

DISCUSSION OF “CAN SECURITY DESIGN FOSTER HOUSEHOLD RISK-TAKING?”

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SUMMARY

Data:

1. CGP investment grew over the five years & were purchased mostly by households with little equity risk ex ante
2. The increase in CGP issuance is quite different across banks
3. Paper IVs with bank fixed effects to argue that differences in banks selling the new product caused differences in adoption which in turn caused more risk taking by Swedes

Theory:

1. The popularity of these products cannot be explained by a standard life-cycle model with uninsurable income risk
2. Nor with EZ preferences or pessimism, loss aversion, disappointment aversion, or narrow framing
3. Can be explained by narrow framing & loss aversion

1. OVERVIEW

Capital Guarantee Product (CGP)

- Expected return based on function of an equity index return R^*

$$\mathbb{E}_0^{\mathbb{P}}(1 + R_g) = (1 - \kappa) \frac{F}{P_0} \mathbb{E}_0^{\mathbb{P}}[1 + \max(p R^*; g)]$$

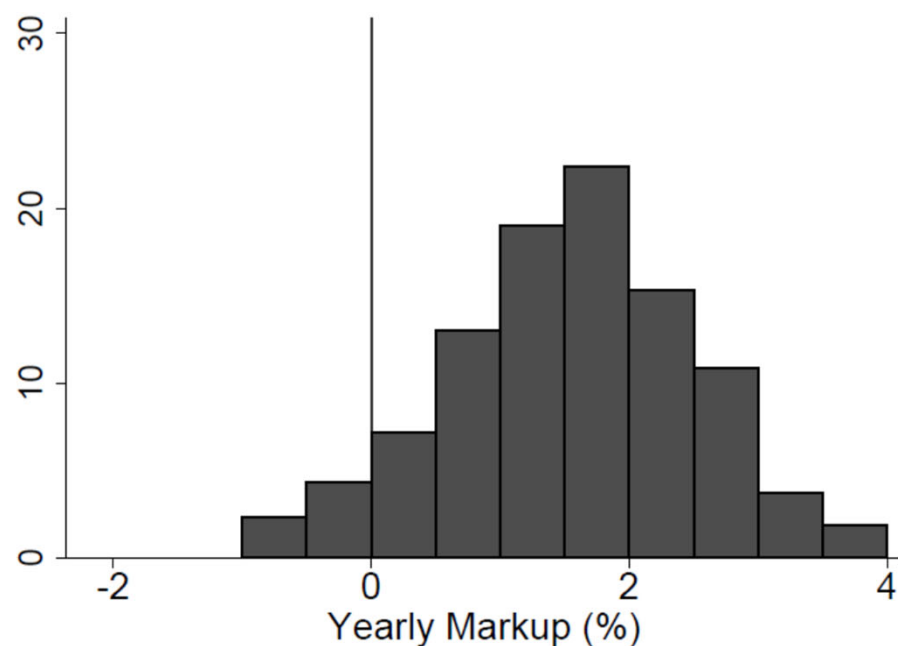
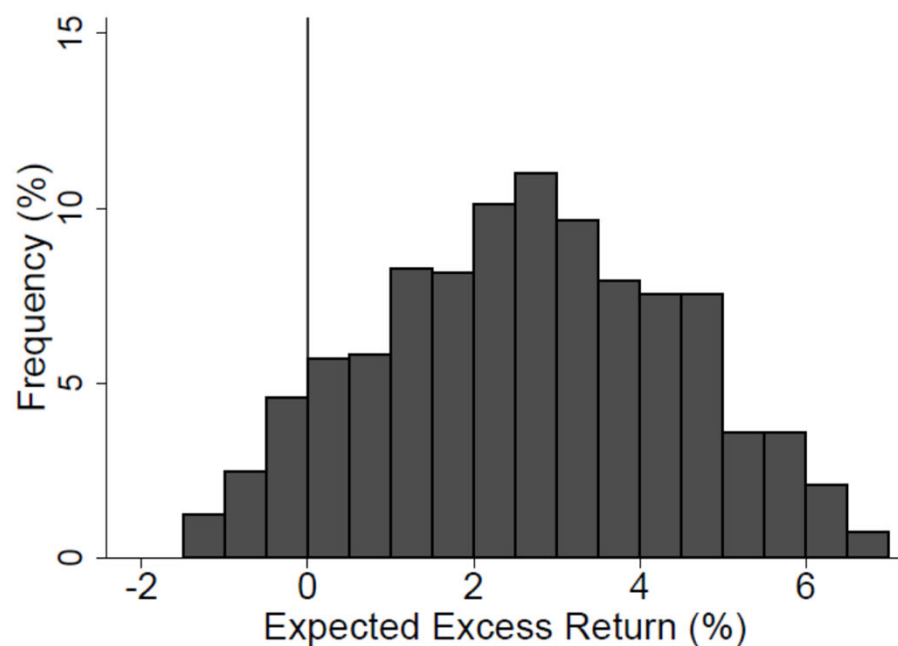
- Which promises return g relative to P_0
- Unless bank defaults, rate κ

