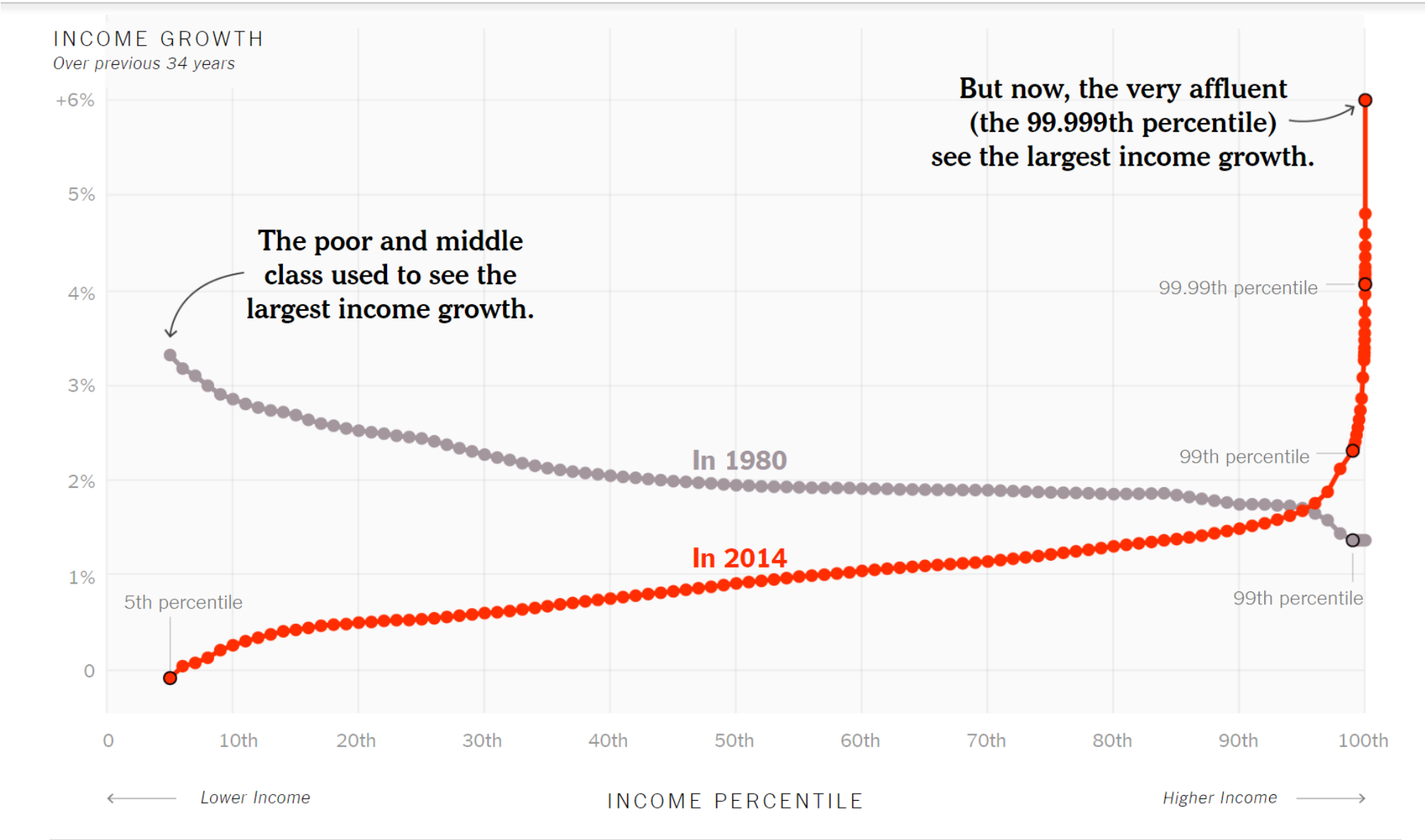




Reducing Inequality Using the Tools of Behavioral Economics

Raj Chetty
Harvard University

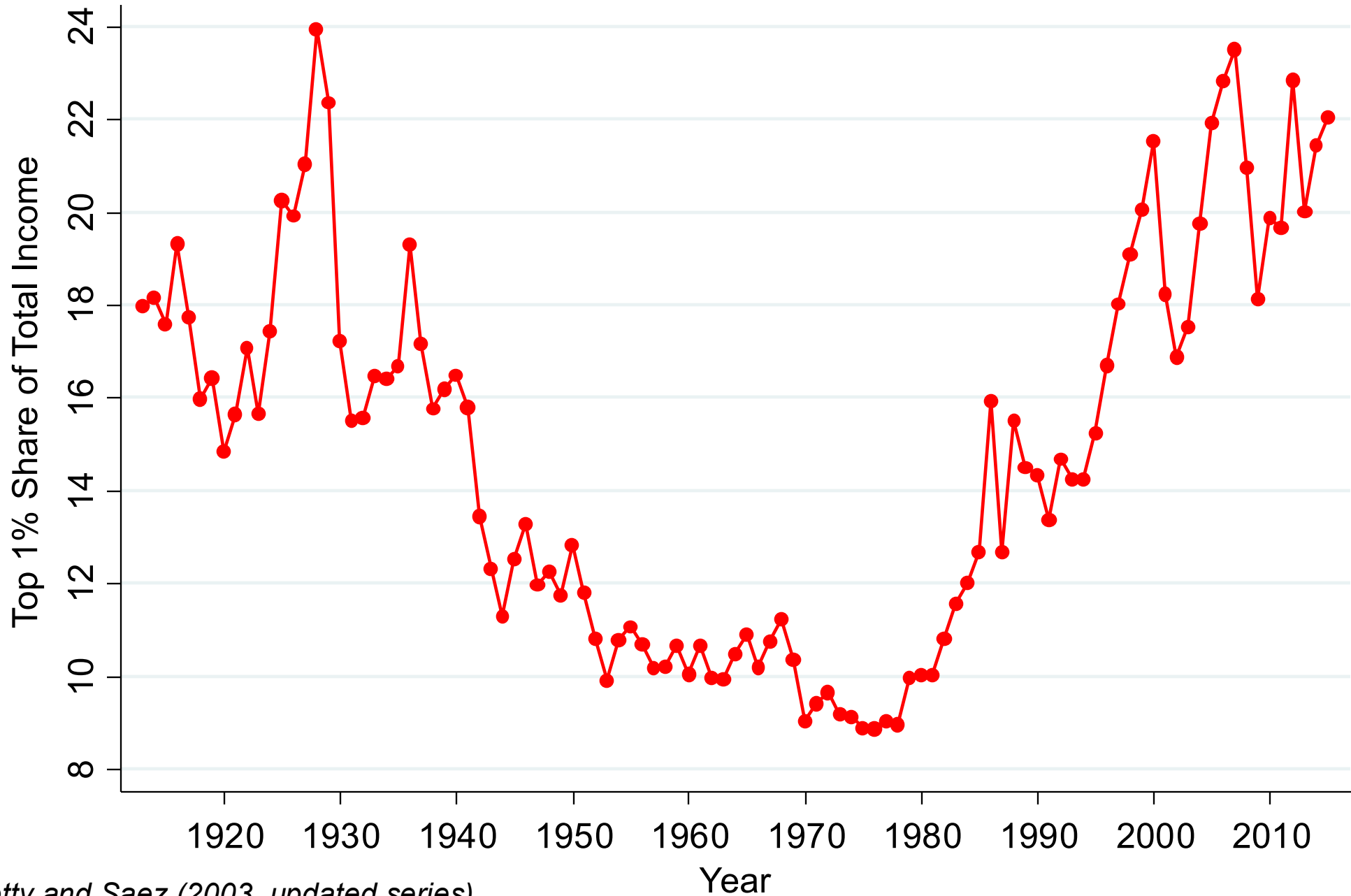
Income Growth by Household Income Level in 1980 vs. 2014



Note: Inflation-adjusted annual average growth using income after taxes, transfers and non-cash benefits.

Source: Piketty, Saez, and Zucman (2017)

Share of Income Going to Households in the Top 1%, by Year



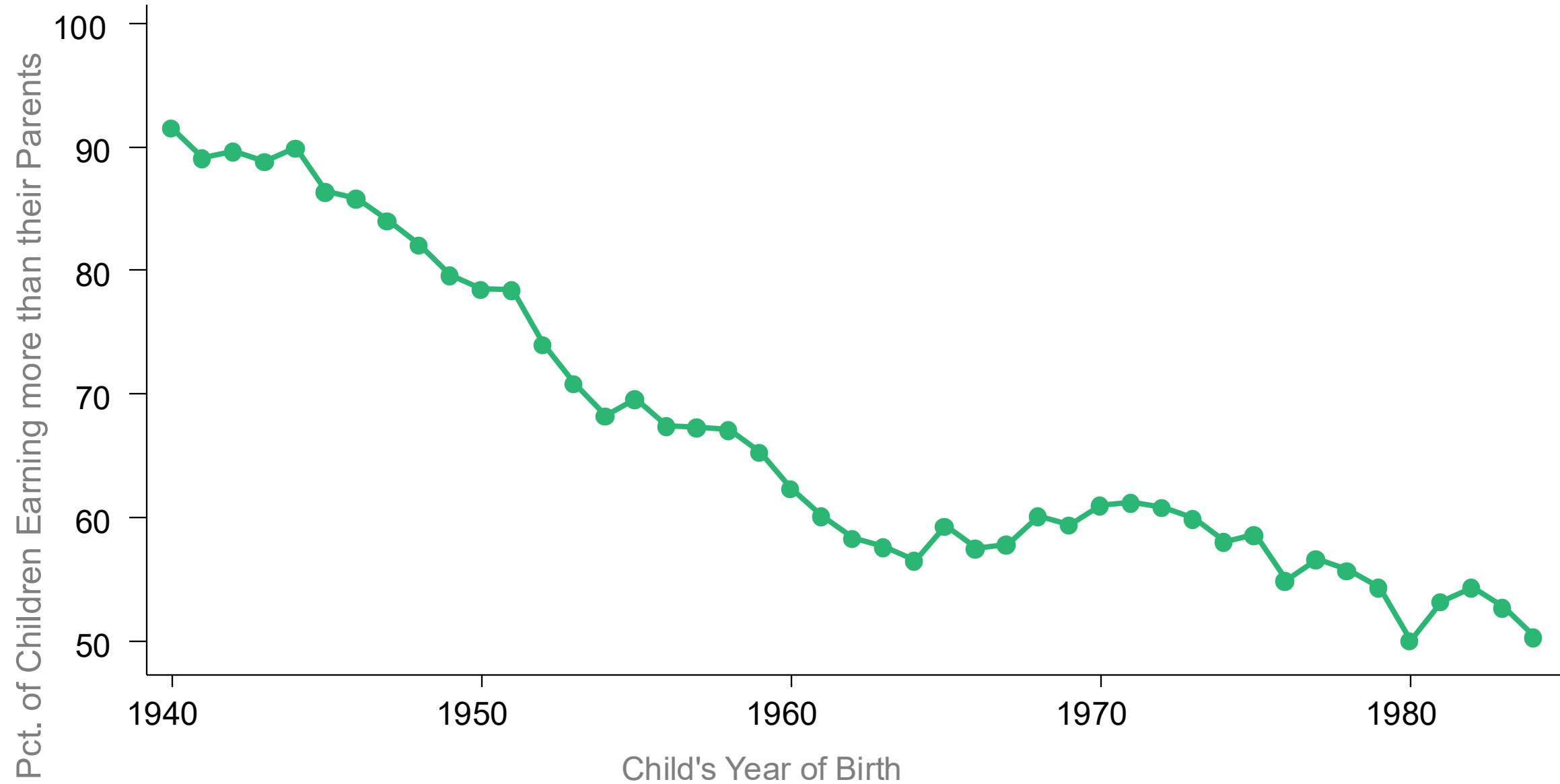
Source: Piketty and Saez (2003, updated series)

Inequality and Economic Mobility

- Stagnating wages in the middle class have led to reductions in absolute mobility across generations

