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Mobility and the Metropolis

How Communities Factor Into Economic Mobility

Project Team

Susan K. Urahn, executive vice president

Travis Plunkett, senior director

Erin Currier

Diana Elliott

Sarah Sattelmeyer

Denise Wilson

This report was written by Patrick Sharkey, associate professor of sociology at New York University, and Bryan Graham, associate professor of economics at the University of California, Berkeley.

External Reviewers

The report benefited from the insights and expertise of two external reviewers: Paul Jargowsky, professor of public policy and director of the Center for Urban Research and Urban Education at Rutgers University, Camden; and Alexandre Mas, professor of economics and public affairs at Princeton University. These experts have found the report's approach and methodology to be sound; neither they nor their organizations necessarily endorse its conclusions.

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Contact: Andrea Risotto, communications officer Email: arisotto@pewtrusts.org Project website: economicmobility.org

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Overview

In a 2011 public opinion poll, The Pew Charitable Trusts asked Americans how important they thought a number of factors were in determining whether people in the United States get ahead or fall behind economically. More than 80 percent of respondents identified factors such as hard work, ambition, and access to education as key drivers of upward mobility, while less than half viewed growing up in a good neighborhood as an important factor.¹ On the contrary, respondents strongly agreed that a young person with drive, ambition, and creativity growing up in a poor neighborhood is more likely to get ahead economically than someone growing up in a more affluent neighborhood who lacks those attributes.

Contrary to these perceptions, however, evidence is building that location actually matters a great deal and that Americans' economic mobility prospects vary by state, locality, and even neighborhood.

For example, a 2009 Pew study indicated that a person who experienced high neighborhood poverty throughout childhood had a much higher risk of moving down the economic ladder as an adult.² Other recent research examining mobility among metropolitan areas, including nearby towns and rural areas, showed that economic mobility varied widely across these localities.³ And, in a 2012, first-of-its-kind analysis of Americans' economic mobility at the state level, Pew found that a number of states, primarily in the Mideast and New England regions, had higher mobility than the national average, and other states, primarily in the South, had lower mobility.⁴

This report adds to the growing body of research as it examines economic mobility across 96 U.S. metropolitan areas and the role of place in Americans' prospects of moving up or down the economic ladder.⁵ It also offers insight on why and how location matters. Although a host of factors, such as state and local policies and labor market conditions, could influence mobility, this analysis considers one: neighborhood economic segregation, or the degree to which the poor and the wealthy live apart from each other. To begin to answer this question, Pew commissioned original research that, using three longitudinal data sets, measures differences in economic mobility across American metro areas over the last generation and identifies above-average-, average-, and below-average-mobility areas.⁶ The analysis then looks at whether metro areas' rates of economic segregation are related to their rates of economic mobility. This report explores key findings from that research, including:

- **Economic mobility varies considerably across U.S. metro areas.** Across the United States, mobility outcomes for otherwise similar families differ widely.
- **Some metro areas are more economically segregated than others.** U.S. communities vary substantially in the degree to which the neighborhoods of the poor are distinct from the neighborhoods of the rich.
- **Rates of neighborhood economic segregation in U.S. metro areas have increased,** suggesting powerful implications for Americans' mobility prospects.
- **Neighborhood economic segregation is linked to economic mobility.** American metro areas with distinct pockets of concentrated wealth and concentrated poverty have lower economic mobility than places in which the wealthy and the poor are more integrated.

This last finding breaks new ground in understanding the factors that influence Americans' mobility prospects,⁷ and the report concludes with a discussion of its implications for public policy. In particular, it identifies the need for research that focuses on regional and local drivers of mobility and strategies and policies that reduce neighborhood economic segregation by expanding residential options for low-income families.

As state and local legislators work to consider ways that states, cities, and neighborhoods can promote rather than hinder upward mobility, understanding the characteristics of high- and low-mobility metropolitan areas is critical.

Data and presentation

To measure differences in economic mobility across American metro areas over the last generation, this research uses three nationally representative, longitudinal data sets: the National Longitudinal Survey of Youth 1979, the National Longitudinal Survey of Youth 1997, and the Panel Study of Income Dynamics. Each data set follows and collects information on a sample of individuals over time, allowing for measurement of family income during an individual's childhood and again in adulthood. Across the data sets, which collectively include individuals residing in 96 metro areas, the same pattern emerged: Levels of economic mobility varied substantially among the places studied.

Because of these consistent findings, and for simplicity, key tables and figures in this report feature data from 34 metro areas studied in just one of the data sets—the National Longitudinal Survey of Youth 1979. This data set is highlighted for two important reasons:

- It includes more metro areas than the Panel Study of Income Dynamics,⁸ providing a larger sample size.
- It also includes individuals who have been followed since 1979 and are older today than those from the National Longitudinal Survey of Youth 1997 cohort. This allows for measurement of income and earnings among adults in their prime working years, which provides the best comparison of economic mobility across generations.

The 34 featured metro areas were chosen because they are among the 50 most populous in the United States, and, due to their size, provide statistically reliable data.⁹

Throughout this report, "metropolitan/metro areas" refers to metropolitan statistical areas, or MSAs; primary metropolitan statistical areas, or PMSAs; or New England city and town areas, or NECTAs, as defined by the Census Bureau.¹⁰

How is economic mobility measured at the metropolitan-area level?

Pew's research on economic mobility typically measures Americans' movement on the economic ladder relative to their parents in two ways. The first is absolute mobility, which examines whether adults have higher income or earnings than their parents did at similar ages. The second measure is relative mobility, which looks at where adults rank on the income or earnings ladder, compared with their parents.

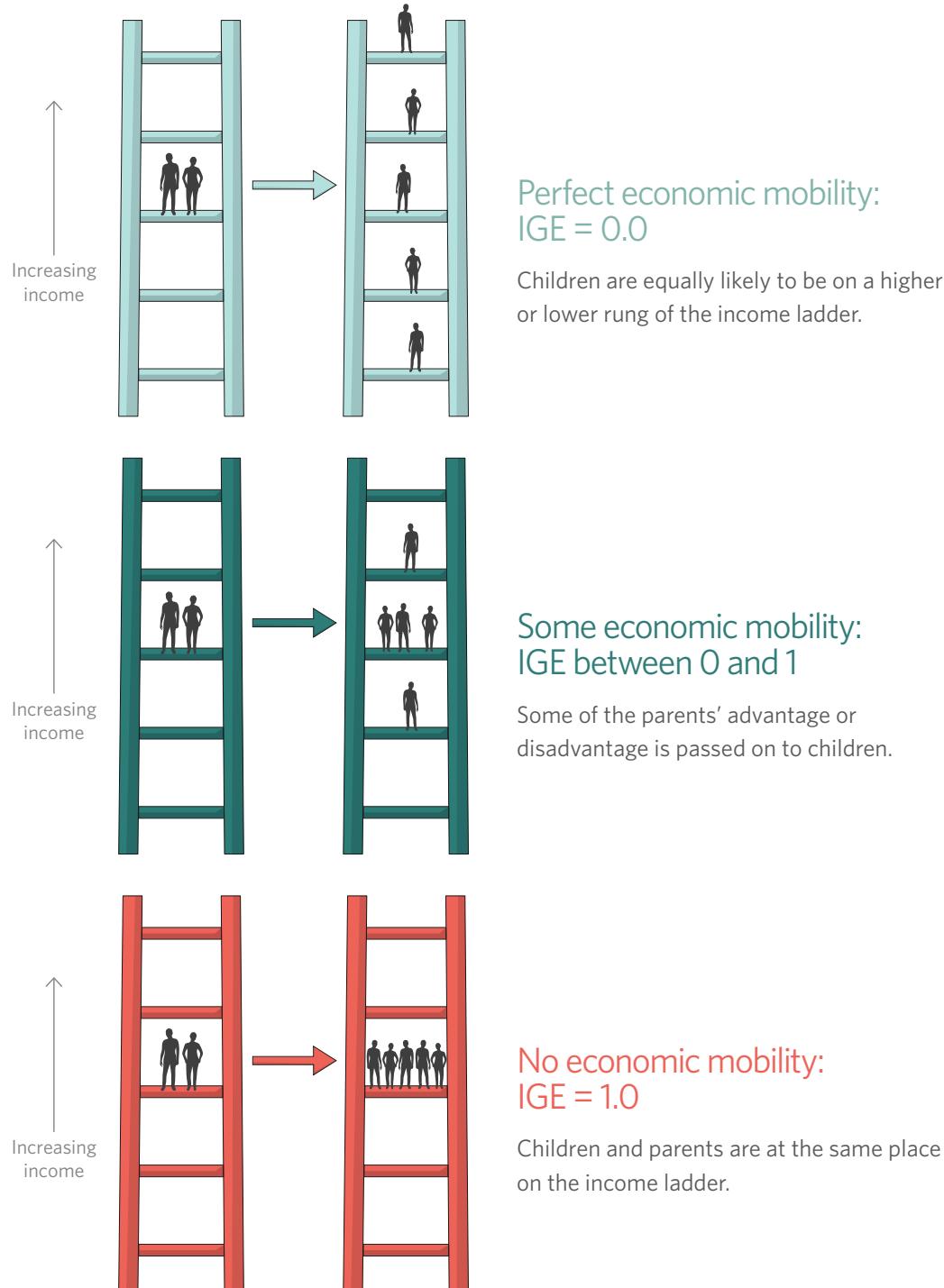
For example, relative economic mobility measures the percent of Americans raised in the bottom fifth of the income distribution who remain at the bottom as adults. This report uses a particular measure of relative mobility called the intergenerational elasticity of income, or IGE, to measure mobility across generations at the metro-area level. This metric examines how adults' family income compares with that of their parents.

