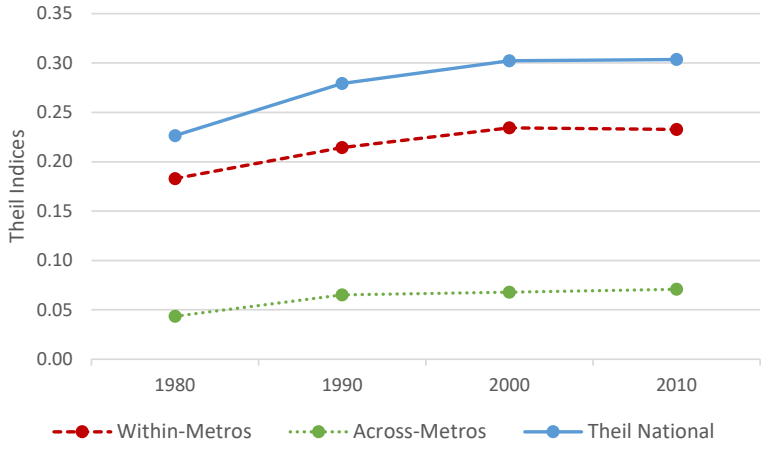
Investigating the American Dream: The Role of Neighborhoods

Alessandra Fogli
Minneapolis FED and CEPR

Winter School on Inequality and Social Welfare
Alba di Canazei, January 2026

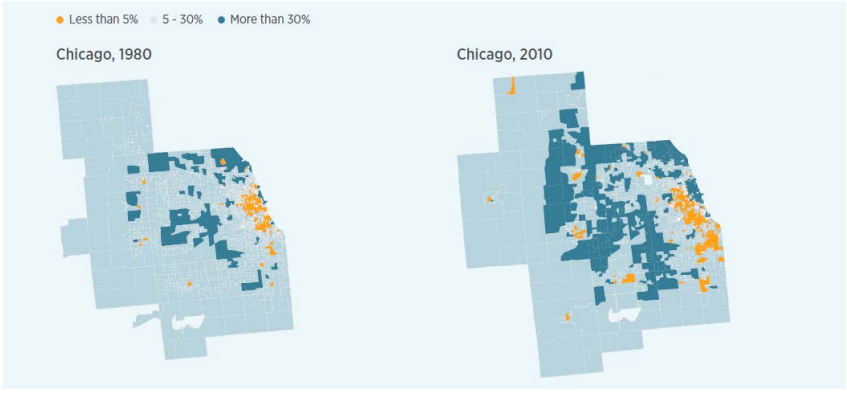
Forthcoming chapter in Handbook of Intergenerational Mobility
(based on work with Veronica Guerrieri and Marta Prato)

Inequality Over Time



- within city inequality drives the overall increase

Segregation Over Time: Chicago



- share of rich households (top 20th percentile) across census tracts
- increase in geographic concentration of rich and poor

Overview

- over the last 40 years large increase in US income inequality
- simultaneous rise in residential income segregation

Questions:

1. What is the link between inequality and residential segregation?
2. What are the effects on the American Dream?

Today

1. Facts about inequality, segregation and intergenerational mobility
2. Theory linking residential segregation and inequality based on the exposure effects of neighborhoods (Chetty and Hendren)
3. Policy implications

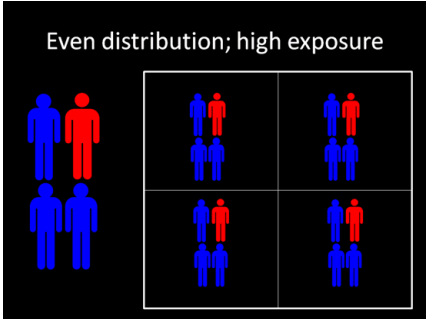
Data and Indexes

- data sources:
  - Census tract data 1980 - 2010
  - American Community Surveys 2008-2012
- geographic unit and sub-unit: metro and tracts (according to Census 2000)
- inequality measure = Gini coefficient
- segregation measure = dissimilarity index
  - it measures how uneven is the distribution of two mutually exclusive groups across geographic subunits
  - groups: rich and poor as above and below the 80th percentile

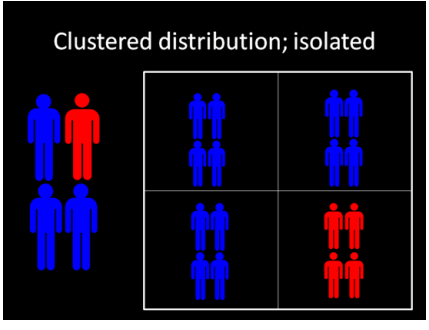
Dissimilarity Index

$$D(j) = \frac{1}{2}\sum_i \left| \frac{x_i(j)}{X(j)} - \frac{y_i(j)}{Y(j)} \right| \quad (1)$$

