

The Impact of Hypothetical Wealth Shocks on Retirement Timing

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Research questions

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Wealth losses in Great Recession caused at least some change in retirement expectations (McFall, 2011)

Do individuals think **hypothetical** wealth losses or gains would impact their retirement plans?

How do reactions to hypothetical losses compare with reactions in the Great Recession?

Theory

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Life cycle models with retirement timing as a choice
(for example, Kimball and Shapiro, 2003; 2008)
predict that:

- Wealth losses \Rightarrow delay retirement and reduce consumption
- Wealth gains \Rightarrow shift retirement forward and increase consumption

Approach

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- Following McFall (2011):
 - Use data from survey questions *designed* to answer these questions on several different surveys and populations
 - Quantify impact of hypothetical gains/losses on each individual, in terms of sustainable consumption and changes in expected labor supply behavior
 - Examine relationship between wealth shocks and expected changes in labor supply

Data

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- **Survey datasets:**
 - RAND American Life Panel (ALP)
 - Cognitive Economics (CogEcon)
 - Health and Retirement Study
 - Vanguard Research Initiative (VRI)
- **Americans age 50-65, in labor force, with >\$50k in DC retirement accounts**
- **Asked about wealth, retirement timing— both given current financial situation and then in case of hypothetical wealth loss and gain of ~30% of DC retirement wealth**

ALP & CogEcon Data

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- **American Life Panel Survey MS307**
 - Fielded February-August 2013
 - Analysis samples ~400 observations
- **CogEcon 2011 and 2013**
 - Fielded fall 2011 and fall 2013
 - Pooling across waves, ~250 observations

Retirement expectations: ALP & CogEcon

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- **Base:** “Thinking about work in general and not just your present job, what do you think the chances are that you will be working full-time after you reach age 65?”

Retirement expectations: ALP & CogEcon

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- **Hypothetical loss:** “Now, suppose that you find out tomorrow that **the value of your retirement accounts has decreased by \$[amount]**. In this situation, what do you think the chances are that you would be working full-time after you reach age 65?”
- [amount] is a rounded dollar amount, ~30% of DC holdings.

HRS Data

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- Module 11 in HRS 2014 Core interview
- Hypothetical shock questions asked of respondents with $> \$50k$ in DC accounts who gave an age at which expect to stop work completely
- Analysis sample 116
- Retirement expectation and hypothetical shock questions ask expected **age** respondent will stop work completely.

Analysis Variables I

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- Total wealth = f (financial and investment assets, real estate assets, future labor earnings)
 - SC = “sustainable consumption,” defined as annuity value of total wealth
 - R_0 = planned retirement age
 - R_{sc} = retirement age needed under hypothetical shock to hold SC at pre-shock levels
- Independent variable is $R_{sc} - R_0$

