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Individual and Community Economic Mobility in the Great Recession Era: The Spatial Foundations of Persistent Inequality

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Once relegated to debates in the halls of academe, it is now common knowledge that income inequality is increasing. Considerable attention has been drawn to the pulling away of the very rich—the so-called "one percent" whose gains have far outpaced those of everyone else (Piketty 2014). But the concerns of the public go well beyond the very top. The hollowing out of the middle class, stagnation of wages, and new evidence on the lack of upward mobility across generations all strike at the very heart of the American ideal. In one widely reported study, the odds of a child from a poor family climbing up the income ladder to reach the top fifth of the income bracket as an adult are less than 10 percent for the nation (Chetty et al. 2014b). Toleration of inequality has long gone hand in hand with the idea that everyone at least had a reasonable chance to grab the brass ring, but meager odds of upward mobility challenge the implicit "social inequality" contract that, for better or worse, has long held in American society.

The facts on individual income mobility are crucial, of course, but they tell only half the story. The other half pertains to the prospects of change in one's community of residence: individuals are born into, grow up in, and become adults in neighborhoods that are also highly unequal. Concentrated poverty, violence, and poor school quality, for example, tend to cluster together at the neighborhood level and bear on life chances across a variety of outcomes (Sampson 2012; Sharkey 2013). It follows that we need to pay equal attention to questions of mobility in *community contexts*. For example, how much stability or change is there in the economic status of neighborhoods, especially in an era of increasing inequality and the Great Recession? How does individual exposure to neighborhood poverty vary across the life course? A fundamental question is directly analogous to individual mobility studies: how common is it for children who grew up in a poor neighborhood to attain a higher-income neighborhood in adulthood? Do individual characteristics determine escape from neighborhood poverty?

These questions form the basis of the current paper. I first present a conceptual framework for the study of neighborhoods, including a brief overview of the state of knowledge on neighborhood inequality. I highlight how diverse adversities are spatially concentrated and form the multidimensional character of neighborhood economic disadvantage. I then turn to my central concern with change over time, arguing for a focus on both neighborhood-level *and* individual-level variations. At the neighborhood level, I examine stability and change in economic status across two decades for all neighborhoods in the United States. In addressing this issue I assess whether patterns of neighborhood mobility were similar throughout the last two decades, or whether they differ between the relatively prosperous 1990s and the Great Recession era. I also drill down to report additional patterns for two cities in the U.S. that could not be more different in urban form and history: Chicago and Los Angeles. In both cities and for the nation as a whole, neighborhood income status is surprisingly persistent at the extremes.

A critic might object that individuals are the ones who make decisions to move or stay in a particular location. After all, an essential American notion is that individuals can triumph over circumstance. Here the idea is that even if neighborhood poverty is durable overall, individuals, including the poor, can always switch to a better neighborhood—what we can think of as upward *contextual mobility* (see also Sharkey 2013: 16). I assess this claim by presenting data across the life course of individuals in their neighborhood economic attainment, drawing on two recent and coordinated longitudinal studies—again in the very different cities of Los Angeles and Chicago. In both cities the evidence leads to the same conclusion: upward contextual mobility in neighborhood economic status is relatively rare and governed by a structure of stratification that is persistent and strongly linked to race. African Americans in particular are disproportionately exposed to neighborhood disadvantage over long periods of time, even when they are nonpoor or

residentially mobile. Black adolescents transitioning to adulthood in Chicago also experienced downward contextual mobility in the decade of the 2000s, unlike whites or Latinos.

In short, legacies of neighborhood inequality are more resilient than commonly assumed and call into question policies that unduly focus on individual mobility or that ignore the unique contextual environments that blacks have historically endured in U.S. cities. In the concluding section I thus synthesize the main results and probe their implications for whether and how policies should intervene in the lives of individuals (e.g., housing vouchers) or at the scale of communities (e.g., place-based interventions). I also tackle the tough question of whether policies should be race neutral or whether we need "affirmative action for neighborhoods."

Spatial Foundations of Inequality

Over fifty years ago the urbanist Lewis Mumford claimed, "Neighborhoods, in some primitive, inchoate fashion exist wherever human beings congregate" (1954:258). The contemporary archaeologist Michael Smith (2010:137) finds broad empirical support for this claim, arguing that the "spatial division of cities into districts or neighborhoods is one of the few universals of urban life from the earliest cities to the present" (see also Smith et al. 2014). The salience of neighborhood difference has persisted across long time scales and historical eras despite the transformation of specific boundaries, political regimes, and the layout of cities. The fact of neighborhood differentiation from ancient cities to the present suggests that spatial arrangements constitute a fundamental organizing dimension of social inequality (Sampson 2012:362).

