Panel 1: Health, Health Insurance, and Choice of When to Retire

Effect of the Affordable Care Act on Retirement: Evidence from Tax and Survey Data

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Heim and Simon acknowledge funding from NBER Social Security Administration (SSA) RRC

Preliminary: Please do not quote

Overview

- Prior literature and theory suggests receipts of subsidized health insurance may increase retirement by
  1) reducing need for earnings to finance health care
  2) Releasing “job lock”

- We test this using ACA-induced variation in insurance access
  - Medicaid expansion in 2014
  - Geographical variation in size of Marketplace subsidy

- Using tax data, we examine subsequent year behavior of those who are currently working and have predicted low retirement income

Overview (continued)

- Summary findings:
  - No effects for the population as a whole, but some detectable evidence of increased retirement due to the availability of Medicaid among females and single individuals with access to employer health insurance while working.
    - Effect size small relative to prior studies
- Supplementary analysis
  - American Community Survey DD, and marketplace analysis. No detectable findings.
- Discussion
  - Reasons why ACA effects may be smaller than anticipated by prior literature

Motivation

- Most working age Americans relied on their employers for health insurance coverage before the ACA (Nyce et al 2013).
- Historic decline in labor force participation rates
- Job lock is highly debated in public policy
- Public finance consequences of lower tax revenue from labor supply decreases due to expansions in public funded health insurance
- Almost ¼ federal income taxes come from those 55-64 yrs old (IRS, 2010) despite some individuals in this age group being already retired
- ACA financial assistance provides non-employment based insurance for 21 million (CBO, 2016)
  - 10 million subsidized through Exchange, and 11 million subsidized through Medicaid, as of end of 2016

Conceptual Framework

- ACA lowers health insurance price for:
  - non large- firm full-time employees, lower income, in worse health, no access to spousal or other coverage
- “employment-lock” may reduce and increase early retirement
  - Relevant only for those who were insured through own employment without source of spousal coverage
- Income effect may increase retirement among other populations too
  - Less need for precautionary savings
- Employer mandate may decrease retirement
  - Employers may add health insurance, and those who planned to retire may postpone because of this increase in compensation

Policy variation in insurance access through ACA

- Main: state Medicaid adoption decisions DD

  Second: Geographical variation in Marketplace subsidies
  - Higher in rating areas with higher benchmark premiums

- In Medicaid states, 0-138% FPL eligible for Medicaid, 138-400% FPL for subsidies

- In non-Medicaid states, 100-400% FPL eligible for subsidies
  - Thus, “treatment group” are those <100 FPL, in Medicaid expansion states

Hypothesis

- Main (Medicaid)
  - As a result of exogenous increase in public health insurance
    - Among those close to retirement age, labor supply may reduce on both extensive and intensive margin
      - Expect reduction in hours worked (below threshold for health insurance eligibility), and exit from employment
    - We test effects among those anticipating retirement income <100, (otherwise DD expansion in public insurance not relevant)
- Second (Marketplace)
  - Retirement rates may be higher in areas with higher benchmark premiums (greater subsidies), post ACA vs before

Prior Relevant Work

- Large literature on health insurance and employment
- Long literature on retirement and health insurance specifically
  - Blau and Gilleskie 2001, Blau and Gilleskie 2006, Blau and Gilleskie 2008, Boyle and Lahey 2010, Frenh and Jones 2011, Gruber and Madrian 1995, Gustman and Steinmeier 1994, Kapur and Rogowski 2011, Karoly and Rogowski 1994, Madrian 1994, Marton and Woodbury 2006, and Robinson and Clark 2010, Heim and Lin, 2016
- General finding: retirement sensitive to health insurance margin
- ACA: so far no evidence of significant effect on labor supply
  - Gooptu, Moriya, Simon and Sommers (Health Affairs) and Buchmueller, Levy and Nikpay (2015) use CPS basic monthly longitudinal
- Heim and Lin (forthcoming) find MA reform increased retirement among females

Contribution

- Adds research on full ACA effects on retirement (Medicaid and marketplace)

- Adds tax data exploration of 2014 ACA labor market effects
  - Advantages over survey data
    - Large sample sizes
    - Longitudinally linked data can examine “flow”
    - Baseline employer provided insurance to separate job-lock effect from income effect

Data

- Using population of U.S. tax records spanning 2008-2014, we tabulate data for those aged 56-64 from Form 1040 and informational returns
  - income (MAGI)
  - Age, gender, marital status
  - state of residence
  - SSA-1099 and 1099-R (receipt of social security or other retirement benefits)
  - Receipt of wages (W2)

- Generate cell-level probability that income in retirement in T will be <100% FPL
  - by marital status, gender, state, age, FPL buckets.
  - Measures to what extent your behavior should be driven by Medicaid expansion, in expansion states, post-expansion

Method of Analysis

Are you more likely to retire after ACA,

if you are in a Medicaid expansion state,

and you are predicted

to have MAGI below FPL once retired?

$$\Delta Retirement_{i,s,t-(t+1)} = \alpha + \beta\ Medicaid_s + \varphi Prob(Income < FPL)_t + \gamma Post_t + \theta\ Medicaid_s * (Prob(Income < FPL) * Post_t + \text{Twowayinteractions} + \tau_{t,m} + \eta_s + + \Gamma X_i + ei$$

(after confirming if pre-policy trends similar in control and treatment states)

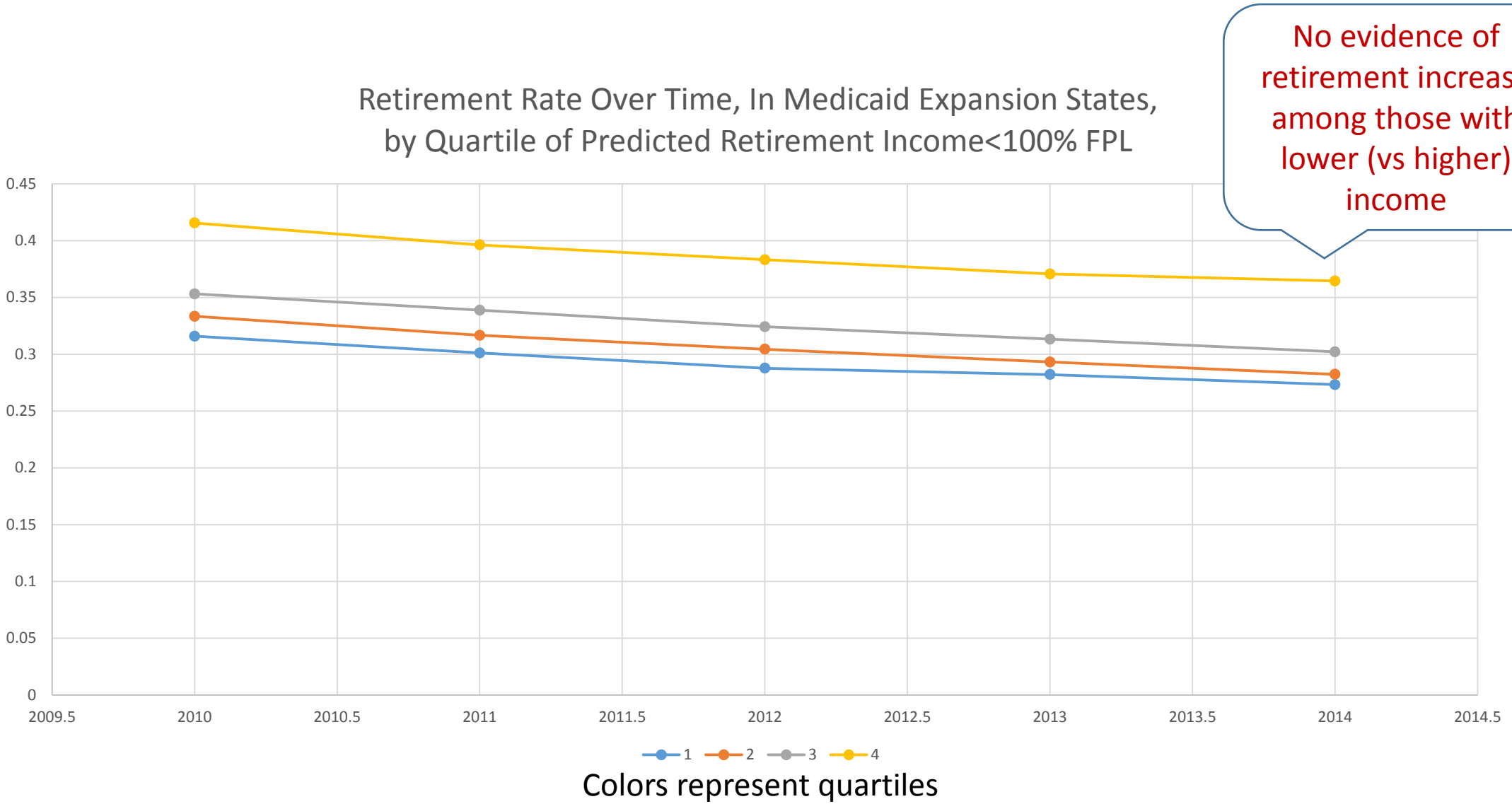
Defining Retirement

- Retirement in tax data can be observed in three ways:
  - (1) receipt of social security benefits on form SSA-1099,
  - (2) distribution from a retirement plan on form 1099-R.
  - (3) no wages

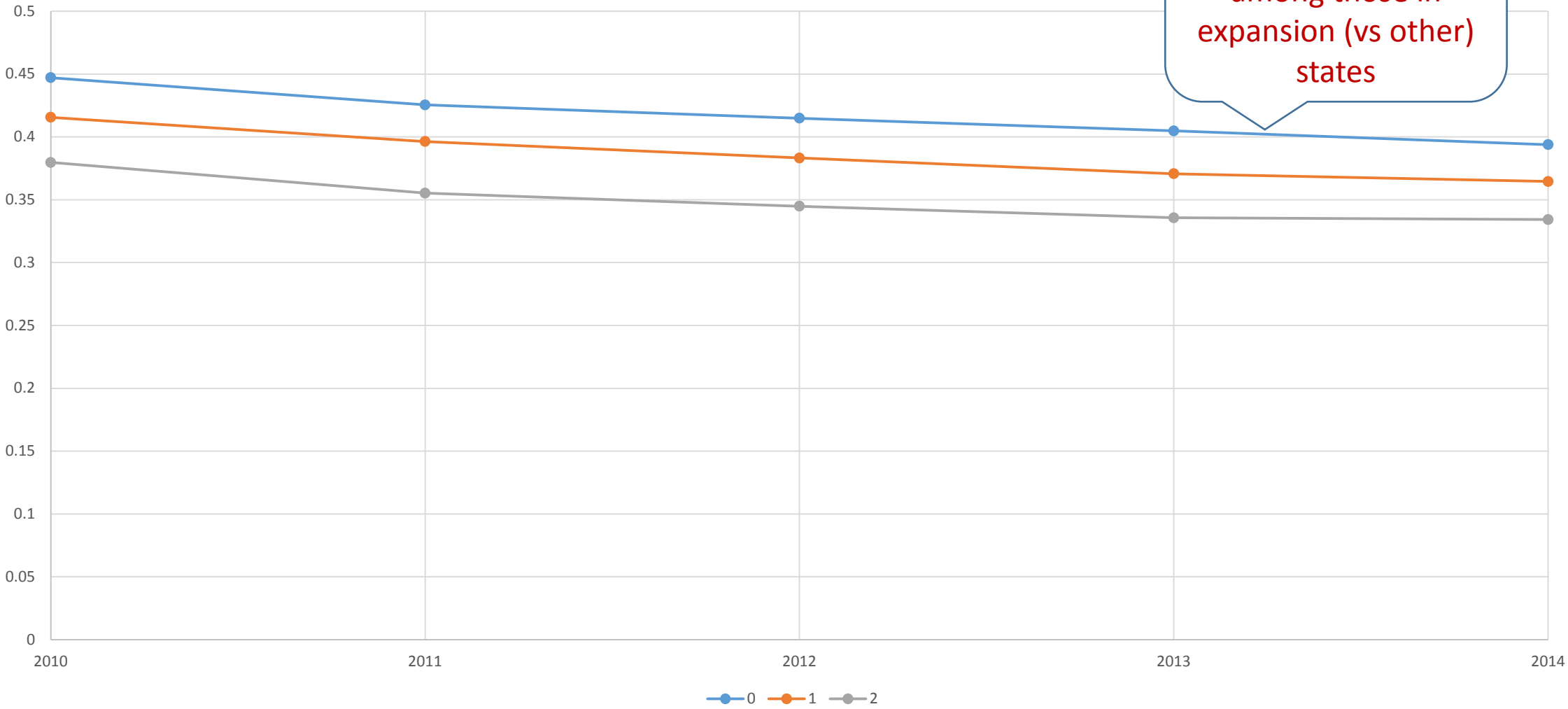
- Form 1099-R reports distributions from pensions, annuities, profit-sharing plans, IRAs, 401k plans, 403(b) plans, and 457 plans.
- Retirement:
  - In year t: Has no wages OR has SSA income OR has 1099R pension income
  - In year t-1: Working: reporting positive wages, but no SSA or 1099R (retirement) income

Categories of Medicaid Expansion States

- **(0) Control**: did not expand as of January 1, 2014 and had limited/no expansion prior to ACA (AL FL GA ID KS LA MS MO MT NE NC OK SC SD TN TX UT VA WY). Also included are states that fully expanded pre-2014 (DE DC MA NY VT)
- **(1) Full Expansion**: expanded as of January 1, 2014 and had limited or no expansion before 2014 (AR CO IL KY MD MI NJ NV NM ND OH OR RI WV)
- **(2) Partial Expansion**: states that expanded but had partial expansion before 2014 (AZ CA CT HI IA MN WA). States that expanded between 2014q2 and 2015q4 are also included in this list (AK IN NH PA).


