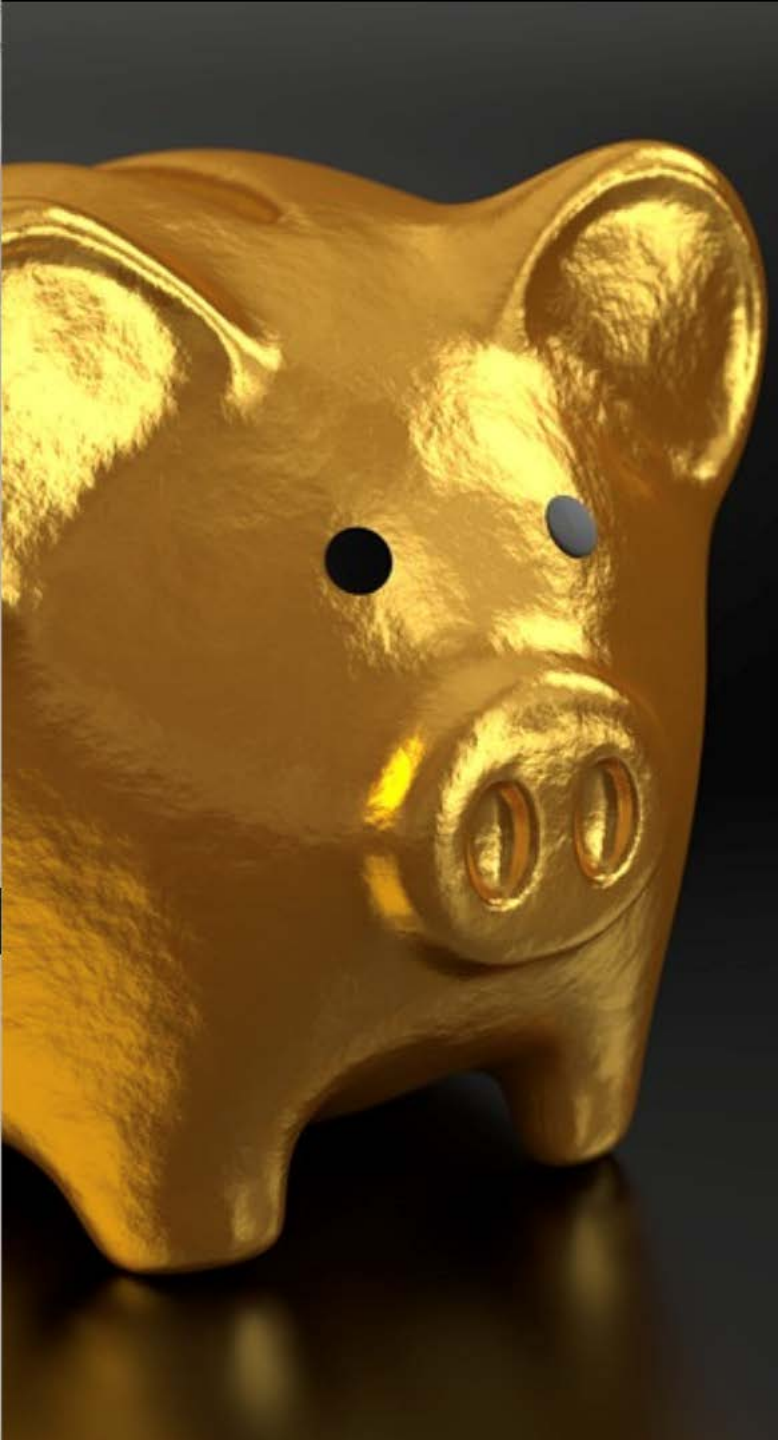


Improving retirement finances

James J. Choi

Yale SCHOOL OF MANAGEMENT

Increase savings

Choukhmane

Increase access to home equity

Bateman, Fang, Hanewald, and Wu

Create a better investment

Merton and Muralidhar

Outline

Is there a problem?

Do defaults help?

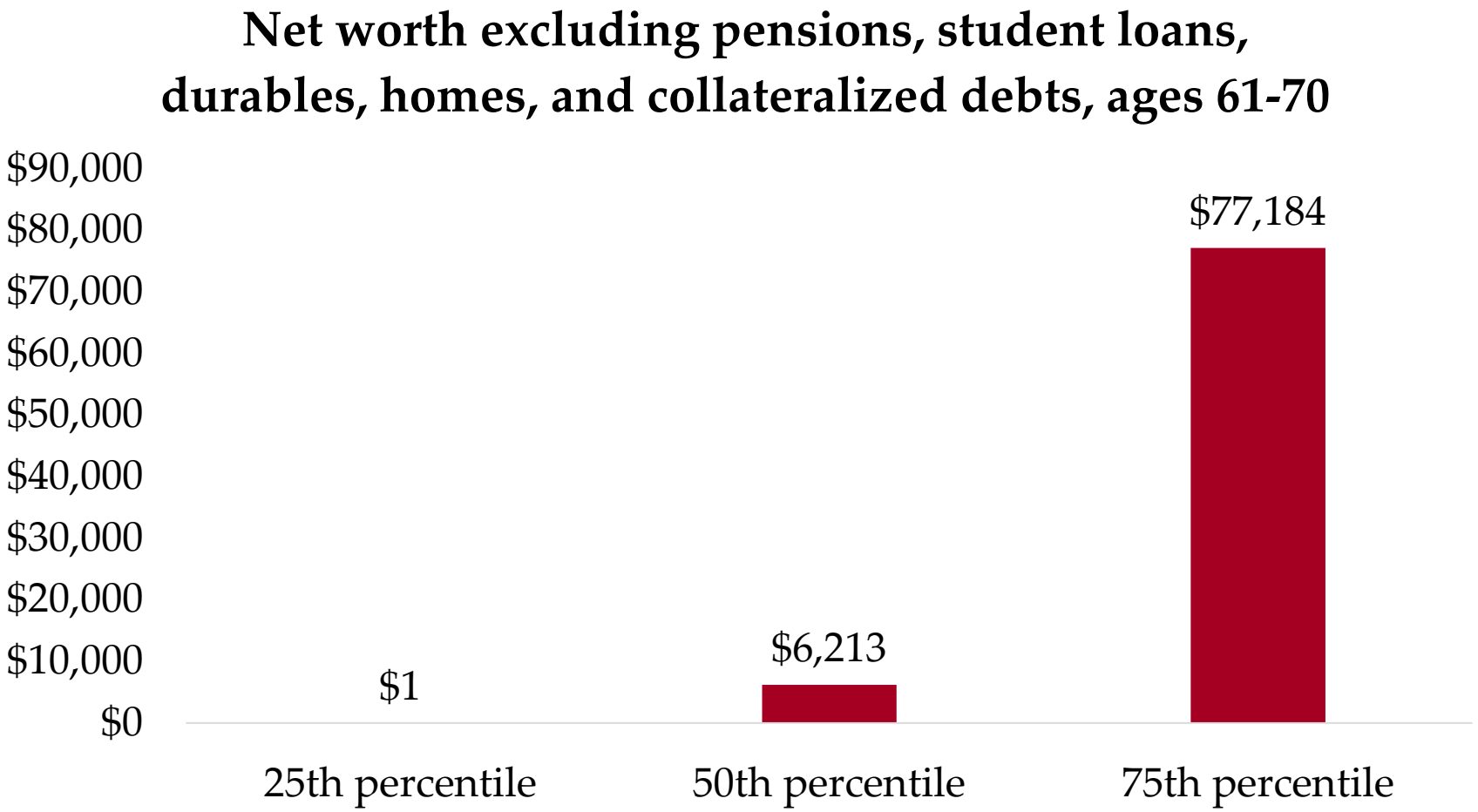
Will SeLFIES be attractive?