There is a large body of research that supports this general idea using a variety of empirical definitions of urban neighborhood, which I conceptualize as a geographical subsection of a larger city or region that has socially distinctive characteristics (Sampson 2012: 53-57).

Some examples of the operational units that researchers have used to measure the simultaneous social and spatial significance of neighborhoods include city block groups, census tracts, city planning or health districts, political wards, and locally defined community areas. When my colleagues and I attempted a comprehensive review of the literature about fifteen years ago we discovered a multitude of studies (Sampson, Morenoff and Gannon-Rowley 2002), and since then many more have appeared (Sharkey and Faber 2014).

It is beyond the scope of the present paper to summarize or update all this material, but there are some basic themes that command widespread consensus. First, there is considerable social inequality between neighborhoods across a wide variety of empirically defined units, especially in terms of socioeconomic position and racial/ethnic segregation. Second, these factors are connected, in that concentrated resource disadvantage often coincides with the geographic isolation of racial minority and immigrant groups. Third, a number of crime- and health-related problems tend to come bundled together at the neighborhood level and are predicted by neighborhood characteristics such as the concentration of poverty, racial isolation, high rates of single-parent families, and to a lesser extent, residential and housing instability. Fourth, it is not just the low end that stands out—a number of social indicators at the upper end of the status distribution, such as affluence and elite occupational attainment, are also clustered geographically. Finally, the concentration of both poverty and affluence appear to have increased along with a decline in middle- or mixed-income neighborhoods, leading to what Douglas Massey (1996) has referred to as the "age of extremes" in neighborhood income.

Although the broad facts on spatial inequality may seem relatively straightforward and the subject of consensus, the effect of neighborhoods on outcomes like economic achievement, health, and crime has generated considerable debate. A major worry turns on causality and the

possibility that the estimated effects of concentrated poverty reflect instead prior family characteristics or individual choices. For example, individuals may systematically select high-income neighborhoods based on the same characteristics that also predict positive adult outcomes (e.g., family income, parental education, home ownership), leading to spurious associations. Observational studies have been criticized for such "selection bias" (Mayer and Jencks 1989). In addition, evidence from the "Moving to Opportunity" (MTO) randomized voucher experiment (Ludwig et al. 2012; Sanbonmatsu et al. 2011) has cast doubt on the causal role of neighborhood poverty on adolescent outcomes and young adult achievement.

Comprehensive reviews of the literature have nonetheless identified credible evidence of the deleterious effects of concentrated disadvantage on a number of individual outcomes relevant to understanding economic mobility, especially with respect to longer-term or developmental neighborhood influences (see e.g., Galster et al. 2007; Galster 2011; Leventhal and Brooks-Gunn 2000; Sampson 2012; Sharkey 2014; Sharkey and Faber 2014). For example, Wodtke, Harding, and Elwert (2011), Wodtke (2013), and Sharkey and Elwert (2011) find that living in a disadvantaged neighborhood has negative effects on high school graduation and cognitive ability, with longer durations of exposure to concentrated disadvantage associated with more negative outcomes. Sampson et al. (2008) find that growing up in severe disadvantage attenuates the learning of verbal skills, approximately equivalent to losing a year in school, and Sharkey (Sharkey 2010) finds that exposure to neighborhood violence depresses test scores. Using national-level data on income mobility, Chetty and colleagues (2014a) report that the odds of intergenerational income mobility vary sharply by geography. High mobility places, such as San Jose and Salt Lake City, are characterized by less neighborhood segregation, less income inequality, better primary schools, greater "social capital," and greater family stability.

There is also experimental evidence pointing to long-term neighborhood effects on adult income attainment. A recent study of the MTO participants finds that voucher-induced moves to a lower-poverty neighborhood in childhood are associated with higher adult earnings and that the magnitude of this effect declines with age, eventually flattening out to no effect among those who were adolescents at the time of moving (Chetty, Hendren and Katz 2015). This pattern strongly suggests that the duration and timing of exposure to concentrated poverty is important for later adult outcomes, especially upward economic mobility. Moreover, when researchers compared the MTO voucher study to observational estimates obtained from the same city, they found convergent negative effects of concentrated poverty on cognitive skills that were larger for those children who moved out of the most severely disadvantaged environments. Comparing across MTO sites, children's test scores were also found to improve the most when residential changes led to major reductions in exposure to violent crime (Burdick-Will et al. 2011).