Use no-arbitrage model, global CAPM calculate

- Market value: convert to annual fee equivalent based on sale price
- Share of equity premium delivered: **riskiness**

1. OVERVIEW

Expected return (pre-fee) and fee distribution



CGPs: fair bit of equity risk and large markups

1. OVERVIEW

Typical Swedish investors have modest investable wealth but in 2002 the median investor parked in in a bank account; CGP 12% of portfolio for those holding in 2007

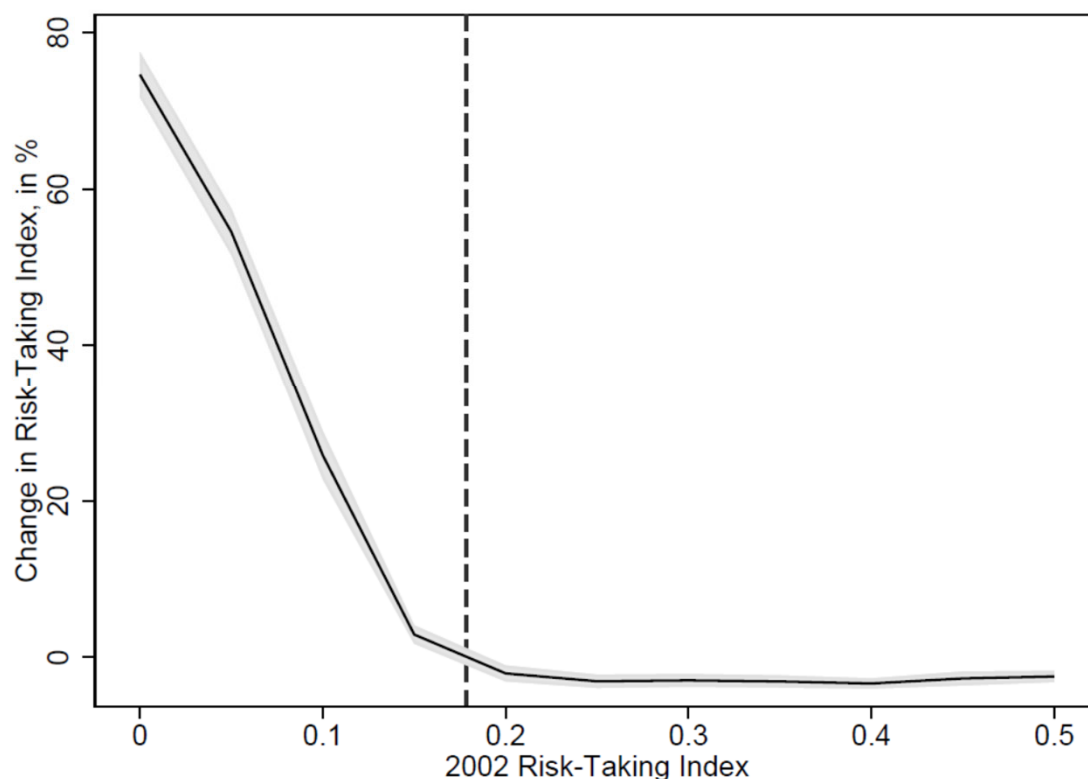
	Full Sample (1)				Traditional Equity Product Participants (2)				Capital Guarantee Product Participants (3)			
	Number of households: <i>N</i> =3,107,893				Number of households: <i>N</i> =2,128,612 (68.5% of total)				Number of households: <i>N</i> =428,337 (13.9% of total)			
	Mean	Median	p10	p90	Mean	Median	p10	p90	Mean	Median	p10	p90
Panel A: 2002												
Financial wealth (in 2000 \$, thousands)												
<i>Total</i>	33.7	11.2	2.5	72.8	44.9	17.7	4.6	92.3	72.9	38.0	8.0	149.6
Traditional equity products	15.3	1.2	0.0	29.6	22.4	4.4	0.2	42.9	36.1	11.8	0.2	79.1
Stocks	7.1	0.0	0.0	6.5	10.4	0.3	0.0	11.3	13.5	0.9	0.0	22.4
Equity mutual funds	8.0	0.5	0.0	19.7	11.7	2.6	0.0	28.5	22.1	7.8	0.0	54.5
Panel B: 2007												
Allocation of financial wealth (%)												
Capital guarantee products	1.6	0.0	0.0	2.5	2.1	0.0	0.0	6.2	11.9	7.3	0.0	30.0
Panel C: Household risk-taking index (η_h)												
Year 2002	0.15	0.06	0.0	0.46	0.22	0.17	0.0	0.53	0.26	0.23	0.01	0.56
Year 2007	0.17	0.06	0.0	0.51	0.25	0.20	0.0	0.58	0.28	0.26	0.01	0.56
2002-2007 % Change					0.7	13.5	-195.1	122.2	17.6	13.6	-78.8	123.8

