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Neighborhood Effects and Missing Markets for Opportunity

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ABSTRACT

Experimental and quasi-experimental studies show that childhood neighborhoods have substantial causal impacts on children's adult earnings and other long-term socioeconomic outcomes. Several market failures are likely to lead to excessive residential segregation by parental income and to an under-supply of mixed-income neighborhoods. Missing markets for opportunity originate in capital market imperfections for borrowing on children's future earnings, neighbor spillovers, behavioral biases, and housing search frictions. Customized housing mobility services combined with subsidized housing vouchers can help low-income families move to higher-opportunity areas. Place-based policies that create mixed-income neighborhoods appear to increase long-term outcomes for less-advantaged children.

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Large disparities exist in child and adult outcomes across residential neighborhoods. Children growing up in high-poverty areas perform worse on academic achievement tests, are more likely to have criminal records, and become adults with lower labor market earnings and household incomes than other children. Adults residing in such neighborhoods are less likely to be employed, earn less, and have shorter life expectancies than other adults. Differences across neighborhoods in how residents' fare economically arise naturally from sorting in private housing markets since households with higher incomes and wealth can bid more for housing in better locations even if neighborhoods per se don't causally impact economic outcomes.

But neighborhoods could, in addition, have causal effects on the socioeconomic and health outcomes of their residents. These effects can arise through multiple channels including peer interactions, access to social networks, adult role models, school resources, proximity to jobs, physical infrastructure, and exposure to pollution and other environmental hazards.

Recent empirical studies, using experimental and quasi-experimental designs, have uncovered strong causal evidence of substantial childhood neighborhood effects on long-run economic and educational outcomes. The research also concludes that micro residential neighborhood environments within a commuting zone (CZ) during adulthood impact health and well-being but have more ambiguous effects on labor market outcomes (Chyn and Katz 2021).

The pattern of results fit childhood exposure models of neighborhood effects: the longer the duration (thus, the larger the share of childhood) spent in higher-opportunity neighborhoods, the more favorable the long-term outcomes. Moves to lower-poverty, higher-opportunity areas earlier in childhood generate greater improvements in eventual adult economic status (Chetty, Hendren, and Katz 2016; Chetty and Hendren 2018; Chyn 2018; Chyn, Collinson, and Sandler 2025; Kawano, Sacerdote, Skimmyhorn, and Stevens 2026).

The existence of causal childhood neighborhood effects implies that how families with children sort across neighborhoods matters for the efficiency and equity of social outcomes. Realistic capital and housing markets imperfections can generate excessive residential segregation by parental economic status and an under-supply of mixed-income, high-opportunity neighborhoods.

“Missing markets for opportunity” abound, as I will demonstrate. The sources of these market failures are many. They include capital market imperfections that make it nearly impossible to borrow on a child’s higher future earnings to move to a higher-opportunity neighborhood that could improve the child’s human and social capital. Spillovers from neighbors (both adults and peers) onto child outcomes that are unlikely to be fully reflected in housing prices in decentralized housing markets. Behavioral biases, housing market discrimination, and other housing search frictions mean that lower-socioeconomic status (lower-SES) families encounter difficulties moving to higher-opportunity neighborhoods even with subsidized housing vouchers making such areas affordable for them and even when they express a preference for such areas (Bergman et al. 2024). Restrictive local land use regulations that make it more difficult to build housing (especially multi-unit developments) in high-opportunity areas serve to exacerbate the missing markets for opportunity and raise the costs of helping modest-income families move to opportunity (Katz 1981; Chetty et al. 2026b).

The potential importance of neighborhood environments for the development of human capital and social capital has long been emphasized by prominent social scientists. The literature on the topic is vast and includes (chronologically by discipline) works by Glenn Loury (1977), George Borjas (1992), Edward Glaeser, Bruce Sacerdote, and José Scheinkman (1996), and Gary Becker and Kevin M. Murphy (2000) in economics; William Julius Williams (1987), James

Coleman (1989), Christopher Jencks and Susan Mayer (1990), and Robert Sampson (2012) in sociology; and Robert Putnam (2000, 2015) in political science. New research provides evidence on the key role of social connections to higher-SES peers for the upward mobility of lower-SES children (Chetty et al. 2022). It also demonstrates the effectiveness of providing housing mobility services to assist less advantaged families to move to higher-opportunity neighborhoods (Bergman et al. 2024) and of place-based policies to create mixed-income neighborhoods from previously distressed housing projects (Chetty et al. 2026a). Such interventions can serve to overcome the missing markets for opportunity.

This paper unfolds as follows. Section I briefly documents the substantial variation in children's upward mobility prospects across U.S. neighborhoods. Section 2 sketches a simple conceptual framework highlighting the potential influences on SES outcomes of current neighborhoods through contemporaneous (or contextual) effects and of past neighborhoods through exposure (or developmental) effects that accumulate over the course of childhood. The framework is used to illustrate the econometric difficulties of identifying causal neighborhood effects and the need for experimental or quasi-experimental variation in neighborhood environments. Section 3 summarizes the evidence on causal childhood neighborhood effects from the Moving to Opportunity (MTO) housing mobility experiment (Ludwig et al. 2013; Chetty, Katz, and Hendren 2016), mover studies, and other quasi-experimental studies.

Section 4 discusses how missing markets for opportunity combined with causal childhood neighborhood effects may generate inefficiently large residential segregation of households with children by parental income (or parental SES). Section 5 uses the Creating Moves to Opportunity (CMTO) experiment (Bergman et al. 2024) to demonstrate the importance of housing search frictions for residential segregation and the efficacy of comprehensive housing

mobility assistance for increasing moves to opportunity by lower-income families. Section 6 summarizes quasi-experimental findings on the impact of a major U.S. place-based policy, the HOPE VI program revitalizing distressed public housing projects, on place effects and child long-term outcomes illustrating the feasibility of transforming low-economic mobility areas into higher-economic mobility areas and fostering greater connections of socially isolated areas to their surrounding communities (Chetty et al. 2026a). Section 7 concludes.

I. U.S. Neighborhood Disparities in Opportunity

Observers going back to at least to the seventeenth century have documented that individuals living in more disadvantaged areas fare worse on economic, health, educational, crime, and other social outcomes (Sampson 2012). The pathbreaking work of the great sociologist William Julius Wilson (1987, 1996) has been particularly influential in highlighting U.S. neighborhood disparities and the hardships faced by those in racially segregated, socially isolated, and high-poverty areas. Large U.S. differences in health and SES outcomes have been found at the CZ, county, school district, and census tract levels (Chyn and Katz 2021).

Census tracts -- there are about 72,000, each typically with several thousand residents -- come close to what most think of as a “neighborhood.” Poverty rates are often used as a summary index of the bundle of area characteristics likely to reflect neighborhood advantages and disadvantages (Kling, Liebman, and Katz 2007; Sampson and Sharkey 2008). Area poverty rates, as shown in Chyn and Katz (2021), are strongly and negatively associated with a host of child and adult outcomes. These include adult employment rates (by CZ and by census tract within CZs), adult life expectancy (by CZ), child academic achievement (in standardized test scores by school district), and the economic upward mobility (adult earnings) of children of low-income parents (by CZ and by census tract within CZs).

Figure 1 illustrates the strong negative relationship between the upward mobility of children with low-income parents and the poverty rate in their childhood neighborhoods (at the census-tract level) both nationally in panel A and within-CZ's (by residualizing after controlling for CZ fixed effects) in panel B. The measure of child upward mobility is the mean household income rank (in percentiles) at ages 31-37 for children who grew up in each census tract with low-income parents (those at the 25th percentile of the national income distribution) from the Opportunity Atlas based on linked U.S. Census and administrative tax data (Chetty et al. 2026b). Children's adult earnings are negatively related to the poverty rates (or median income) in their childhood neighborhoods, even conditioning on their own parents' income.

Panel A of Figure 2 shows the large variation in upward mobility outcomes for children of low-income parents across U.S. counties. Low-income children who grow up in the counties shaded in dark blue have adult incomes above the 52nd percentile on average and those growing up in dark red counties below the 36th percentile. Figure 3 further illustrates similarly large variation in child upward mobility outcomes across census tracts within individual counties, cities, or CZs using the example of the Philadelphia area, where I gave this presidential address.

