

Panel 7: International Comparisons

Job Sustainability: An International Perspective

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We are grateful to the Sloan Foundation and MRRC/SSA for funding the data collection, survey harmonization, and data analysis.

Policy Problem

- Among advanced industrial economies population aging has strained social insurance programs such as Social Security
- Offering opportunities for workers to extend their working lives has emerged as the major policy option to combat the economic effects of population aging
- Since there are many countries facing the same problem – we look to our European neighbors to see if working conditions result in different work sustainability

Americans Poised for Longer Work Lives

- Employment rates at older ages have risen since the mid-1990s
- Middle-aged and older workers today expect to work longer than earlier cohorts
- Work capacity at older ages is substantial (Cutler et al., 2011; Milligan & Wise, 2012; Coile, Milligan & Wise, 2016)
- Many potential benefits of longer work lives
 - Improve personal health (e.g., Rohwedder & Willis, 2010)
 - Improve financial position
 - Mitigate decline in economic growth (e.g., Maestas & Zissimopoulos, 2010)
 - Ease pressure on government budgets (Smith & Johnson, 2013)

But...

- Median retirement age still 62 (2015 Retirement Confidence Survey)
- About 1 in 3 Americans claims early (reduced) Social Security benefits at age 62
- More people plan to work at older ages than actually work (Maestas, 2010)
- Older job seekers less likely to find matches than younger job seekers (von Wachter et al., 2009; Chan and Stevens 2001; Maestas and Li 2006)

Factors Influencing Job Sustainability

- Eurofound report (5TH EWCS: 2010) found the following job attributes are associated with unsustainable jobs
 - Shift and night work
 - Tiring or painful positions
 - Working to tight deadlines
 - Poor fit between work and other commitments
 - Weak latitude at work
 - Weak social support at work
 - Bad career prospects
 - Job insecurity

Sixth European Working Conditions Survey

Conducted every 5 years

- Themes covered include employment status, working time duration, work organization, learning and training, physical and psychosocial risk factors, health and safety, work-life balance, worker participation, earnings and financial security, as well as work and health.
- In each wave a random sample of workers (employees and self-employed) has been interviewed in person. Following the European enlargements and interest from the EFTA countries the geographical coverage of the survey has expanded:
 - [survey of workers in the EU28, Norway, Switzerland, Albania, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey](#)

American Working Conditions Survey 2015

- Fielded on the RAND American Life Panel, nationally representative
- Harmonized with European Working Conditions Survey 2015
- Panel data, working conditions information collected every 6 months for three waves

- How do the working conditions of older workers compare to those of younger workers?
- What kinds of jobs are sustainable over a longer work life?
- How do the U.S. and Europe compare?

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Dimensions of Jobs

Wages/Benefits

Hours

Control over
hours

Location of
work

Paid time off

Pace

Autonomy

Stress

Physical
demands

Social support
at work

Learning on
the job

Meaningful
work

Working Conditions in the U.S.

	Age < 50	Age >= 50
Work 10+ hours for 10+ days/month	18.8	16.4
Work schedule set by employer (no possibility for changes)	35.7	35.6
No option to telecommute	77.0	77.7
Work at very high speed (1/2 time+)	73.5	60.1
No choice of methods of work	25.9	26.2
Experience stress at work always/most of time	46.1	33.5
Carrying or moving heavy loads (1/2 time+)	33.8	22.3
No very good friends at work	15.3	13.7
No feeling of positive impact on community or society	19.0	9.6
Not satisfied with working conditions	15.5	13.4

Job Sustainability

- “Do you think you will be physically and mentally able to do the same job or a similar one when you are [age+10] years old, that is, when you are 10 years older than now?”
 - Separate responses for physically, mentally
 - Ages 40-59 asked about 10 years ahead; ages 60+ asked about 5 years ahead
- 85% ages 40-59 say they can physically and mentally do their same job 10 years from now

Sustainable Jobs Have More Favorable Working Conditions

	Non-Sustainable	Sustainable
Work 10+ hours for 10+ days/month	16.4	18.1
Work schedule set by employer (no possibility for changes)	44.7	33.7
No option to telecommute	84.3	75.4
Work at very high speed (1/2 time+)	72.7	65.5
No choice of methods of work	34.5	25.0
Experience stress at work always/most of time	59.1	31.9
Carrying or moving heavy loads (1/2 time+)	50.9	21.3
No very good friends at work	20.7	14.3
No feeling of positive impact on community or society	12.1	11.4
Not satisfied with working conditions	30.3	10.8

Exposure to Challenging Working Conditions

US generally better

		Under 35	33-49	50+
Painful or tiring positions (1/4 time or more)	EU	42	44	43
	US	40	39	36
Not learning new things	EU	25	27	23
	US	12	17	20
No training provided in the last 12 months	EU	59	57	62
	US	19	32	38
Fear of losing job in next 6 months	EU	19	15	14
	US	7	10	10
Not able to change methods of work	EU	34	31	27
	US	22	27	26

Sample: AWCS N=2109

Results weighted using raked sample weights (AWCS).

Exposure to Challenging Working Conditions

EU generally better

		Under 35	33-49	50+
Shift work	EU	26	22	16
	US	44	34	27
Working at high speed (3/4 time or more)	EU	37	34	28
	US	56	47	33
Adverse social behavior*	EU	18	17	13
	US	21	19	15
Poor prospects for career advancement	EU	50	63	71
	US	56	62	72

Sample: AWCS N=2019

Adverse social behavior is measured by combining seven survey items: verbal abuse, unwanted sexual attention, threats, humiliating behaviors, physical violence, sexual harassment and bullying/harassment.

Results weighted using raked sample weights (AWCS).

Working hours flexibility

Can adapt starting and finishing times within designated margins (flextime)

- 20% EU and 44% US

Changes in working time arrangements happen for 31% of employees (both EU and US)

- Notified of change on same day
 - 5% in EU and 11% US
- Notified of change the day before
 - 8% in EU and 5% US

Blurring the Boundaries of Work

Working in your free time to meet work demands

- 45% EU, 50% US
 - Daily basis: 3% EU, 9% US
 - Several times a week: 7% EU, 18% US
 - Several times a month: 13% EU, 23% US

Ability to take an hour or two off during working hours

- EU: 25% very easy / 40% fairly easy
- US: 30% not difficult at all / 33% not too difficult

Exposure to Physical Risks

(percent exposed a quarter of the time or more)

	EU	US
Lifting or moving people	10	15
Handling infectious materials	12	15
Handling chemicals	18	16
Vibrations	20	14
Noise	28	25
Carrying or moving heavy loads	32	34
Tiring or painful positions	43	36
Repetitive movements	61	70

Sample: AWCS N=2490

Results weighted using raked sample weights (AWCS).

Employee autonomy by sex

(percent reporting ability to choose or change)

		EU	US
Order of tasks	Men	61	68
	Women	67	77
Methods of work	Men	63	75
	Women	67	72
Speed or rate of work	Men	68	78
	Women	69	78

Sample: AWCS N=1796

Results weighted using raked sample weights (AWCS).

Conclusion

- Proportion of workers with adverse working conditions declines with age
 - Likely due to both selection out of the labor force and selection into jobs with better working conditions
- American workers have more flexibility in the timing of work and task autonomy, as compared to Europe
- But, Americans are much more likely to have work and leisure boundaries that are blurred

Comments on :Working conditions and Sustainable Work at Older Ages

Howard Iams
Social Security Administration

2016 RRC

Comments do not represent the position of SSA.

Motivation

- A longer work life increases resources in older age and shortens the Full retirement period. Working conditions affect the length of employment.
- Sources of income for the aged have been changing. In U.S.:
 - Increased reliance on earned family income among older persons (\geq age 65)
 - Increased reliance on assets and asset income (in and out of tax advantaged retirement accounts). Shift from traditional defined benefit to defined contributions retirement plans. Decrease in employer based annuities.
 - Gradual reduction in Social Security benefits among more recent birth cohorts.
 - Reliance of a substantial portion of aged on Social Security for at least half of family income and benefits decreasing with increase in Full Retirement Age for those born after 1937.

Objectives

- Compare working conditions across age groups and across countries to look for similar patterns related to older workers relative to younger workers.
- Compare by education level (college educated, other), gender, and age groups (25-39, 40-49, 50-59, 60-71; sometimes <50, >=50).

Data

- Estimates based on survey reports (ALP in US.; European Working Conditions Survey in 35 countries).
- Workers aged 18-71 in 2015 survey
- Work characteristics includes hours, worker control, autonomy, stress, physical demands, group work, on-the-job training, meaningfulness, pay, and benefits.
- Ask if worker could do current or similar job in the future (usually age + 10 years).

Results

- Tabulate worse working conditions by age and education group.
- Shift work, control of speed, adverse social behavior, and opportunity for advancement are less likely among older age groups. Americans have greater flexibility in starting and finishing work.
- Sustainable jobs related to better working conditions.
- College educated usually have better working conditions.

Suggestions for future work

- Classify by major occupation (white collar, blue collar; professional-managerial, clerical,sales, services, Natural resources-construction-and maintenance, production-transportation and material moving).
- Classify by major industry
- Cluster by country (U.S., England-Survey of Health Aging and Retirement in Europe, other)
- Does job tenure associate with outcomes and vary by age and education?
- Is it possible to link these survey data to other data such as SHARE or HRS?

How does retirement behavior respond to drastic changes in social security rules? Lessons from the Norwegian 2011 Pension Reform

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RRC Annual Meeting, 5 August 2016

Social security and retirement

Common observation: Spikes in retirement hazards at the Early Retirement Age (ERA)

Possible explanations:

1. Lower net returns to work past the ERA
 - Due to earnings testing and non-neutral deferral mechanisms
2. Availability of pension benefits affecting retirement
 - Inconsistent with “standard model” with no liquidity constraints
 - Due to liquidity constraints, self-control problems, focal point norms?