The IGE is shown as a number between zero and one. If parents' socioeconomic background has no effect on their children's economic success, and no income advantage or disadvantage is inherently passed on, children will have an equal chance of ending up on any rung of the income ladder. In other words, children of poor parents will be equally likely to be poor, middle-class, or wealthy as adults. In this situation, there is mathematically perfect economic mobility and the IGE is zero. (See Figure 1.)

Conversely, if parents' background is the only factor that influences their children's economic success, and all income advantage or disadvantage is passed on, then the children will remain in the same position on the income ladder as their parents. Children of poor parents will remain poor, and children of wealthy parents will remain

Figure 1

Intergenerational Elasticity of Income, or IGE, Measures the Importance of Parental Background for Children's Mobility
IGE ranges from 0 to 1



wealthy. In this case, there is no economic mobility and the IGE is one. The reality of course is somewhere in between, and accordingly, an IGE between zero and one indicates how much of parents' advantage or disadvantage is passed on to their children, with numbers closer to zero signifying greater mobility across generations.

Economic mobility varies considerably across American metropolitan areas

This analysis shows that the IGE in the average American metro area is 0.43,¹¹ but among American metro areas mobility outcomes differ widely. This analysis classifies metro areas as above-average-, average-, and below-average-mobility based on their IGEs.¹² Table 1 displays a selection of highly populated U.S. metro areas according to these classifications.

Table 1
Economic Mobility Outcomes Vary Widely
Classification of select metropolitan areas

Below-average-mobility-metro areas	Average-mobility-metro areas	Above-average-mobility-metro areas
Atlanta, GA	Birmingham, AL	Nassau-Suffolk, NY Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH
Cleveland-Lorain-Elyria, OH	Buffalo-Niagara Falls, NY	New Bedford, MA Denver-Boulder
New York, NY	Chicago, IL	New Orleans, LA Houston, TX
Tampa-St. Petersburg-Clearwater, FL	Columbus, OH	Newark, NJ Minneapolis-St. Paul, MN-WI
Washington, DC-MD-VA-WV	Dallas-Fort Worth, TX	Orange County, CA Norfolk-Virginia Beach-Newport News, VA-NC
	Detroit, MI	Orlando, FL Riverside-San Bernardino, CA
	Hartford, CT	Philadelphia, PA-NJ San Diego, CA
	Indianapolis, IN	Pittsburgh, PA
	Los Angeles-Long Beach, CA	St. Louis, MO-IL
	Miami, FL	San Francisco-Oakland, CA
	Nashville, TN	Tacoma, WA

Note:

The population-weighted mean of the IGE estimates across the metro areas in the National Longitudinal Survey of Youth 1979 analysis, including those not shown in the table, is 0.43. The 34 metro areas shown are among the 50 most populous metro areas, according to 2007 U.S. Census Bureau estimates.

Source: Authors' calculations using the National Longitudinal Survey of Youth 1979
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Putting the IGE into perspective

Research at the national level has estimated the IGE in the United States as a whole to be between 0.4 and 0.6.¹ This is comparable to the IGE in the United Kingdom but significantly higher than in a host of other Western European countries and Canada, which have IGEs as low as 0.2. An IGE of 0.4 represents a relatively low rate of economic mobility across generations.

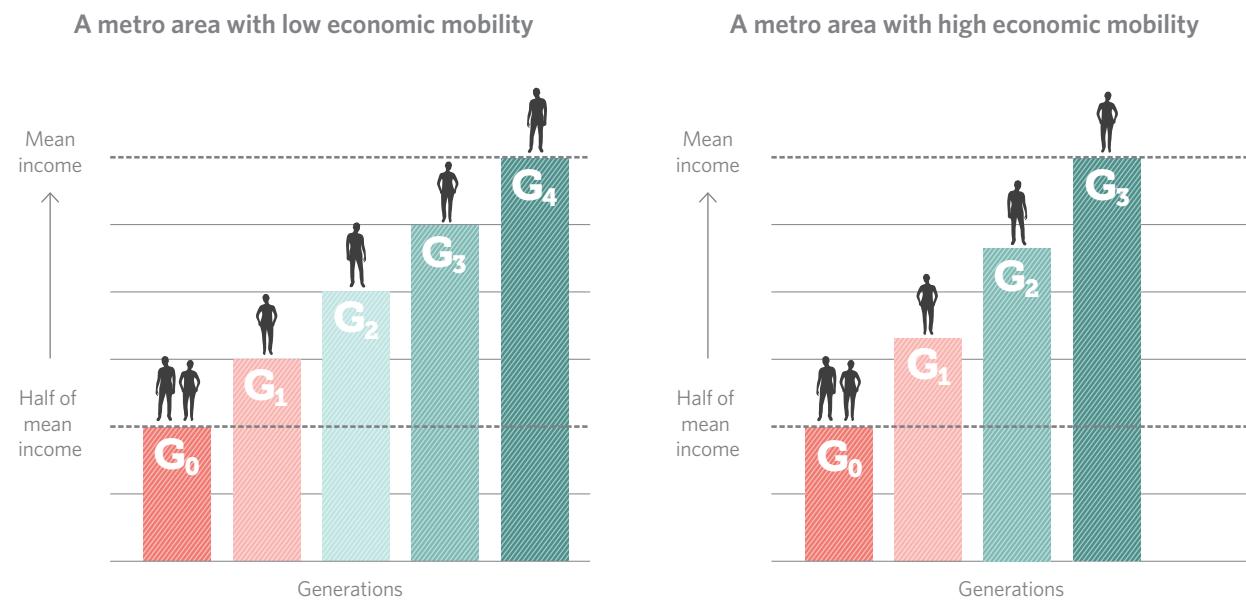
- * For more information see Gary Solon, "Cross-Country Differences in Intergenerational Earnings Mobility," *Journal of Economic Perspectives* 16 no. 3 (2002): 59–66; Gary Solon, "Intergenerational Mobility in the Labor Market," in *Handbook of Labor Economics*, vol. 3A, eds. Orley C. Ashenfelter and David Card (Amsterdam: Elsevier Science, 1999): 1761–1800; and Miles Corak, "Do Poor Children Become Poor Adults? Lessons from a Cross Country Comparison of Generational Earnings Mobility," Institute for the Study of Labor (IZA), Discussion Paper No. 1993, March 2006.