$x_i(j)$ and $y_i(j)$ = poor and rich in census tract i in metro j



(a) No segregation

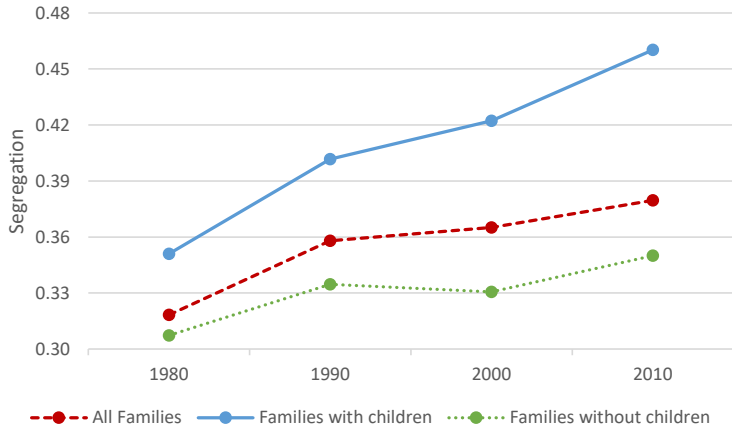


(b) Max segregation

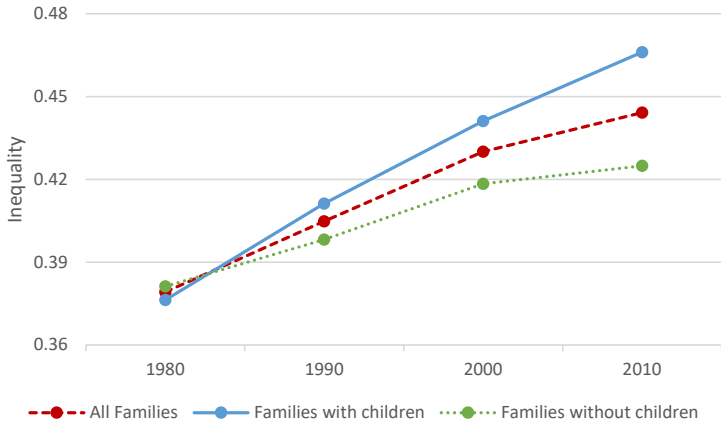
Inequality and Segregation Across Time

Sample: 4000 average pop census tract, 120 tracts in average metro, 380 metros

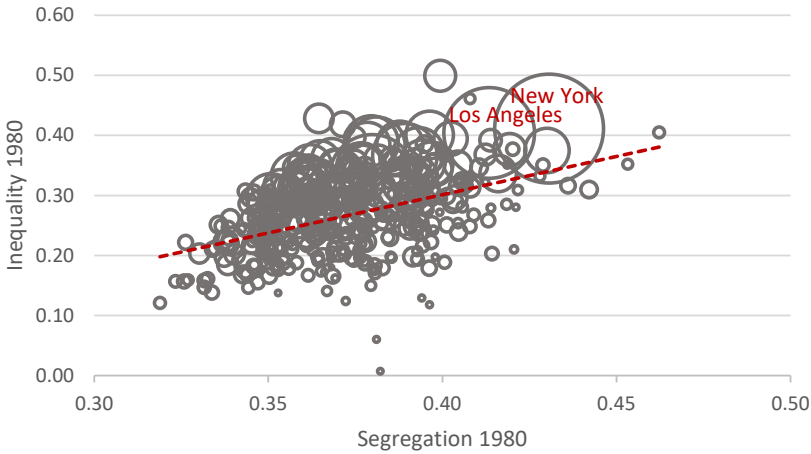
Segregation: Different Samples



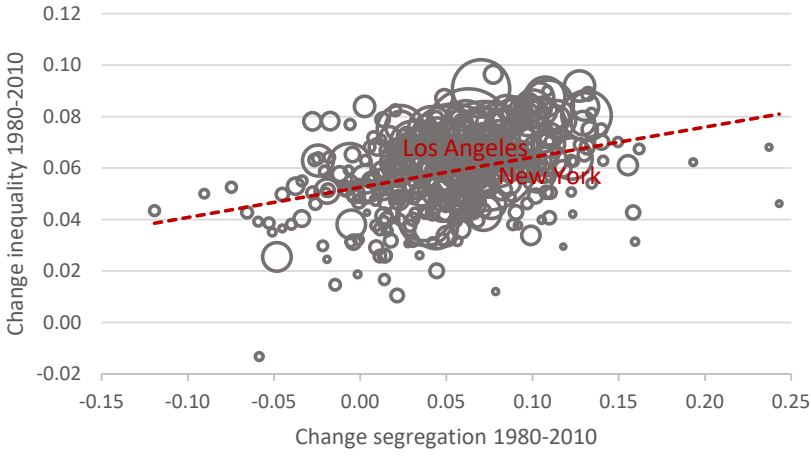
Inequality: Different Samples



Inequality and Segregation Across Space

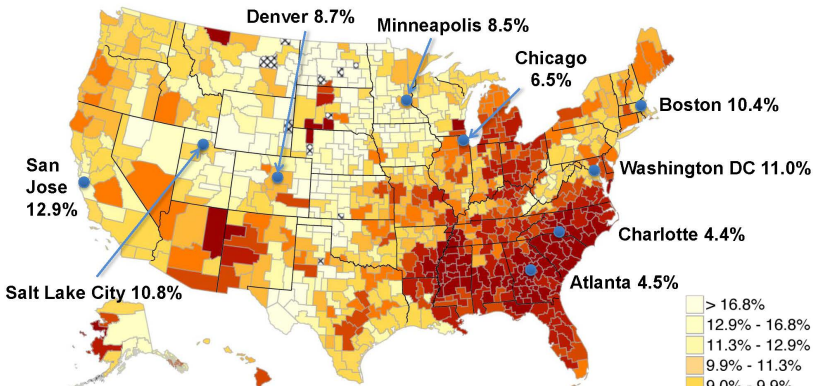


Inequality and Segregation Across Space and Time



The Geography of Upward Mobility in the United States

Chances of Reaching the Top Fifth Starting from the Bottom Fifth by Metro Area



Note: Lighter Color = More Upward Mobility
Download Statistics for Your Area at www.equality-of-opportunity.org

Causal Effects of Neighborhoods

Two very different explanations for variation in children's outcomes across areas:

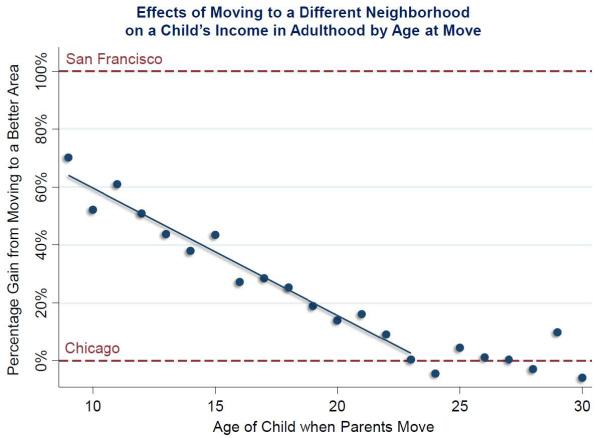
- Sorting: different people live in different places
- Causal: places have a causal effect on upward mobility for a given person
- Ideal experiment: randomly assign children to neighborhoods and compare outcomes in adulthood

Quasi-experimental Evidence

Chetty and Hendren (2028) approximate with quasi-experimental design:

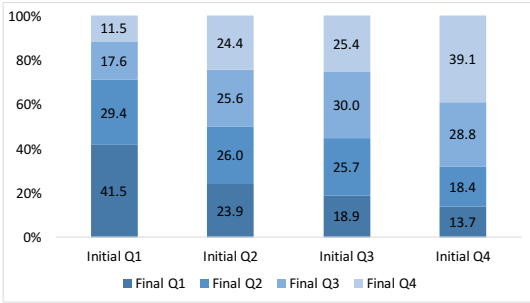
- Study 3 million families who move across Census tracts in observational data
- Key idea: exploit variation in age of child when family moves to identify causal effects of environment
