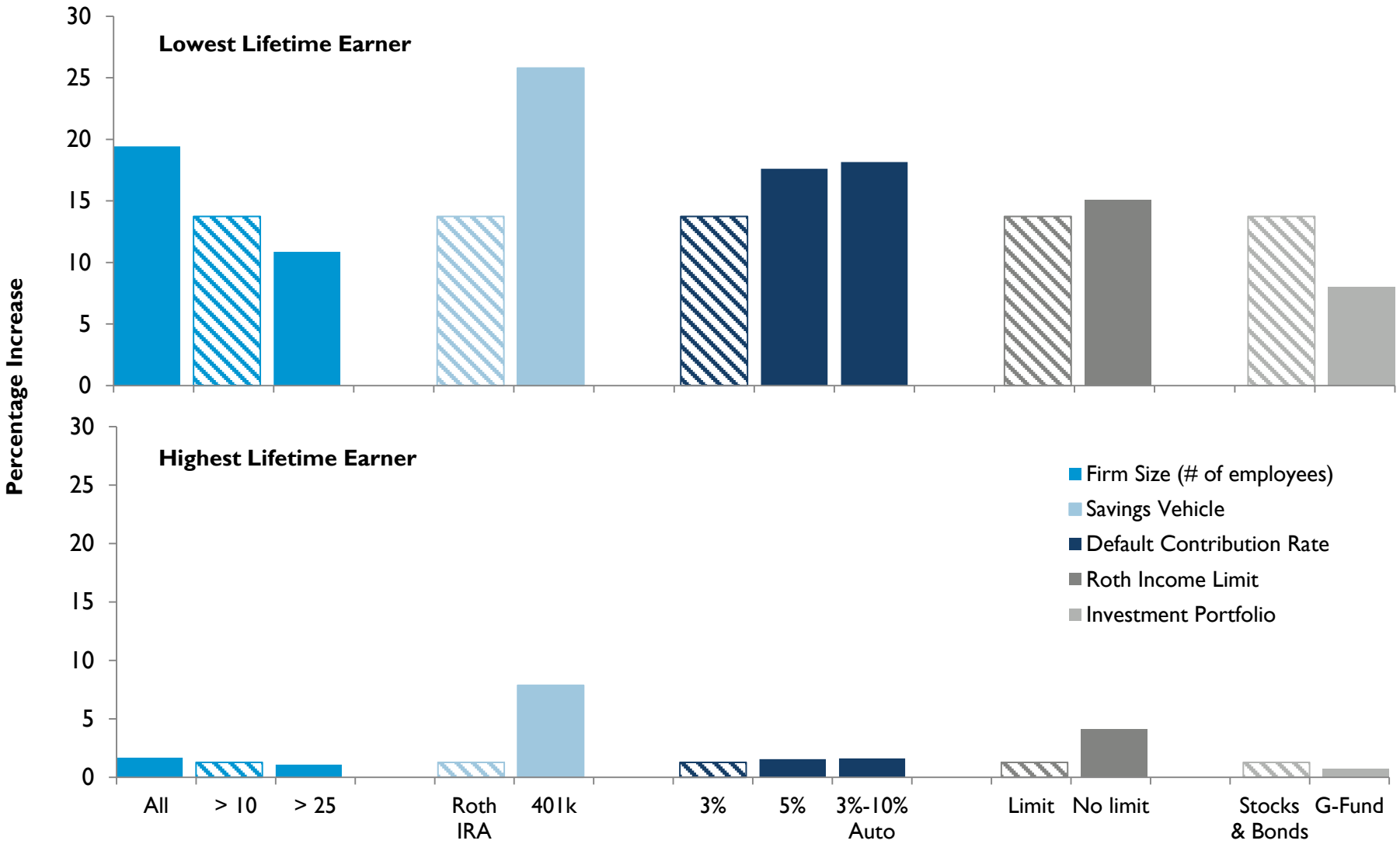
The increase in average account balances is $4,000 to $23,000 per person depending on the provision.



The mandates increase retirement account balances by the most dollars for the highest lifetime earners.



But they increase retirement account balances by the largest percentage for the lowest lifetime earners.