Social security and retirement

Common observation: Spikes in retirement hazards at the Early Retirement Age (ERA)

Possible explanations:

1. Lower net returns to work past the ERA
2. Availability of pension benefits affecting retirement

A comprehensive pension reform in Norway allows us to quantify the effects of

1. increased net returns to work past the ERA
2. a reduction in the ERA

Research questions

1. What are the effects of increased work incentives past the ERA on older workers' labor market behavior?
 - AFP workers: ERA = 62
Removed implicit tax on continued work
2. What is the labor supply effect of providing flexible pensions from age 62?
 - nonAFP workers: ERA = 67 → ERA = 62
3. Can the spike in retirement at the ERA be reconciled with incentives in the pension system?
 - Calculate elasticities consistent with observed bunching in retirement age

Main findings (so far)

1. Removing earnings testing and implicit tax on work past ERA has large positive effects on employment and earnings
2. Allowing workers to start drawing on their pension wealth from an earlier age has no effects on employment
 - Myopia/liquidity constraints not particularly important for spikes in retirement at minimum pensionable age
3. Elasticities consistent with observed bunching and changes in work incentives around the ERA are small
 - Behavioral responses to the Norwegian pension system in line with standard economic theory

Institutional background

The Norwegian pension system (pre-reform)

NIS (National Insurance Scheme):

- A PAYGO system with universal coverage
- Minimum pension + earnings related pension
- Benefits available from age 67

AFP (supplementary contractual pension scheme):

- Covers about 50% of private sector workers
- Available between age 62 and 67
- No actuarial adjustments; earnings testing

Disability pension system:

- Take-up rate $\approx 40\%$ at age 66

The 2011 pension reform

2011: Major reform of NIS and private sector AFP

Main features of new system:

- 1 Claiming of pensions can take place between ages 62 and 75
- 2 Actuarially neutral benefit deferrals/deductions
- 3 No earnings testing

⇒ “Flexible retirement”: New pension rules disentangle age of exit from the labor force (“exit age”) from age of claiming benefits (“claiming age”)

AFP covered workers vs non-covered workers

Two groups of private sector workers affected in distinctively different ways:

- 1 AFP affiliated workers: Earnings testing and implicit tax on continued work past ERA removed
- 2 Non-affiliated workers: Access to public pensions up to five years earlier than before

This presentation:

- Reform impacts - AFP and nonAFP workers separately
- Reconcile spikes at ERA with pension incentives

Reform impacts: AFP workers

Data

Norwegian register data (various sources)

Main sample:

- Employed in private sector firm at age 58
- Cohorts 1945-1955
- Observed 2007-2014

Outcomes: Employment, earnings, pensions, DI/UI benefits

Spikes: Labor market exits and pension claims

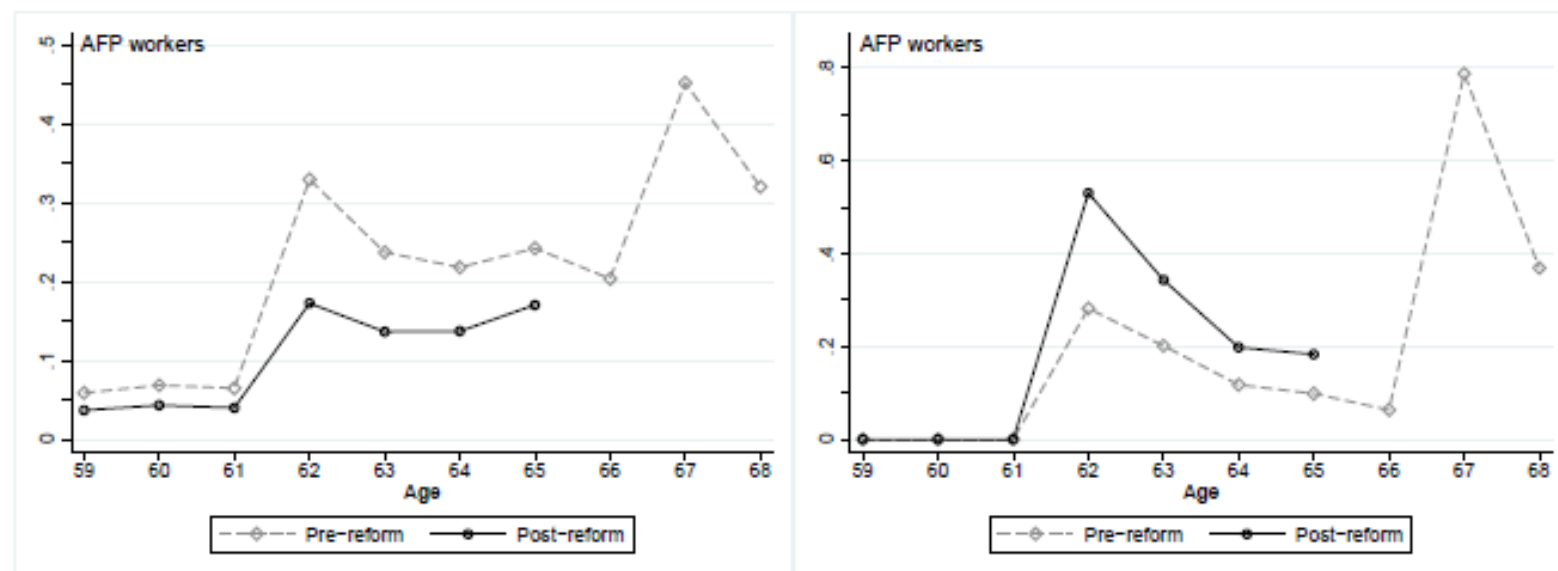
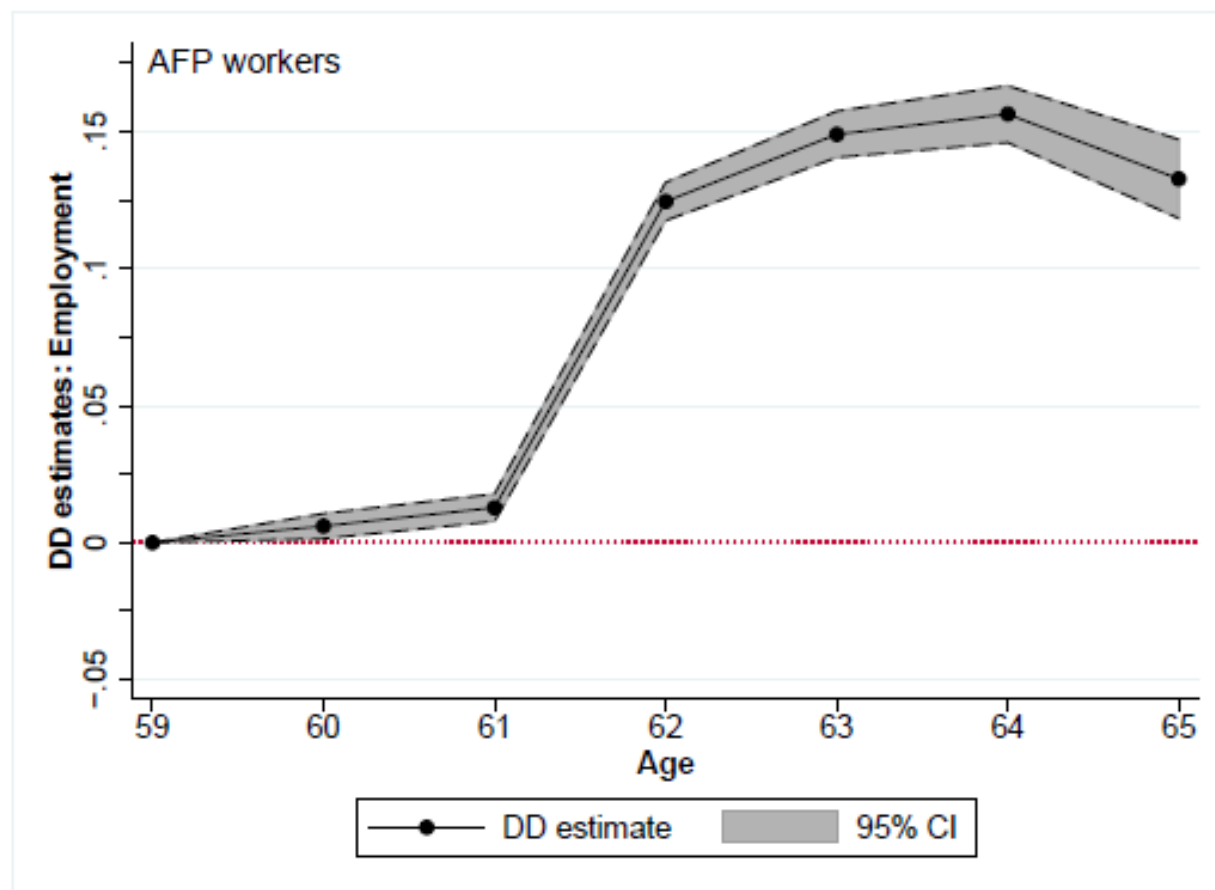


Figure: Labor market exit hazards (left panel) and pension claiming hazards (right panel), extended sample.

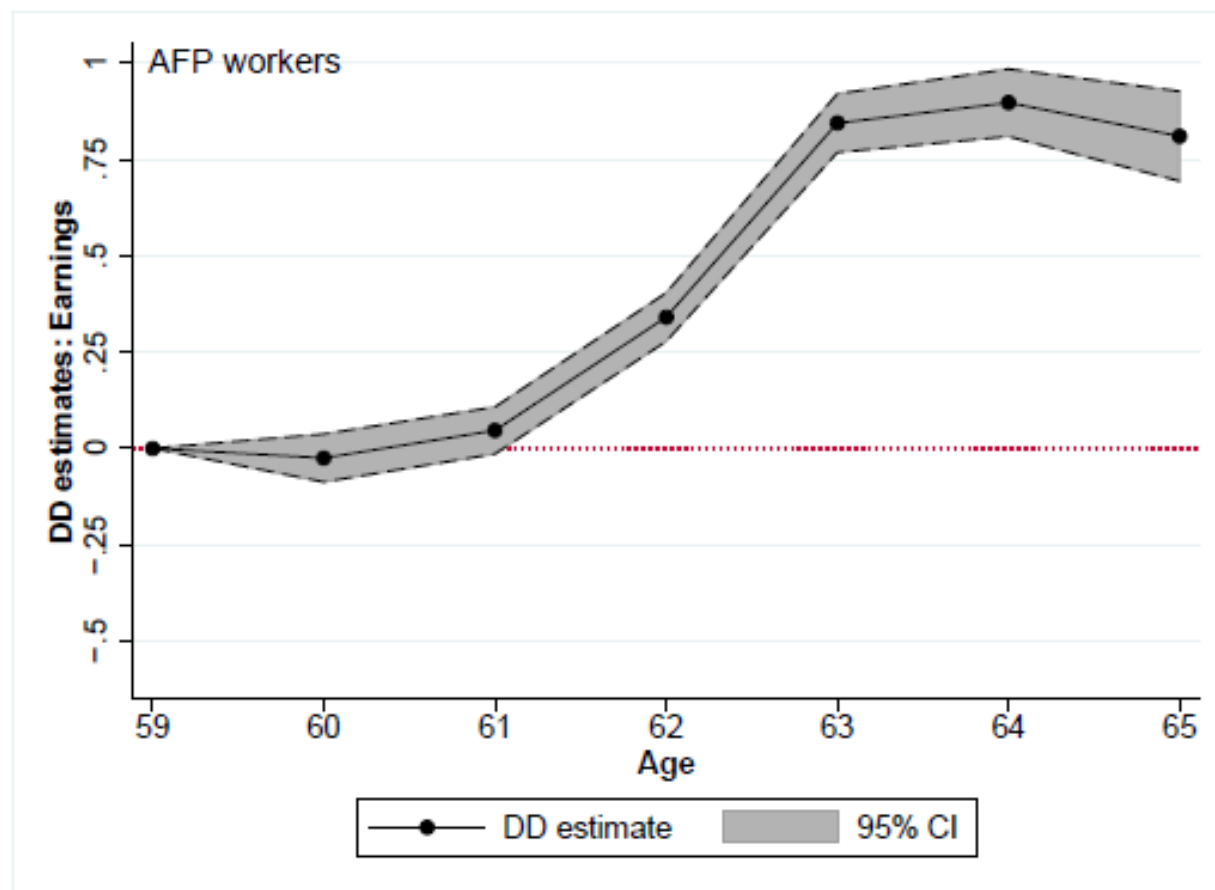
- Left: Significant reduction in exit hazards
 - Right: Significant increase in claiming hazards
- ⇒ Pension receipt + continued work more common

Employment effects by age



DD coefficients relative to employment pre-reform (age):
20% (62), 30% (63), 39% (64), 43% (65).