Although the zero-to-one range may not seem large, these numbers translate into powerful differences in mobility outcomes. Consider two families, both with incomes one-half that of their metro area's mean income. Family 1 lives in a low-mobility metro area, and Family 2 lives in a high-mobility metro area. On average, considering only the impact of living in the given metro area types, descendants of Family 1 will take four generations to attain an income level close to their area's mean, but Family 2's descendants will achieve their area's mean income in three generations.¹³ (See Figure 2.)

Figure 2

Small Differences in IGEs Translate Into Large Differences in Economic Mobility Outcomes

The number of generations required to reach the mean income is different in low- and high-mobility metropolitan areas

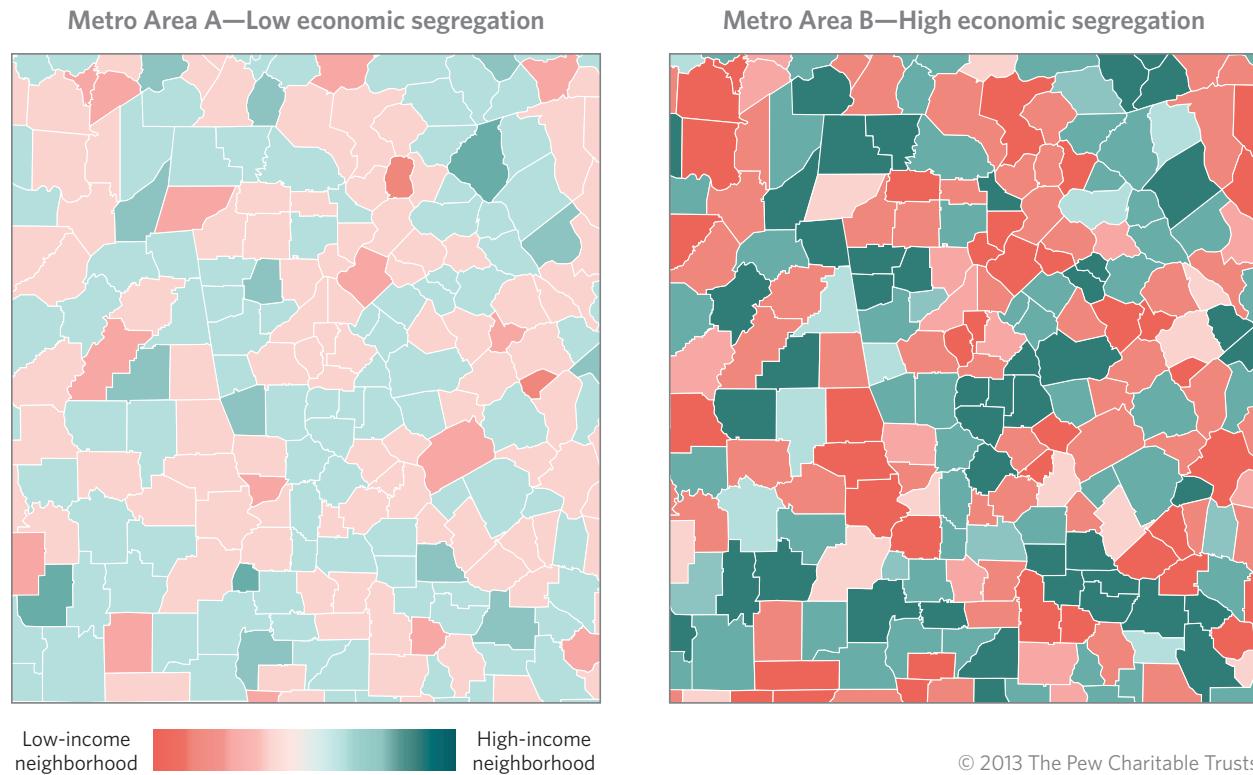


Why would neighborhood economic segregation matter for economic mobility?

Imagine Metro Area A, a perfectly “equal” metropolitan area in which families of different socioeconomic backgrounds are evenly dispersed across all neighborhoods so that a family’s income bears no relationship to the economic status of the neighborhood in which it lives. (See Figure 3.) Here, parents pass on advantages to their children through the transmission of personality traits, work ethic, and so forth. Parents also can pass on advantages through the purchase of private resources for children, such as books, enrichment activities, high-quality child care, or private schooling. Parents cannot, however, transmit advantages to their children by selecting a home in a higher-quality neighborhood, because all neighborhoods have similar distributions of families, public institutions like schools have equal resources and similar student populations, crime is evenly distributed, and so on.

Now imagine Metro Area B, an “unequal” area in which neighborhoods are highly segregated by income. There are some neighborhoods where only the rich live and some neighborhoods where only the poor live. Here, parents can transmit advantage across generations through the same pathways described in the perfectly equal metro area. Parents also can transmit advantage by selecting a home in a wealthier community, where the schools are likely to be of higher quality and where there are probably greater economic opportunities. In Metro Area B, low-income families are likely to live in disadvantaged neighborhoods, where schools are lower quality, crime and violence are more common, and economic opportunities are scarce.

Figure 3
An Economic Segregation Tale of 2 Metropolitan Areas
Depictions of hypothetical metro areas with different levels of economic segregation



No metro area contains neighborhoods that are perfectly equal or unequal, but these examples illuminate the potential connection between neighborhood economic segregation and economic mobility.¹⁴ When looking across metro areas, understanding differences in economic segregation can help explain variation in mobility.

Some metropolitan areas are more economically segregated than others

In many American communities, families with relatively high incomes tend to live in more affluent neighborhoods, and those with lower incomes tend to live in less affluent neighborhoods. It is also true, however, that there is substantial variation in the degree to which the neighborhoods of the poor are distinct from those of the rich.

In this report, economic segregation is measured using the Neighborhood Sorting Index,¹⁵ which assesses whether family incomes in a metropolitan area vary more within neighborhoods—as in economically integrated areas—than between neighborhoods—as in more economically segregated areas. Higher values of the Neighborhood Sorting Index indicate that family incomes vary more between neighborhoods, reflecting a greater degree of concentrated wealth and concentrated poverty. In the most economically stratified metropolitan areas, 30 percent or more of the total variation in income occurs between neighborhoods; in the least segregated areas, that figure is less than 10 percent.

There is considerable variation in the level of neighborhood economic segregation across America's metropolitan areas. (See Table 2.) The New York metro area tops the list with 30 percent of its variation in income existing between neighborhoods. Thus, New York has more neighborhoods of both concentrated wealth and concentrated poverty than in the other major metropolitan areas shown. At the bottom of the list is New Bedford, MA, which, at about 10 percent, has few neighborhoods of concentrated wealth or poverty.

Rates of economic segregation in U.S. metropolitan areas have increased

Not only are some areas more economically segregated than others, but the degree to which the wealthy live apart from the poor has risen. From 1970 to 1990, there was steady growth in the degree of neighborhood segregation in a majority of metropolitan areas and then a leveling off in the 1990s.¹⁶ (See Figure 4.)

This rising trend indicates that neighborhoods are even better predictors of income now than they were in the past. In 1970, the Neighborhood Sorting Index showed that in New York, 24 percent of the variation in income occurred between the city's neighborhoods, but by 2000, that figure was 37 percent. The capacity to predict income based on neighborhood of residence in New York increased more than 50 percent in 30 years.

Further, neighborhood economic segregation increased across a wide range of metropolitan areas. For example, from 1970 to 2000 it increased from 15 to 22 percent in Tallahassee, FL, from 20 to 28 percent in Memphis, and from 19 to 28 percent in San Francisco. This growth was accompanied by an overall rise in income inequality; the gap between the rich and poor has grown as has the degree to which they live in separate communities.