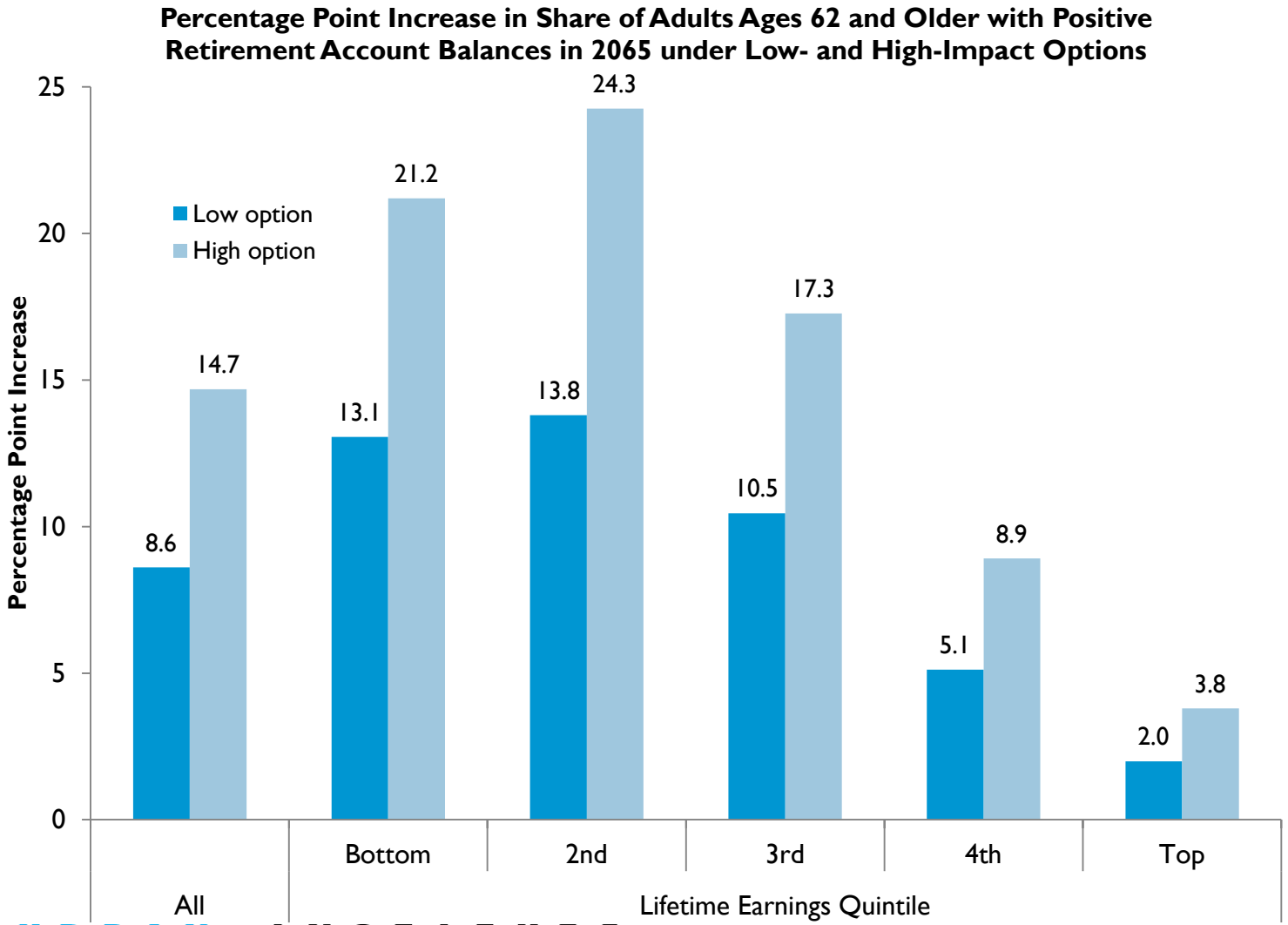


LOW-IMPACT vs. HIGH-IMPACT OPTION

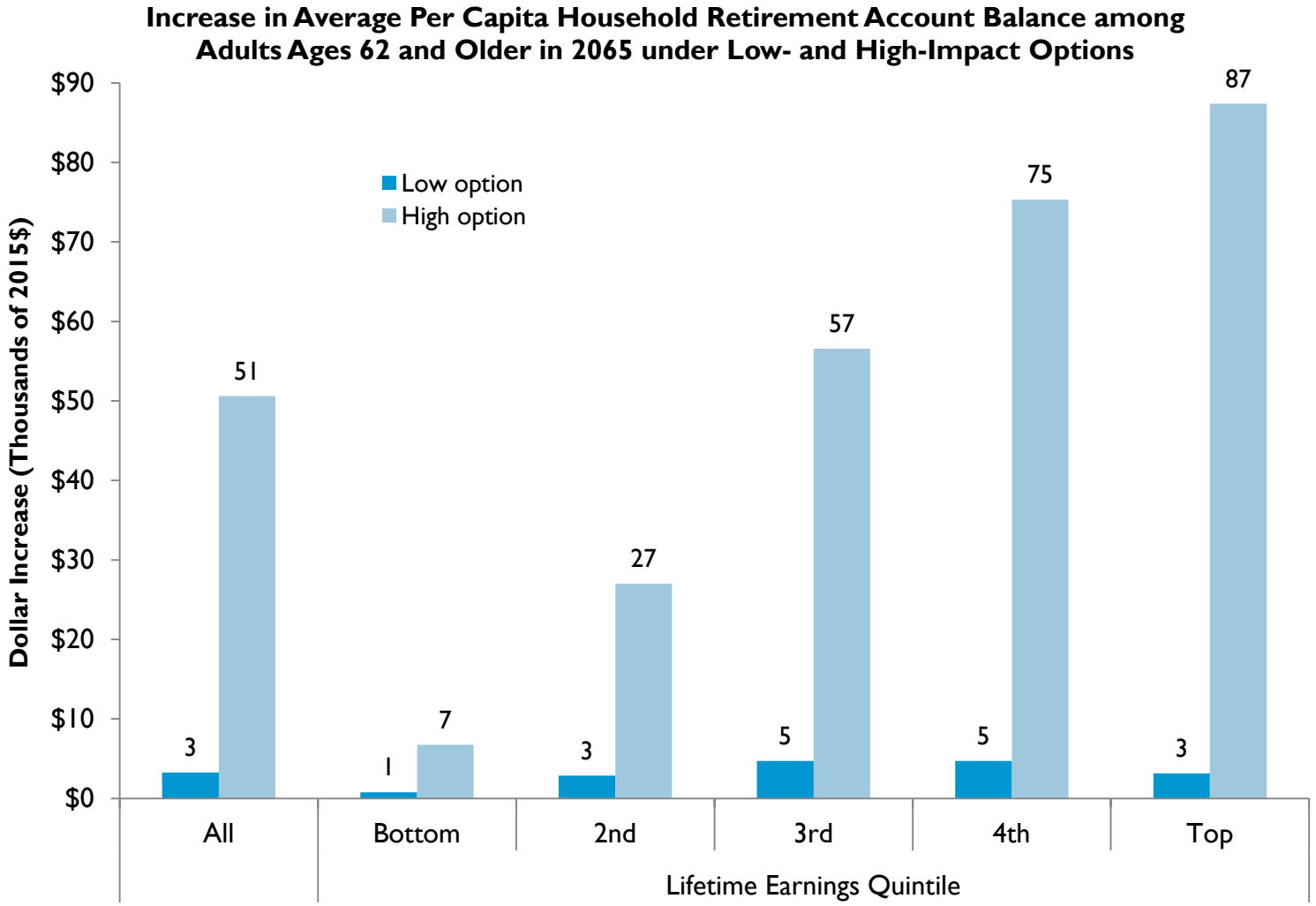
Parameters of the low- and high-impact options

Option	Firm Size	Savings Vehicle	Default Contribution Rate	Roth Income Limit	Investment Portfolio
Low-impact	> 25	Roth	3%	Yes	G Fund
High-impact	> 0	401k	3% up to 10%	No	Stocks/bonds

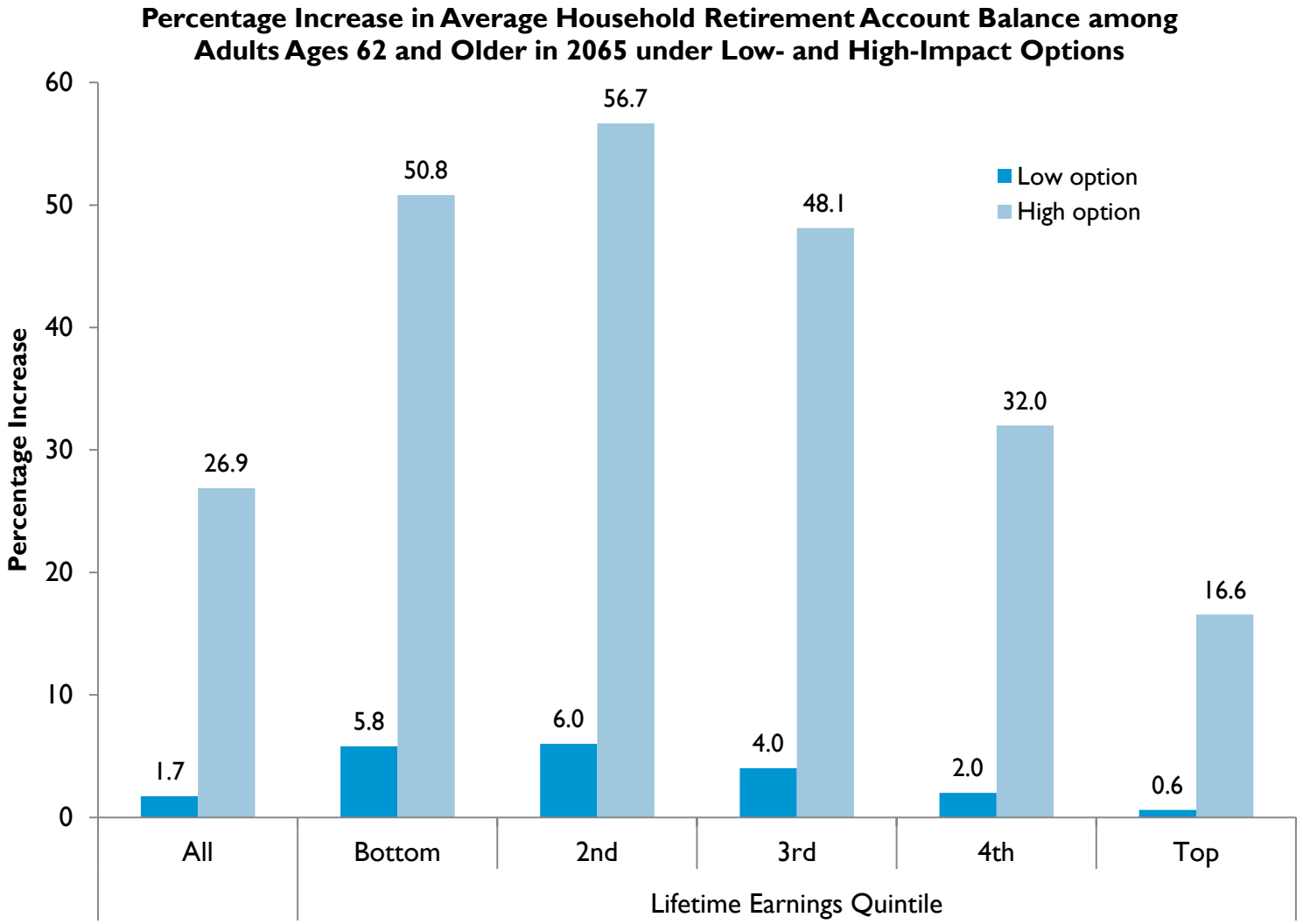
Share with positive retirement account balances is 6 percentage points more under the high-impact option.



Average balances increase $51,000 per person under the high-impact option and $3,000 under the low-impact option.



Represents an increase of 27 percent under the high-impact option and only 2 percent under the low-impact option.



Conclusions

- Employer mandates increases participation and retirement savings, but depends on:
  - Coverage
  - Contribution limits and tax treatment
  - Default contribution rate
  - Income limits
  - How portfolios are invested
- Certain provisions matter a lot for certain outcomes, others do not

Conclusions

- The smallest savings increase comes when mandate:
  - Restricts firm size > 25 workers
  - Uses Roth IRA contribution limits and tax treatment
  - Sets low default contribution rates
  - Has income limits
  - Invests in low risk/low return instruments
- The largest savings increase comes when mandate:
  - Covers all workers
  - Uses 401k contribution limits and tax treatment
  - Sets high default contribution rates with autoescalation
  - Has no income limits
  - Invests in stocks and bonds

Conclusions

- Absolute savings increase is bigger for higher lifetime earners
- Percent savings increase is bigger for lower lifetime earners
- Biggest percent increase happens for middle lifetime earners
  - More able to save than lower earners
  - More likely to gain coverage and less likely to be affected by contribution and income limits than higher earners

Conclusions

- Characteristics of workers impacted by the mandate differ from baseline covered workers:
  - Younger
  - Lower earners
  - More intermittent work histories
- Participation rate conditional on an offer is lower than for baseline covered workers
- Contribution rate conditional on making a contribution is lower than for baseline covered workers
- More likely to cash out than baseline covered workers

AARP Public Policy Institute

The Potential Impact of State-Sponsored Retirement Savings Plans

August 4, 2016

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AARP Public Policy Institute

Deputy Director
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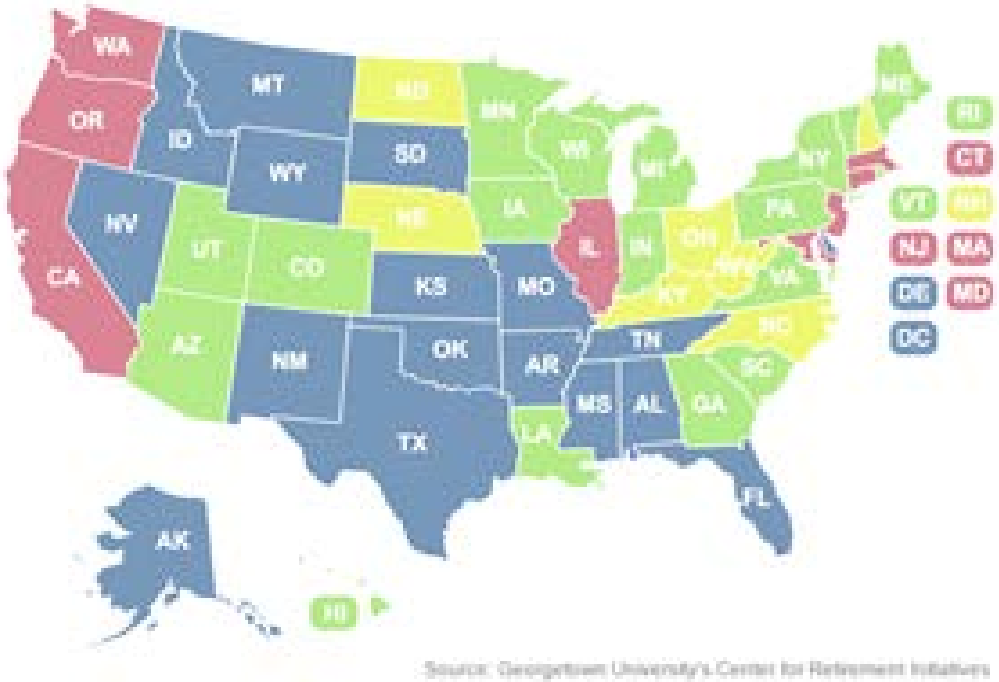
The Brookings Institution

