Lecture 8
Segregation and neighborhood effects

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Recap: Location sorting in models so far

- **Vertically differentiated** locations
  - can be ranked objectively e.g.,
  - by school quality (*Epple and Sieg 1999*)
  - by productivity (*Redding and Sturm 2008*)

- **Horizontally differentiated** locations
  - allows heterogeneous preferences (and requires stronger distributional assumptions) e.g.,
  - over amenities (*Bayer, McMillan and Rueben 2004*)
  - over commutes (*Ahlfeldt, Redding, Sturm and Wolf 2015*)

Today's Agenda

So far: we modeled location sorting to evaluate amenities, policy interventions, infrastructure shocks, ...

Today: residential sorting itself

1. Consequences of residential segregation

2. Causes of residential segregation

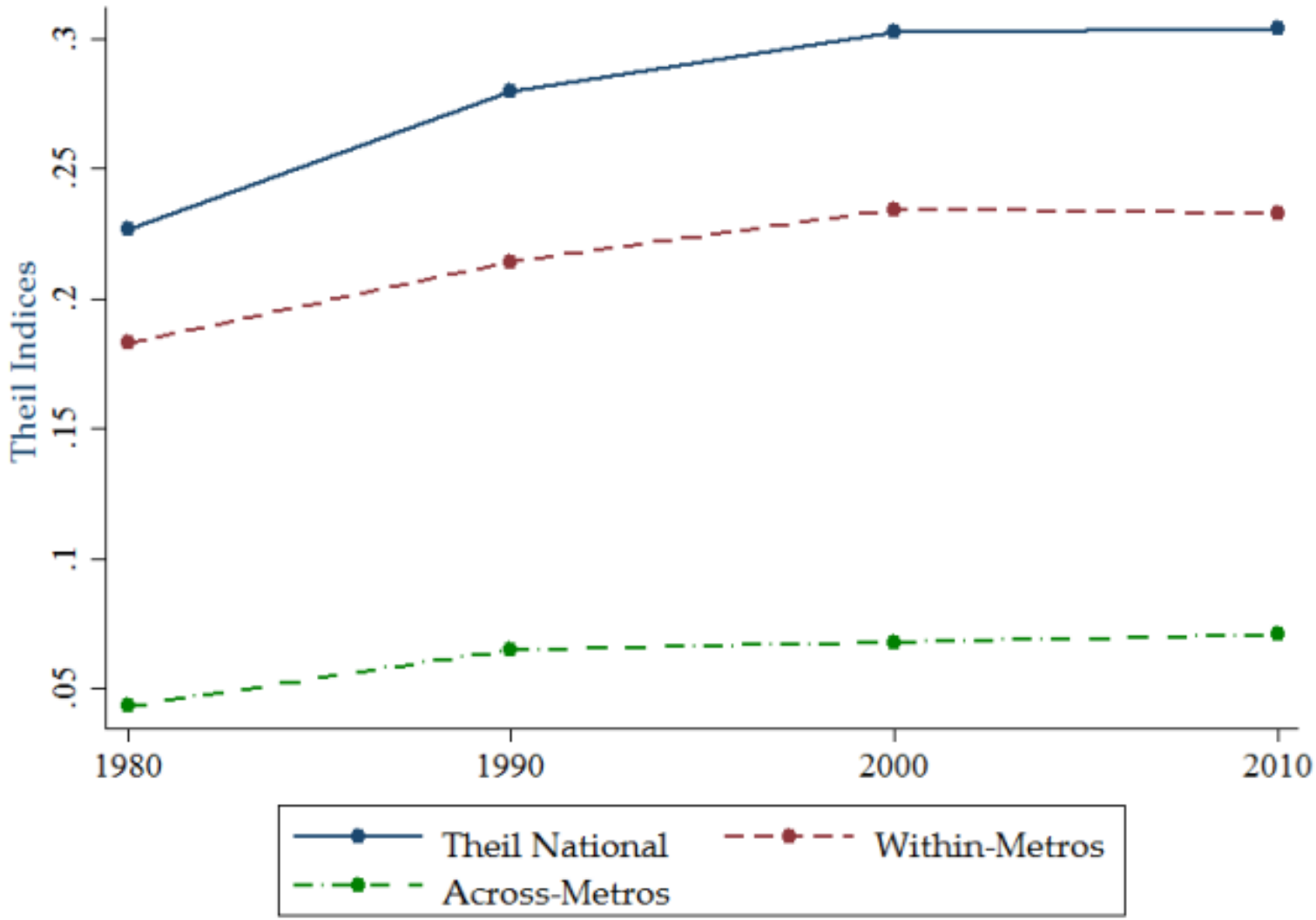
Why worry about segregation?