How big is the demand for reverse mortgages in China?

Outline

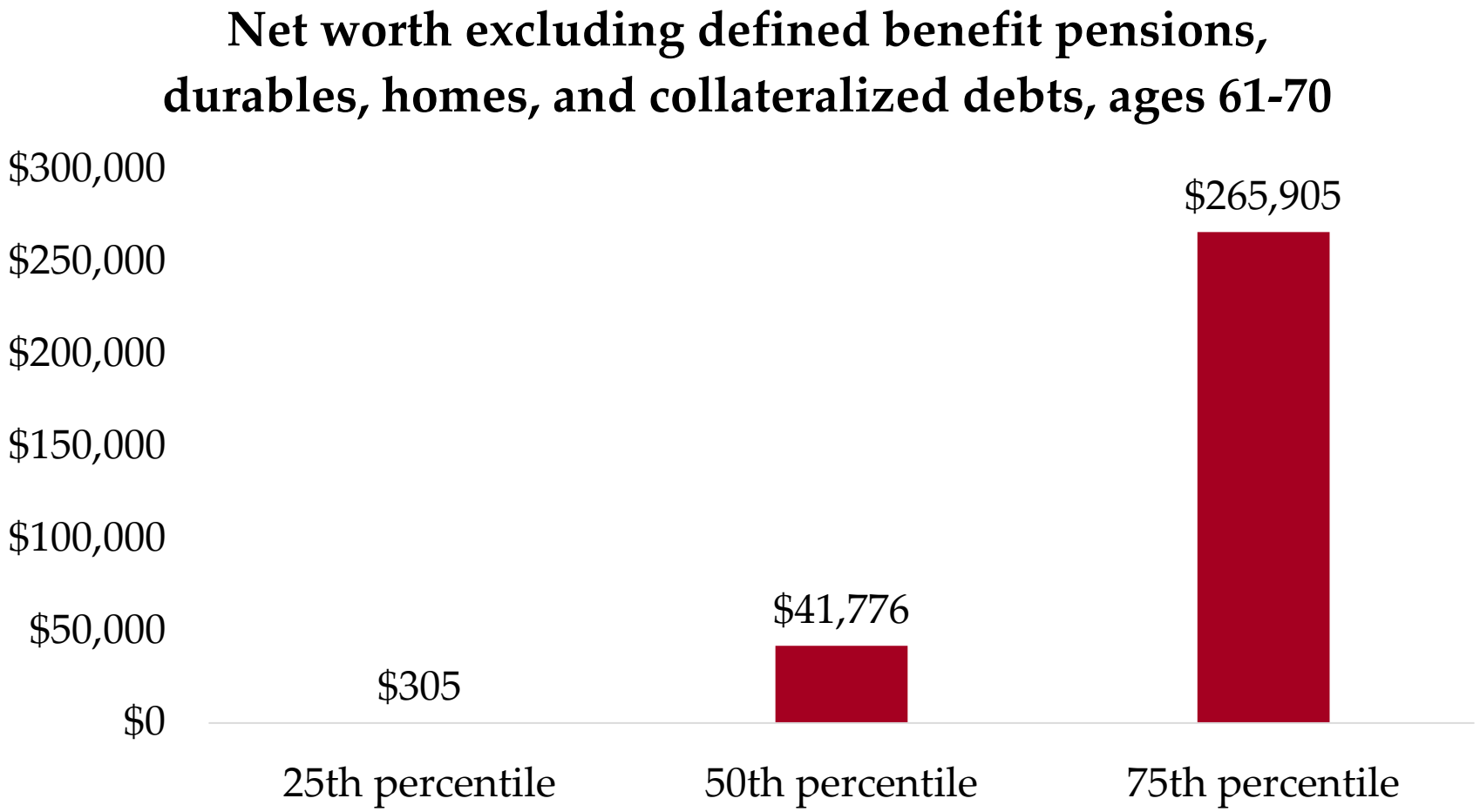
Is there a problem?

Many Americans arrive at retirement with no liquid wealth



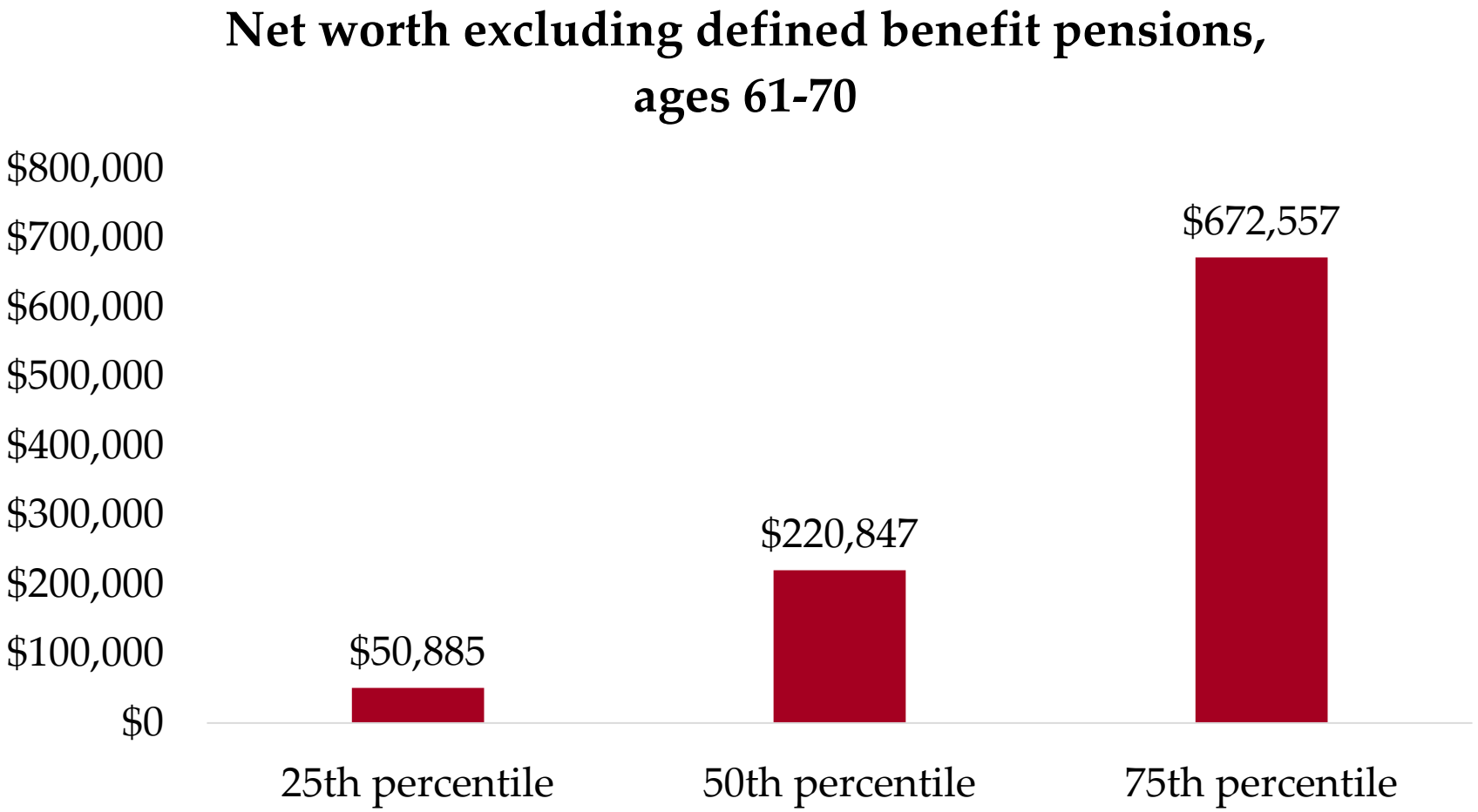
Source: 2013 Survey of Consumer Finances