AARP

MORE THAN 30 STATES HAVE TAKEN ACTION SINCE 2012

cri.georgetown.edu/states/all-states/



Source: Georgetown University's Center for Retirement Initiatives

= legislative proposal and/or study in 2016

= laws enacted (2012-present)

= recent state efforts (2012-2015)

Studying Retirement Insecurity	Feasibility Study	Marketplace	Voluntary IRA	Auto IRA	ERISA Plans/ DB features
Utah	Minnesota	Washington*	West Virginia	Illinois*	Wisconsin
Virginia	California	Maine	North Dakota	Oregon*	Massachusetts**
Vermont	Connecticut	New Jersey*	Indiana	Connecticut*	
New Hampshire			Utah	Maryland*	
Nebraska				New Jersey	
NYC				Kentucky	
Philadelphia				Ohio	
				California	
				Colorado	
				New Jersey	
				New York	
				Arizona	
				Kentucky	
				Rhode Island	

Covered Businesses

- Auto IRA: Employers with 10+ employees
- California: All employers, phased in over three years
- Connecticut: Employers with 5+ employees
- Illinois: Employers with 25+ employees
- Maryland: Employers using a payroll system or service
- Oregon: All employers

Default Contribution Amounts

- Auto IRA: 3%
- California: 3%, auto-escalated up to 8%
  Board may set at between 2% and 5%
- Connecticut: 3% (was 6% initially)
- Illinois: 3%
- Maryland: Set by board (was 3%)
- Oregon: Board sets & can allow auto-escalation

“Politics is the art of the possible, the attainable — the art of the next best”

– Otto von Bismarck

Auto by Age & Income

Automatic enrollment: The power of the default, Vanguard 1/15/2015

Employees hired 1/1/2010 through 12/31/2012 as of 6/30/2013

Income Level	Voluntary	Auto
Under $30,000	22%	87%
30,000 – 49,999	41	90
50,000 – 75,000	49	93
Age		
Under 25	26%	90%
25 – 34	43	91
35 – 44	47	91

Low-income employees' contribution rate choices in a neighborhood of the default are more concentrated at the default. The average income of employees remaining at the contribution rate default is below that of those who opt out, even when the default is far from what the typical low-income employee actively chooses.

"Persistence at the Default Among Low-Income Individuals" John Beshears, James J. Choi, David Laibson, and Brigitte C. Madrian,

Using Retirement Savings to Boost Social Security Benefits

- A delay in taking Social Security benefits boosts them by up to 8% for ever year of delay.
- A $24,000/year worker who save 3% of income for 30 years would accumulate enough to live on for two years + having 3 months income for emergencies.
- Assumes a 5% rate of return.

Emergency Saving to Reduce Leakage

- Auto enroll in a dual track system with two accounts:
  - Regular retirement account
  - Passbook savings account for emergencies
- Contributions split between two accounts (cap on emergency savings).
- Provides more immediate value & funds for emergencies other than the retirement account

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Yale SCHOOL OF MANAGEMENT

Does borrowing undo automatic enrollment's effect on savings?

John Beshears
James J. Choi
David Laibson
Brigitte C. Madrian
William L. Skimmyhorn

Standard disclaimer

The views expressed herein are those of the authors and do not reflect the views or position of SSA, the United States Military Academy, the Department of the Army, the Department of Defense, any agency of the federal government, Harvard, Yale, or the NBER.

Additional disclaimer

Research question

How much is saving induced by automatic enrollment offset by borrowing outside the savings plan?

Setting

- U.S. Army civilian employees
- Before August 1, 2010, opt-in enrollment
- Starting August 1, 2010, automatic enrollment
  - 3% of income default contribution rate
  - 100% in U.S. Treasury fund default
- 1% of income non-contingent employer contribution
- First 3% of income contributed matched at 100% rate, next 2% at 50%

Data

- Payroll records from Dept. of Defense, 2007 – 2015
- Employee demographic info from Dept. of Defense
- Year-end credit records from national credit bureau, 2009 – 2015

Empirical strategy

Compare two hire cohorts to each other at equivalent levels of tenure

- August 1, 2009 – July 31, 2010 hires
- August 1, 2010 – July 31, 2011 hires

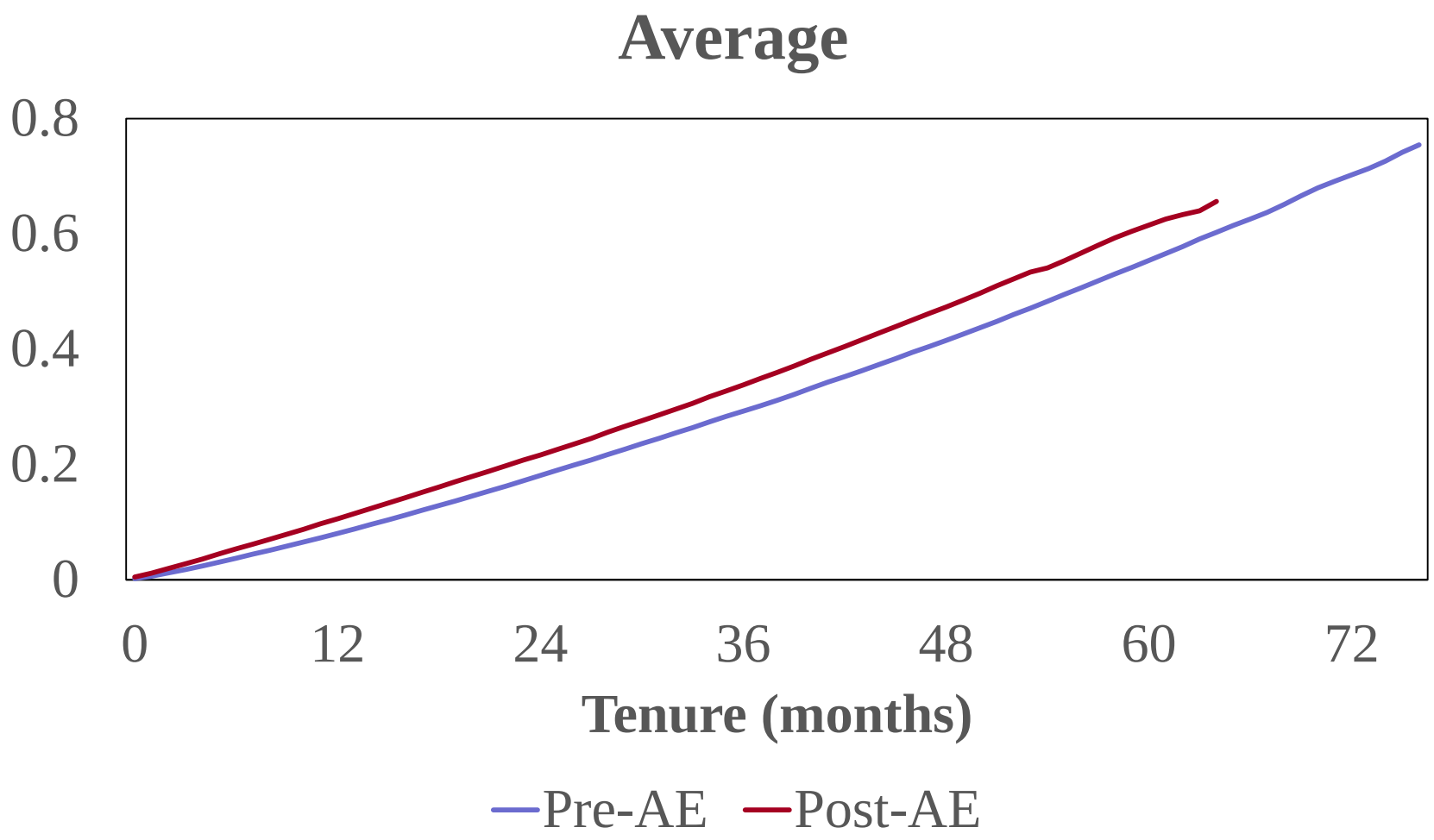
Cohort comparison

	Pre-AE	Post-AE
Avg. annualized starting salary	$53,002	$52,660
Avg. age at hire	39.5	39.8
% hourly worker	10.2%	9.5%
% male	60.9%	61.3%
% with credit report at year-end prior to hire	82.6%	82.8%
N	33,987	26,835

