# Neighborhood Change, 1970 to 2010

Transition and Growth in Urban High Poverty Neighborhoods

Joseph Cortright, Impresa, Inc. Dillon Mahmoudi, Portland State University May 2014





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www.ImpresaConsulting.com

### Summary

This paper analyzes changes in high poverty urban neighborhoods in the nation's large metropolitan areas between 1970 and 2010. Using census tract data to track neighborhood performance, and defining high poverty as neighborhoods with a poverty rate of greater than 30 percent, this paper finds:

About 1,100 census tracts in urban neighborhoods in the nation's large metropolitan areas had poverty rates in excess of 30 percent in 1970. These tracts had a population of 5 million, of which nearly 2 million were poor.

High poverty was persistent in these neighborhoods. Four decades later, 750 of these tracts—home to about three-quarters of the 1970 high poverty neighborhood population—still had rates of poverty in excess of 30 percent.

Though poverty persisted, these high poverty neighborhoods were not stable in the aggregate they lost population, with chronic high poverty neighborhoods losing 40 percent of their population by 2010.

Only a few 1970 high poverty neighborhoods experienced a significant economic rebound, defined here as a previously high poverty neighborhood that sees its poverty rate decline to less than 15 percent in 2010. About 100 of the 1,100 high poverty census tracts, accounting for about 5 percent of the 1970 high poverty neighborhood population, saw poverty rates decline to below the national average. And in contrast to chronically high poverty neighborhoods these rebounding neighborhoods recorded an aggregate 30 percent increase in population.

High poverty neighborhoods spread widely between 1970 and 2010. The number of high poverty neighborhoods in the core of metropolitan areas has tripled, and their population has doubled in the past four decades. A majority of the increase in high poverty neighborhoods has been accounted for by "falling stars" places that in 1970 had poverty rates below 15 percent, but which today have poverty rates in excess of 30 percent.

The data presented here suggest an "up or out" dynamic for high poverty areas. A few places have gentrified, experienced a reduction in poverty, and generated net population growth. But those areas that don't rebound don't remain stable: they deteriorate, losing population, and overwhelmingly remaining high poverty.

### Introduction

Much of our sense of well-being and opportunity is determined by the neighborhoods in which we live. The composition of neighborhoods influences the social environment, peers in school, public safety, the quality of public services, and the kinds of personal and professional networks available to residents. It has become a commonplace to observe that a persons life chances can be statistically explained by their zip code. As a result, the composition of neighborhoods matters both for public policy, as well as for neighborhood residents. Nowhere are the stakes higher, or the effects more clear than in the nation's high poverty neighborhoods.

This study tracks neighborhood change over a four-decade period from 1970 to 2010, using data collected by the Census Bureau. Data for 1970, 1980, 1990 and 2000 are from the decennial censuses for each year; data for 2010 are based on the American Community Survey conducted over the five-year period 2006 to 2010.

Our unit of analysis is the census tract, a geographic unit developed by the Census Bureau for collecting and tabulating data. Census tracts average about 4,000 population. Using census tract data to measure change over time is complicated by the fact that the Census Bureau has made numerous changes to the geography it uses to collect data, changing the boundaries of census tracts, from census to census, generally to reflect patterns of growth. The Brown University Longitudinal Database addresses the problem of changing census tract boundaries by estimating data for the 1970, 1980, 1990 and 2000 Censuses using the tract boundaries in place for Census 2010. Although widely used, census tracts frequently do not conform to locally perceived definitions of neighborhood boundaries.

This study focuses on high poverty neighborhoods located in large urban areas. We included all of the 51 metropolitan areas with 2010 populations in excess of one million. In addition, within these metropolitan areas, we examined only census tracts located within 10 miles of the center of the Central Business District (CBD) in each metropolitan area. Historically, high poverty neighborhoods have been concentrated in areas closer to the center of the metropolitan area, and the process of transition in high poverty neighborhoods at the urban fringe generally reflects a different set of factors (specifically: in 1970, high poverty neighborhoods 10 or more miles from the central business district were likely to be low density rural poverty, and transitions in these neighborhoods over the subsequent four decades was triggered by suburbanization; a different process was at work in the urban core). All of the data presented in this report refer to the 51 metropolitan areas with populations of one million or more in 2010, and reflect counts for census tracts within 10 miles of the center of the metropolitan area. Unlike other studies which have used the boundaries of a central political jurisdiction, typically the municipal boundaries of the central city to distinguish between urban and suburban poverty, we have used a single geographic boundary (the ten mile radius). Political boundaries vary substantially across metropolitan areas, and are often not comparable. Some central cities are geographically large and encompass areas that are distant from the CBD and include substantial low density development. Conversely, some central cities are small, and only include very close in neighborhoods. We use the ten-mile radius to provide a uniform method for comparison.