Adding defined contribution pensions doesn't really affect the left tail



Source: 2013 Survey of Consumer Finances

The left tail accumulates wealth mainly through illiquid home equity



Source: 2013 Survey of Consumer Finances

Two takeaways

- SeLFIES cannot help the left tail without a radical change in their savings rates or homeownership status
  - Can savings defaults change this?

- Home equity is the main asset in the left tail
  - Can reverse mortgages make this asset more useful?

Maybe there's nothing to worry about… in 1992

Scholz, Seshadri, and Khitatrakun (2006)

- Data: 1992 Health and Retirement Study
  - 1931-41 birth cohort + spouses
  - 12,652 persons in 7,702 households

- Solve lifecycle savings problem for each household

Optimal vs. actual wealth

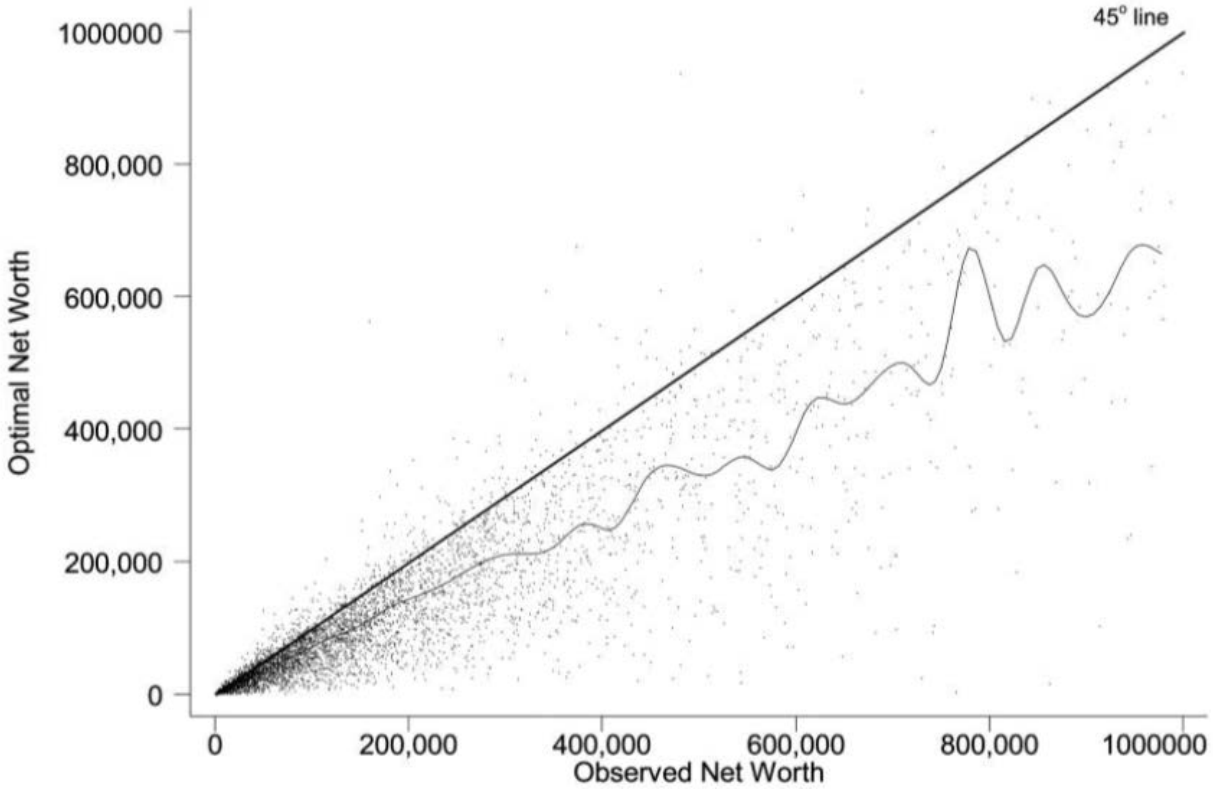


FIG. 2.—Scatter plot of optimal and actual wealth. Observed net wealth is constructed from the 1992 HRS. Optimal net worth comes from solving the baseline model described in the text.

WSJ | OPINION

OPINION | COMMENTARY

The Phony Retirement Crisis

By Andrew Biggs

Feb. 28, 2019 6:56 pm ET

Biggs: Why there is no crisis

- 8 in 10 retirees say they have enough money to "live comfortably"
- Over-65 poverty rate: 9.7% in 1990, 6.7% in 2012
- Median retiree real income rose 56% from 1989 to 2016
- DB pension participation peaked at 39% of employees in 1973
- Today, 61% of employees participate in pension plan