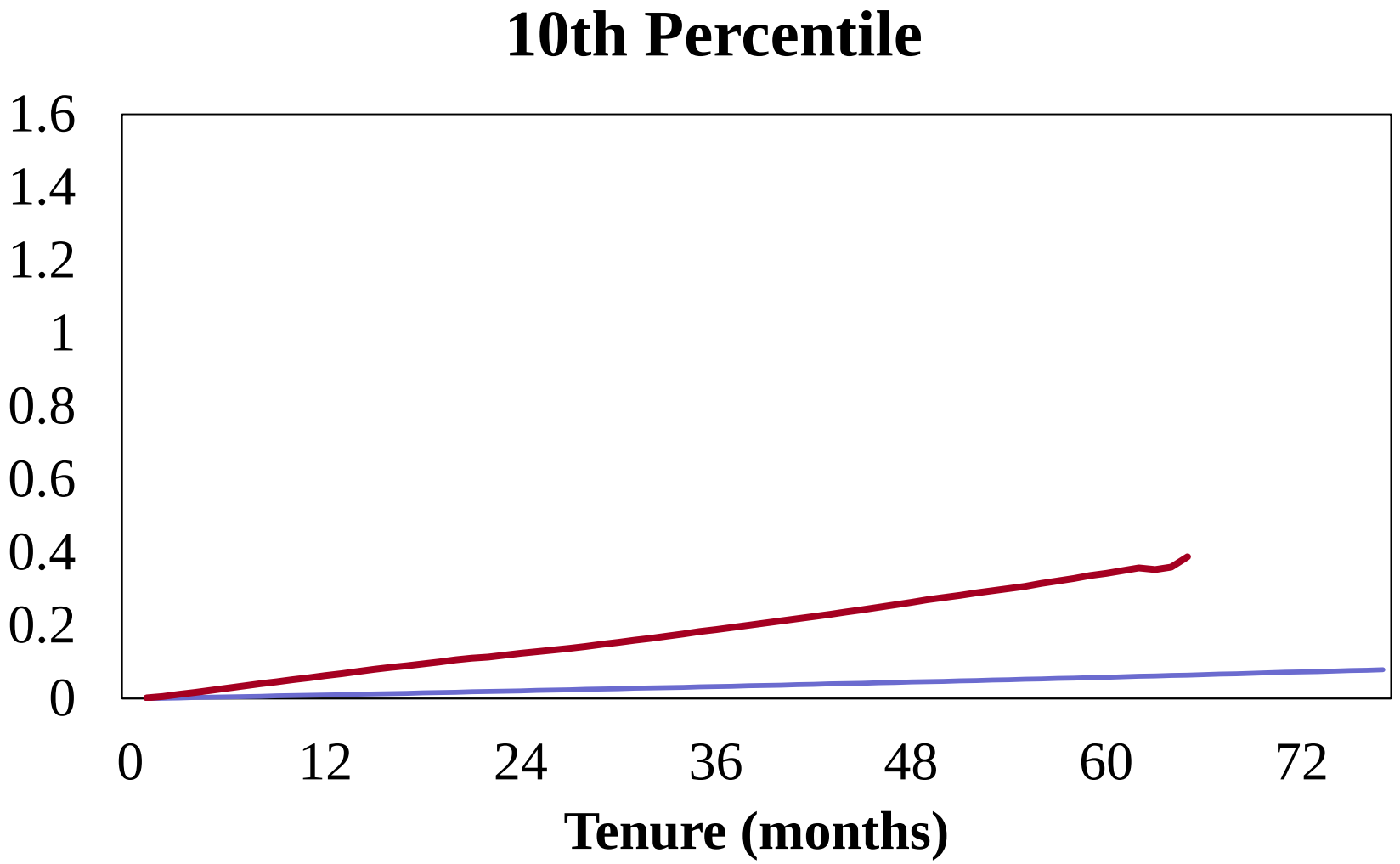
Main outcomes

- Cumulative TSP contributions (employee + employer) to first-year pay ratio
- Change in "net wealth" since hire
  - Cumulative TSP contributions minus non-student/mortgage/auto debt
- Change in Vantage credit score

