Improving retirement finances

James J. Choi
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

Net worth excluding pensions, student loans, durables, homes, and collateralized debts, ages 61-70

Source: 2013 Survey of Consumer Finances
Adding defined contribution pensions doesn’t really affect the left tail

Net worth excluding defined benefit pensions, durables, homes, and collateralized debts, ages 61-70

Source: 2013 Survey of Consumer Finances
The left tail accumulates wealth mainly through illiquid home equity

Net worth excluding defined benefit pensions, ages 61-70

- 25th percentile: $50,885
- 50th percentile: $220,847
- 75th percentile: $672,557

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


– 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.
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?

Fraction completely dependent on Social Security, 1935 birth cohort

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)*


- 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)

– 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

Effect of 3% autoenrollment

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

59% of nonagricultural wage and salary workers have “salary reduction plan”

UK participation rates under autoenrollment

OregonSaves participation rate

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 \(\Leftarrow\) 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


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

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

ι Is there a problem?

λ Do defaults help?

Disallow 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

![Bar chart showing the distribution of highest education levels between survey and representative samples.](image-url)
Higher education associated with more interest

Table 3: Explaining the interest in reverse mortgages.

<table>
<thead>
<tr>
<th>Survey</th>
<th>Survey 1 (Ages 45-69)</th>
<th>Survey 2 (Ages 20-49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable Model</td>
<td>Older homeowners</td>
<td>Adult children</td>
</tr>
<tr>
<td>Demographics</td>
<td>Interest</td>
<td>Recommend to parents</td>
</tr>
<tr>
<td>Age</td>
<td>0.202 **</td>
<td>-0.271 **</td>
</tr>
<tr>
<td>Female</td>
<td>0.315 *</td>
<td>-0.013</td>
</tr>
<tr>
<td>Married</td>
<td>-0.052</td>
<td>-0.284</td>
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<tr>
<td>Tier 1</td>
<td>0.157</td>
<td>-0.108</td>
</tr>
<tr>
<td>College or diploma</td>
<td>0.143</td>
<td>0.122</td>
</tr>
<tr>
<td>University degree</td>
<td>0.406 **</td>
<td>0.319</td>
</tr>
<tr>
<td>Private sector</td>
<td>0.076</td>
<td>0.209 +</td>
</tr>
<tr>
<td>Retired</td>
<td>-0.733 ***</td>
<td>-1.056</td>
</tr>
</tbody>
</table>

Note: *, **, *** denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively.
The big question

Stated interest $\rightarrow$ 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.

A calibration?

U.S. stated interest → 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?