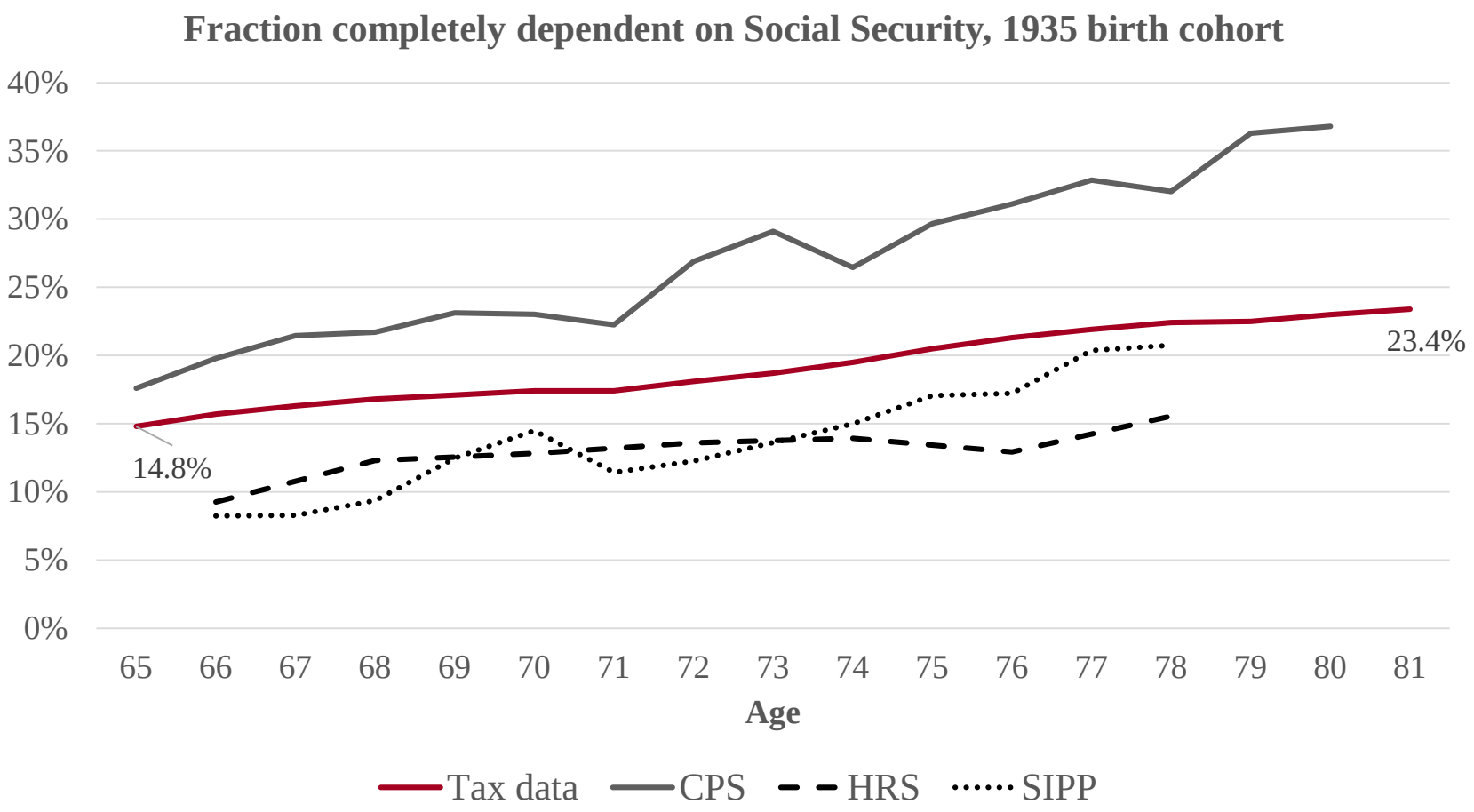
It used to be worse

Economic optimality

- Determined not just by *level* of consumption

- Determined by whether can maintain standard of living across time

Running out of money late in life?



Beshears, Choi, Laibson, Madrian, and Ramnath, 2018. "Income in late life: Measurement from IRS tax data." Working paper.

Do households maintain standard of living across retirement transition?

Bernheim, Skinner, and Weinberg (2001)

- Data: PSID, 1978-1990
- Consumption measure: Expenditures on
  - Food
  - Imputed or actual rental value of one's residence
- Finding: Big drops in consumption upon retirement

Expenditure is not consumption

Aguiar and Hurst (2005)

- Food expenditure drops but **not** food consumption (or quality) on average upon retirement
  - Home production increases in retirement
- **BUT** among retirees with < $1,000 in liquid assets and no home ownership (bottom wealth decile), 19% decline in calories consumed

Hurst (2008)

- "Lifecycle model has a hard time matching the magnitudes of the decline in expenditures for households in the bottom **quartile** of the wealth distribution"

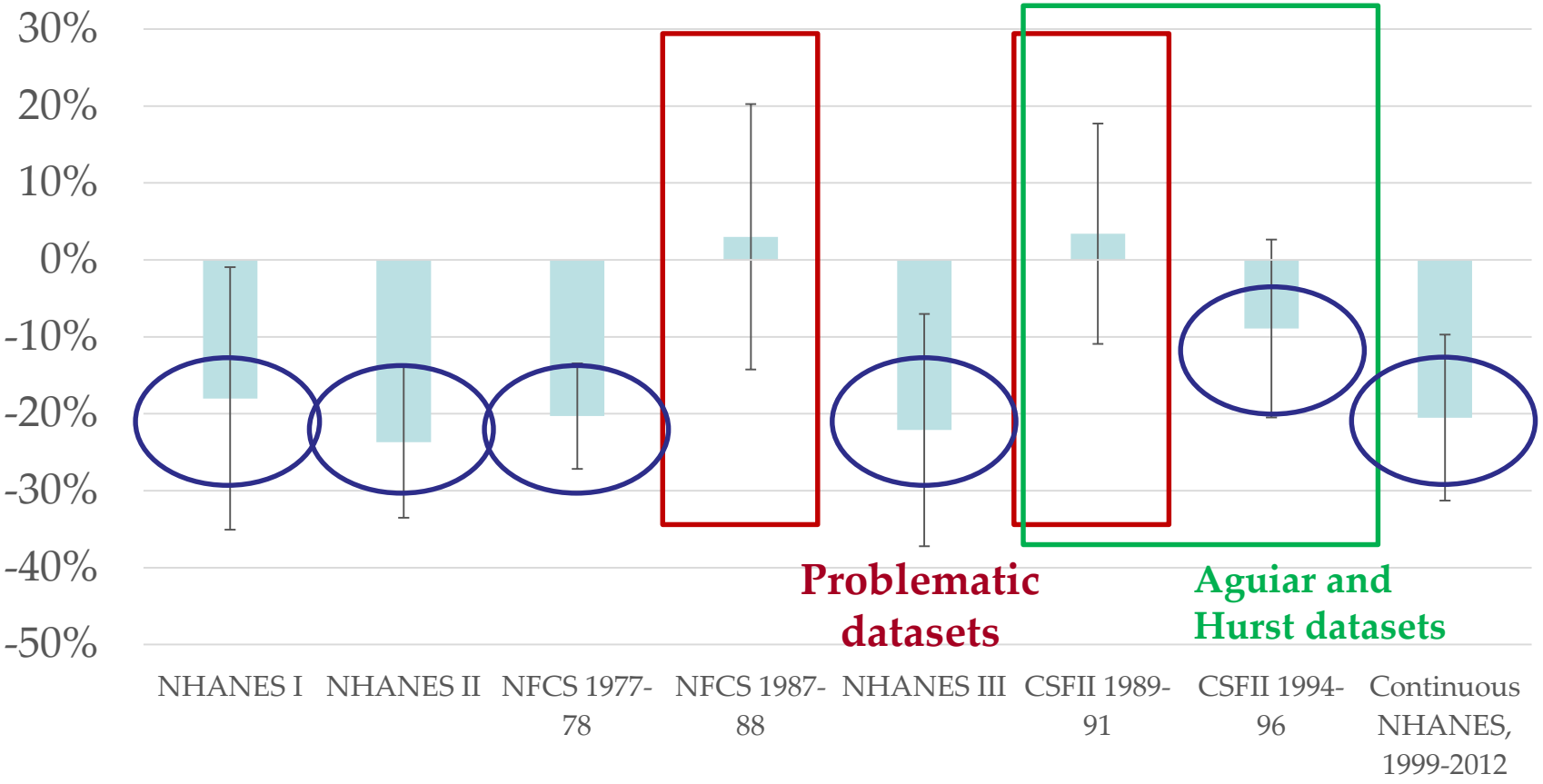
Aguiar and Hurst datasets are outliers

Stephens and Toohey (2018)