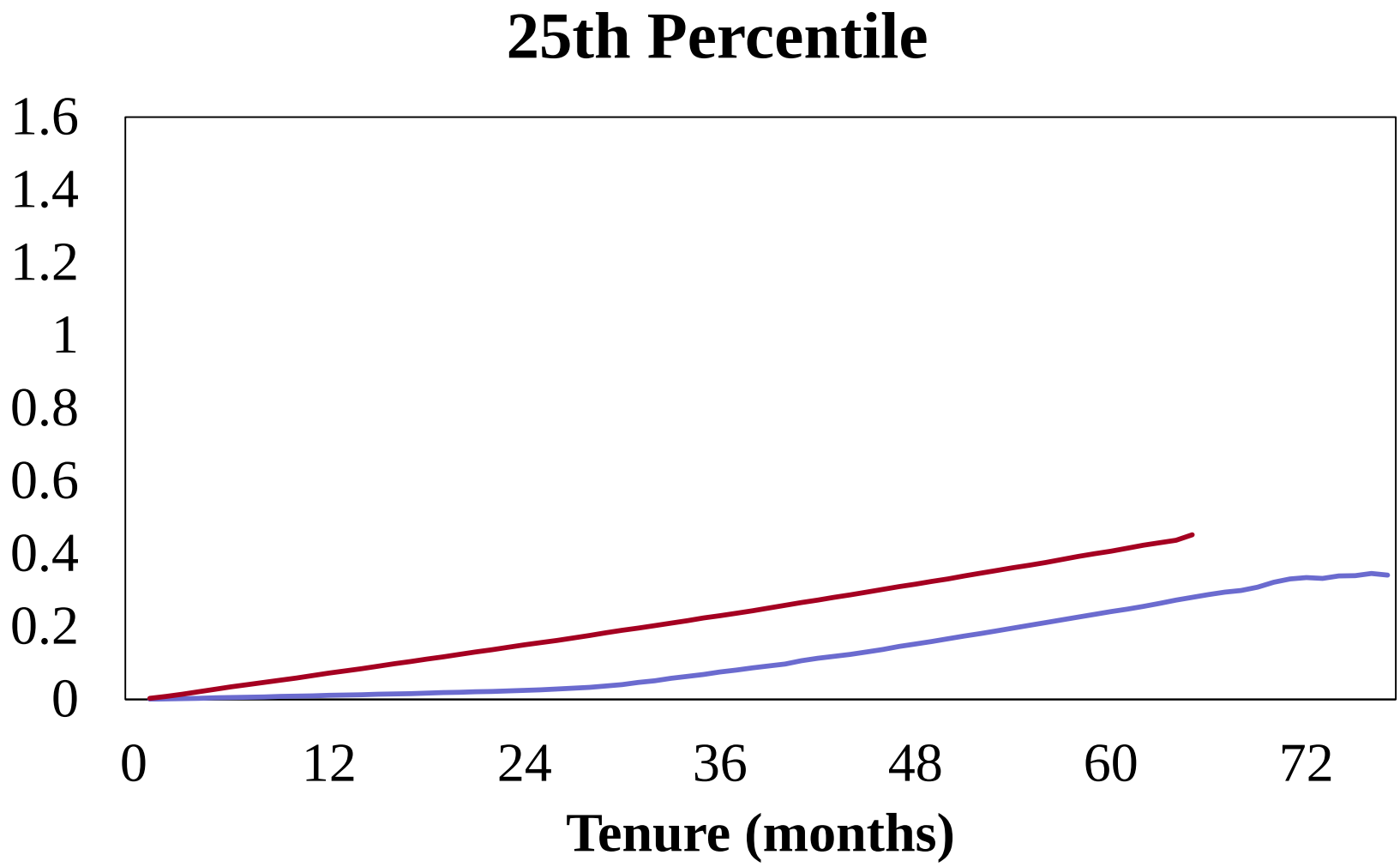
TSP contributions to pay



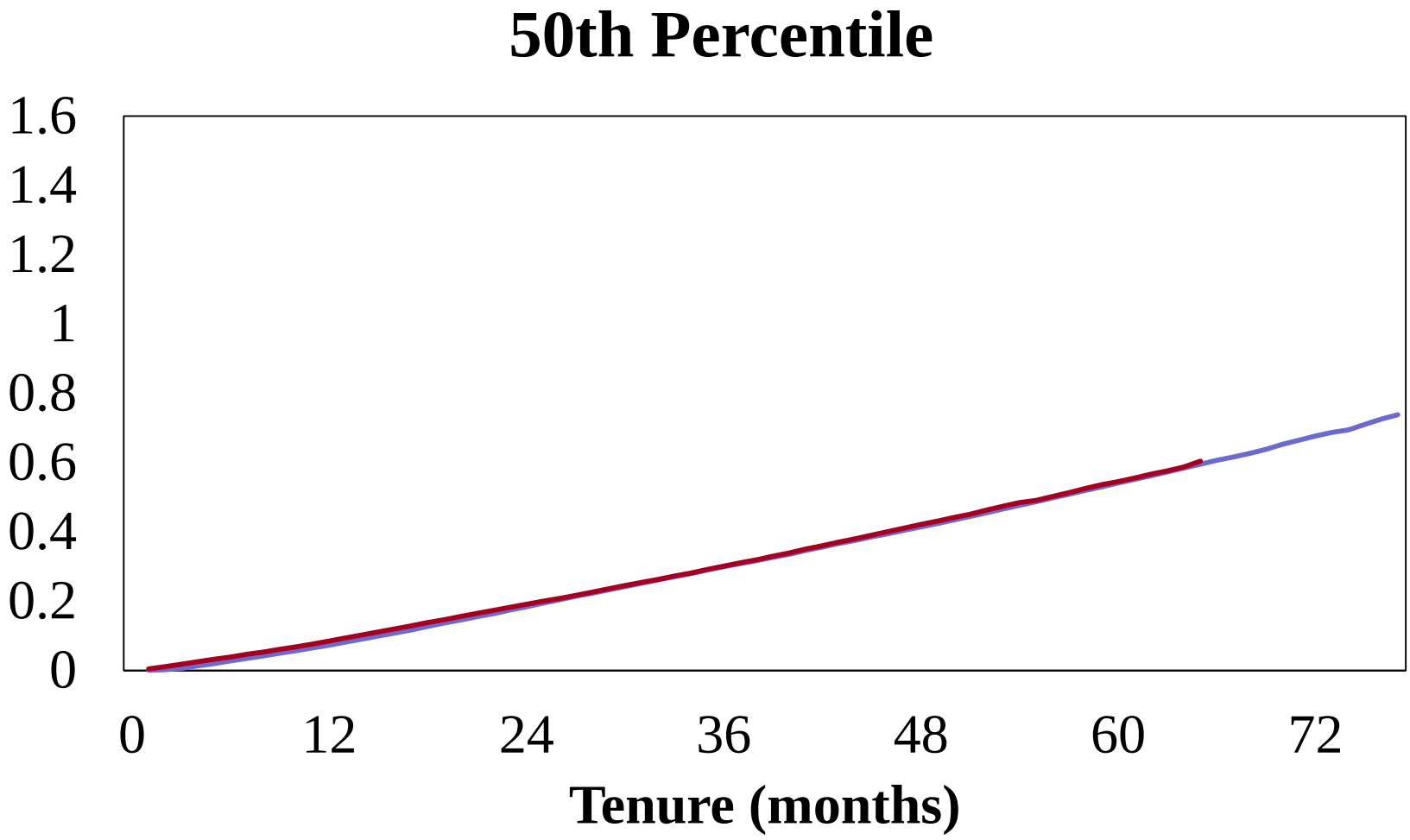
TSP contributions to pay



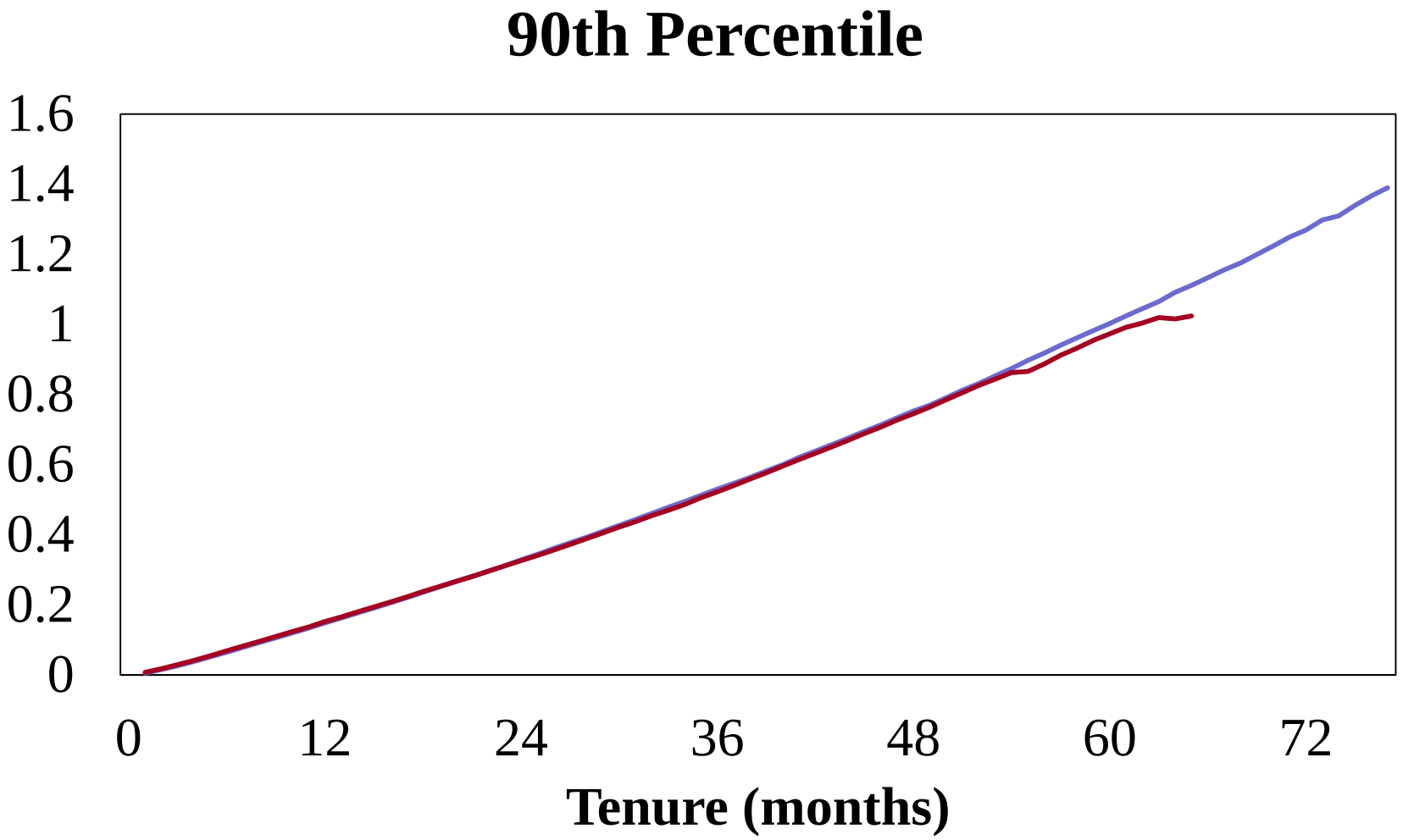
TSP contributions to pay



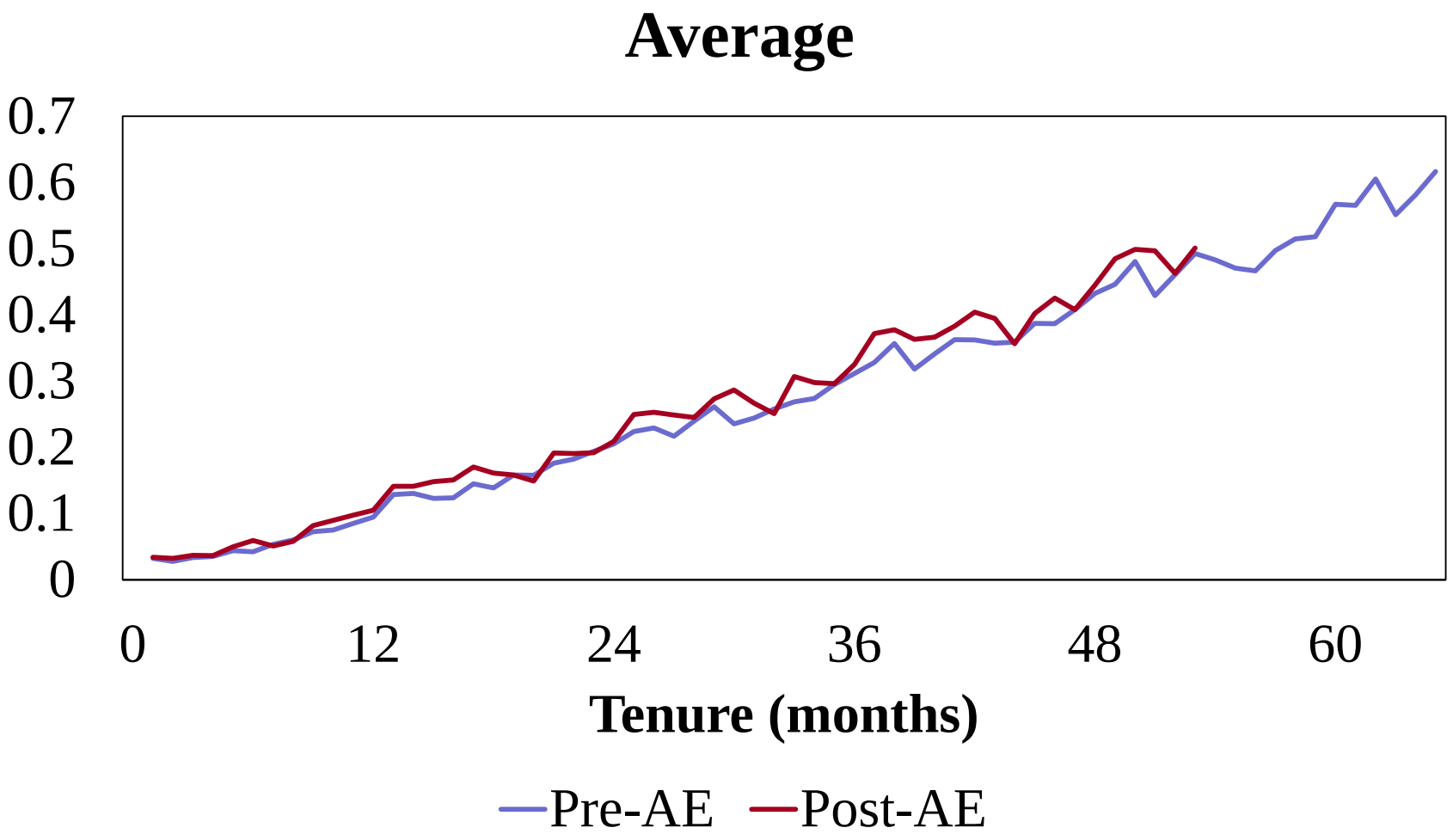
TSP contributions to pay



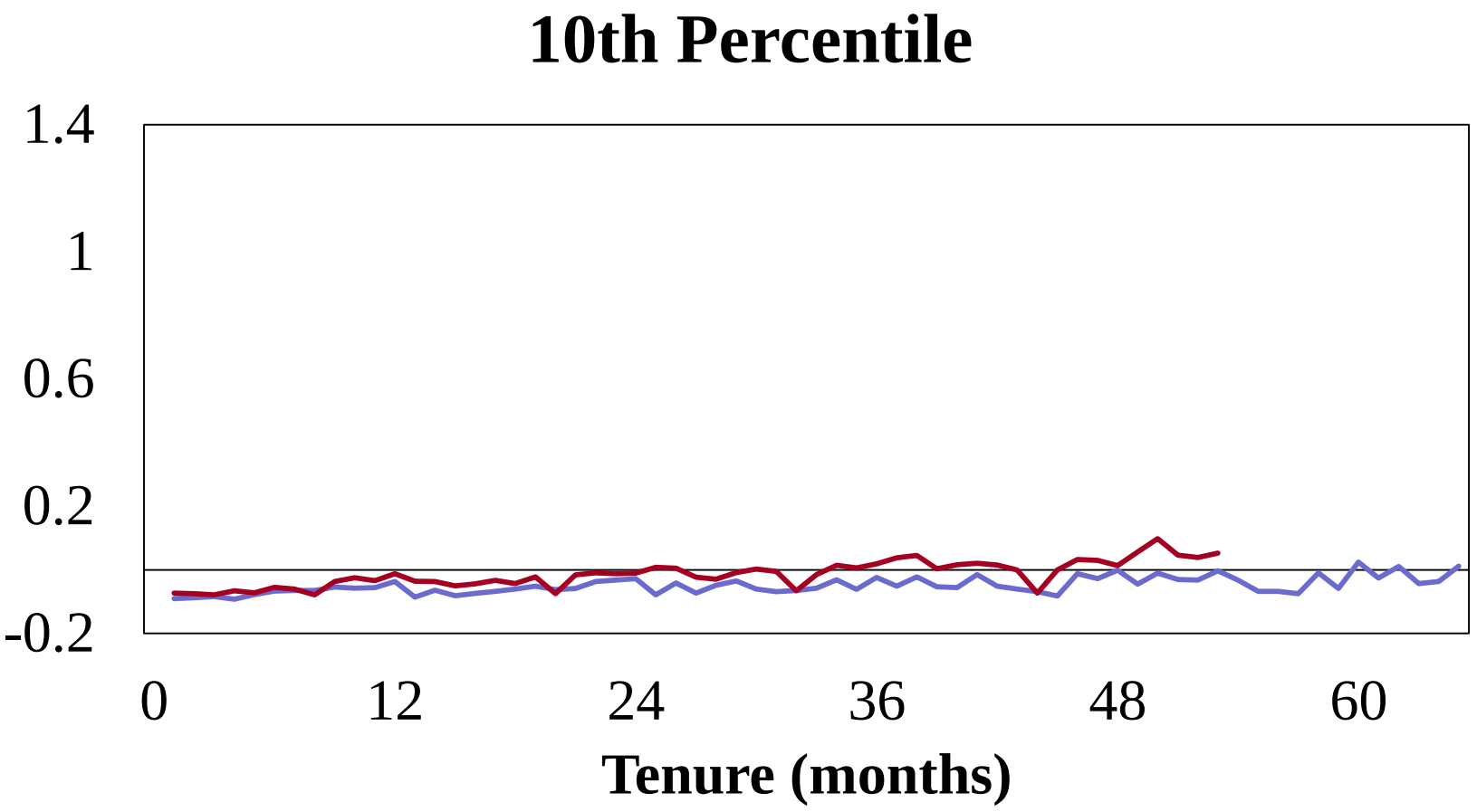
TSP contributions to pay



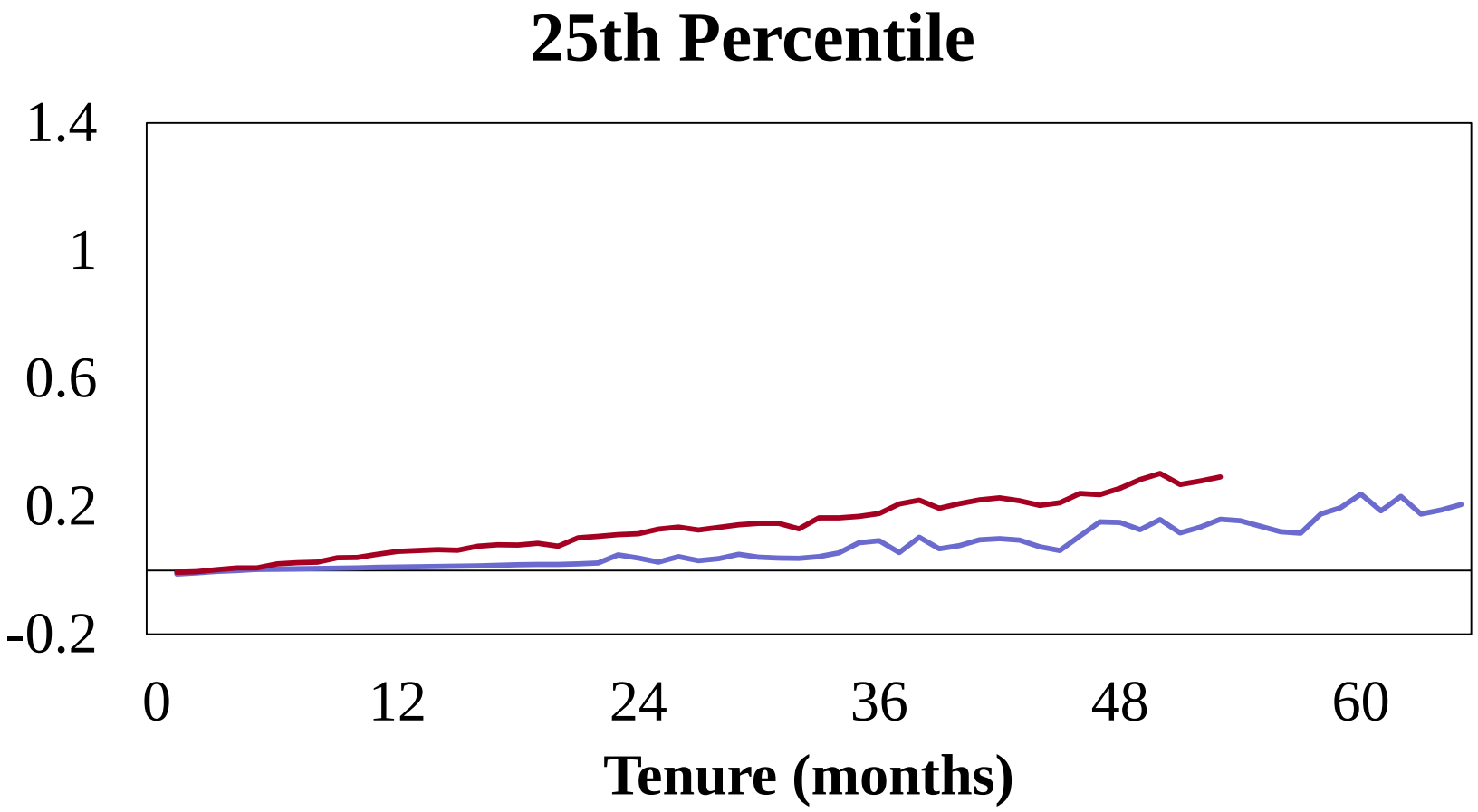
Net wealth to pay change since hire



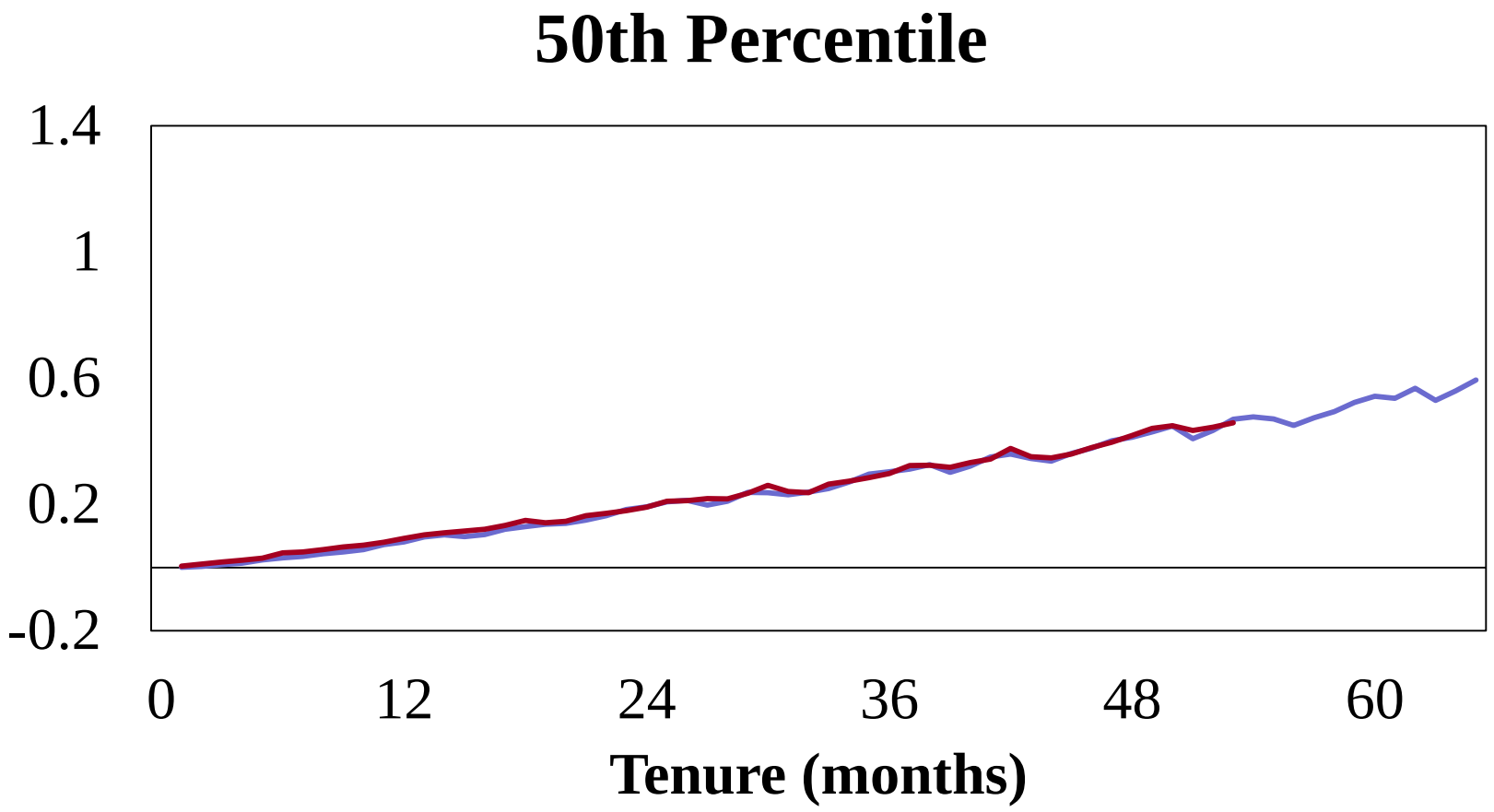
Net wealth to pay change since hire



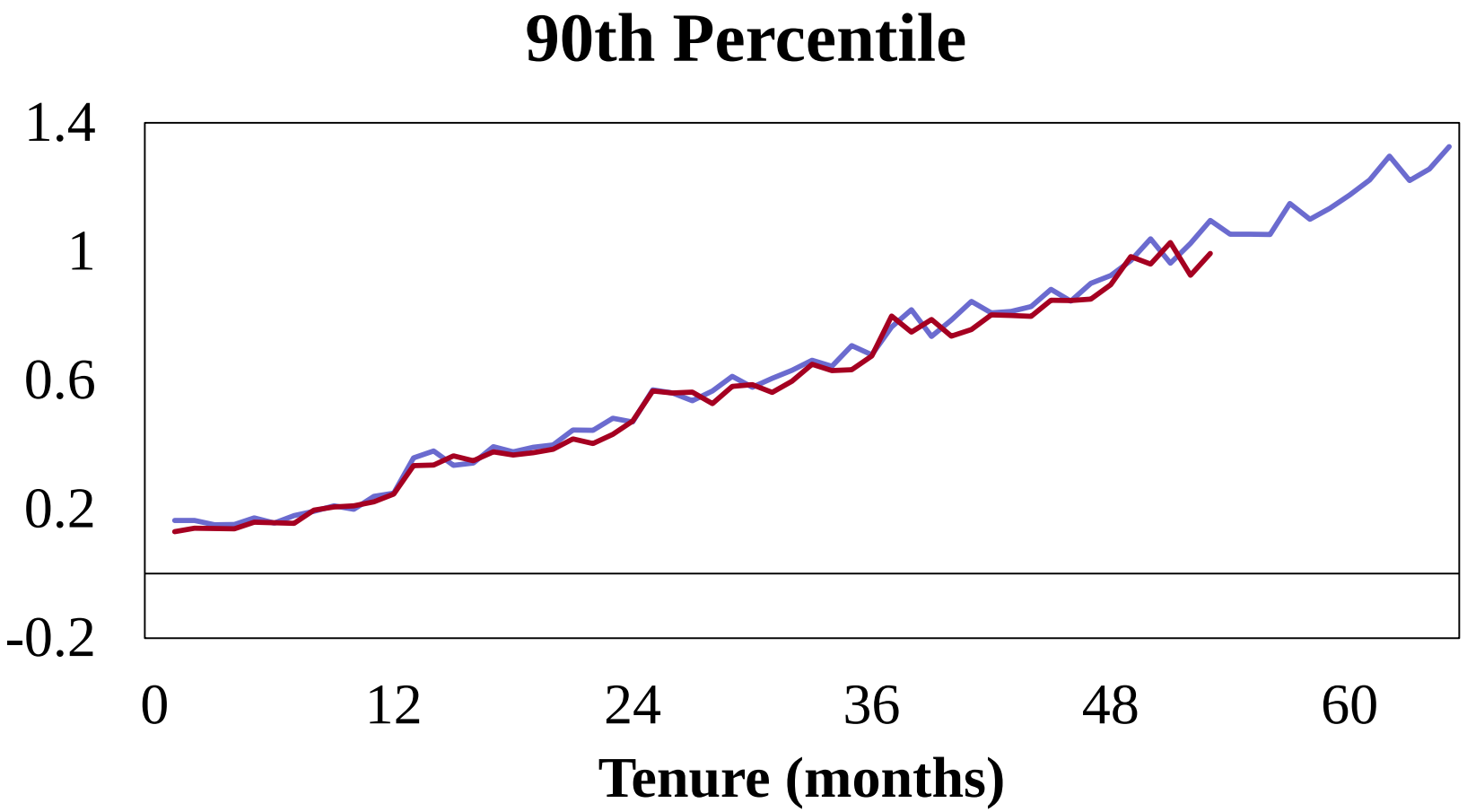
Net wealth to pay change since hire