### The Negative Effects of Concentrated Poverty

Concentrated poverty is a particular concern because all of the negative effects of poverty appear to be amplified in neighborhoods composed primarily of poor people. Poverty anywhere and in any amount is a problem; but concentrated poverty is often intractable and self-reinforcing.

Economic isolation exacerbates the problems associated with poverty. Neighborhoods with concentrated poverty make it harder to find positive role models and connect to social networks that enable employment, and they intensify problems of crime and drug abuse (Jargowsky, 2003). Like racial segregation, segregation by income has harmful effects on low-income people, including worse economic outcomes for adults, higher school dropout and teenage pregnancy rates, and worse academic achievement for schoolchildren. Research shows that those poor people who live in mixed-income areas do better than poor people who live in areas of concentrated poverty (Jargowsky & Swanstrom, 2009).

Reardon and Bischoff cite a litany of studies that show that living in a neighborhood with concentrated poverty amplifies the economic and social disadvantages of their residents.

For instance, living in a severely disadvantaged neighborhood context is associated with a loss in learning equivalent to a full year of school among black children (Sampson, Sharkey, & Raudenbush, 2008) and lowers high school graduation rates by as much as 20 percentage points (Wodtke, Harding, & Elwert, 2011). Moreover, neighborhood violent crime rates as well as the prevalence of neighborhood associations are robust predictors of birth weight, an important health outcome among infants (Morenoff 2003). This suggests that income segregation will lead to more unequal outcomes between lowand high-income households than their differences in income alone would predict because households are also influenced by the incomes of others in their community.

(Reardon & Bischoff, 2011 [references in original])

The problems of concentrated poverty are amplified by the indirect feedback effects through public finance. Local governments serving neighborhoods of concentrated poverty face both higher costs of providing public services and, simultaneously, have lower revenues. The result is poor quality public services that worsen the experience of poverty for neighborhood residents and make it harder to attract new residents and businesses, adding to a cycle of decline (Joassart-Marcelli, Musso, & Wolch, 2005).

In contrast, if a community has a high degree of economic integration—defined as a mix of households in different income groups, rather than concentrated poverty—it is more likely that the quality of public services and amenities will be similar throughout the region, and low income families will have better access to these things than when they are geographically isolated (Reardon & Bischoff, 2011). Extensive studies of the "Moving to Opportunity" program, which provided a randomized quasi-experiment that relocated families from how income to middle income neighborhoods showed a marked improvement in subjective well-being (self-reported perceptions of quality of life). Moving to a neighborhood with a 13 percentage point lower poverty rate was associated with an increase in subjective well being equivalent to a \$13,000 increase in household income (Ludwig et al., 2012). Black children growing up in neighborhoods that transition from high to low poverty have incomes that are 30 to 40 percent higher than otherwise similar black children who grow up in neighborhoods that remain in concentrated poverty (Sharkey, 2013). Recent studies show that inter-generational income mobility is significantly higher in metropolitan areas that have lower levels of income segregation between low income and middle income families (Chetty, Hendren, Kline, & Saez, 2013). There is also growing evidence that integrated communities have higher levels of trust and lower levels of racial prejudice that segregated communities (Rothwell, 2012).

Consistent with the role model hypothesis, having college graduates as neighbors appears to increase the probability that low income residents will themselves obtain a college degree (Bifulco, Furtado, & Ross, 2011). And there are also important neighborhood effects in the labor market. Neighbors provide not just role models for pursuing and education but also for the practical value of regular work and careers. Studies also show that informal networks of contacts through friends, colleagues and family are an important source of career information (loannides & Loury, 2004).

