

# ECONOMIC MOBILITY

The Stanford Center on Poverty and Inequality

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## KEY FINDINGS

- There is less intergenerational mobility in the United States than is sometimes appreciated by the public, but intergenerational mobility is not declining. When poor children born in 1971 and 1986 are compared, one finds a slight increase (from 8.4 to 9.0 percent) in the chances of reaching the top fifth of the income distribution by age 28.
- There is substantial variation within the United States in the prospects for escaping poverty. In the highest-mobility areas of the United States, mobility rates are higher than rates in most other developed countries, and more than 1 in 10 children with parents in the bottom quintile of the income distribution reach the top quintile by adulthood. Poor children in western states have the best chances of making it to the top.
- In the lowest-mobility areas of the United States, which tend to be in the South, fewer than 1 in 20 poor children reach the top quintile, a rate that is lower than in any developed country for which data have been analyzed to date.
- Mobility rates are relatively low in areas with high income and racial segregation. Mobility rates are relatively high in areas with high school quality, local tax rates, social capital, and marriage rates.

The United States is often hailed as the “land of opportunity,” a society in which a child’s chances of success depend little on her family background. Is this reputation warranted? And is it especially warranted in some states, regions, or areas of the United States?

There is a growing public perception that intergenerational income mobility—a child’s chance of moving up in the income distribution relative to her parents—is declining in the United States. Is it really true that opportunity has declined?

In two recent papers, we address these questions by compiling statistics from millions of anonymous income records.<sup>1</sup> These data have less measurement error and much larger sample sizes than previous survey-based studies and thus yield more precise estimates of intergenerational mobility across cities and states over time. Our core sample consists of all children in the United States born between 1980–1982, whose income we measure in 2011–2012, when they are approximately 30 years old. We divide our analysis into two parts: an analysis of time trends and an analysis of geographical variation in mobility across areas of the United States.

### Time Trends

We find that the most robust way to measure intergenerational mobility is by ranking parents by parental income (at the time the child was growing up in the family) and by ranking children by their income when they are adults. For each percentile of parent’s income, we compute the average rank of the income of the children when adults. As shown in Figure

1, we find that this rank-rank relationship is almost perfectly linear, with a slope of 0.34. This implies that children growing up in the highest-income families rank, on average, 34 percentiles higher than children growing up in the poorest families.

Contrary to popular perception, we find that such percentile rank–based measures of intergenerational mobility have remained extremely stable for the 1971–1993 birth cohorts. For example, the probability that a child reaches the top fifth of the income distribution given parents in the bottom fifth is 8.4 percent for children born in 1971, compared with 9.0 percent for those born in 1986. Children born to the highest-income families in 1984 were 74.5 percentage points more likely to attend college than those from the lowest-income families. The corresponding gap for children born in 1993 is 69.2 percentage points, suggesting that, if anything, mobility may have increased slightly in recent cohorts.

Figure 2 illustrates the stability of intergenerational mobility for children born between 1971 and 1993 (where, for children born after 1986, estimates are predictions based on college attendance rates). The y-axis, “intergenerational persistence,” is a measure of the gap in average income percentiles for children born in the poorest versus richest families. On average, children with parents in the bottom 1 percent of the income distribution grow up to earn an income approximately 30 percentiles lower than their peers with parents in the top 1 percent of the income distribution. This difference has remained relatively steady across the birth cohorts we studied.

Although rank-based measures of mobility remained stable, income inequality increased substantially over the period we study. Hence, the consequences of the “birth lottery”—the parents to whom a child is born—are larger today than in the past. A useful visual analogy (depicted in Figure 3) is to envision the income distribution as a ladder, with each percentile representing a different rung. The rungs of the ladder have grown farther apart (inequality has increased), but children’s chances of climbing from lower to higher rungs have not changed (rank-based mobility has remained stable).

