Place, jobs, peers and the teenage years: exposure effects and intergenerational mobility

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Research questions

1. Does where you grow up in Australia have a *causal* effect on your adult income?
2. When in childhood does it matter most and why?

This paper

- I take the Chetty and Hendren (2018) approach.
- Apply it to a Australian data with complete childhood histories.
- Extend it to look at the role of:
    - ▶ Local labour markets.
    - ▶ Peers.

Data

ATO de-identified intergenerational dataset

Data draws on:

- All 1991-2015 tax returns $+ 3^{rd}$ party info.
- Parent-child links for those born from 1970.

Where do the parent-child links come from?

- Most recent cohorts get a TFN while young.
- Take an individual's first address, and link to adults filing there.

Resulting sample has:

- Excellent coverage of the population of interest (1978-1991).
- Sample families look like population families.

Empirical framework

Chetty and Hendren (2018) research design

Basic idea: exploit variation in *age* at which kids move.

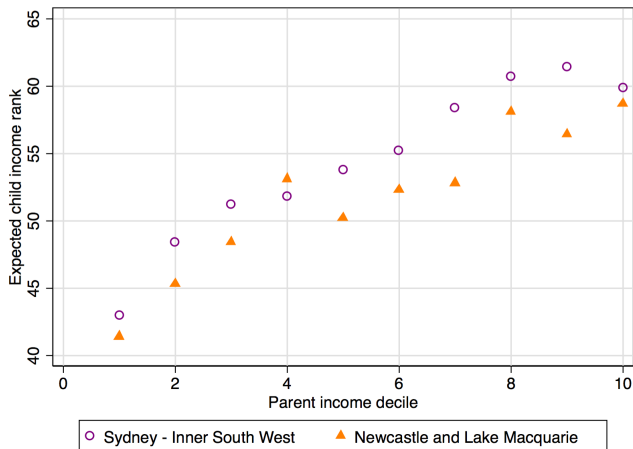**Outcomes, background and location**:

- Kid income: total household income at age 24, ranked
- Parent income: total household income from 1991-2001, ranked
- Place: ABS SA4 (populations range of roughly 100k-500k)

Recipe:

1. Subsamples based on parent location(s) when kid was 0-35 years.
   - ▶ Permanent residents
   - ▶ 1-time movers
2. Use permanent residents to generate predicted outcomes for a place.
3. Use movers to test if moving a year earlier shifts your outcomes from those predicted in your origin to those for your destination.

Step 2: predicted outcomes of place

Figure: Mean child income rank by parent income decile: FY1978 birth cohort, permanent residents of 2 largest Sydney region SA4
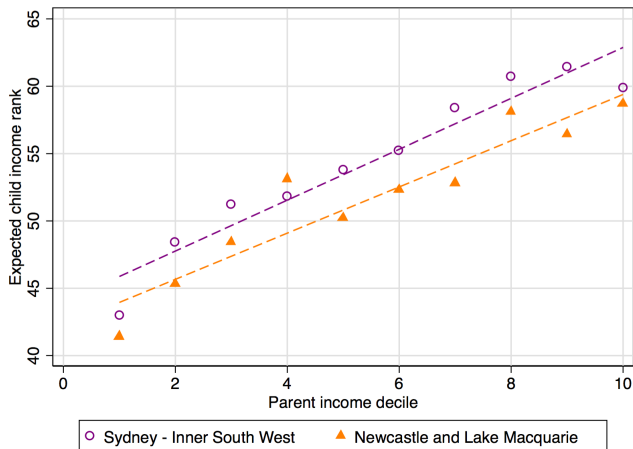
Step 2: predicted outcomes of place

Figure: Mean child income rank by parent income decile: FY1978 birth cohort, permanent residents of 2 largest Sydney region SA4
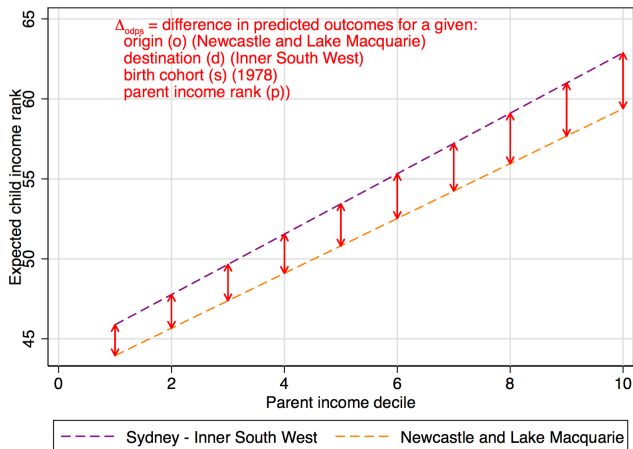
Step 2: predicted outcomes of place