The Fading American Dream

Percent of Children Earning More than Their Parents, by Year of Birth

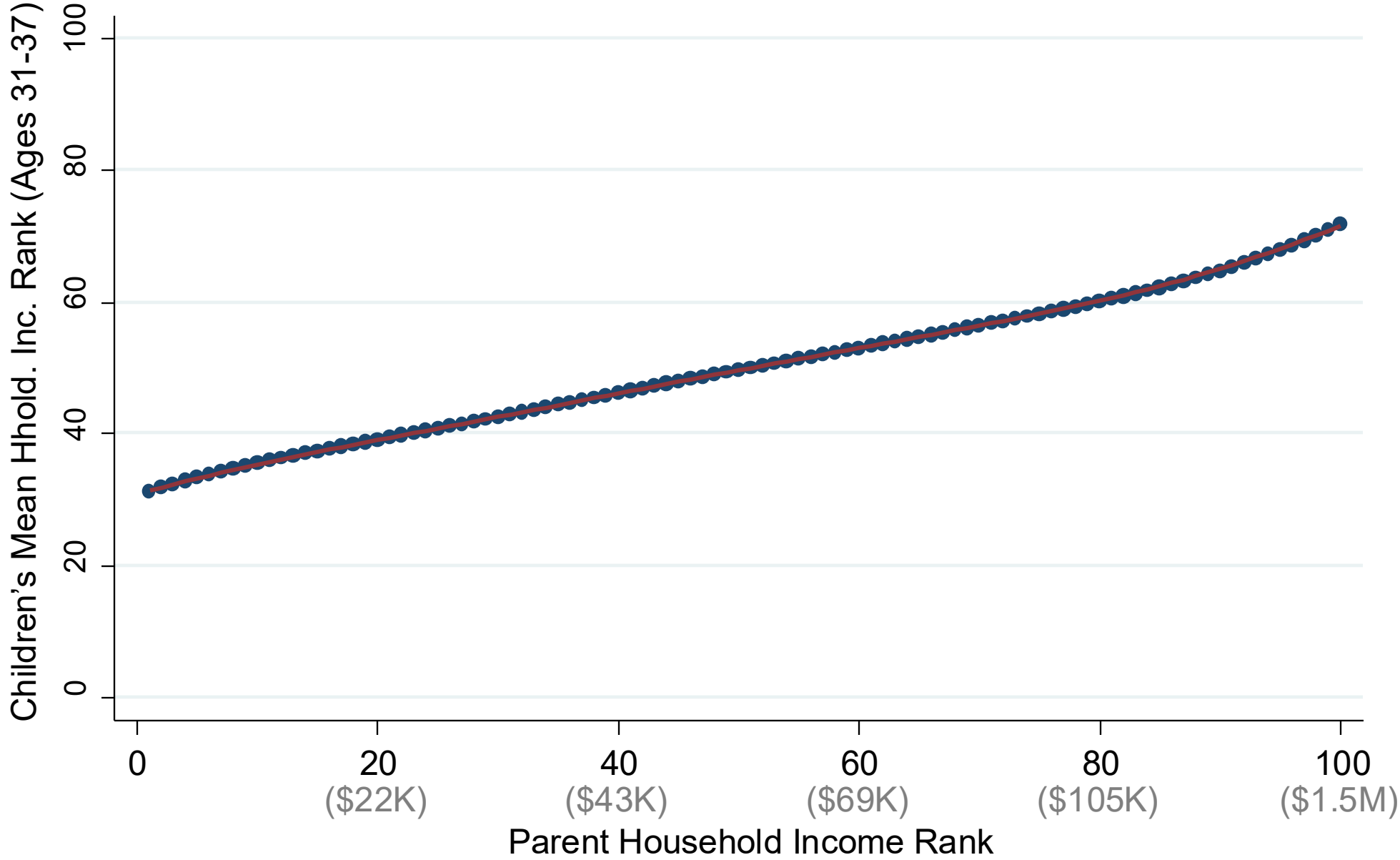


Source: Chetty, Grusky, Hell, Hendren, Manduca, Narang (Science 2017)

Inequality and Economic Mobility

- Stagnating wages in the middle class have led to reductions in absolute mobility across generations
- Children from low-income families have particularly poor outcomes because of high degree of persistence of income across generations

Mean Child Household Income Rank vs. Parent Household Income Rank



Inequality and Economic Mobility

- Stagnating wages in middle class have led to reductions in absolute mobility across generations
 - Children from low-income families have particularly poor outcomes because of persistence of income across generations
- Central question of public interest: how can we increase **upward mobility** out of poverty?

Intergenerational Income Dynamics: A Simple Framework

- Two-generation model where parents decide how much to invest in their child's human capital (I) vs. consume themselves (c_0) [Becker and Tomes 1986]

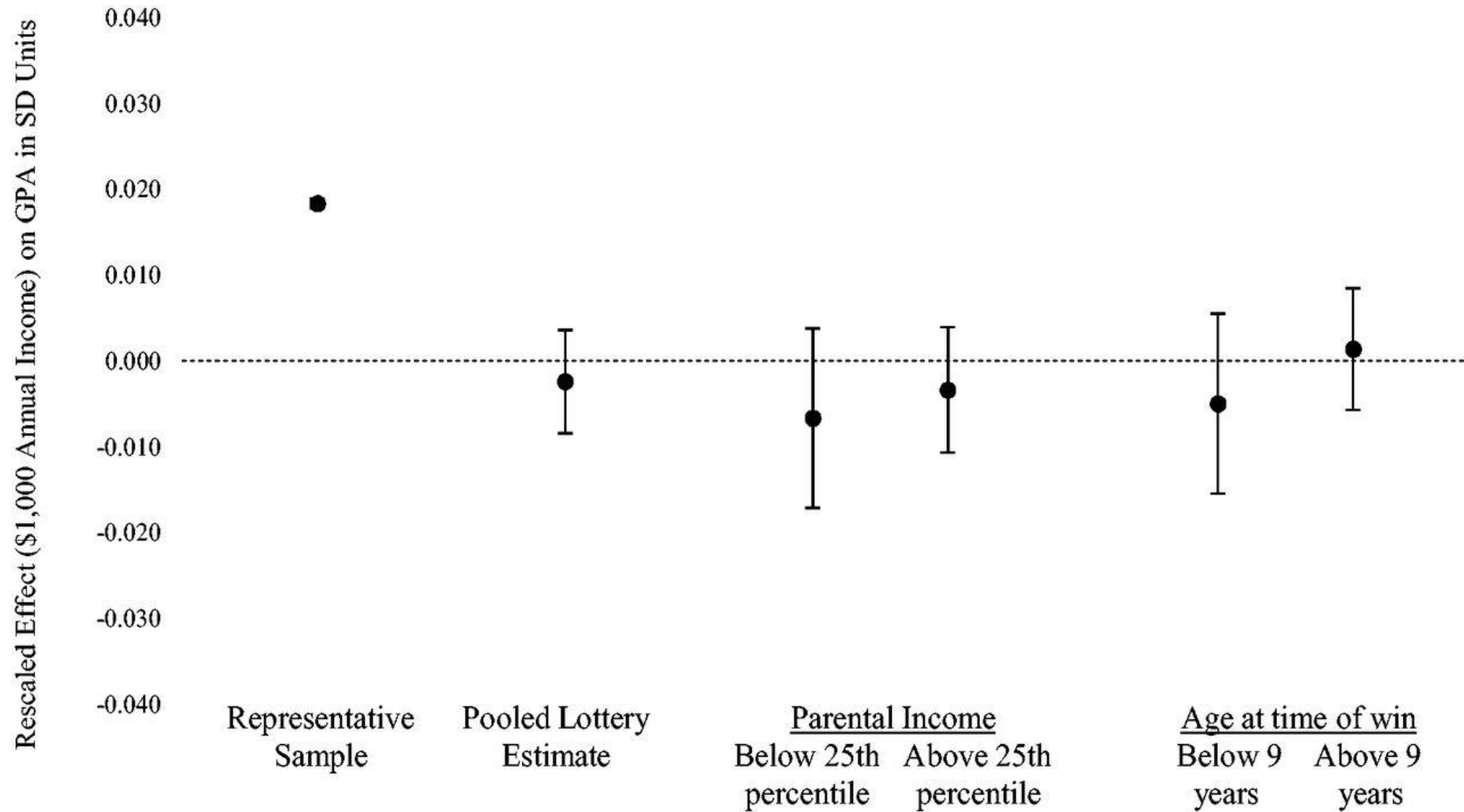
$$\max U(c_0) + \delta U(y_1(I)) \quad s.t. \quad c_0 + I \leq y_0$$

- Neoclassical view: low-income parents are **liquidity constrained** (y_0 low) \rightarrow poverty persists across generations
- This view suggests that we should give low-income families **cash transfers** and let them optimize (e.g., Child Tax credit)
- Does this work? Do cash transfers reduce the persistence of poverty across generations?

Effects of Cash Transfers on Children's Outcomes

- Cesarini et al. (QJE 2016): study impacts of lottery wins on children's outcomes using Swedish registry data
 - How much of the cross-sectional correlation between parents' incomes and kids' outcomes can be explained by the causal effect of income?

Causal Effects of Income via Lottery Wins on Children's GPA



Effects of Cash Transfers on Children's Outcomes

- Cesarini et al. (QJE 2016): study impacts of lottery wins on children's outcomes using Swedish registry data
 - How much of the cross-sectional correlation between parents' incomes and kids' outcomes can be explained by the causal effect of income?
- Concern: people may spend lottery winnings differently from "regular" income
- Jacob et al. (QJE 2015): study impacts of housing voucher lottery in Chicago
 - Effectively gave some households \$12,000 of assistance (relative to median annual income of \$19,000)

Effects of Housing Voucher Receipt on Education, Criminal Behavior, and Health

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Baseline Age	Outcome	Children/obs.	CM	ITT	IV	CCM	ITT <i>p</i> -value	
							Pair-wise	FDR
Female								
0–6	Test score	8,488	−0.1446	0.0019	0.0029	−0.1511	0.919	0.920
		[52,107]		(0.0183)	(0.0316)			
6–18	Test score	14,855	−0.1479	0.0168	0.0300	−0.2082	0.240	0.556
		[73,389]		(0.0143)	(0.0273)			
6–18	High school graduation	13,792	0.5766	0.0101	0.0190	0.5846	0.279	0.556
		[13,792]		(0.0094)	(0.0176)			
All	Social costs of crime	33,210	574	61**	121*	635	0.043	0.311
		[284,057]		(30)	(63)			
0–6	Inpatient or emergency claim	9,379	0.2119	0.0018	0.0032	0.2202	0.767	0.920
		[50,549]		(0.0062)	(0.0113)			
6–18	Inpatient or emergency claim	16,050	0.3702	0.0025	0.0047	0.3823	0.653	0.873
		[75,526]		(0.0056)	(0.0108)			

Intergenerational Income Dynamics: A Simple Framework

- Two-generation model where parents decide how much to invest in their child's human capital (I) vs. consume themselves (c_0) [Becker and Tomes 1986]

$$\max U(c_0) + \delta U(y_1(I)) \quad s.t. \quad c_0 + I \leq y_0$$

- Empirically, dI/dy_0 appears to be small, at least in certain settings
- Traditional explanation: parents may **under-invest** in their kids from planner's perspective
 - Individual's discount factor δ is lower than weight put by planner on future generations [Lazear 1983]
 - Is this the right explanation? Or do parents care about their kids, but don't spend money effectively?

Effects of Labeled Cash Transfers on Children's Outcomes

- Benhassine et al. (AEJ-PP 2015): study impacts of “labelled” cash transfers in Morocco using a randomized trial
 - Small cash transfer made to fathers of school-aged kids, **not** conditional on school attendance but explicitly labeled as an “education support” program

Impacts of Labeled Cash Transfers on School Attendance

TABLE 5—EFFECT ON SCHOOL PARTICIPATION

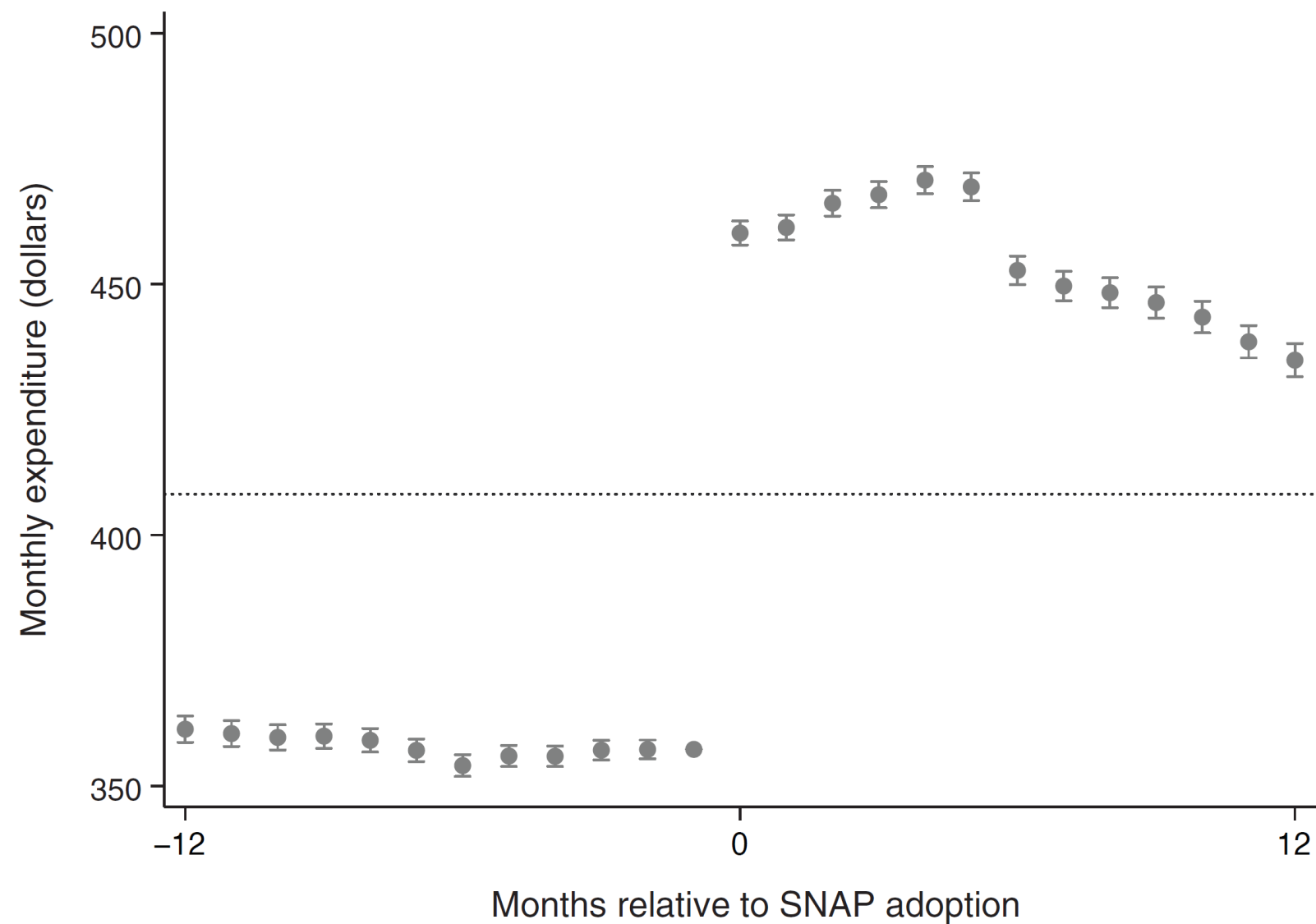
	Mean in control group (1)	Impact of LCT to fathers (2)	Difference between [...] and LCT to fathers				<i>p</i> -value for CCT different from LCT (7)	<i>p</i> -value for mother different from father (8)
			LCT to mothers (3)	CCTs to fathers (4)	CCTs to mothers (5)	Obs. (6)		
<i>Panel A. Household sample</i>								
Attending school by end of year 2, among those 6–15 at baseline	0.737 [0.44]	0.074 (0.016)***	0.004 (0.014)	−0.019 (0.012)	−0.021 (0.013)	11,074	0.01***	0.962