This result may be surprising in light of the well-known cross-country relationship between inequality and mobility, termed the “Great Gatsby Curve” by Alan Krueger.<sup>2</sup> However, much of the increase in inequality has come from the extreme upper tail (e.g., the top 1 percent) in recent decades, and top 1 percent income shares are not strongly associated with mobility across countries or across metro areas within the United States.<sup>3</sup>

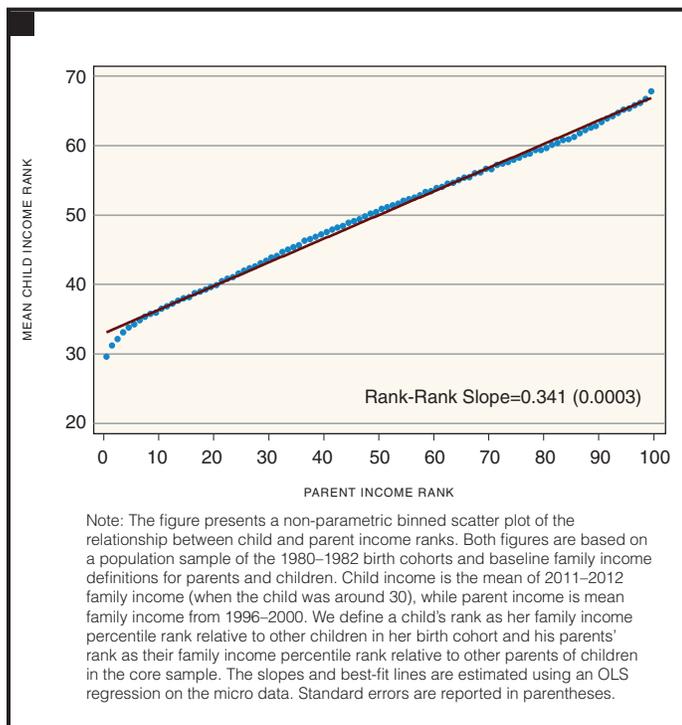
Putting together our results with other recent evidence that intergenerational mobility did not change significantly

between the 1950 and 1970 birth cohorts, we conclude that rank-based measures of social mobility have remained stable over the second half of the 20th century in the United States.<sup>4</sup>

**Variation within the United States**

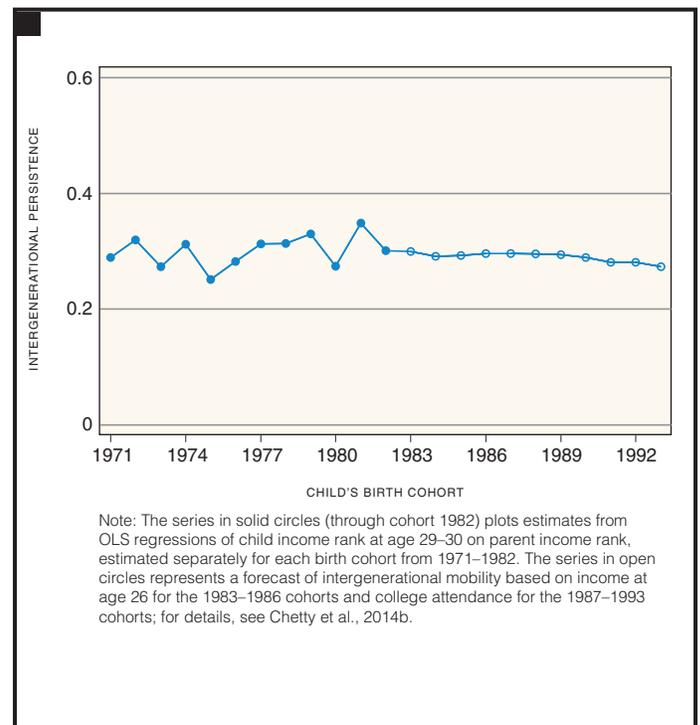
Intergenerational mobility, on average, is significantly lower in the United States than in most other developed countries.<sup>5</sup> However, mobility varies widely within the United States, and we now turn to examine this regional and state variability. We begin by constructing measures of relative and absolute mobility for 741 “commuting zones” (CZs) in the United States. Commuting zones are geographical aggregations of counties that are similar to metro areas but also cover rural areas. Children are assigned to a CZ based on their location at age 16 (no matter where they live as adults), so that their location represents where they grew up. When analyzing local area variation, we rank both children and parents based on their positions in the national income distribution. Hence, our statistics measure how well children fare relative to those in the nation as a whole rather than to those in their own particular community.

FIGURE 1. Intergenerational Mobility in the United States



Source: Chetty et al., 2014a.