- Key assumption: timing of moves to a better/worse area unrelated to other determinants of child's outcomes
- Finding: about two-thirds of the variation in upward mobility across areas is due to causal effects

Income Gain from Moving to Better Neighborhood

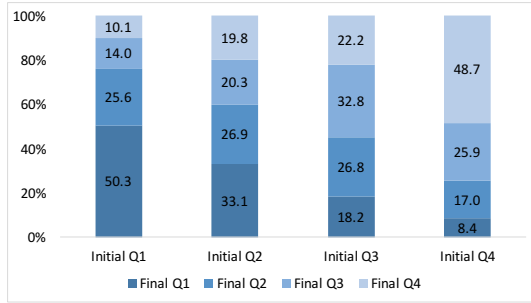


▸ Identification Details

Segregation and Intergenerational Mobility



(c) Low Segregation



(d) High Segregation

Using geo-coded NLSY data, methodology from Aaronson and Mazumder (2008)

A Theory of Inequality and Segregation

- OLG GE model with residential choice
- Key ingredient is the presence of a local spillover affecting children's outcomes
- Endogenous spillover amplifies results
- Disciplined with micro estimates by Chetty-Hendren (2018)

Inequality and segregation feed on each other and affect intergenerational mobility

Roadmap

- Static model with exogenous spillover
  - equilibrium
  - utilitarian planner
  - transfer policy
- Dynamic model with endogenous spillover
  - calibration
  - steady state analysis
  - skill premium shock
- Extensions and applications

Note: codes to replicate all results from simple model (static and dynamic) will be made available

Setup

- time 0: continuum of measure 1 of parents, each with one child
- each parent is defined by a pair (w, a):
  - $w \in [\underline{w}, \overline{w}]$ = her wage
  - $a \in [\underline{a}, \overline{a}]$ = her child's latent productivity
- define $F(w, a)$ the joint distribution of w and a
- for now assume a is *iid*