Effects on earnings by age



DD coefficients relative to mean earnings pre-reform (age):
6% (62), 22% (63), 30% (64), 36% (65).

nonAFP workers

nonAFP workers

Pre-reform: could not claim pensions prior to age 67

Post-reform: access to “flexible retirement” from age 62

⇒ A pure liquidity effect

Expect no impact on labor market behavior, absent liquidity constraints and myopia

Pension claiming hazards (extended sample)

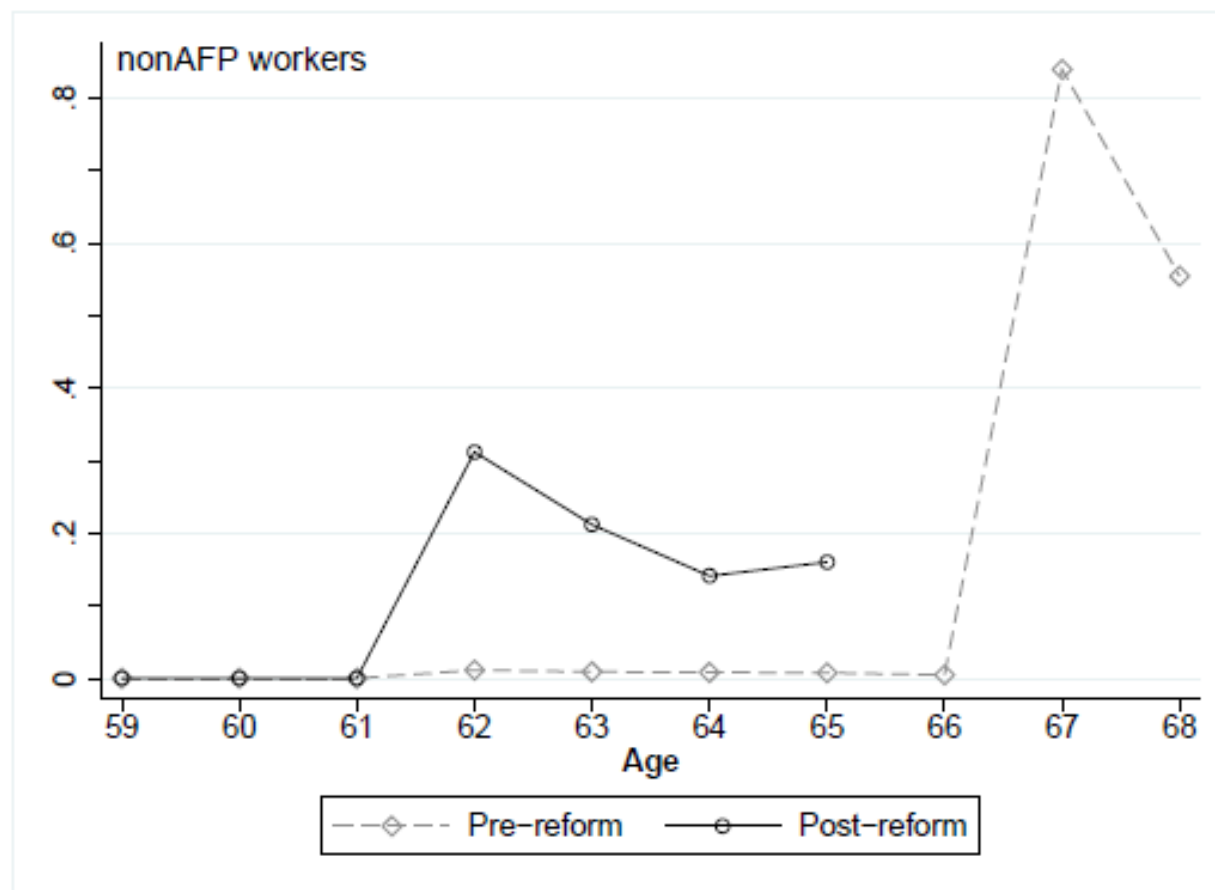
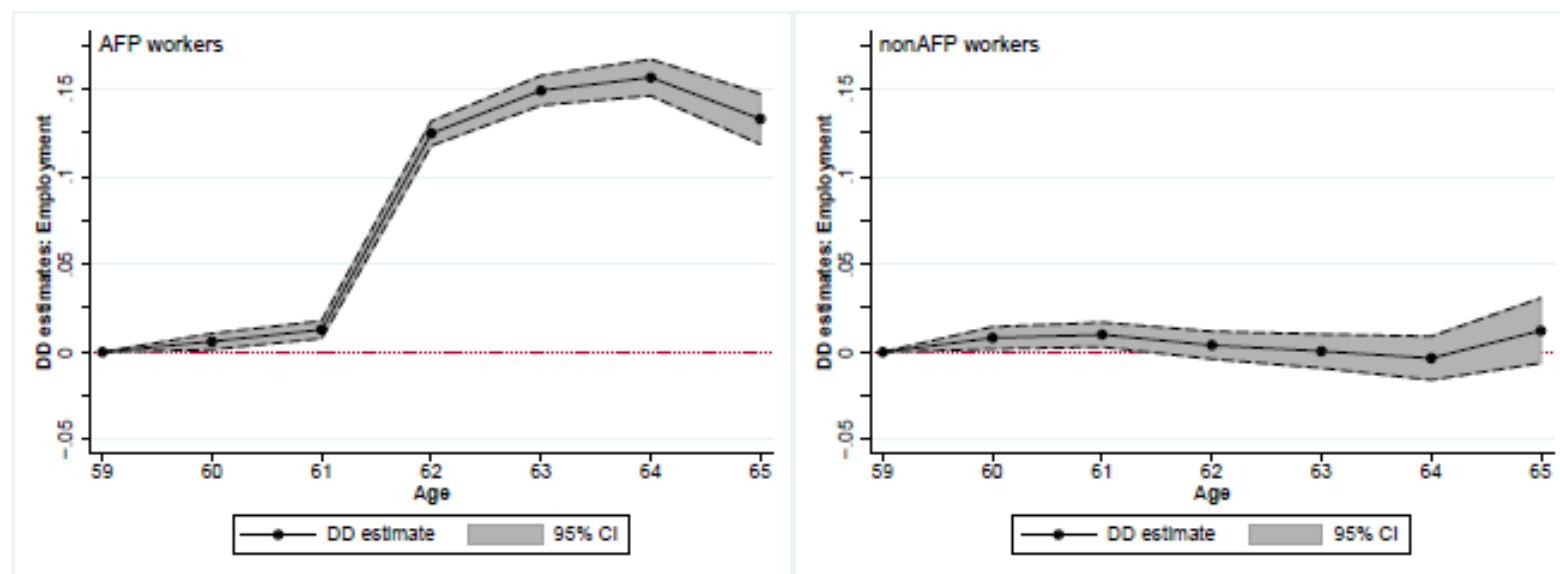


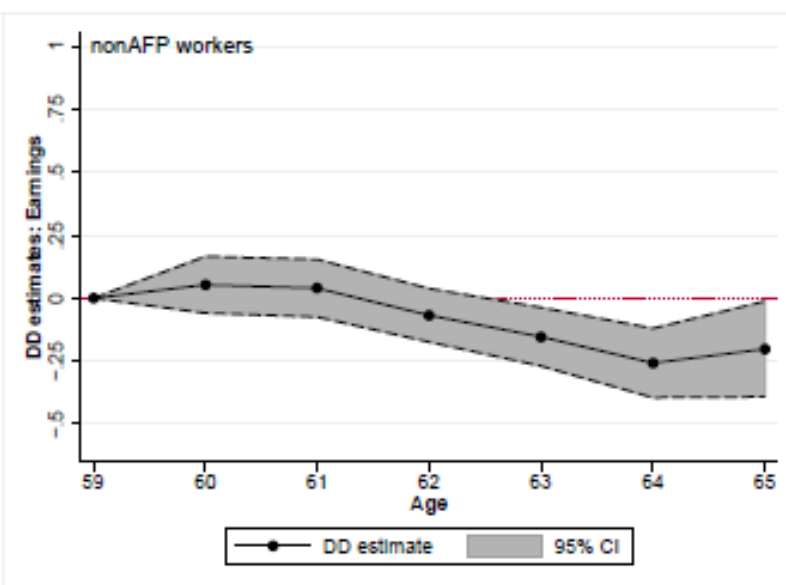
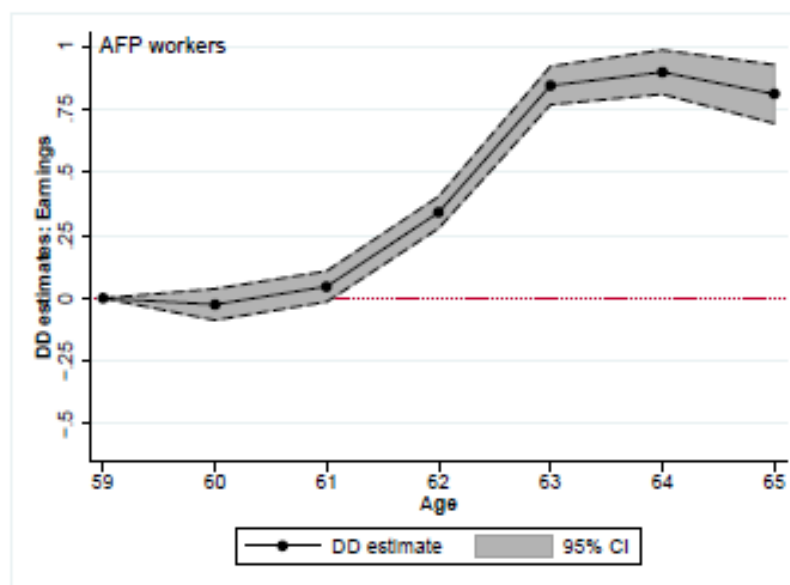
Figure: Pension claiming hazards, extended sample.