Riskiness is weighted sum of riskiness of different assets in portfolio

1. OVERVIEW AND SUMMARY

Who took up the CGPs? Measure riskiness after controlling for observables, compare increase in riskiness for those taking on CGPs vs. those not

Increase in risk for adopters with low risk in 2002



2. CAUSATION

- Story: some banks developed these products outside Sweden, and these banks bought them into Sweden and sold them
- So use bank fixed effects based on which bank each investor used in 2002 as an instrument for holding CGP and explain riskiness

$$\eta_{h,t} = \alpha + \beta \widehat{CGP} Share_{h,t} + \lambda' x_{h,t} + \gamma_h + \mu_t + v_{h,t}$$

- Find $\beta > 0$: exposure to GCP-selling bank caused increase in portfolio risk taking

2. CAUSATION

- Concern: banks have different clienteles
- The banks that developed and sold CGP in Sweden were those serving unsophisticated households taking little risk who could would have bought these products anyway
 - Authors very careful, but nothing they do addresses correlation of bank effects with unobserved household characteristics
 - Thus β measures the difference in take-up across types of people not effect of differences in CGP availability
- **So what?** We observe this new product, and a bunch of investors adopting it once it is in the available choice set. Main story still holds.

2. CAUSATION

- Concern: banks have different clienteles
- Slightly more concerning (concerning for the authors, less concerning for Swedes): the banks who sold CGPs were aggressively marketing risk of all types to investors who were taking little risk.
- The instrument and sales of CGPs are correlated with a different action by banks that raises risk by households and this, not financial innovation changed portfolios.