Source: Benhassine, Devoto, Duflo, Dupas, and Pouliquen 2015

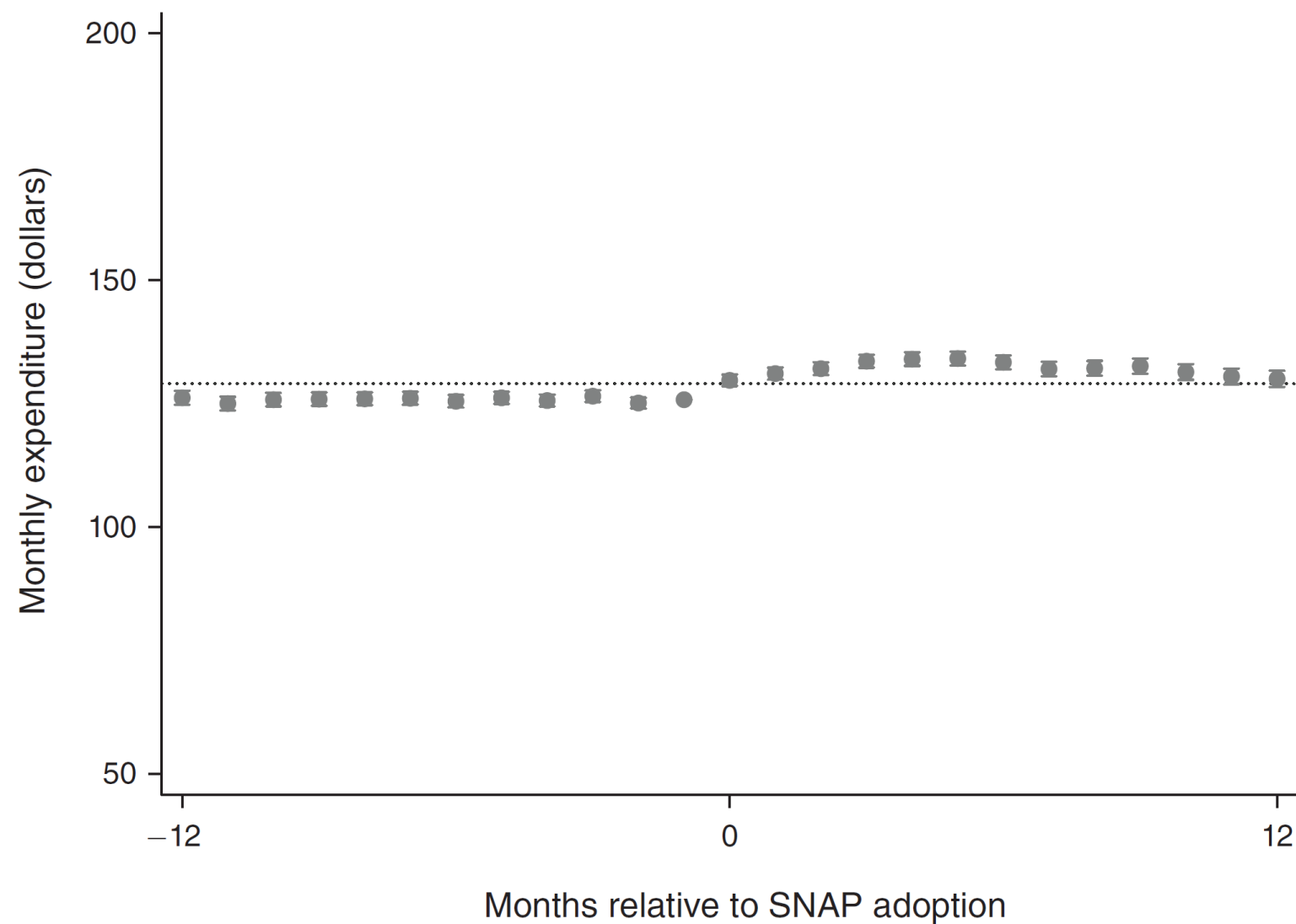
Effects of Labeled Cash Transfers on Children's Outcomes

- Benhassine et al. (AEJ-PP 2015): study impacts of “labelled” cash transfers in Morocco using a randomized trial
 - Small cash transfer made to fathers of school-aged kids, not conditional on school attendance but explicitly labeled as an “education support” program
- Hastings and Shapiro (AER 2018) provide further evidence for the view that labels matter and that low-income households do not treat money as fungible
 - Event-study design analyzing impacts of SNAP eligibility (about \$200 per month of food stamps) on spending patterns

Causal Effect of SNAP Receipt on SNAP Eligible Products



Causal Effect of SNAP Receipt on SNAP Ineligible Products



Intergenerational Income Dynamics: A Simple Framework

- Two-generation model where parents decide how much to invest in their child's human capital (I) vs. consume themselves (c_0) [Becker and Tomes 1986]

$$\max U(c_0) + \delta U(y_1(I)) \quad s.t. \quad c_0 + I \leq y_0$$

- Empirically, dI/dy_0 appears to be small for unrestricted transfers but is sometimes larger, depending upon seemingly “irrelevant” factors from a neoclassical perspective
- **Behavioral explanation**: parents may not be maximizing experienced utility due to behavioral biases and frictions

Potential Behavioral Biases that Amplify Intergenerational Poverty

- Potential behavioral biases/frictions that may affect investment in children:
 1. Status-quo/present bias: gains for children realized 10-20 years later, but costs paid up front [Laibson 1997]
 2. Poverty amplifies focus on immediate needs
[Mullainathan and Shafir 2013, Haushofer and Fehr 2014]
 3. Lack of information [Hastings and Weinstein 2007]

Addressing Inequality Using the Tools of Behavioral Economics

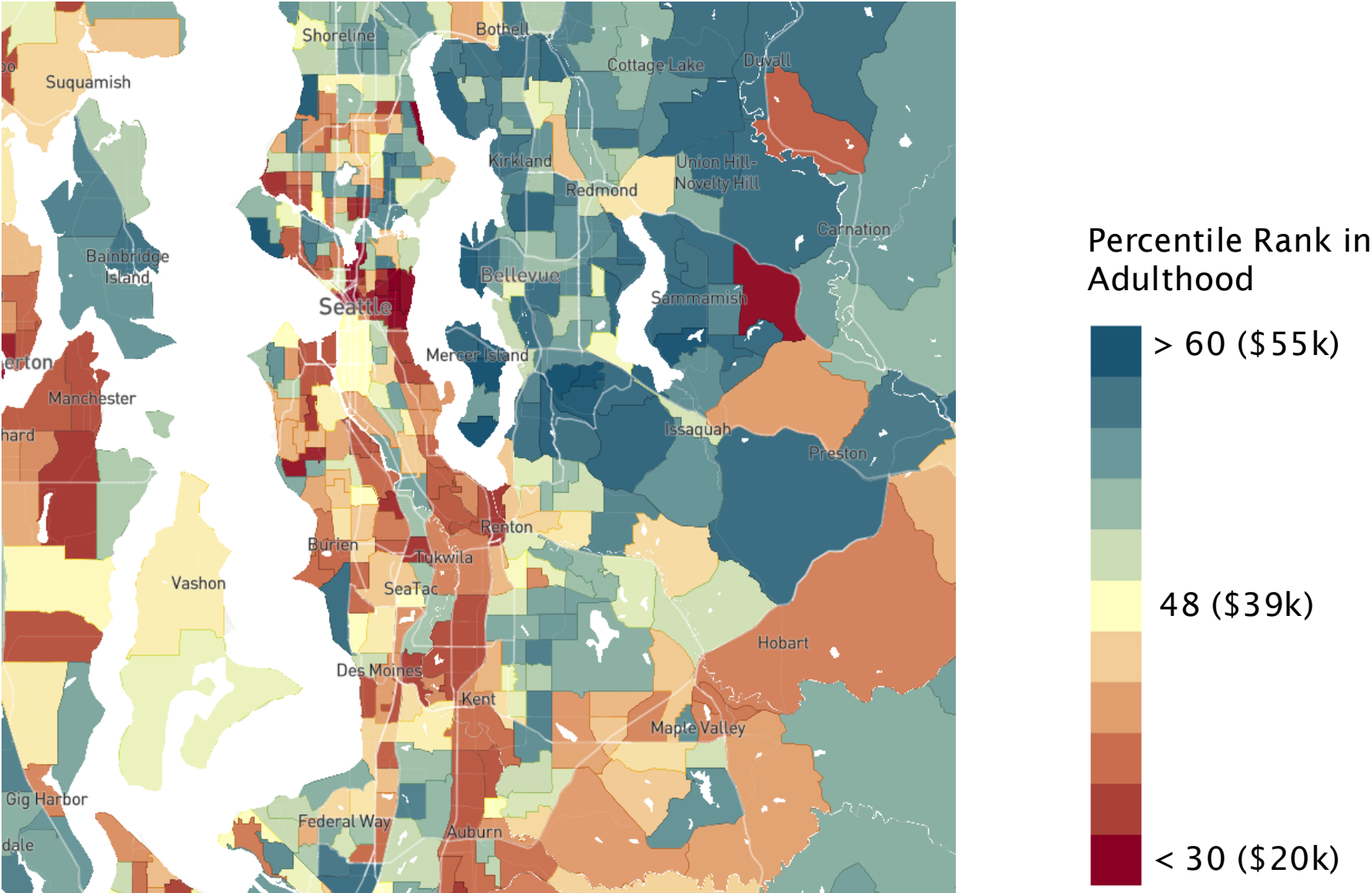
- Data indicate that we need to go beyond providing cash assistance to reduce intergenerational persistence of inequality
- Motivates focus on interventions such as support for education or nutritional programs that impact children's outcomes
- Insights from behavioral economics can be very valuable in designing such interventions
- Illustrate work being done in this field by focusing on one example: neighborhood choice and the design of **affordable housing policies**
[Bergman, Chetty, DeLuca, Hendren, Katz, Palmer 2020]

Three Facts on Neighborhoods and Economic Opportunity

1. Children's prospects for upward income mobility vary substantially across neighborhoods

The Geography of Upward Mobility in Seattle

Average Income at Age 35 for Children with Parents Earning \$27,000 (25th percentile)

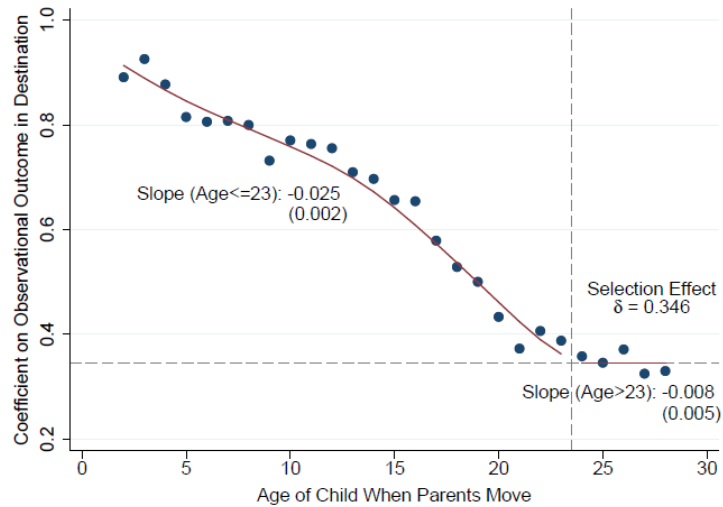


Three Facts on Neighborhoods and Economic Opportunity

1. Children's prospects for upward income mobility vary substantially across neighborhoods
2. Moving to better neighborhoods earlier in childhood improves children's outcomes in adulthood significantly