Retirement Rate Over Time, In Medicaid Expansion States,
by Quartile of Predicted Retirement Income<100% FPL
No evidence of retirement increase among those with lower (vs higher) income
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2009.5
2010
2010.5
2011
2011.5
2012
2012.5
2013
2013.5
2014
2014.5
1
2
3
4
Colors represent quartiles

Retirement Among Those Likely to be < poverty level: Quartile 4
By State Expansion Status



No evidence of retirement increase among those in expansion (vs other) states

0 indicates states with no Medicaid expansion, 1 indicates states with Full Medicaid expansion, 2 indicates states with Partial Medicaid expansion

Tax Data Regression Results

- Outcome: whether retired
  - Broad definition, and SSA income definition (just 62-64 yrs)
- Samples by age groups (56-58, 59-61, 62-64)
- Samples by whether had access to ESI while working

- Vast majority of specifications show no detectable effects, coefficient sizes are extremely small too
- Effects detected only among ESI sample, SSA income definition
  - These effects are only marginally statistically signficant

(Only showing full expansion effects. No significant effects for partial expansion states, as expected)

Findings

Table 1: ESI Sub Sample, SSA Income Definition (62-64)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Overall	Male	Female	Married	Single
FullExpansion XPostXPPRPL	0.01106	0.00328	0.01817*	0.00547	0.01966*
	(0.00789)	(0.00963)	(0.00970)	(0.01045)	(0.01021)
Observations	2,737,458	1,262,365	1,475,093	2,002,377	735,081
R-squared	0.42001	0.38992	0.44548	0.50497	0.36212
mean_retire	0.15431	0.13440	0.17083	0.14986	0.16784
mean_prob	0.11901	0.12737	0.11207	0.09391	0.19531

Note: All models include two-way interactions and other controls. Standard errors are clustered at the state level.* indicates p=.10; ** p=0.05, *** p=0.01

At the mean probability of being in poverty, the effect is .11207*0.01817 = 0.2 percentage points for women and 0.01966*.19531 = .4 percentage points for singles

From a base of ~17% for both populations, indicating less than a 1% , 2% effect respectively.

ACS Analysis

- Relative to Tax Data
  - Pros: can look at hours of work (extensive margin), can look at heterogeneity by education, etc.
  - Cons: self-reports are less reliable than tax data.
- Medicaid:
  - Method: Among those who are near-elderly (55-64) and currently have income <100% FPL, is retirement, or part time work, more common in expansion states, in 2014 vs 2013?
  - Findings: no detectable impact
- Marketplace Subsidies
  - Method: Merged benchmark premiums by PUMA
    - Examined if retirement, pt work, more common in areas with higher benchmark premiums, in 2014 vs 2013, among near-elderly in 138-300%FPL
  - Findings: no detectable impact

Summary and Next Steps

- Summary findings:
  - Small increase in early retirement (SSA income) among females and singles, with ESI while working
  - No other evidence of a detectable reaction in retirement behavior in tax data and ACS.
  - Uncertainty around ACA in 2014 may explain smaller than expected effects
- Next steps
  - Examine Marketplace subsidy variation by income vs. geography, in tax data
  - Alternative outcomes: reduced return to employment, retirement among self-employed
  - Alternative specifications of Medicaid expansion variable

  - Further retirement research with new data:
    - Will effects increase over time? (2015 data)
    - Are effects present for those in worse health? (HRS)
    - Impact of change in pricing and access laws in individual health insurance markets?

Effect of the Affordable Care Act on Retirement: Evidence from Tax and Survey Data

Heim, Lurie, and Simon

Discussion by
Kathleen McGarry
UCLA

Retirement Research Consortium, Washington DC
August 4, 2016

Health Insurance and Retirement

- Effect of employer sponsored insurance on retirement
  - Evidence of decreases in the probability of retirement
- Effect retiree health insurance on retirement
  - Evidence of increases in the probability of retirement
- Effect of COBRA coverage on retirement
  - Evidence of increases in the probability of retirement
- Effect of Medicare eligibility
  - Evidence of increases in retirement at age 65

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  - Evidence of increases in the probability of retirement
- Effect of Medicare eligibility
  - Evidence of increases in retirement at age 65
  - **→ Need to provide coverage for a younger spouse may delay retirement until spouse is 65**

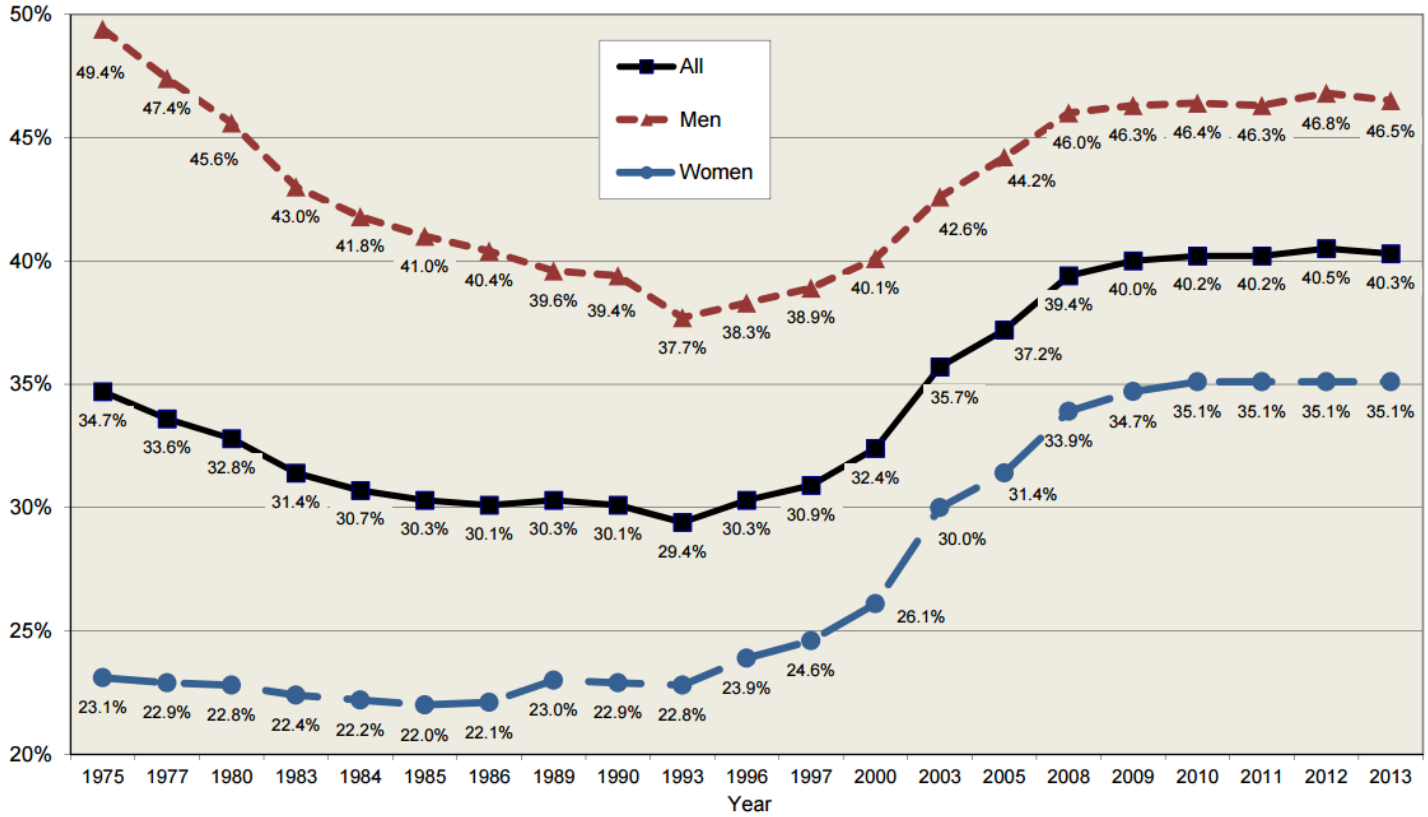
ACA and Labor Force Participation

- Recent research examining effects of Affordable Care Act on employment and retirement
  - Majority of work has found little or no effect
  - Many components so net effect is not clear

- On labor market demand side:
  - Employer mandate could discourage employers from hiring full-time workers
- Focus on employee side
  - New options both inside and outside employment

Figure 1

Annual Civilian Labor-Force Participation Rate for Americans Ages 55 and Older, by Gender, 1975–2013



Source: U.S. Department of Labor, Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey--Civilian Labor Force Participation Rate," http://www.bls.gov/data/home.htm

Affordable Care Act

- Employer Mandate
- Individual Mandate
- Expansion of Medicaid up to 138% of poverty line
  - Option to the states based on Supreme Court Ruling
- Health Benefit Exchanges
  - Subsidies up to 400% of the poverty line
  - Coverage available for those with pre-existing conditions
- Dependent coverage up to age 26
- No lifetime limits on benefits
- Limits on size/length of deductibles and waiting periods
- Coverage of preventative care

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ACA and Labor Force Participation

- Employer mandate → could increase participation if value of benefit offsets and reductions in wages / other benefits
- Individual mandate → could increase participation in that it increases the value of being employed
- Coverage of children up to 26 → increases the value of health insurance for those with dependents

ACA and Labor Force Participation

- Exchanges
  - → decrease employment, easier to get coverage outside employment
    - Guaranteed issue
    - Guaranteed renewal
- Subsidies for < 400% of poverty line
  - → decrease employment, easier to get coverage outside employment

ACA and Labor Force Participation

- Medicaid expansions < 138% of poverty line
  - → decreases employment, easier to get coverage outside employment
  - → increase employment, can earn more and still be eligible for Medicaid coverage
  - → similar effect on hours, can decrease hours since it is easier to get coverage outside, or increase hours as earnings can increase and still be eligible for coverage

Affordable Care Act

- Expansion of Medicaid up to 138% of poverty line
  - Option to the states based on Supreme Court Ruling
  - Begin as early as 2010 full Federal support in 2014
- Health Benefit Exchanges
  - Subsidized 100-400% of the poverty line
- Note "Medicaid Gap":
  - Those with incomes < 100% FPL in non-expansion states not covered by subsidies or Medicaid
  - Compare labor market behavior of those <100% of poverty line in expansion / non-expansion states

Numerous Effects of Expansion

- Enrollment increases and reductions in uninsured
  - Growth from newly eligible
  - Growth from previously eligible
- Better access to health care
- Greater utilization
- Positive or neutral effects on employment

- Heim et al., focus on employment at older ages / retirement

Medicaid Expansions

- Sample:
  - Near retirement age
  - Employed
  - Expected retirement income below FPL
  - Not yet eligible for Medicare (<65)
  - Cross-state variation
- Difficult due to sample size.
  - Data from IRS 1040 forms
    - Show receipt of wages, retirement benefits
    - Little other information