Geography and Housing Market

- two neighborhoods: $k \in \{A, B\}$
- each agent live in a house of same size and quality
- R_k = rent in neighborhood k
- housing supply assumptions:
  - fixed supply H in neighborhood $A \Rightarrow R_A$ endogenous
  - fully elastic supply of houses in neighborhood B with MC = 0 $\Rightarrow R_B = 0$

Preferences and Wage Dynamics

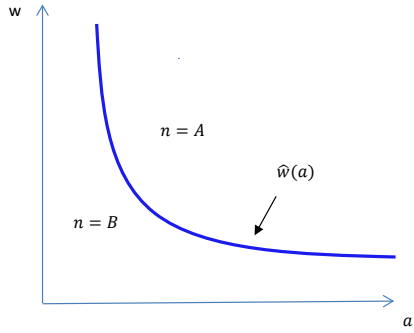
- parents choose c and n to maximize their utility (taking as given R_A):

$$\begin{aligned} U(w,a) &= \max_{c,n} \log(c) + \log(w') \\ s.t. \quad & c + R_n \leq w \\ & w' = b + a^{\alpha} S_n{}^{\beta} \end{aligned}$$

- S_k = spillover in neighborhood k
  (schools, peer effects, network effects, culture and social norms, ...)
- for now S_A and S_B are exogenous
- no borrowing
- we abstract from redistribution of profits for simplicity

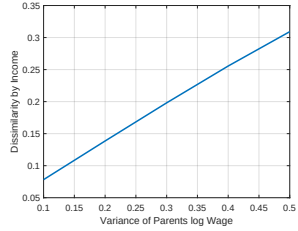
Equilibrium Characterization

Definition. *For given $S_A > S_B$, an equilibrium is a residential policy $\hat{w}(a)$ and a rental rate R_A that solve parents' optimization and housing market clearing.*

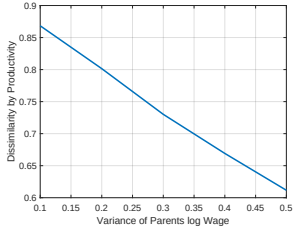


Effect of increase in inequality on equilibrium

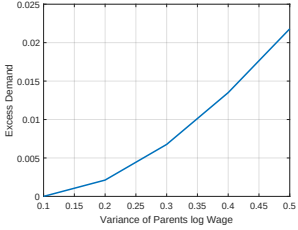
Inequality ⇒ Segregation by income



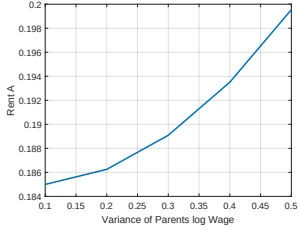
(a) Segregation by Income



(b) Segregation by Productivity

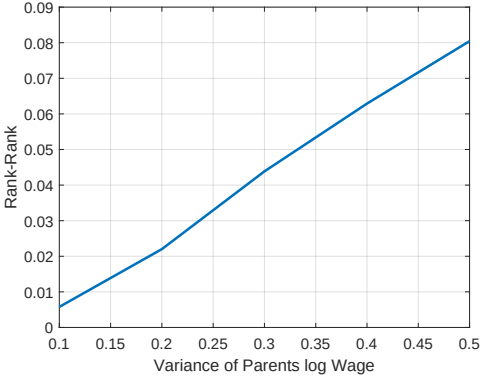


(c) Excess Demand A

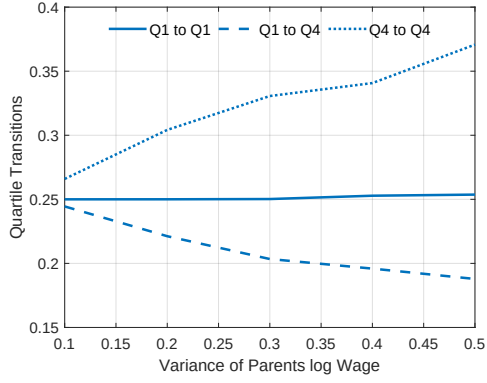


(d) Rent A

Inequality ⇒ Intergenerational Mobility

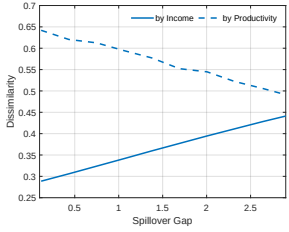


(a) Rank Rank

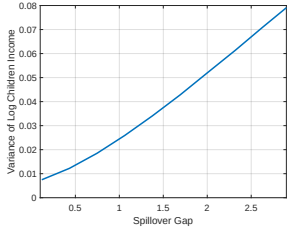


(b) Quartile Transitions

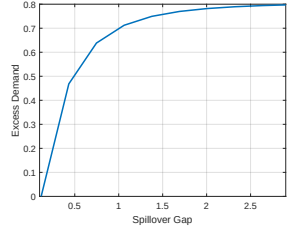
Segregation by income $\Rightarrow$ Inequality