Employment effects by age: AFP vs nonAFP workers

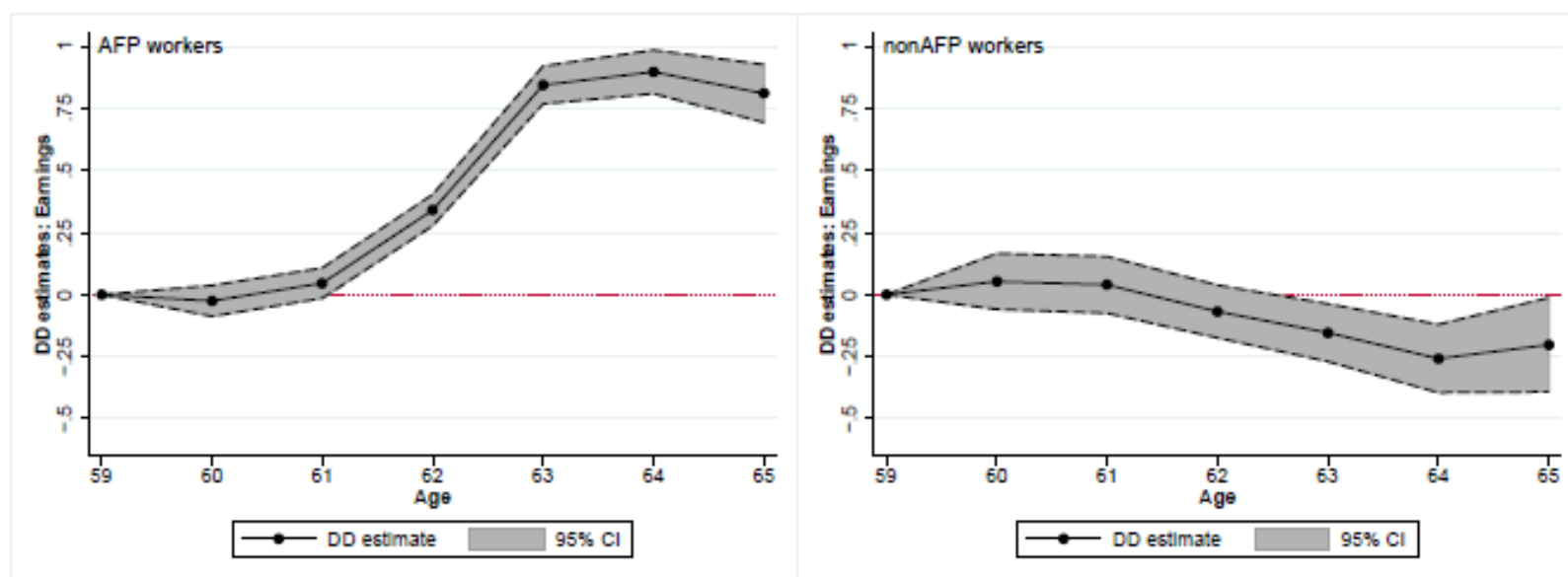


- nonAFP: No effects on employment rates (extensive margin)

Effects on annual earnings by age: AFP vs nonAFP



Effects on annual earnings by age: AFP vs nonAFP



DD coefficients relative to mean earnings pre-reform (age):

	(62)	(63)	(64)	(65)
AFP	6%	22%	30%	36%
nonAFP	-1%	-3%	-5%	-5%

Excess retirement?

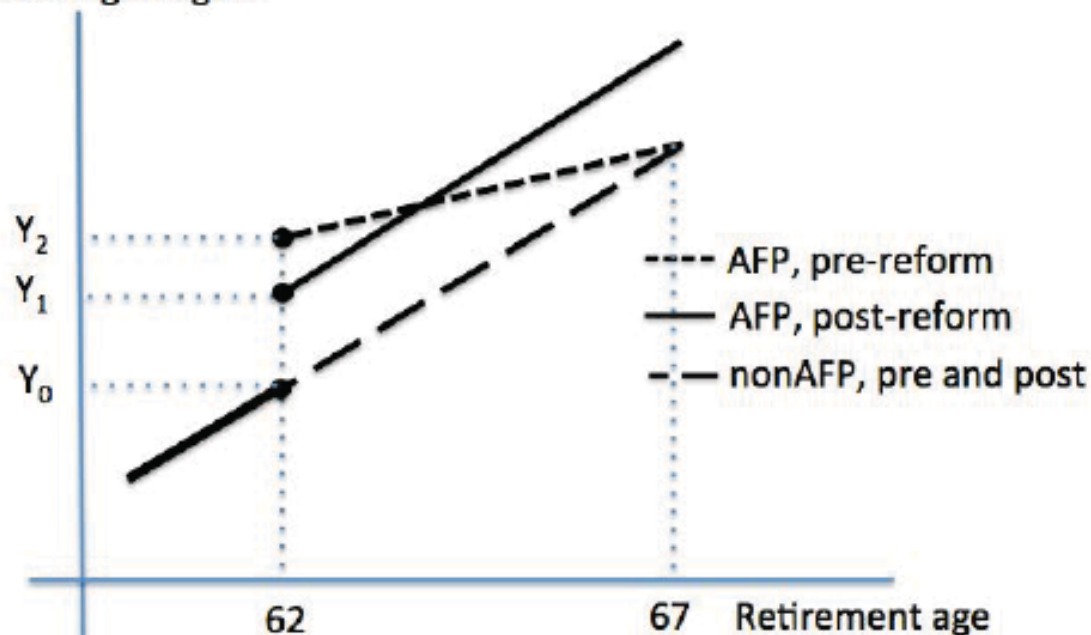
Excess retirement?

Aim:

Investigate whether spikes in retirement at the ERA can be reconciled with incentives in the pension system

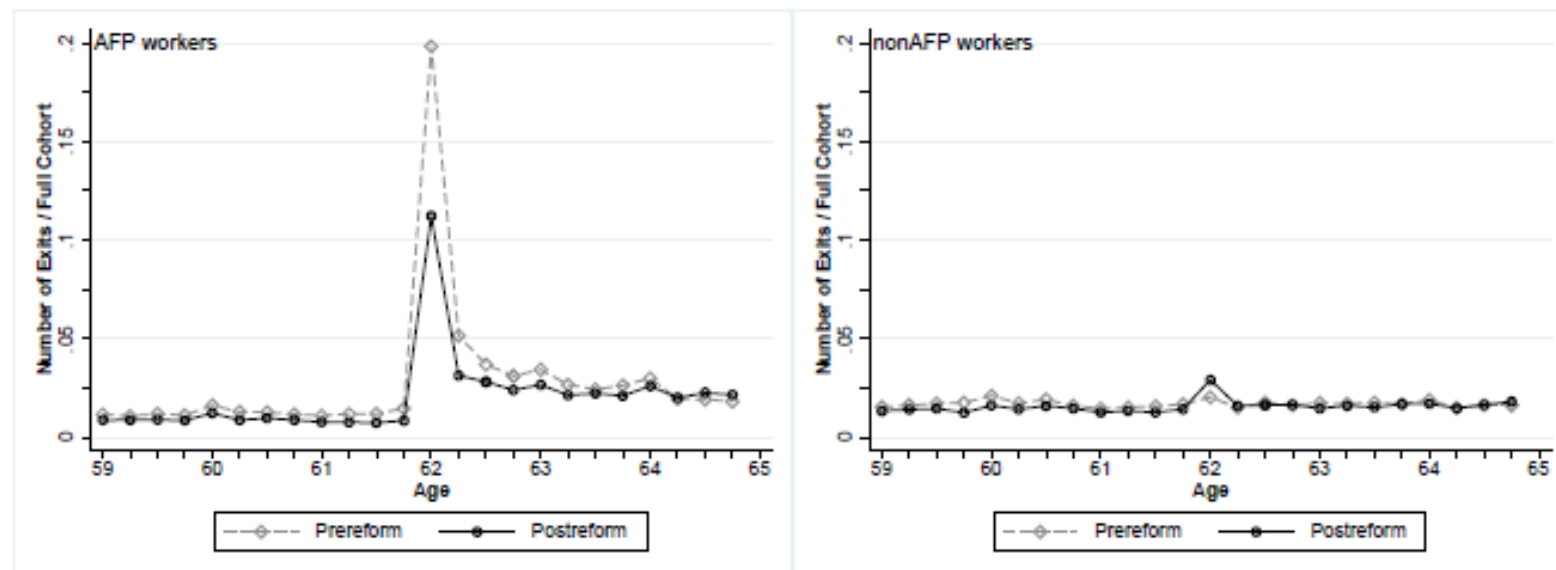
The lifetime budget constraint

Present value of income
when retiring at age ...



- nonAFP: no change in slope/level around ERA
- AFP pre-reform: upward notch and flatter slope after ERA
- AFP post-reform: upward notch but same slope after ERA

Distribution of exit age: AFP vs nonAFP workers



AFP: Spike is reduced, but still excess retirement at ERA

nonAFP: Distribution \approx uniform; not affected by reform

Retirement spikes and economic incentives

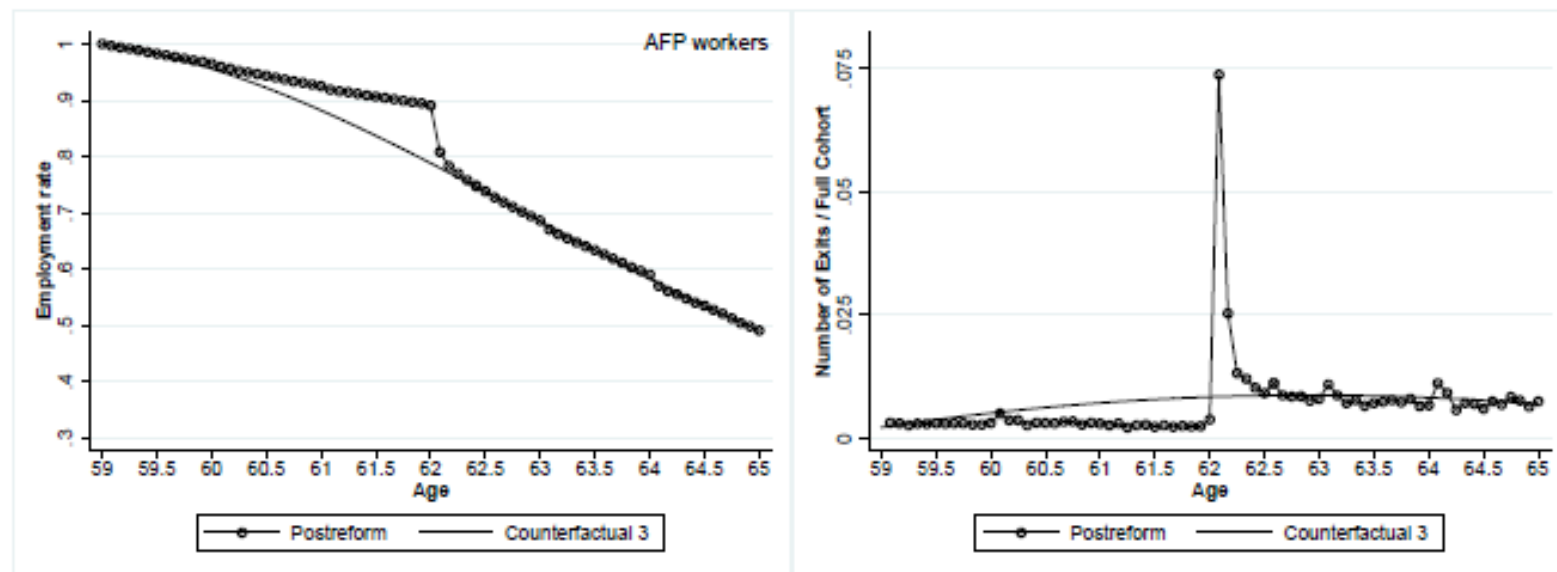
Start out with post-reform spike; absent income effects and frictions, all bunching from below