Thus, large differences exist in kids' long-run SES outcomes across census tracts conditioning on parental income. These differences often are present for tracts that are quite geographically close, as seen in Figure 3 for Philadelphia, even though spatial clustering of upward mobility rates exists at somewhat broader geographies, typically around nine census tracts (Mast and Barca 2026). Micro neighborhoods (census tracts) with low child upward mobility also have higher poverty rates and lower adult employment rates.

Upward mobility rates for children of low-income parents by CZ or county are negatively related to residential segregation by race and income, to measures of income inequality, and to

the share of female-headed households. They are positively related to indicators of social capital (Chetty et al. 2014; Chetty and Hendren 2018). High and rising U.S. residential segregation by income since 1980, especially for families with children, has been an important headwind pushing against the upward mobility prospects of low-SES children (Reardon, Bischoff, Owens, and Townsend 2018).

Economic connectedness, a social capital indicator defined as the share of high-SES (above-median SES) friends on Facebook among low-SES (below-median SES) individuals, is a strong positive predictor of area upward mobility (Chetty et al. 2022). The map in Panel B of Figure 2 shows substantial variation in economic connectedness across U.S. counties that closely mirrors the pattern of upward mobility for children with low-income parents. Chetty et al. (2022) find that economic connectedness is highly and positively correlated with upward mobility across counties (0.65) and across zip codes (0.69). The degree of social integration of low-SES and high-SES children and the extent of opportunities for low-SES children to have social interactions with high-SES neighbors or classmates appear to be important mechanisms affecting the upward mobility prospects of low-SES children.

Variation in children's outcomes across residential neighborhoods can result from two quite different sources: (1) selection (sorting) effects from the non-random sorting of types of households into more- vs. less-advantaged areas; and (2) place effects (causal effects of neighborhoods and neighbors themselves). More-advantaged families are, not surprisingly, willing and able to spend more to live in attractive neighborhoods than are less-advantaged families with fewer resources. Differences in children's outcomes among neighborhoods even conditional on the observed measures of family background and resources in standard data sets could reflect sorting on unobserved family resources and attributes. But neighborhood

differences in peers, adult role models, access to jobs, pollution, safety, and school and other local resources may also have direct causal place effects on children's outcomes.

II. Conceptual Empirical Framework for Neighborhood Effects

Economic and sociological models of neighborhood effects postulate that an individual's socioeconomic outcomes are influenced by both one's current neighborhood through *contemporaneous* neighborhood effects and past neighborhoods (especially childhood neighborhoods) through *developmental* (or "*exposure*") neighborhood effects as well as by family background (Sampson 2012; Chyn and Katz 2021; Topa and Zenou 2015).

Developmental neighborhood effects are hypothesized to depend on the duration of past childhood exposure to neighborhoods of different quality and are closely related to models of how children's human capital and social capital accumulation may depend on neighborhood adults and peers (Loury 1977; Borjas 1992, 1995; Glaeser, Laibson, and Sacerdote 2002).

Exposure to neighborhood environments during critical age periods (such as adolescence or early childhood) may have larger effects on human capital and social capital development and thereby bigger and longer-lasting impacts on outcomes (Heckman and Mosso 2014).

The econometric issues that arise in estimating neighborhood effects can be illuminated through a production function equation relating outcome j for individual i in year t (y_{it}^j), say labor market earnings, to current neighborhood attributes, past childhood neighborhood attributes (weighted by length of exposure), family or individual background factors (θ_i), and contemporaneous (time-varying) idiosyncratic influences (ε_{it}) such as health or household resource shocks, as in Chyn and Katz (2021). Define the index $n(i)t$ to denote the neighborhood where individual i lives in year t , and let $c(i, a)$ represent the childhood neighborhood in which individual i grew up at age $a \in \{1, \dots, A\}$ and denote the years associated with childhood by the

index $t(a)$. Vector $W_{n(i)t}$ contains indicators of neighborhood quality and other neighborhood characteristics for i in year t .

Outcomes are assumed to be an additive function of current and developmental (childhood exposure) neighborhood effects, family background, and current shocks:

$$(1) y_{it}^j = W_{n(i)t} \lambda' + \sum_{a=1}^A W_{c(i,a)t(a)} \mu'_a + \theta_i + \epsilon_{it}$$

The vector λ picks up contemporaneous effects of current neighborhood characteristics. The persistent exposure effects of past childhood neighborhoods are captured by the coefficients of the age-specific vector μ_a . These effects may vary (i.e., $\mu_a \neq \mu_{a-1}$) may vary by age if some childhood ages are more influential than others with recent findings indicating that adolescent neighborhood exposure has larger impacts on adult economic outcomes than earlier childhood neighborhood environments (Chetty et al. 2026a,b; Deutscher 2020).

Observational estimates along the lines of equation (1) reveal that individuals living in less-advantaged (and higher-poverty) neighborhoods fare worse in terms of socioeconomic outcomes both contemporaneously and over the longer-run, conditioning on observed family background measures (e.g., Brooks-Gunn, Duncan, Klebanov, and Sealand 1993). But the concern is that it is difficult to control for all relevant family and individual background factors and that such partial correlations of individual outcomes and neighborhood characteristics may reflect unmeasured differences in family and individual characteristics (showing up in θ_i and ϵ_{it}) that affect both outcomes and selection into living in a less-advantaged area. Observational studies tend to find that the magnitude of estimated neighborhood effects is reduced in specifications including more extensive controls for family background (Solon 1999). Experimental (random) or quasi-experimental (exogenous) variation in exposure to different

neighborhood environments, unrelated to unobserved background factors, appear necessary to plausibly assess the existence and magnitude of causal neighborhood effects.

$W_{n(i)t}$, the neighborhood characteristics in equation (1) depend on both the characteristics of neighbors themselves and other neighborhood features. More-advantaged neighbors could improve outcomes for less-advantaged children from positive peer and adult influences or could have adverse effects from increased competition for school rank or cultural conflicts (Jenks and Mayer 1989).

Conceptual models, such as the canonical linear-in-the-means model of social interactions (Manski 1993; Brock and Durlauf 2001) tend to emphasize three underlying sources of neighborhood effects: (i) endogenous peer effects where an individual's behavior is directly influenced by neighborhood peer behavior; (ii) exogenous peer effects where individual behavior depends on the background characteristics of neighborhood peers; and (iii) correlated effects from common neighborhood institutional and physical environments (e.g., school access and quality, law enforcement practices, or green space). Endogenous peer effects have an intuitive appeal and, unlike the other sources of neighborhood effects, generate social multipliers that lead to larger group responses to shocks and changes in incentives (e.g., rewards to studying or gains from crime) than implied by individual responses holding peer behavior fixed (Glaeser, Sacerdote, and Scheinkman 1996; Glaeser, Laibson, and Sacerdote 2002).

Experimental or quasi-random assignment of individuals to different neighborhoods (as in the MTO experiment with randomized incentives and assistance to move to different types of neighborhoods) makes it possible to estimate black-box causal neighborhood effects on socioeconomic outcomes. The neighborhood characteristics correlated with more favorable estimated neighborhood effects on outcomes can then be examined to assess the potential

mechanisms behind causal place effects. But such an approach does not separately identify the roles of endogenous peer effects from other sources of neighborhood effects (Manski 1993).

Direct experimental or quasi-experimental variation in peer behavior is required to estimate causal endogenous peer effects as in the randomized field experiments on peer influences on retirement savings by Duflo and Saez (2003) and on financial investment decisions by Bursztyn, Ederer, Ferman, and Yuchtman (2014) as well as the quasi-experimental study of peer influences in on-line gaming and app usage for Chinese colleges students by Barwick, Chen, Fu, and Li (2026). These studies uncover evidence of endogenous peer effects in multiple domains in the conformity (“likes begetting likes”) direction, as in early observational work by Case and Katz (1991), suggesting social interactions and peer effects as potentially important mechanisms behind neighborhood effects.