Medicaid and Retirement

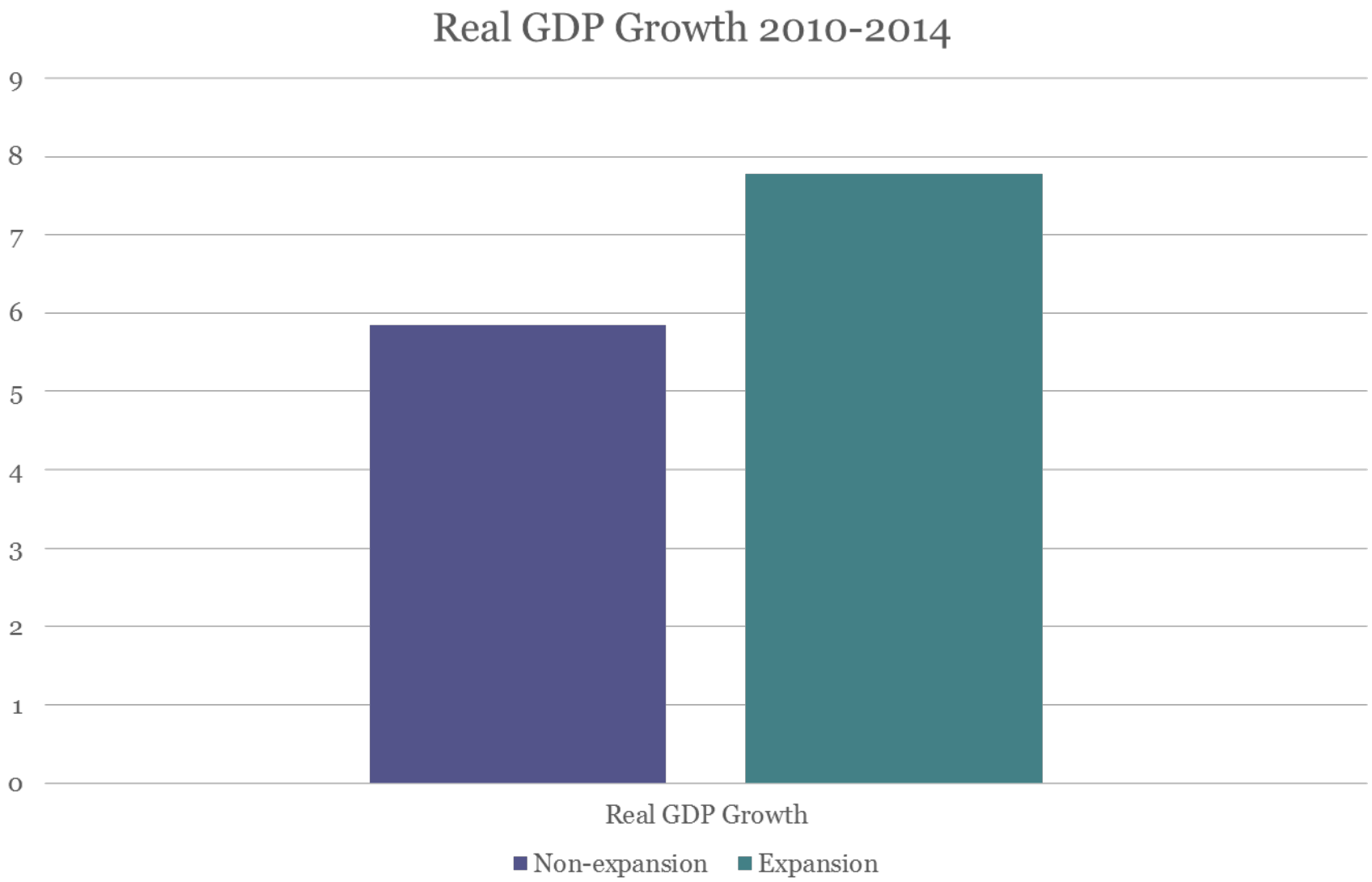
- Define retirement as any one of the following
  - Receipt of SS benefits
    - Only 62+
    - Only those who claim
  - Receipt of pension benefits
    - Unlikely for low wage workers
  - No wages
    - May be looking for another job / unemployed rather than choosing retirement

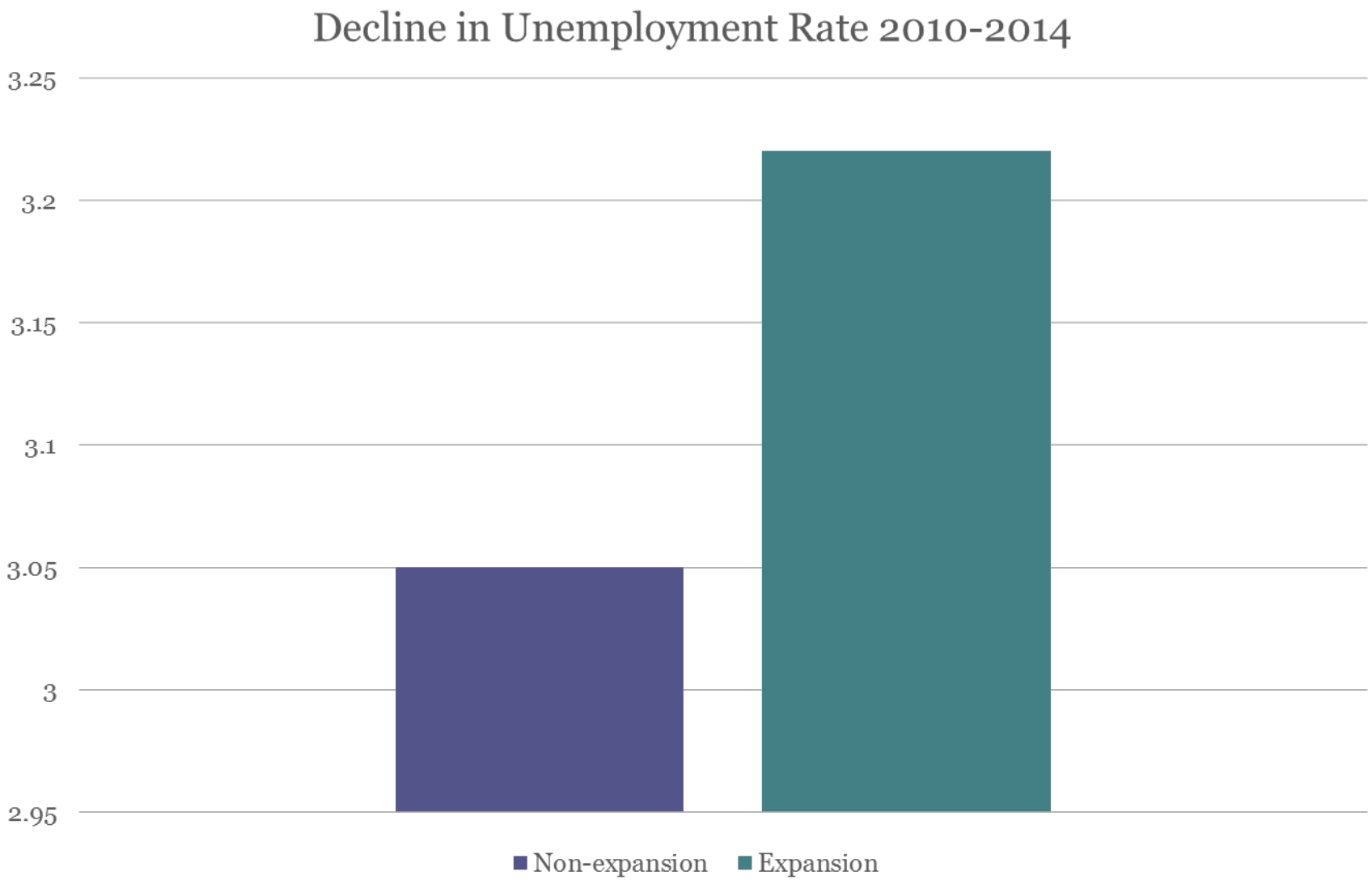
Results

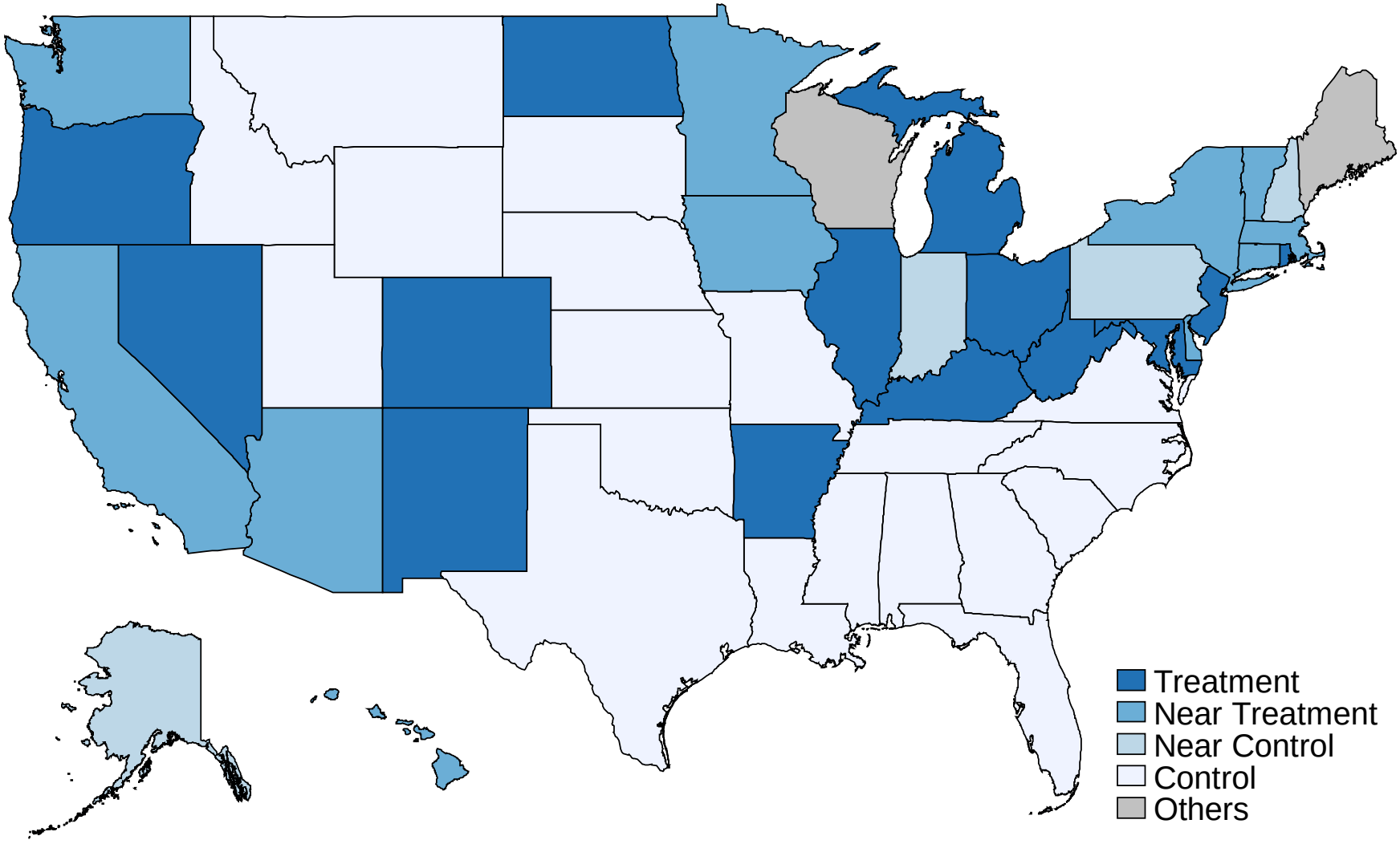
- Significant effect only for those with
  - ESI and SS income.
- Suggests that Medicaid expansions could affect those who are close to retiring anyway but don't want to give up health insurance

Why a no or small effect?

- Medicaid may be a poor substitute private insurance
  - Quality or perceived quality of Medicaid
- Focus on low income
  - May be unable / unwilling to retire if they would have income below the poverty line
- ACA is new, no time to adjust behavior
- Not sure how well it will work
- Is difference-in-difference comparison valid?
  - Are trends over time the same?


Real GDP Growth 2010-2014
9
8
7
6
5
4
3
2
1
0
Real GDP Growth
Non-expansion
Expansion


Decline in Unemployment Rate 2010-2014
3.25
3.2
3.15
3.1
3.05
3
2.95
Non-expansion
Expansion


Treatment
Near Treatment
Near Control
Control
Others

Other Effects

- Implications for disability
  - Waiting period for Medicare eligibility less costly
- Implications for poverty rates if SS claimed at an earlier age
  - Claim at 62 rather than 65 means lifetime of lower benefits
- Joint retirement
  - Older spouse can retire at 65

Conclusion

- Carefully done paper
- Innovative use of administrative data
  - American Community Survey
  - Health and Retirement Study
- Look forward to more work on the subsidies and using ACS
- Interesting to see how behavior evolves over time

The Affordable Care Act as Retiree Health Insurance: Implications for Retirement and Social Security Claiming

Alan Gustman, Thomas Steinmeier, and Nahid Tabatabai

RRC Meetings, August, 2016

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Aim of the Study

- To determine how the Affordable Care Act affects retirements and benefit claiming
  - Observable retirements through 2014.
  - Expected dates for those nearing retirement age.
  - Changes in the long run.

Policy Concern: ACA Might Undermine Previous Policies Aimed At Delaying Retirement.

- Policies were adopted to counter adverse financial implications of the baby boomers and increasing life expectancy.
- They include:
  - Increase in Social Security full retirement age.
  - End of SS earnings test after full retirement age.
  - Increase in delayed retirement credit.
  - End of mandatory retirement.
  - Requiring DB plans to be actuarially fair and DC plans to credit work after normal retirement.
- CBO and the White House have discussed ACA's potential adverse effects on employment – with retirement one dimension.

Conflicting Signals from the Economics Literature on ACA's Effects on Retirement

Analyses of Retiree Health Insurance

- Theory predicts accelerated retirement
  - ACA provides retiree health insurance to those who had health insurance on the job but not in retirement.
- Empirical studies find retiree health insurance accelerates retirement for some, suggesting ACA may also.

Direct Empirical Estimates of ACA

- find no effect on retirements to date.
  - Levy, Buchmueller and Nikpay (2015) compare outcomes in states that adopted ACA with states that did not. They find no change in retirements through mid 2015.