Table 2

Economic Segregation Varies Across Metropolitan Areas

Neighborhood Sorting Index values of select U.S. metro areas

Metro area	Neighborhood Sorting Index
New York, NY	30.2%
Newark, NJ	29.6%
Washington, DC-MD-VA-WV	29.1%
Los Angeles-Long Beach, CA	27.7%
Houston, TX	27.4%
Dallas-Fort Worth, TX	26.1%
Atlanta, GA	25.9%
Denver-Boulder, CO	25.6%
Miami, FL	25.0%
Chicago, IL	24.6%
San Francisco-Oakland, CA	24.1%
Detroit, MI	24.1%
Philadelphia, PA-NJ	23.7%
New Orleans, LA	23.6%
St. Louis, MO-IL	22.2%
Birmingham, AL	22.0%
San Diego, CA	22.0%
Columbus, OH	21.7%
Minneapolis-St. Paul, MN-WI	20.9%
Nashville, TN	20.7%
Hartford, CT	20.4%
Cleveland-Lorain-Elyria, OH	20.4%
Nassau-Suffolk, NY	20.0%
Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH	19.0%
Orange County, CA	18.6%
Indianapolis, IN	18.2%
Norfolk-Virginia Beach-Newport News, VA-NC	18.0%
Orlando, FL	17.0%
Tampa-St. Petersburg-Clearwater, FL	16.9%
Pittsburgh, PA	16.7%
Buffalo-Niagara Falls, NY	15.9%
Riverside-San Bernardino, CA	13.2%
Tacoma, WA	12.4%
New Bedford, MA	9.5%

Note:

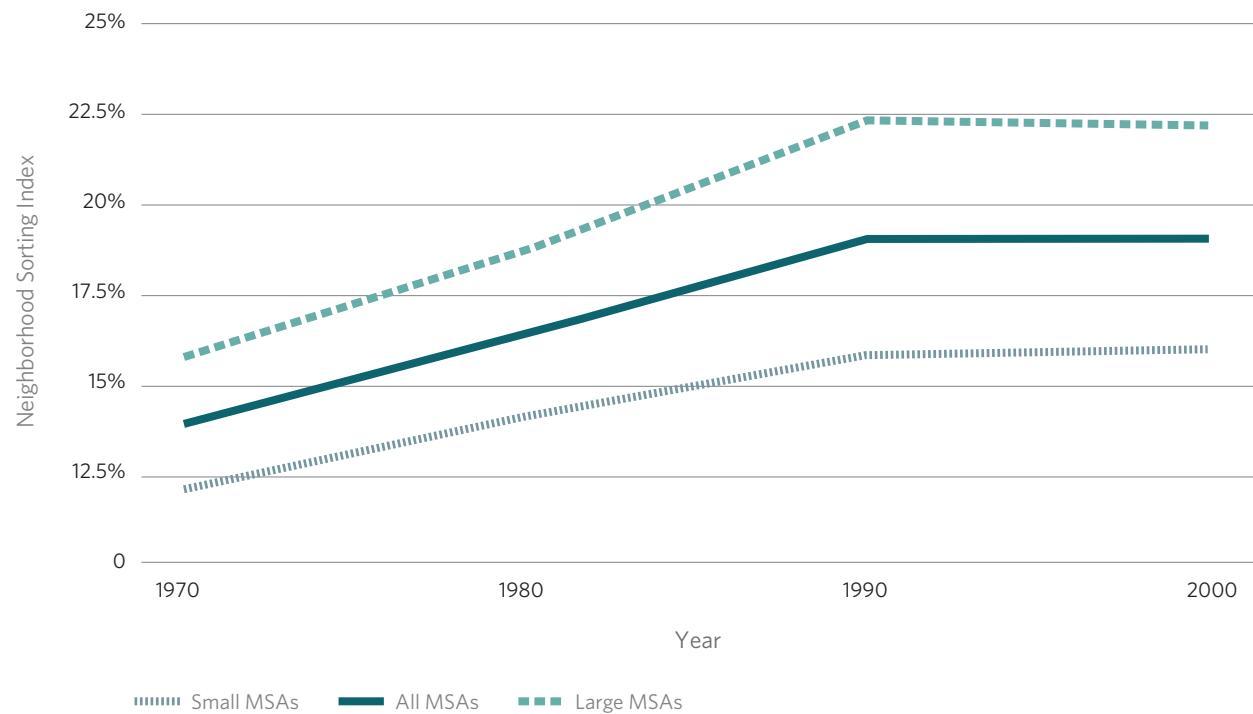
The 34 metro areas shown at left are represented in the National Longitudinal Survey of Youth 1979 and are among the 50 most populous metro areas, according to 2007 U.S. Census Bureau estimates. Data are from the Neighborhood Change Database, 1980.

Source: Author's calculations using the Neighborhood Change Database; information about the database available at: <http://www.geolytics.com/USCensus,Neighborhood-Change-Database-1970-2000,Products.asp>
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Figure 4

Economic Segregation of U.S. Neighborhoods Increased in the Late 20th Century

Residential income stratification, 1970 to 2000



Note:

Trends are for 259 metro areas, of varying population size, which could be compared between 1970 and 2000. A description of the methods used to create this figure is provided in the online supplement to this report: http://emlab.berkeley.edu/~bgraham/WorkingPapers/Pew_Report/pew_mobility_report.html.

Source: Constructed using census tract data contained in the Neighborhood Change Database; census tracts have been normalized to 2000 boundaries as provided in this database

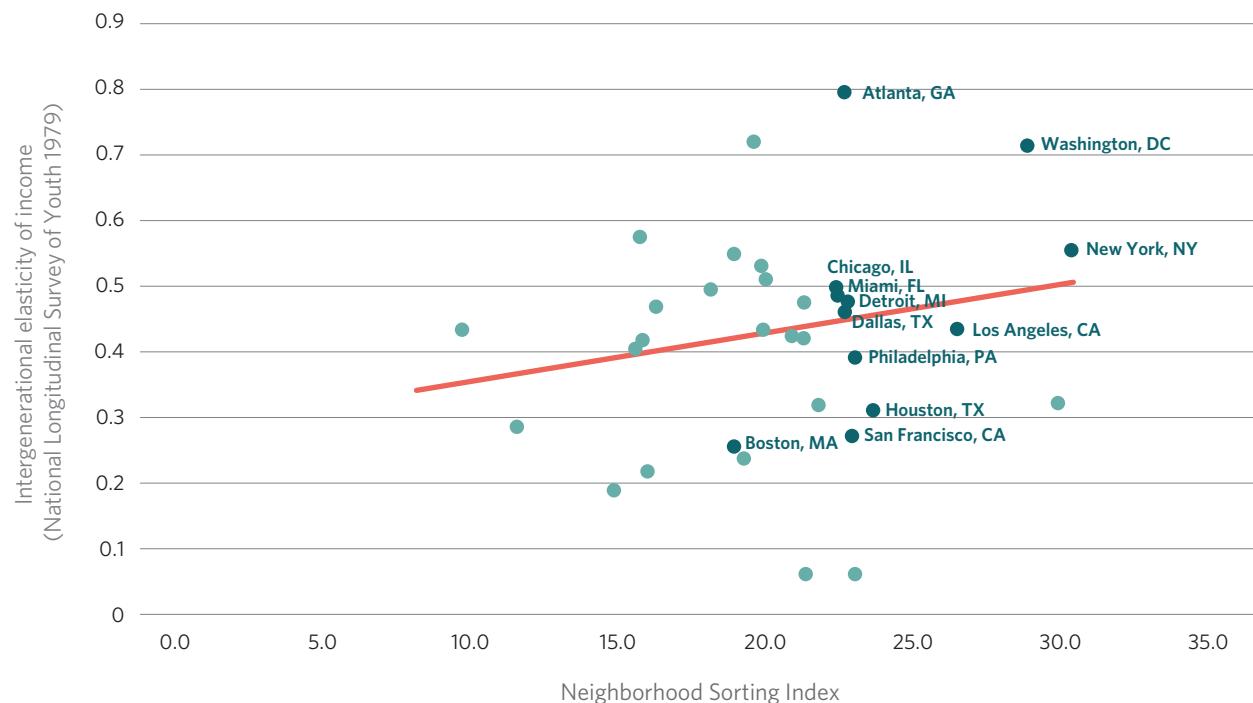
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Neighborhood economic segregation is linked with economic mobility

Across all three data sets, the analysis finds that the more economically segregated a metro area is, the less economically mobile its residents are. (See Figure 5.) This is a new finding in the area of economic mobility, and this analysis is one of the first empirical tests of the theory that, in highly unequal areas, there is an additional mechanism, aside from family background or resources, by which economic advantage and disadvantage can be transmitted from parents to children, leading to lower overall levels of economic mobility.¹⁷ For example, Boston has lower economic segregation relative to other metro areas and higher economic mobility. On the other end of the spectrum, the New York metro area has high economic segregation and low mobility. These findings suggest that it is harder to climb up the economic ladder in highly economically stratified areas like New York, where wealthy parents may be able to pass along more advantages to their children, than in more economically integrated areas like Boston.