FIGURE 2. Trends in Intergenerational Mobility in the United States



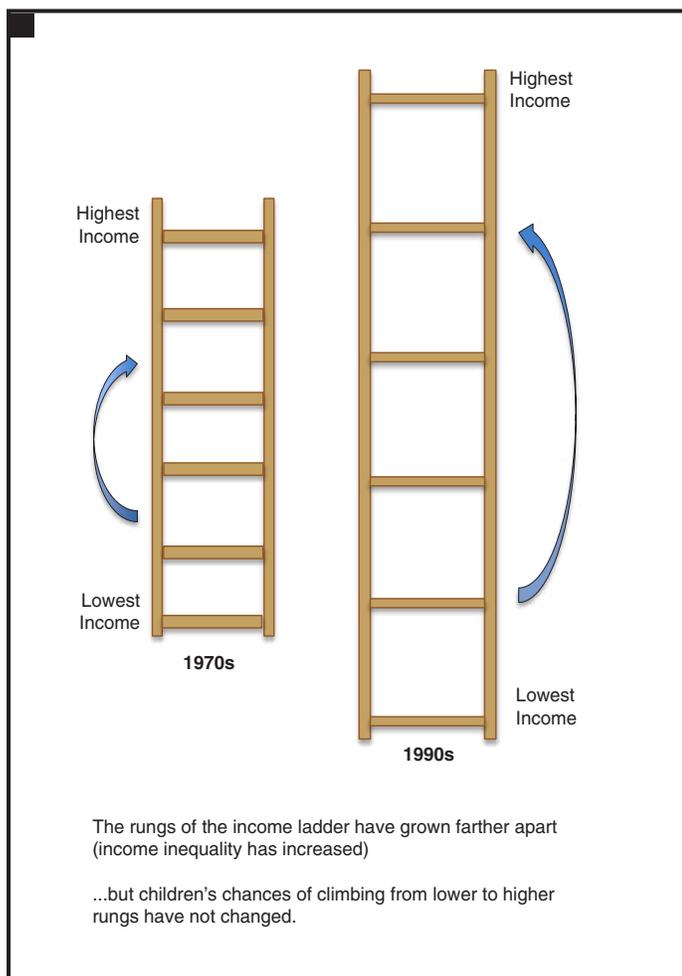
Source: Chetty et al., 2014b.

We begin this spatial analysis by aggregating CZs up to the level of states and then grouping states according to their Census region. In Figure 4, the bar for each state pertains to the probability that a child with parents in the bottom fifth of the income distribution reaches the top fifth of the income distribution (in adulthood).

The variation between regions is notable. Poor children in western states have the best chances of making it to the top quintile, while their counterparts in the South have the bleakest odds.

There is also evidence of variation within regions. Rust Belt and southeastern states have markedly lower mobility than other midwestern and southern states. There is, by contrast, no sharp subregional variability in the Northeast, while the West is notable for its two outlier states: Arizona (very low mobility) and Wyoming (very high mobility).

