Intergenerational transmission of homeownership status

Marius Grünewald[1]

May 15, 2023

[1]European University Institute

Motivation

- Intergenerational wealth transfers essential for wealth inequalities
- Housing integral part of the portfolio for many households
- Subsequently, housing important factor in wealth transmission
- Not part of the study: Inheritance itself.

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Research Question

- Does homeownership status transmit through generations?
- If so, can we disentangle effects and quantify relevance?

Overview

Connection to Literature

A simple model

A Look in the Data

Heterogeneity in Empirical Results

A Quantitative Approach

Way Forward

Connection to Literature

Connection to Literature

- In general, transmission of portfolio choice understudied
  - **Transmission of Homeownership Status**: Blanden (2023)
  - **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

A simple model

Housing as Investment

1. Two-period model, one asset, endowment economy in partial equilibrium
2. Works when young, retired receive an inheritance
   $\Longrightarrow$ consumption smoothing
   $\Longrightarrow$ less savings when young

A simple model

... but housing is more

1. Two-periods overlapping generations model
2. Discrete Choice: Renter V^{rent} or Owner V^{own}
3. Households choose cont.: consumption c, assets a, and (housing h (cont.), work in progress)
4. Housing depreciates slowly δ (durable) **and**
   Enters utility function directly (consumption argument) **and**
   Does not enter budget constraint (illiquid)
5. Agents receive an inheritance with absolute certainty h^o_{t-1}, a^o_{t-1}(Parents are owners)
   $\Longrightarrow$ exclude wealth effect of inheritance in trade-off
6. No equilibrium results

A simple model I

$$\max\{V^{rent}, V^{own}\} \tag{1}$$

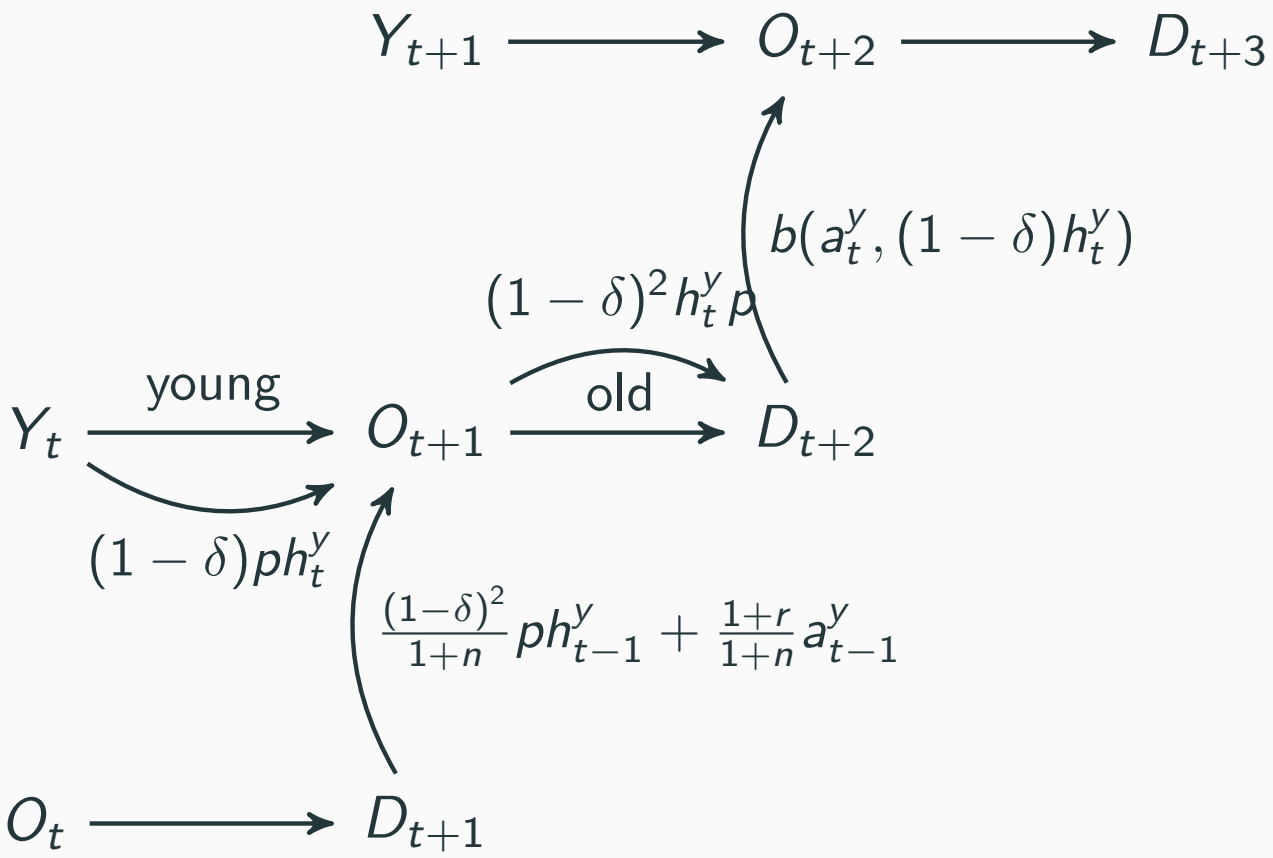
$$V^{own} = \max_{c_t^o, c_{t+1}^o, h_t^o} u(c_t^o, h_t^o) + \beta[u(c_{t+1}^o, (1-\delta)h_t^o) + b(a_t^o, (1-\delta)h_t^o)] \tag{2}$$