Figure 5

Greater Economic Segregation Is Associated With Lower Mobility Select U.S. metropolitan areas by economic mobility and neighborhood stratification



Note:

The 34 metro areas shown above are represented in the National Longitudinal Survey of Youth 1979 and are among the 50 most populous metro areas, according to 2007 U.S. Census Bureau estimates. The 12 most populous metro areas are labeled for ease of identification.

Source: Authors' calculations using data from the National Longitudinal Survey of Youth 1979 and the Neighborhood Change Database, 1980
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The relationship between neighborhood stratification and economic mobility is statistically meaningful, suggesting that the IGE is about 0.07 higher in a very stratified metropolitan area, such as New York, than a less stratified one, such as Boston.¹⁸ This difference translates into real income differences between people who live in these places.

Consider two children from poor families growing up in the 1970s, one in Boston and the other in the greater New York area. Both families have incomes that are about half the average for their metropolitan areas. When the children become adults, the child raised in New York could expect to have income that is about 7 percent further below New York's average than the Boston child's will be relative to the Boston average.

Importantly, the results described in the previous section show that income inequality is not driving the association between neighborhood economic segregation and economic mobility across America's metro areas. In other words, even in those places that have large differences in the incomes between the richest and poorest households, it is the degree to which their neighborhoods are economically segregated that matters more for economic mobility.¹⁹

Policy implications and discussion

The findings of this report have important implications for policymakers seeking to increase economic opportunity in their states and localities.

First, this analysis underscores the need to move beyond a national approach in the study of economic mobility. The overarching literature has rarely moved beyond the idea that a single level of mobility characterizes the country as a whole. Federal policies relating to education, taxation, and the economy clearly have implications for economic mobility, but regional and local variation in economic and political climates, industry mixes, and demographics could affect mobility as well. There is great potential to use this regional, state, and local variation in mobility to better understand how opportunity for all Americans can be cultivated and encouraged.

Further, and more importantly for policy leaders, the report's findings highlight the role that neighborhoods and communities play—separate from the characteristics or choices of families themselves—in the process of economic mobility. Understanding not just that environment matters, but also why, is critical for developing effective interventions.

Many policy approaches are available to address the problem of economic segregation within U.S. metropolitan areas.²⁰ This discussion focuses on two: expanding residential options for low-income families and making sustained investments in human capital.

Expanding the amount of affordable housing available in diverse metropolitan areas and suburbs is one long-standing strategy for providing low-income families with better, and more varied, residential choices.²¹ Beyond this, however, less obvious strategies are available. In the United States, localities have a large degree of control over land use, public services, and economic development. Many experts argue that such autonomy can result in fragmentation of public services and competition for resources among metropolitan areas and surrounding suburbs.²² Some experts point to the need to decrease exclusionary zoning; expand mixed-income development; and develop synchronized area-wide plans for transportation, housing, education, and economic development to remedy these issues.²³

One example of such coordinated planning is the Sacramento-based Metropolitan Transportation Plan/Sustainable Communities Strategy, which was adopted in 2012. As the Sacramento region grows, local governments and stakeholders across six counties are working with the Sacramento Area Council of Governments to ensure the region creates transportation and land use policies that increase access for all residents to health care facilities, schools, and jobs.²⁴

In addition to providing such coordinated systems to promote access and economic integration, states and localities can invest in programs that reduce the economic costs to children of growing up in high-poverty communities and build the human capital of disadvantaged city residents. For example, there is consensus on the importance of early childhood development and education. Research suggests that these programs improve educational attainment, decrease reliance on welfare, and increase lifetime earnings, especially for low-income children.²⁵ Many experts, and most recently the Obama administration, have argued for an expansion of early childhood education across neighborhoods to serve a variety of communities that lack the resources to provide quality environments for children.²⁶

Each of these approaches reflects efforts some communities are making to sever the connection between neighborhood poverty and economic mobility, and multiple approaches may be necessary to improve opportunities for upward economic mobility across the United States.

Conclusion

This report confirms previous research by Pew and others that the places where people live matter a great deal for their economic mobility prospects. It finds that the descendants of poor families living in low-mobility metro areas will take four generations to reach their metro area's mean income, while the descendants of poor families living in high-mobility metro areas will need only three.

The research also goes one step further, beginning to answer the question of how location influences mobility by documenting a link between economic opportunity and economic integration. These data show that the most economically segregated U.S. metro areas—those where the very rich and the very poor live far from each other—are also the least economically mobile, and vice versa. Moreover, neighborhood economic segregation has risen across U.S. metro areas for more than 30 years, suggesting that climbing the economic ladder is more challenging in some places than in others.

In light of these and earlier Pew findings on relatively high levels of immobility at the bottom of the income distribution, it is clear that increasing economic mobility, especially for the poorest Americans, should become a priority for policymakers at the local, state, and national levels. Focusing on investments in low-income neighborhoods, including public services, child development, and economic growth, could all positively influence opportunity. In addition, this research suggests that efforts to specifically increase economic integration within neighborhoods could have a lasting influence on economic mobility levels across the United States.

Appendix: Data and methods

ERRATA: A previous version of this report included two appendix tables which have since been removed.

Data

Variation in economic mobility across metropolitan areas is analyzed using three nationally representative samples: the National Longitudinal Survey of Youth 1979 and 1997 cohorts, referred to as NLSY79 and NLSY97, and the Panel Study of Income Dynamics, or PSID. The longitudinal structure of all three surveys allows the measurement of family income during the individual's childhood and again in adulthood. However, there are several differences between the surveys that require that working samples be constructed and key measures be defined in slightly different ways. The basic features of the surveys are described here, with additional information available on the authors' website.²⁷

NLSY79 data

The NLSY79 data include a total of 12,686 men and women born from 1957 through 1964 who were residents of the United States in 1979, the first year of data collection. This study includes only the 9,763 NLSY79 respondents who were targeted for extensive follow-up. This group was interviewed annually from 1979 to 1993 and biennially thereafter. This study includes information through the 2008 wave. For data availability reasons, family income in this study is measured during a respondent's adolescent years (ages 13 to 18, inclusive). Of the 9,763 respondents most intensively followed over time, a total of 7,272 were age 19 or under at baselines, and their parents' income was measured during at least one year when they were ages 13 to 18. Of these 7,272 respondents, only 5,120 lived in a metropolitan statistical area (MSA) at baseline. This group constitutes the target sample. For 4,193 respondents in this group, valid measures of average parental income during adolescence were constructed, as well as the respondents' income at age 22 and greater. For over 70 percent of the sample, adult income was measured for nine or more years and was adjusted to 2010 dollars, with measures less than \$100 per capita discarded. Additional measures include the respondents' age and the age of the household head during their adolescence and were used to control for life cycle effects in their own and their parents' income.²⁸

NLSY97 data

To observe economic mobility in a more recent cohort, the NLSY97 data were used. The NLSY97 data contain information on men and women born from 1980 through 1984 who were residents of the United States in 1997, the first year of data collection. The overall structure of the NLSY97 cohort closely mirrors that of the NLSY79, allowing the exploration of how levels of economic mobility within metropolitan areas vary across different birth cohorts. NLSY97 respondents have been interviewed annually since baseline. The sample in this study includes information through the 2009 wave. Note that in 2009 respondents were 24 to 29. While the NLSY79 cohort is old enough to observe earned income at many points in the life cycle (i.e., as late as a respondent's early 50s), the NLSY97 cohort is not yet old enough to make such extensive follow-up possible. Of the 8,985 respondents in the NLSY97 cohort, a total of 7,263 lived in an MSA at baseline and constitute the core sample in this study. For 5,537, or 76.2 percent, of these individuals, valid measures of their own and their parents' income were constructed, as well as measures of their age and the age of the household head during their adolescence. All income data were adjusted to 2010 dollars.