FIGURE 3. Changes in the Income Ladder in the United States



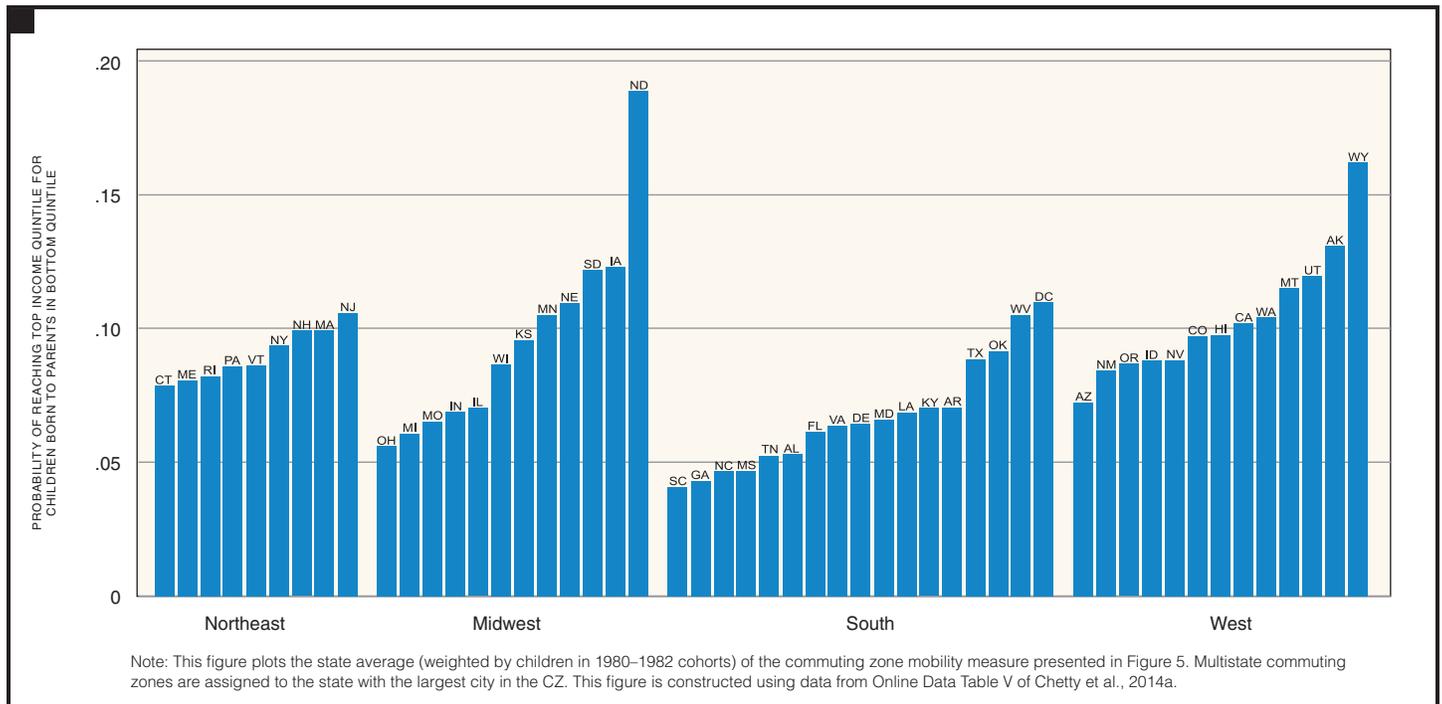
But mobility is not strictly a regional and subregional affair. There is also much variation across states that are in close geographic proximity and have similar socio-demographic characteristics. For example, North Dakota has the highest mobility in the country (children in the bottom fifth have an 18.9% chance of reaching the top fifth), whereas South Dakota has much less mobility (a corresponding statistic of 12.2%). Likewise, neighboring states like Texas and Arkansas or New Mexico and Arizona also offer very different opportunities for children born into them.

If we next drop down to the level of CZs themselves (see Figure 5), we again find that rates of mobility vary by where one grows up. In areas with the highest rates of mobility (denoted by the lightest color on the map), children growing up in the bottom fifth have more than a 16.8 percent chance of reaching the top fifth. That number is higher than in most other countries with the highest rates of mobility. At the other end of the spectrum, that is, the darkest-colored areas, children have less than a 4.8 percent chance of moving from the bottom fifth to the top fifth of the income distribution. The rates of upward mobility in these areas are lower than in any developed country for which data have been analyzed to date. These differences in the chance of reaching the top quintile illustrate that children born into disadvantaged families have very different life chances depending on where their parents live.

This map also reveals that urban areas tend to have lower rates of social mobility than rural areas. The successful children growing up in rural areas do not just “move up” but also generally “move out.” That is, they typically move to large metropolitan areas, often out of their state of birth. There is also substantial variation in upward mobility across cities, even among large cities that have comparable economies and demographics. Table 1 lists upward mobility statistics for the 50 largest metro areas, focusing on the 10 cities with the highest and lowest levels of upward mobility. Salt Lake City, Boston, and San Jose have rates of mobility similar to the most upwardly mobile countries in the world, while other cities—such as Charlotte, Atlanta, and Milwaukee—offer children very limited prospects of escaping poverty. The odds of moving from the bottom to the top are two to three times larger for those growing up in Salt Lake City or San Jose as compared with those growing up in Milwaukee or Atlanta.