There are important indirect effects of having well-educated neighbors. We often lose sight of the fact that education is a social multiplier: having well-educated neighbors generates more economic activity, making communities more productive and more resilient in the face of economic change, which produces benefits for everyone. In 2010, areas with an above average education had lower unemployment rates, not only for those with a college education but also for those with lower levels of education (Glaeser, 2010).

For the nation's minorities, over the past several decades, the declining barriers to racial integration have magnified the negative effects of income segregation. As William Julius Wilson has observed, up until the 1960s and 1970s, the most well-educated African-Americans had little choice but to live in segregated neighborhoods, where they provided community leadership and role models, but the lessening of de-facto and de jure segregation gave them more choices of where to live. But in the process, their migration undermined the cohesiveness and economic diversity of their neighborhoods—actually intensifying the effects of segregation for the population who stayed (Wilson, 1978).

Thus, ironically, concentrated poverty has been worsened by desegregation that allowed successful, upwardly mobile minority group members to move away from ethnic enclaves, robbing them of their potential leadership. Between 1970 and 2000, high income and low income black families became more geographically separated from one another; and while both groups became more integrated with the nation's white population, the trend was dramatically greater for higher income African-Americans (Watson, 2009).

### Defining High Poverty Neighborhoods

The objective of this paper is to identify high poverty neighborhoods and look to see how they have evolved—and expanded—over the past four decades.

As part of both the Census and the American Community Survey, the Census Bureau analyzes household income and the number of persons living in a household and determines whether a households income falls above or below the poverty line, as adjusted for household size. While the dollar value of the poverty line changes from decade to decade, the underlying concept remains the same (the poverty line is adjusted for the change in consumer price inflation from year to year). We use this data to identify high poverty neighborhoods in 1970, and to track the changes in poverty rates and population levels in the subsequent four decades.

Over the past four decades, the poverty rate in the United States has fluctuated between about 11.5 percent and 15 percent. In 1970, the national poverty rate was about 13.7 percent. In 2011, the poverty rate nationally stood at 15 percent. We define high poverty as those neighborhoods with a poverty rate of at least 30 percent in a given year. These are neighborhoods with a poverty rate that is at least double the national poverty rate. Other studies have used similar or higher thresholds; the Brookings Institution looked at "extreme poverty neighborhoods" which it classified as those with a poverty rate of 40 percent or higher (Kneebone, Nadeau, & Berube, 2011).

This study focuses on changes in high poverty neighborhoods in the nation's large metropolitan areas. The Brown University Longitudinal Database allow us to track changes in population and poverty status at the neighborhood level from 1970 through 2010. Data for 2010 are based on the five-year American Community Survey, and reflect the pooled value of data gathered from 2006 to 2010.

### Transition in High Poverty Neighborhoods

Among the nation's largest metropolitan areas, about 1,100 census tracts, with a population of 5 million had high poverty rates in 1970. Table 1 provides a snapshot of these high poverty areas in 1970, and compares them to the total count of census tracts, population, and poverty within our ten mile radius in 1970. In the aggregate, the poverty rate in these high poverty tracts was about 40 percent in 1970. These high poverty tracts represented about 7 percent of all the tracts and nine percent of the population within ten miles of the center of the 51 largest metropolitan areas. By this measure, about 28 percent of the persons living in poverty in these areas lived in a high poverty neighborhood.

### Table 1: Urban Census Tracts in Large Metropolitan Areas, by High Poverty Status, 1970

	High Poverty	All Other	Total	Pct. High Poverty
Tracts	1,119	15,242	16,361	7%
Population	4,980,522	51,280,621	56,261,143	9%
Persons in Poverty	1,963,870	5,117,095	7,080,965	28%
Poverty Rate	39.4%	10.0%	12.6%	

Census tracts within 10 miles of CBD in 51 largest metro areas

We examine change over time first by asking what happened to these 1,100 high poverty neighborhoods over the subsequent forty years. Table 2 summarizes this change. By 2010, total population in these tracts had declined to 3.4 million (down about 33 percent). The number of households living in poverty in these neighborhoods declined even more sharply (down 43 percent), and the poverty rate, in the aggregate in these neighborhoods declined to 33 percent.

Table 2: Change in 1970 High Poverty Urban Census					
Tracts in Large Metropolitan Areas, 1970-2010					
	1970	2010	Change	Pct. Chg.	