$$c_t^o = w - p^o h_t^o - a_t^o \tag{3}$$

$$c_{t+1}^o = (1+r)a_t^o + \frac{1-\delta}{1+n} p^o h_{t-1}^o + \frac{1+r}{1+n} a_{t-1}^o \tag{4}$$

A simple model II

Dynamics in the toy model:



A simple model III

$$V^{rent} = \max_{c_t^r, c_{t+1}^r, h_t^r} u(c_t^r, h_t^r) + \beta[u(c_{t+1}^r, h_{t+1}^r) + b(a_t^r, 0)] \tag{5}$$

$$s.t.$$

$$c_t^r = w - p^r h_t^r - a_t^r \tag{6}$$

$$c_{t+1}^r = -p^r h_{t+1}^r + (1+r)a_t^r + \frac{1-\delta}{1+n} p h_t^o + \frac{1+r}{1+n} a_t^o \tag{7}$$

A simple model IV

The marginal consumer faces

$$V^{rent} = V^{own} \tag{8}$$

Given housing equal 1 and renter leaves no bequests,

$$((c_t^{own})^{\alpha} - (c_t^{rent})^{\alpha}) + \beta((c_{t+1}^{own})^{\alpha}(1-\delta)^{1-\alpha} - (c_{t+1}^{rent})^{\alpha}) + \beta b(a_t^{own}, (1-\delta)) = 0 \tag{9}$$

Due to non-homothetic preferences trade-off: Giving to children vs. more consumption during lifetime.
But giving to children is, by definition, a luxury good
$\Longrightarrow$ some negative, some positive correlation in the data.

A simple model V

To-Do: Solve for housing continuously and check for threshold.

$$\frac{dh_t^o}{dh_{t-1}^o} > 0 \tag{10}$$

$$\frac{da_t^o}{dh_{t-1}^o} ? \tag{11}$$

$$\frac{dh_t^r}{dh_{t-1}^o} > 0 \tag{12}$$

$$\frac{da_t^r}{dh_{t-1}^o} ? \tag{13}$$

$$\frac{dh_{t+1}^r}{dh_t^o} > 0 \tag{14}$$

Crucial for cutoff, size difference in (10) and (14), and which effect dominates for assets.

A Look in the Data

Connecting Data and Model

Can we see a negative correlation in the data?

- Is there a correlation between parents' house value and children's homeownership status.
- PSID data 2003-2019 (9 biennial waves).
- For every year, connect parents to children. Contemporaneous linkage between portfolios.
  1) No Grandparents
  2) Fuzzy Merge
  3) Drop cohabitation
  4) Focus on prime-age children (25-40)
- Extremely slow procedure, currently 4%