Our Strategy

- Retirement outcomes before vs. after ACA are compared for 3 groups.
- Most affected group, before ACA:

  1. Had employer health insurance while working, but not if retired before 65.

- Controls:

  2. Had employer health insurance while working and if retired.

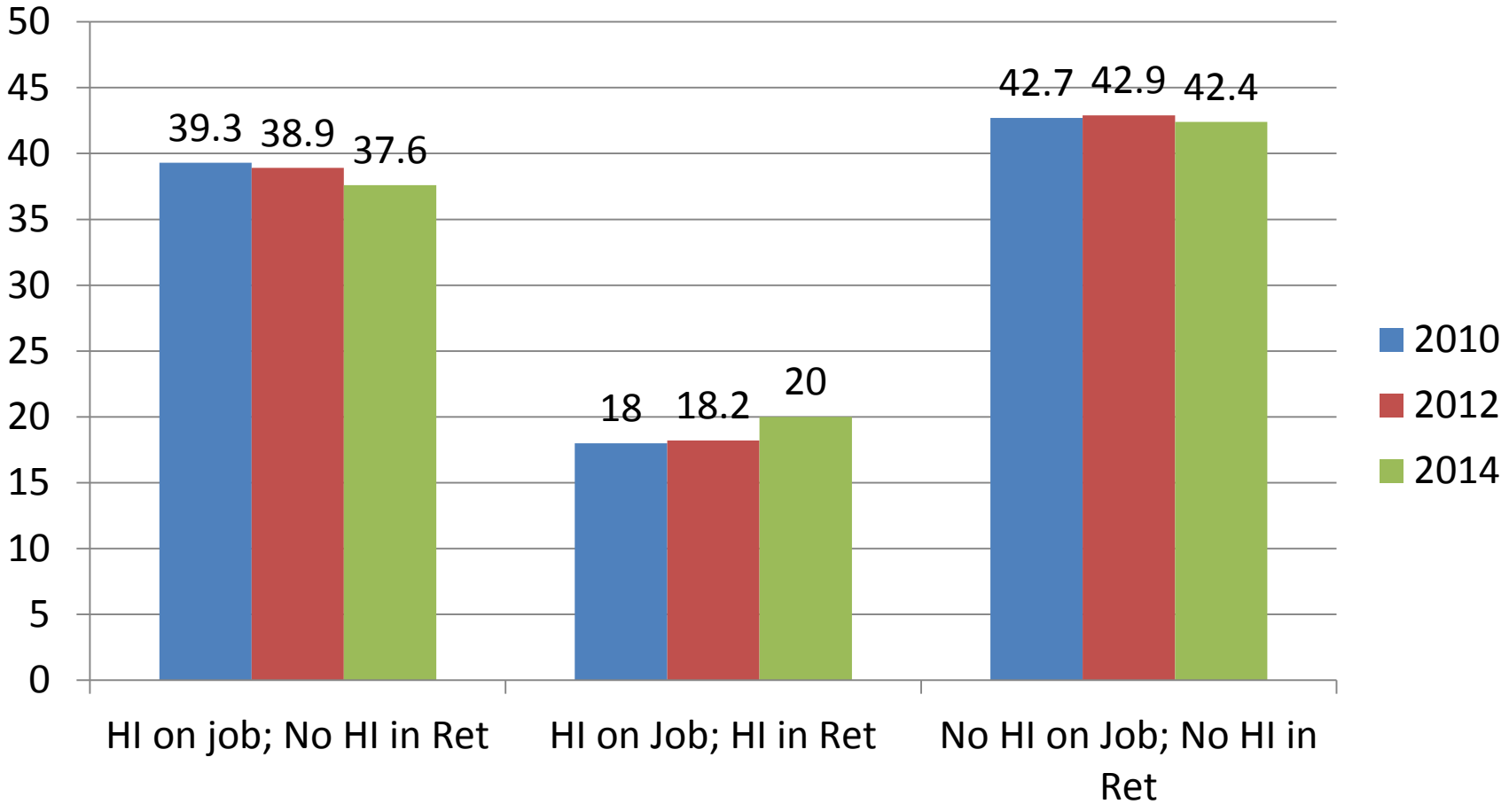
  3. Had no employer health insurance when working or retired.

- If ACA matters, should find increase in retirements for group 1 compared to groups 2 and 3.

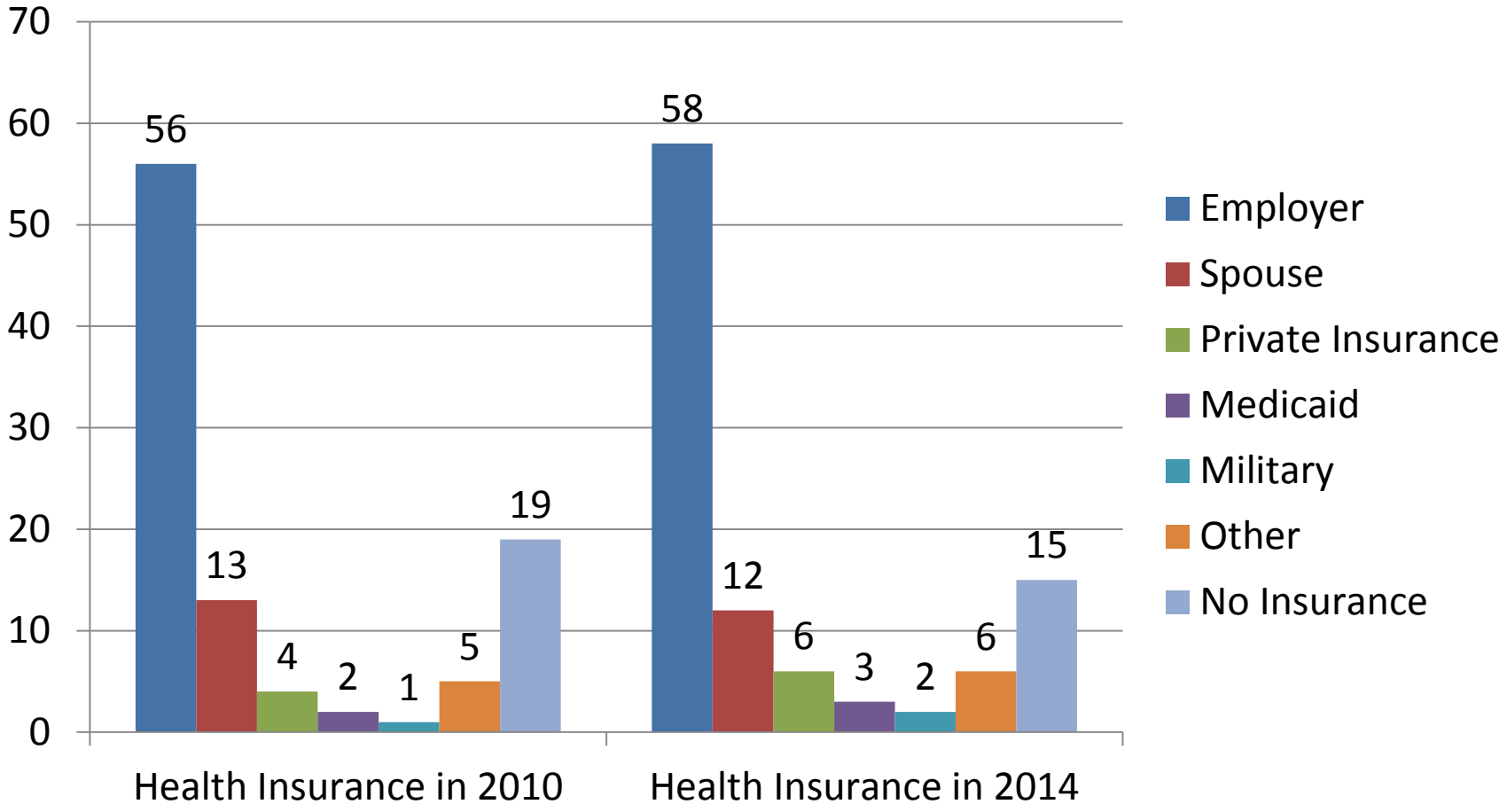
Data Are From the Health and Retirement Study

- Mid Boomer cohort, ages 51 to 56 in 2010
  - observed changes from before ACA (2010) to after ACA (2014).
- Early Boomer cohort, 51 to 56 in 2004
  - comparison group for a difference-in-difference analysis of changes over same age span.
- Original HRS Cohort, ages 51 to 61 in 1992
  - used to estimate a structural retirement model that is updated to simulate the long run effects of ACA on retirement and benefit claiming.

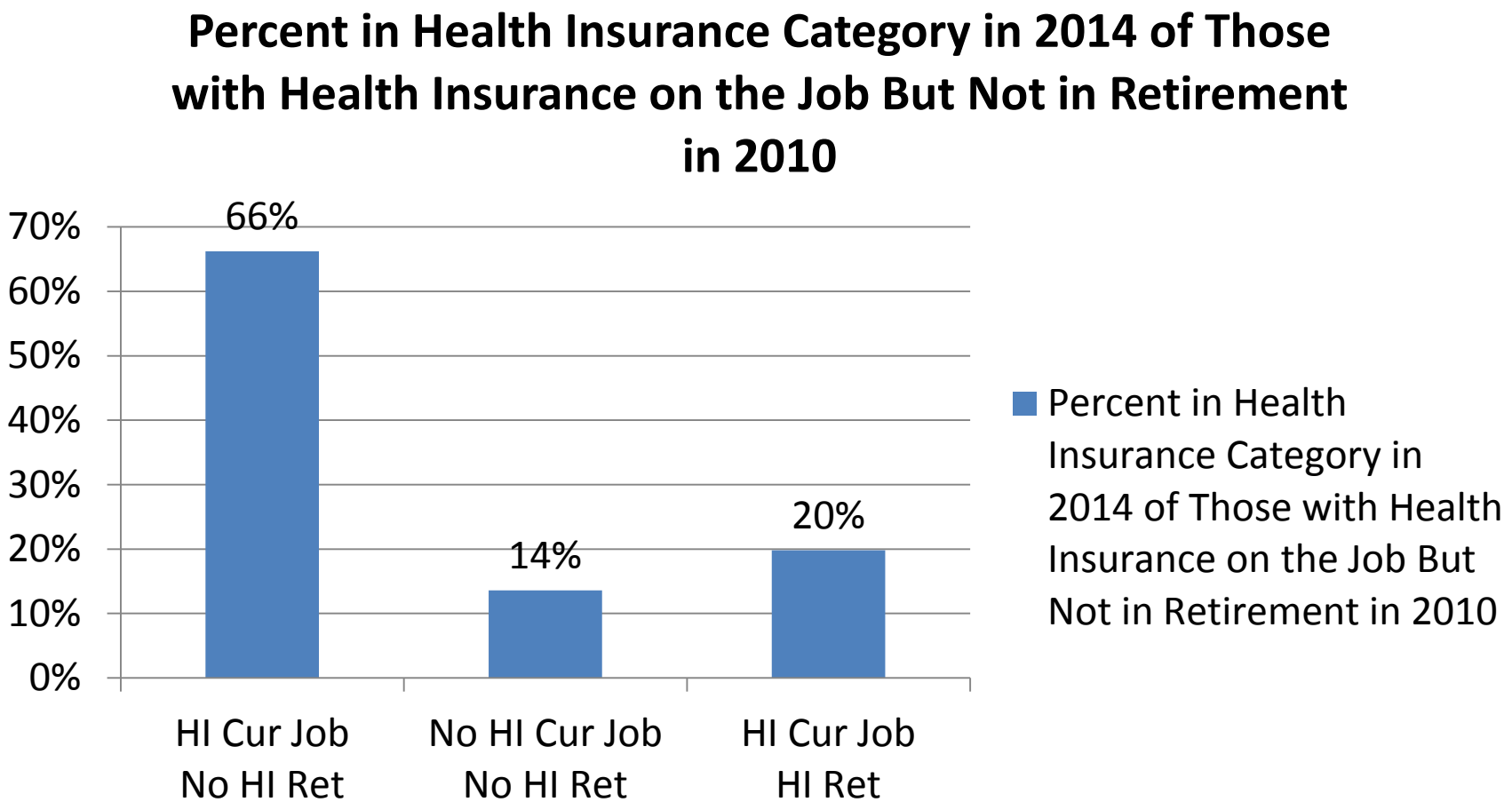
Percent of Employees with Employer Provided Health Insurance at Work and in Retirement, 2010 - 2014