Net wealth to pay change since hire



Net wealth to pay change since hire



Effect comparison

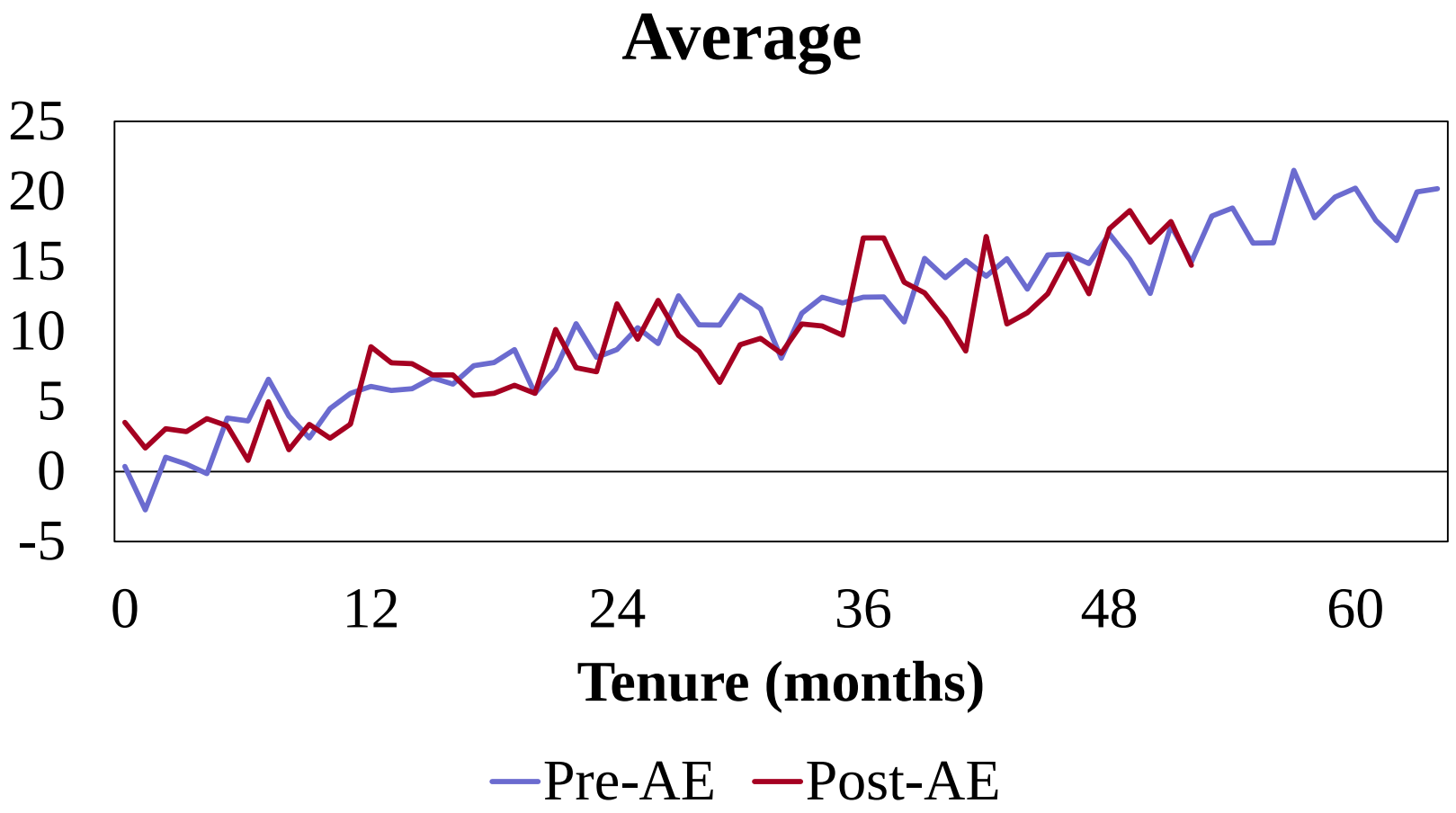
At 4½ years of tenure, increase as % of first-year pay

	TSP	**Net wealth**
10th percentile	32%	8%
25th percentile	17%	15%
Average	6%	3%

Interpreting this result

- 10^{th} percentile of TSP contribution to pay is **not** the same person as 10^{th} percentile of net wealth to pay change
- 7.5^{th} to 12.5^{th} percentile of TSP contribution to pay experiences very little crowd-out
- 7.5^{th} to 12.5^{th} percentile of net wealth to pay change experiences modest increases in both TSP contributions and debt

Change in Vantage credit score since hire



Preliminary conclusions

- Substantial crowd-out of contributions induced by automatic enrollment
  - Net wealth effect still appears positive
  - No effect on credit scores
- We do not observe in-service withdrawals or loans from TSP, so crowd-out may be bigger than we measure
- What would effect be if default contribution rate were higher?

ebri.org
Employee Benefit
Research Institute

Discussion of: Does Borrowing Undo Automatic Enrollment's Effect on Savings?