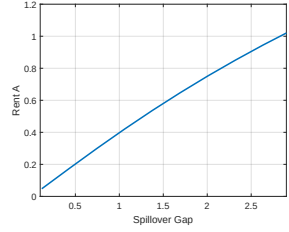
(a) Segregation



(b) Inequality

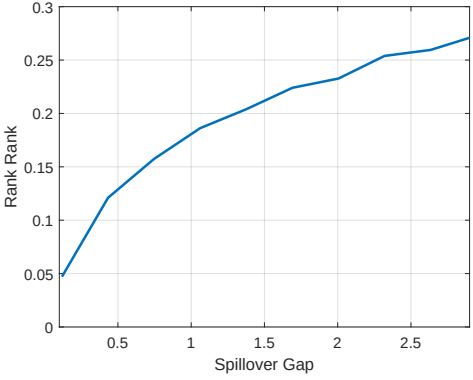


(c) Excess Demand A

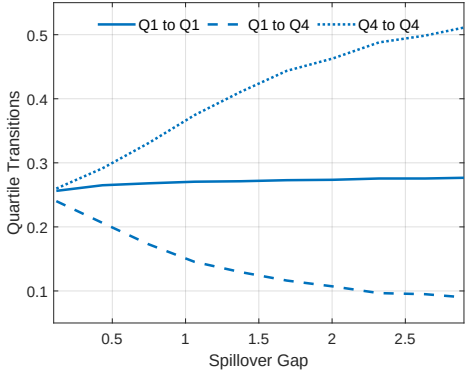


(d) Rent A

Segregation by income $\Rightarrow$ Intergenerational Mobility



(a) Rank Rank



(b) Quartile Transitions

Utilitarian Planner

- Utilitarian planner chooses consumption policy $c(w,a)$ and residential policy $n(w,a)$ to maximize

$$\int\int [u(c(w,a)) + g(b + a^{\alpha} S^{\beta}_{n(w,a)})] dF(w,a)$$

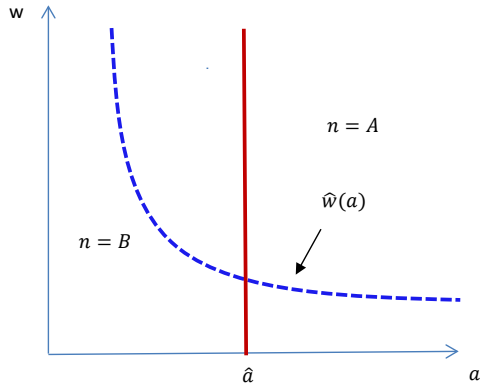
- resource constraint:

$$\int\int c(w,a) dF(w,a) \leq \int\int w dF(w,a)$$

- housing supply constraint in neighborhood A:

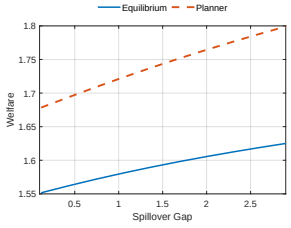
$$\int\int_{n(w,a)=A} dF(w,a) \leq H$$

Residential Choice: Planner vs Equilibrium

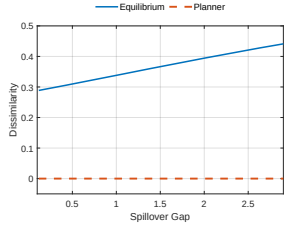


- planner: no sorting by income, perfect sorting by productivity
- gap with equilibrium increasing in spillover gap

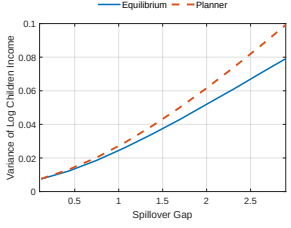
Varying the Spillover Gap: Inequality and Segregation