PSID data

The third sample analyzed is from the PSID, an ongoing longitudinal survey begun in 1968 with a total sample of about 4,800 families.²⁹ Interviews of sample families were conducted on an annual basis from 1968 through 1997,

when the PSID switched to a biennial survey. The study sample includes all survey years from 1968 through 2007. The oldest sample members who are observed as children and adults were born in 1951, and were observed as 17 year olds in 1968, the first year of the survey. The youngest sample members who are observed as children and adults were born in 1981, and were age 26 in the 2007 survey. Family income during the individual's childhood is measured in all years from birth to age 18, and family income in adulthood is measured for all years in which the individual is the head or spouse of the head of household and is at least 26 years old. The sample is limited to include individuals who are observed as children and as adults and lived within a metropolitan area with a population of at least 100,000 in at least one survey year during childhood, resulting in a working sample of 4,320 parent-child pairs.

Key tables and figures in the report feature data from the NLSY79 for two key reasons. First, the NLSY79 sample covers more metropolitan areas than the PSID. Second, the older age of the NLSY79 respondents, relative to the younger respondents in the NLSY97, allows measurement of income and earnings in adults' prime working years when economic mobility is best compared across generations. Select metro areas are also featured in tables in this report that use the NLSY79 cohort based on their population sizes according to U.S. Census Bureau estimates in 2007. The year 2007 was selected because it was the last year for which income and earnings data was asked of the NLSY79 cohort used in this study. Of note, four less populous metro areas for which NLSY79 data were available (Nassau-Suffolk, NY, New Bedford, MA, Newark, NJ, and Tacoma, WA) were grouped with larger metropolitan areas in the 2007 U.S. Census Bureau rankings table. For this reason, they are included in the tables within this report.

Methods

In order to study variations in economic mobility across metropolitan areas, a number of methodological steps were undertaken to define metropolitan areas and neighborhoods, and to estimate the economic mobility within them.

Throughout this report, "metropolitan/metro areas" refers to metropolitan statistical areas, or MSAs; primary metropolitan statistical areas, or PMSAs; or New England city and town areas, or NECTAs, as defined by the Census Bureau.³⁰ Urban areas include both their central cities and their suburbs. Using restricted use data from the NLSY79, NLSY97, and PSID data sets, each survey respondent was matched with his or her MSA of residence during childhood. Because MSA definitions change slightly over time, a common list of MSA definitions was constructed for matching purposes. The "hybrid" definitions are a mixture of the official 1981 and 1999 Office of Management and Budget definitions.³¹

The research design requires the availability of multiple respondents residing in a common MSA during adolescence. Therefore, only respondents from MSAs with (i) a minimum of 25 households where at least one respondent had complete personal and parental income information and (ii) the number of MSA residents exceeded 100,000 in 1980 were kept in the sample. After applying these final criteria, the sample included 3,636 child-parent pairs residing in 53 MSAs in the NLSY79 and 4,616 pairs residing in 71 MSAs in the NLSY97. There are 34 MSAs common to the two cohorts. A total of 36 MSAs are represented in the PSID sample.³²

To estimate income variation in neighborhoods within metropolitan areas, data from the Neighborhood Change Database were used to understand the income distribution at the census tract level.³³ These data were then used to calculate the Neighborhood Sorting Index, or NSI, measure for the MSAs included in this study. The NSI involves a series of calculations to determine the variation of households' income from that of their neighborhoods, and then the income variation between neighborhoods within a given MSA. Each MSA then has an estimate of the NSI that reflects differences in income variation within a given neighborhood as compared with the income variation between neighborhoods in the same metro area. Thus, the NSI quantifies the level of economic segregation for the metro areas in this study.³⁴

To understand economic mobility, the IGE was estimated, by cohort, within each metropolitan area. The IGE is estimated within each MSA in each sample by the coefficient on the logarithm of parental family income during adolescence in a least squares fit of own log income as an adult onto: a constant, the log of parental income during adolescence, own age, own age squared, parents' age during adolescence, and parents' age during adolescence squared. Since adult income is measured in different calendar years, a full set of year-specific indicators is included in the models as well. As an example, consider the analysis based on the NLSY79. For this sample 53 separate estimates of the IGE were computed, one for each MSA represented in the sample.³⁵

Over the three samples, the population weighted mean of the MSA-specific IGE estimates is 0.43 across the 53 MSAs in the NLSY79, 0.32 across the 71 MSAs in the NLSY97, and 0.54 across the 36 MSAs in the PSID. The high average estimate in the PSID is consistent with published research based on this data set, and reflects the fact that family income is measured more precisely in the PSID because it is possible to use a longer-term average than in other data sets such as the NLSY.³⁶ The average estimate of 0.43 using the NLSY79 also closely tracks national estimates using similar methods and data.³⁷ The lower average estimate in the NLSY97 is likely a statistical artifact, reflecting the relative youthfulness of this cohort. The NLSY97 average measure of 0.32 is typical for studies in which children's outcomes are measured when they are in their 20s.

While the range in the MSA-specific IGE estimates may not seem large overall, there is considerable difference in what this means for the economic mobility of a metro area's residents over generations. For example, a metro area with a lower IGE has more mobility, meaning that it would take fewer generations to move up the economic ladder to reach the middle. A metro area with a higher average IGE has less mobility, so it would take longer for a similarly situated family to move to the middle than in an area with a lower IGE. The following equation demonstrates this principle:

$$\mu = \text{mean log income in city} \quad Y_t = \log \text{income in generation } t \quad \beta = \text{IGE}$$

$$Y_t - \mu = \text{percent difference in generation } t \text{ from city mean}$$

$$Y_{t+1} - \mu = \beta * Y_{t-\mu} + \varepsilon$$

In expectation income in generation $t + s$ is given by

$$Y_{t+s-\mu} = \beta^s * Y_{t-\mu}$$

To understand the relationship between a metro area's economic segregation, as represented by the NSI, and a metro area's economic mobility, as represented by the MSA-specific IGE, these estimates were evaluated in conjunction with each other. One method to evaluate the NSI and the IGE for specific metro areas together was to plot these values linearly in a figure, as shown in the report. Another method, using both the NLSY79 and NLSY97 for metro areas with sufficient sample size was to model the relationship between NSI and the IGE, holding other metro area characteristics constant, including demographic and regional controls. The simple weighted linear regression analysis using the combined NLSY cohort data demonstrated a robust and significant relationship between neighborhood economic segregation and the economic mobility in the MSAs studied (see Table A1).³⁸

Additional analyses were performed to understand the relationship between the change in neighborhood inequality and the change in economic mobility over the 25 MSAs common to both cohorts of the NLSY (after trimming the samples to exclude outlying MSAs in each period). The sample was small and conclusions should be tempered by this fact. Nevertheless, in metropolitan areas where neighborhood inequality grew over time, economic mobility was also lower (see Table A2).