III. The MTO Experiment and Causal Estimates of Neighborhood Effects

The MTO housing mobility demonstration of the U.S. Department of Housing and Urban Development (HUD) randomized access to subsidized housing vouchers and assistance in moving to low-poverty neighborhoods to about 4,6000 families with children living in high-poverty, public housing projects in five large U.S. cities (Baltimore, Boston, Chicago, Los Angeles, and New York City) during the mid-1990s (Orr et al. 2003; Ludwig et al. 2013). The participating families were randomly assigned to three groups: 1) a low-poverty voucher group (also called the “experimental group”) offered housing-mobility counseling and restricted housing vouchers that could only be used to move to low-poverty areas; 2) a traditional voucher group offered regular Section 8 housing vouchers (now called Housing Choice Vouchers) that had no additional locational constraints but no additional help in moving (also called the Section 8 group); and 3) a control group that received no assistance through the program.

The MTO demonstration was authorized by the U.S. Congress, as part of the Housing and Community Development Act of 1992, in the aftermath of the 1992 Los Angeles civil disturbances related to the well-publicized police beating of Rodney King. It was also a period of increased attention to innovative policies trying to help residents of distressed and often racially segregated, low-income communities. MTO was partially motivated by the Gautreaux program, a court-ordered remedy to racially segregated public housing in Chicago (Shroder 2001). Gautreaux provided housing vouchers and assistance to a limited number of Black families in Chicago's public housing projects, from 1976 to 1998, to move to less-segregated city and suburban neighborhoods.

Early nonexperimental evidence from Gautreaux found employment gains for female household heads and better educational and employment outcomes for children from families that moved to more advantaged suburbs compared with counterparts who stayed in Chicago central city (Popkin, Rosenbaum, and Meaden 1993; Rosenbaum 1995). But there were concerns that Gautreaux did not approximate a randomized experiment, and evidence that suburban relative to city placements were systematically related to pre-move household characteristics (Votruba and Kling 2009). MTO's random assignment of incentives and help for moving to lower-poverty neighborhoods promised to provide experimental variation in neighborhood environments to overcome selection biases and permit the estimation of the causal impacts of residential neighborhoods on low-income families.

I ended up being in the right place at the right time and was fortunate to be involved in the early meetings around the design of MTO in 1993 when I was Chief Economist of the U.S. Department of Labor in the first Clinton administration. The development of a large-scale randomized field experiment to study neighborhood effects dovetailed with my observational

work with Anne Case on neighborhood and peer influences on disadvantaged urban youth in Boston (Case and Katz 1991). It also hearkened back to research in my undergraduate senior thesis at UC Berkeley and early joint projects with Sturt Gabriel, Kenneth T. Rosen, and Jennifer Wolch (Gabriel, Katz and Wolch 1980; Katz 1981; Katz and Rosen 1987). Those projects concerned the rise of and consequences of restrictive land-use regulations in California following the passage of the Proposition 13 local property tax limitation in the late 1970s. These land use regulations reflected the emergence of what we now term the NIMBY (not-in-my-backyard) movement. In my senior thesis, I inelegantly labelled the preferences that led to these regulations as “social schizophrenia.”

I was later able to study the impacts of MTO with extraordinary collaborators over the course of several decades. The initial work on the short-term impacts of MTO at the Boston site was done with two of my Ph.D. students Jeffrey Kling and Jeffrey Liebman, who have since gone on to distinguished careers in academia and government (Katz, Kling, and Liebman 2001). The interim MTO evaluation at all five sites for outcomes four to seven years after random assignment was done with Kling, Liebman, collaborators at Abt Associates led by Larry Orr and Judith Feins, and Lisa Sanbonmatsu at NBER (Orr et al. 2003; Kling, Liebman, and Katz 2007). I next worked on the so-called “final” evaluation report of MTO for outcomes 10 to 14 years out with a great multi-disciplinary research team including Jens Ludwig, Kling, Sanbonmatsu, Greg Duncan, Lisa Gennetian, and Ronald Kessler (Ludwig et al. 2011, 2012, 2013). Finally, Raj Chetty, Nathaniel Hendren and I were later able to link the MTO adults and children to administrative tax records to examine longer-term outcomes, including the longer-term economic outcomes for the MTO children in early adulthood (Chetty, Hendren, and Katz 2016). We also

experimentally assessed childhood exposure models of neighborhood effects, as motivated by the initial findings of the large-scale mover study of Chetty and Hendren (2018).

The MTO experiment succeeded in generating large changes in neighborhood environments. Almost half (47 percent) of the experimental group were able to use their vouchers to lease-up rental units in low-poverty areas, and 60 percent of the Section 8 group moved to private rental housing with their unrestricted vouchers. One year after random assignment, the average control group family was living in a census tract with a poverty rate of over 50 percent, whereas moves with experimental vouchers and traditional vouchers reduced tract poverty rates by 35 percentage points and 21 percentage points on average (Ludwig et al. 2013). Large differences in duration-weighted average poverty rates across the MTO treatment groups are apparent at least 10 to 15 years following program entry. Families in the experimental group reported, in follow-up surveys, improved neighborhood safety, lower rates of criminal victimization, less local disorder, and greater connections to more-educated and higher-income neighbors (Orr et al. 2003; Kling, Liebman, and Katz 2007; Ludwig et al. 2013).

What did the MTO moves and changes in neighborhood environments mean for parents and children? MTO moves did not detectably impact the economic outcomes (employment, earnings, income) of MTO adults in the short-term or the longer-term (Kling, Liebman, and Katz 2007; Ludwig et al. 2013; Chetty, Hendren, and Katz 2016). But MTO moves impacted their lives in a host of other ways. MTO moves led to substantial improvement in the parents' mental health (lowering depression and psychological distress rates). Their physical health greatly improved, as seen in reduced extreme obesity, lower diabetes rates, and less stress (indicated by lower C-reactive protein). MTO moves also yielded gains in subjective well-being and happiness for the adults, and their families experienced lower criminal victimization rates in

short-term, interim, and longer-term evaluations covering 1 to 15 years following random assignment (Katz, Kling and Liebman 2001; Kling, Liebman, and Katz 2007; Ludwig et al. 2011, 2012, 2013). Our qualitative interviews with MTO families (Kling, Liebman, and Katz 2005) reinforced the quantitative experimental impact findings that MTO was actually MTT, “moving to tranquility,” for the MTO parents with calmer lives, less worries about their children’s safety, and improvements in own health and well-being, even if their economic outcomes did not improve relative to the control group.

The MTO findings fit with the broader research on the causal effects of adult neighborhoods using experimental or quasi-experimental designs for both within CZ and longer-distance (across CZ) moves. Current micro neighborhoods (tract, block, or zip code) within a CZ matter for adult health and happiness. But place effects on contemporaneous adult economic outcomes operate at a broader geographic level corresponding to a local or regional labor market (such as a CZ) with some exceptions (Chyn 2018; Chyn and Katz 2021; Deryugina, Kawano, and Levitt 2018).¹ Recent evidence also finds that adult residential geographic proximity to good jobs, as in the spatial mismatch hypothesis of Kain (1968), is not an important source of the racial earnings gap within U.S. cities today (Card, Rothstein, and Yi 2023).

The early MTO studies focused on the older children and found mixed evidence on impacts of moves to lower-poverty neighborhoods with little impact on academic achievement (standardized test scores). Female youth in the experimental group had fewer risky behaviors, and improved physical and mental health. There were some modest interim adverse effects for male youth regarding risky behaviors (Kling, Liebman, and Katz 2007; Ludwig et al. 2013). But what about the impact on the younger children?

¹ Billings, Hoekstra, and Rotger (2026) find modest impacts of the (within-city) neighborhood quality of social housing placements on adult labor market outcomes in Denmark.