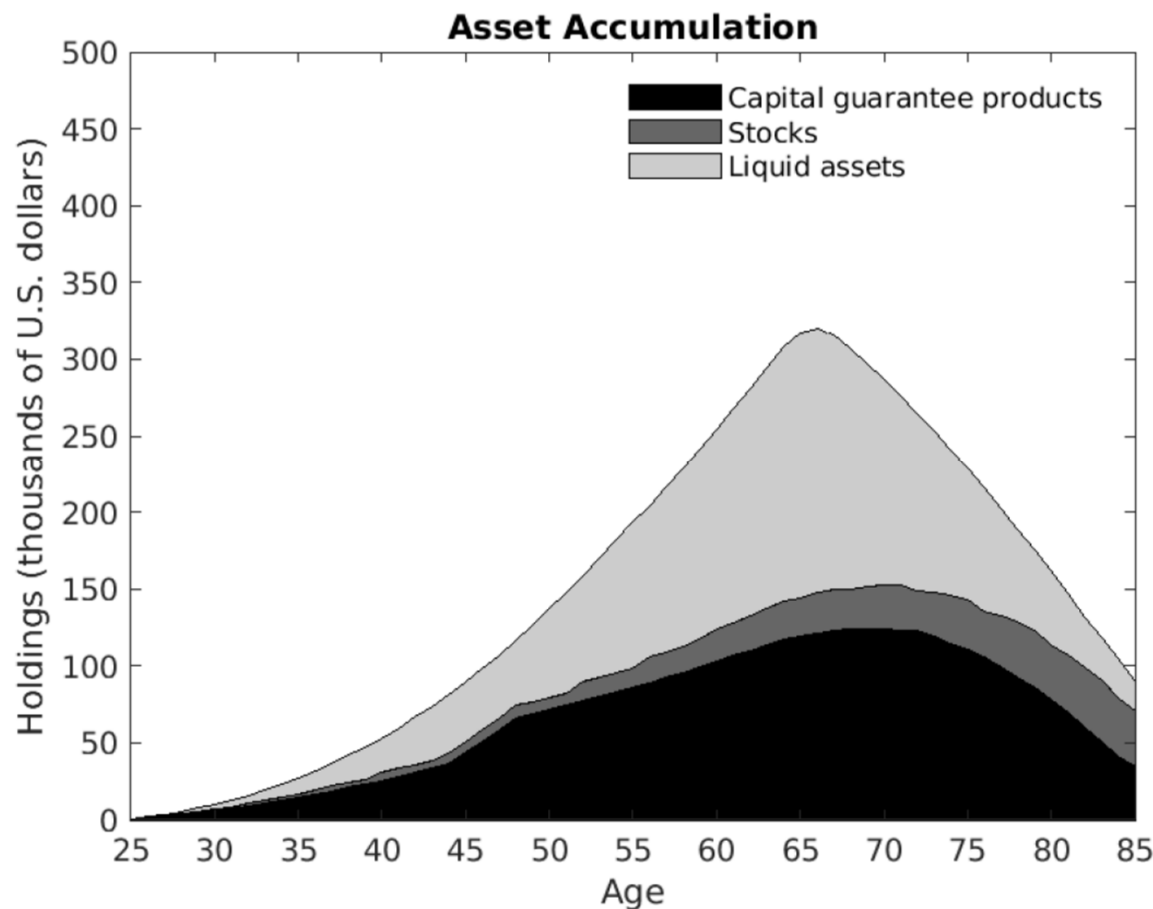
3. THEORY

Lifecycle portfolio choice model

- Save in equity, safe asset, and 4-year simplified CGP “calibrated” and indexed to equity
- Stochastic labor income (perm-trans shocks) when working, fixed share of perm when retired
- Vary utility functions to see when investors choose to take on CGPs
- Swedes behavior fit by calibration with narrow framing and loss aversion and heterogeneity in risk aversion

3. THEORY

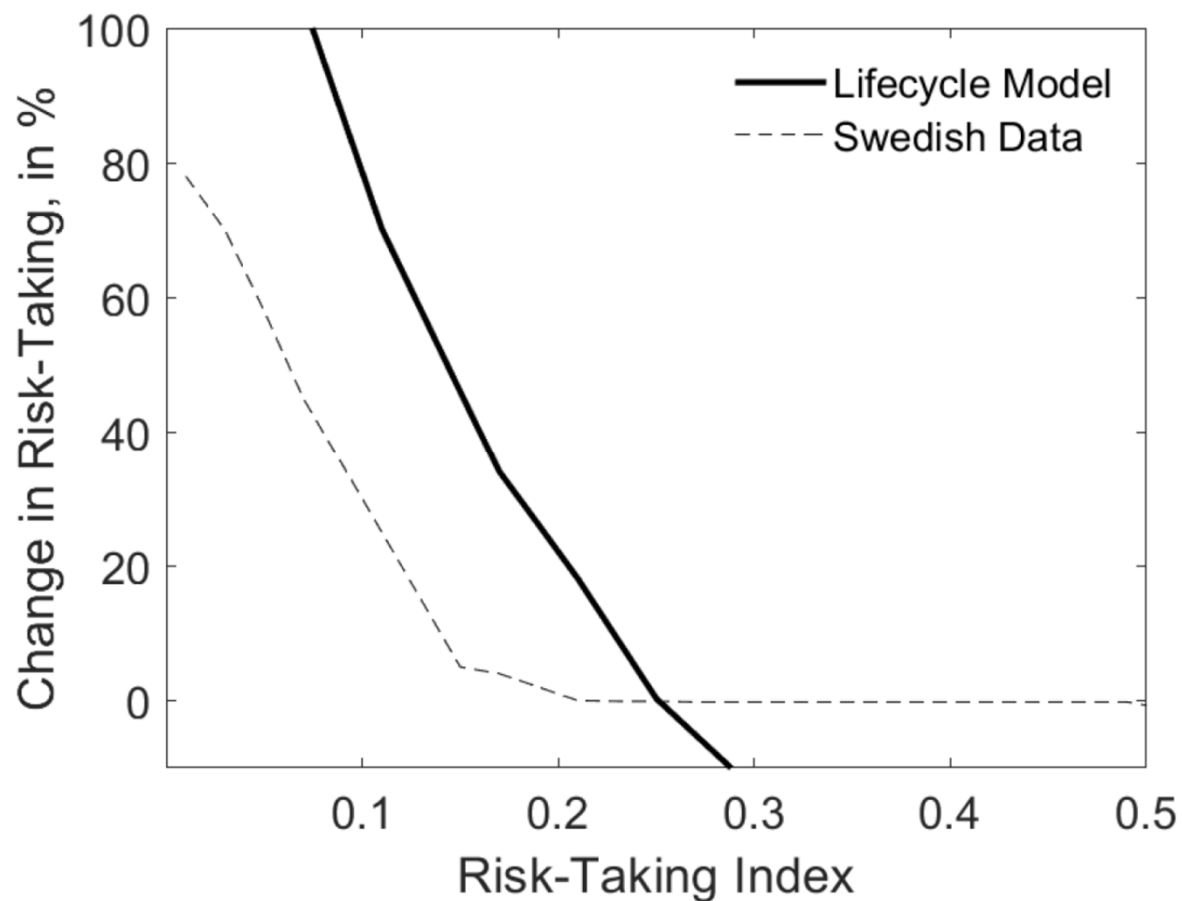
Barberis-Huang utility parameters, risk aversion 4