	1970	2010	Change	Pct. Cng.
Tracts	1,119	1,119		
Population	4,980,522	3,350,821	(1,629,701)	-32.7%
Poor	1,963,870	1,117,255	(846,615)	-43.1%
Poverty Rate	39.4%	33.3%		

Census tracts within 10 miles of CBD in 51 largest metro areas, with 1970 poverty rates of 30% or greater

There was substantial variation in economic change in these high poverty neighborhoods between 1970 and 2010. Table 3 classifies the 1970 high poverty neighborhoods into three groups based on the poverty rate in those census tracts in 2010. We describe tracts where the poverty rate was also above 30 percent in 2010 as "chronic high poverty neighborhoods." We defined neighborhoods where the poverty rate was between 15 percent and 30 percent in 2010 as "still poor" neighborhoods—where poverty had declined, but remained above the national average. And we define neighborhoods in which the poverty rate had fallen to below 15 percent as "rebounding" neighborhoods.

It is worth noting that the data presented here are comparing two snapshots in time, forty years apart. They are comparing the neighborhood at two points in time, and not tracking the progress our economic standing of each neighborhood's 1970 residents. Given migration, births and deaths over forty years, it is highly likely that only a small fraction of the 1970 residents remain. Similarly, the observed changes in poverty may be due to an unobservable combination of migration of poor and non-poor persons out of a neighborhood as well as changes in the economic conditions of long time residents (some who may have earned enough to get out of poverty; while others may have seen their income decline into poverty). As a result, these data describe the condition of neighborhoods; not the economic progress (or lack thereof) of individuals.

Table 3 shows the number, and aggregate change in population for census tracts, classified according to these three categories. More than-two thirds of 1970 high poverty census tracts still had poverty rates in excess of 30 percent in 2010; these tracts accounted for about 74 percent of 1970 poverty populations living in high poverty tracts. About 20 percent of tracts saw their poverty rates decline, but still

remained poorer, on average, than the nation. Only about 100 tracts, or less than 10 percent of the total—accounting for about 5 percent of the 1970 poverty population in high poverty tracts, saw their poverty rate decline to below the national average. The right-hand column of Table 2 reports the population change in each category; the chronically poor tracts experienced, in aggregate, a 40 percent decline in population between 1970 and 2010. The "still poor" tracts saw a smaller 23 percent population decline. The rebounding tracts experienced an aggregate 33 percent population increase.

### Table 3: Change in Population in 1970 High PovertyCensus Tracts, 1970 to 2010

2010 Poverty Rate	Neighborhood Type	Number of Tracts/Share of 1970 Poor Population	Change in Population 1970 to 2010
30%+	Chronic High Poverty	737 Tracts (74% of 1970 poor)	-40% Population
15% to 30%	Still Poor	277 Tracts (21% of 1970 Poor)	-23% Population
<15 %	Rebounding	105 Tracts (5% of 1970 poor)	+33% Population

Census tracts within 10 miles of CBD in 51 largest metro areas

Table 4 reports the poverty rate, and change in the population living in poverty in those tracts that were high poverty in 1970, according to our three-part classification of how each tract's poverty rate changed through 2010. Not surprisingly, the poverty rate of chronically high poverty census tracts remained high—roughly 40 percent. The still poor tracts experienced an aggregate decline in poverty rates from 37 percent to 21 percent. And the rebounding tracts saw poverty rates decline to 8 percent by 2010. The similarity of the 1970 poverty rates of each of the three categories suggests that the decline in poverty rates in "still poor" and "rebounding" neighborhoods was not concentrated in those neighborhoods with poverty rates slightly above the 30 percent threshold. These data also show that over the 40-year period, the population in poverty in each of these categories declined sharply; the number of poor in chronically high poverty neighborhoods declined 38 percent; and the rates of decline in the number of poor were even higher—at -56 percent and -72 percent respectively, in the other categories.