Figure: Mean child income rank by parent income decile: FY1978 birth cohort, permanent residents of 2 largest Sydney region SA4

Δ_{odps} = difference in predicted outcomes for a given:
origin (o) (Newcastle and Lake Macquarie)
destination (d) (Inner South West)
birth cohort (s) (1978)
parent income rank (p))

Sydney - Inner South West — — — Newcastle and Lake Macquarie

Specification

Main specification:

$$y_i = \text{controls} + \sum_{m=2}^{34} \mathbb{I}_{m_i=m}(b_m \Delta_{odps}) + \varepsilon_i$$
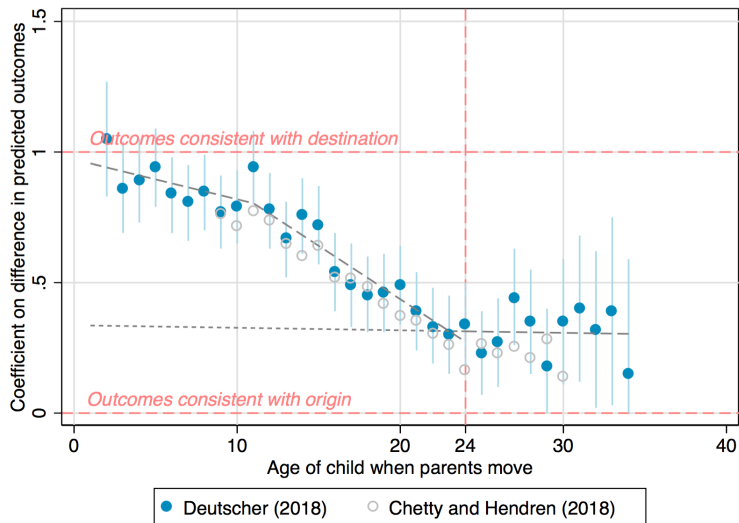
where the controls include:

$$\sum_{s=1978}^{1991} \mathbb{I}_{s_i=s}(\alpha_s^1 + \alpha_s^2 \bar{y}_{pos}) \qquad \text{(cohort and origin effects)}$$

$$\sum_{m=2}^{34} \mathbb{I}_{m_i=m}(\zeta_m^1 + \zeta_m^2 p_i) \qquad \text{(disruption effects)}$$

$$\sum_{s=1978}^{1990} \mathbb{I}_{s_i=s}(\kappa_s \Delta_{odps}) \qquad \text{(cohort controls)}$$

Results

Place matters most in the teenage years

Validation exercises

Exposure effects remain:

- With more general controls.
- When outcomes measured at age 26, 28 or 30.
- With family and family-sex fixed effects.
- When adding predicted outcomes for neighbouring cohorts.

Why the teenage years?
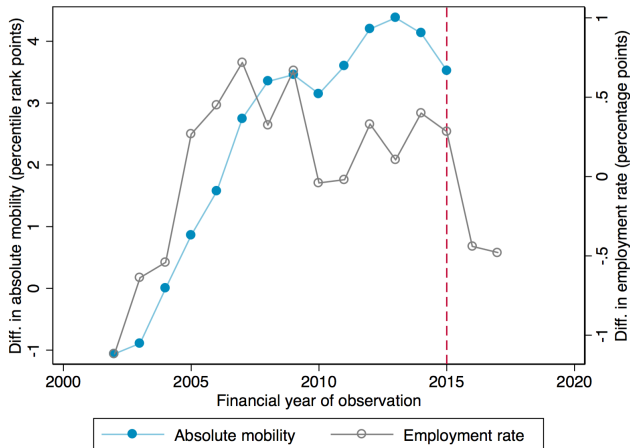
I explore two potential explanations:

- Local labour market conditions
- Peer effects

Local labour market conditions

Local labour market conditions

Figure: Mobility and employment for WA & QLD, relative to national average

Peers

Peer effects — methodology

Basic idea: exploit variation across birth cohorts in the mean parent income rank of your peers.