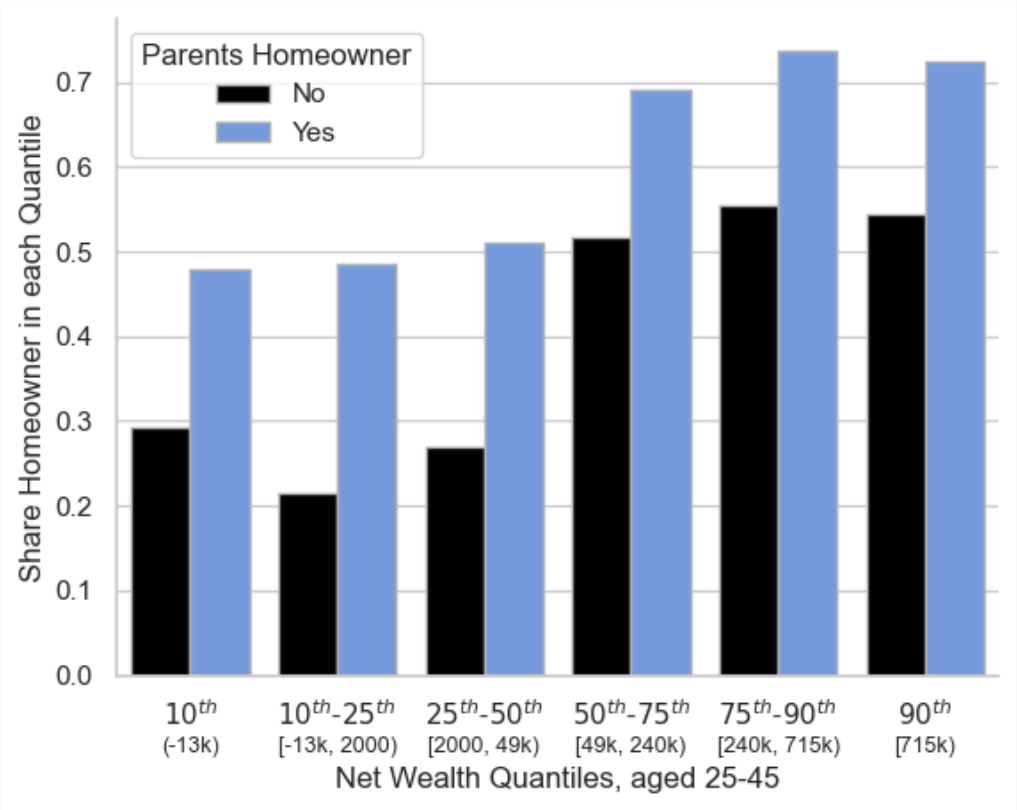
Some simple averages

Table 1: Some averages

Children	Parents Homeowner	Parents Renter
Homeowner	0.61	0.38
Homeowner, aged 25-35	0.56	0.34
Homeowner, aged 30-40	0.69	0.43
Family Wealth	177,000	178,000
Cond. on Homeownership		
House Value	356,000	357,000
Has Mortgage	0.88	0.86
Loan-to-Value	2.13	1.75
Family Wealth	215,000	245,000
Cond. on Mortgage		
Fixed Interest Rates	10.6	12.6
Family Wealth	209,000	221,000