- Aguiar and Hurst (2005) use 1989-91 and 1994-96 Continuing Survey of Food Intake of Individuals (CSFII)

- 1989-91 CSFII had methodological problems
  - Expert panel convened by USDA "does not recommend use of the data from the 1987-88 NFCS"
  - 1989-91 CSFII used same methodology

Average impact of retirement on caloric intake



~20% reduction in calories excluding problematic datasets

Effect of retirement on BMI

Chung, Domino, and Stearns (2009)

- Data: Health and Retirement Study, 1992-2002

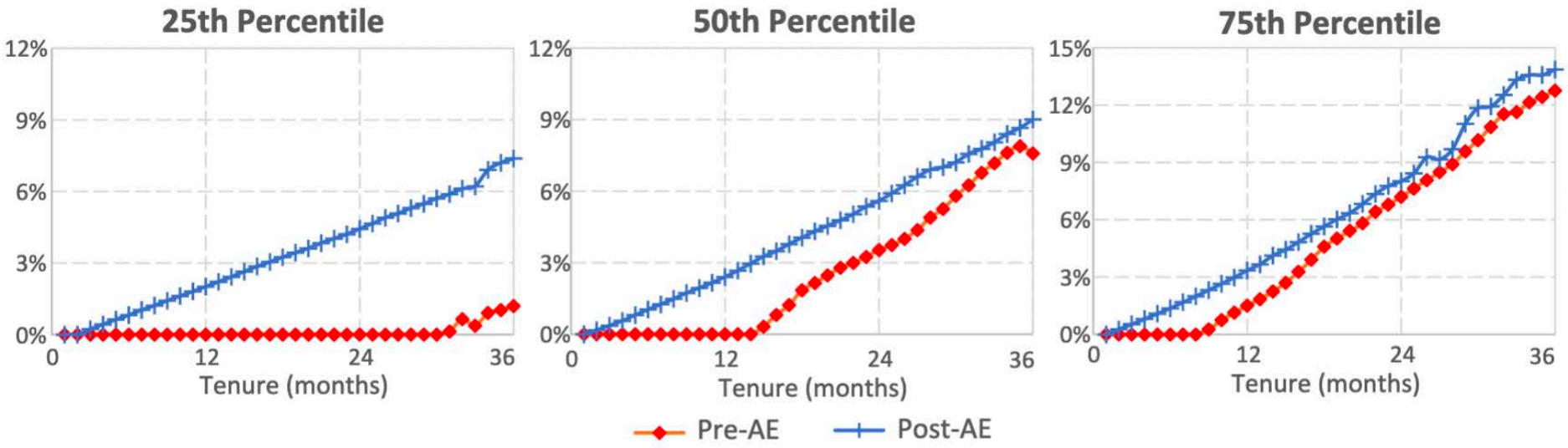
- Finding: Retirement increases BMI by 0.24 units
  - 1.45 pound gain for 5′ 7″ person
  - Average BMI gain from age 50-60 is 1.30

Outline

Is there a problem?

Do defaults help?

Effect of 3% default on cumulative contributions to pay



Choukhmane, 2019. "Default options and retirement savings dynamics." Working paper.

Effect of 3% autoenrollment

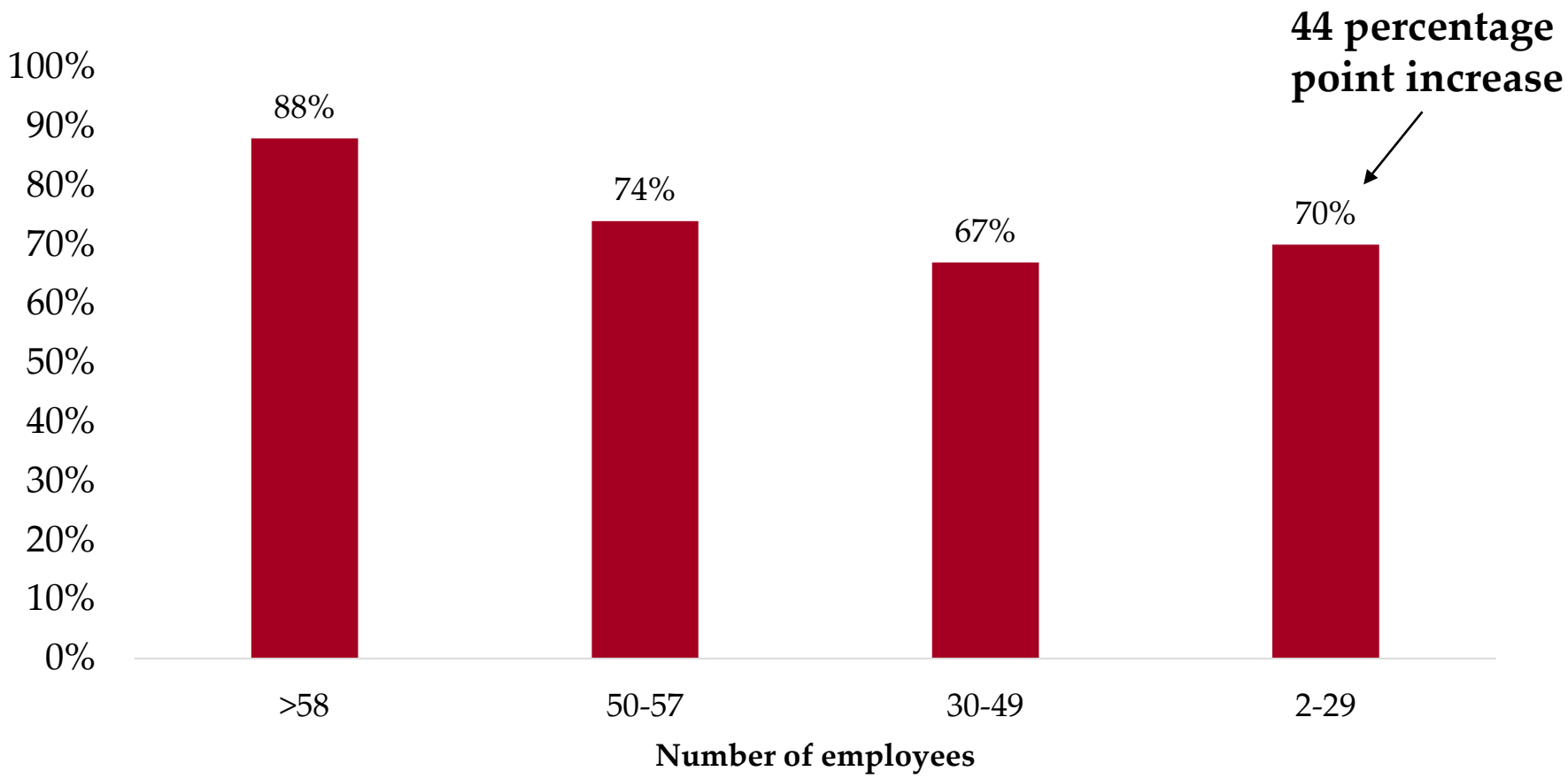
Figure 7: The effect of auto-enrollment on total wealth at age 65

Choukhmane, 2019. "Default options and retirement savings dynamics." Working paper.