1. Endogenous local amenities (e.g., school quality)
   - that are not fully internalized by individuals lead to inefficient equilibria
     - e.g., *Fernandez and Rogerson (1996)*, *Benabou (1993)*
   - as well as endogenous dis-amenities
     - e.g., *Shi et al. (2021)*, *Derenoncourt (2022)*

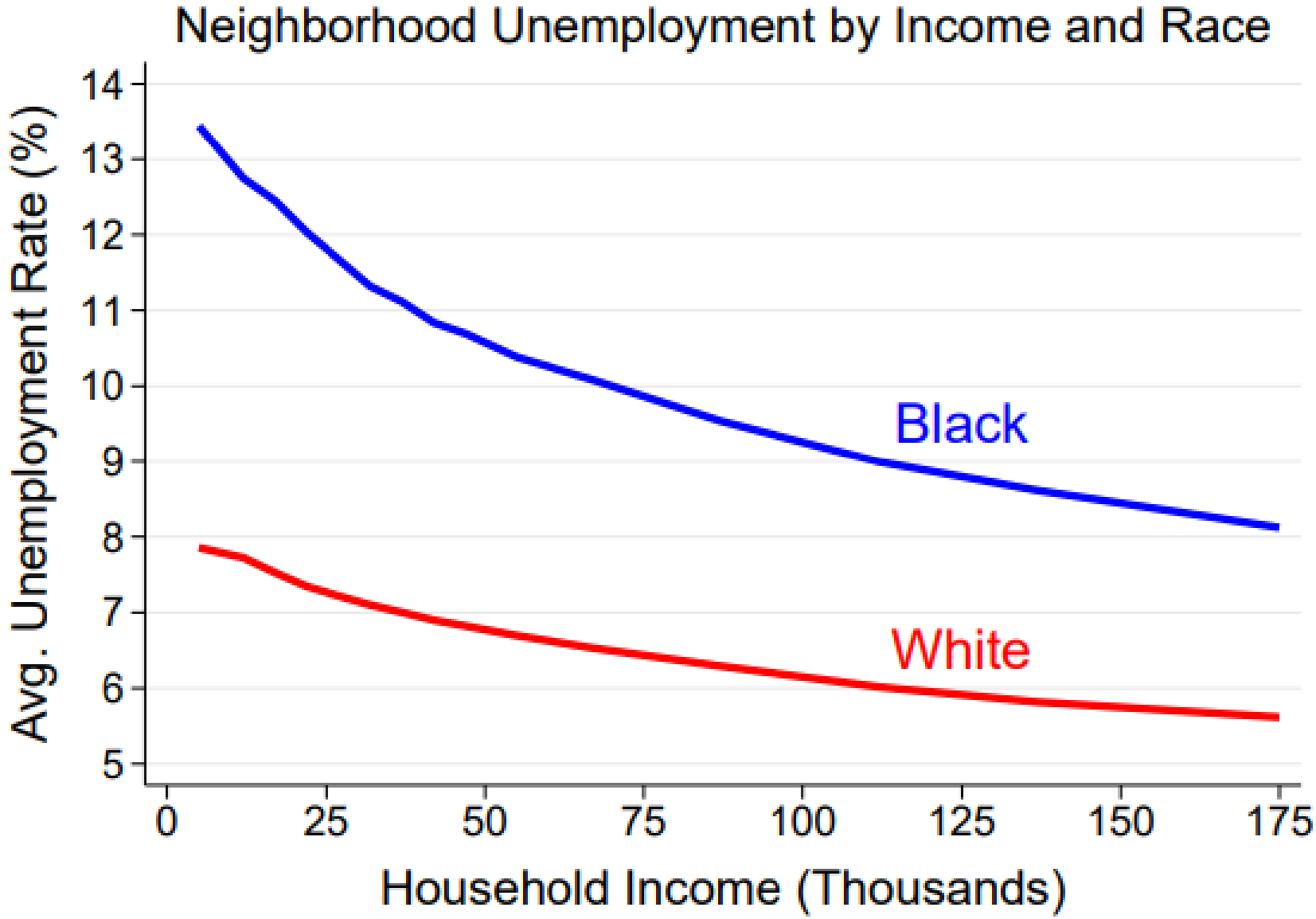
2. Barriers to mobility
   - Access to credit
   - Asymmetric information and "steering"
     - e.g., *Christensen and Timmins (2021)*, ...
   - Collective exclusion

How much do these matter?