#### Table 4: Change Poverty Rate and Population in 1970 High Poverty Census Tracts, 1970 to 2010

2010 Poverty Rate	Neighborhood Type	1970 Poverty Rate / 2010 Poverty Rate	Change in Population in Poverty 1970 to 2010
30%+	Chronic High Poverty	42% / 40%	-38%
15% to 30%	Still Poor	37% / 21%	-56%
<15 %	Rebounding	39% / 8%	-72%

Census tracts within 10 miles of CBD in 51 largest metro areas

The economic status of a few census tracts changed dramatically between 1970 and 2010. The last rows of Tables 2 and 3 show 1970 high poverty census tracts that by 2010 had rebounded, i.e. seen their poverty rate decline to 15 percent or less (the national poverty rate for this period was about 14 percent; so these were tracts that had transitioned from having very high levels of poverty, to having a level of poverty at or below the national average). About 100 tracts that were high poverty in 1970 transitioned to average or below average poverty rates in 2010. In these tracts, the poor population actually decreased by about 70 percent, and in the aggregate, poverty rates declined from 39 percent in 1970 to less than 10 percent in 2010.

The odds that a person living in a high poverty census tract in 1970 would see their tract transition to an average, or below average level of poverty by 2010 was very small. Only 5 percent of poor persons living in high poverty census tracts in 1970 lived in a tract that saw its poverty rate decline to average or below average rates by 2010.

### Newly High Poverty Neighborhoods After 1970

In addition to the areas that were high poverty neighborhoods in 1970 (and remained so for the following four decades), other neighborhoods that previously had lower levels of poverty saw their poverty rates increase over the subsequent decades. Table 5 shows the total number of high poverty neighborhoods, and their

population and number of persons living in poverty in 2010, for the same 51 metropolitan areas (again, examining only neighborhoods within 10 miles of the center of these metropolitan areas).

	High Poverty	All Other	Total	Pct. High Poverty
Tracts	3,165	13,196	16,361	19%
Population	10,712,260	52,759,110	63,471,370	17%
Persons in Poverty	4,104,552	6,509,014	10,613,566	39%
Poverty Rate	38.3%	12.3%	16.7%	

#### Table 5: High Poverty Urban Census Tracts in Large Metropolitan Areas, 2010

Census tracts within 10 miles of CBD in 51 largest metro areas

The number of high poverty neighborhoods within 10 miles of the central business district increased from about 1,100 in 1970, to more than 3,100 in 2010. The population in these neighborhoods more than doubled, from 5 million to 10.7 million, and the poverty population also doubled, from about 2 million to slightly more than 4 million.

Much attention gets directed to instances of dramatic neighborhood changes in the form of gentrification: once high poverty neighborhoods experience a large reduction in poverty rates. But the reverse is also true: some urban neighborhoods that once had low levels of poverty have experienced a large increase in poverty. To compare the relative magnitude of these shifts, we identified census tracts that had relatively low rates of poverty (i.e. less than 15 percent in 1970) which by 2010 had poverty rates exceeding 30 percent (and were thus high poverty). We labeled these neighborhoods "Fallen Stars". Table 6 reports the number of tracts, total population, population in poverty for neighborhoods that rebounding between 1970 and 2010, and also for the Fallen Stars, where poverty rates increased from less than 15 percent in 1970 to more than 30 percent in 2010.

As noted earlier, a relatively small fraction (105 of more than 1,100) 1970 high poverty census tracts saw their poverty rates decline to less than 15 percent by 2010. In contrast, more than 1,200 urban census tracts in the 51 largest

metropolitan areas saw their poverty rates go from less than 15 percent in 1970 to greater than 30 percent in 2010. Far from being unusual, these fallen stars had an aggregate population of more than 4.5 million, accounting for most of the increase in population living in high poverty neighborhoods between 1970 and 2010.

	2.	
	Rebounding	Fallen Stars
Definition (Poverty Rate)	1970: 30% Plus; 2010: < 15%	1970: <15%; 2010: 30% Plus
Tracts	105	1,231
Population 2010	314,792	4,543,169
Population Growth, 1970-2010	30.1%	4.7%

Table 6: Rebounding Neighborhoods and Fallen Stars inLarge Metropolitan Areas, 1970 to 2010

### Change in Poor Urban Neighborhoods: Implications for the Gentrification Debate

It is impossible to talk about neighborhood change in low income areas without raising concerns about gentrification. Credit for coining the term gentrification is generally given to sociologist Ruth Glass, who used it in the 1960s to describe the transition of formerly working class neighborhoods in London into upper class enclaves (Hamnett, 2000). The classic example of gentrification is a dramatic change in the economic status of a neighborhood, which is transformed from a place of primarily low-income persons usually often dominated by racial and ethnic minorities, to a middle or high income neighborhood, often composed primarily of whites. In this process of gentrification, the previous poor residents of the neighborhood are displaced from their homes by rising prices or suffer a reduction in their standard of living due to rising rents, and new lower income residents are precluded from coming to the neighborhood by its now higher prices.