The follow-up analysis of Chetty, Hendren, Katz (2016) linked the MTO sample to administrative tax records. The goal was to study longer-run MTO impacts for children through the lens of childhood neighborhood exposure models by comparing MTO impacts on younger children (those less than age 13 at random assignment) to those on older children (those 13- to 18-years-old at random assignment). Chetty, Hendren, and Katz (2016) find large increases in college attendance and in adult income and earnings from moves to a lower-poverty area when young (under age 13) with a 31% earnings gain for experimental movers (and about half as large a gain for Section 8 movers). But experimental moves for adolescents led to slightly negative effects. The long-run economic and educational gains for moves to lower-poverty areas for younger children are apparent and similar in magnitude for male and female children, despite gender differences in initial adjustments to new neighborhoods. The differential MTO treatment impacts on children's long-term outcomes by age at move are consistent with initial disruption costs of a moves to a different type of neighborhood combined with childhood neighborhood exposure effects. A longer duration of exposure to higher-quality neighborhood environments in childhood led to more beneficial adult outcomes.

The absence of MTO impacts on parental economic outcomes implies that the MTO neighborhood effects on child outcomes reflect the impacts of neighborhood environments themselves, such as peer, adult role models, and neighborhood infrastructure. Neighborhood factors could directly impact children or alter parenting behaviors. But they are not arising from improvements in parental economic resources.

MTO provides direct experimental evidence on the causal positive effects of exposure to higher-opportunity neighborhoods on less-advantaged children's long-run economic outcomes.

The MTO findings of child neighborhood exposure effects are reinforced by multiple mover studies using quasi-experimental methods.

Chetty and Hendren (2018), for example, compare outcomes for U.S. children whose families moved across CZs when they were different ages, under the assumption that selection effects do not vary with child's age at move among families moving across similar locations. Using tax records, they find large child neighborhood exposure effects on adult incomes. Chetty and Hendren get similar findings controlling for family fixed effects (using only variation in neighborhood exposure among siblings) and focusing on moves driven by exogenous regional shocks from natural disasters. The evidence supports the reasonableness of the identifying assumption of their core movers' model. Chetty et al. (2026b) obtain similar estimates of childhood neighborhood exposure effects at the census tract level of geography using a quasi-experimental movers' design and the MTO experimental estimates. The results imply roughly 60 percent of the variation in intergenerational upward mobility across U.S. census tracts reflects causal place effects; the remaining 40 percent arises from sorting.

Multiple movers' studies from around the world also find that moves to high-opportunity neighborhoods improve children's outcomes in adulthood in proportion to the fraction of childhood spent in such areas (see, for example, Deutscher (2020) for Australia, Laliberté (2021) for Canada, Britto et al. (2022) for Brazil, Soria and Medina (2025) for Spain, and Alesina, Hohmann, Michalopoulos, and Papaioannou (2021) for Africa). Studies using quasi-experimental sources of plausibly exogenous neighborhood moves during childhood similarly uncover that moves to more-advantaged areas improve children's long-run outcomes in a manner consistent with causal childhood exposure neighborhood effects. Chyn (2018) exploits the vagaries of the timing of public housing demolitions in Chicago and finds that relocations to

higher-opportunity areas at younger ages improve children's later labor market and criminal justice outcomes.² Chyn, Collinson, and Sandler (2025) show that moves of Black families through the Gautreaux program in Chicago to more-advantaged vs. less-advantage neighborhood were effectively random conditional on family's timing and origin location at time of program registration. They find that Gautreaux moves to advantaged neighborhoods greatly increased children's lifetime earnings and marriage rates with larger impacts for moves at earlier ages. Kawano, Sacerdote, Skimmyhorn, and Stevens (2026) leverage quasi-random relocations of U.S. Army personnel with children and document large childhood neighborhood exposure effects on children's college going and adult earnings.

The bottom line from the experimental MTO research and many quasi-experimental mover studies is that childhood neighborhoods substantially impact children's long-run adult outcomes through developmental (exposure time) effects. The longer children spend growing up in higher-quality neighborhoods (even conditioning on family background), the better their educational and economic outcomes. Causal exposure time place effects account for 60 percent or so of the variation in upward mobility across CZs shown in Figure 2(a) and within-CZs as illustrated for Philadelphia in Figure 3.

The micro residential neighborhoods of adults directly impact their health and well-being but do not matter much for their economic and labor market outcomes. Contemporaneous place effects for adult economic outcomes, for the most part, operate at the broader geographies of local (CZ), regional, and national labor markets. Local and regional booms and busts matter greatly for adult economic situations across micro residential neighborhoods. Adult human

² Haltiwanger et al. (2024) examine a national sample of demolitions of distressed public housing projects and find positive impacts on the adult labor market outcomes of children exposed to demolitions between ages of 10 and 18 years compared to children remaining in matched non-demolished distressed projects with the earnings gains being the greatest for demolitions of high-poverty projects in large cities.

capital, social capital, and social networks appear to be affected by their earlier exposure to childhood neighborhood environments. Workplace peers and social connections do matter for adults (e.g., Mas and Moretti 2009; Sandvik, Sauma, Seegert, and Stanton 2020), but residential neighbors appear to matter less for labor market outcomes.

A policy intervention is unlikely to impact unemployment, poverty, and inequality today simply by changing which adults live in different neighborhoods within a CZ. But changes in the distribution of families with children across micro neighborhoods today may greatly impact the mean and inequality of economic outcomes in adulthood for the next generation.

IV. Missing Markets for Opportunity

Studies using experimental and quasi-experimental research designs provide strong and consistent evidence for developmental (childhood exposure time) neighborhood effects. Micro childhood neighborhood “quality” (weighted by time of exposure) greatly impacts children’s educational attainment and adult economic outcomes. Missing markets for opportunity when combined with causal developmental neighborhood effects are likely to yield excessive residential segregation by parental economic resources, too few mixed-income neighborhoods, and inefficiently low investments in the neighborhood quality and human capital of less-advantaged children. What are the missing markets of opportunity?

The first is the fundamental capital market imperfection that, since human capital is viewed as poor collateral, families are typically unable to borrow on the future adult earnings of their children to finance investments including moves to higher-opportunity neighborhoods. Milton Friedman (1962) highlighted this capital market imperfection as a rationale for public subsidies to K-12 education and for government-provided income-contingent loans to help

finance higher education and vocational training in his prominent discussion of the role of government in education.

The classic models of intergenerational mobility of Becker and Tomes (1979) and Loury (1981) emphasize capital market imperfections and liquidity constraints that lead to underinvestment in human capital for less-advantaged children, inefficiently slowing down their upward mobility prospects. Durlauf (1996) added neighborhood choice to such a framework with capital market imperfections facing low-income families who cannot borrow to access higher-quality neighborhoods producing excessively homogeneous neighborhoods. Redistribution policies (cash transfers or subsidized housing vouchers) or government subsidized loans to parents could help overcome such capital market imperfections and allow less-advantaged families to invest more efficiently in improved childhood neighborhood quality.³

The second missing market for opportunity arises from spillovers (externalities) across neighbors that are unlikely to be fully priced in decentralized private housing markets. High-SES families may have positive spillover effects on neighboring children (especially for low-SES children) from various sources including peer and adult role model effects. Households are not likely to internalize how their residential choices impact the social capital, peer quality, school quality, and future human capital of other children in a neighborhood. This externality leads to excessive residential segregation by SES as in the models of Bénabou (1993, 1996) and Becker and Murphy (2000). The social (or ethnic) capital model of Borjas (1992, 1995), where children's long-run outcomes depend on parental inputs and neighborhood social capital (the mean human capital of neighborhood adults), generates similar implications. Segregation is

³ Chyn and Daruich (2025) build a general equilibrium overlapping generations model with endogenous residential choices and developmental neighborhood effects. Their model calibrated to U.S. data highlights the potential welfare gains from subsidized housing vouchers targeted at low-income families with children funded from taxation. Such a policy effectively substitutes for the missing market in intergenerational borrowing.

likely to be inefficiently high when the private gain to sorting by income across neighborhoods is smaller than the social welfare loss from depriving less-advantaged children of improved long-run outcomes from greater exposure to high-SES neighbors.⁴

The third key missing market for opportunity involves housing market and psychological frictions that create barriers to low-income families moving to higher-opportunity neighborhoods. These barriers operate even when the families have preferences for such areas and are provided sufficient financial resources (from cash transfers or housing vouchers). The cost of housing in many neighborhoods that produce better outcomes for children are not that different from those in the lower-opportunity areas in the same CZ (Chetty et al. 2026b). But lower-income families typically don't have experience with housing search in higher-income areas and may lack confidence and networks to navigate an unfamiliar terrain.