Inequality within and across US metropolitan areas



from *Guerrieri and Fogli (2019)*



from *Aliprantis, Carroll and Young (2022)*

Neighborhood effects or sorting?

Individuals who live in high-poverty neighborhoods have worse economic, health and educational outcomes than those who live in lower-poverty neighborhoods.

- But are these effects of the neighborhoods?
- OR selection into the neighborhoods?

Moving to Opportunity (MTO) Experiment

from 1994 to 1998 in 5 US cities:

- Offered a random subset of families living in high-poverty public housing projects housing vouchers to move to lower-poverty areas.
- Many studies (e.g., *Ludwig et al. 2013* and others) find:

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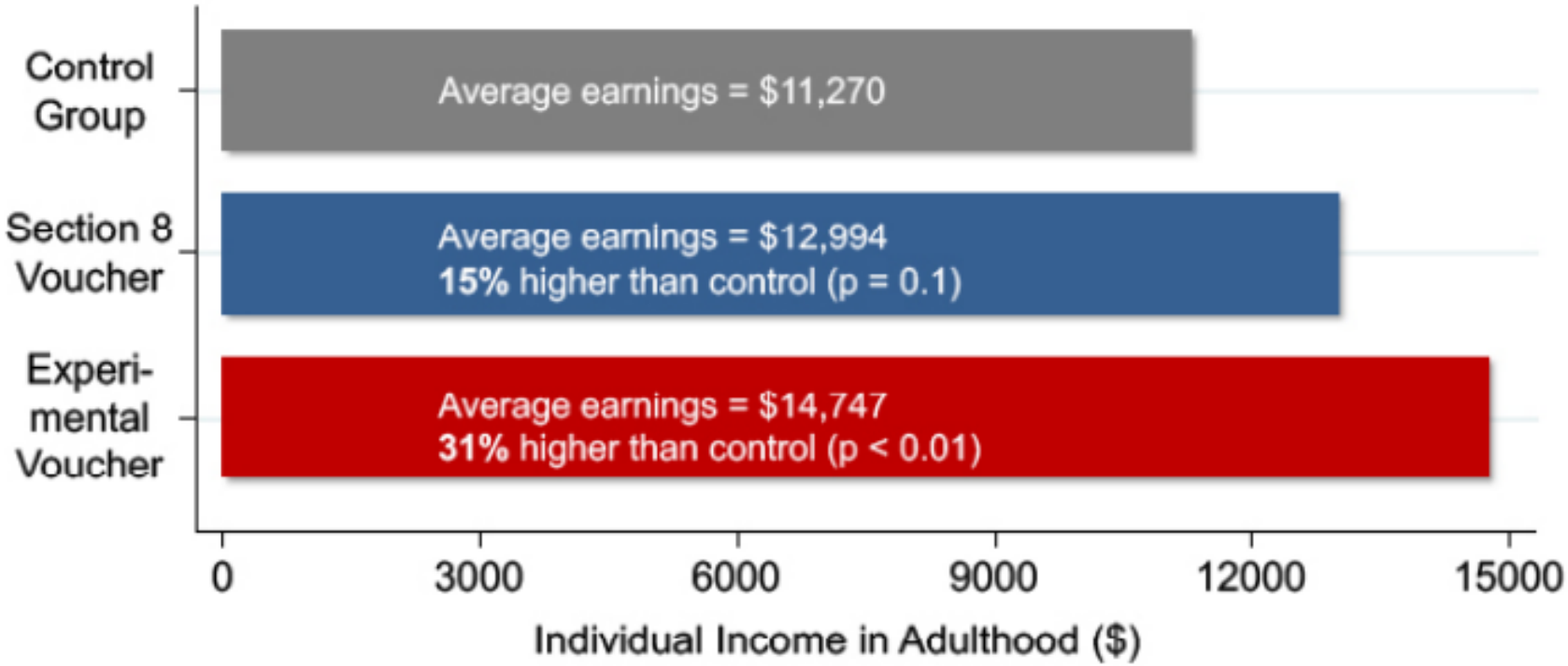
  - adult health ↑
  - adult incomes: no effect
- What about long-term impact on children?
  - **Chetty, Hendren and Katz (2016)**
  - *Chetty and Hendren (2018)*: intergenerational mobility

