

Life Father Like Son? Social Engineering and Intergenerational Mobility in Housing Consumption

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Intergenerational Mobility

- ▶ Most studies focus on income. Difficult to measure permanent income.
- ▶ Is housing consumption preferable to income?
 - ▶ Housing consumption changes slowly, depends on wealth as well as income, and reflects long-term economic prospects.
 - ▶ But housing decisions depend on finances early in life rather than full lifetime.
- ▶ Housing consumption is interesting in its own right.

Data

- ▶ Residential Data. Demographic information for nearly 2.2 million households from 1996 - 2018. Multiple waves of approximately 5-year intervals. When/where do people move? Identify children as those living at the same address as two (?) adults who are 18-45 years older. First wave in the pair represents parents' status; last wave is the child's. Result: about 250,000 parent/child pairs.
- ▶ Housing Transaction Data. Every transaction of private housing for 1995 - 2018, and for public housing for 1997 - 2012. Prices in 2014 Singapore dollars. Missing 2013 - 2018 data for public housing transactions.
- ▶ Credit Card Consumption Data. Detailed data on purchases for 2016 and 2017 for 25,000 customers of "a leading bank in Singapore." Can pair parent/child consumption. 876 pairs.

Estimation

- ▶ Relative Intergenerational mobility of housing consumption
 - ▶ Rank housing consumption for parents in first wave from 0 - 100 percentile = x_i^p .
 - ▶ Rank housing consumption for children in last wave from 0 - 100 percentile = y_i^k . (why k rather than c?)
 - ▶ Regress y_i^k on x_i^p with controls for ages of both parents and children. Standard errors clustered at the building level.
- ▶ Other Consumption: Similar regression for ranks of consumption expenditures divided by income (household or individual?).
- ▶ Add controls for socioeconomic group (I), along with interactions ($I \times x^p$). Income above median; private residence; HDB expansion period; above median-quality neighborhood school.
- ▶ Alternative: absolute mobility. Same regressions with controls for age omitted.

Results

- ▶ "We find high mobility in housing consumption across generations from Panel A, with a robust estimate around 0.18, without and with controlling for the age profiles of children and parents. ... This estimate of 0.18 is close to the intergenerational income correlation of 0.22 in Singapore estimated using 40,000 father-son pairs by Yip (2019)."
- ▶ Little difference in estimated coefficient depending on whether parents are in the top or bottom half of the housing consumption distribution, but much higher if parents are in the top quintile.
- ▶ Is this interpretation as a correlation right? Since y_i^k and x_i^k range from 0 - 100, doesn't the estimated coefficient indicate that an upward movement of 10 percentage points in the parents' housing consumption leads to only an increase of 1.8 percentage points in the child's consumption?

Figure 2: Child's Housing Rank v. Parents' Rank

Appear to have very little correlation between the two variables. Consistent with the low R^2 of about 0.03 - 0.04.

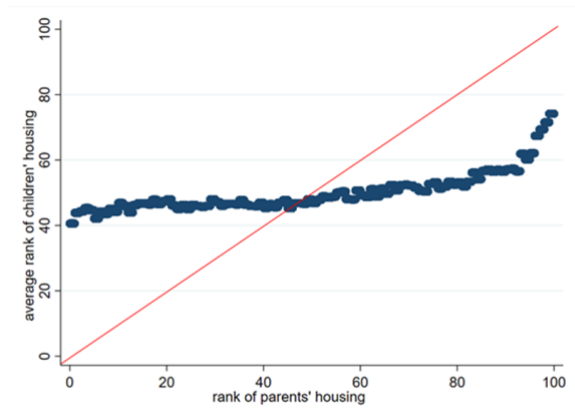


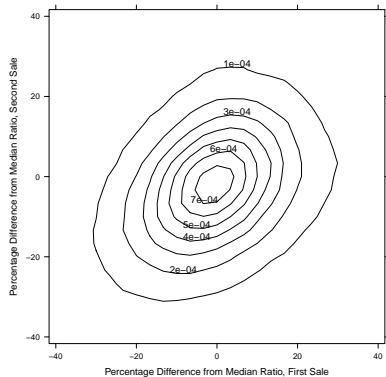
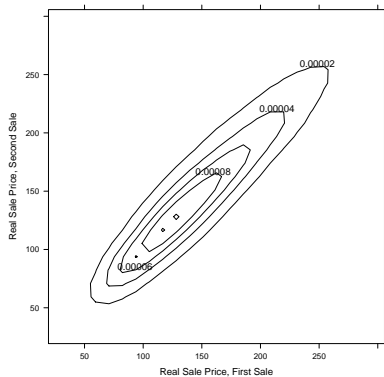
Figure 2: Child's Housing Rank versus Parents' Housing Rank