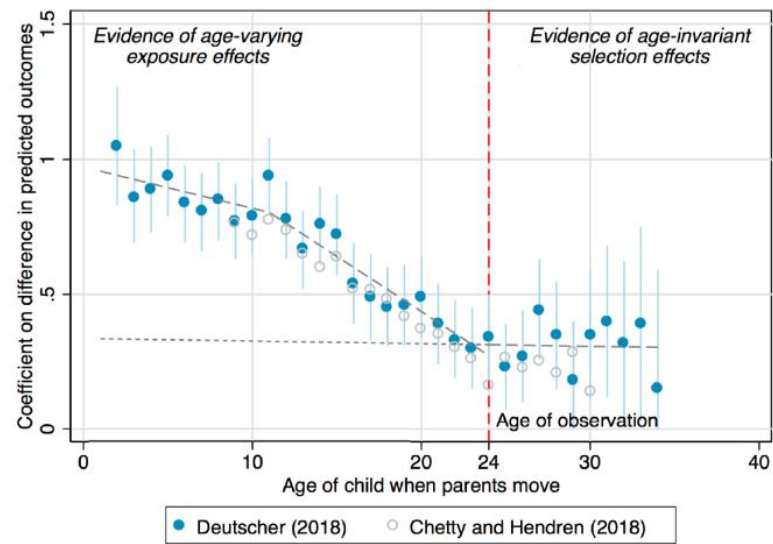
Estimates of Childhood Exposure Effects

United States



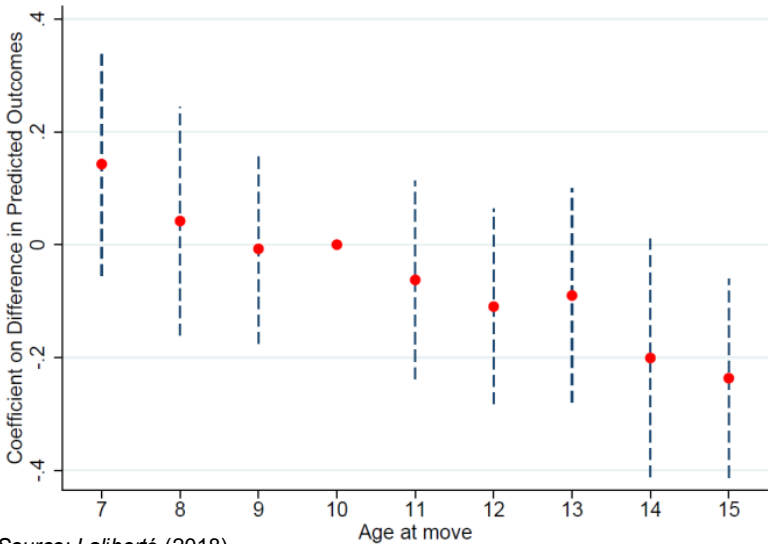
Source: Chetty, Friedman, Hendren, Jones, Porter (2018)

Australia



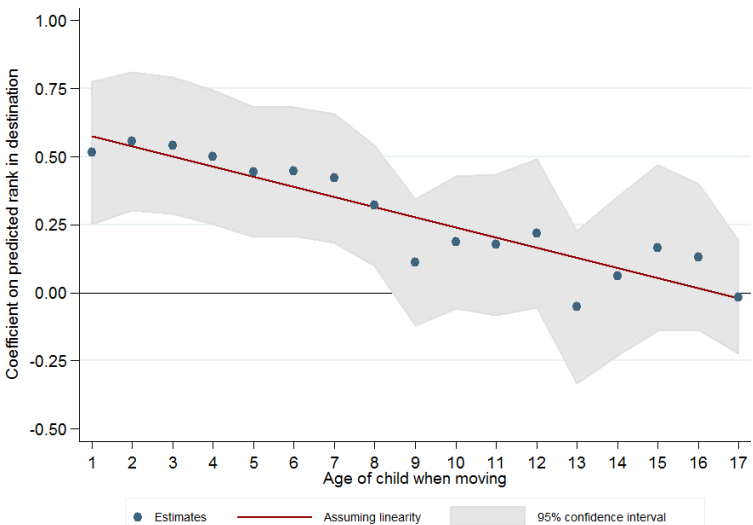
Source: Deutscher (2018)

Montreal, Canada



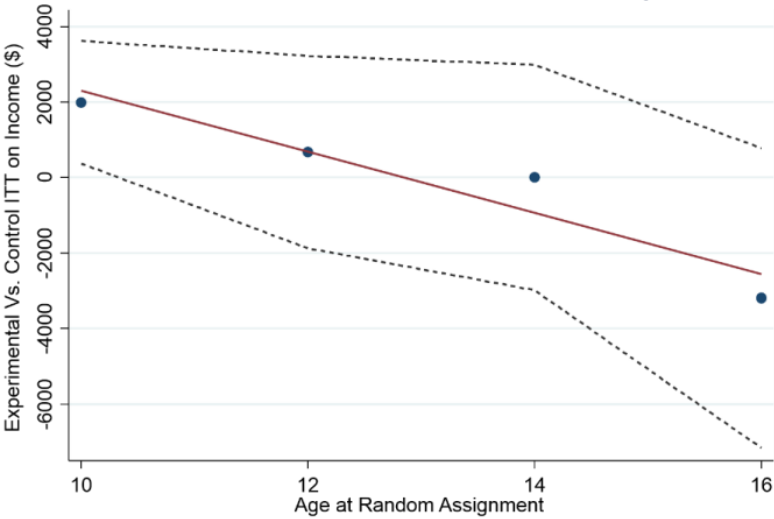
Source: Laliberté (2018)

Denmark



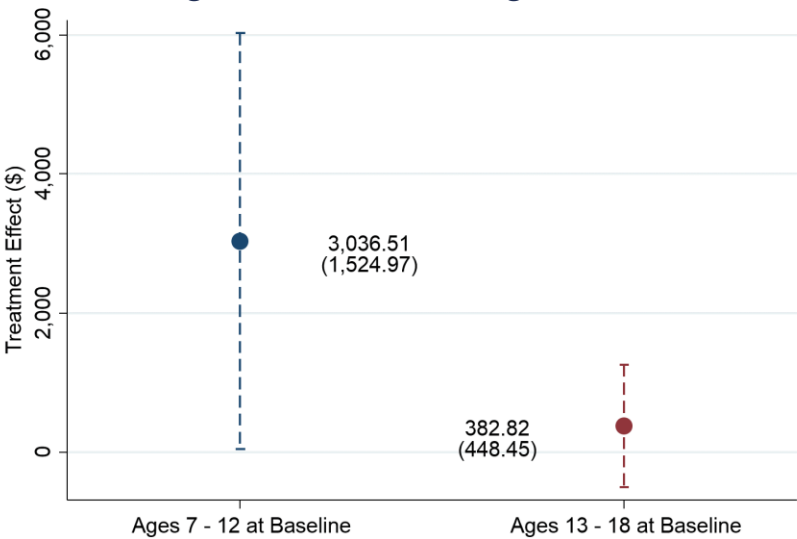
Source: Faurischou (2018)

MTO: Baltimore, Boston, Chicago, LA, NY



Source: Chetty, Hendren, Katz (AER 2016)

Chicago Public Housing Demolitions



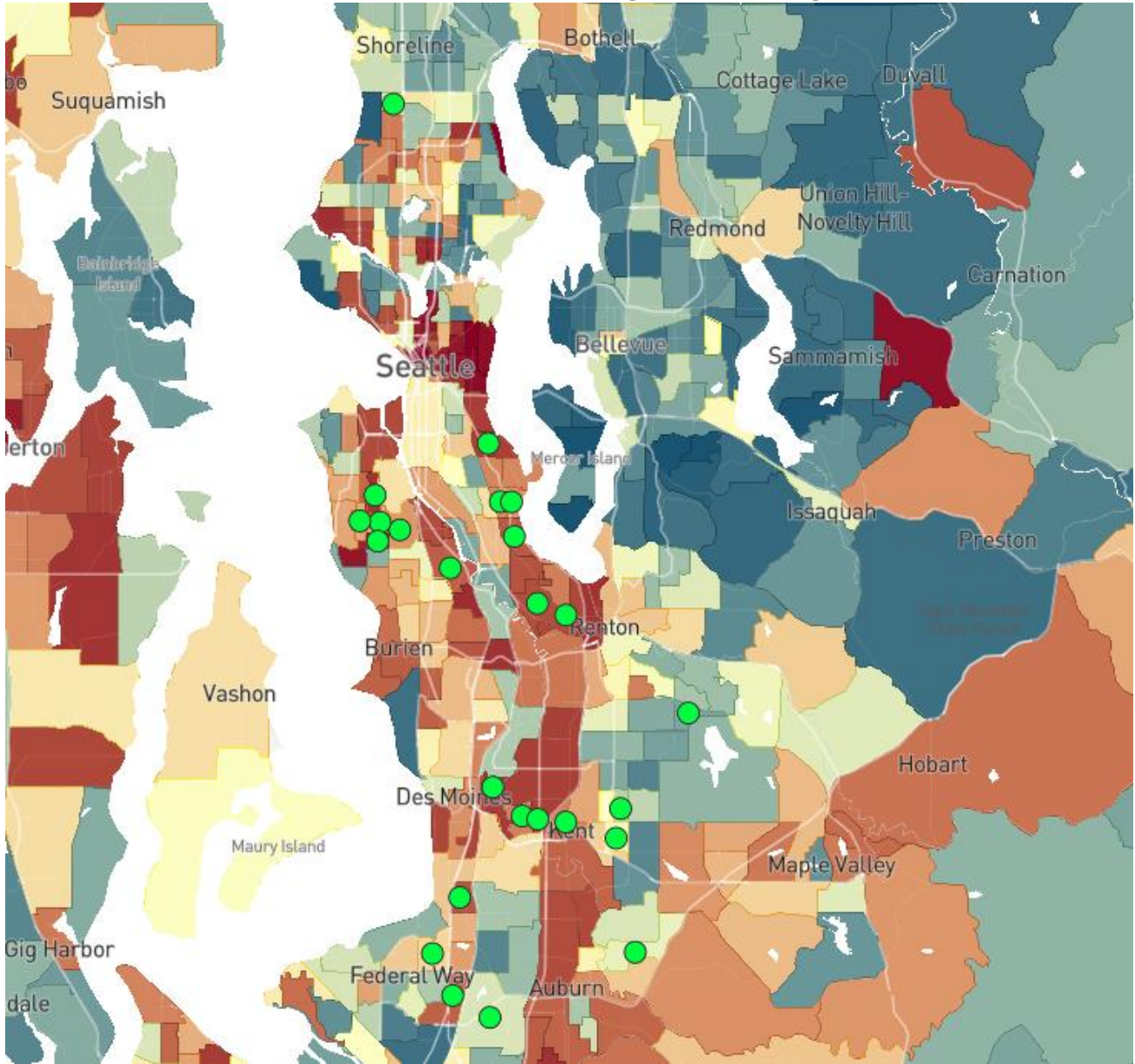
Source: Chyn (AER 2018)

Three Facts on Neighborhoods and Economic Opportunity

1. Children's prospects for upward income mobility vary substantially across neighborhoods
2. Moving to better neighborhoods earlier in childhood improves children's outcomes in adulthood significantly
3. Low-income families who receive housing vouchers predominantly live in low-opportunity neighborhoods

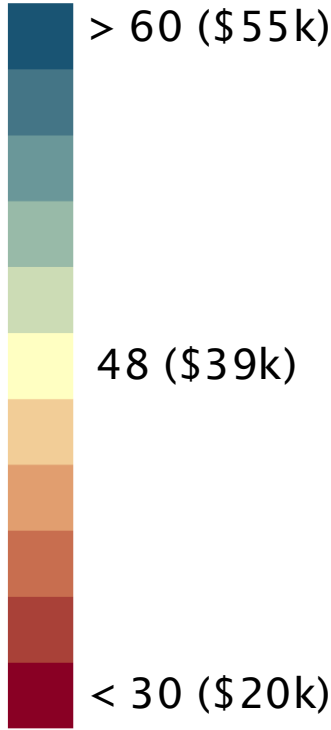
Is Affordable Housing in Seattle Maximizing Opportunities for Upward Mobility?

Most Common Current Locations of Families Receiving Housing Vouchers in Seattle



● 25 most common tracts where voucher holders lived in 2015-17

Percentile Rank in Adulthood



Why Don't Low-Income Families Move to Opportunity?

- Two classes of explanations:
 1. **Preferences**: families may prefer to stay in current neighborhoods because of other amenities (e.g., commute time, proximity to family)
 2. **Behavioral Frictions**: families may be unable to find housing in high-opportunity areas because of lack of information, challenges in search, etc.
- If behavioral frictions or constraints are driving segregation, can we reduce them through changes in affordable housing policy?