Assessing Individual and Neighborhood Economic Mobility

Although causality is rarely definitive in the social sciences, even in randomized social experiments, what these studies have in common is the implication that exposure to neighborhood environments should be taken seriously with regard to economic mobility. It is not only upward income mobility that is at stake, but the interrelated components of human and social capital that undergird mobility. Indeed, evidence showing that neighborhood poverty depresses verbal learning and high school graduation commands notice if we are interested in economic mobility. Examining individual transitions in and out of neighborhood poverty and the distribution of neighborhood income status over time is therefore fundamental to understanding income inequality and the impact of neighborhood contexts on individual outcomes.

Surprisingly, however, we know relatively little about stability and change in the spatial foundations of neighborhood inequality, especially the movement of individuals across different income environments over crucial periods of the life course and historical eras. As Sampson et al. (2015) have argued, whether the focus is on the extremes of the income distribution or the loss of middle class and mixed-income neighborhoods, changes in the spatial and socioeconomic distribution of populations in urban areas reflect a complex mixture of changes in the income distributions of individuals and households, patterns of socioeconomic mobility, the residential choices of individuals, and the rise and fall of neighborhoods themselves. These components of change reflect both long-run trends, such as the drift to higher levels of income inequality in the U.S.; large-scale immigration and gentrification over the past few decades; and shorter-term shocks, such as the financial crisis associated with the Great Recession. The data requirements necessary to study these components of change are strict and thus have stymied knowledge.

The remainder of this paper addresses these challenges by reporting results from a long-term project that combines the study of neighborhood change with an original longitudinal study of individual residential mobility among representative samples in Chicago and Los Angeles. Drawing on the conceptual framework and evidence in the previous section, I focus on two basic questions: *how mobile are neighborhoods* and *how mobile are individuals across neighborhood income types*? The selection bias critique of neighborhood effects is premised on the assumption that individuals selectively move up—or down—the neighborhood income distribution much like (in principle) they do the individual income distribution. But neighborhoods can in theory also change around individuals who never move residences. After assessing the magnitude of both individual and neighborhood-level change, I therefore also examine what factors distinguish those who move up versus down the neighborhood income ladder, with a focus on how

trajectories of neighborhood income status vary by race, residential mobility, individual characteristics, life-cycle change, and the shock of the Great Recession.

The Mixed-Income Project

The current study is based on the "Mixed-Income Project" (MIP), a longitudinal and probability-based design that followed individuals and tracked their residential histories in Los Angeles and Chicago (Sampson and Mare 2014). The two anchor studies for the MIP are the *Project on Human Development in Chicago Neighborhoods* (PHDCN) and the *Los Angeles Family and Neighborhood Survey* (L.A.FANS, hereafter LAFANS). The PHDCN and LAFANS are widely recognized for rich longitudinal data on neighborhoods and on educational, health, and behavioral outcomes, especially for children and adolescents in the case of PHDCN and adults in LAFANS. The MIP was designed to study individual and neighborhood dynamics, permitting comparison of a newer Southwest city fundamentally different in urban form and composition than the older "Rust Belt" context exemplified by Chicago. Further details on the sampling design for the two study sites are provided in the Appendix and related papers (Perkins and Sampson 2014; Sampson, Mare and Perkins 2015; Sampson, Schachner and Mare 2015).

Measures and Strategy

I examine and compare two measures of neighborhood income status. The first is *median family income* at the census tract level, a summary indicator of neighborhood quality and resource potential with the added benefit of a clear metric—the dollar. I assign each tract in the United States and within Los Angeles County and Chicago's Cook County to a median family income quintile with cut points based on all U.S. census tracts within counties that are at least partly within a metropolitan statistical area at four points in time: Census 1990, Census 2000,

ACS 2005-2009 and ACS 2008-2012.[1] This approach enables me to track neighborhood trajectories relative to each other and relative to the national distribution simultaneously.

My second measure is the degree of mutual exposure of lower- and higher-income persons within a census tract. Proposed by Massey (2001), the *Index of Concentrated Extremes* (ICE) = $\frac{A_i - P_i}{T_i}$, where *A* is the number of affluent residents in neighborhood i, *P* is the number of poor residents, and *T* is the total number of residents. ICE can range from -1 (all residents are poor) to 1 (all residents are affluent). Greater income mixing, in the form of a more even balance of the poor and affluent, typically in middle class areas, is centered at zero.[2] As with median income, I examine neighborhood transitions across nationally determined ICE quintiles.