Impact of MTO on children below age 13



from *Chetty, Hendren and Katz (2016)*

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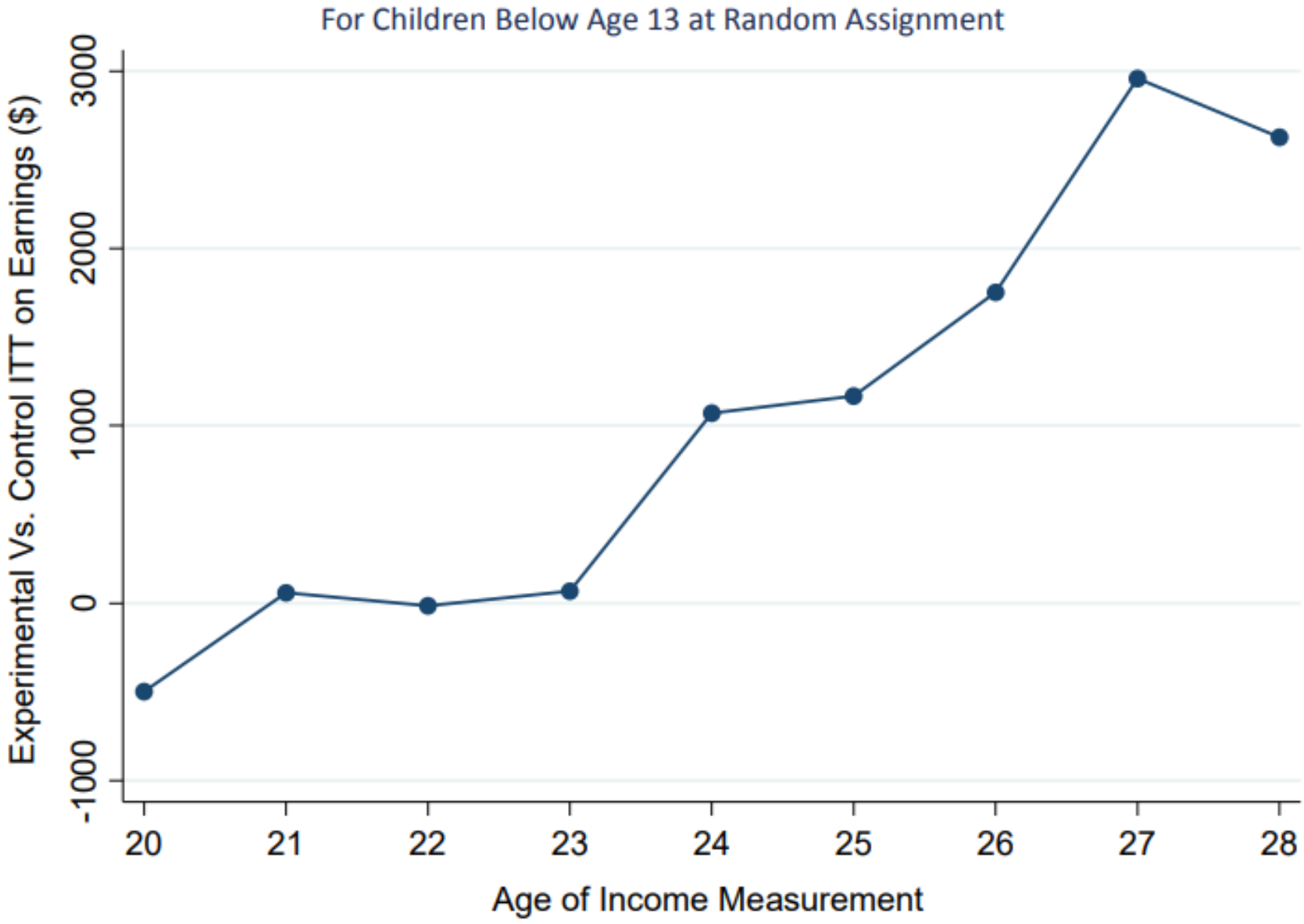