Creating Moves to Opportunity

Randomized trial to develop and test strategies to reduce barriers that housing choice voucher recipients may face in moving to high-opportunity areas



Treatment Interventions



CUSTOMIZED SEARCH ASSISTANCE

On average, non-profit
staff spend **6 hours**
with each household

DIRECT LANDLORD ENGAGEMENT

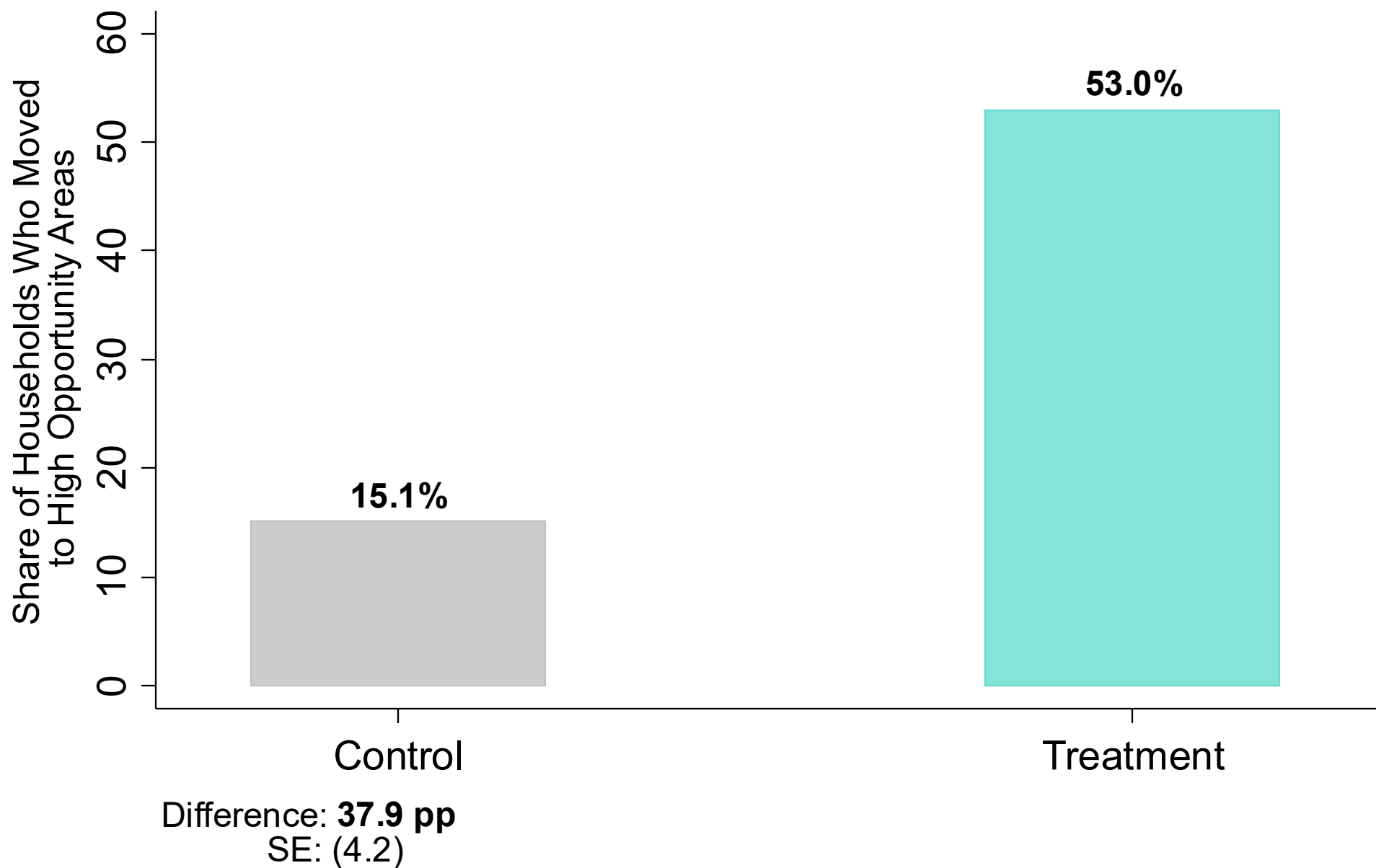
47% of rentals in high-
opportunity areas made
through links via non-
profit staff

SHORT-TERM FINANCIAL ASSISTANCE

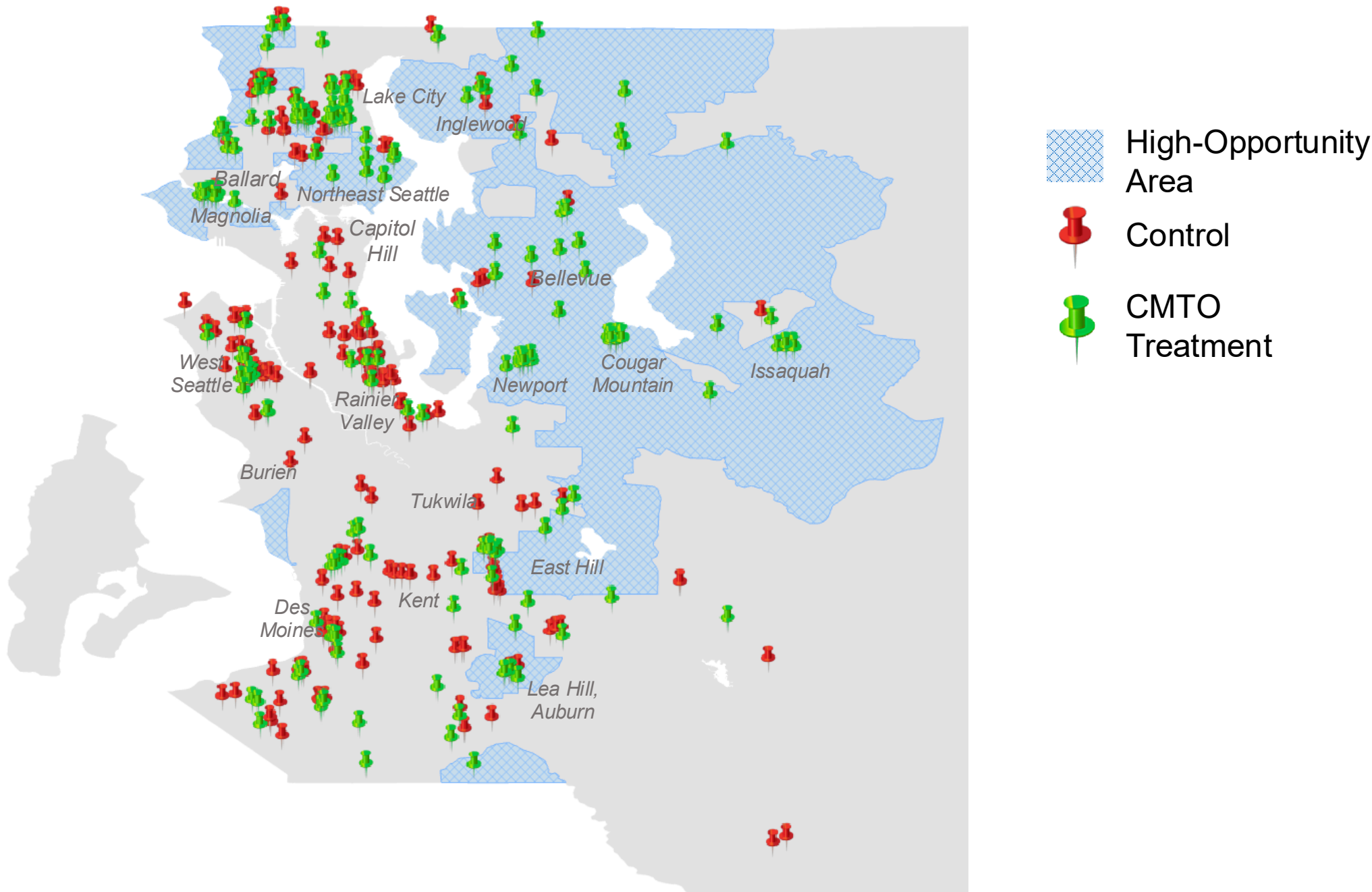
Average financial
assistance of **\$1,000** for
security deposits,
application fees, etc.

Program Cost: \$2,660 per family issued a voucher
(2.2% of average voucher payments over 7 years)

Experimental Results: Fraction of Families that Leased Units in High Opportunity Areas



Destination Locations for Families that Leased Units Using Housing Vouchers

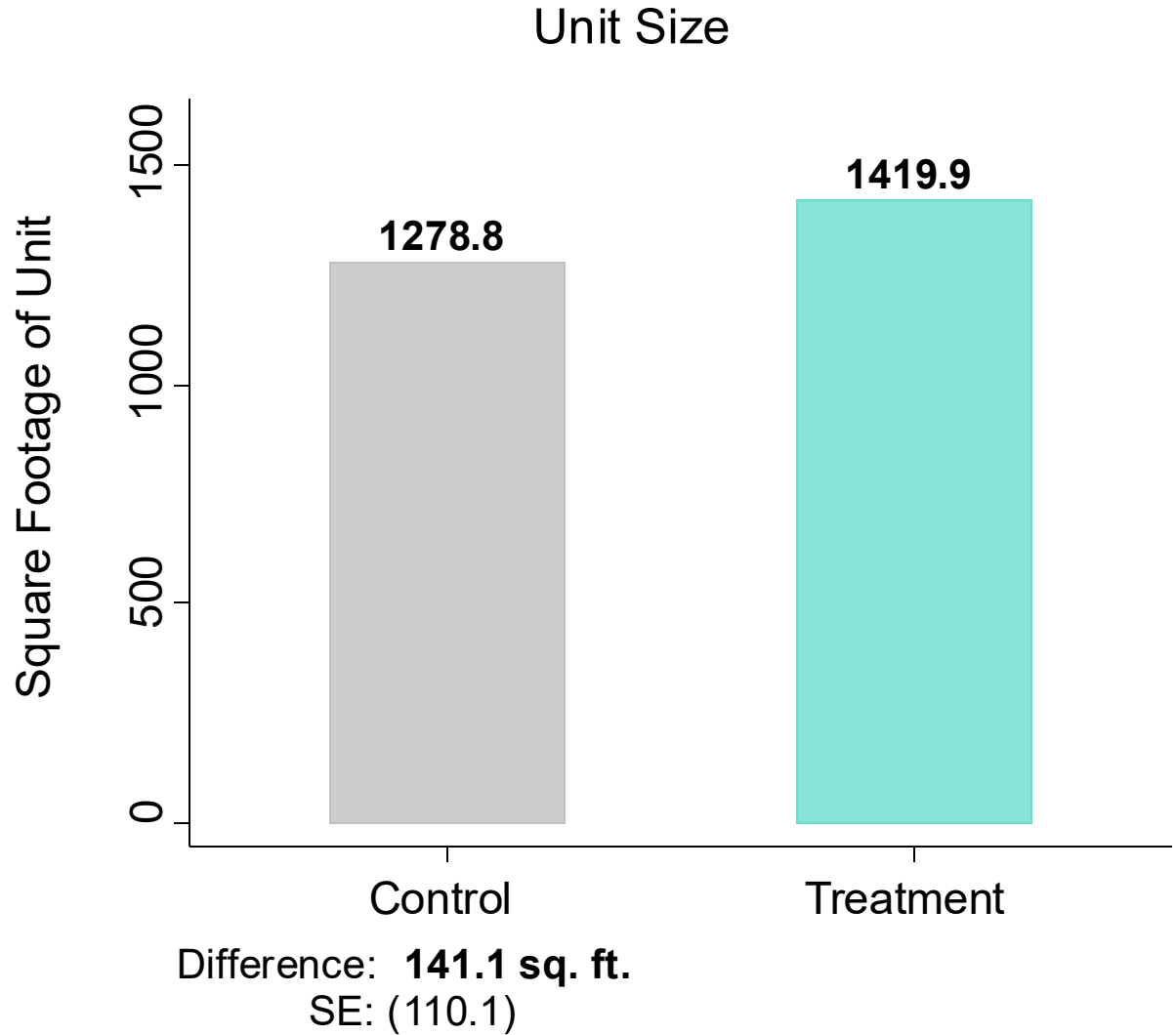
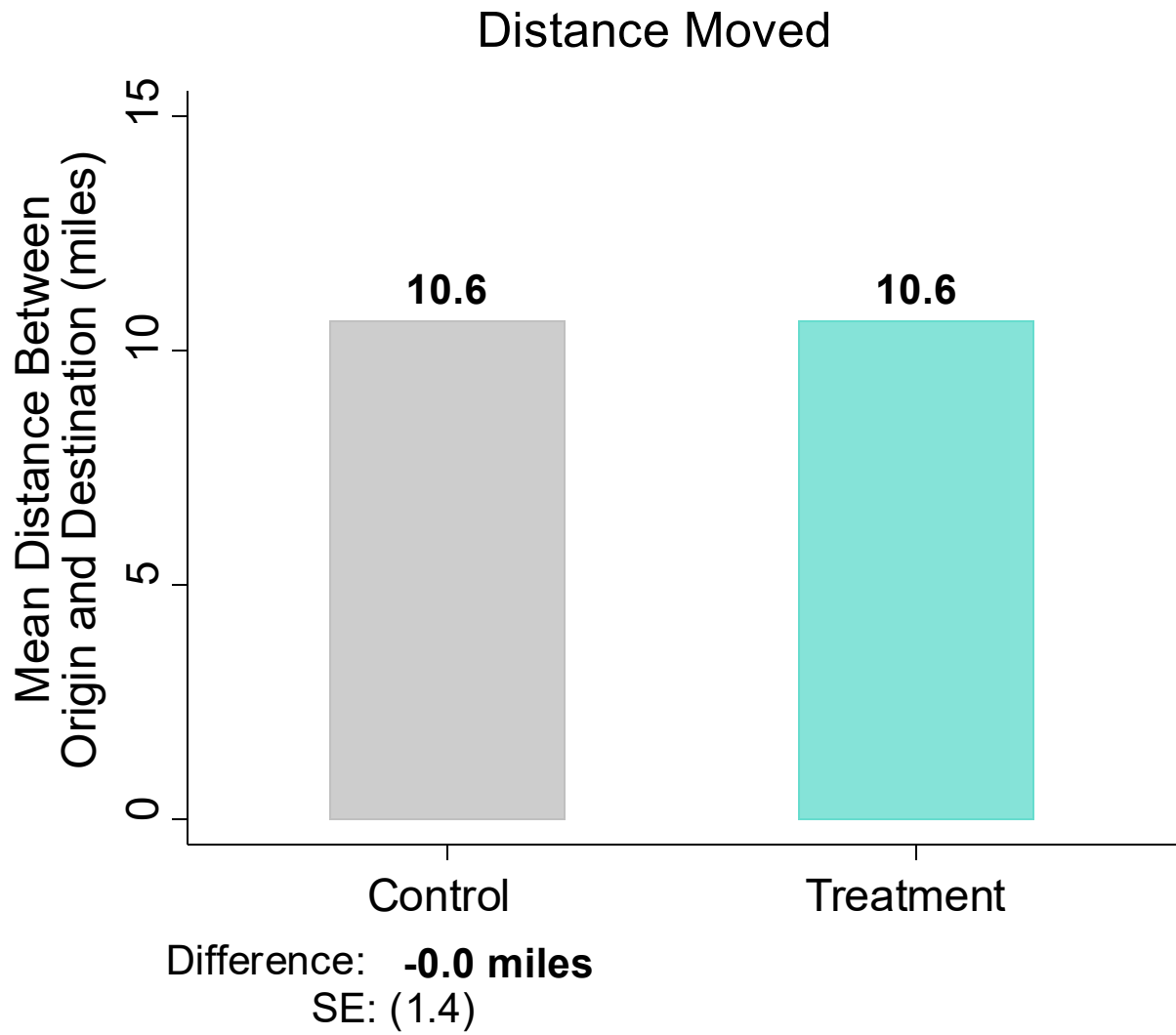


Tradeoffs in Unit Characteristics

- Are families making sacrifices on other dimensions to move to high-opportunity areas?