Procedure:

- ① Estimate excess mass at the ERA
- ② Quantify work incentives from pension formulas
- ③ Calculate elasticities consistent with observed bunching and pension incentives
 - Static lifetime labor supply model
 - Quasi-linear preferences

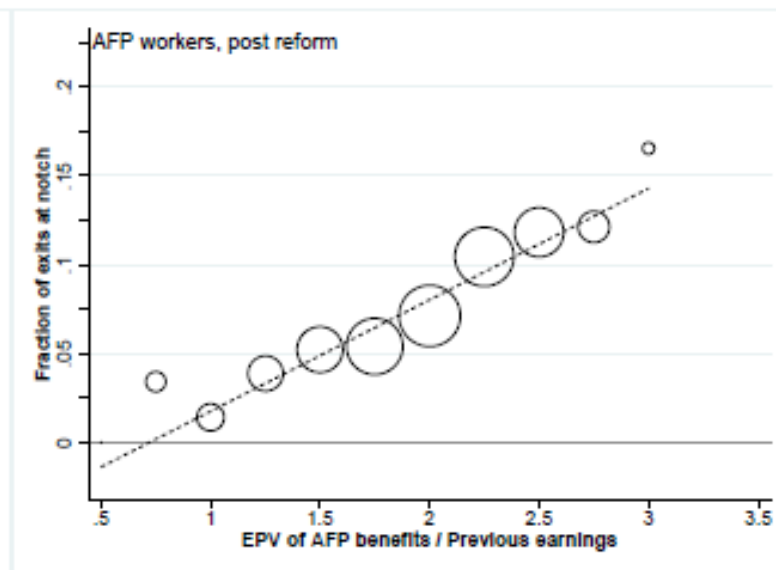
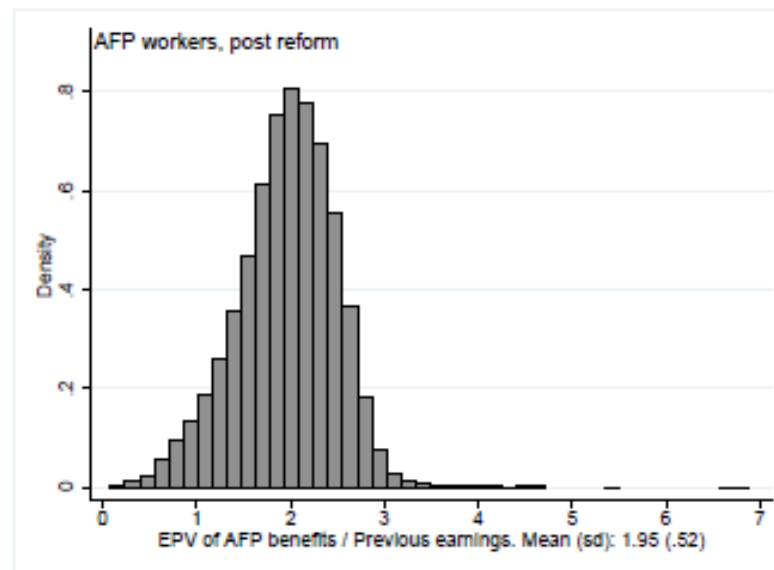
⇒ Lifetime labor supply elasticity of substitution: $e = \frac{\frac{\Delta L}{L}}{\frac{\Delta w}{w}}$

1. Estimate excess mass



Counterfactual based on post-reform AFP workers past age 62y3m
Bunching at the notch: 10.6 months

2. Relative notch and the size of the spike



- Left: Value of AFP affiliation \approx 2 yearly earnings
- Right: Stronger incentives for bunching \Rightarrow more bunching

3. Lifetime labor supply elasticity of substitution

Apply formula based on Kleven and Waseem (QJE2013)

$e \approx 0.01$: 1% increase in the net-of-tax rate \Rightarrow 0.01% increase in lifetime labor supply

\Rightarrow Individual retirement decisions are very insensitive to financial incentives

Introduction
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Background
○○

Reform impacts: AFP workers
○○○○

nonAFP workers
○○○○

Excess retirement?
○○○○○○

Conclusion
○

Conclusion

Conclusion

AFP workers: Increase in return to work past ERA

- Strong impacts on earnings and employment at ages 62-65
- Still excess retirement at age 62
- Elasticities consistent with observed bunching and changes in work incentives around the ERA are small

nonAFP workers: Earlier access to own pension wealth

- No impact on employment at ages 62-65
- Moderate intensive margin responses

Both groups:

- Substantial increase in early claiming
- Small/no impacts on DI and UI take-up

Anthony Webb
The New School for Social Research

Discussion of
**How Does Retirement Behavior Respond to
Drastic Changes
in Social Security Rules?**

**Evidence from Norway's
2011 Pension Reform**

THE NEW SCHOOL

SCEPA

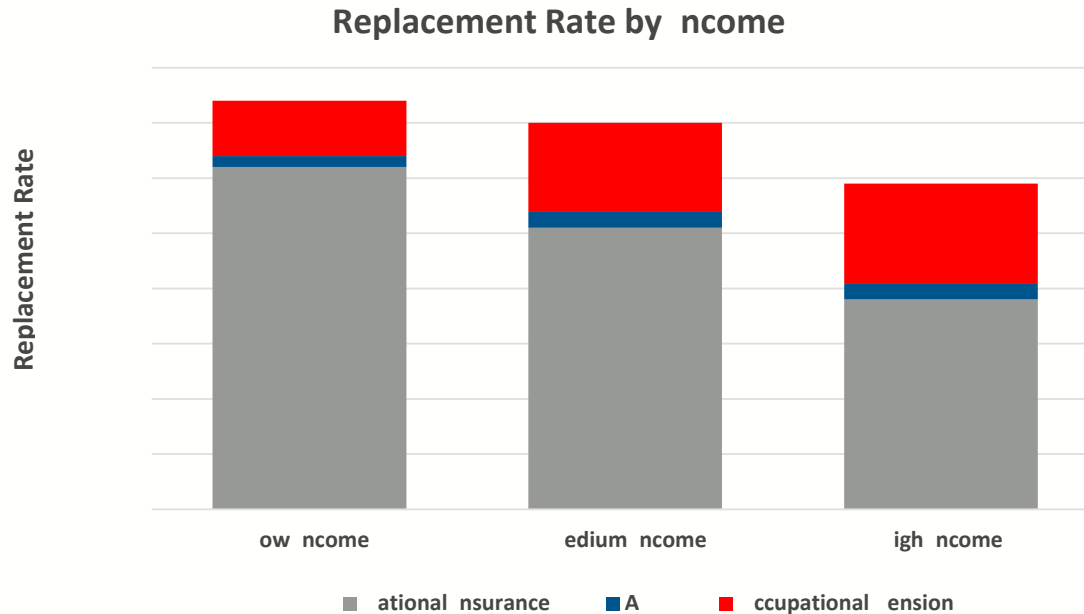
Retirement Research Consortium Meeting
August 4-5
Washington, D.C.

My instructions were to focus on the policy implications. But....

- Excellent paper
- Great dataset
- Sound methodology
- I recommend you read it!

Comparing Norway and the U.S.

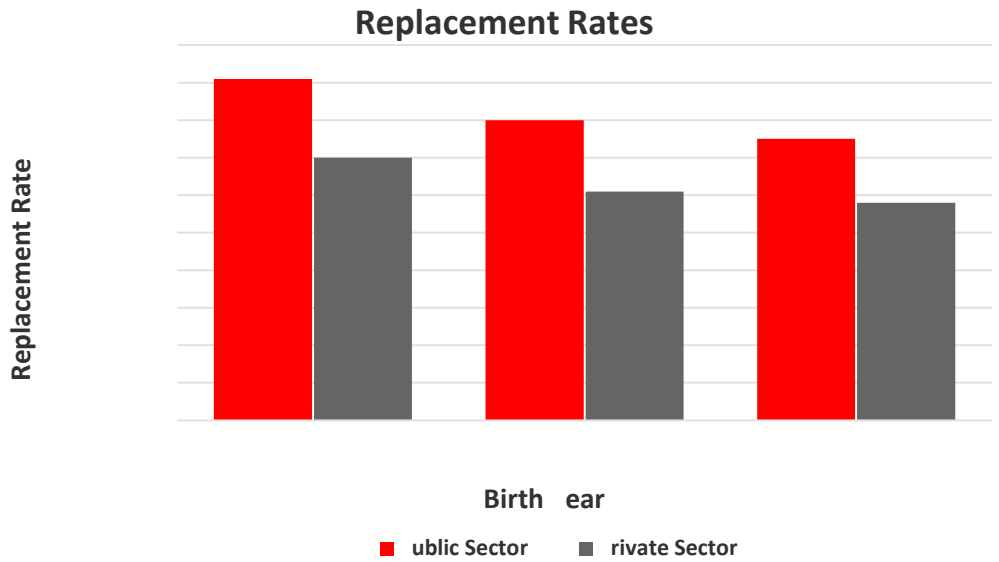
- The first tier provides replacement rates similar that of U.S. Social Security.
- Unlike the U.S., the second tier is nearly universal.



Source: Ippel and Lien (2008) "An analysis of future benefits from public and private pension schemes: The Norwegian country study to the C pension adequacy project"

But as in the U.S., Succeeding Birth Cohorts Will Experience Lower Replacement Rates

- Public sector workers enjoy higher replacement rates.
- Because the second tier replacement rate is not increasing, the total replacement rate is declining.



Source: Ippel and Jørgensen (2008) "An analysis of future benefits from public and private pension schemes: The Norwegian country study to the C pension adequacy project"

Pre-Reform, AFP Workers Faced a High Tax on Working Past 62

- There is no increase in benefits after age 62.
- Benefits are subject to earnings test.
- Workers claim benefits and retire at the same time.
- Retirement spikes at age 62.