At the individual level in L.A., I describe mobility tables for changes in median family income and ICE quintiles of respondents' neighborhoods between Census 2000 and ACS 2008-2012, aligned with LAFANS wave 1 and the MIP survey. For Chicago, census measures from 1990 and 2000 were interpolated to the year of interview for waves 1-2, and the ACS 2008-2012 for wave 4. The focus on quintiles comports with prior research on income mobility at the individual level (Chetty et al. 2014a) and neighborhood level (Sampson, Mare and Perkins 2015). The study design permits me to compare two phases of the life course at the individual level: the transition to young adulthood and the period of middle adulthood. Specifically, I examine 670 children and early adolescents (9-15, average age of 12) in Chicago who

[1] Median family income quintile cutoff points are based on national MSA (metropolitan statistical area) census tracts (excluding Puerto Rico and tracts with family populations below 50)—rather than all census tracts (i.e., including rural areas)—because they better reflect the urban and suburban contexts of theoretical interest. MSAs also constitute a more accurate basis of comparison for Los Angeles and Chicago areas, which are particularly urbanized.

[2] Further rationale and validation evidence for choosing the ICE metric over other measures of income mixing is provided in Sampson, Mare, et al. (2015).

transitioned to young adulthood over the course of the study. By 2012, the Chicago adolescents were between the ages of 26 and 32. The transition here is thus from the social origins of the parental or home neighborhood when growing up to the neighborhood in which the child resides as an adult (Hout 2015). In L.A., I focus on middle adulthood, looking at neighborhood income trajectories of adults (with and without children) from the initial LAFANS wave 1 interview that were confirmed to reside within L.A. County during their wave 2 and MIP interviews.[3] The analytic file of 635 randomly selected adult Los Angelinos were about 40 at baseline. In both samples, the data are weighted to reflect the sampling design and potential attrition bias.

Taken together, the MIP research designs for Chicago and Los Angeles, combined with a national-level picture of neighborhood income mobility, offer a unique vantage point for addressing the theoretical questions of this paper. First, by focusing on neighborhood-level transitions both nationally and in Chicago and L.A., we gain necessary information on the large-scale structural changes that shape individual lives and choices. Second, the MIP is based on coordinated representative samples, in contrast to samples that are selected on the outcome of interest, such as neighborhood income attainment. Third, the longitudinal data are rich in detail, measuring a wealth of similar information on both individual background characteristics and transitions over the life course. In Chicago, the data span a considerable period of the adolescent and young adult life course—approximately 18 years for three age cohorts—and in Los Angeles, the data span a dozen years across middle adulthood. Aging and developmental effects can thus be separated from period effects, and in Chicago there are direct measures of differences in

[3] Following Sampson, Schachner and Mare (2015), I do not analyze dependent children who were under 18 (N= 300) at baseline. I also set aside new entrants into the LAFANS "refresher" sample (N = 89) and a small number of cases (10) with missing or incorrect geocoding information. Future papers will focus on child mobility (through moves with and without their parents) and how refresher cases differ from baseline.

individual character and ability (e.g., self-control, IQ, temperament) that are the basis of the "non-cognitive skills" thesis about who gets ahead (Heckman 2006; Heckman, Humphries and Kautz 2014). A fourth feature is the timing of data collection; in both sites, the research design permits examination of pre- and post-Great Recession measures of poverty and income at both the individual and neighborhood levels. Finally, both sampling designs capture the racial and ethnic diversity of the United States and how cities have changed in recent decades, including a significant representation of first- and second-generation immigrants.[4]

Community-level Results

I follow the theoretical motivation set out earlier by first examining income changes for metropolitan neighborhoods in the U.S. as a whole, the Chicago area (Cook County), and the Los Angeles County. Table 1 presents the mobility rates for all urban neighborhoods in the United States. In Panel 1, we see considerable persistence in income segregation. Just over 80 percent of neighborhoods in the U.S. that were in the bottom or top quintile of neighborhood median income in 1990 remained there in 2000. Similarly, in the decade of the 2000s we see a persistence rate of over 75 percent for low-income neighborhoods and virtually no change in the probability that affluent neighborhoods retain their status (~80 percent). We also see little upward or downward mobility across the decades despite widespread claims of gentrification in recent decades. For example, less than 3 percent of neighborhoods nationwide in the bottom two categories of income moved above the 60th percentile in income in either decade. Only a handful

[4] Thirty-eight percent of the unweighted PHDCN adolescent sample is African-American, 41 percent Latino-American, and 18 percent white; 38 percent of their parents were foreign born. In Los Angeles, over a third of the unweighted adult sample is Latino and over a third is white, with significant representation of Asians (16 percent), and blacks (6 percent), in addition to a considerable first-generation immigrant population (about half the sample).

of over 50,000 neighborhoods rose from the bottom fifth to the top fifth. Downward mobility of neighborhoods is extremely rare too, even in the decade of the Great Recession. Where change mainly seems to take place is in the middle of the income distribution. Roughly half of middle-income neighborhoods stay in the middle category, with mobility more or less evenly split between upward and downward movement in both decades. Table 2 demonstrates that the patterns do not change when we examine transitions in concentrated extremes of income (ICE).