Retirement Research Consortium
August 4, 2016

Jack VanDerhei
EBRI Research Director
vanderhei@ebri.org

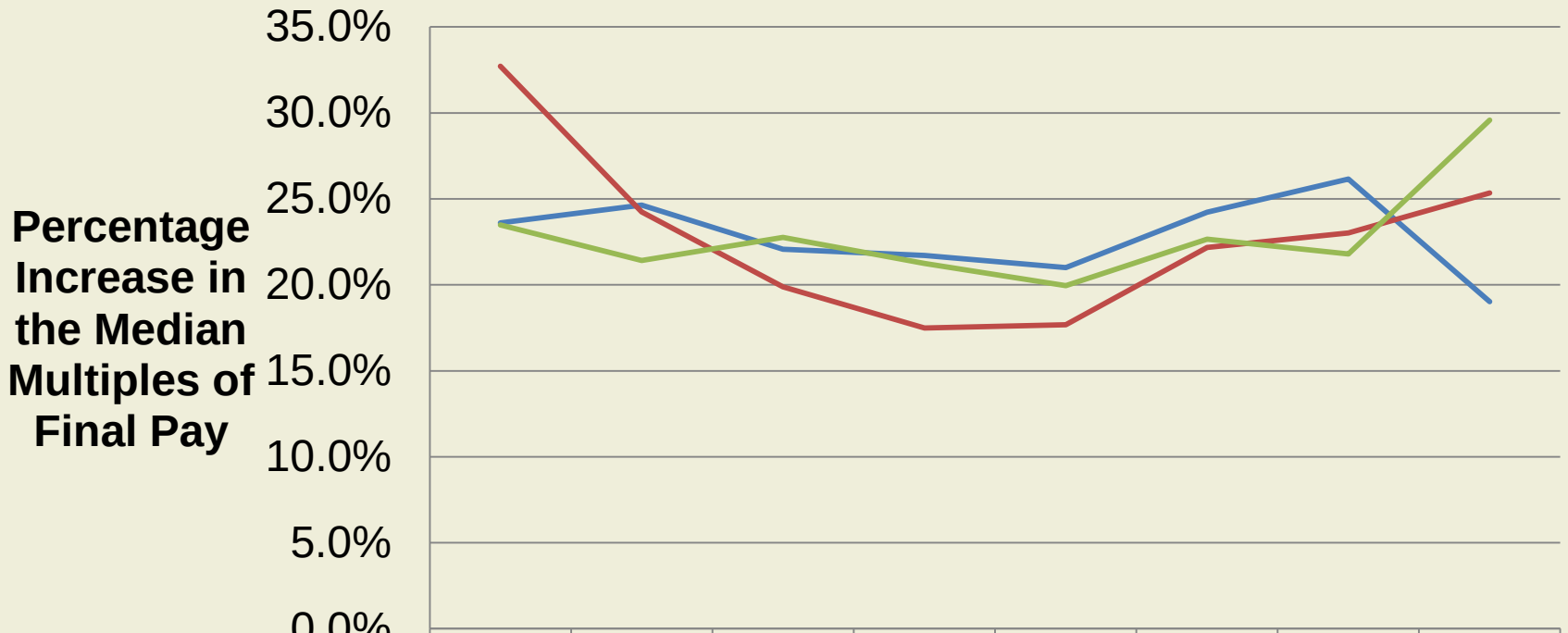
Alternative or complementary views of the issue

- Ground-breaking research on an extremely important public policy research topic
- However, even if the authors find that a significant portion of increased contributions from Automatic Enrollment (AE) are offset by additional outside borrowing in the first few years for this group, does this suggest a wide-scale crowding out for the 401(k) universe?
- Caveats with respect to extrapolating these findings:
  - Unique group of employees
  - Single plan design (100 percent match on first 3%, 50 percent match on next 2%)
  - Auto escalation?
  - Only able to track for 4.5 years
- Discussion: Unable to link to outside borrowing data but perhaps we can shed some additional light on how much additional outside borrowing would be required in the 401(k) universe to offset the increased employee contributions from AE.

Background

- EBRI/ICI Participant-Directed Retirement Plan Data Collection Project provides us with access to extremely detailed participant level administrative 401(k) records since 1996
  - As of year-end 2014: 27 million 401(k) plan participants, in
    - 75,000 employer-sponsored 401(k) plans, holding
    - $2.0 trillion in assets.
  - Database is longitudinal
- This has allowed us to do several simulation studies with our Retirement Security Projection Model®
  - see bit.ly/ebri-rspm for summary
- However, we have never been able to merge essential plan specific information with the participant level detail
- Recently we have been able to receive at least some of the requested information from some of the RKs providing the participants information

Improvement in Simulated Retirement Outcomes Moving from Voluntary Enrollment (VE) to AE (with Auto Escalation) 401(k) Plans by Age and Salary: Includes job change and leakages but does not include existing IRAs



	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Low income quartile	23.6%	24.6%	22.1%	21.7%	21.0%	24.2%	26.2%	19.0%
Middle 50 percent	32.7%	24.2%	19.9%	17.5%	17.7%	22.2%	23.0%	25.4%
High income quartile	23.5%	21.4%	22.8%	21.2%	20.0%	22.7%	21.8%	29.6%

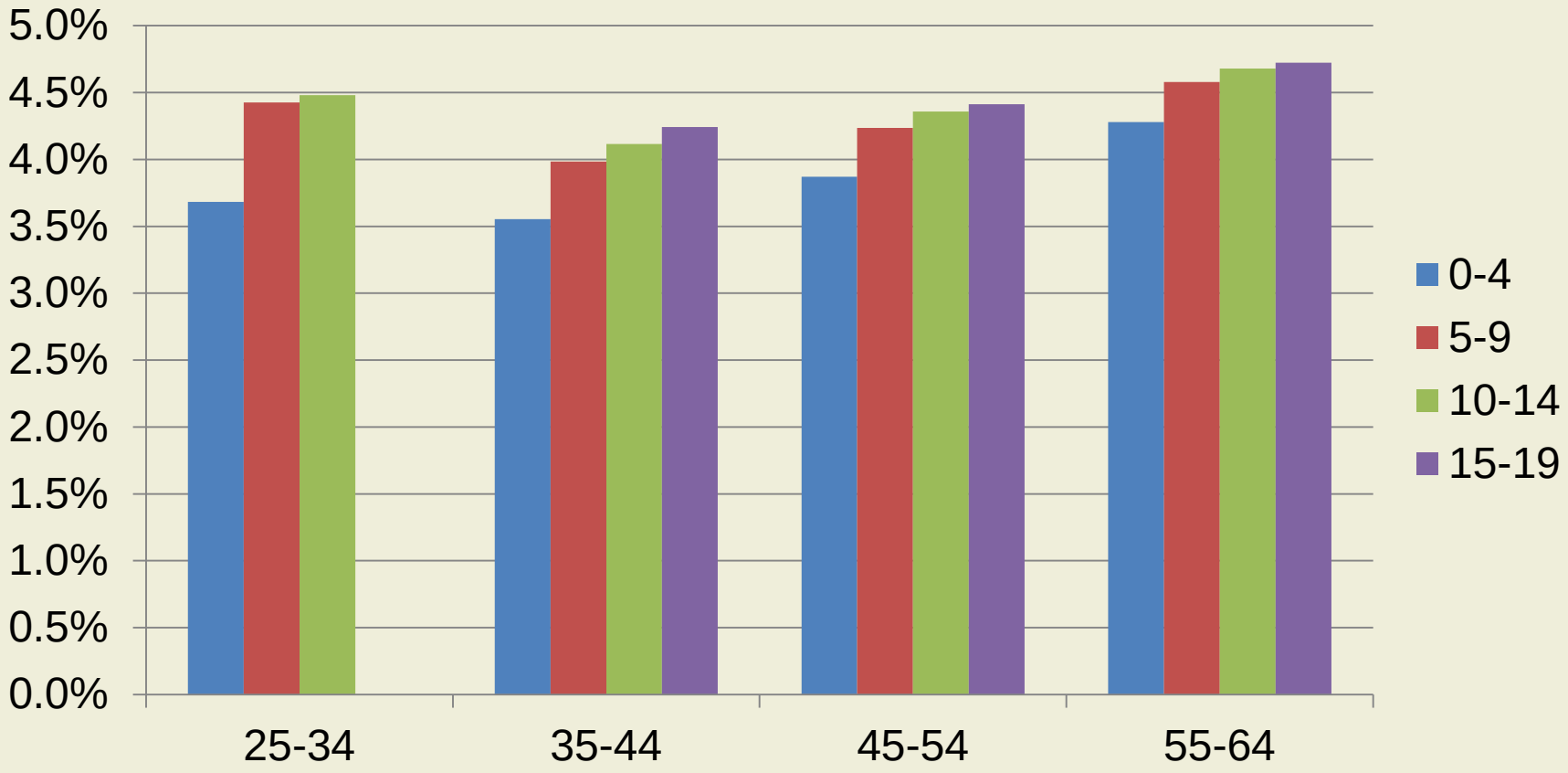
Source: Employee Benefit Research Institute Retirement Security Projection Model® Versions 2554a and 2580a

New simulation results for today

1. Use the results from the AE portion of the previous graph to generate employee contributions for each year until age 65
   - Assumes that employee escalations will cease when they hit the plan-specific maximum
2. Run a counter-factual simulation assuming the AE eligibles were actually in a (randomly generated) VE plan instead
3. Simulate the pairwise differences for each AE eligible for each year
4. Compute the conditional average difference between AE and VE (for those with a positive difference)

- Notes
  - Job changes (and therefore leakages) are suppressed for this run
  - Results are generated for each year (as opposed to a cumulative number)

Conditional Average Amount of Annual Outside Borrowing Needed to Offset Increased Contributions under AE (with escalation) compared to VE plans, by Age and Tenure (only those observations with a positive difference)



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Source: EBRI Retirement Security Projection Model®, Version 2642