Post-Reform, Workers Delay Retirement

- This is a straightforward response to the increased return to work.

But Post-Reform, Big Increase in Share Who Both Work and Claim Benefits

- Households that delay claiming are, in effect, making additional annuity purchases.
- According to economic theory, households facing an uncertain lifespan should value this opportunity.
- So who is combining work with claiming?
 - Part-timers using benefits to supplement their income
 - If so, may want to offer a partial claiming option.
 - High-mortality types for whom the annuity is unattractive
 - Financially unsophisticated types

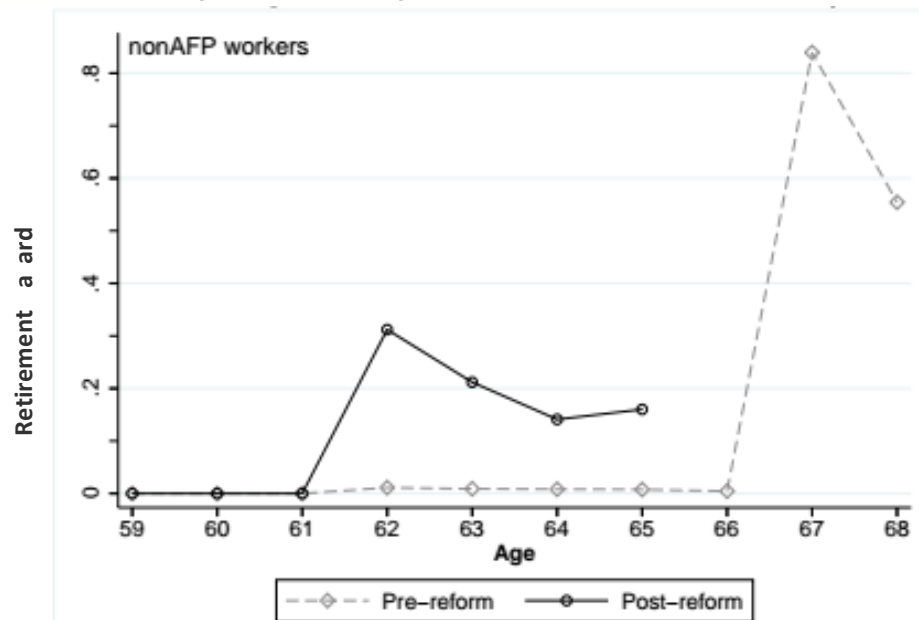
Part-Time Work Not the Explanation

- Only 25% of early claimers reduced their hours.
- Over 70% claimed it was economically profitable to withdraw the money early.
- Early-claimers tend to be men with low levels of educational attainment.

Source: Galaasen, A. og Ahl, S. (), a, ta begge deler i en rapport om arbeid og pensjon. A rapport fra den norske arbeid og pensjon administrasjon.

Non-AFP Workers Like Early Retirement, but Can They Afford It?

- As in the U.S., cuts in benefits may leave more recent birth cohorts with inadequate replacement rates.



Source: Brinch, Estad, and Weimiller (2011) "How does retirement behavior respond to drastic changes in social security rules? Evidence from the Norwegian Pension Reform"

How Will an Increase in the Number of Older Workers Affect the Wages of Competing Groups?

- We don't believe the "lump of labor" fallacy. Unemployment will not increase.
- But will older workers depress both their own wages and the wages of workers with whom they compete?
- Evidence suggests they might:
 - Saponhnikov and Triest (2007)
 - Ongoing work by Mike Papadopoulos – a New School graduate student

Passive Saving Over the Life Cycle

Nick Fabrin Nielsen (University of Copenhagen)

Daniel Reck (University of California Berkeley)

August 2016

Motivation

- Many people are inattentive to savings (Madrian & Shea, 2001; Thaler & Benartzi 2004; Chetty et al 2014)
 - Esp. when policies like defaults affect saving
- Inattention creates shortfalls and surpluses later in life
- How do people meet their lifetime budget constraint?
 - Retirement timing/labor supply
 - Expenditures

Policy Relevance

- Increasing interest in using policies like default pension contributions to affect saving
- Usually the implicit goal is to ensure individuals have adequate resources at retirement to cover their expenses
- But what if, by affecting wealth accumulation, these policies also affect retirement timing?
 - i.e. what if people start retiring early?
 - Would undo some of the effect of automatic savings on resources available at retirement...
 - ...and put stress on social security.

This paper

What are the life cycle consequences of passive saving?

- Model to help us understand the problem
 - Budget constraints imply changing savings passively *must* have life cycle effects
 - Structural reasoning: as-if "wealth shocks" later in life
- Look for life cycle effects in Danish population register data
 - Small response of early retirement takeup to changes in employer pension contributions
 - Suggests changing passive saving may primarily affect later expenditures

Related Literature

Passive Saving

- Defaults affect pension contributions (Madrian & Shea, 2001; Thaler & Benzarti, 2004; Choi et al 2006; many others)
- ...and even total saving (Chetty et al, 2014)

Welfare and Inattention

- Tax salience (Chetty, Looney, Kroft, 2007; 2009)
- Role of income effects and "budget adjustment rules" (Reck, 2016)

Planning, present bias and retirement saving

- Lusardi & Mitchell (2006); Bernheim Skinner Weinberg (2001)

Wealth Shocks and Retirement

- French, (2005); McFall (2011) Goda et al, (2012) ; many others

Theory: Budget Constraints

- An individual lives for T periods
- Period t budget constraint: $C_t + P_t + S_t = E_t$
- Passive saving: a change in (default) employer pension contribution of ΔP_t^E passes through to total saving:

$$\Delta P_t + \Delta S_t = \Delta P_t^E$$

- *(consumption (C) decreases or earnings (E) increases in t)*
- Lifetime budget constraint: all saving converted into expenditures

$$\sum \frac{C_t}{(1+r)^t} = \sum \frac{E_t}{(1+r)^t} + \Pi$$

- Increase passive saving in $t < T \rightarrow$ either earnings decrease or consumption increases later in life
- Note: implicitly accounting for bequests and transfers as expenditures

Theory: Explicitly Modelling Attention

- Two period model $t = 1, 2$
- Inattentive in $t = 1$, perceives pension contribution $\hat{P} \neq P$.
 - Chooses consumption and earnings path $\{C_t, E_t | t = 1, 2\}$
 - Consumes C_1 , earns E_1 , saves
- Becomes attentive at start of period 2, discovers true P .
 - *Re-optimizes*, chooses revised C_2, E_2 .

Proposition

This individual will behave as if receiving a wealth shock in period 2 valued at $(\hat{P} - P)(1 + r)$.

Interpreting the Theory

- Individuals become attentive to saving later in life
 - Technical: think of period 1 and 2 as reduced form of all periods before and after becoming attentive.
- Realizing that they saved more (or less!) than they thought, do they consume more or earn less?
 - If they earn less, a plausible mechanism is early retirement.
 - Technical: can easily add extensive margin labor supply decisions to more explicitly examine retirement.
- Note: can only respond *after* becoming attentive
 - Notice extra saving at age 64 in anticipation of retiring at 65 → cannot go back in time and retire at 62.

The Danish Setting

- DB government pension for everyone (Social Security)
- **Employer administered pension (401k)**
 - Note: contributions determined by collective bargaining agreements, not voluntary for workers
- Private pension contributions (IRA)
- Taxable saving
- Retirement ages: early 60 or 62; regular 65 or 67.
- Early retirement payouts phased out rapidly with wage earnings

Danish Population Data

- Full Danish population, 1995-2011
- Reported by third parties (exclude those with self-employment income)
- Main variables of interest:
 - Flows into pension accounts
 - Stock of taxable saving
 - Wage earnings
 - Construct rates of contribution to pension accounts $P_{i,s year}^{rate}$, and total saving $S_{i,s year}^{rate}$
 - Accrued over s years
 - As a fraction of total (pre-tax) income
 - Retirement: employment, early retirement take-up at 60, 62

Research Design: Job Switches

Δ contribution \rightarrow Δ saving (if inattentive) \rightarrow Δ retirement

- First stage: employer contribution before and after switch generates variation in savings
 - **ID Assumption 1:** changes in pension contributions unrelated to savings preferences (holding change in earnings fixed)
- Sample near retirement age
 - Switch jobs at age 55 or earlier
 - Reach age 60 (or 62) by 2011
 - **ID Assumption 2:** changes in pension contributions unrelated to retirement plans (except for how they affect total saving)
- We report reduced form estimates:

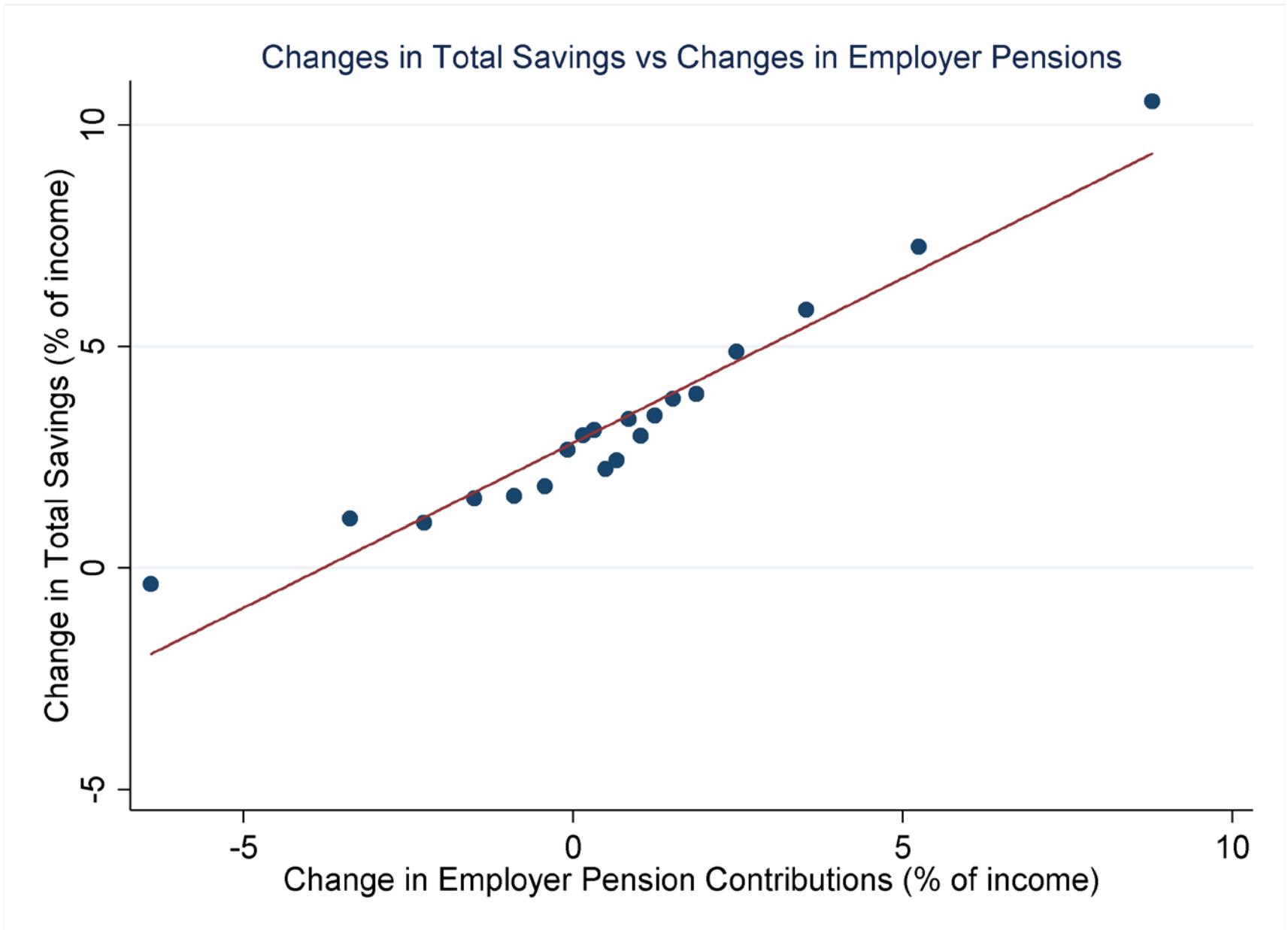
$$E\left[Y_i \mid \Delta P_{i,s \text{ year}}^{E,rate}, \Delta E_{i,s \text{ year}}^{rate}\right] = \alpha + \beta \Delta P_{i,s \text{ year}}^{E,rate} + \gamma \Delta E_{i,s \text{ year}}^{rate}$$