Tables 1 and 2 about here

Table 3 drills down to trends for the Chicago and Los Angeles metro areas. For parsimony, I focus here on ICE results and the decade of the 2000s that aligns with the individual-level MIP studies. (The results for median income are similar). In Table 3, we see both similarities and differences compared to the national picture. In both cities, there is similar persistence of concentrated-poverty neighborhoods (the first quintile group), at over 70 percent. Again, relatively few neighborhoods upgrade from the bottom two quintiles to above the 60th percentile—"stickiness" is the general rule, particularly at the extremes of the distribution (see also Sampson et al. 2015). Surprisingly, however, these inertial tendencies are even stronger at the neighborhood level in Los Angeles than what many consider the epitome of neighborhood inequality in Chicago. For example, the movement from high poverty (bottom two quintiles) to the upper two quintiles is greater in Chicago (5 percent) than in L.A., where only 2 percent of neighborhoods managed to upgrade in any significant way. More strikingly, 77 percent of Chicago neighborhoods in the top quintile remain in place between 2000 and 2010 (the midpoint of the 2008-2012 ACS), whereas in Los Angeles the stability reaches 87 percent among the highest quintile neighborhoods. L.A. neighborhood inequality thus appears more rigid than for

the U.S. as a whole and compared to Chicago, a pattern that is also seen in Figure 3 where I plot pre and post-Recession ICE values. Again we see very strong persistence, especially in L.A.

Table 3 and Figure 1 about here

There is more fluidity in the middle of the income distribution in both cities compared to the U.S. In Chicago, only 37 percent of neighborhoods remained mixed-/middle-income over the decade, and approximately 45 percent of mixed-/middle-income neighborhoods lost ground over the decade (see Table 3). Los Angeles neighborhoods show a somewhat different pattern, where the mixed-/middle-income category has a persistence rate of 47 percent and more of the middle moved up than lost ground. Overall, though, especially when we include the decade of the 1990s, the middle income neighborhoods are tenuous, showing more fragility and hollowing out (Sampson, Schachner, and Mare 2015). The basic picture, then, is one of rigidity at the extremes and vulnerability or precariousness in the middle (see also Galster and Booza 2007).

Individual-level Transitions

In this section I shift from the neighborhood to the individual as primary unit of analysis but retain the analytic focus on change. Do individuals remain within their initial neighborhood income status, or is there substantial upward and downward mobility over the course of the study? Table 4 shows the transition matrix of individual exposure to neighborhood income environments (ICE) over a 13-year period (2000 to 2013) in the LAFANS-MIP sample of adults, and over 18 years for the transition to young adulthood in Chicago. Parallel to the analyses above, neighborhood ICE and income measures are based on nationally determined quintiles.[5]

[5] In all estimates I employ analytic weights to correct for the stratified sample design and potential attrition bias over the course of the follow-up. For further details and results, see Sampson, Mare and Perkins (2015) and Sampson, Schachner, and Mare (2015).

The data reveal that there is more mobility of individuals across neighborhood income groups than there is change in neighborhoods over time, for both Chicago and Los Angeles. Yet there are distinct patterns of stability and change, with some unexpected patterns. For younger adults in Chicago, for example, we see more downward mobility and more individuals in the lower quintile group compared to Los Angeles. Even so, almost 75 percent of adolescents in Chicago who grew up in the highest income neighborhoods (the top fifth) remained either at the top or in the second-highest income group. The basic message is that retention of income status is considerable even for the highly mobile and unstable period of young adulthood. Indeed, only 11 percent of the Chicago sample starting out with advantage is downwardly mobile in the sense of ending up in the lowest quintile. In L.A., a remarkable 90 percent of middle-adulthood respondents who lived in upper income neighborhoods stayed at or near the top. At the other end of the distribution, remaining stuck in poverty is also similar and substantial in both cities despite the age difference and follow-up differential: 60 percent of individuals in both L.A. and Chicago were in the bottom quintile of neighborhood ICE at the beginning and end of the study. And in both cities, fewer than 3 percent of individuals in the bottom neighborhood-income group climbed to the top by the end of the follow-up; under 10 percent rose to the fourth income group.