This kind of dramatic transformation is has been closely studied in a handful neighborhoods such as Harlem and Chelsea in Manhattan, Williamsburg in Brooklyn, and Wicker Park in Chicago. In these areas the magnitude of change has been large, and conflicts palpable. It's undeniable that in these striking cases, the character of the neighborhood has changed sharply: what was once undesirable and affordable, and populated by the poor has become desirable and unaffordable, with few poor people remaining. While highly visible, its unclear whether these instances of wholesale transformation are widespread.

The controversy surrounding gentrification is magnified by the ambiguous and conflicting uses of the term. Kennedy and Leonard review the literature and conclude that lack of a clear definition has generated more heat than light:

There is no agreed upon definition. Gentrification is a politically loaded concept that generally has not been useful in resolving growth and community change debates because its' meaning is unclear. .... data on gentrification appear to be spotty, inconclusive, and often contradictory. Gentrification relates directly to neighborhood change, and neighborhoods change in myriad ways and for myriad reasons. The literature is too often driven by ideology rather than by a focus on concrete strategies to minimize adverse impacts associated with gentrification.

(Kennedy & Leonard, 2001)

Some studies have identified gentrified areas by looking at neighborhoods that have historically had lower incomes and that over the course of a decade experienced above average increases in income or educational attainment, and inflation-adjusted housing prices (Freeman, 2005). But even these definitions are essentially binary (gentrified/non-gentrified), and make no distinction between *de minimis* changes that affect a small percentage of residents and sweeping transformations that replace one population with another. In the limiting case, one can ask, does the movement of one higher income person into a previously low income, neighborhood constitute "gentrification?"

At what point, if any, does the scale of population change produce the ill effects that many authors attribute to gentrification? Stern and Seifert express their frustration with the absence of any sense of scale or proportion in automatically calling any change "gentrification":

"Clearly, there is no objective measure of when neighborhood improvement—or, in Jane Jacobs' striking phrase, 'unslumming'—becomes gentrification. But if we see neighborhood revitalization as desirable, we cannot afford to label all population change as gentrification."

(Stern & Seifert, 2007)

Whether gentrification is, on balance good for cities and their residents is highly contested. One strand of the literature treats gentrification as intrinsically damaging to the current residents of urban neighborhoods. Many studies simply assume that new residents moving in automatically displaces existing residents, and that improving neighborhood amenities, and rising values have no value or impose large costs on existing residents. Careful comparisons of gentrifying and non-gentrifying neighborhoods show measureable displacement is no higher in gentrifying neighborhoods than non-gentrifying neighborhoods (Freeman, 2009; McKinnish & White, 2011). Similarly, economic analyses show that existing residents generally attach a value to neighborhood improvements that is commensurate with increased rents (Vigdor, 2010).

Discussions of the extent and impacts of gentrification are complicated by the fact that neighborhoods are always changing. The demographic profile of neighborhoods changes as its residents age, and experience all the events of a life cycle accumulating more education, marrying, forming new households, having children, getting and changing jobs, retiring, and dying. The demographics of every neighborhood change, too, as residents move in and out of neighborhoods. Americans, especially lower income renters, move frequently; about 56 percent of the nation's renters have lived in their current home for less than three years (Bureau of the Census, 2011). Careful longitudinal surveys of poor families in urban settings confirm that movement is common—and is a critical way for many to improve their lives. The Urban Institute "Making Connections" study surveyed families in ten metropolitan areas over more than a decade to assess the extent and consequences of family mobility in low-income neighborhoods (Coulton, Theodos, & Turner, 2009). Half of families with children living in low-income neighborhoods had moved within three years; three of every ten movers were "up and out" movers: those who moved to new neighborhoods which they described as being better and in which they were more satisfied and optimistic.

Similarly, the housing stock of a neighborhood also changes, with each added year producing additional wear and tear, and in the absence of active reinvestment, some economic depreciation of housing, both in absolute terms, but also relative to the rest of a region's housing stock. Neighborhoods are constantly changing, both in their demographics and their housing stock. In the absence of gentrification, neighborhoods do not maintain some imagined status quo ante, they continue to change.