Evidence of Passive Saving

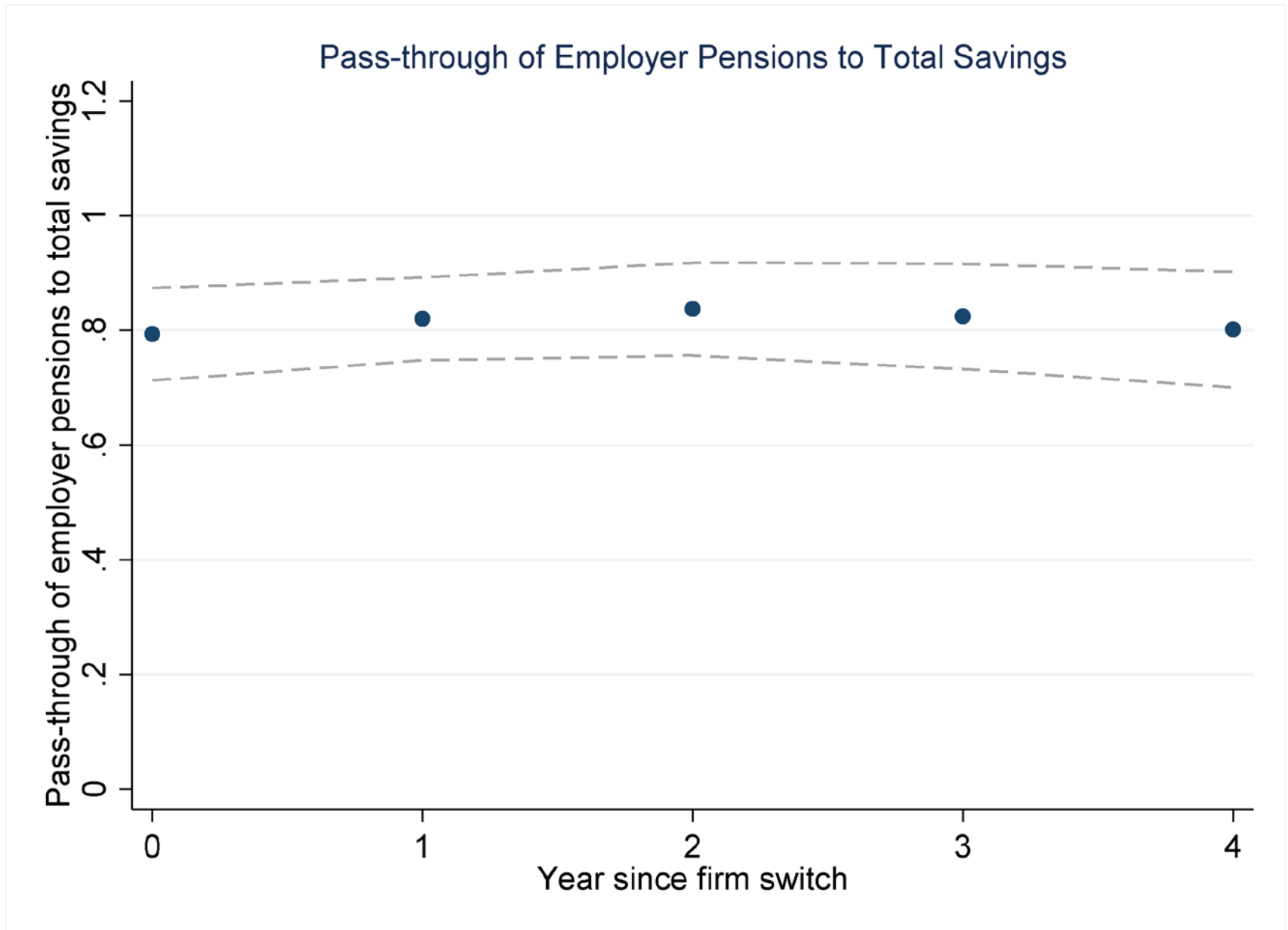
	(1)	(2)	(3)	(4)
	Dependent variable: Change in total savings rate			
Sample	All switches	Switchers + prior saving	Switchers + last switch	Switchers + $ \Delta LMP > 500$
Time span (s)	1 year	1 year	1 year	1 year
Change in LMP rate	0.695*** [0.661,0.730]	0.746*** [0.693,0.799]	0.692*** [0.649,0.734]	0.650*** [0.617,0.684]
Change in compensation	0.122*** [0.116,0.128]	0.080*** [0.072,0.089]	0.131*** [0.124,0.138]	0.136*** [0.130,0.141]
Constant	0.020*** [0.017,0.023]	-0.059*** [-0.063,-0.055]	0.023*** [0.020,0.025]	0.022*** [0.019,0.025]
Observations	2,795,268	1,577,378	1,347,103	1,897,619

- 95 % C.I. in brackets
- * indicates $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Evidence of Passive Saving: Pass-Through



Evidence of Passive Saving: Persistence



Evidence of Passive Saving: Retirement Sample

	(1)	(2)	(3)
	Dependent variable: Change in total savings rate		
Sample	Retirement	Retirement + Δ LMP >500	Retirement
Time span (s)	1 year	1 year	5 years
Change in LMP rate	0.910*** [0.605,1.214]	0.963*** [0.661,1.265]	0.797*** [0.547,1.046]
Change in compensation	0.134*** [0.088,0.180]	0.108*** [0.058,0.158]	0.061*** [0.027,0.094]
Constant	0.007 [-0.004,0.017]	0.001 [-0.011,0.013]	0.034*** [0.019,0.050]
Number of observations	56,208	41,395	56,208

- 95 % C.I. in brackets
- * indicates $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

How Big are the Total Wealth Effects?

Example:

- 5% increase in pension contribution rates, for 5 years
- Median income in the retirement sample
- Realistic interest rates, tax rates, etc.
- Suppose pension payout received at the end of the 5 years (makes our answer conservative)
- Answer:
 - lump-sum $\approx 1/3$ of annual after-tax income
 - annuitized: 1.5– 2 percent of annual after tax income

Retirement Effects

	(1)	(2)	(3)	(4)	(5)
Dependent Variable	Received efterløn	Employed	Out of labor force	Employed	Out of labor force
Age of observation	60	60	60	62	62
Change in LMP rate (5 years)	0.090	-0.098	0.060	-0.269**	0.240*
	[-0.029,0.210]	[-0.234,0.039]	[-0.071,0.191]	[-0.473,-0.066]	[0.045,0.435]
Change in compensation (5 years)	0.031***	-0.037***	0.030**	0.011	-0.019
	[0.013,0.050]	[-0.057,-0.017]	[0.011,0.049]	[-0.019,0.042]	[-0.050,0.011]
Constant	0.134***	0.834***	0.151***	0.778***	0.211***
	[0.125,0.143]	[0.824,0.844]	[0.142,0.161]	[0.765,0.790]	[0.199,0.224]
Number of observations	37,141	37,141	37,141	16,785	16,785
Mean of Dep. Var.	0.139	0.828	0.156	0.775	0.213

- Excludes switches with $|\Delta LMP| < 500$ DKK
- 95 % C.I. in brackets
- * indicates $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Interpreting the Results

- Consider the 5% increase in pension contributions over 5 years
- Results → 0.45% increase in likelihood of retirement at age 60
 - 95 % CI → [-0.2%, 1% increase in likelihood of retirement at 60
 - This would be a small effect
- Larger effects at age 62 than at age 60
 - Plausibly 62 is a better alternative for individuals initially planning to retire at 65
 - But still a small effect
- All effects have hypothesized direction, only age 62 are statistically significant at conventional levels

Conclusion

- Increased passive saving *must* have life cycle consequences
- Possibly like other wealth shocks
- First-pass empirical analysis: small early retirement effects
 - Consistent with studies on wealth shocks
 - Small enough that policymakers should not be overly concerned about an unintended early retirement effect of automatic savings policies.
- Potential other margins of adjustment:
 - Partial versus full retirement
 - Retirement at later ages
 - Offsetting through unobserved wealth (e.g. housing)
 - Expenditures (including bequests and transfers)
 - Spousal behavior

Ongoing Work

- Obtained pension wealth at age 59.5, use to more fully capture full wealth effects, increase power for later ages
- Distinguish between active and passive savers empirically
- Robustness checks
- Examining other outcomes/channels of budget adjustment where possible



Yale SCHOOL OF MANAGEMENT

Discussion of “Passive saving over the life cycle”

James J. Choi

Paper summary

- If you save without knowing it, what happens when you discover you've saved?
- Use variation in Danish employer pension contributions around job changes
- Little responsiveness of retirement to accumulated employer pension contributions at age 60, slightly more at age 62

Danish pension contributions

- Collective bargaining agreements set pension contribution
- Fixed proportion of individual's earnings contributed
 - 2/3 of contributions by employer
 - 1/3 of contributions by employee
- Standard deviation of employer contributions = 5.3% of income among those with employer pensions

Pension contributions increase total savings

b) Total Savings



Automaticity and attention

- If your savings increases by \$1 for each \$1 extra that is saved automatically, are you really unaware of that savings?
- How much less aware are people of automatic savings balances?
- Are unaware people's estimates of their savings **biased** or just **noisier**?