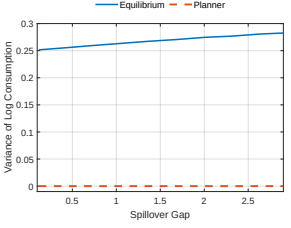
(a) Welfare



(b) Segregation

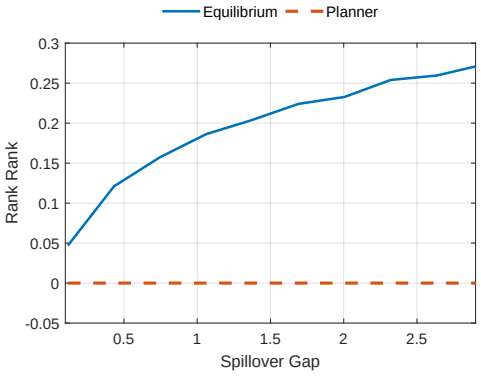


(c) Income Inequality

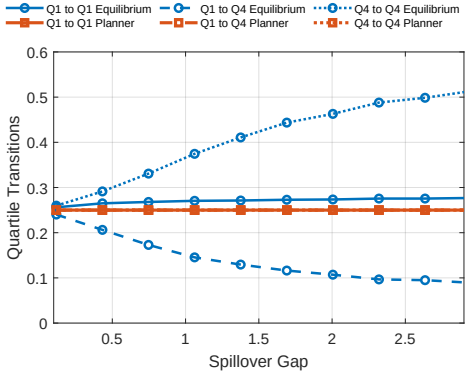


(d) Consumption Inequality

Varying the Spillover Gap: Intergenerational Mobility



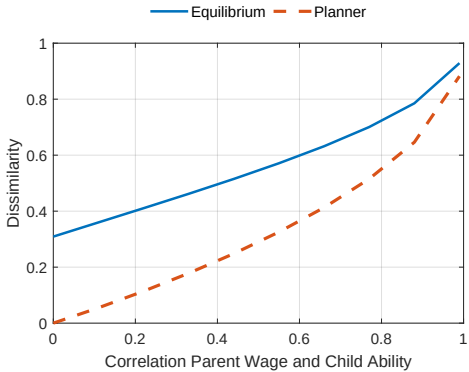
(a) Rank Rank



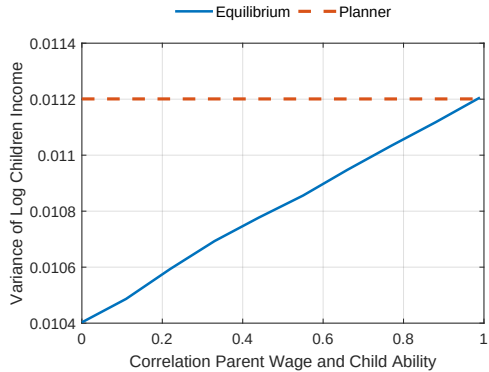
(b) Quartile Transitions

- so far children's *a* assumed to be iid. Introducing correlation next

Varying correlation of ability and wage: Inequality and Segregation

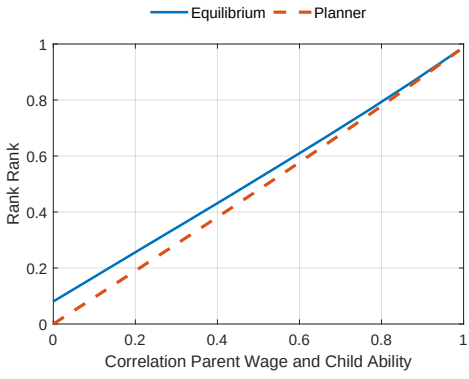


(a) Segregation

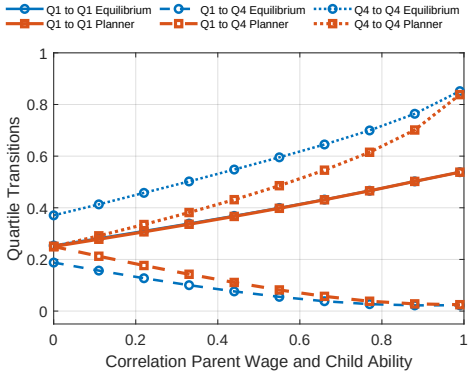


(b) Inequality

Varying correlation of ability and wage: Intergenerational Mobility



(a) Rank Rank

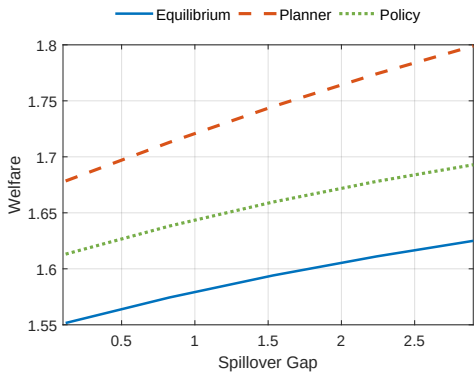


(b) Quartile Transitions

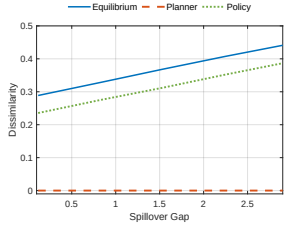
Transfer Policy

- What are the effects of a simple transfer policy: can it improve intergenerational mobility even if it is not linked to the geography of the city?
- consider a transfer equal to 20% of average wage given to all the parents in the lowest 25th percentile of the income distribution
- the policy is financed with a proportional income tax on everybody else

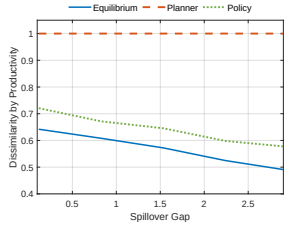
Transfer Policy:Welfare



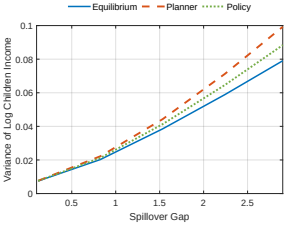
Transfer Policy: Inequality and Segregation