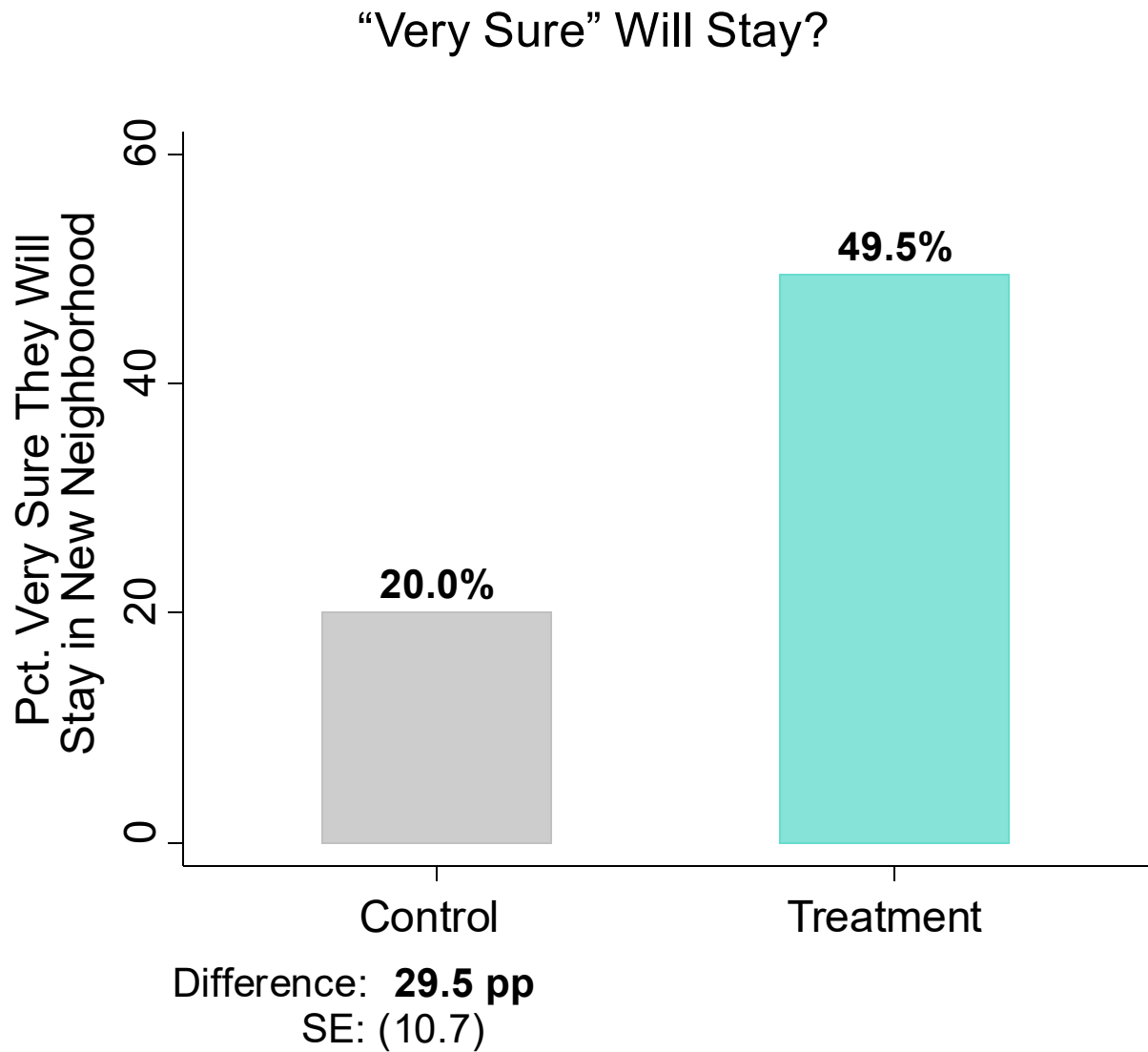
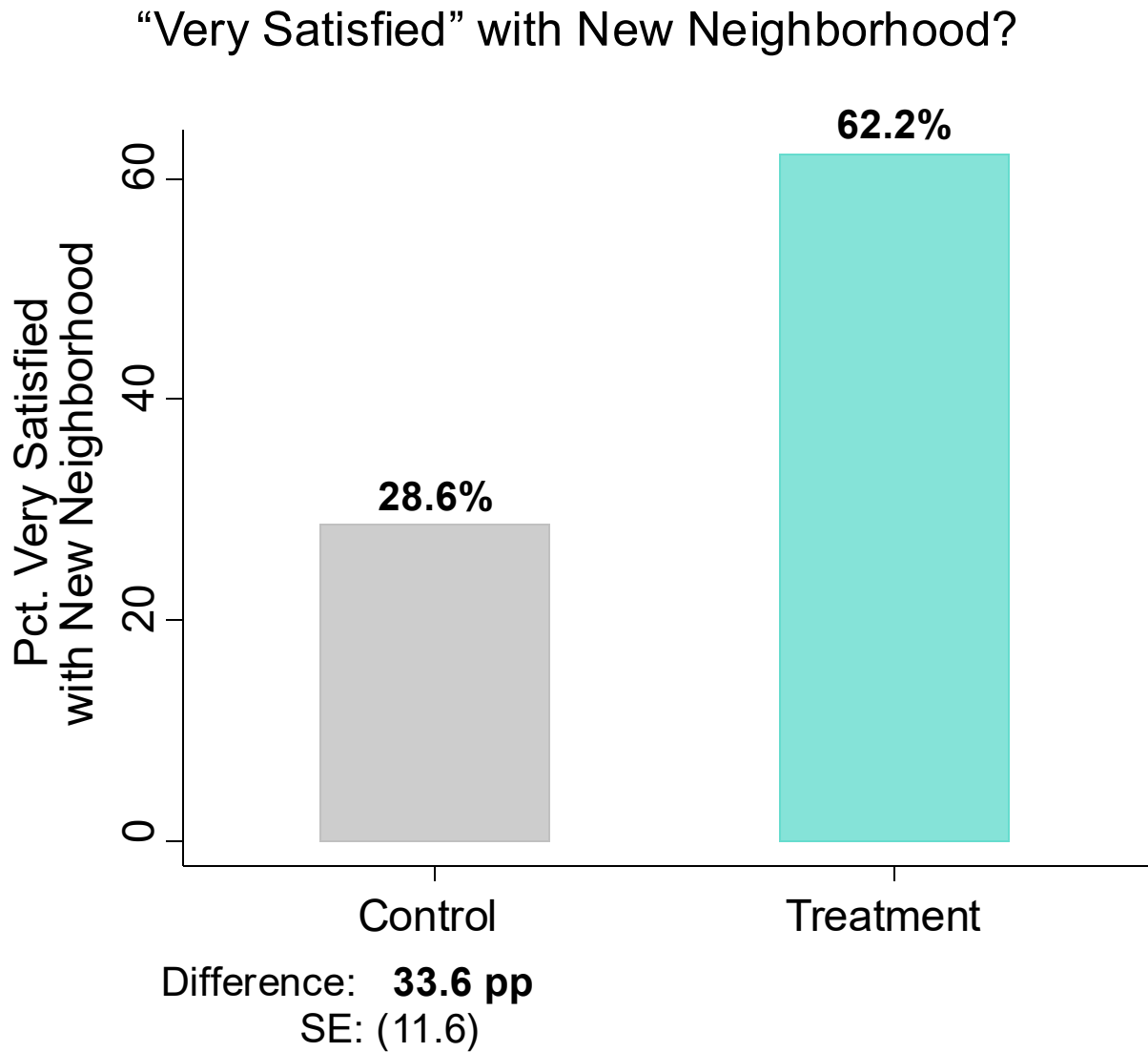
Tradeoffs in Neighborhood and Unit Quality

Treatment Effects on Distance Moved and Unit Size



Satisfaction with New Neighborhoods

Based on Surveys Six Months Post-Move

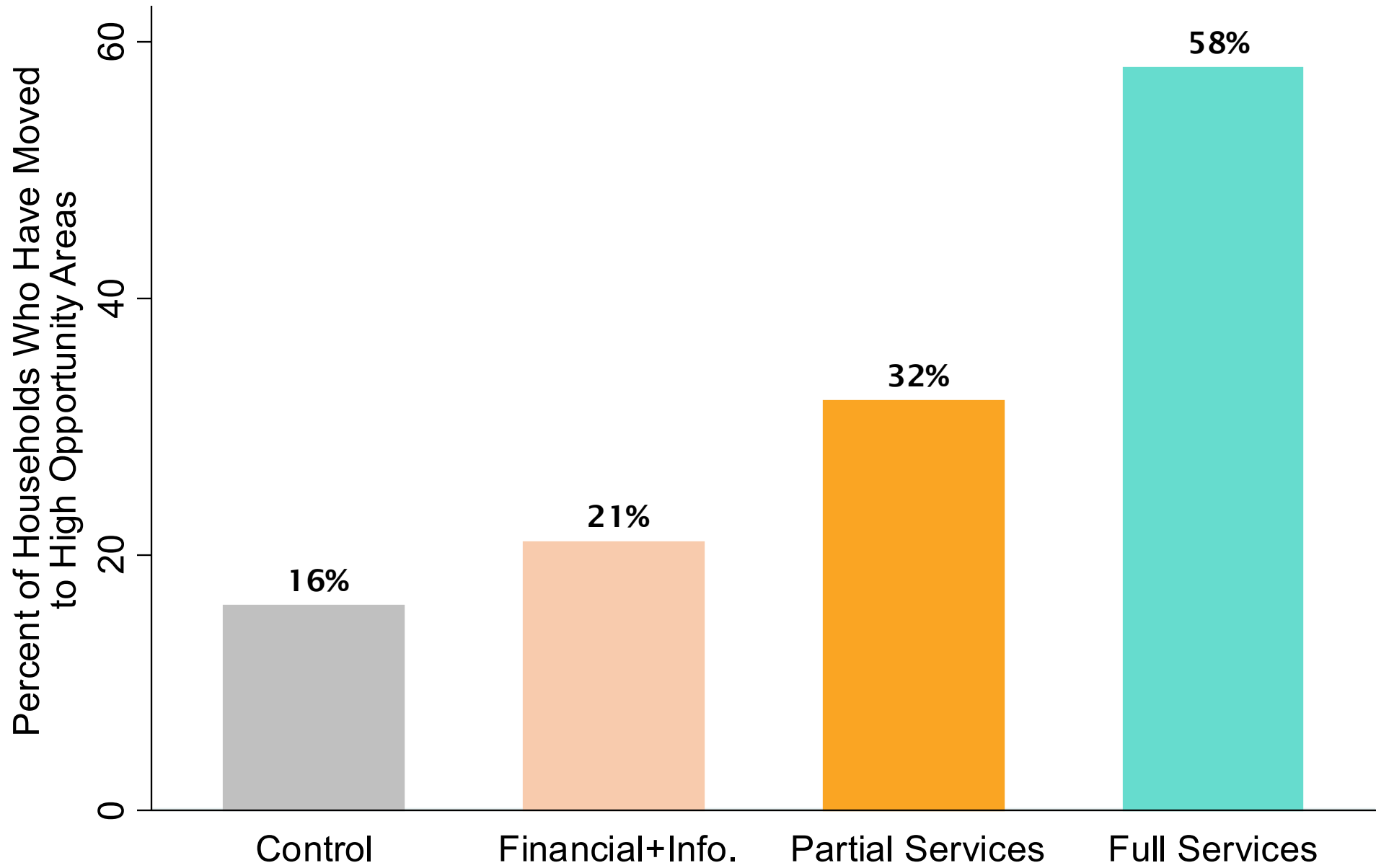


Unpacking Behavioral Mechanisms

- Evidently, many families prefer high-opportunity areas but are unable to move to such neighborhoods without additional assistance
- What are the barriers families face in moving to higher-opportunity areas?
- Two approaches:
 1. Second phase of experiment with **unbundled treatments**
 2. **Qualitative evidence** from surveys of families



Fraction Who Leased Units in High Opportunity Areas in Phase 2 of CMTO



Qualitative Evidence on Mechanisms

- We also conducted a qualitative study of 161 families interviewed for two hours each during search process and post-move
- Key lessons from these interviews (based on systematic coding of 8,000 pages of transcripts):
 1. [**Scarcity**] Most families have extremely limited time and resources to search [Mullainathan and Shafir 2013]
 2. [**Customization**] Case workers' ability to respond to each family's **specific** needs is crucial above and beyond standardized resources

Illustrative Quotes

Emotional/Psychological Support

“It was this whole flood of relief. It was this whole flood of, “I don’t know how I’m going to do this” and “I don’t know what I’m going to do” and “This isn’t working,” and yeah...I think it was just the supportive nature of having lots of conversations with Megan.” –Jackie

Brokering with Landlords

“When you find a place, I will come with you and we will help you to fill out the application. I will talk with the landlord, I will help you to do a lot of stuff, that maybe sometimes will be complicated.” –Leah

Conclusions

1. Residential segregation of low-income families in the U.S. is driven more heavily by **behavioral frictions** rather than deep-rooted preferences
2. Affordable housing **policies** are now being redesigned to reduce such frictions in light of this evidence

Housing Choice Voucher Mobility Demonstration Act

Shown Here:
Referred in Senate (07/11/2018)

115TH CONGRESS
2D SESSION

H. R. 5793

IN THE SENATE OF THE UNITED STATES

JULY 11, 2018

Received; read twice and referred to the Committee on Banking, Housing, and Urban Affairs

AN ACT

To authorize the Secretary of Housing and Urban Development to carry out a housing choice voucher mobility demonstration to encourage families receiving such voucher assistance to move to lower-poverty areas and expand access to opportunity areas.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Housing Choice Voucher Mobility Demonstration Act of 2018”.