Moreover, in both cities and similar to the neighborhood-level findings, fluidity in the middle of the income distribution is common. Less than a quarter of young adults in Chicago and 38 percent of adults in L.A. lived in the middle-income category at both time points, and in both cities a significant proportion of those starting out in mixed-/middle-income neighborhoods lost ground—over a third in L.A. and almost 50 percent in Chicago. Similar results obtain for mobility across median income groups, although there is even more downward mobility for adolescents in Chicago. Despite the vast differences in the life-cycle of the samples and urban

structure between L.A. and Chicago, then, the data reinforce a common picture of persistence at the extremes and fluidity in mixed-/middle-income residential exposure at the individual level.

<Table 3 about here>

Background Differences and Racial Inequality

The findings to this point underscore the spatial persistence of neighborhood inequality, but a set of critical questions remains for my goal of better linking neighborhood and individual life-course processes of economic mobility. Do the background characteristics or changing life circumstances of individuals alter trajectories of neighborhood economic status? As noted in the introduction, there are strong theoretical reasons to expect that class, educational, and family factors explain who ends up in poor or rich neighborhoods and which may therefore alter pathways of contextual mobility. Residential mobility is another factor of theoretical relevance: does accounting for *movers* and *stayers* alter the inertial tendencies observed thus far?

Another critical question given past research is how economic mobility patterns differ by race and ethnicity. In particular, we know that blacks and whites live in different neighborhood environments (Sampson 2012; Sharkey 2013), but much less about whether background or life-course characteristics explain the differential exposure to neighborhood inequality over the life course and against the backdrop of the Great Recession. We also know very little about Latino trajectories of exposure to different income environments over the life course.

In this section, I address these questions by examining trajectories of neighborhood income exposure in both Chicago and Los Angeles. I construct a serious of models that are analogous in specification bearing in mind the life-stage differences of adolescents in Chicago and middle-age adults in Los Angeles. For each site, I estimated mixed-effect regression models

of time-varying exposure by race/ethnicity that control for the person-specific characteristic of *age*, *sex*, and *length of residence* in neighborhood at baseline, in addition to *residential mobility* over time.[6] I also control for a set of background characteristics assessed at wave 1 that refer to the parents of the Chicago adolescences and the adults in Los Angeles: *immigrant generation* (1st and 2nd generation), *education*, *employment*, *family income*, *household size*, *home ownership*, and *marital status* (married and cohabitating versus single). For example, family income in Chicago means the income of the family of origin at wave 1 for the adolescents (ages 9-12). In Los Angeles, family income refers to the person him or herself plus other family members at wave 1.

Overall, this analytic strategy allows me to ask how adolescents fare in economic neighborhood mobility during the transition to young adulthood, adjusting for major differences in their family social origins (Hout 2015) and their own residential mobility. In Los Angeles, I examine how middle-age adults fare conditional on their status in younger adulthood at the point where the Chicago sample leaves off (age 28 on average) and their later residential mobility. This strategy thus permits a cross-cohort look at individual and neighborhood economic mobility, with a focus on pre- and post-Great Recession outcomes by race/ethnic inequality.

The results in Figures 2 to 5 paint a clear picture. Despite differences in age cohort, length of follow-up period, and measurement differences, a major finding is that white privilege in neighborhood status is maintained after controlling for the classic mobility-related features of

[6] Specifically, I estimate models that expand on the following basic specification for individual *i* at time *t*: $\boldsymbol{MEDIAN\ INCOME_{ti} = \beta_{00} + \beta_{10}*Time_{ti} + \beta_{20}*Mover_{ti} + \beta_{30}*X + r_{0i} + e_{ti}}$, where X is the vector of covariates, e_{ti} is the within-person or change error term and r_{0i} is the person-specific error term. Later, I expand "Mover" to adjust for both moving tracts and moving out of the city of Chicago over the course of the follow-up (Sampson and Sharkey 2008). In LAFANS, I also control for moving tracts, but the L.A. vs. county distinction is not comparable to the Chicago sample, so in later models I control for moving out of the central core of L.A. instead. For discussion of mover-stayer results see Sampson, Schachner and Mare (2015).

individual background, residential mobility and the macro effects of the Great Recession. Whites enjoy a substantial advantage when it comes to neighborhood economic status, with a dollar difference compared to blacks of at least $15,000 in median income in each city and a gap in ICE scores of over a standard deviation in Chicago and nearly a standard deviation in L.A. In Chicago, we also see that black adolescents were particularly hard hit by the Great Recession: The decline in neighborhood income for blacks compared to whites from wave 3 to wave 4 is statistically significant and amounts to nearly $5,000 (Figure 2); by contrast, whites were impervious to the shock of the Recession and the slight decline for Latinos is nonsignificant. At the upper end, white and Latino adolescents increased their exposure to concentrated affluence from wave 3 to wave 4 but the ICE value for blacks remained flat (Figure 3).