More detail: define ones peers as those born in the same financial year of birth with parents from the same postcode (from 1991 to child age 20).

Peer effects — methodology

- Canonical intergenerational regression w peers:

$$y_i = \alpha + \beta p_i + \eta c_{zs(i)} + \zeta \bar{c}_{zs(i)} + \varepsilon_i$$

for individual i from birth cohort s and postcode z with:

- y_i = child total household income rank at age 24
- p_i = parent total household income rank (1991-2001)
- $c_{zs(i)}$ = leave-one-out mean of p_i for cohort s, postcode z
- $\bar{c}_{zs(i)}$ = ma of above for 3-, 5- or 7-year window

Peer effects — permanent residents

Table: Parent and peer influences on household income rank at age 24

	(1)	(2)	(3)	(4)	(5)	(6)
Parent rank	0.129	0.129	0.129			
	(0.002)	(0.002)	(0.002)			
Peer parent rank	0.017	0.028	0.025	0.019	0.028	0.030
	(0.008)	(0.009)	(0.011)	(0.020)	(0.023)	(0.027)
Specification						
Window width	3	5	7	3	5	7
Family fixed effects				X	X	X
N	1,126,200	939,700	754,900	1,126,200	939,700	754,900

Notes: coefficients from the regression of a child's household income rank at age 24 on: their parent household income rank; their peers mean parent rank; and the 3-, 5- or 7-year moving average of peer mean parent rank.

Conclusion

What does this mean?

- On average, most of the difference in outcomes between Australian SA4 is causal.
- Differences between places can teach us something about mobility.
- Place matters most in the teenage years.

Some things I don't find:

- That place has a big bearing on outcomes.
- That early childhood is unimportant.

Back pocket

Excellent coverage of population of interest
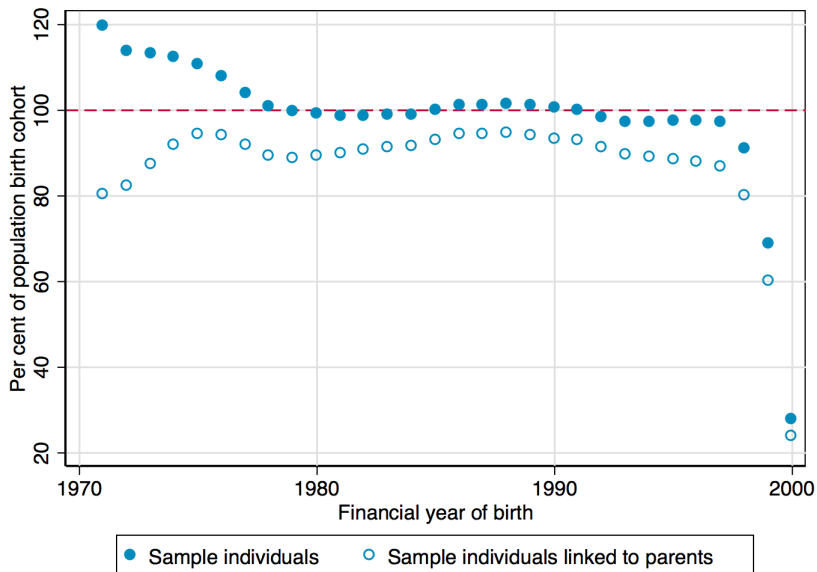
Sample families look like population families

		Sample	Population
Family structure (%)	*Couple*	86	80
	Lone mother	9	16
	Lone father	5	4
Median age at birth (years)	*Mother*	27	27
	Father	30	30
Family size (%)	*1*	12	13
	2	38	40
	3	30	30
	4	13	12
	5	4	3
	6	2	1
	7 or more	1	1
Mean family size		2.7	2.6
N: children		3,376,800	3,185,400
N: children linked to parents		3,108,000	NA
N: families		1,834,300	1,772,300