SEC. 2. HOUSING CHOICE VOUCHER MOBILITY DEMONSTRATION.

(a) **AUTHORITY.**—The Secretary of Housing and Urban Development (in this section referred to as the “Secretary”) may carry out a mobility demonstration program to enable public housing agencies to administer housing choice voucher assistance under section 8(o) of the United States Housing Act of 1937 ([42 U.S.C. 1437f\(o\)](#)) in a manner designed to encourage families receiving such voucher assistance to move to lower-poverty areas and expand access to opportunity areas.

(b) **SELECTION OF PHAs.**—

(1) **REQUIREMENTS.**—The Secretary shall establish requirements for public housing agencies to participate in the demonstration program under this section, which provide that the following public housing agencies may participate:

Family Stability and Opportunity Vouchers Act

The *Family Stability and Opportunity Vouchers Act* puts a significant down payment on evidence-based housing mobility vouchers for the nation's most vulnerable families with young children. The bill couples mobility vouchers with customized support services to help families escape the cycle of poverty and move to high opportunity areas.

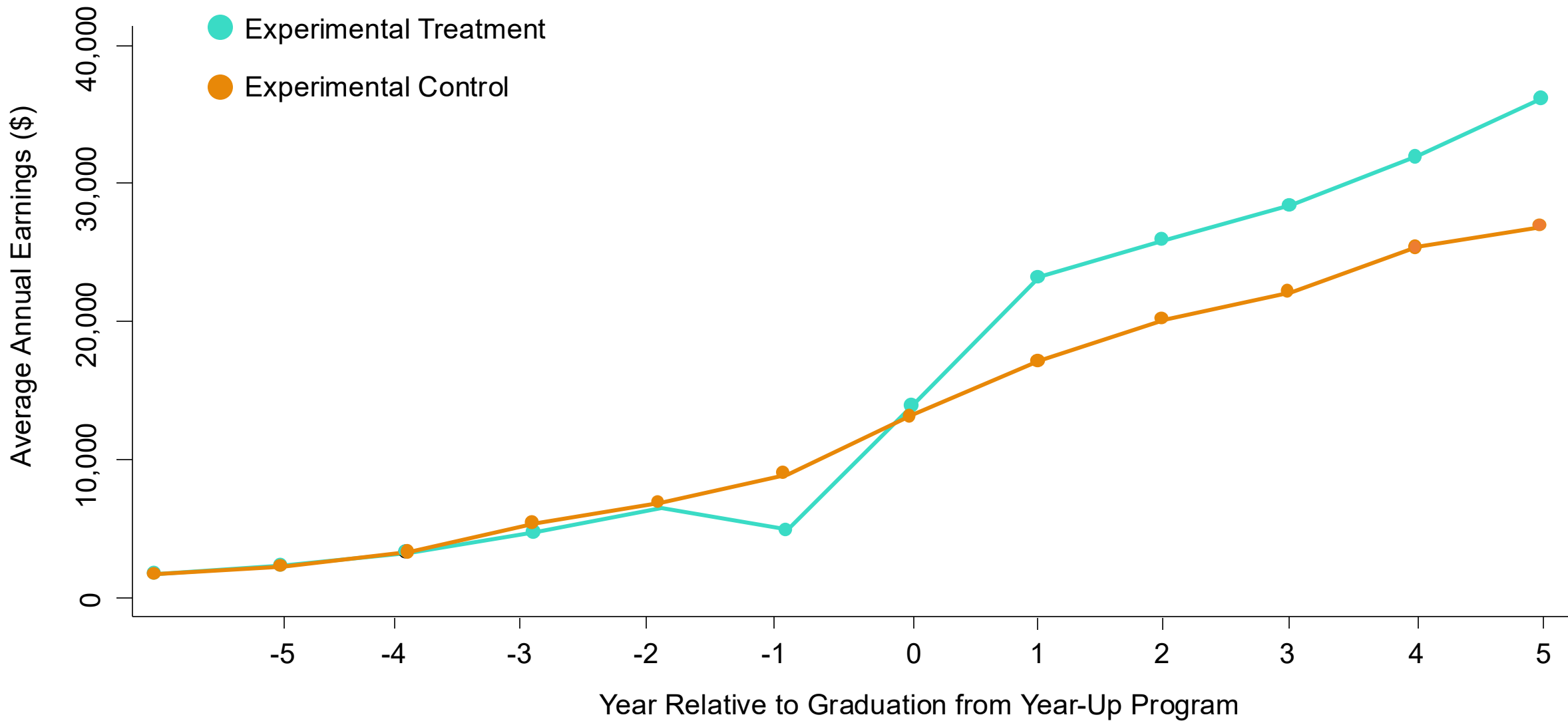
Specifically the bill:

- Creates an **additional 500,000 housing vouchers** over five years for low-income, high-need families with young children. Pregnant women and families with a **child under age 6** would qualify for these new vouchers if they have a history of homelessness or housing instability, live in an area of concentrated poverty, or are at risk of being pushed out of an opportunity area.
- Provides voucher recipients with **access to counseling and case management services** that have a proven track record of helping families move out of poverty.
- The bill's resources would enable housing agencies to **engage new landlords in the voucher program** and connect families with information about housing in high-opportunity neighborhoods, and community-based supports for families as they move.

Conclusions

1. Residential segregation of low-income families in the U.S. is driven more heavily by **behavioral frictions** rather than deep-rooted preferences
2. Affordable housing **policies** are now being redesigned to reduce such frictions in light of this evidence
3. More broadly, social determinants of choice **beyond financial considerations** are critical in many other domains

Impact of Year-Up Sectoral Job Training Program on Earnings



Broader Implications for Behavioral Economics and Inequality

1. Understanding the **decision-making process** of low-income households is critical to tackle poverty
2. For complex decisions, need to go beyond light-touch interventions (e.g., nudges) and provide **deeper support**
3. Big data can help us **target interventions** and monitor their impacts



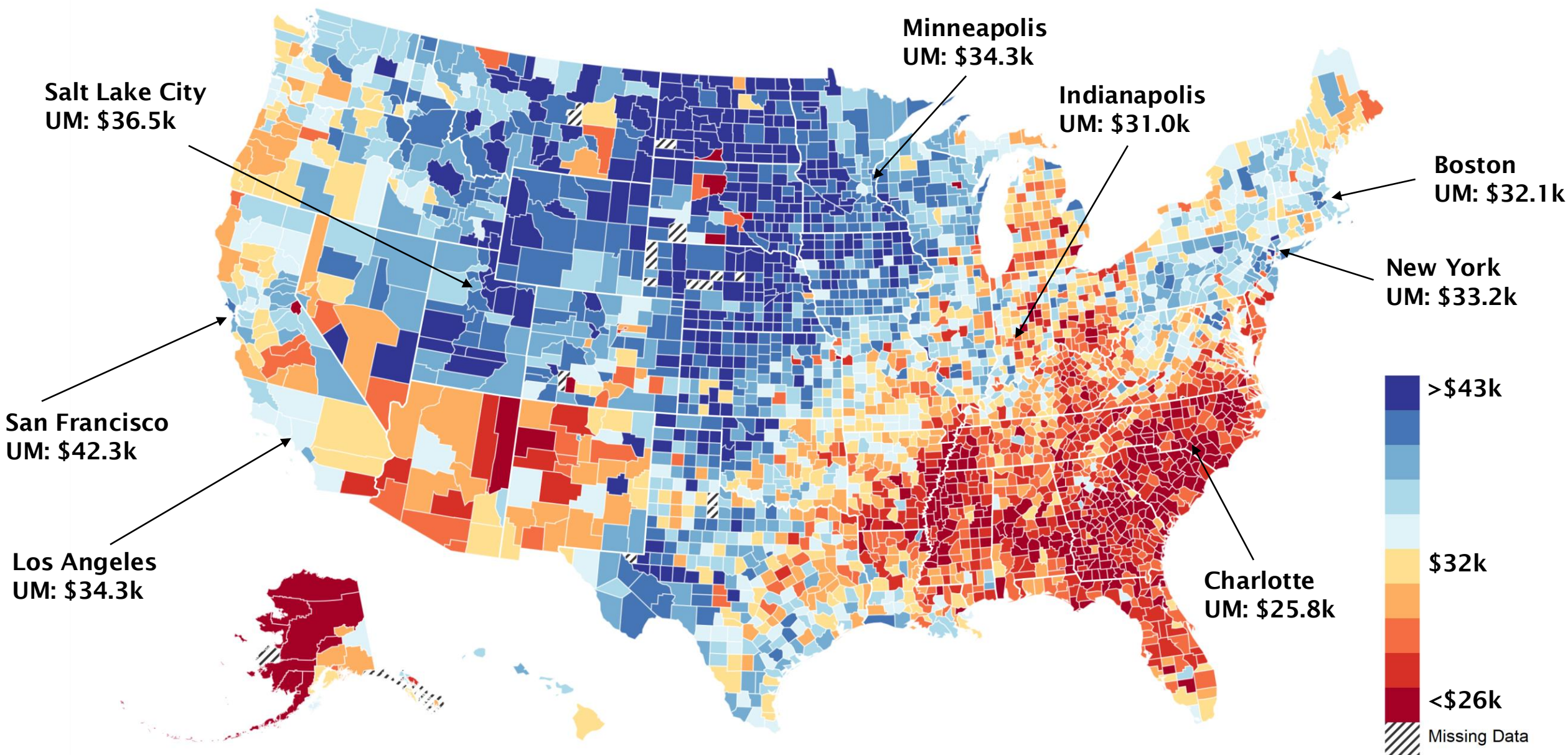
Some Directions for Future Research

- **Empirical Evidence:** Gathering more evidence on choice problems where behavioral frictions do or do not amplify inequality
- **Behavioral Theory:** Understanding and modelling the role of social factors and support, going beyond individual biases
- **General Equilibrium:** Studying the role of markets in mediating inequality: do firms help or hurt behavioral agents? What happens when some agents are more sophisticated than others?



The Geography of Upward Mobility in the United States

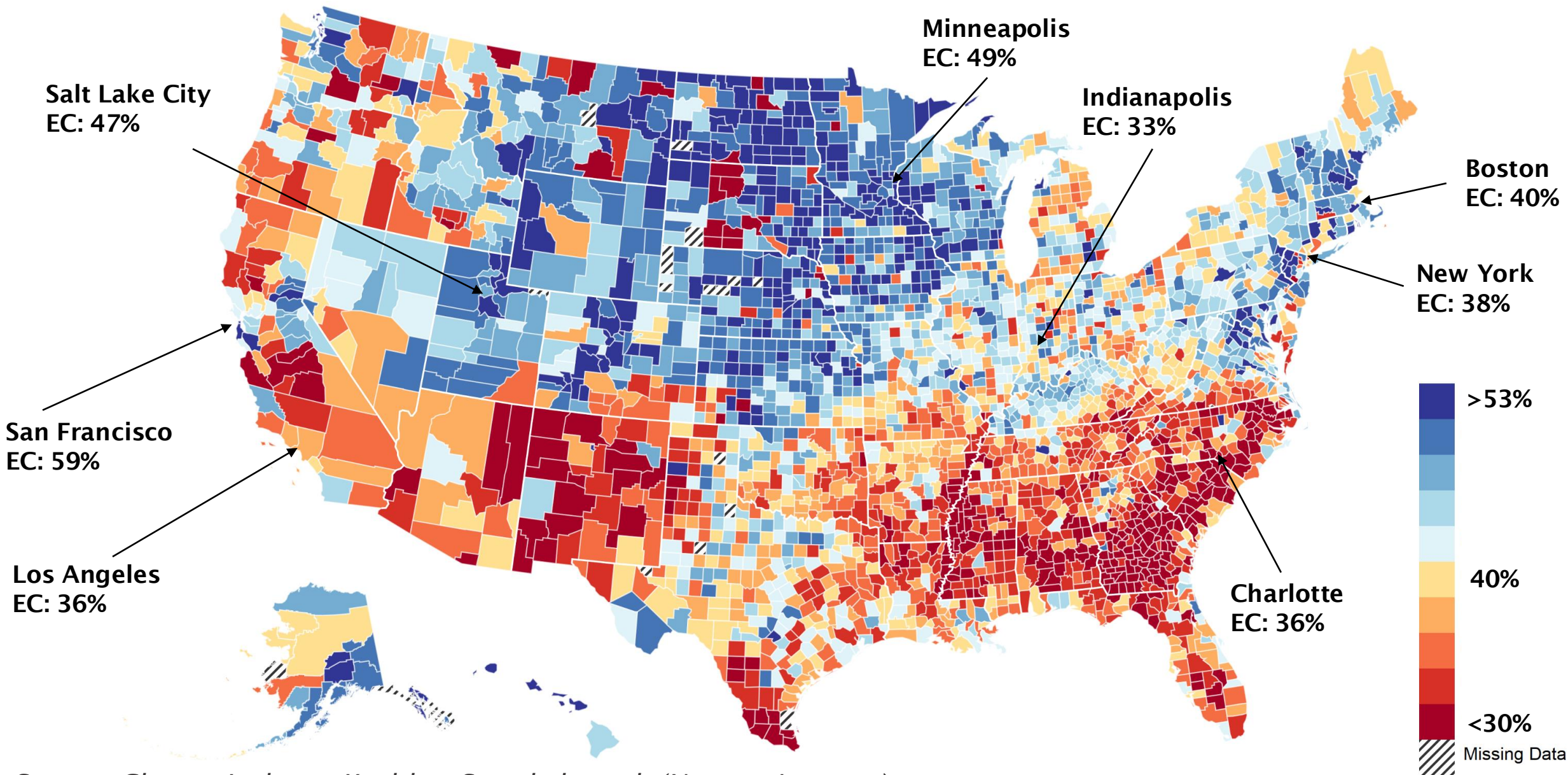
Average Income at Age 35 for Children whose Parents Earned \$25,000 (25th percentile)