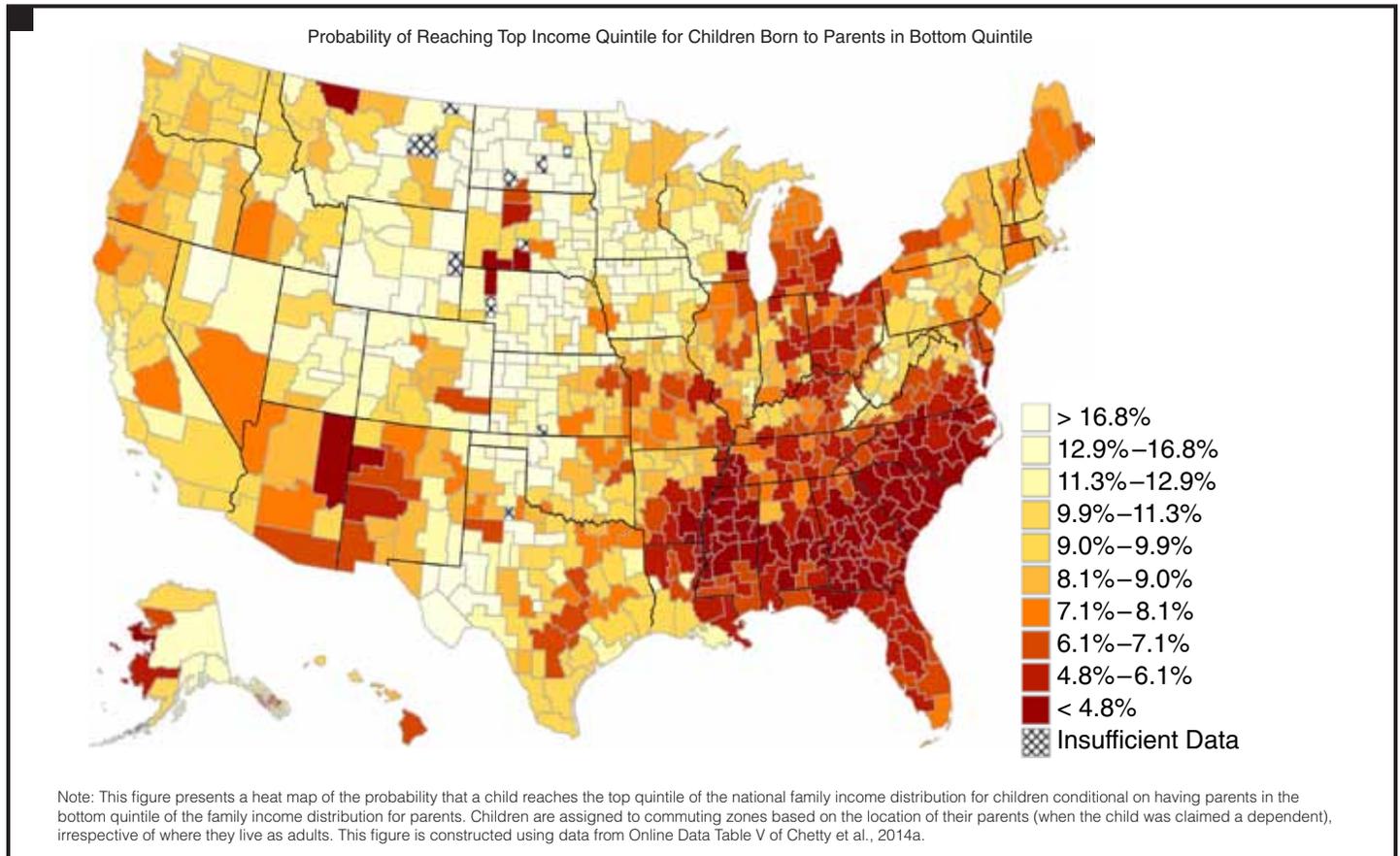
In ongoing work, Chetty and Hendren find that if a child moves from a city with low upward mobility (such as Milwaukee) to a city with high upward mobility (such as Salt Lake City), her own income in adulthood rises in proportion to the time she is exposed to the better environment.<sup>6</sup> This finding suggests

FIGURE 4. Intergenerational Mobility by State



Source: Chetty et al., 2014a.

FIGURE 5. The Geography of Intergenerational Mobility



Source: Chetty et al., 2014a.