Comments and Suggestions

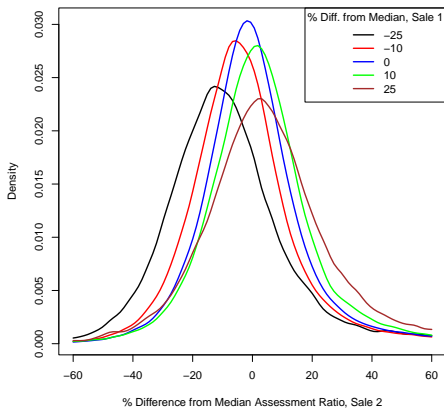
- ▶ Amazing Data Set!
- ▶ It isn't clear to me whether it is necessary to focus on ranks when housing expenditures are expressed in real terms. What would the results look like with real housing consumption in place of the rank?
- ▶ Since this is primarily a straightforward analysis of the relationship between two variables – child's housing rank v. parents' housing rank – a lot of the analysis could be done with figures.
- ▶ Conditional density functions, child v. parents

- ▶ Since I don't have comparable data, I use a data set on repeat sales of single-family homes in Chicago for 1980-2021.
- ▶ What is the distribution of the log sale price for the second sale given the sale price for the first sale?
- ▶ Also, what is the distribution of the assessment ratios (assessed value divided by sale price) for the second sale conditional on the assessment ratio for the first sale? (All prices in 2000 dollars.)
- ▶ Ranks are less useful in this context because the composition of the sample changes more over time.

Bivariate Density Functions



Densities for the Percentage Difference from Median Assessment Ratio in Sale 2 Assessment Year Conditional on the Sale 1 Percentage Difference



Repeat Sales: Contingency Table for Percentage Difference from Median Assessment Ratio, Sale 1 v. Sale 2

	-80 to -15	-15 to -5	-5 to 0	0 to 5	5 to 15	15 to 80	Sum
-80 to -15	44409	25060	11043	8712	10778	12657	112659
Exp. Num.	23945.62	23789.5	14292.41	13378.81	18487.5	18765.17	
T-Value	165.36	10.29	-32.28	-47.69	-68.82	-54.2	
-15 to -5	27044	30213	16454	14000	15975	14218	117904
Exp. Num.	25060.44	24897.05	14957.81	14001.68	19348.21	19638.8	
T-Value	15.75	42.32	14.61	-0.02	-29.59	-47.27	
-5 to 0	12684	17874	11354	10179	12736	10299	75126
Exp. Num.	15968	15863.89	9530.81	8921.58	12328.28	12513.44	
T-Value	-31.31	19.21	21.37	15.16	4.29	-23.18	
0 to 5	10772	15581	10903	10547	14238	11564	73605
Exp. Num.	15644.71	15542.71	9337.85	8740.96	12078.68	12260.09	
T-Value	-46.87	0.37	18.51	21.97	22.94	-7.35	
5 to 15	14333	20181	14377	15223	23084	20822	108020
Exp. Num.	22959.6	22809.91	13703.89	12827.91	17726.23	17992.47	
T-Value	-70.86	-21.64	6.8	24.88	48.61	25.52	
15 to 80	18218	17720	11946	12553	21596	30325	112358
Exp. Num.	23881.64	23725.94	14254.22	13343.07	18438.1	18715.03	
T-Value	-45.81	-48.7	-22.95	-8.08	28.22	103.12	
Sum	127460	126629	76077	71214	98407	99885	599672

Mosaic Plots for Percentage Difference from Median Ratio, Sale 1 v. Sale 2

