Parental Portfolio Choice and Children's Home Ownership Status

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Motivation

- Unanticipated impacts of parental portfolio choice on children.

- Unanticipated effects of policies targeting specific assets.

- Home ownership rates are in decline across generations.
  Homeownership by Generation

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  Homeownership by Generation

So what?

- Inheritance Taxation - Residential property is taxed differently.
- Welfare implications - Why do younger people own less property?
- Demographic Change - Big Wealth Transfer across generations looming Wealth of Boomers

Overview

Connection to Literature

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- No direct research on the interaction of parental portfolio choice and children's housing status.
    - **Intergenerational Wealth Transfers**: Black et al. 2022, De Nardi 2004, De Nardi and Fella 2017, Koltikoff and Summers 1981, Nekoei and Seim 2023, Modigliani 1988, Ohlsson, Roine, and Waldenström 2020, Saez and Zucman 2016
    - **Portfolio Choice with Housing**: Cocco 2005, Mian and Sufi 2011, Mian, Rao, and Sufi 2013, Mian and Sufi 2014, Mian, Sufi, and Trebbi 2015, Eichenbaum, Rebelo, and Wong 2022
    - **Low Homeownership Rates**: Bacher 2022, Coulson 1999, Kaas et al. 2021, Paz-Pardo 2021

A Look in the Data

The Data

- Check if there is a correlation between the house value of parents and the homeownership status of children.

- PSID data 2009-2019 so far, plan to go back until 2000. Combine Household Files (Assets) with Individual Files

- Connect Parents to their Children.

Key Variables - Overview

Table 1: Summary Statistics

		Parents Owner No	Yes
	Observations	7651	5362
% Children Owner	Mean	0.46	0.80
	Std	0.50	0.40
House Value	Mean	245782	424297
	std	1179792	1571799
Wealth w/o Equity	Mean	178885	272066
	Std	770550	1116610
Wealth w/ Equity	Mean	250552	384788
	Std	904667	1230503
Share Mortgage	Mean	0.29	0.49
	Std	0.45	0.50
Years of Education	Mean	12.92	12.92
	Std	3.06	4.68
Family Income	Mean	59463	77049
	Std	92118	154128

Share of Homeowners by Wealth Quantile
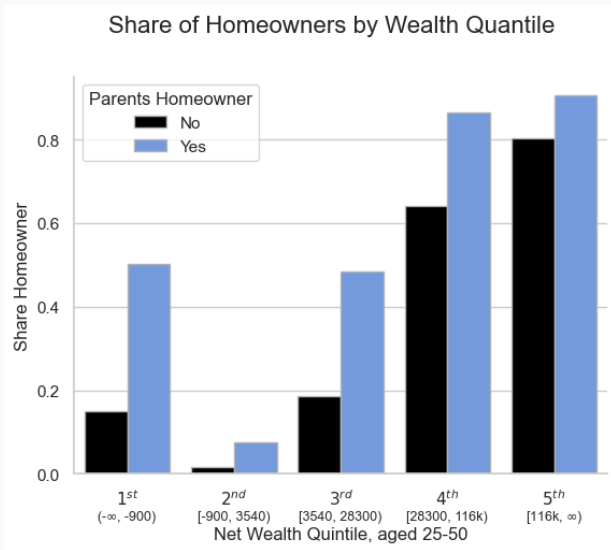
"SHOW ME THE MONEY"

Form basic expectations of transmission, divide parental wealth ($\log W$) and housing ($\log H$) by the number of siblings.
Y binary variable, 1 if homeowner, 0 otherwise.

$$Y = \beta_1 \log H + \beta_2 \log W + X\gamma + \epsilon \tag{1}$$

where X includes Income, Parental Income, Children, Marital Status, Education, Parental Education, Own Wealth, House Prices Index, Region Dummies, Age Parents, Living in Same State, Year Dummies

Regression Results

Rolling age bins of 5 years.

Looking at single children - same trend but a larger magnitude.