Attention is unobserved by the authors

If age 60 labor supply unaffected by employer pension contributions, is that because

- Wealth effect on age 60 retirement is weak?
- Most people are still unaware of employer pension at age 60?

Inattention doesn't have to matter

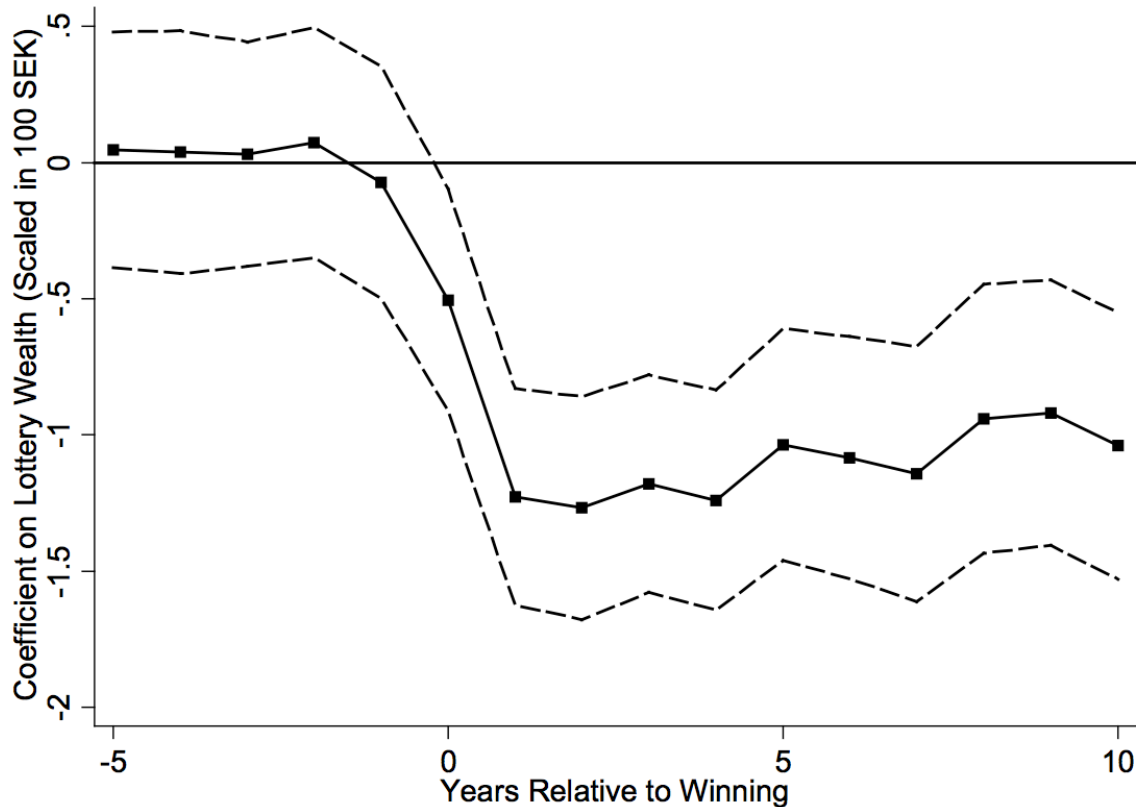
The same effect:

- I consciously accumulate \$100,000, decide at age 62 whether to retire
- I unwittingly accumulate \$100,000, discover it at age 60, decide at age 62 whether to retire

Realizing you've saved is like winning the lottery

Cesarini et al. (2015) study Swedish lottery winners

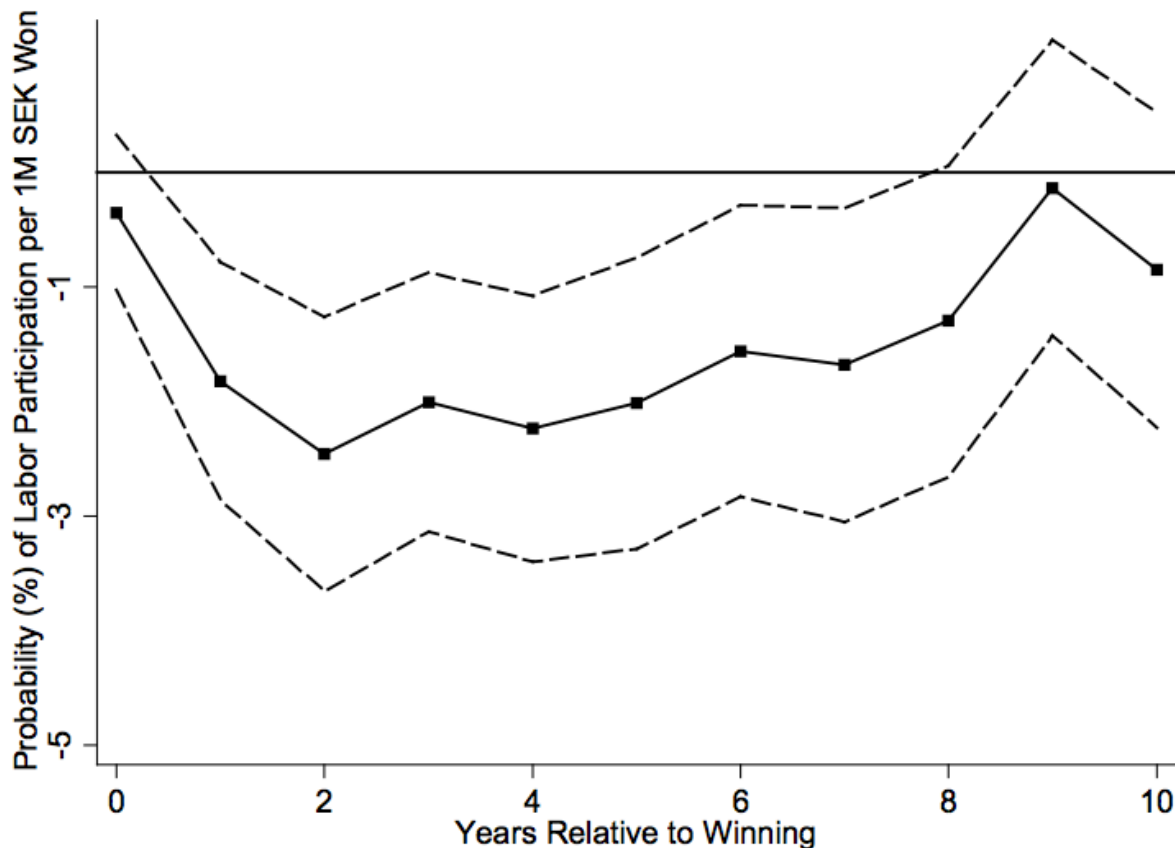
Effect of wealth on individual gross labor earnings



\$1.15 less per year for every \$100 won

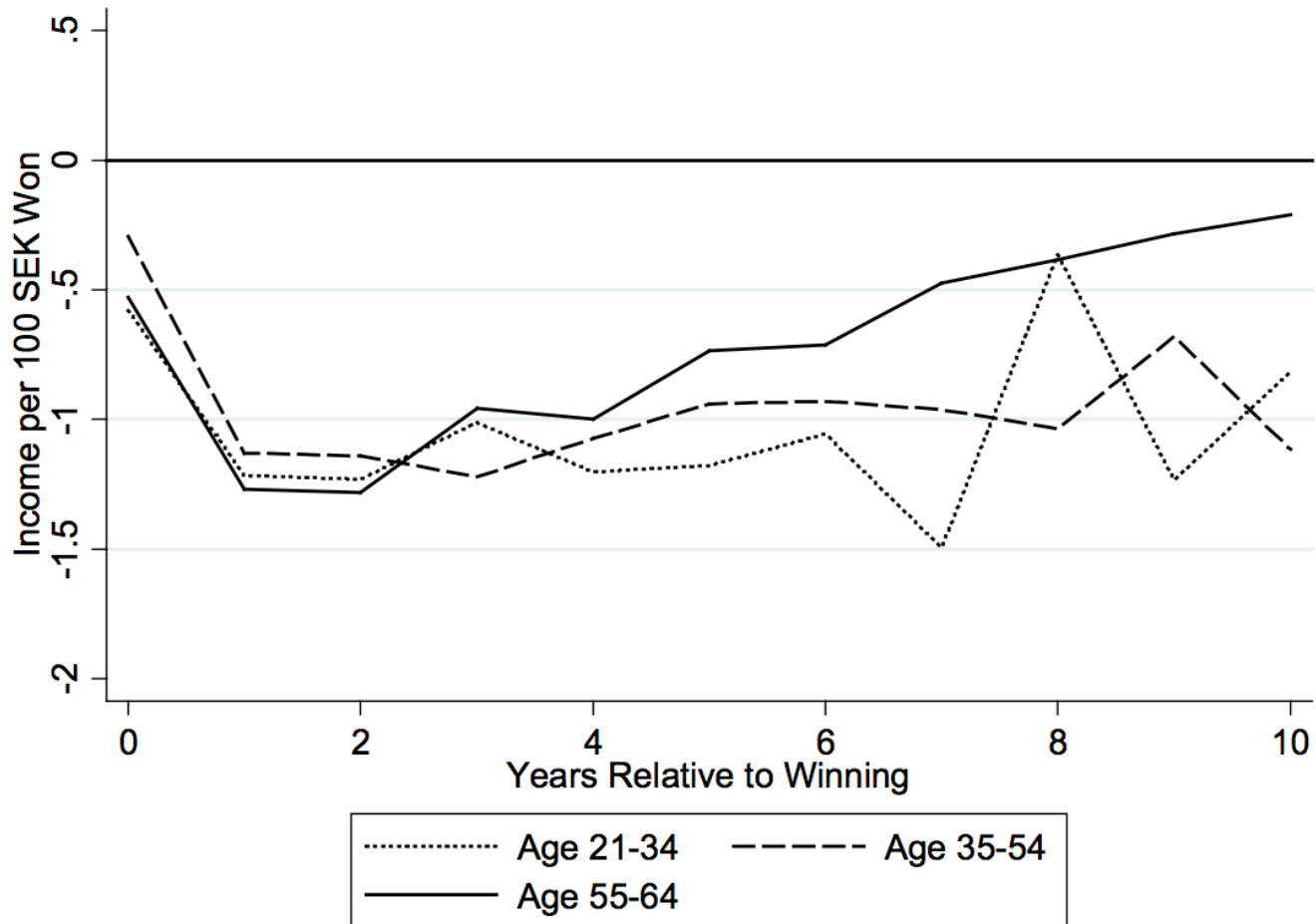
Effect of wealth on labor force participation

Panel A: Effect on Extensive Margin



2% lower per
\$140,000 won
initially

Earnings effect by age



Summary

- Would be helpful to measure inattention
- If realizing you've saved is like winning a small lottery, then should we rely on lottery studies to measure labor supply effects?