Investors take up CGP; they don't with standard EU

3. THEORY

Vary ex ante risk-taking by varying kink in utility



3. THEORY

Concerns:

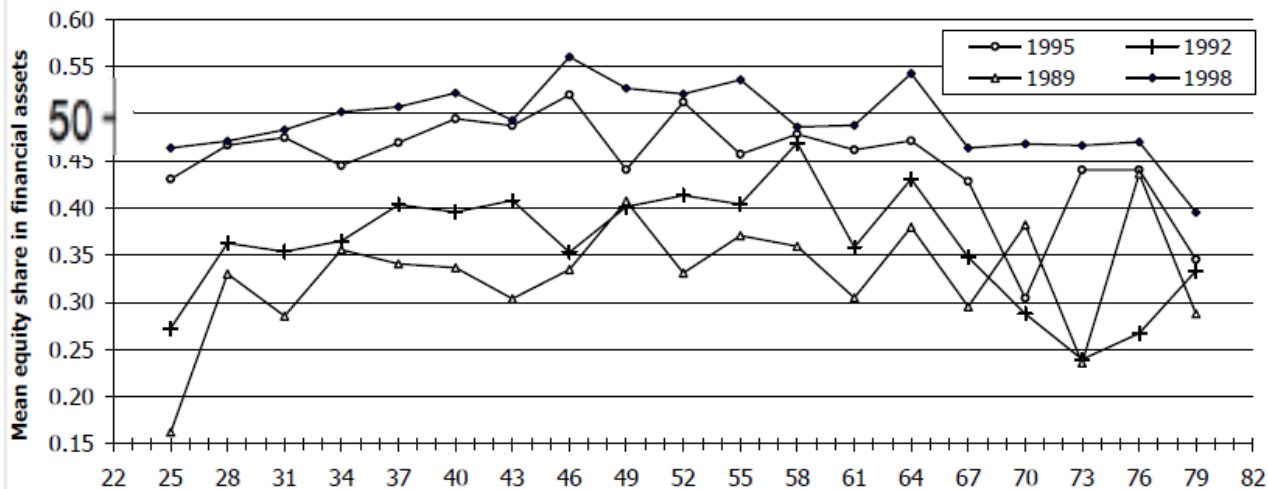
1. Simple alternative: how about heterogeneous pessimism about the variance of equity returns?
 - Pessimism gives extra (perceived) value to the guarantee, and more value the more initially pessimistic
 - Would Hansen-Sargent max min agents love these assets?
2. Different (not unrelated) story: Some banks advertised & sold high-markup, complex assets, most successfully to the least financially sophisticated (perhaps by triggering narrow framing & loss aversion)
 - Evidence: do banks with low markup CGPs have higher or lower take-up of CGPs? If lower, then I worry about any theory that explains behavior without behavioral IO

4 SECURITY DESIGN AND RISK-TAKING IN US

Parker, Schoar, Simester, and Cole (2020), studies equity share in portfolios of similar-sized sample, but instead of all Swedes, lots of Americans