Retirement plan availability, private-sector workers, 2012

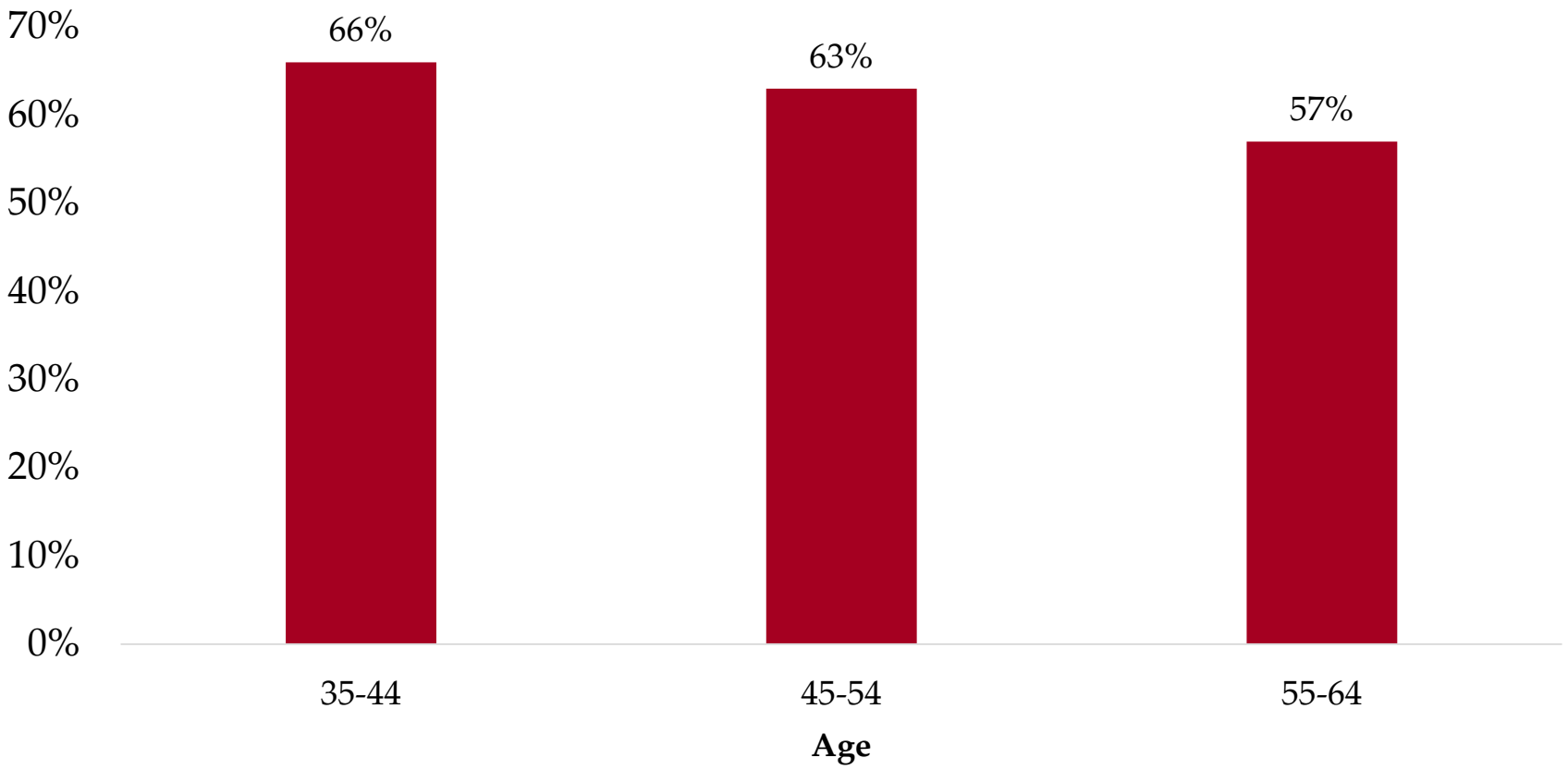
Dushi, Iams, and Lichtenstein, 2015. "Retirement plan coverage by firm size: An update." *Social Security Bulletin*.
Copeland, 2013. "Retirement plan participation: Survey of Income and Program Participation (SIPP) data, 2012. *EBRI Notes*.

UK participation rates under autoenrollment



Cribb and Emmerson, 2019. "Requiring auto-enrollment: Lessons from UK retirement plans." Center for Retirement Research at Boston College.

OregonSaves participation rate



Belbase and Sanzenbacher, 2018. "How have workers responded to Oregon's auto-IRA?" Center for Retirement Research at Boston College.

The case for more mandatory saving

Beshears, Choi, Clayton, Harris, Laibson, and Madrian (2019)

- Optimal system: Forced savings in completely illiquid account that allows for almost complete smoothing of consumption between working life and retirement

- Welfare loss from lack of flexibility to rational households << Welfare gain to households with low self-control

Outline

Is there a problem?

Do defaults help?