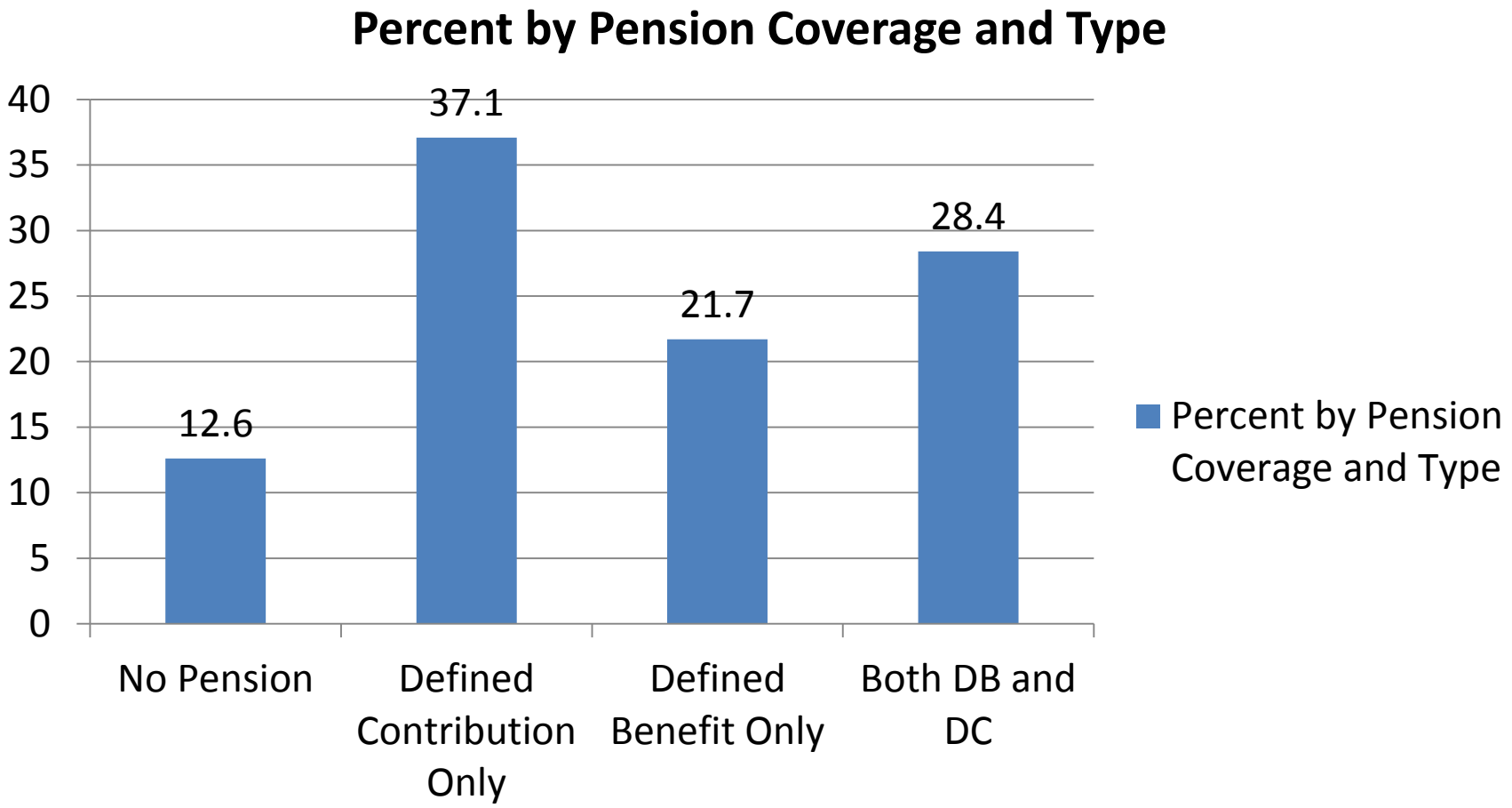
All Sources of Health Insurance in 2010 and 2014 For Employed Individuals



Health Insurance Coverage Is Dynamic For Continuously Employed



Pension Coverage and Type for Those with Retiree Health Insurance, 2010



Difference in Percent Who Retired Over Four Year Period, Mid Boomer vs. Early Boomer Cohorts

	Percent Mid Boomers Who Retired Between 2010 and 2014	Percent Early Boomers Who Retired Between 2004 and 2008	Difference in Percent, Mid Boomers – Early Boomers
HI on Current Job; No Retiree HI	3.6	6.3	-2.7
No HI on Current Job; No Retiree HI	2.7	4.2	-1.5
HI on Current Job; Retiree HI	7.6	10.2	-4.2

Probit Relating Retirement to Health Insurance Coverage

Health Insurance/Cohort Indicators	Includes Only HI Variables	Includes HI Variables and Other Covariates
HI from Current Employer, No Retiree HI	0.1806 (.1134)	0.1346 (.1234)
HI from Current Employer, Retiree HI	0.4380 (.1181)	0.3420 (.1294)
Mid Boomers*HI from Current Employer, No Retiree HI	-0.0634 (.1634)	-0.1345) (.1722)
Mid Boomers*HI from Current Employer, Retiree HI	0.0428 (.1744)	-0.0156 (.1826)
Sample Size	3920	
Standard errors are in parentheses.		

Regression of Change in Expected Ages of Claiming or Retirement Between 2010 and 2014 (R's with expected age 65 or below in 2010)

	Dependent Variable: Change in Expected Claiming Date		Dependent Variable: Change in Expected Retirement Date	
	Includes Only HI Variables	Includes HI Dummies and Other Covariates	Includes Only HI Variables	Includes HI Dummies and Other Covariates
HI from Current Employer, No Retiree HI (t values in parentheses)	-.003 (0.01)	.018 (0.08)	.112 (0.38)	-.224 (0.69)
R^2	.0030	.0202	.0031	.0295
Sample Size	798			

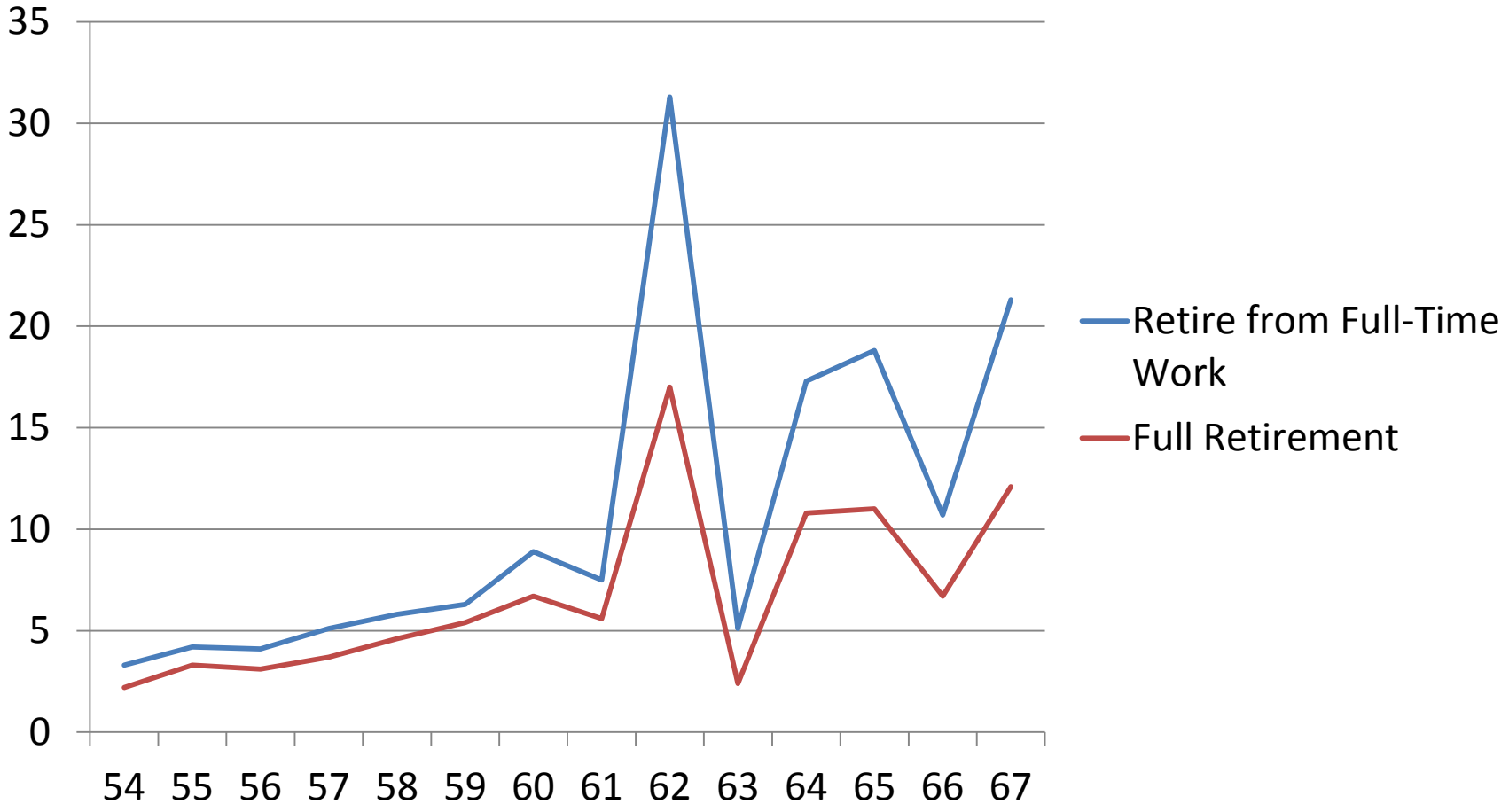
Long Run Response to ACA Simulated with a Structural Retirement Model

- Utility function:
  - Allows time and leisure preferences to differ among individuals.
  - Disutility of work varies with detailed measures of health.
- The opportunity set includes:
  - wage offers for full and part time work
  - higher wage jobs require full-time work
  - pension rules from employer provided plans
  - Social Security rules
  - out of pocket health expenditures determined by health and insurance
- Stochastic factors:
  - risk of adverse health
  - uncertain life expectancy
  - leisure preference after retirement
- Model fit to data from original HRS cohort.
- Data updated to reflect changes in Social Security and pensions and others
- Simulations are conducted with and without ACA.

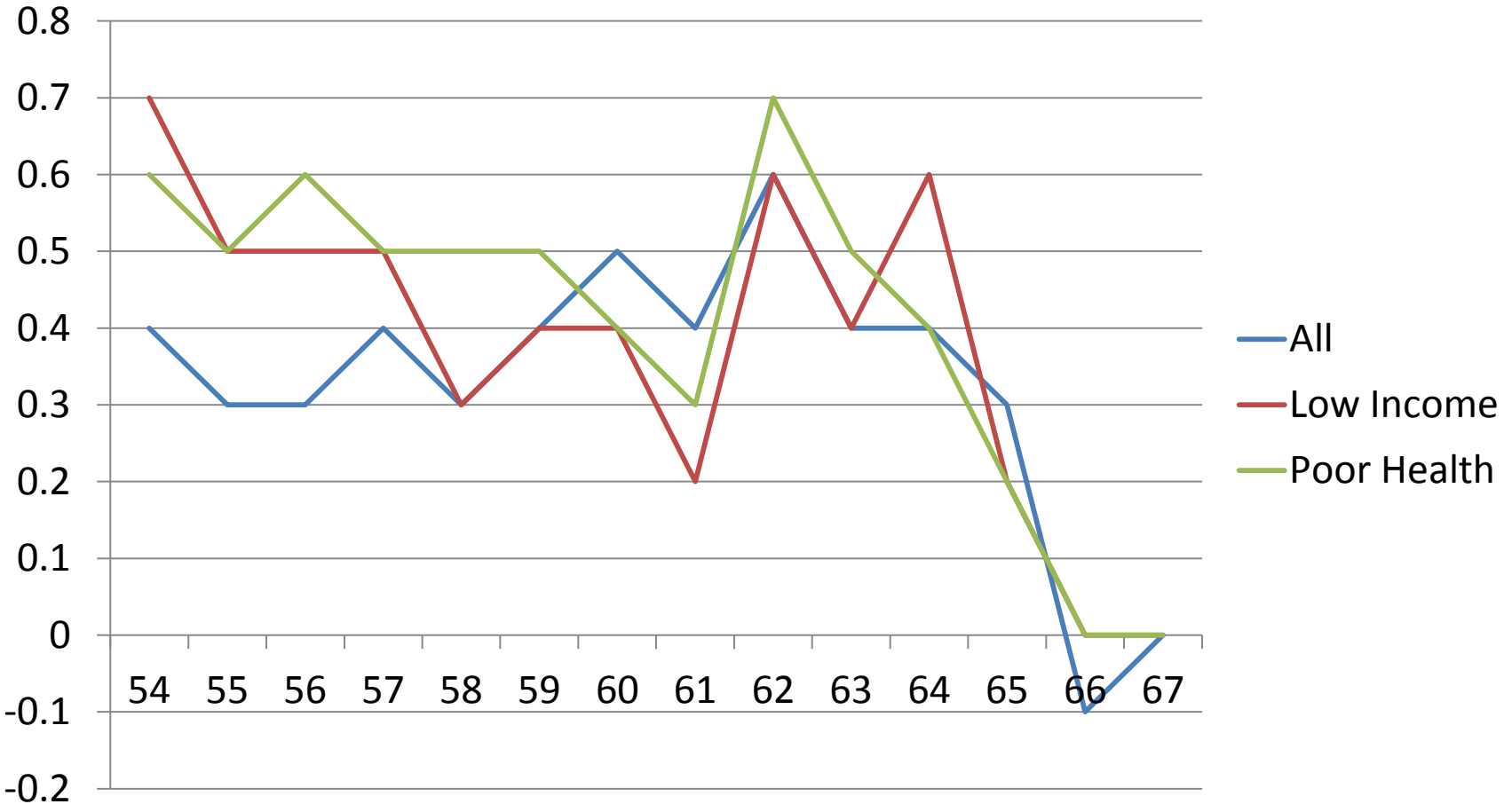
The Structural Model

- Simulates outcomes over the long term as if ACA were in place over the individuals' full work lives.
- Simulates changes over the short and intermediate terms, where respondents reoptimize in view of an unexpected change from the introduction of ACA.