Influence of Parental Wealth
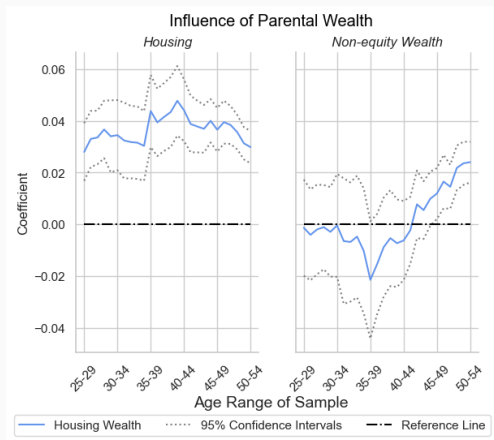
Caveat: In- and out-movement of observations.

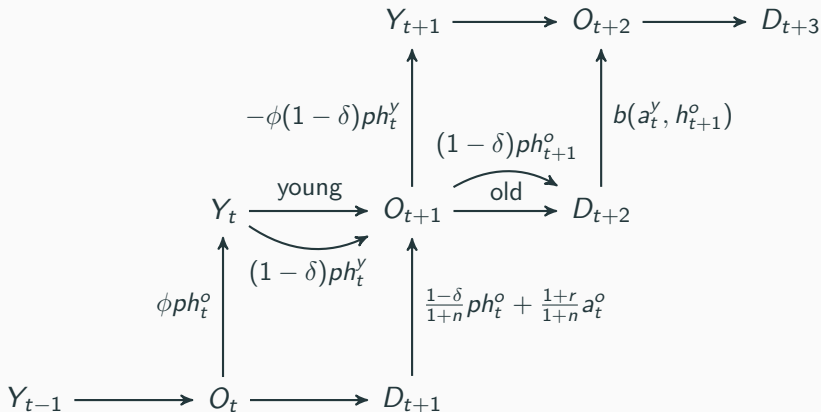# A simple model

Trying to make sense

1. Liquid Assets are negatively correlated when young(er) but positively when old

   $\implies$ Intertemporal substitution?

2. Housing Assets are consistently positively correlated, but can we understand why?
   a) Illiquidity?
   b) Durability?
   c) Collateral?

A simple model

1. Two-periods overlapping generations model
2. Households choose: consumption, assets, and housing (cont.)
3. Housing depreciates slowly (durable) **and**
   Enters utility function directly (consumption argument) **and**
   Enters budget constraint (liquid)
4. Agents receive an inheritance with absolute certainty
5. **Parents help with house financing (inter-vivo)**
6. No equilibrium results

A simple model II

Dynamics in the toy model:

$$Y_{t+1} \longrightarrow O_{t+2} \longrightarrow D_{t+3}$$

$$-\phi(1-\delta)ph_t^y \qquad b(a_t^y, h_{t+1}^o)$$

$$(1-\delta)ph_{t+1}^o$$

$$Y_t \xrightarrow{\text{young}} O_{t+1} \xrightarrow{\text{old}} D_{t+2}$$

$$(1-\delta)ph_t^y$$

$$\phi ph_t^o \qquad \frac{1-\delta}{1+n}ph_t^o + \frac{1+r}{1+n}a_t^o$$

$$Y_{t-1} \longrightarrow O_t \longrightarrow D_{t+1}$$

A simple model III

$$\max_{c_t^y, c_{t+1}^o, h_t^y, h_{t+1}^o} u(c_t^y, h_t^y) + \beta[u(c_{t+1}^o, h_{t+1}^o) + b(a_t^y, h_{t+1}^o)] \quad (2)$$

$$s.t.$$

$$c_t^y = w - (1 - \phi p h_t^o) p h_t^y - a_t^y \quad (3)$$

$$c_{t+1}^o = (1 - \delta)(1 - \phi) p h_t^y - p h_{t+1}^o + (1 + r) a_t^y +$$

$$\frac{1 - \delta}{1 + n} p h_t^o + \frac{1 + r}{1 + n} a_t^o \quad (4)$$

Takeaways

Solve for optimal consumer choices and check the response to a marginal change in inheritance:

$$\frac{dh_t^y}{dh_t^o} > 0, \text{ if } (1+r)\phi ph_t^o > (\delta + r) + \phi(1-\delta) \text{ and} \tag{5}$$

marginal rate of substitution when young

gives higher marginal benefit tomorrow then today

$$\frac{dh_{t+1}^o}{dh_t^o} > 0, \text{ if } (1+r)\phi ph_t^o > (\delta + r) + \phi(1-\delta) \tag{6}$$

However, liquid assets and housing behave qualitatively equally - not in line with data.