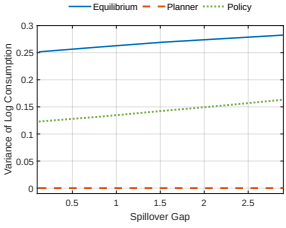
(a) Segregation by Income



(b) Segregation by Productivity

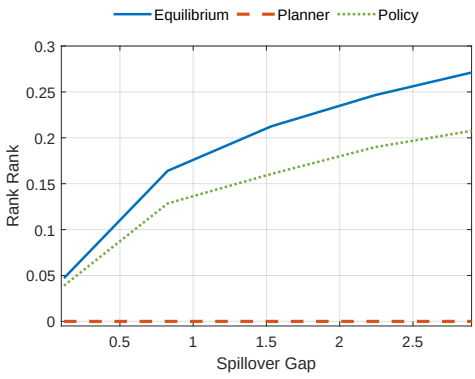


(c) Income Inequality

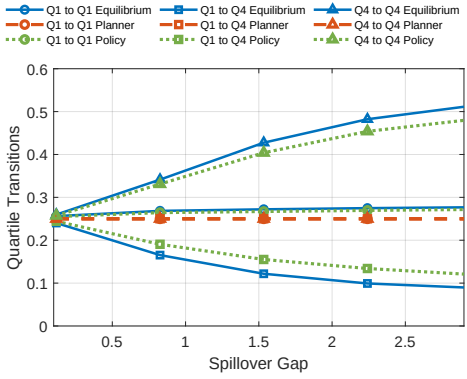


(d) Consumption Inequality

Transfer Policy: Intergenerational Mobility



(a) Rank Rank



(b) Quartile Transitions

Dynamic Setup

- overlapping generations: parents at time t become children at time $t+1$
- a parent at time t with wage and child's productivity (w, a) chooses consumption $c_t(w, a)$ and neighborhood $n_t(w, a)$ taking as given S_{At}, S_{Bt}, R_{At}
- wage at time $t+1$ of the child of a parent (w, a) at time t:

$$W_{t+1}(w, a) = \left(b + \eta a^{\alpha} S_{n_t(w,a)t}{}^{\beta}\right) w^{\gamma} \varepsilon_t$$

- $F_t(w, a)$ = endogenous joint distribution of parents at time t ($F_0(w, a)$ given)
- R_{At} clears the housing market in neighborhood A with fixed supply H:

$$\int \int_{n_t(w,a)=A} dF_t(w, a) = H$$

Endogenous Spillover

- General formulation:

$$S_{kt} = f(\Phi_{kt})$$

where $\Phi_{kt}(w, a)$ = distribution of w and a in neighborhood k at time t

- Spillover stands for differences in public school quality, peer effects, social norms, learning from neighbors experience, networks, ...
- Today:

$$S_{kt} = \omega E_t[w_t|k] + (1-\omega)E_t[a_t|k]$$

- One extreme: $\omega = 1$ (only local school financing)
- Other extreme: $\omega = 0$ (only peer effects)

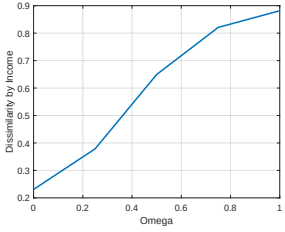
Calibration Targets

Description	Data	Model	Source
Income Volatility	0.16	0.15	Census 1980
Dissimilarity Index by Income	0.29	0.30	Census 1980
Rank-Rank Correlation	0.34	0.36	Chetty et al. (2014)
Q1-to-Q1 Transition Pr	0.46	0.44	NLSY
$(R_A - R_B)$/Average Income	0.08	0.07	Census 1980
Share of Rich in A	0.43	0.45	Census 1980
Neighborhood Exposure 25th p	0.06	0.06	Chetty and Hendren (2018)
Neighborhood Exposure 75th p	0.05	0.05	Chetty and Hendren (2018)

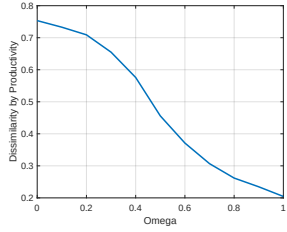
Parameters

Parameter	Value	Description
α	0.69	Wage function parameter
β	1.20	Wage function parameter
γ	0.32	Wage function parameter
b	1.65	Wage function parameter
σ_ε	0.34	St. dev. of wage shock
σ_a	1.28	St. dev. of log ability
ρ	0.36	Autocorrelation of log ability
ω	0.13	Spillover function parameter