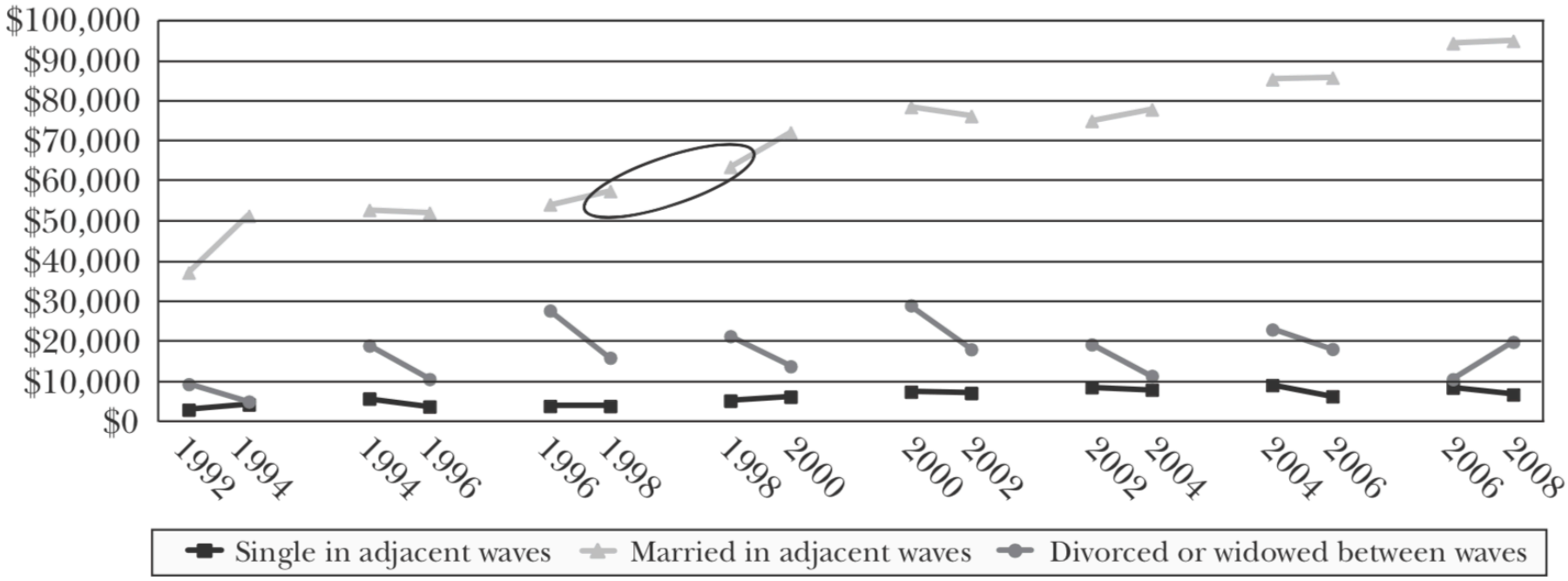
Will SeLFIES be attractive?

SeLFIES trajectory

- Level real cash payment per period for fixed length in retirement
- Decreasing value as retirement progresses
- "…provides a precise match to cash flow needs of retirees"

Retiree wealth trajectory

Wave-to-Wave Changes in Median Net Financial Assets by Family Status, Original HRS Cohort (age 51–61 in 1992)



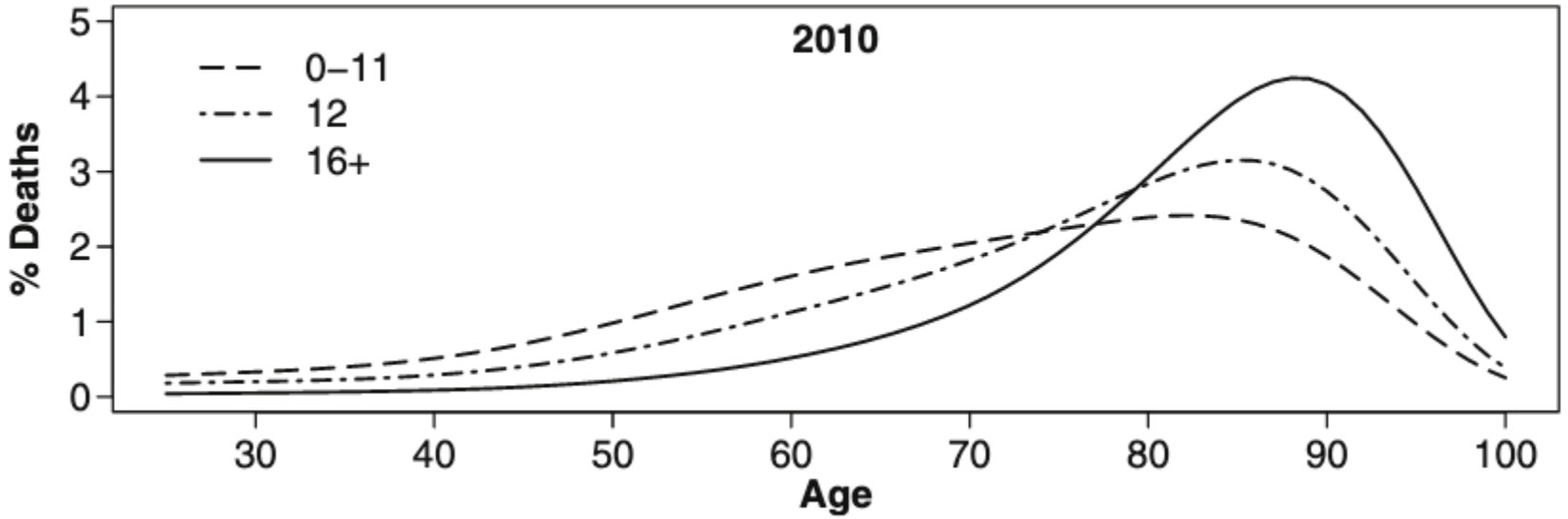
Poterba, Venti, and Wise, 2011. "The composition and drawdown of wealth in retirement." *Journal of Economic Perspectives*.

Retiree behavior

- Wealth is preserved until trigger event (e.g. death of spouse, onset of medical condition)

- Healthcare spending increases are highly persistent
  - Healthcare spending has annual autocorrelation of 0.901

Longevity risk by years of education



Isaac Sasson, 2016. "Trends in life expectancy and lifespan variation by educational attainment: United States, 1990-2010." *Demography*.

Managing cashflow mismatch

- Just buying SeLFIES for my age 65-85 years is not enough

- What is utility achievable if only SeLFIES that cover my age 65-105 years are available?
  - Protects against reasonable longevity risk
  - Coupon matches conservative spending stream early in retirement
  - Can sell before maturity to meet end-of-life expenses

Outline

Is there a problem?

Do defaults help?

Will SeLFIES be attractive?