Baseline Retirement Hazard, All Three Health Insurance Groups



Difference in Percent Retired From Full-Time Work Due to ACA For Those Initially With Insurance While Working But No Retiree Coverage



Conclusion: No Evidence to Date ACA Will Have Large Effects on Retirement

- ***Retirements to Date:*** Few have retired earlier as a result of ACA.
- ***Expected Retirement Dates for Near Retirees:*** No impact from ACA.
- ***Long Run Simulations:***
  - ACA increases retirement by half a percentage point for those with health insurance on the job, but not in retirement.
  - Adjustments in the short and intermediate term are not very different.

Reasons Why We May Not Have Found An Effect of ACA on Retirement

- The true effect of ACA on retirement is close to zero.
- Or there will be an effect, but it is not yet observable because:
  - Population still learning, incentives not yet understood.
  - Long adjustment period, takes time to adjust saving.
  - Levy et al. -- problems with the start-up of the exchanges adversely affected perceptions.
  - More elaborate specification required.
  - Errors in measuring health insurance incentives in 2010 obscure a true effect of ACA on retirement.

Perhaps Larger Changes Once ACA Is In Place For A While?

- Strong penalties for not conforming to ACA have just come on line.
- Employer offering of retiree coverage may decline further, increasing size of group with HI on the job but not in retirement.
- If states expand Medicaid, the effect in the simulations will increase.

Bottom Line

- No observable effects to date of ACA on actual or expected retirement or claiming.
- Small effects simulated for the long term.
- Researchers should reestimate retirement and expectations equations when 2016 data become available.

Comments on "The Affordable Care Act as Retiree Health Insurance"

by Alan Gustman, Thomas Steinmeier, and Nahid Tabatabai

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Washington, DC
August 4, 2016

The CBO projected a sizeable effect of the ACA on labor supply.

HEALTH CARE

ObamaCare to reduce workforce by 2 million jobs' worth of hours, CBO says

Published December 10, 2015 · FoxNews.com 5738 2 6028

Much of this response is through retirement, with projections based on academic work.

- CBO's Harris and Mok (2015): Increase in retirement age of 2.25 percent in 2025
  - 10 mil workers with insurance => 225,000 retiring early
- Based on estimates from Gruber and Madrian (2004) on COBRA implementation.
- Also big effects from Medicaid expansions (or cuts), some studies of Massachusetts reforms.

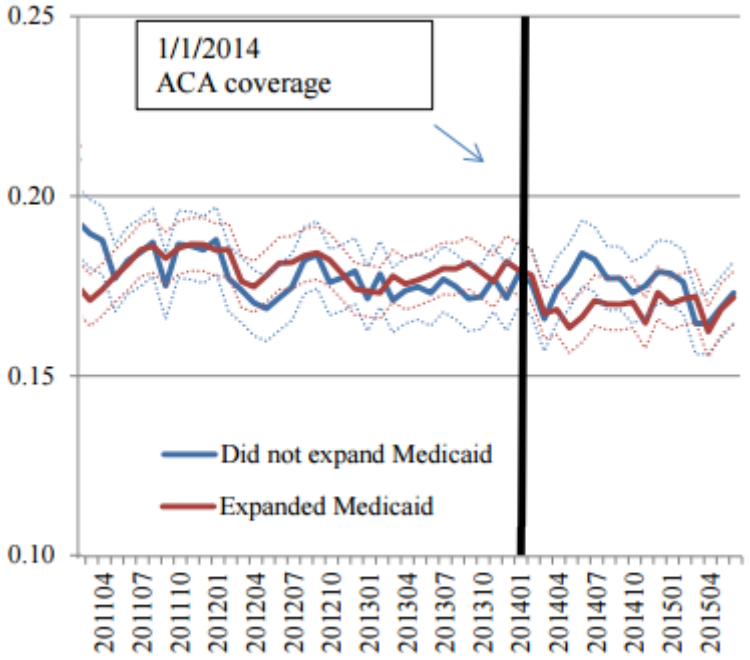
How might the ACA increase retirement?

- No longer need to work for insurance ("job lock").
- Reduces OOP expenditures before age 65.
- Reduces need to save for these OOP costs.
- Easier to qualify for Medicaid/subsidies if not working.

But the early evidence suggests no effect.

- Levy, Buchmueller, and Nikpay (2015): no increase in retirement or part-time work in Medicaid-expanding states

Fraction of Individuals Ages 55-64 Who Are Retired, 2011-2015



Source: Levy, Helen, Thomas Buchmueller, and Sayeh Nikpay. 2015. "The Effect of Health Reform on Retirement." Working Paper 2015-329. Ann Arbor, MI: Michigan Retirement Research Center.

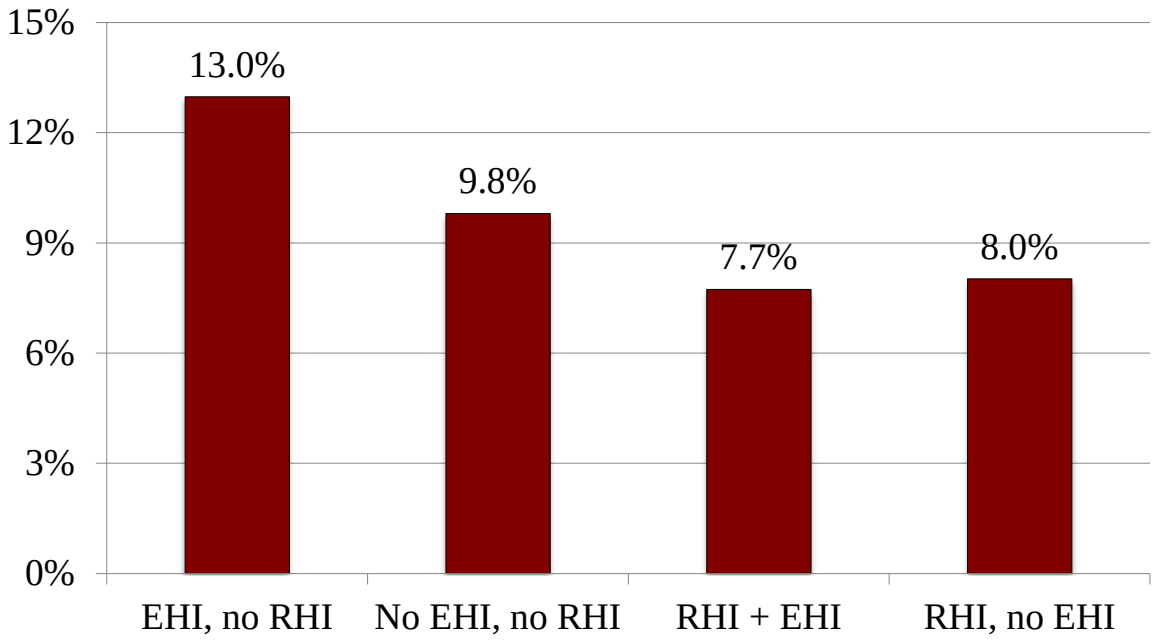
Gustman, Steinmeier, and Tabatabai (2016)

- Have retirement patterns changed in the two most recent HRS waves?
- If it's still too soon, have retirement expectations changed?
- What *should* we expect from rational actors?
  - And does their response depend on how old they are when access to coverage is expanded?

Strategy: Who should be most affected?

- Similar to Coe, Khan, and Rutledge (2013), who find an age-65 retirement spike primarily due to Medicare.

Predicted Probability of Retiring at Age 65, by Pre- and Post-Retirement Health Insurance Coverage



Source: Coe, Norma B., Mashfiqur R. Khan, and Matthew S. Rutledge. 2013. "How Important is Medicare Eligibility in the Timing of Retirement?" *Issue in Brief* 13-7. Chestnut Hill, MA: Center for Retirement Research at Boston College.

Empirical results

- No relationship between EHI-RHI status and:
  - Actual retirement probability.
  - Expected retirement age.

- In both cases, no difference across cohorts.

=> ACA is not associated with actual nor expected retirement.

Structural model results

- No difference in response by age at reform
  - Knowing about HI access would influence saving.
  - So result implies saving for OOP doesn't drive retirement.

- Only modest increase in retirement rate.
  - Must come from declining value of job, reduced need to cut back on consumption to afford OOP medical.

Why hasn't ACA affected retirement?

- It's still too soon, even for retirement expectations.
  - Still much uncertainty, lack of understanding.

- Coverage may not be very good (or at least not well-regarded).
  - High deductibles, limited networks
  - Implementation problems
  - States without Medicaid expansions
  - Medicaid stigma

- They weren't saving for pre-Medicare OOP costs anyway.

Maybe ACA coverage *isn't* like RHI.

- RHI is simpler, less disruptive.
  - Same platform, same network, maybe similar benefits.

- RHI is part of a comprehensive compensation strategy.
  - Often with defined benefit plan.
  - Almost always with expectation of career employment.
  - Are RHI people all that similar to EHI-but-no-RHI?
    - Especially after decades of decline?

Critiques and suggestions

- Does RHI represent any previous job, or just current job?
  - Surprising that DC coverage is most common; short tenure?

- Account for ongoing secular increase in retirement age.

- How exactly does insurance operate in structural model?
  - Assume all coverage is alike?
    - If ACA coverage worse, even less likely to see effect.
  - Difference between Medicaid and exchange coverage?
    - Emphasizes different responses by income level.

Critiques and suggestions (cont'd)

- Actual retirement analysis: only at ages 51-56.
  - Retirement rates are very low; why not older cohorts?
  - Need marginal effects, not probit coefficients.

- Simplify section on coverage types.
  - Focus on just own and spouse EHI, other private, none.
  - Don't need as much on transitions across waves.

- Don't overstate pattern for no-EHI-no-RHI group.
  - Magnitudes are very small.

The Dynamic Effects of Health on Employment

Eric French*

with Richard Blundell, Jack Britton and Monica Costa Dias

August 2016

*University College London and Institute for Fiscal Studies

Question: How Important is Health for Understanding Employment?

Standard cross sectional estimates (e.g., OLS) suggest surprisingly small effects of health on employment

- 10% of the fall in employment between ages 50-70 can be explained by falling health (Blundell et al. (2015)).

Question: How Important is Health for Understanding Employment?

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- 10% of the fall in employment between ages 50-70 can be explained by falling health (Blundell et al. (2015)).

Cross sectional estimates assume no dynamic effect of health on employment

- But dynamic effects might be important
  - Bad health shock $\Rightarrow$ lower investment in human capital $\Rightarrow$ lower future employment

What We Do

- We estimate a health process, allowing for:
  - Transitory health shocks (e.g. a broken bone)
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- We estimate a health process, allowing for:
  - Transitory health shocks (e.g. a broken bone)
  - Permanent health shocks (e.g., blindness)
- We then estimate the employment responses to these shocks in a flexible way.

Findings: Employment Responses to Transitory Versus Permanent Shocks

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- Transitory health shocks: small effects.
- Permanent health shocks: big effects.
  - Bigger incentive to stay out of the labor force for an extended period of time.
  - Loss of human capital.
- Long run effects of permanent shocks bigger than short run effects.
- Health shocks have a much larger impact on employment than what OLS estimates would suggest.

Data: English Longitudinal Study of Ageing (ELSA)

- ELSA is based on the Health and Retirement Study (HRS), so the data is comparable.
- Longitudinal survey data on individuals 50 or older and their partners
- Six biennual waves, 2002-2012.
- $N = 11{,}327$ individuals aged 50-66.
  - 2,547 of whom are low-educated men.

Measuring Health

- Take first principal component, subjective health measures:

Variable	Mean
Health limits activities (often =1), (never =4)	3.06
General health (excellent =1), (poor = 5)	2.59
Health limits work (does not =0), (does =1)	0.25

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- Regress principal component on objective health measures:

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Cancer	.02
Asthma	.09
Diabetes	.05
Poor eyesight	.02
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High blood pressure	.21
Arthritis	.25
Psychiatric problems	.07

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- Our health measure is predicted health from this regression.