Adults in Los Angeles are better off overall than young adults in Chicago with respect to average neighborhood income and concentrated affluence (Figures 4-5), and they were seemingly unaffected by the Great Recession. But this pattern is somewhat expected because adults have had a longer time to advance in their careers and have more resources than adolescents to cushion against the Recession. Note, too, that Latinos in Los Angeles are closer to blacks in their contextual mobility trajectories, and that Asians, while a relatively small group, fare quite well compared to whites in neighborhood economic status. Still, the white-black gap is large in both cities and cannot be explained away in terms of background characteristics.

<Figures 2-5 about here>

In recent work with colleagues I have investigated neighborhood mover-stayer transitions in more detail and whether changes in life circumstances materially alter the patterns in the data that I have presented here. Perhaps surprisingly, a direct assessment of individual social mobility (e.g., increases in income, education, marital changes, and employment transitions) does *not*

change the fundamental inequalities shown in figures 4 and 5 for Los Angeles (Sampson, Schachner, and Mare, 2015). Moreover, Perkins and Sampson (2014) find that racial differences in neighborhood exposure to poverty are so strong that even *high-income blacks* are exposed to greater neighborhood poverty than *low-income whites*. For example, nonpoor blacks in Chicago live in neighborhoods that are nearly 30 percent in poverty—traditionally the definition of "concentrated poverty" areas—whereas poor whites lives in neighborhoods with 15 percent poverty, about the national average. Blacks are also exposed to greater unemployment, single-parent families, and social organizational deprivation in the form of crime, low collective efficacy, and more fragile social support networks. Deprivation at the neighborhood level is thus multidimensional in character and deeply divided by race when it comes to exposure levels.

When we consider individual and neighborhood poverty simultaneously, it turns out that a substantial minority of blacks in Chicago (about 18 percent) experience living in poor neighborhoods *and* living in individual poverty at the same time by the end of our study—what we call "compounded deprivation" (Perkins and Sampson 2014) —compared to literally a handful of whites (less than 1 percent). Importantly, this finding obtains after controlling for the anxiety/depression, self-control, delinquency, and cognitive skills of the respondent, along with exposure to violence in the community and family criminality It is thus clear that for blacks in particular, whether in L.A. or Chicago, the social realities of poverty are spatially constricted in a strong and persistent way, even when we account for individual residential and social mobility, and, in Chicago, for the foundations of human capital development (Heckman and Mosso 2014).

Moving Up?

The last, closely related question I examine concerns the role of initial neighborhood conditions and changes in neighborhood economic status from the beginning to the end of the

study. The question of upward mobility has generated intense debate in U.S. of late, but largely in terms of individual income changes across generations (Chetty et al. 2014b). By contrast, I ask, what is the legacy of initial neighborhood poverty, and what factors predict changes in contextual economic mobility? To answer this question, I estimated logistic regression models of movement from the lower quintile of neighborhood income and ICE at baseline to the upper quintile at the final study wave. As in earlier models, this refers to movement from the parent's chosen neighborhood in the adolescence of the respondent to the respondent's neighborhood destination in young adulthood in Chicago; in Los Angeles, the span is across middle adulthood. My main models estimated linear change in median income and ICE from origin to destination.

I find evidence of the path dependence of initial neighborhood economic level; where you end up living is contextually shaped. Conditional on starting position, blacks also continue to see large deficits in the odds of upward mobility, despite controlling for social and residential mobility. Moreover, individual differences play a subdued role once initial conditions are controlled; in Chicago, none of the background or individual social origin predictors attain significance in the transition to young adulthood (e.g., parental income, education, household size, immigrant status, and even residential mobility). For adults in L.A., higher income respondents do see a boost in neighborhood incomes, and factors such as homeownership and marital status play a role, but overall the driving factors are initial position and race/ethnicity.