Reliability = 0.99

Economic Connectedness of Low-SES Individuals by County

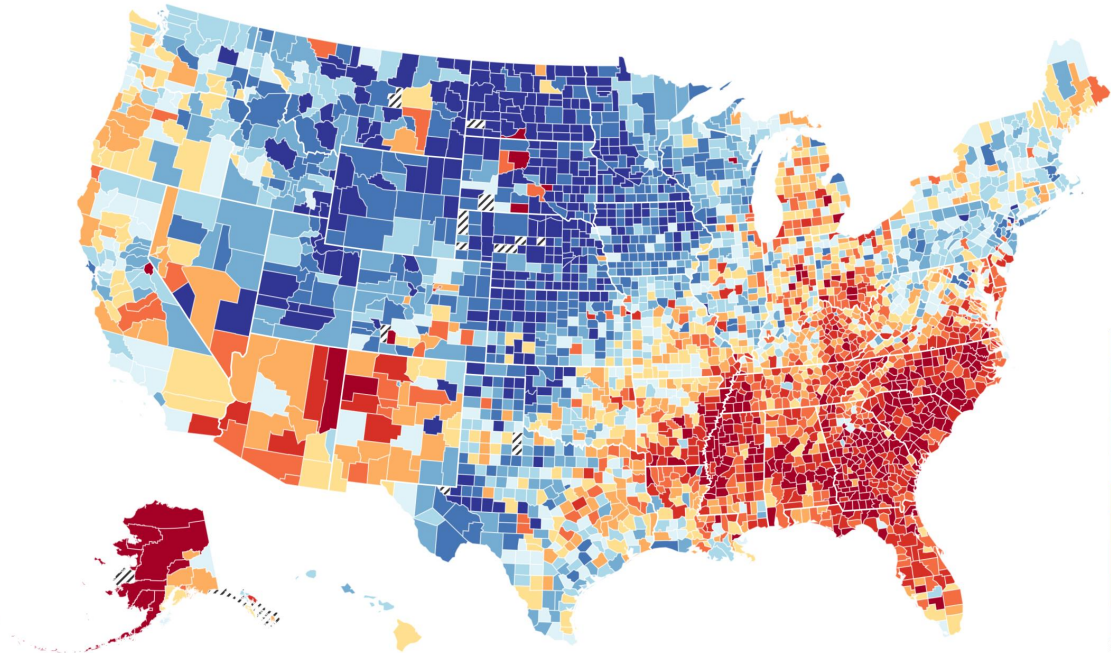
Fraction of Above-Median-SES Friends Among Below-Median People on Facebook



Source: Chetty, Jackson, Kuchler, Stroebel, et al. (Nature, in press)

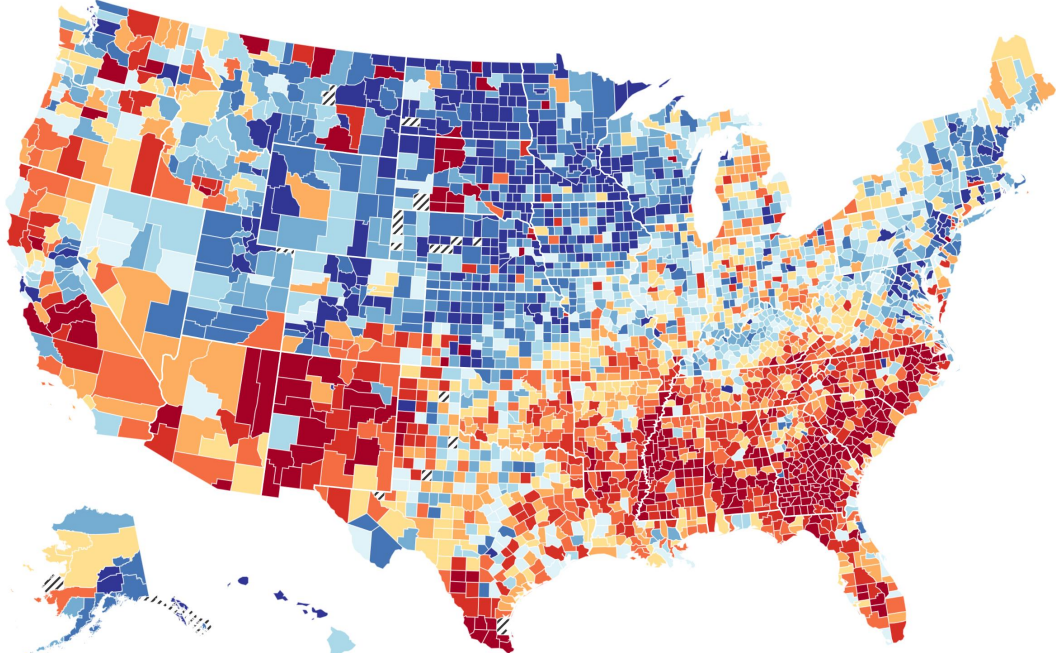
Upward Mobility vs. Economic Connectedness Across Counties

Upward Mobility
Measured in Tax Data



>\$43k
\$32k
<\$26k
Missing Data

Economic Connectedness
Measured in Facebook Data



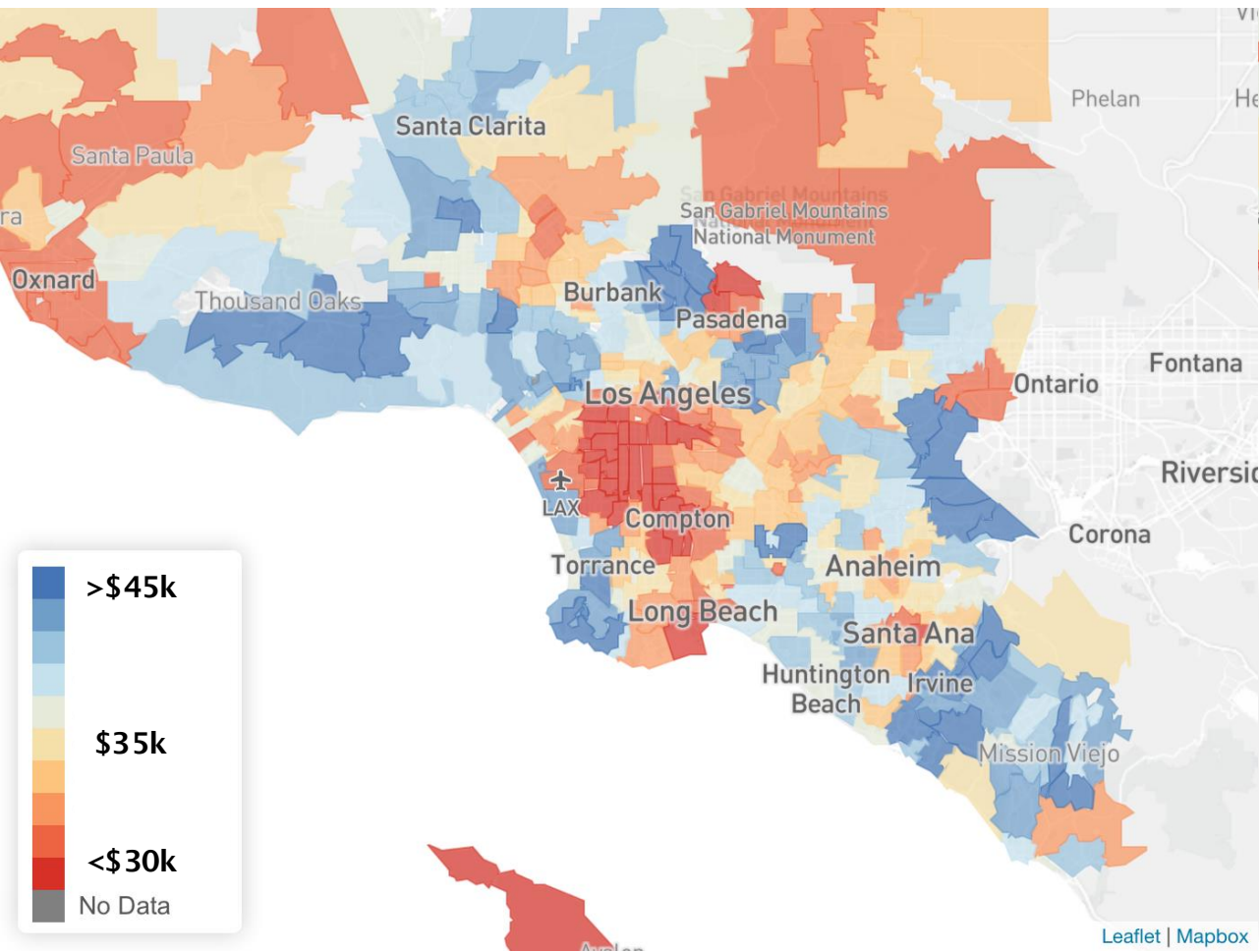
>53%
40%
<30%
Missing Data

Correlation = 0.63

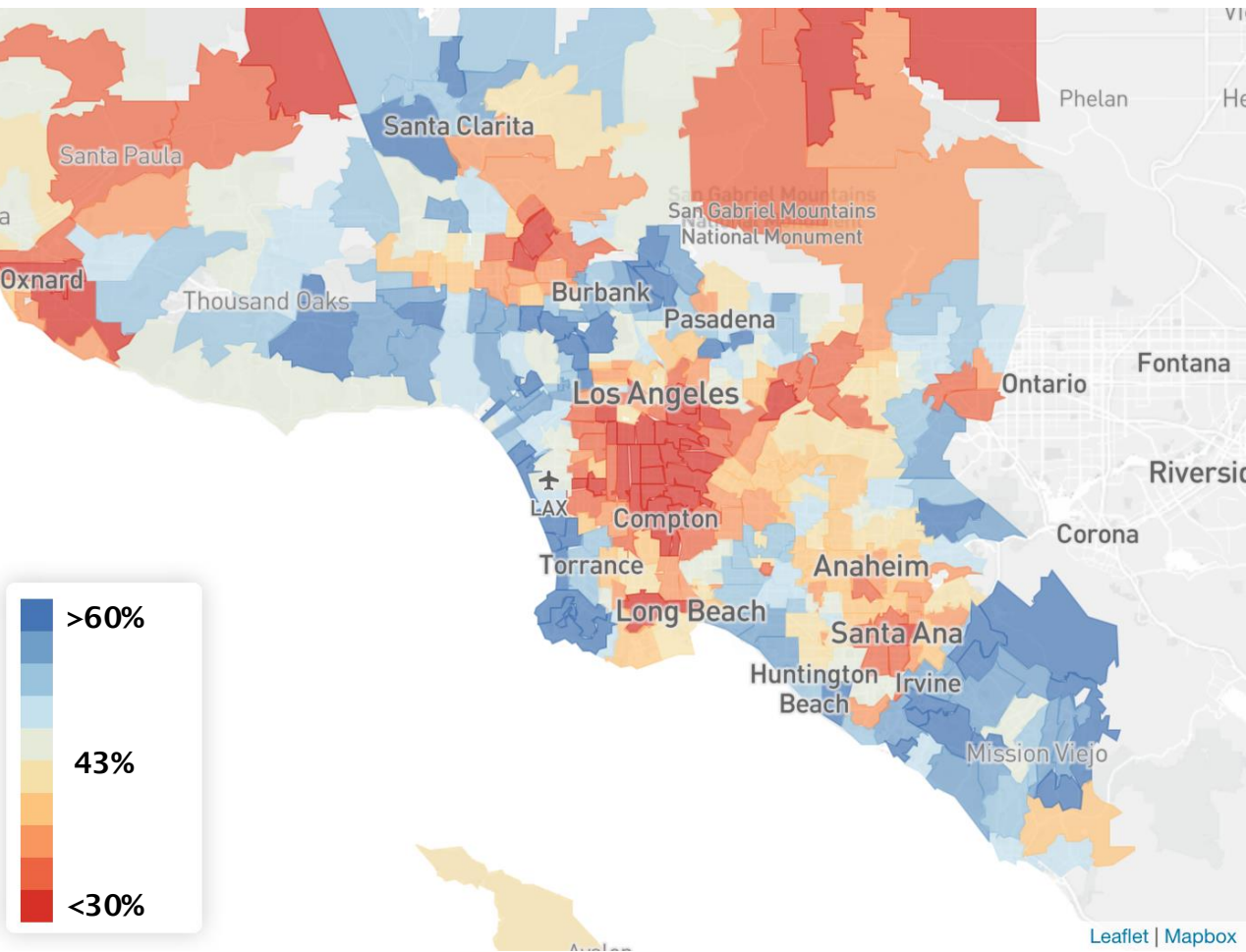
Upward Mobility vs. Economic Connectedness Across ZIP Codes

Los Angeles Metro Area

Upward Mobility



Economic Connectedness



Correlation = 0.68