Model: Health

- The health of individual i at age a follows the process:

$$h_{ia} = \beta_0 + x_{ia}\beta_x + \pi_{ia} + \epsilon_{ia}$$

$$\pi_{ia} = \rho\pi_{ia-1} + \omega_{ia}$$

$$\omega_{ia}, \epsilon_{ia} \sim iid$$

- x_{ia}: cubic in age
- π_{ia}: permanent component of health
- ϵ_{ia}: transitory component of health

Dynamic Model of Whether to Work

- The choice of whether to work is a function of
  - lagged employment
  - permanent health π_{ia}
  - transitory health shocks ϵ_{ia}
  - π_{ia-1} and ϵ_{ia-1} (lag of π_{ia} and ϵ_{ia})
  - age
  - utility shock

Two Step Estimation Procedure

- First step: Estimate the parameters in the health process $(\rho, \sigma_\omega, \sigma_{\pi_0}, \sigma_\epsilon)$ using an error components model.
  - Match the VCV matrix of health

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- First step: Estimate the parameters in the health process $(\rho, \sigma_\omega, \sigma_{\pi_0}, \sigma_\epsilon)$ using an error components model.
  - Match the VCV matrix of health
- Second step: Take estimated health process as given, then estimate parameters of the employment process using the Method of Simulated Moments. Match:
  - VCV matrix of employment
  - Covariance matrix of employment and health
  - Employment rates, by age

Results: Health Process

$$h_{ia} = \beta_0 + x_{ia}\beta_x + \pi_{ia} + \epsilon_{ia},$$

where $\beta_0 + x_{ia}\beta_x$ estimated using OLS. The health residuals are

$$\begin{aligned} \pi_{ia} + \epsilon_{ia} &= h_{ia} - (\beta_0 + x_{ia}\beta_x) \\ \text{where } \pi_{ia} &= \rho\pi_{ia-1} + \omega_{ia} \end{aligned}$$

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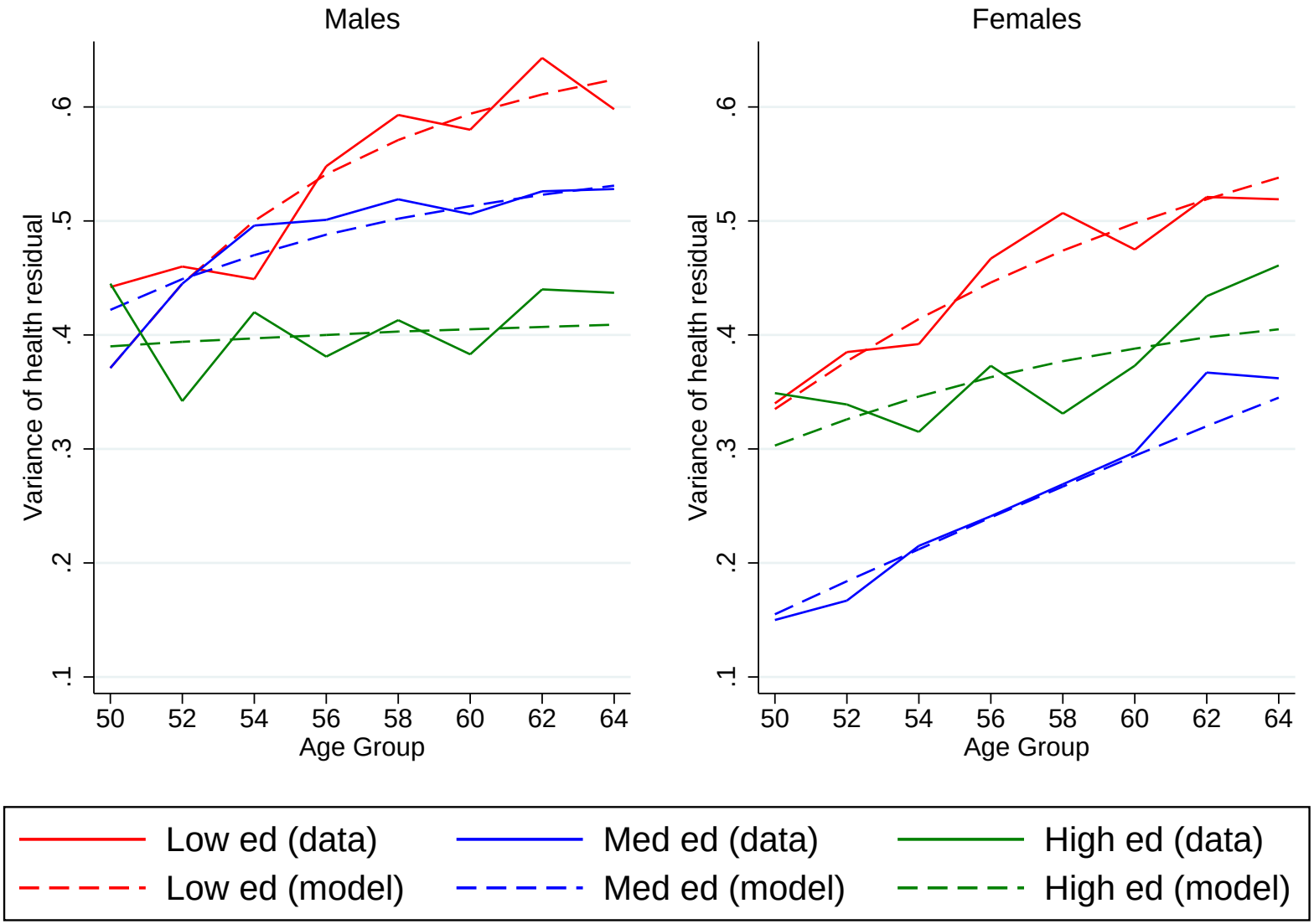
Covariance of health at age a with health at age...

Age	Model	Data	Model Prediction Estimated
a	$\sigma^2_{\pi_a} + \sigma^2_\epsilon$	.548	.544
$a+1$	$\rho\sigma^2_{\pi_a}$	.459	.431
$a+2$	$\rho^2\sigma^2_{\pi_a}$	.406	.382
$a+3$	$\rho^3\sigma^2_{\pi_a}$	.378	.328
$a+4$	$\rho^4\sigma^2_{\pi_a}$	.343	.282

$\hat{\rho} = .863$(s.e.= .034) (on a biennial basis)

Model Fit for the Variance of Health

...by age for each gender and education group



Results: Employment

Covariance of employment at age a with employment at age...

Age	Data	Model Prediction Estimated
a	.202	.193
$a+1$	.162	.155
$a+2$	.149	.127
$a+3$	.123	.102
$a+4$	.085	.063

Results: Employment

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The model can fit the serial correlation because:

- Health affects employment, and health is serially correlated.
- Lagged employment impacts current employment directly.

Results: Employment and Health

Covariance of employment at age a with health at age...

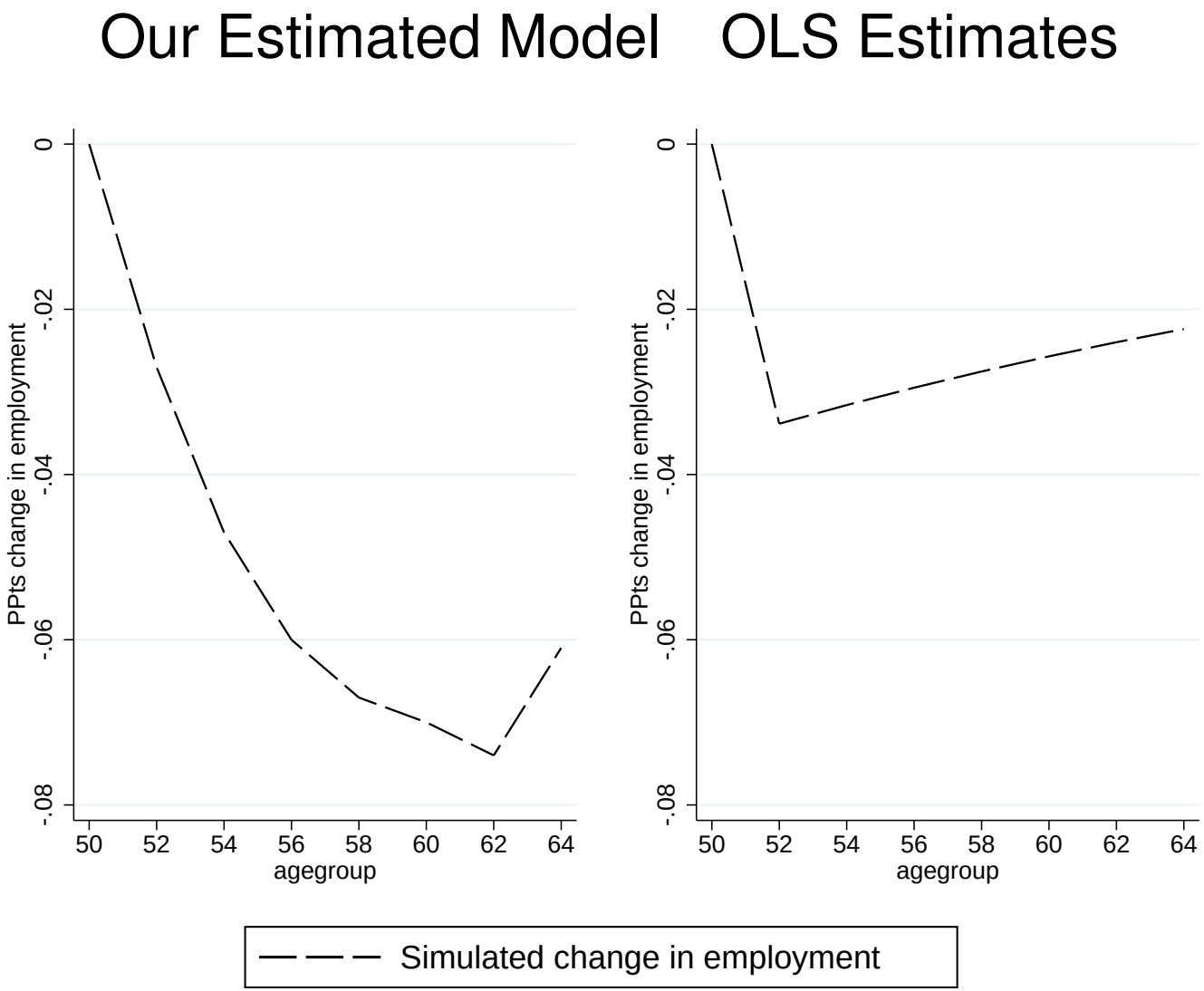
Age	Data	Model Prediction Estimated
$a-2$	.131	.130
$a-1$	.121	.123
a	.105	.102
$a+1$	.093	.085
$a+2$	.084	.073

Employment is

- highly correlated with lagged health
- but not so much with current or future health

Predicted Employment Response

...to a one standard deviation shock to the permanent component of health



Conclusion

- Transitory health shocks: little effect on employment.
- Permanent health shocks: big effect on employment.
- Cumulative effect of permanent shocks grows over time.
- Health shocks have a much larger impact on employment than what OLS estimates would suggest.

URBAN INSTITUTE · ELEVATE · THE · DEBATE

"The Dynamic Effects of Health on the Employment of Older Workers"

Richard Blundell, Jack Britton, Monica Costa Dias, & Eric French

Richard W. Johnson
Urban Institute

August 4, 2016

Estimating Impact of Health on Employment Is Tricky

- What exactly is health?
  - multidimensional concept
- Do respondents accurately report health?
  - different people may evaluate health differently
  - people may justify nonemployment by claiming poor health
  - objectives measures are scarce
- How does impact vary by education or occupation?
  - job demands, employment accommodations
- How does impact vary by duration of health problem?
- Do certain underlying character traits affect both health status and employment?

French et al. Addresses All of These Challenges

- What exactly is health?
- Do respondents accurately report health?
  - construct a composite health index using objective and subjective measures
  - use objective measures to predict subjective measures
  - could use survey info on difficulty with various activities (e.g., sitting for 2 hours, walking several blocks, stooping)
  - maybe use other objective measures, i.e., grip strength?
  - does it make sense to include high blood pressure?
- How does impact vary by education or occupation?
  - examine dropouts, high school grads, college grads
  - men and women

French et al. Addresses All of These Challenges (cont)

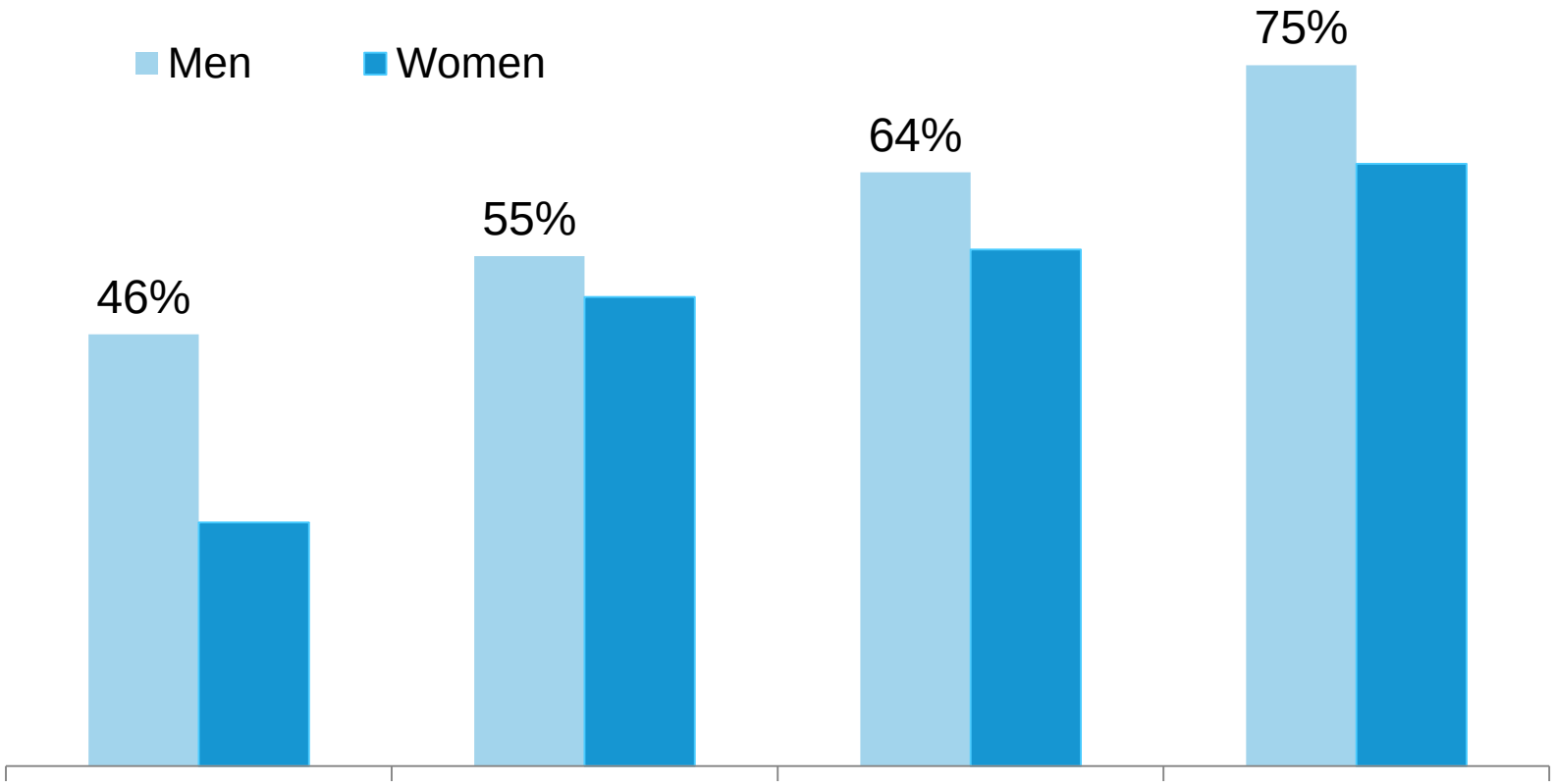
- How does impact vary by duration of health problem?
  - transitory vs. permanent health shocks
- Do certain underlying character traits affect both health status and employment?
  - control for enduring person-specific differences in underlying health