Analysis Variables II

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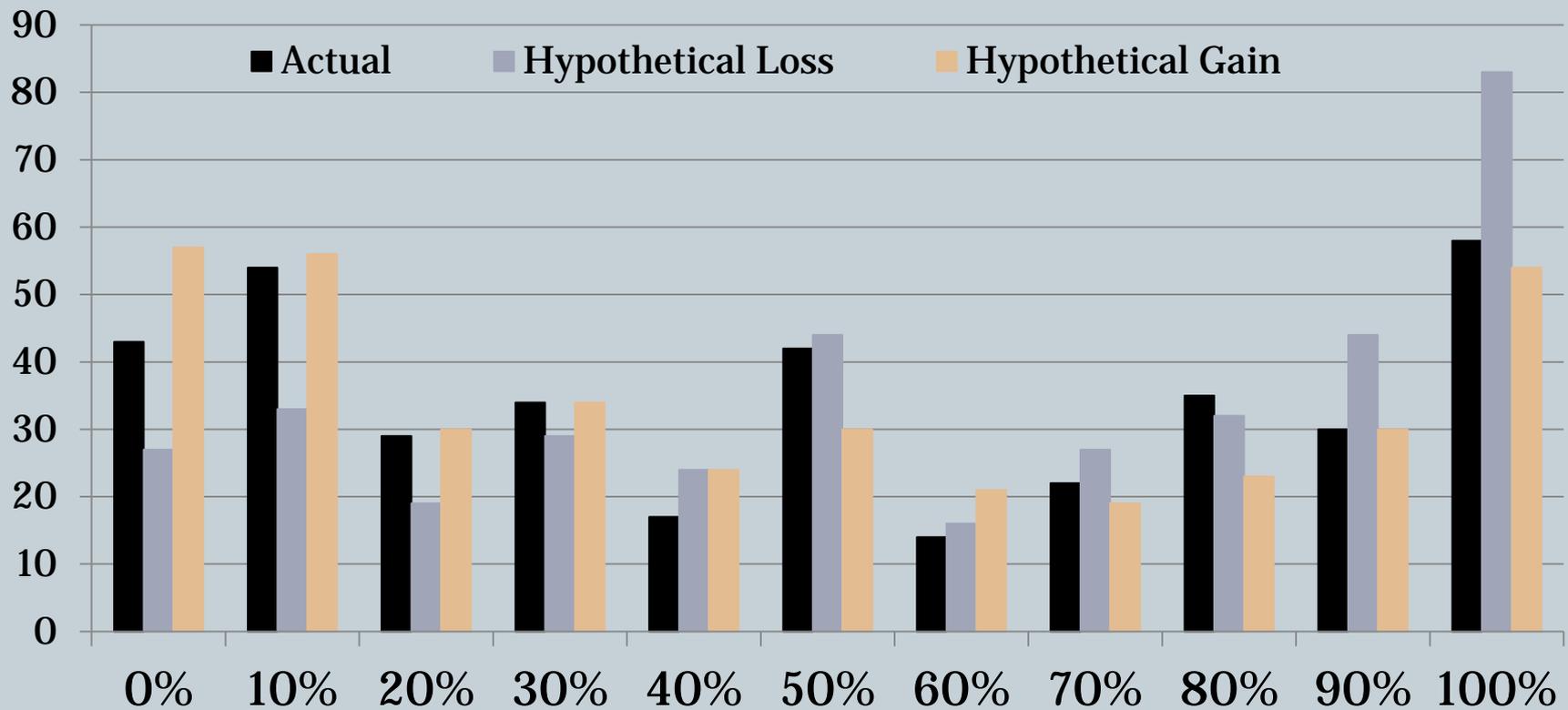
- **Dependent variable:**
 - **ALP and CogEcon:** Reported change in subjective probability of work after 65 after hypothetical shock: $\Delta\text{Pr}(\textit{Work FT after 65})$
 - **HRS:** Reported change in retirement age after hypothetical shock

Descriptive Statistics

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- Ages in each sample similar, means 57-59
- HRS more male (56% v. ~50%)
- Fairly high-earning samples
 - ALP and CogEcon: mean ~\$100k, median ~\$50k
 - HRS: mean ~\$90k, median ~\$70k
- Average shock size, in terms of change in retirement age needed to hold SC constant after shock:
 - ALP: 1.8 yrs
 - CogEcon: 3 yrs
 - HRS: 1.5 yrs

Subjective Probability of Working Full-Time after 65 (N=378) - ALP



Regression specification following McFall (2011)

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- Tobit regression

$$\begin{aligned} \text{change in retirement timing}_j \\ = \alpha + \beta_1(R_{SC} - R_0)_j + \beta_2(R_{SC} - R_0)^2 + \varepsilon_j \end{aligned}$$

where:

$$\begin{aligned} \text{change in retirement timing}_j \\ = \max(0, \Delta \Pr(FT \text{ after } 65)_j^*) \end{aligned}$$

or

$$= \max(0, \Delta(\text{retirement timing})_j^*)$$

$$\varepsilon_j | (R_{SC} - R_0)_j, Z_j \sim N(0, \sigma^2)$$

Hypothetical Wealth Loss Results

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Sample	ALP	CogEcon	HRS
Dependent Variable	$\Delta\text{Pr}(\text{Work FT after 65})$		$\Delta\text{R}_{\text{loss}}$
Marginal effect at mean of independent variable (1.78yrs ALP, 2.99 yrs CogEcon, 1.5 yrs HRS)	1.146 p.p.	1.098p.p.	0.28 years
	(0.552)**	(0.719)	(0.085)*
Observations	378	254	116
Number uncensored obs.	177	124	30
Avg. implied effect	14 days	22 days	5 months

Conclusions

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- We find changes in retirement timing in the expected directions in reaction to hypothetical losses/gains.
- However, amount of the shock only explains a fraction of the estimated change, at the mean of the regressor (1.5-3 yrs).
- Results line up fairly well with actual behavior in the Great Recession (McFall, 2011).
- Attenuation bias and/or psychological impact of shocks (apart from amount) may be important.
- Policy implications for policy changes that would affect Social Security wealth or value of financial wealth: we can expect labor force participation changes in the expected directions, and individuals can give us some information about whether their labor supply will respond.

Thank you!