Math

Takeaways II

- Durability feature relevant
- Illiquidity makes things only more complicated
- Housing consumption relevant (or else no incentive to hold)

Obvious shortcomings

1) Still haven't worked on collateral property of housing
2) No uncertainty
3) Parameter matter
4) Complete markets - by definition implausible
5) Homogeneous Agents

Heterogeneity in Empirical Results

Regression Results

Run the same regression but for certain quantiles of the Net Wealth-to-Income Distribution.
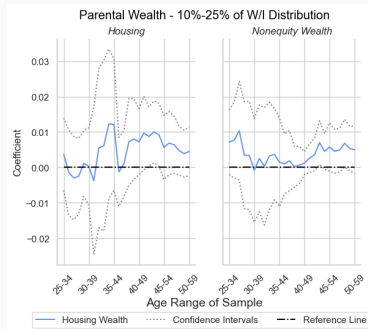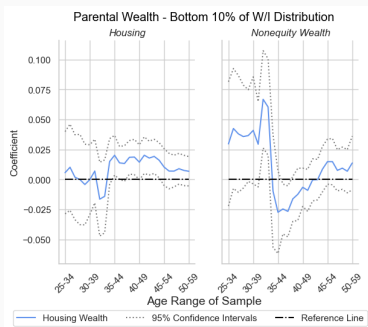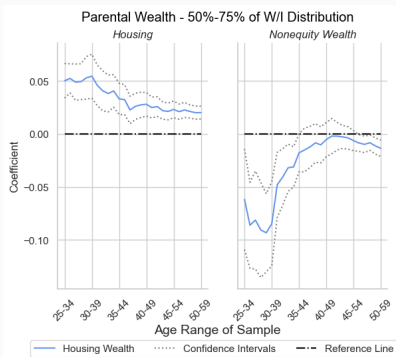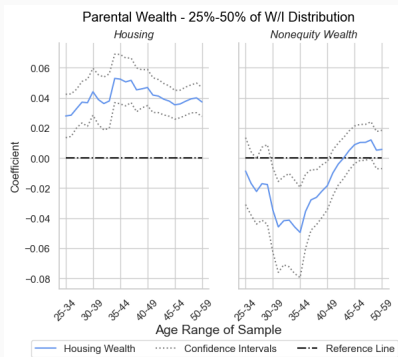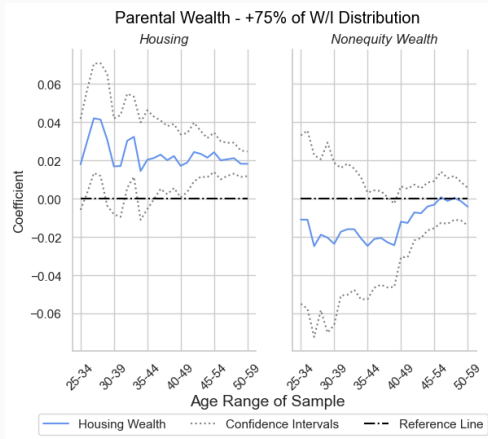

Note: Wider bins

Excluding "entrepreneurs" gives greater negative area when young.

Regression Results

Run the same regression but for certain quantiles of the Net Wealth-to-Income Distribution.

Parental Wealth - +75% of W/I Distribution

$\implies$ Being "credit constraint" matters for correlation over life-cycle.

A Quantitative Approach

How I think of a quantitative model

1. Life-Cycle Model with credit constraints.
2. Households: Two assets, durability, house as collateral, reduced form illiquidity, inter-vivo gifts, bequests.
3. Idiosyncratic income risk
4. Children take parental assets as given
5. Vanilla Firms
6. Vanilla Government to organize transfers, allows taxation experiments.

Agent

Rent   Purchase

$$\boxed{\text{Max } C, H_{rent}, s}\ \boxed{\text{Max } C, H_{own}, s}$$
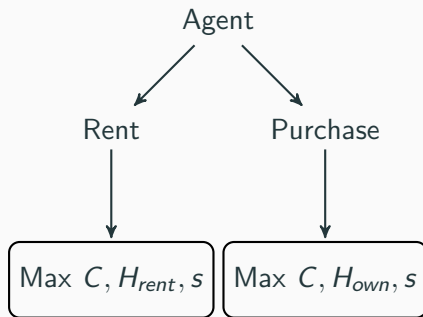
Relative price of housing fluctuates to create uncertainty in inheritance. How?