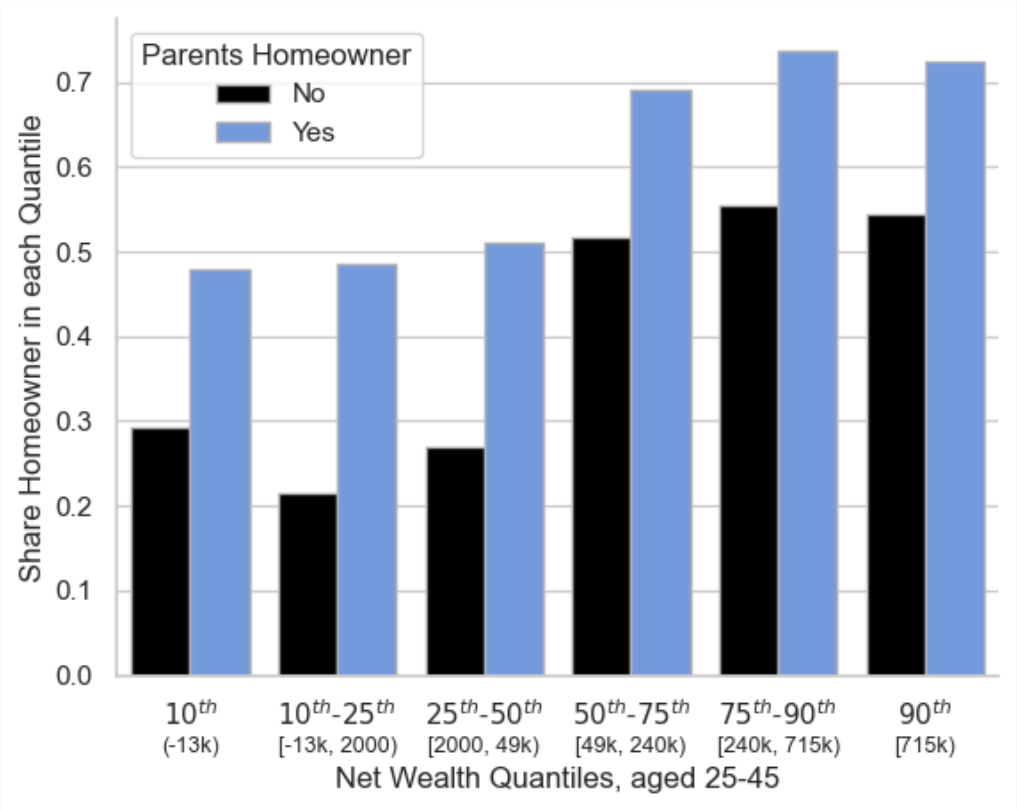
Some simple averages

Figure 1: Share of Homeowners by Wealth Quintile



Some simple averages

Figure 2: Share of Homeowners by Wealth Quintile



Conditional Averages

Y: binary variable, 1 if homeowner

PH: binary variable, 1 if parents homeowner

PW: parents net wealth; PSt: parents stockholders; PS: parents savers.

$$Y = \beta_1 PH + \beta_2 PW + \beta_3 PS + \beta_4 PSt + X\gamma + \epsilon \qquad (15)$$

where X includes Income, Parental Income, Children, Marital Status, Education, Parental Education, Own Wealth, House Prices Index, State Dummies, Age Parents, Living in Same State, Year Dummies, Urban Indicator, Occupation, Vehicle Value, Urban, Parents Durables, Parents Retirement Savings,

$\Longrightarrow$ Targeted Counterfactual: Holding Wealth in Housing vs. Liquid Assets

Regression Results

Table 2: Pooled OLS - Linear Probability Model

Dep. Var.: Child Homeowner		
	(I)	(II)
Parents Homeowner	0.214***	0.107***
	(0.035)	(0.031)
Parents Stockholder	−0.022	−0.017
	(0.024)	(0.019)
Parents Savers	0.027	0.021
	(0.019)	(0.017)
Control Variables	No	Yes
Time FE	Yes	Yes
State FE	Yes	Yes
No. Observations	6008	5698
Entities	1717	1261
Time periods	9	9
R-squared	0.103	0.343

Standard error in parenthesis are clustered at the *1968 Family* Level

Regression Results II

Table 3: Pooled OLS - Linear Probability Model

	Dep. Var.: Child Homeowner		Has Mortgage	Interest Rate
	(I)	(II)	(III)	(IV)
Parents Homeowner	0.344***	0.346***	0.027	-1.616
	(0.019)	(0.016)	(0.027)	(1.614)
Parents Stockholder	0.088***	0.03**	0.053***	-2.81
	(0.021)	(0.015)	(0.015)	(1.143)
Parents Savers	0.109***	0.055***	0.003	0.981
	(0.023)	(0.014)	(0.019)	(1.213)
Control Variables	No	Yes	No	No
Time FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
No. Observations	18115	17825	3420	2986
Entities	5903	5816	1715	1715
Time periods	9	9	9	9
R-squared	0.132	0.305	0.086	0.028

Standard error in parenthesis are clustered at the *1968 Family* Level

Heterogeneity in Empirical Results

Regression Results

- Importance seems to be increasing in wealth
- Still to check: Mortgage Wealth

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. Can use parental assets as collateral for the mortgage (i.e. expand access and/or size)
4. Idiosyncratic income risk, different volatility in prices
5. Children take parental assets as given
6. Banks, minimizing risk.
7. Vanilla Government to organize transfers, allows taxation experiments.

Way Forward

What to do next

- Long-term goal: Administrative Data
- Fully-fledged quantitative model
- Policy experiments