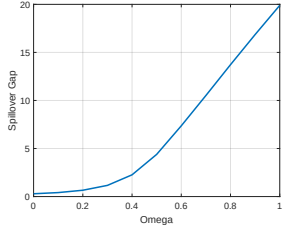
Varying ω: Inequality and Segregation



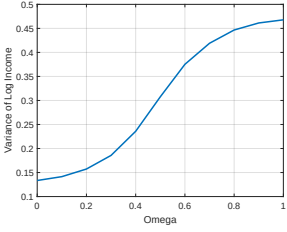
(a) Segregation by Income



(b) Segregation by Productivity



(c) Spillover Gap

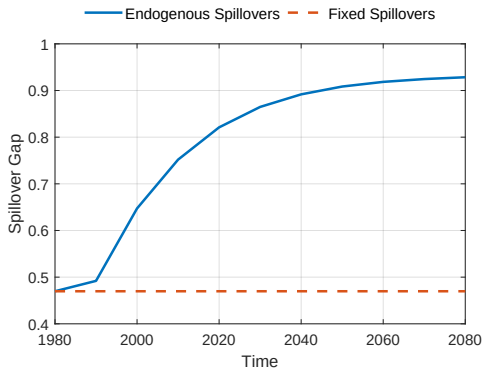


(d) Income Inequality

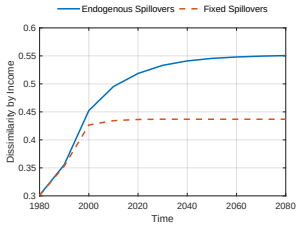
Skill Premium Shock

- starting from the steady state equilibrium and explore the response to an unexpected permanent increase in skill premium (η) for two cases:
  1. exogenous spillovers
  2. endogenous spillovers
- when η increases, children's wage higher especially for children with high a and in neighborhood A
- $\Rightarrow$ increase in demand to live in $A \Rightarrow$ increase in R_{At}
- selection: poorer parents cannot afford A anymore and children with higher a have higher return from growing up in A

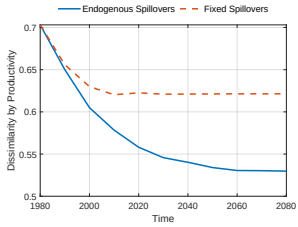
Skill Premium Shock: Spillover Gap



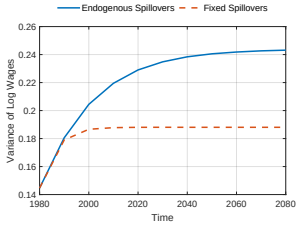
Skill Premium Shock: Inequality and Segregation



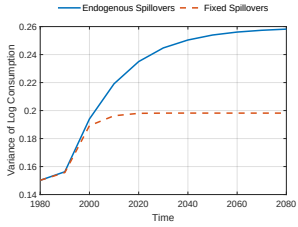
(a) Segregation by Income



(b) Segregation by Productivity

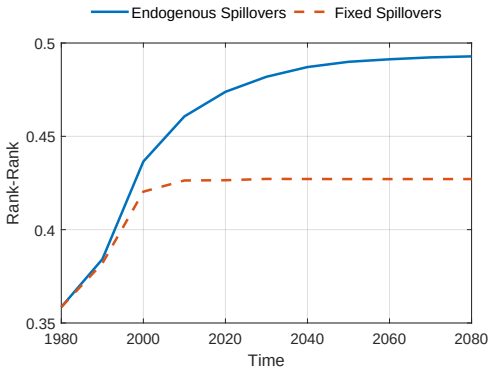


(c) Income Inequality

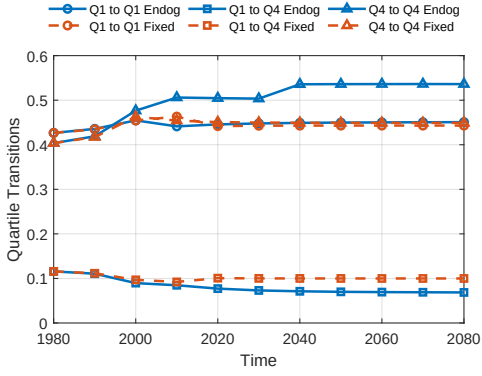


(d) Consumption Inequality

Skill Premium Shock: Intergenerational Mobility



(a) Rank Rank



(b) Quartile Transitions

Conclusion

- local spillover generate a tight link among income inequality, residential segregation by income, and intergenerational mobility
- higher residential segregation associated to higher inequality and lower intergenerational mobility
- if the local spillover evolves endogenously with the residential composition of the neighborhoods, link is even tighter
- many possible applications of this framework
- explicit role for policy

Extensions and Applications

- Fogli, Guerrieri, Ponder, and Prato (forthcoming JPE 2026):
  3 neighborhoods, education choice, elastic housing supply, amenities and preference shocks
  - quantify role of segregation in the rise income inequality
- Fogli, Guerrieri, Ponder, and Prato (forthcoming NBER Macro Annual 2026):
  add government sector
  - welfare effects of neighborhood policies (transfers, vouchers, investment)
- Fogli, Garcia-Martinez, Guerrieri, and Prato: add race, information friction, and endogenous beliefs
  - role of segregation in persistent race inequality

Active Research Area

- 90s theoretical work on inequality and local externalities: Durlauf (1996a,1996b), Benabou (1996a,1996b), Fernandez and Rogerson (1996,1998),...
- recent use of administrative data: Chetty, Hendren and Katz (2016) and Chetty et Hendren (2018) estimate effects of childhood neighborhood exposure
- new active area of research: Durlauf and Seshadri (2017), Fogli and Guerrieri (2019), Eckert and Kleineberg (2021), Zheng and Graham (2022), Agostinelli et al. (2022), Chyn and Daruich (2022), Fogli et al. (2023, 2024), Bellue(2024), ...