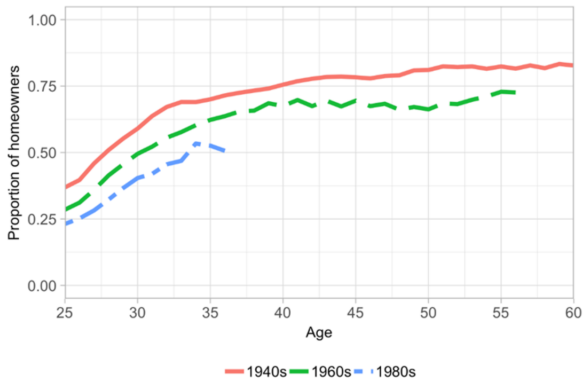# Way Forward

What to do next

- Long-term goal: Administrative Data

- Fully-fledged quantitative model

- Policy experiment with inheritance taxation

Appendix

Home Ownership Rates Across Generations
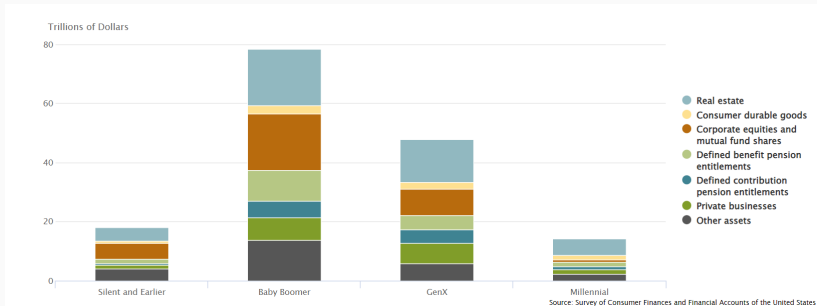

Homeownership rates by age and decade of birth

United States

Source: Paz-Pardo 2022

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Wealth by Generation

Trillions of Dollars

Legend:
- Real estate
- Consumer durable goods
- Corporate equities and mutual fund shares
- Defined benefit pension entitlements
- Defined contribution pension entitlements
- Private businesses
- Other assets

Categories: Silent and Earlier, Baby Boomer, GenX, Millennial

Source: Survey of Consumer Finances and Financial Accounts of the United States

Source: Federal Reserve - Distributional Financial Accounts

Back

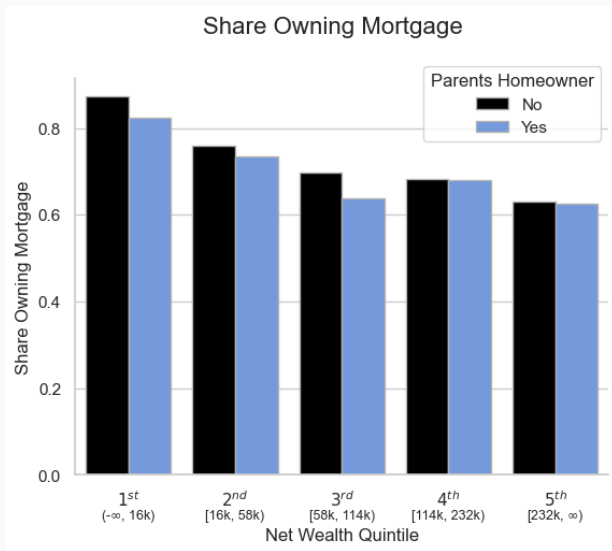## Condition in Math

$$\overbrace{-(1 - \phi p h_t^o) p u_{h_t^y c_t^y}(c_t^y, h_t^y)}^{<0} + \overbrace{u_{h_t^y h_t^y}(c_t^y, h_t^y)}^{<0} >$$

$$\overbrace{\beta(1 - \delta)(1 - \phi)p[\phi p h_t^o(1 + r) - (\delta + r) - \phi(1 - \delta)]u_{h_{t+1}^o c_{t+1}^o}(c_{t+1}^o, h_{t+1}^o)}^{>0}$$

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House Value (Occupied) by Wealth Quintile