### Conclusions

The data presented here lead to a number of key conclusions about the process of neighborhood change in large metropolitan areas over the past four decades.

First, these data confirm the strong persistence of high poverty over time. Two-thirds of the high poverty census tracts in 1970 were still high poverty neighborhoods 40 years later. Judged on a population weighted basis, three-quarters of the poor living in high poverty neighborhoods in 1970 would have found that their neighborhood was still a high poverty neighborhood in 2010.

Second, high poverty neighborhoods are not stable. Almost all 1970 high poverty neighborhoods saw a decline in population over the next 40 years; the declines were most pronounced in those neighborhoods that remained high poverty. In the aggregate these chronically high poverty neighborhoods lost 40 percent of their population over four decades.

Third, the incidence of neighborhood rebounding—here defined as a previously high poverty neighborhood that sees its poverty rate decline to less than 15 percent in 2010—is surprisingly small. Only about 100 census tracts saw this kind of change over a forty-year period in these 51 large metropolitan areas. The odds that a poor person living in a high poverty census tract in 1970 would be in a place that 40 years later had rebounded by this definition are about 1 in 20. And in contrast to chronically high poverty neighborhoods (which saw 40 percent population declines) these rebounding neighborhoods recorded an aggregate 30 percent increase in population.

Fourth, the number of high poverty neighborhoods in the core of metropolitan areas has tripled and their population has doubled in the past four decades. Strikingly, a majority of the increase in high poverty neighborhoods has been accounted for

by "fallen stars" places that in 1970 had below average poverty rates (under 15 percent), but which today have poverty rates of more than 30 percent. Fifth, the data presented here suggest an "up or out" dynamic for high poverty areas. A few places have experienced a significant reduction in poverty and these have experienced net population growth. But those areas that don't see big poverty reductions don't remain stable: they deteriorate, losing population, and over-whelmingly remain high poverty neighborhoods.

It is rare for an urban, high poverty neighborhood to experience a major decline in poverty. If we use such a change in poverty rates as an indicator of gentrification, this data analysis suggests that dramatic change, though striking when it occurs, is not widespread. Even over four decades few urban poor see their neighborhoods gentrify to this extent. Gentrification may make the contrast between wealth and poverty more evident where it occurs, but is not a major contributor to worsening the plight of the urban poor. Far more common than gentrification—and far less commented upon—is the overwhelming persistence of high poverty in those neighborhoods where it is established, the steady decay in population that chronic high poverty neighborhoods experience, and the steady and widespread transformation of formerly low poverty neighborhoods into high poverty areas. Over the past four decades, for every high poverty neighborhood transformed to low poverty by gentrification, 12 previously low poverty neighborhoods have slipped into the high poverty category.

The difference in the scale and speed of neighborhood change in declining and improving neighborhoods is likely an important factor drawing our attention to gentrification. The slow steady decline of average (real) incomes in older urban neighborhoods is a feature of filtering models of housing market change. Filtering is the process of housing transitioning to successively lower income groups as the housing ages. As individual housing units age, their sales and rental value declines relative to the rest of the housing stock and the average income of the households inhabiting them tends declines as well. Rosenthal estimates that the average real income levels decline by about 2.6 percent per year in rental housing and in owner occupied housing by about 0.8 percent per year (2011). These estimates suggest that over a period of four decades, the average real income of families renting houses in a neighborhood would decline by about 40 percent. The economic status of the mass of urban neighborhoods is slowly, almost imperceptibly declining. In sharp contrast, a few neighborhoods experience a rapid upgrading. Because the slow decline is more common and less visible, it is seldom remarked upon, while gentrification, when it happens—which is both unusual and dramatic is a far more evident change.

This research has just scratched the surface of neighborhood change. Other important questions remained to be answered. This analysis looks at the beginning and end of a four-decade period, but certainly these transitions have unfolded at different rates over time; consequently we will want to decompose these transitions into a decade-by-decade analysis. The 105 neighborhoods that experienced a dramatic turnaround (going from high poverty to lower than average rates of poverty) merit a closer look to understand the processes that lead to such change. Are these areas exceptional, or are there policy lessons that can be gleaned from their transformation?

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