Table A1

Neighborhood Inequality Impedes Economic Mobility Even When Demographic and Regional Differences Are Held Constant

Weighted least squares analysis of the relationship between neighborhood inequality and economic mobility: NLSY79 and NLSY97 cohorts

Regressor	Model 1	Model 2	Model 3	Model 4
Dummy for 1997 cohort	-0.1688 (0.0209)	-0.1700 (0.0205)	-0.1642 (0.0193)	-0.1490 (0.0232)
Neighborhood Sorting Index value	0.7462 (0.1915)	0.8104 (0.2885)	0.7773 (0.1715)	0.5248 (0.4381)
Standard deviation of log income	- (0.2510)	-0.0786 -	-	-
Census region dummies included?	No	No	Yes	Yes
Demographic controls included?	No	No	No	Yes
Sample size	110	110	110	110

Source: Authors' calculations using the National Longitudinal Surveys of Youth 1979 and 1997
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Table A2

Metropolitan Areas Where Neighborhoods Became More Unequal Had Less Economic Mobility

Weighted least squares analysis of the relationship between change in neighborhood inequality and change in economic mobility: NLSY79 and NLSY97 cohorts

Regressor	Model 1	Model 2	Model 3	Model 4
Neighborhood Sorting Index value	3.312 (1.279)	3.229 (1.319)	3.189 (1.279)	4.418 (1.469)
Standard deviation of log income	- (0.715)	0.142 -	-	-
Census region dummies included?	No	No	Yes	Yes
Demographic controls included?	No	No	No	Yes
Sample size	25	25	25	25

Source: Authors' calculations using the National Longitudinal Surveys of Youth 1979 and 1997
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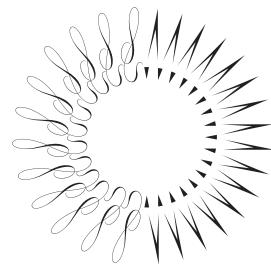
Endnotes

- 1 In 2011, Pew asked Americans how important they thought each of 22 factors was in determining whether people in the United States get ahead or fall behind economically. The following percentages of respondents thought that these factors were “one of the most important” or “very important”: hard work (91.4%); a person’s drive and ambition (89.6%); access to quality K-12 education (89.1%); the attitudes and values a person’s parents taught them (85.3%); the quality of a person’s education (82.3%); going to a college, university, community college, or trade school (78.5%); growing up in a stable family environment (78.1%); the state of the economy (78.0%); whether the person is healthy (72.5%); the economic situation in the country at the time a person is in the prime working years (69.5%); having personal savings (69.4%); graduating from a four-year college (68.2%); whether the person has adequate health care (63.0%); growing up in a two-parent household (59.8%); having well-educated parents (53.1%); knowing the right people (52.1%); growing up in a good neighborhood (49.1%); coming from a financially successful family (41.0%); access to loans (40.9%); luck (22.7%); a person’s gender (17.4%); a person’s race (16.9%). <http://www.pewstates.org/research/data-visualizations/poll-results-economic-mobility-and-the-american-dream-85899374448>.
- 2 The Pew Charitable Trusts, “Neighborhoods and the Black-White Mobility Gap,” July 1, 2009, <http://www.pewstates.org/research/reports/neighborhoods-and-the-black-white-mobility-gap-85899376433>.
- 3 Raj Chetty et al., “The Economic Impacts of Tax Expenditures: Evidence from Spatial Variation Across the U.S.,” (2013), http://obs.rc.fas.harvard.edu/chetty/tax_expenditure_soi_whitepaper.pdf.
- 4 The higher-mobility states (primarily in the Mideast and New England regions) include: Maryland, New Jersey, New York, Connecticut, Massachusetts, Pennsylvania, Michigan, and Utah. The lower-mobility states (primarily in the South) include: Louisiana, Oklahoma, South Carolina, Alabama, Florida, Kentucky, Mississippi, North Carolina, and Texas. Bureau of Economic Analysis regional definitions were used. For more information, see The Pew Charitable Trusts, “Economic Mobility of the States,” May 10, 2012, <http://www.pewstates.org/research/reports/economic-mobility-of-the-states-85899383564>.
- 5 Throughout the report, “metropolitan/metro areas” refers to metropolitan statistical areas, or MSAs; primary metropolitan statistical areas, or PMSAs; or New England city and town areas, or NECTAs, as defined by the Census Bureau. Additional information about the Census Bureau definitions of MSAs and PMSAs can be found at U.S. Department of Commerce, Census Bureau, “State and County Quick Facts,” http://quickfacts.census.gov/qfd/meta/long_metro.htm. Additional information about the Census Bureau definitions of NECTAs can be found at U.S. Department of Commerce, Census Bureau, “Frequently Asked Questions,” <https://ask.census.gov/faq.php?id=5000&faqid=6841>.
- 6 This research uses three nationally representative, longitudinal data sets: the National Longitudinal Survey of Youth 1979, the National Longitudinal Survey of Youth 1997, and the Panel Study of Income Dynamics. Each data set follows and collects information on a different sample of individuals over time, allowing for measurement of family income during an individual’s childhood and again in adulthood. These data sets examine individuals born in the early 1960s and 1980s. Additional information about these data sets and the sample can be found in the appendix.
- 7 This finding is consistent with theory suggesting that, in highly unequal urban areas, there is an additional mechanism by which family economic advantage and disadvantage can be transmitted from parents to children, leading to lower overall levels of economic mobility. This hypothesis has been proposed in multiple theoretical articles; this is one of the first empirical tests of the argument.
- 8 The Panel Survey of Income Dynamics followed individuals from 36 metro areas, while the National Longitudinal Survey of Youth 1979 followed individuals from 53 metro areas.
- 9 Four of these 34 metro areas—Nassau-Suffolk, NY; New Bedford, MA; Newark, NJ; and Tacoma, WA—are grouped with larger metropolitan areas by the U.S. Census Bureau and so are included in the tables in this report.
- 10 Additional information about the Census Bureau definitions of MSA and PMSA can be found at U.S. Department of Commerce, Census Bureau, “State and County Quick Facts,” http://quickfacts.census.gov/qfd/meta/long_metro.htm. Additional information about the Census Bureau definitions of NECTAs can be found at U.S. Department of Commerce, Census Bureau, “Frequently Asked Questions,” <https://ask.census.gov/faq.php?id=5000&faqid=6841>.
- 11 There is a standard deviation across all metropolitan areas of 0.09. A standard deviation of 0.09 means that the IGE in metro areas in the bottom 25 percent is 0.49 or greater, while the IGE in metro areas in the top 25 percent is 0.37 or less. The IGE standard deviation in 1997 was 0.08. These estimates are computed using random effects meta-analysis techniques and hence do not include IGE variation across metropolitan areas, which arises from sampling variation alone. The statements about metro areas in the bottom 25 percent etc. are based on the assumption that the distribution of IGEs across metro areas is normal. The 0.75 quartile (or 75th percentile) on the standard normal distribution is ~0.67. If you multiply 0.67 by 0.09 and add the mean you get the 75th percentile of the IGE distribution across metro areas (under the normality assumption). Note that 0.67 multiplied by 0.09 equals 0.06.
- 12 Although data limitations prevent the calculation of precise intergenerational elasticity of income estimates for every metropolitan area, this study demonstrates that mobility differs considerably across metro areas. Tables similar to Table 1 were also produced using data

from the National Longitudinal Survey of Youth 1997 and the Panel Study of Income Dynamics. It should be noted that the groupings of above-average-, average-, and below-average-mobility metro areas differ across the data sets, so metro areas which are "more mobile" in the National Longitudinal Survey of Youth 1979 are not necessarily more mobile in the National Longitudinal Survey of Youth 1997 or the Panel Study of Income Dynamics. Calculations can be found in the appendix.