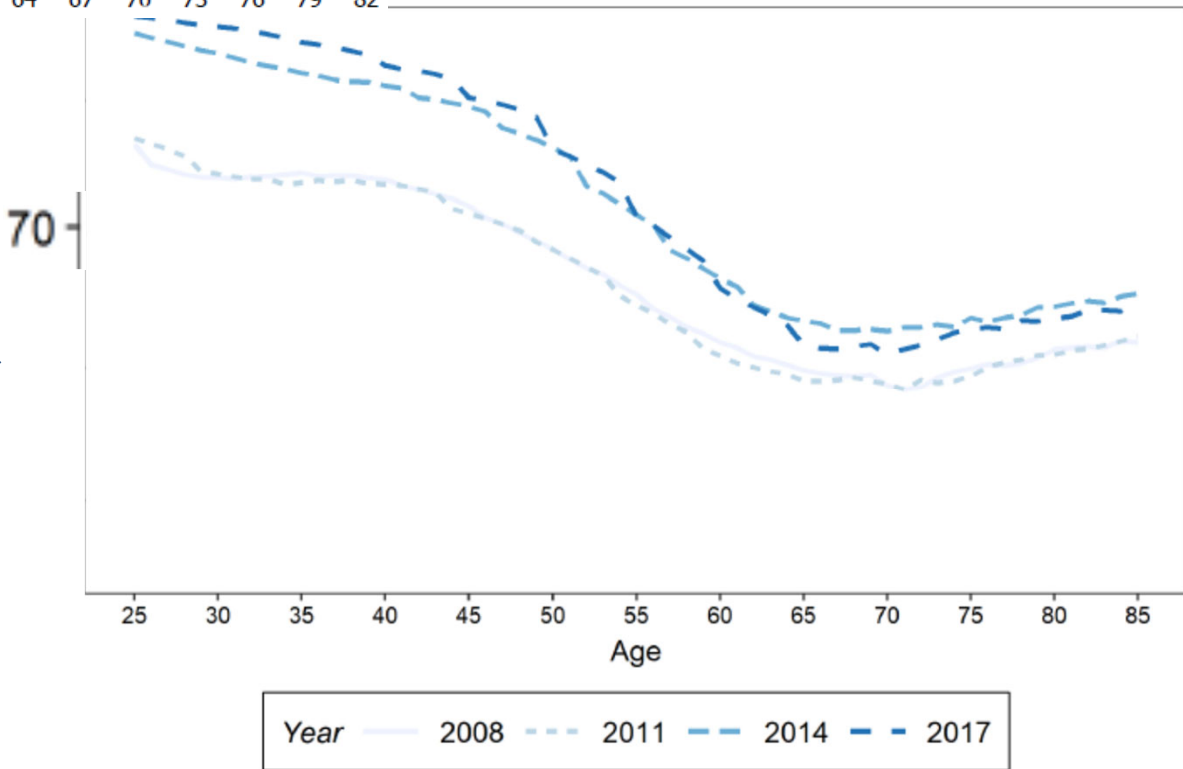
- Two findings consistent with security design increasing risk taking for retail investors
 - In last two decades a significantly higher share of equity relative to previous period, for typical American retirement investors (not high net worth but have retirement financial investments)
 - Evidence that this is at least partly (perhaps entirely) cause by security design and regulation: the rise of Target Date Funds

EQUITY SHARES OF PORTFOLIOS



Ameriks Zeldes:
Equity shares low
and flat

Post 2008: Equity
shares high and decline
late in working life



WHY THE CHANGE?

Security design: development of Target Date Funds and the Pension Protection Act of 2006 moved households to hold more equity and to decrease it as they near retirement

- Most of the increase in equity shares happens for the young
- Tracking the same investors across ages, equity shares are no longer flat, but now have declines later in working life
- Why don't we see this in SCF? Because survey, & investors do not know that the equity share in TDF is large until 50
- Comparing investors who enroll in their retirement plans pre PPA2006 to post-PPA2006:
 - Post-PPA age 25-35 investors have 1.5% more equity at same age, income, within a couple of years of enrollment
 - Post-PPA, lifecycle pattern similar to TDF glide path

SUMMARY

- Nice paper
 - measures riskiness of Swedes' portfolios
 - documents increase in risk taking among previously very conservative investors with the introduction of CGPs, stronger at banks that sell more CGPs
 - Fits these two facts with lifecycle portfolio choice model with Barberis-Huang loss aversion and narrow framing
- Main alternative hypotheses
 - a) Heterogeneous pessimism about variance of equity
 - b) Banks aggressively sold complex products to the most financially unsophisticated Swedes
 - Each is probably still good for the Swedish investors relative to the status quo ex ante