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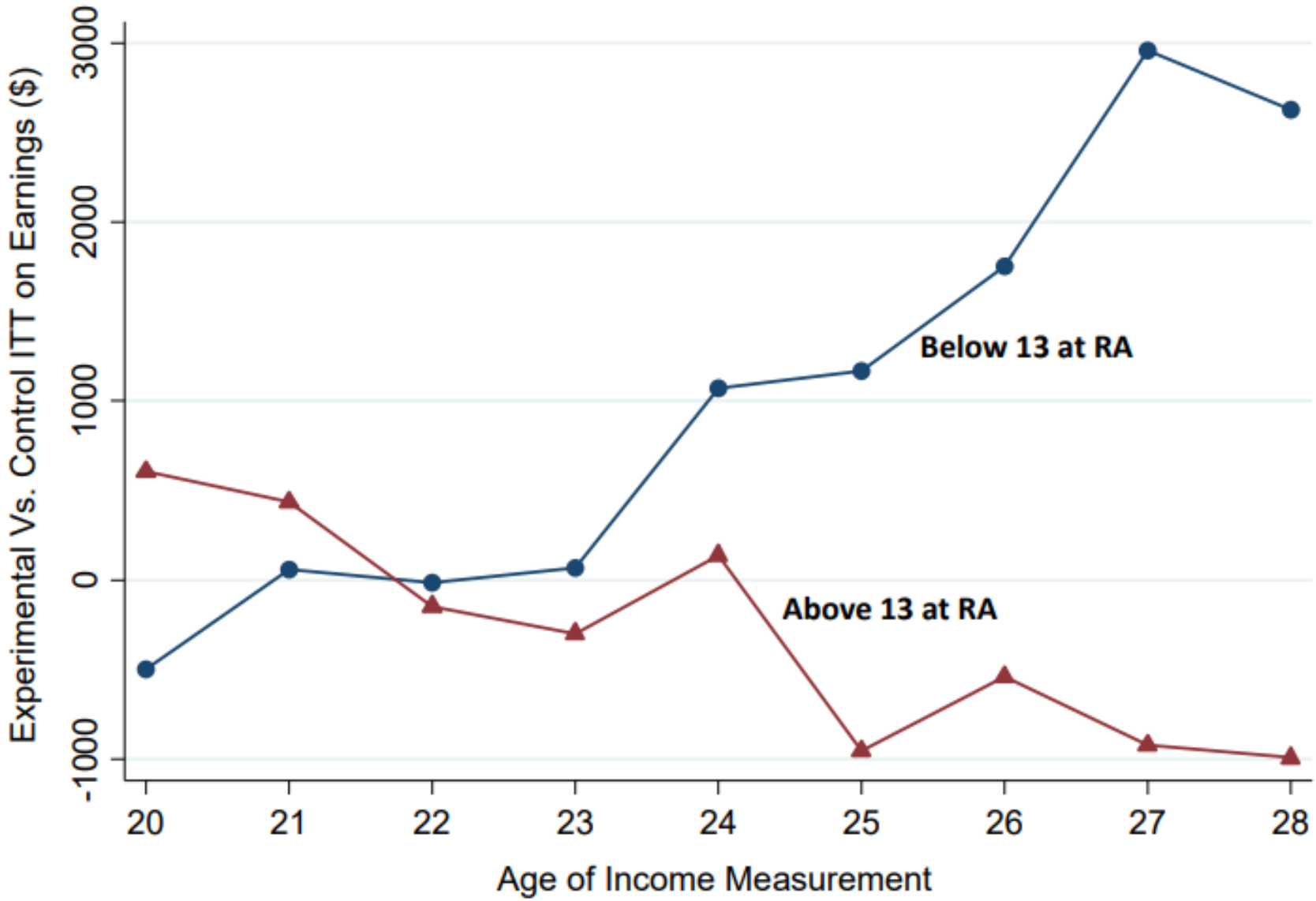

from *Chetty, Hendren and Katz (2016)*

MTO policy implications

- Targeted housing vouchers at birth conditional on moving to better neighborhoods?