Landlords in higher-opportunity areas may discriminate against low-SES and minority renters, even those with a housing voucher that covers the rent and turns them into low non-payment risks. Low-income families often need to do housing search and residential decision-making in a reactive manner under duress, such as following an eviction, or with a limited time frame to use a housing voucher (DeLuca, Wood, and Rosenblatt 2019). Housing counselors or navigators can help low-SES and minority families navigate the housing market in high-opportunity areas, overcome psychological frictions in housing search, and combat landlord discrimination (Bergman et al. 2024; DeLuca, Katz, and Oppenheimer 2023).

The missing markets for opportunity are likely to be exacerbated by the rise of NIMBY politics and restrictive local land use regulations that reduce the overall supply of housing and

⁴ Nonlinear neighborhood effects with diminishing returns to neighborhood quality (and higher-SES neighbors) or larger impacts of neighborhood quality on low-SES than high-SES kids reinforce tendencies toward excessive residential segregation and an under-supply of mixed-income neighborhoods facilitating cross-SES social interactions.

make it more difficult and costly to develop multi-family units and more affordable housing in higher-opportunity (typically higher-SES) areas (Glaeser, Gyourko, and Saks 2005). Chetty et al. (2026b) find that the “price of opportunity” (the increase in rent needed to reside in a neighborhood with higher upward mobility outcomes for children) varies greatly across U.S. metro areas and is substantially higher in CZs with more restrictive land use regulations.

V. Housing Search Frictions and the CMTO Experiment

Low-income families with children tend to live in low-upward-mobility neighborhoods. Rents are more affordable in lower-opportunity neighborhoods than in higher-opportunity neighborhoods. But low-income families who receive portable rental assistance through housing vouchers often end up residing in low-opportunity tracts even when housing units with similar rents are available in high-opportunity neighborhoods that are reasonably proximate in the same CZ (Bergman et al. 2024; Lubell et al. 2024). The MTO experiment and quasi-experimental studies show that moves by such families, especially those with younger children, to lower-poverty, higher-opportunity areas are likely to greatly improve their children’s upward mobility prospects. Why don’t such families move to higher-opportunity areas?

A key question is whether their residential decisions reflect the other amenities (e.g., proximity to family, shorter work commutes, or racial/ethnic community composition) of lower-opportunity areas as opposed to lack of information on the benefits of higher-opportunity areas or barriers and frictions in the housing search process itself. My collaborators (Peter Bergman, Raj Chetty, Stefanie DeLuca, Nathaniel Hendren, and Christopher Palmer) and I attempted to differentiate among these alternative explanations using a two-phase randomized field experiment implemented with the Seattle and King County Housing Authorities from 2018 to 2020 (Bergman et al. 2024). More than 700 low-income families with at least one child below

age 15 who were new Housing Choice voucher recipients participated. The first phase of the Creating Moves to Opportunity (CMTO) experiment tested a bundled intervention of comprehensive mobility services with personalized housing mobility counselors (called “navigators”) to facilitate moves to opportunity areas. The second phase unbundled the original comprehensive treatment into multiple arms to try to learn about mechanisms.

We developed the comprehensive mobility intervention by drawing on discussions with past housing voucher recipients about the barriers they had faced. Frontline staff and leadership at the housing authorities provided input as well. The CMTO comprehensive bundle combined customized housing search assistance, information about high-opportunity neighborhoods, landlord engagement, and short-term financial assistance for moves to high-opportunity areas. CMTO built on the earlier MTO experimental treatment group experience with housing mobility counselors in the 1990s. In contrast to MTO, where experimental group vouchers were restricted to low-poverty areas, CMTO was less paternalistic. The CMTO treatment group gained access to assistance to move to high-opportunity neighborhoods but also to a regular unrestricted Housing Choice voucher. The CMTO navigators spent around six hours working with each treatment family in Phase 1 and directly engaged with landlords in high-opportunity neighborhoods to encourage leasing to CMTO families and to reduce administrative burdens on landlords of dealing with public housing authorities. The CMTO comprehensive bundle cost \$2,670 per family, 2.2% of average voucher payments to families over the typical seven-year duration of voucher use, a modest addition to the costs of running a housing voucher program.

The CMTO baseline survey indicated that the vast majority (72%) of voucher-eligible families with children indicated an interest in moving to specific high-opportunity neighborhoods in the Seattle area (Bergman et al. 2024). But only 15% of the CMTO control

group without access to additional housing mobility services ended up being able to lease up in a high-opportunity area (consistent with the historical average of 12% for Seattle-King County housing voucher recipients). Furthermore, we uncovered that there were available rental units in the specific desired high-opportunity areas that were affordable to housing voucher holders at similar out-of-pocket rental costs to units in lower-opportunity neighborhoods.

Bergman et al. (2024) find that the CMTO full treatment bundle in Phase 1 of the experiment increased the share of families who leased units in high-opportunity neighborhoods by 38 percentage points from 15% to 53%. The CMTO treatment families also were much more satisfied with their new neighborhoods than control group families and persisted in high-opportunity neighborhoods over (at least) the next three years.

Phase 2 of the CMTO experiment randomized new housing voucher recipients into three treatment groups and a control group to try to understand the mechanisms behind the large positive impact of the CMTO comprehensive mobility services bundle. Phase 2 contrasted an “Incentivized Information” arm (information about and financial assistance to move to high-opportunity areas but no search assistance or landlord engagement) vs. a “Reduced Services” arm (a lower-dosage version of mobility services with less one-on-one assistance from navigators) vs. the full CMTO (Phase 1) bundle. Incentivized information and reduced services increased the share of families moving to high-opportunity areas by 9 and 14 percentage points respectively as compared to the full CMTO bundle impact of a 41-percentage point increase in Phase 2 (a similar magnitude to its impact in the first phase).

The implication is that the CMTO comprehensive mobility services bundle did not change neighborhood choices simply through information about neighborhood quality or through financial liquidity. The customized, high intensity mobility support services (such as guidance in

dealing with credit and eviction histories, help in preparing rental documents, and ease of access to financial assistance) and landlord engagement from the housing navigators were essential in helping low-income families to move to opportunity. Almost half of the CMTO full-bundle treatment families who moved to high-opportunity neighborhoods obtained a unit through a landlord referral from a navigator.

We further investigated the barriers families faced in moving to opportunity and the role of the housing navigators through a two-phase qualitative design. A team led by Stefanie DeLuca conducted in-depth interviews with a stratified random sample of 251 treatment and control families both during the housing search and after the move (Bergman et al. 2024; DeLuca, Katz, and Oppenheimer 2023). The navigators provided trusted communication and emotional support during the housing search process, helping families overcome bandwidth constraints by streamlining the search process, making connections to and vouching for families with landlords, and accessing timely financial assistance for fees and security deposits. The navigators could customize housing search assistance to meet each family's specific needs; they also acted as mentors and cheerleaders in the frustrating housing search process; and the navigators were easily contacted and available when needed. These supports were crucial in reducing administrative burdens for the families. The CMTO research, more generally, demonstrates the large potential gains in understanding the mechanisms behind causal treatment effects by combining randomized controlled trials with in-depth qualitative research.

The CMTO experiment shows that comprehensive and customized mobility support with navigators can greatly reduce search barriers and increase moves to opportunity for low-income families with children. The recent HUD Community Choice Demonstration (CCD) multisite, randomized controlled trial tests CMTO-type comprehensive mobility services across eight

additional U.S. cities mainly for existing (not new) housing voucher holders (Lubell et al. 2024). The early CCD results show a 20-percentage point increase in opportunity moves from access to comprehensive mobility services (from 4% in the control group to 24% in the treatment group). CCD also increased the share of moves to opportunity areas (among those who moved) by 43 percentage points from 19% to 62%, quite similar to the CMTO impact for new voucher holders.