TABLE 1. Upward Mobility in the 50 Largest Metro Areas: The Top 10 and Bottom 10

Rank	Commuting Zone	Odds of Reaching Top Fifth from Bottom Fifth	Rank	Commuting Zone	Odds of Reaching Top Fifth from Bottom Fifth
1	San Jose, CA	12.9%	41	Cleveland, OH	5.1%
2	San Francisco, CA	12.2%	42	St. Louis, MO	5.1%
3	Washington, D.C.	11.0%	43	Raleigh, NC	5.0%
4	Seattle, WA	10.9%	44	Jacksonville, FL	4.9%
5	Salt Lake City, UT	10.8%	45	Columbus, OH	4.9%
6	New York, NY	10.5%	46	Indianapolis, IN	4.9%
7	Boston, MA	10.5%	47	Dayton, OH	4.9%
8	San Diego, CA	10.4%	48	Atlanta, GA	4.5%
9	Newark, NJ	10.2%	49	Milwaukee, WI	4.5%
10	Manchester, NH	10.0%	50	Charlotte, NC	4.4%

Note: This table reports selected statistics from a sample of the 50 largest commuting zones (CZs) according to their populations in the 2000 Census. The columns report the percentage of children whose family income is in the top quintile of the national distribution of child family income conditional on having parent family income in the bottom quintile of the parental national income distribution—these probabilities are taken from Online Data Table VI of Chetty et al., 2014a.

Source: Chetty et al., 2014a.

that much of the variation in upward mobility across areas may be driven by a causal effect of the local environment rather than differences in the characteristics of the people who live in different cities. Place matters in enabling intergenerational mobility. Hence it may be effective to tackle social mobility at the community level. If we can make every city in America have mobility rates like San Jose or Salt Lake City, the United States would become one of the most upwardly mobile countries in the world.

### Correlates of Spatial Variation

What drives the variation in social mobility across areas? To answer this question, we begin by noting that the spatial pattern in gradients of college attendance and teenage birth rates with respect to parent income is very similar to the spatial pattern in intergenerational income mobility. The fact that much of the spatial variation in children's outcomes emerges before they enter the labor market suggests that the differences in mobility are driven by factors that affect children while they are growing up.

We explore such factors by correlating the spatial variation in mobility with observable characteristics. We begin by showing that upward income mobility is significantly lower in areas with larger African-American populations. However, white individuals in areas with large African-American populations also have lower rates of upward mobility, implying that racial shares matter at the community (rather than individual) level. One mechanism for such a community-level effect of race is segregation. Areas with larger black populations tend to be more segregated by income and race, which could affect both

white and black low-income individuals adversely. Indeed, we find a strong negative correlation between standard measures of racial and income segregation and upward mobility. Moreover, we also find that upward mobility is higher in cities with less sprawl, as measured by commute times to work. These findings lead us to identify segregation as the first of five major factors that are strongly correlated with mobility.

The second factor we explore is income inequality. CZs with larger Gini coefficients have less upward mobility, consistent with the "Great Gatsby curve" documented across countries.<sup>7</sup> In contrast, top 1 percent income shares are not highly correlated with intergenerational mobility both across CZs within the United States and across countries. Although one cannot draw definitive conclusions from such correlations, they suggest that the factors that erode the middle class hamper intergenerational mobility more than the factors that lead to income growth in the upper tail.

Third, proxies for the quality of the K–12 school system are also correlated with mobility. Areas with higher test scores (controlling for income levels), lower dropout rates, and smaller class sizes have higher rates of upward mobility. In addition, areas with higher local tax rates, which are predominantly used to finance public schools, have higher rates of mobility.

Fourth, social capital indices<sup>8</sup>—which are proxies for the strength of social networks and community involvement in an area—are very strongly correlated with mobility. For instance, areas of high upward mobility tend to have higher fractions

of religious individuals and greater participation in local civic organizations.

Finally, the strongest predictors of upward mobility are measures of family structure, such as the fraction of single parents in the area. As with race, parents' marital status does not matter purely through its effects at the individual level. Children of married parents also have higher rates of upward mobility if they live in communities with fewer single parents.

We find modest correlations between upward mobility and local tax and government expenditure policies, and no systematic correlation between mobility and local labor market conditions, rates of migration, or access to higher education.

We caution that all of the findings in this study are correlational and cannot be interpreted as causal effects. For instance, areas with high rates of segregation may also have other characteristics that could be the root cause driving the differences in children's outcomes. What is clear from this research is that there is substantial variation in the United States in the prospects for escaping poverty. Understanding the properties of the highest-mobility areas—and how we can improve mobility in areas that currently have lower rates of mobility—is an important question for future research that we and other social scientists are exploring. To facilitate this ongoing work, we have posted the mobility statistics and other correlates used in the study on the project website. ■

## NOTES

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