Sophisticated Econometrics Pay Off

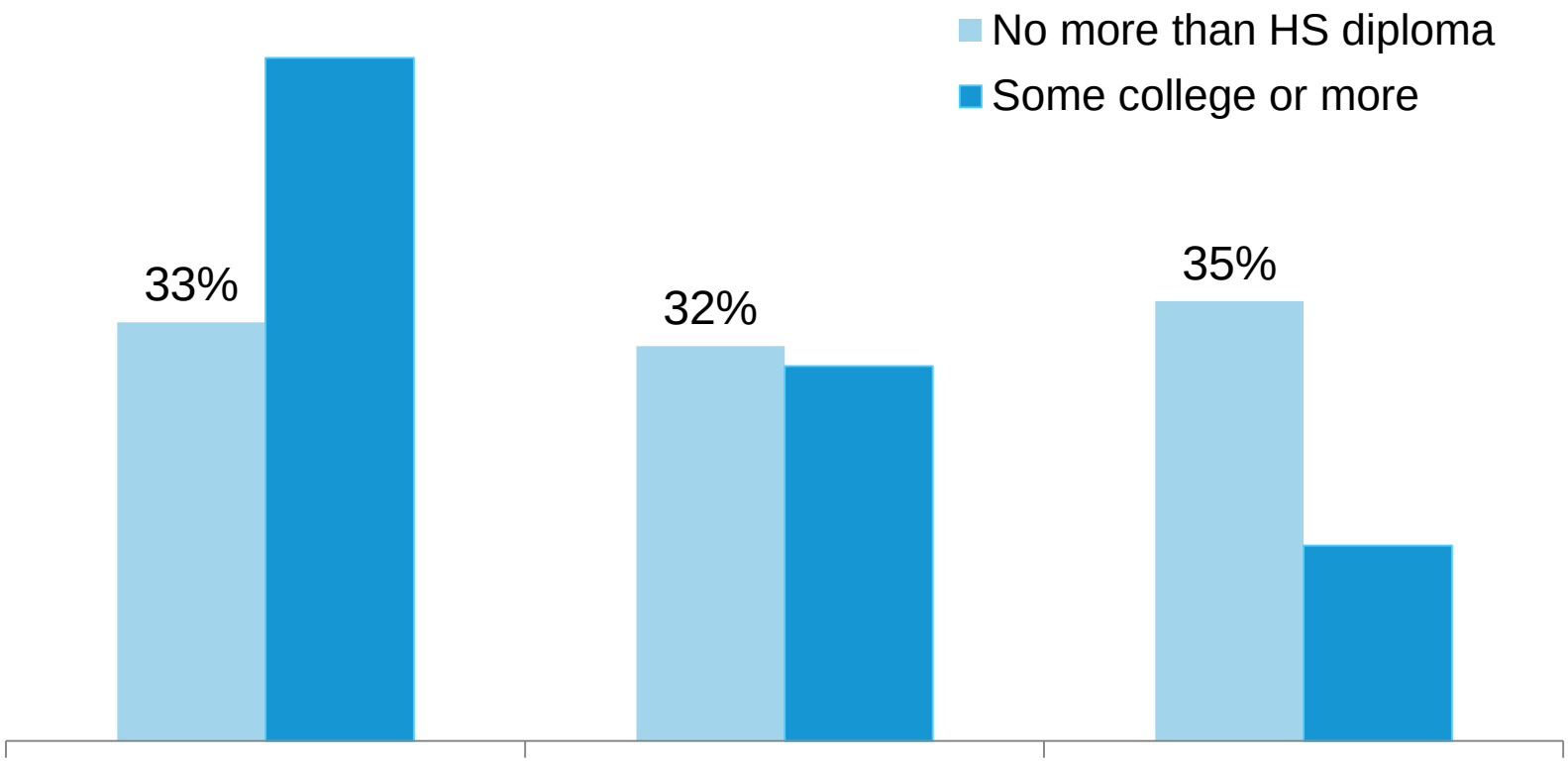
- Permanent health shocks substantially reduce employment rates for people in their 50s and early 60s
  - impact of transitory health shocks is much smaller
- Simple ordinary least squares results show much smaller effects
  - combines important permanent shocks with less-important transitory shocks
- Impact of health shocks appear to persist
  - do nonemployment spells erode human capital?
  - are employers reluctant to hire older workers?

This Research Has Important Policy Implications

- Increasingly, working longer is the key to retirement security
- Yet, health status varies widely across socioeconomic groups
  - may even be worsening for certain groups
  - income inequality will likely grow at older ages
- Can we raise eligibility ages for Social Security and Medicare?
- Do we need to bolster Social Security Disability?
- Look forward to next iteration of paper with more details on educational differences



Source: Johnson, Karamcheva, and Southgate (2016), based on HRS data



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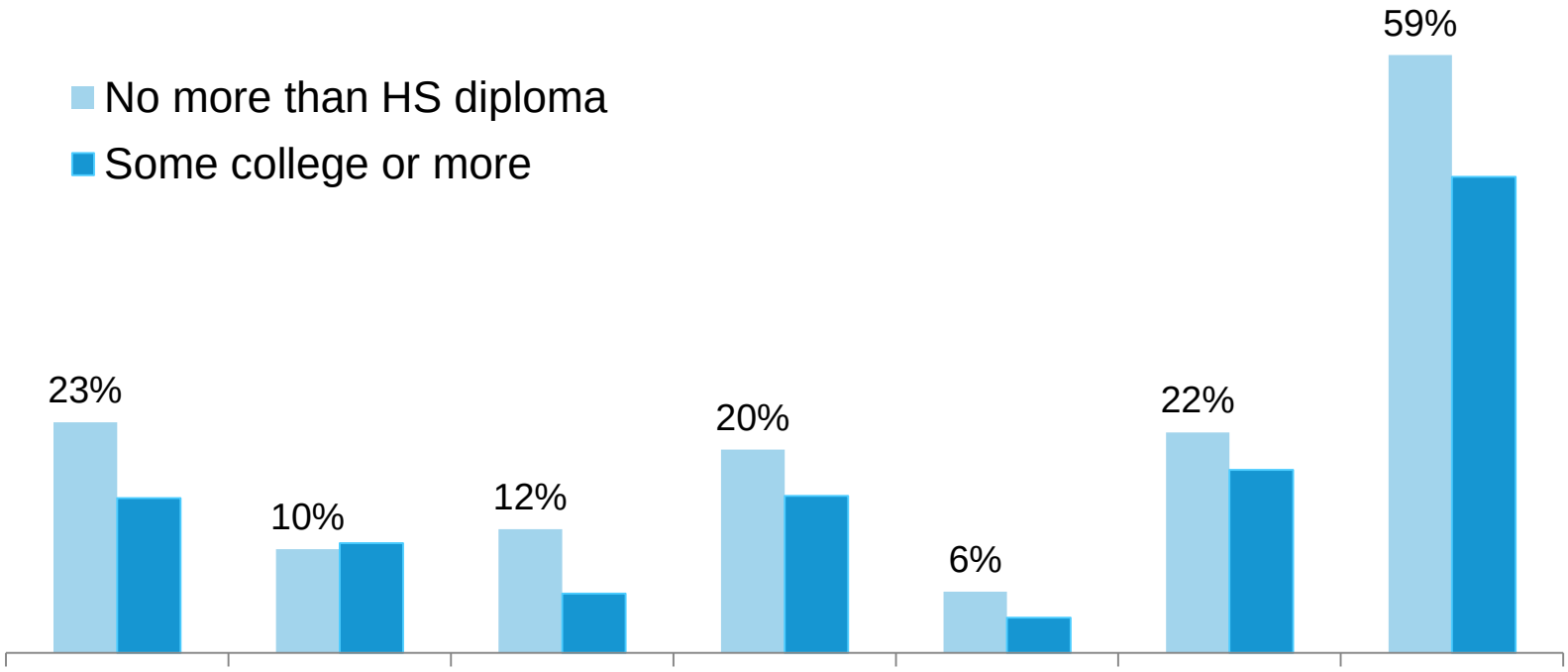

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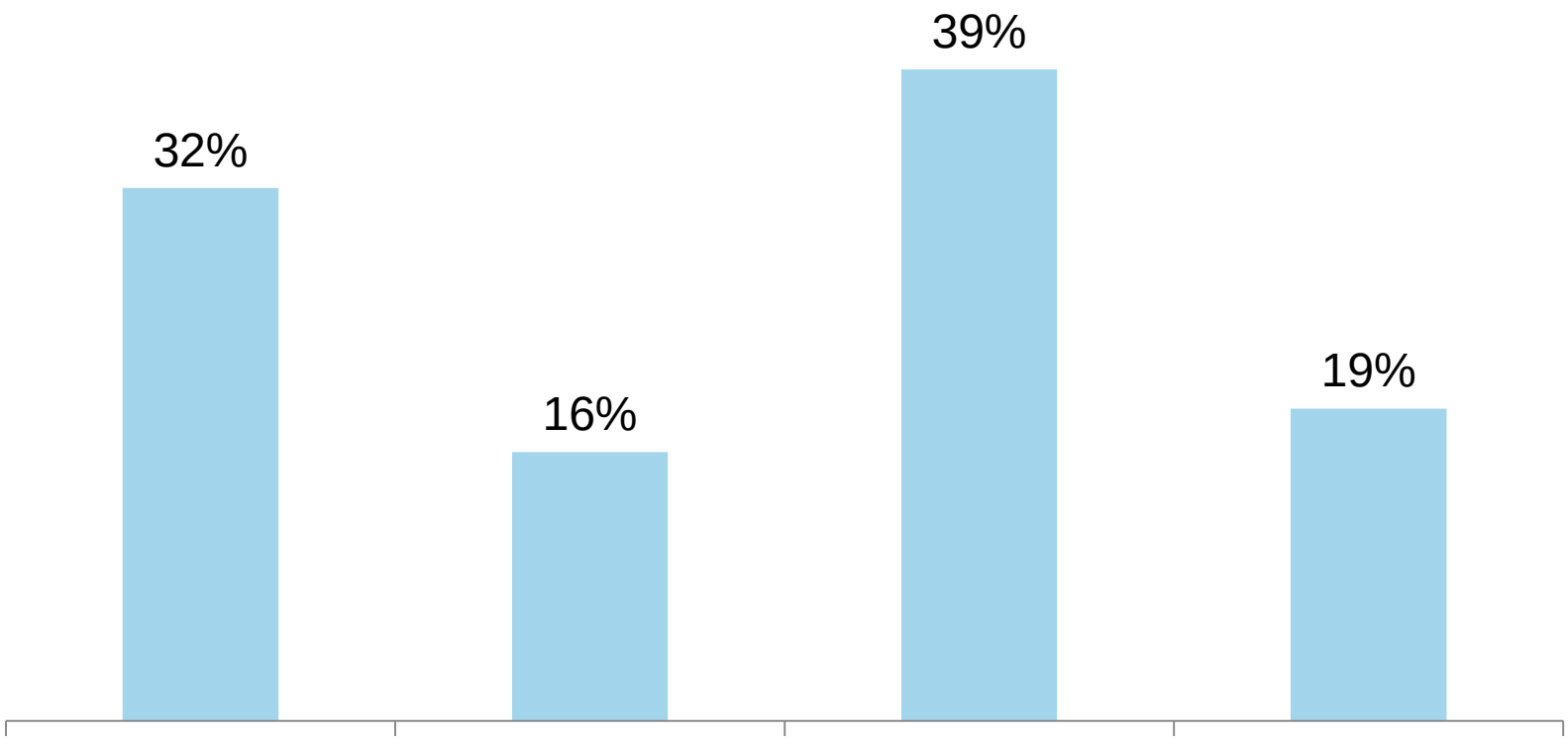

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