Residential segregation in the United States by economic status is exacerbated by barriers in the housing search process. Behavioral search frictions and the lack of confidence and experience of low-income households in higher-opportunity areas are important factors limiting their housing searches. Financial support from housing vouchers or redistributive cash transfers can help overcome capital market imperfections. But redistribution through housing vouchers or cash transfers alone is not sufficient to overcome missing markets for opportunity because of housing market and behavioral search frictions that require customized and comprehensive housing mobility assistance as seen in the CMTO experiment.

Analogous behavioral frictions (and lack of knowledge of the “hidden curriculum”) appear to be barriers for less-advantaged individuals in other important domains such as navigating the labor market (the job search process) and in making education and training choices. Evidence, often from randomized field experiments, indicates that holistic, human-centric, customized support services can effectively improve educational, economic, and social outcomes for disadvantaged adults and youth. Examples of the benefits from personalized coaches and mentors abound.

Large earnings gains have been estimated from sectoral employment training programs, such as Year Up and Per Scholas, that provide occupational skills training for high-wage sectors and wrap-around services (Katz, Roth, Hendra, and Schaberg 2022). Substantial increases in

educational attainment for low-income students have been observed from intensive counseling in high school and college (Barr and Castleman 2025). Gains in college degrees and earnings have emerged from comprehensive financial, academic, and personal supports for community college students (Hill, Sommo, and Warner 2023). Finally, improvements in multiple outcomes have been uncovered from holistic mobility mentoring programs for adults (Evans, Kolka, Sullivan, and Turner) and well-operated mentoring programs for adolescents (Oreopoulos, Brown, and Lavecchia 2017; Resnjanskij et al. 2024; Angrist and Tebes 2026; Bell 2026). Wraparound support services and personalized human (not AI) coaches appear crucial to the large impacts of such programs relative to simpler nudge interventions.

VI. HOPE VI and Creating High-Opportunity Neighborhoods

Housing mobility policies, such as CMTO and MTO, that combine subsidized housing vouchers and comprehensive mobility services can help low-income families move to affordable units in existing high-opportunity areas. Inclusionary zoning incentives and fair-share housing policies that override local exclusionary zoning practices try to expand the number of affordable housing units in current higher-opportunity neighborhoods but with mixed evidence on their impacts (Soltas 2024; Sportiche et al. 2025).

Less is known about the efficacy of the alternative approach of bringing opportunity to where low-income families are most likely to reside by trying to transform low-economic-mobility and economically segregated neighborhoods into high-economic-mobility, mixed-income neighborhoods. The federal HOPE VI revitalization program that invested \$17 billion to redevelop 262 distressed, public housing developments into lower-density, mixed-income communities from 1993 to 2010 is the largest U.S. policy effort in this direction (Cisneros and Engdahl 2009; Chetty et al. 2026a).

My collaborators (Raj Chetty, Rebecca Diamond, Thomas Foster, Sonia Porter, Matthew Staiger, and Laura Tach) and I have embarked on an evaluation of the impact of HOPE VI revitalization projects (Chetty et al. 2026a).⁵ Insufficient resources were available to cover all distressed U.S. public housing projects, and many equally distressed applicant site were not selected, creating a plausible control group for the HOPE VI revitalized sites.

We leverage a quasi-experimental matched difference-in-differences design, comparing outcomes in revitalized developments to observably similar control developments using anonymized longitudinal administrative tax records linked to Census data as well as to HUD data on individuals living in public housing (Chetty et al. 2026a). HOPE VI revitalization grants reduced neighborhood poverty rates by attracting higher-income residents. Areas that had been 100 percent low-income public housing residents were transformed into a mix of 60 percent public housing families and 40 percent higher-income families in less-subsidized or market-rate units. Thus, HOPE VI revitalizations succeeded in transforming isolated high-poverty, high-rise public housing projects into mixed-income neighborhoods. The public housing residents of HOPE VI revitalized projects are similar on observables to those of comparison projects both before and after the receipt of revitalization grants.

Children of public housing families who grew up in the revitalized projects experienced substantial increases in adult earnings, higher college-going rates, and lower incarceration rates than comparable children in the control public housing projects. There are no pre-trends in children's outcomes for the HOPE VI revitalization sites relative to comparison sites, and the

⁵ Earlier work has found that comprehensive, community-driven, place-based investments, such as Empowerment Zones, appear to improve area outcomes in repeated cross-section analyses (Busso, Gregory, and Kline 2013), but it is not clear the extent to which the gains reflect changes in neighborhood sorting and the composition of residents. Garin and Rothbaum (2025) link children in the 1940 Census of Population to their later adult economic outcomes in Social Security data and find substantial positive long-run impacts on the earnings of the children of lower-income parents from local development expansions in smaller cities exploiting the quasi-experimental placement of World War II government-financed manufacturing plants.

findings are robust to limiting the control projects to failed HOPE applicants. The children who moved into the HOPE VI sites after revitalization did far better on economic outcomes than those moving into control sites, when we observe them in administrative tax data around age 30. The increase in income of around \$3000 per year (or 15% to 17%) for typically five years of exposure to the HOPE VI revitalized neighborhoods.⁶ Estimates using a movers childhood exposure design and sibling comparisons of age of moves to the revitalized projects (following the methodology of Chetty and Hendren 2018) strongly suggest that the gains for children from HOPE VI revitalizations reflect changes in neighborhoods' causal effects on child outcomes.

HOPE VI revitalizations also greatly increased social interactions among public housing residents and peers in surrounding communities. This conclusion can be seen across several outcomes, including an increase in the fraction of public housing children who later cohabit with or marry neighbors from outside public housing. Cell phone data reveal public housing residents following HOPE VI revitalization spend more time more in the surrounding community than public housing residents in comparable non-revitalized projects. There also is an increased share of high-SES friends on Facebook for low-SES children in the nearest high school after revitalization (Chetty et al. 2026a). HOPE VI revitalization had larger positive treatment effects on children's long-run outcomes for subgroups (by age, sex, and race) with more affluent peers in the surrounding community (for peers residing outside the public housing project but within a one-mile radius of the project).

If the surrounding community had more higher SES kids and better upward mobility opportunities, then the HOPE VI public housing resident children now had improved access to

⁶ Currie and Van Parys (2025) similarly find that women with childhood exposure to census tracts that receive affordable housing support through the federal Low-Income Housing Tax Credit (LIHTC) program have improved adult outcomes relative to women growing up in comparable tracts without LIHTC support during their childhood.

those opportunities available to others in the broader nearby community and achieved better adult outcomes. But if the surrounding area had lower-SES kids and few upward mobility opportunities, then the HOPE VI revitalization made less of a difference. And before the HOPE VI award, there was no relationship of the adult economic outcomes of public housing children and those of surrounding community peers. The patterns are consistent with the improvements in causal neighborhood effects for public housing children at HOPE VI sites following revitalization being driven by changes in social interactions.

Distressed, high-rise public housing projects were islands cut off from surrounding communities. HOPE VI revitalization grants converted high-rise, public housing projects into mixed-income, low-rise developments and acted like a bridge, breaking down physical and psychological barriers to a broader community. When nearby neighborhoods were higher income, the public housing children in revitalized developments gained more. Reductions in population density from HOPE VI demolitions without revitalization did not increase links to the surrounding community and did not improve outcomes for public housing children.

Figure 4 illustrates that the long-run mean gain in children's earnings from HOPE VI revitalization projects (found in Chetty et al. 2026a, Table 3) is much larger than would be expected from only the change in the neighborhood (census tract) poverty rate using the cross-section relationship of upward mobility to poverty rates from the Opportunity Atlas (Chetty et al. 2026b). HOPE VI revitalized neighborhoods have much higher upward-mobility prospects for low-income children than typical U.S. neighborhoods with similar 38% tract poverty rates. The mixed-income design of HOPE VI revitalizations providing public housing children access to nearby higher-income neighbors within the footprint of the redeveloped projects and acting as a

pathway to greater social connections to the surrounding community may be distinctive relative to similarly high-poverty tracts.