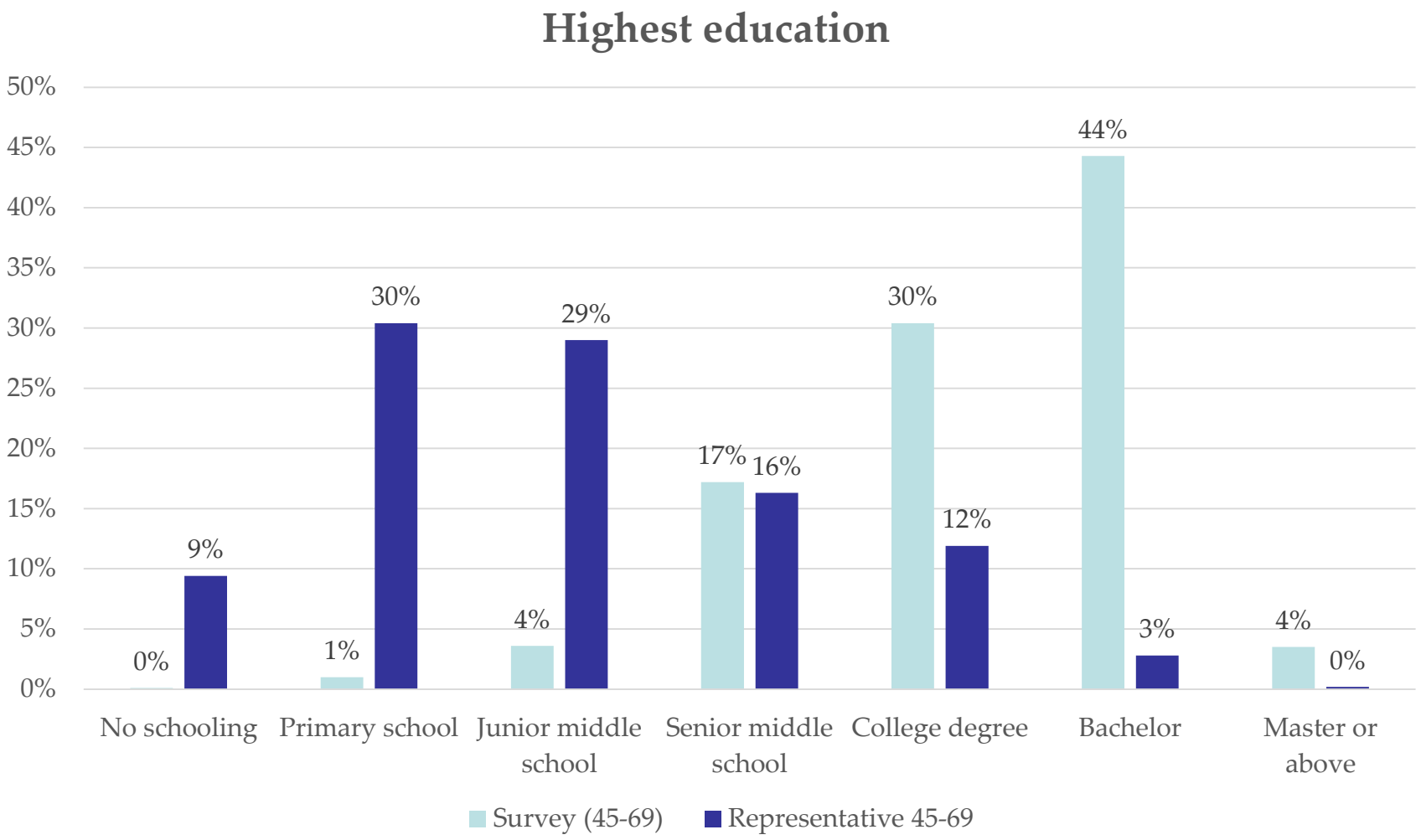
How big is the demand for reverse mortgages in China?

Survey says…

- 89% of urban 45-69 year old homeowners are interested in reverse mortgage

- 84% of urban 20-49 year olds whose parents own at least one property would recommend reverse mortgage to their parents

Survey vs. representative urban homeowner sample



Higher education associated with more interest

Table 3: Explaining the interest in reverse mortgages.

Survey	Survey 1 (Ages 45-69) Older homeowners		Survey 2 (Ages 20-49) Adult children	
Dependent variable	Interest		Recommend to parents	
Model	Model 1	Model 2	Model 3	Model 4
Demographics				
Age	0.202 **	0.168 *	-0.271 **	-0.213 +
Female	0.315 *	0.394 **	-0.013	-0.003
Married	-0.052	-0.098	-0.284	-0.312
Tier 1	0.157	0.068	-0.108	-0.112
College or diploma	0.143	0.111	0.122	0.112
University degree	0.406 **	0.445 **	0.319	0.407 +
Private sector	0.076	0.063	0.209 +	0.189
Retired	-0.733 ***	-0.892 ***	-1.056	-0.726

The big question

$$\text{Stated interest} \overset{?}{\rightarrow} \text{Actual demand}$$

U.S. reverse mortgage uptake

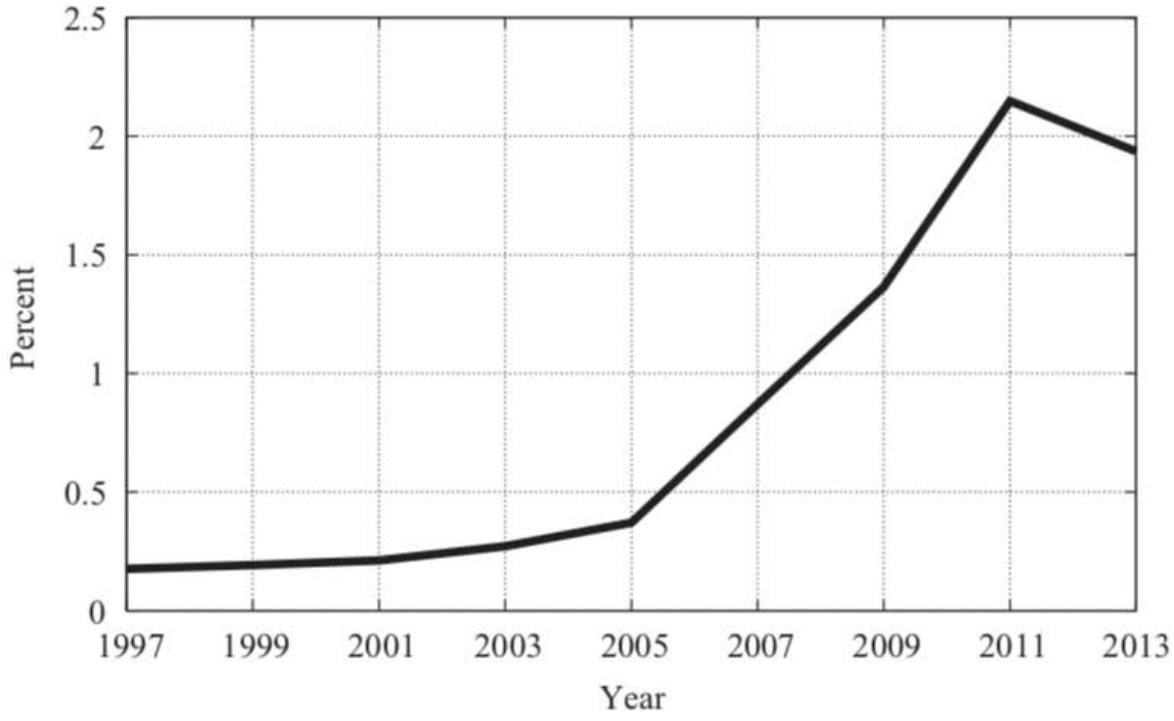


Figure 1. Percentage of older homeowners with reverse mortgages. This figure shows the proportion of all homeowners aged 65 and above that have RMLs. The data are constructed using various years of the AHS.

Nakajima and Telyukova, 2017, "Reverse mortgage loans: A quantitative analysis." *Journal of Finance*.

A calibration

$$\text{U.S. stated interest} \overset{?}{\rightarrow} \text{Actual demand}$$

Conclusion

There is cause to be concerned that there is a savings problem

Defaults can help the left tail, but aren't a panacea

20-year SeLFIES have more cashflow mismatch than desirable, but maybe 40-year SeLFIES would solve the problem

How does stated interest in survey translate to actual uptake?