- 13 See Bhashkar Mazumder, "Fortunate Sons: New Estimates of Intergenerational Mobility in the United States Using Social Security Earnings Data," *Review of Economics & Statistics* 87, no. 2 (2005): 235-255, for a discussion of how intergenerational elasticity of income scores relate to persistent poverty across generations. See the appendix for the equation used to calculate the intergenerational differences between high- and low-mobility metro areas. This analysis involves correlation between parental and child income, conditional on age for both. For example, if individuals in Family 1 and Family 2 give birth at age 25, it would take 100 years (four generations) for descendants of Family 1 to attain an income level close to their metro area's mean, and it would take 75 years (three generations) for descendants of Family 2 to achieve their metro area's mean income.
- 14 Similar propositions are found in theoretical work by Glenn C. Loury, "A Dynamic Theory of Racial Income Differences," in *Women, Minorities and Employment Discrimination*, ed. Phyllis Ann Wallace and Annette M. LaMond (Lexington, MA: Lexington Books, 1977): 153-186; Steven N. Durlauf, "A Theory of Persistent Income Inequality," *Journal of Economic Growth* 1, no. 1 (1996): 75-93; and Bryan S. Graham, "Endogenous Neighborhood Selection, the Distribution of Income, and the Identification of Neighborhood Effects," (2009), but empirical tests of these ideas are scant.
- 15 The Neighborhood Sorting Index, or NSI, calculates the proportion of the total variance in family income between neighborhoods as opposed to within neighborhoods. See also Reynolds Farley, "Residential Segregation in Urbanized Areas of the United States in 1970: An Analysis of Social Class and Racial Differences," *Demography* 14, no. 4 (1977): 497-518; and Paul A. Jargowsky, "Take the Money and Run: Economic Segregation in U.S. Metropolitan Areas," *American Sociological Review* 61 no. 6 (1996): 984-998, for more information about the NSI. The term "neighborhood" in this report refers to census tracts in the analysis.
- 16 This trend is consistent with the conclusions from recent studies utilizing different measures. Sean Reardon and Kendra Bischoff, "Income Inequality and Income Segregation," *American Journal of Sociology* 116, no. 4 (2011): 1092-1153; and T. Watson, "Inequality and the Measurement of Residential Segregation by Income," *Review of Income and Wealth* 55, no. 3 (2009) 820-844.
- 17 This hypothesis has been proposed in multiple theoretical articles; this is one of the first empirical tests of the argument.
- 18 The same pattern exists in the National Longitudinal Survey of Youth 1997 data. The estimate is substantively large in the Panel Study of Income Dynamics as well but is estimated imprecisely because of the small number of metro areas (36) in the data set.
- 19 The results suggest a strong association between neighborhood inequality and economic mobility, but this evidence should not be interpreted as causal. Families may select into highly stratified metropolitan areas in order to live in an environment that allows them to more efficiently transmit their advantaged position in the income distribution to their children, for instance. One can imagine a family deciding to move to a metropolitan area if it knows it will be moving into an exclusive part of town that is safe, offers excellent schools, and is isolated from the poorer parts of the community. If the unobserved characteristics that lead this family into a highly unequal urban area also affect the children's economic fortunes later in life, then the relationship between neighborhood inequality and economic mobility may be overestimated. Further, there may be characteristics of metropolitan areas that are associated with both the measure of neighborhood inequality and the level of economic mobility that are not measured in the data.
- 20 Historically, two prominent place-based policy approaches have been implemented to address high-poverty neighborhoods. The first set, which includes the Harlem Children's Zone and the Obama administration's Promise Neighborhoods program, is based on interventions to improve specific neighborhoods. These interventions have sought to increase economic mobility by "meeting people where they are." The second approach, which includes the Moving to Opportunity and Homeownership and Opportunity for People Everywhere, or HOPE, VI programs, focuses on decreasing concentrated poverty in specific neighborhoods through increased opportunities related to resident housing. Although the outcomes of some programs have been criticized, the underlying goal of deconcentrating poverty is shared by similar interventions.
- 21 See Bruce J. Katz and Margery Austin Turner, "Who Should Run the Housing Voucher Program? A Reform Proposal," *Housing Policy Debate* 12, no. 2 (2001): 239-262; John M. Quigley, "Rental Housing Assistance," *Cityscape* 13, no. 2 (2011): 157-169; and John M. Quigley and Steven Raphael, "Is Housing Unaffordable? Why Isn't It More Affordable?" *Journal of Economic Perspectives* 19 no. 1 (2004): 191-214.
- 22 See Bruce J. Katz, "Beyond City Limits: A New Metropolitan Agenda," in *Setting National Priorities: The 2000 Elections and Beyond*, ed. Robert D. Reischauer and Henry J. Aaron (Washington, DC: Brookings Institution Press, 1999), 303-331; Bruce J. Katz, *Reflections on Regionalism* (Washington, DC: Brookings Institution Press, 2000); and David Rusk, *Inside Game/Outside Game: Winning Strategies for Saving Urban America* (Washington, DC: Brookings Institution, 1999).
- 23 Manuel Pastor and Margery Austin Turner, *Reducing Poverty and Economic Distress After ARRA: Potential Roles for Place-Conscious Strategies* (Washington, DC: Urban Institute, 2010).
- 24 For this and additional information, see <http://www.sacog.org/2035>.

- 25 See for example Albert Wat, "Dollars and Sense: A Review of Economic Analyses of Pre-K," *Pre-K Now Research Series*, May 2007, http://www.pewstates.org/uploadedFiles/PCS_Assets/2007/PEW_PkN_DollarsandSense_May2007.pdf.
- 26 James J. Heckman, "Skill Formation and the Economics of Investing in Disadvantaged Children," *Science* 312, no. 5782 (2006): 1900-1902; and Lawrence Aber and Ajay Chaudry, "Low-Income Children, Their Families and the Great Recession: What's Next in Policy?" (Washington, DC: Urban Institute, 2010).
- 27 For additional details about the programming, data, and methodology, please see the authors' website at: http://emlab.berkeley.edu/~bgraham/WorkingPapers/Pew_Report/pew_mobility_report.html.
- 28 Steven Haider and Gary Solon, "Life-Cycle Variation in the Association Between Current and Lifetime Earnings," *American Economic Review* 96, no. 4 (2006): 799-836.
- 29 Martha S. Hill, and James N. Morgan, *The Panel Study of Income Dynamics: A User's Guide* (Newbury Park, CA: Sage Publications, 1992).
- 30 Additional information about the Census Bureau definitions of MSA and PMSA can be found at U.S. Department of Commerce, Census Bureau, "State and County Quick Facts," http://quickfacts.census.gov/qfd/meta/long_metro.htm. Additional information about the Census Bureau definitions of NECTAs can be found at U.S. Department of Commerce, Census Bureau, "Frequently Asked Questions," <https://ask.census.gov/faq.php?id=5000&faqid=6841>.
- 31 Please see the authors' website for additional methodological detail: http://emlab.berkeley.edu/~bgraham/WorkingPapers/Pew_Report/pew_mobility_report.html.
- 32 For the National Longitudinal Survey of Youth 1979, the number of sampled households with valid information per MSA varies from 25 to 212; in the National Longitudinal Survey of Youth 1997, from 25 to 192. The relatively small number of households available per MSA accounts for the tentative nature of some of our findings.
- 33 Information about the Neighborhood Change Database can be found at: <http://www.geolytics.com/USCensus,Neighborhood-Change-Database-1970-2000,Products.asp>.
- 34 Please see the authors' website for the technical appendix and additional information about how the NSI estimates were calculated: http://emlab.berkeley.edu/~bgraham/WorkingPapers/Pew_Report/pew_mobility_report.html.
- 35 The research design shares features with those used by David Card and Alan B. Krueger, "Labor Market Effects of School Quality: Theory and Evidence," in *Does Money Matter? The Effect of School Resources on Student Achievement and Adult Success*, ed. Gary Burtless (Washington, DC: Brookings Institution Press, 1996), 97-140; David M. Cutler and Edward L. Glaeser, "Are Ghettos Good or Bad?" *Quarterly Journal of Economics* 112, no. 3 (1997): 827-872; and David Card and Jesse Rothstein, "Racial Segregation and the Black-White Test Score Gap," *Journal of Public Economics* 91, no. 11-12 (2007): 2158-2184.
- 36 See Bhashkar Mazumder, "Revised Estimates of Intergenerational Income Mobility in the United States," Federal Reserve Bank of Chicago Working Paper 2003-16.
- 37 Ibid.
- 38 Refer to the authors' website for additional information about the modeled relationships and equations in the technical appendix at: http://emlab.berkeley.edu/~bgraham/WorkingPapers/Pew_Report/pew_mobility_report.html.



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