It thus appears possible to turn low-opportunity neighborhoods into high-opportunity neighborhoods. The large gains in upward mobility outcomes from HOPE VI revitalization appear to be substantially related to increased social integration of children in public housing with higher-SES peers outside public housing. We also find little evidence of adverse spillovers on adult or children's outcomes in surrounding neighborhoods (Chetty et al. 2026a). Place-based investments to improve housing and integrate low-mobility communities with surrounding areas show promise as a strategy for creating more high-upward-mobility neighborhoods.

VII. Conclusion

Childhood neighborhood environments have substantial developmental (exposure time) impacts on children's long-run economic, social, and educational outcomes. Several sources of missing markets for opportunity when combined with causal childhood neighborhood effects are likely to generate excessive (socially inefficient) levels of residential segregation by parental economic status for families with children and lead to the under-provision of mixed-income, high-upward-mobility neighborhoods. Key drivers of missing markets for opportunity include capital market imperfections that prevent families from borrowing on their children's future adult earnings, neighbor spillover effects, and behavioral and housing search frictions impacting low-income families trying to move to higher-opportunity areas.

Policies that address missing markets for neighborhood opportunity merit further investigation. Subsidized housing vouchers for low-income families with children that are more generous for high-upward-mobility areas can undo the capital market constraint that prevents families from borrowing on their children's higher future earnings to finance moves to higher-

opportunity neighborhoods. But housing vouchers alone may not be sufficient for generating moves to higher opportunity areas. Less-advantaged families, even when they have a voucher that allows them to afford housing in a high-opportunity area, face additional face behavioral and structural housing market barriers to moving to opportunity. Customized, housing mobility support services are needed as seen in the MTO, CMTO, and CCD experimental studies. Place-based policies to create more high-opportunity, mixed-income neighborhoods (such as HOPE VI revitalization and LIHTC) can play a role in overcoming the under-supply of mixed-income areas in the presence of neighbor spillovers.

Policies to facilitate moves to opportunity and to expand the supply of high-opportunity neighborhoods are likely to be less effective when restrictive land use restrictions (NIMBY policies) make it more difficult to expand overall housing supply, build more “affordable” housing in existing higher-upward-mobility areas, and create new mixed-income neighborhoods. Restrictive land use regulations raise the “price of opportunity” (Chetty et al. 2026b) and thereby make policies to offset missing markets to opportunity more expensive to taxpayers. Reforms of NIMBY-influenced land use regulations and building permit restrictions and delays could complement housing vouchers, housing mobility assistance, and place-based policies to improve the geography of opportunity.

Recent research finds that exposure to and social interactions with higher-SES peers and families is an important mechanism behind upward mobility for lower-SES children (Chetty et al. 2022, 2026a; Cattani, Salvanes, and Tominey 2025; Mallah 2026). We need to know more about the impacts of greater integration of low-SES and high-SES families and children in neighborhoods and schools on the outcomes of the high-SES children. The current evidence suggests asymmetry with large gains for low-SES and minority children from greater economic

integration and little or no adverse impact on higher-SES children (Chetty et al. 2022, 2026a; Cutler and Glaeser 1997; Guryan 2004; Johnson 2015; Mallah 2026), although that result is not found in all cases (Cattan, Salvanes, and Tominey 2025).

Finally, the impacts of housing voucher policies, CMTO-type housing mobility programs, and place-based policies to address missing markets for opportunity raise complicated general equilibrium issues in terms of resorting of families by SES across neighborhoods and changes in rents. Recent work combining experimental and quasi-experimental estimates of program impacts and neighborhood effects with structural spatial equilibrium models attempts to more fully assess such policies. Examples include Chyn-Daruich (2025) on housing vouchers and urban redevelopment programs; Davis, Gregory, Hartley, and Tan (2021) on MTO-style restricted housing vouchers; and Diamond and McQuade (2019) on LIHTC project placements across different types of neighborhoods. Such research shows the potential for making progress in understanding the efficiency, distributional, and welfare impacts of mobility and place-based policies.

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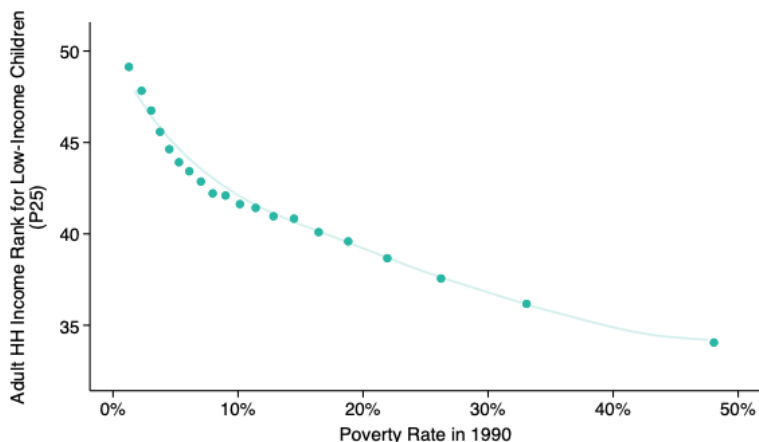
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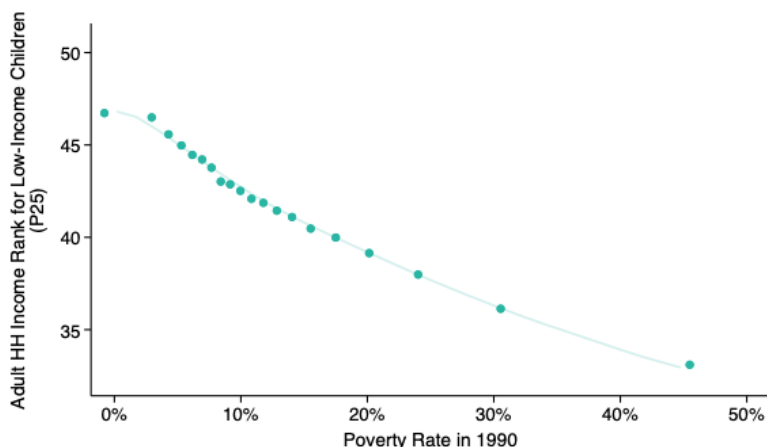
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Figure 1. Upward Mobility vs. Neighborhood Poverty Rate, U.S. Census Tracts

Panel A. No Controls



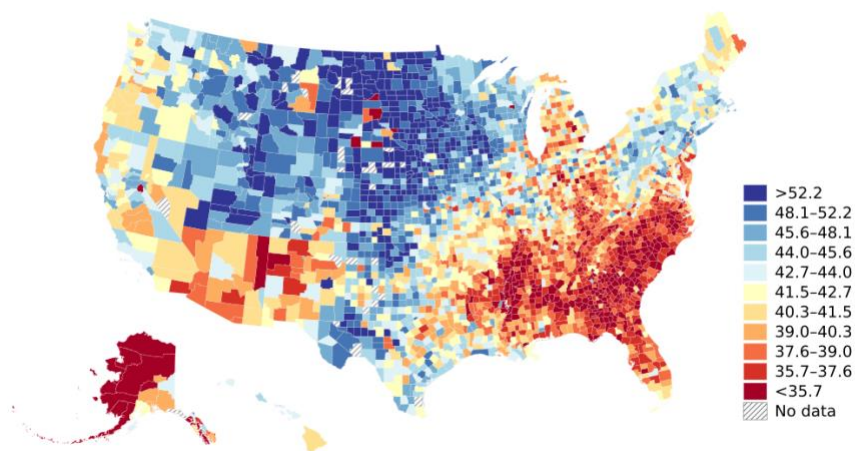
Panel B. Residualizing out Commuting Zone Fixed Effects