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- Long-term solution?
  - depends on why disadvantaged households are segregated in lower opportunity neighborhoods to begin with.

Experimental evidence from refugee resettlement

Edin, Frederiksson and Aslund (2003)

- Swedish refugee resettlement program switched to assigning immigrants to locales apparently randomly (rather than letting them choose)
- find: higher earnings for those sorted into enclaves

Beaman (2012)

- Refugee resettlement in US
- Long-standing migrants provide information. But, additional newcomers can lead to competition for available jobs.

Causes of segregation

- **Self-segregation**: based on common tastes for local amenities or homophilly
- **White flight**: Advantaged groups leave integrated neighborhoods
  - endogenous amenity: demographic composition of neighbors or correlate
- **Exclusionary institutions and policies**

from *Boustan (2011)*

Learning from housing prices

- Recall assumption from hedonic models: Identical houses (bundle of attributes) must be priced the same.
- Consider a neighborhood with fixed housing supply and where households have identical housing consumption. We observe a housing market equilibrium where household type B pays more for housing than type A. What's happening?

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- Consider a neighborhood with fixed housing supply and where households have identical housing consumption. We observe a housing market equilibrium where household type B pays more for housing than type A. What's happening?
- Type A must be able to exclude type B from some of its housing market.

Learning from housing prices

Cutler, Glaeser and Vigdor (1999):

- Black households paid more for housing under exclusion ($\sim$1940 US)
- White households paid more for housing under white flight ($\sim$1990 US)

Necessary assumption: housing supply cannot be perfectly elastic.

Desegregation of urban public schools

In 1970s, US city districts were held responsible for de facto segregation, but most suburbs exempt. $\rightarrow$ Protests against de-segregation in the North.

White flight from cities

Table 5: School desegregation and relative city housing prices at the district border, 1960-80

Dependent variable = ln(housing value)

	Placed under court-order during 1970s	Not placed under court-order during 1970s	Difference
1970	-0.047	-0.026	-0.021
	(0.014)	(0.015)	(0.020)
1980	-0.097	-0.023	-0.073
	(0.028)	(0.022)	(0.035)
Δ 1970-1980	-0.065	-0.007	-0.058
	(0.024)	(0.015)	(0.028)
Pre-trend: Δ 1960-1970	-0.023	-0.022	-0.001
	(0.013)	(0.017)	(0.022)

from *Boustan (2012)*

What happens when migrants move into a city?

Your turn!

Consider a 1-neighborhood city with an initial native population (N) in period 1 and a mix of native and migrant population (M) in period 2.

We observe: counts of native and migrant populations and their housing and housing prices in each period.

To do: Propose a simple framework to infer native preference over racial composition from observations.

What happens when migrants move into a city?

based on *Boustan (2010)*

Assume open-city. Spatial equilibrium requires resident's utility in period t to be equal to some reservation utility $\bar{U}$:

$$U_N(p_t, m_t, \epsilon) = \bar{U}$$

where p is housing price, m is share of migrant population, and ϵ is an idiosyncratic demand shifter.

Assume housing consumption is fixed, and housing supply $h(p_t)$ is increasing in prices. For housing market to clear in period t:

$$N_t + M_t = h(p_t)$$

What happens when migrants move into a city?

If $\partial U_N / \partial m = 0$ (natives are indifferent to migrant share).

$$p_2^* = p_1^* \Leftrightarrow N_1 = N_2 + M_2$$

- No total population change, no housing price change.
- One native leaves the city for every new migrant.

If $\partial U_N / \partial m < 0$ (natives dislike higher migrant share),
$U_N(p_1, 0, \epsilon) = U_N(p_2, m_2, \epsilon) = \bar{U}$ requires:

$$p_2 < p_1 \Leftrightarrow h(p_2) < h(p_1) \Leftrightarrow N_2 + M_2 < N_1$$

- Total population and housing prices decline.
- More than one native leaves city for every new migrant.

Preferences over demographic composition

can generate "tipping" effects (*Schelling, 1969*)!

But sorting models that we have looked at so far tend to assume neighborhoods are in steady state i.e., in absence of shocks, local demographic compositions will not change.

Caetano and Maheshri (2021): isolate preferences over demographic compositions and over local amenities.

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