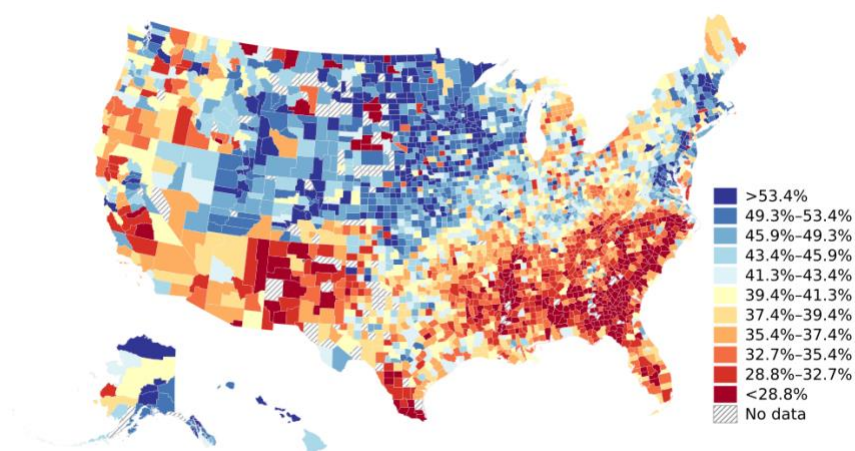
Notes: These figures plot mean upward mobility against the 1990 poverty rate across U.S. census tracts, using data from the Opportunity Atlas (Chetty et al. 2026b). The vertical axis reports the mean household income rank in adulthood for children raised in families at the 25th percentile of the national income distribution (P25), expressed as a percentile rank. The horizontal axis reports the share of tract residents with adjusted gross household income below \$15,000 in 1990. Each point represents the population-weighted mean of both variables within one of 20 equally sized bins defined by the poverty rate distribution. All estimates are weighted by the number of low-income children in each tract. Panel B replicates Panel A, replacing raw levels with residuals from regressions of both the 1990 poverty rate and upward mobility on commuting zone fixed effects; residuals are re-centered at their respective national means so that the axes remain comparable to Panel A.

Figure 2. Geographic Distribution of Upward Mobility and Economic Connectedness

Panel A. Upward Mobility

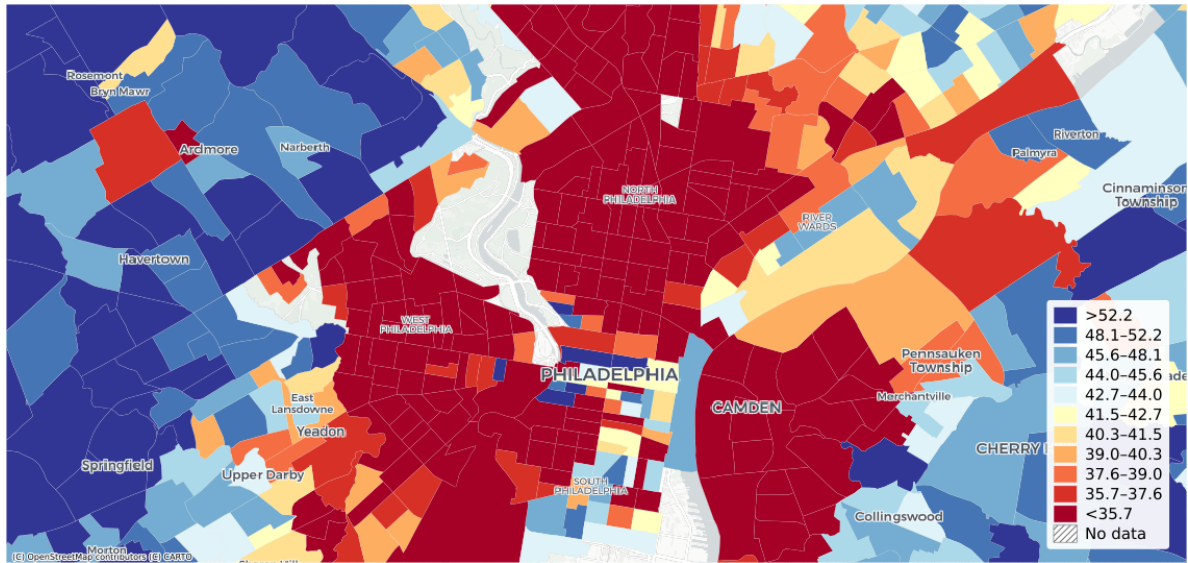


Panel B. Economic Connectedness



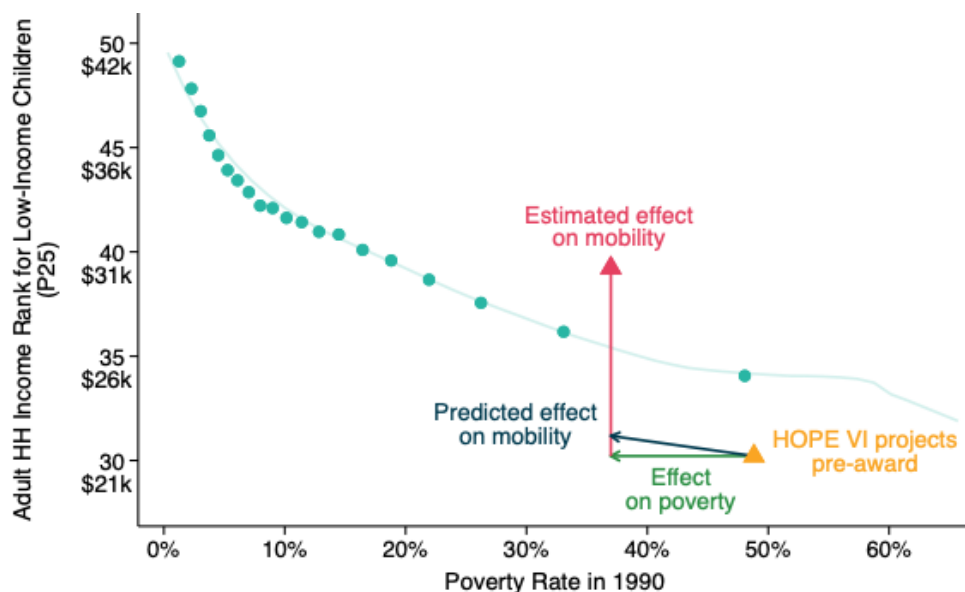
Notes: These maps display the geographic distribution of upward mobility and economic connectedness across U.S. counties, excluding territories. In Panel A, counties are shaded by the mean household income rank in adulthood for children raised in families at the 25th percentile of the national income distribution (P25), using data from the Opportunity Atlas (Chetty et al. 2026b). In Panel B, counties are shaded by mean economic connectedness, defined as the share of high-income friends among low-income individuals, using data from Chetty et al. (2022). In both panels, counties are shaded from dark red (lowest values) to dark blue (highest values) using an eleven-category quantile color scale. Counties with missing data are shown with hatching.

Figure 3. Geographic Distribution of Upward Mobility in the Philadelphia Area



Notes: This map displays the mean household income rank in adulthood for children raised in families at the 25th percentile of the national income distribution (P25), by census tract for the Philadelphia area, using data from the Opportunity Atlas (Chetty et al. 2026b). Tracts are shaded using the same national fixed color scale as Figure 2A, ranging from dark red (lowest mobility) to dark blue (highest mobility). Tracts with missing data are shown with hatching.

Figure 4. HOPE VI Revitalization and the Mobility-Poverty Relationship



Notes: This figure overlays the estimated effects of HOPE VI revitalization on the tract-level relationship between upward mobility and neighborhood poverty shown in Figure 1, Panel A, using data from the Opportunity Atlas (Chetty et al. 2026b) and estimates from Chetty et al. (2026a). The background scatter plot and smoothed curve follow the same construction as Figure 1, Panel A. The orange triangle shows the median pre-award poverty rate and median upward mobility for census tracts containing HOPE VI revitalization sites, weighted by project size. The teal horizontal arrow indicates the estimated effect of HOPE VI revitalization on neighborhood poverty rate, taken from a difference-in-differences specification comparing HOPE VI and matched control projects after the grant from Figure A.5 of Chetty et al. (2026b). The red vertical bar shows the corresponding estimated effect on children's household income rank in adulthood, computed as the product of the per-year HOPE VI movers estimate (from column (1) of Table 3 of Chetty et al. 2026b) and 19 years of potential childhood exposure. The blue diagonal arrow shows the predicted change in upward mobility implied by the national poverty-mobility relationship: it is computed as the product of the local polynomial slope at the pre-award poverty rate and the estimated effect of HOPE VI on neighborhood poverty.