Figure 6 summarizes selected results for linear models of median income where we can attach a dollar value to race/ethnic categories and prior neighborhood status. The data reveal an interesting city pattern consistent with the idea that the black "penalty" for changes in neighborhood income status over time is larger in Chicago than L.A., by a considerable degree. Adjusting for wave 1 neighborhood income and the usual suspects that are posited in prior

research to account for income mobility, black young adults in Chicago live in neighborhoods that are on average over $19,000 lower in median income than white young adults as of 2013, whereas in Los Angeles, the gap for middle-aged adults is also significant but much less, about $7,500. Although age or life-cycle may account for the difference in part, the differential black-white gap is likely driven by the structural reality of severe racial segregation in Chicago for much of its recent history (Massey and Denton 1993; Sampson 2012).

In addition, Los Angeles residents reap a greater benefit than Chicagoans on initial neighborhood position. For every $10,000 in neighborhood income at baseline, L.A. adults get a later return of more than $6,700, compared to $3,433 in Chicago. The follow-up is longer in Chicago (1995-2012), but when we revise the model to examine the period 2000 to 2012, insuring an exact time frame for comparison, the estimate for Chicago is just under $3,000, or less than half that of L.A. The basic result thus holds.

<Figure 6 about here>

Summary

The results of this paper yield ten interrelated conclusions that highlight the strong spatial foundations of income inequality and that call for a broader framework than the individual-level focus of most economic mobility research. The results also call into question analytic or policy frameworks that do not directly confront the legacies of racial inequality.

1. At the neighborhood level, income status is surprisingly persistent over time for both poverty and affluence despite numerous changes in society such as increases in income inequality, immigration, gentrification, and the great crime decline. Whether for all U.S. urban areas or in Chicago and Los Angeles, we see relatively little upward or downward

mobility across the last two decades. Despite widespread claims of gentrification, for example, less than 3 percent of neighborhoods nationwide in the bottom two categories of income moved above the 60th percentile in income in the 1990s or 2000s. Almost no neighborhoods rose from the bottom fifth to the top fifth. Significant downward mobility of neighborhoods is extremely rare, too, even in the Great Recession.

2. By contrast, there is fluidity in the middle of the income distribution in Chicago and Los Angeles, especially compared to the U.S. Mixed middle-income neighborhoods are tenuous, showing fragility and hollowing out in the 1990s in L.A. and in the 2000s in Chicago. The basic picture, then, is one of rigidity at the extremes and vulnerability or precariousness in the middle when neighborhoods are the units of analysis.
3. Overall, these findings militate against the idea that income inequality is somehow recent at the neighborhood level or that neighborhoods have radically repositioned themselves. Just as individual income mobility has been fairly low for some time (Chetty et al. 2014b), the odds of neighborhood-level upgrading are relatively low, and persistent neighborhood inequality has existed for decades (Sampson 2012). It is true that cities have changed dramatically and the middle is in peril, but large-scale secular changes have been, for the most part, superimposed on preexisting structures of inequality (see also Hwang and Sampson 2014). These structures exist nationally and in both cities studied, although unexpectedly, the persistence of concentrated extremes is as high or higher in the newer Sunbelt city of L.A. than in the older city of Chicago that is typically considered more segregated or divided by place.
4. At the individual level, the results paint a picture of greater change, or contextual mobility, but persistence still dominates. Retention of neighborhood income status is

considerable even during the highly mobile and unstable transition to young adulthood: in Chicago, only about a tenth of adolescents experienced downward mobility into their 30s. In L.A. the retention of privilege is even greater: 90 percent of middle-adulthood respondents who lived in upper-income neighborhoods stayed at or near the top.

5. At the other end of the distribution, remaining stuck in poverty is also similar and substantial in both cities despite the age difference and follow-up differential. For example, in both cities, fewer than 10 percent of individuals in the bottom neighborhood-income group climbed to the top by the end of the follow-up, and in both cities, initial conditions in median income directly predict destination median income.
6. In both cities and similar to the neighborhood-level findings, however, fluidity in the middle of the income distribution is relatively common.
7. Perhaps the most bracing finding is the pronounced magnitude of racial inequality in neighborhood economic disadvantage and contextual mobility. Whites enjoy a substantial advantage when it comes to neighborhood economic status, with a dollar difference compared to blacks of at least $15,000 in median income in each city and a gap in ICE scores of over a standard deviation in Chicago and nearly a standard deviation in L.A.
8. In Chicago, black adolescents were particularly hard hit in the Great Recession era. The decline in neighborhood income for blacks compared to whites in the decade of the 2000s amounts to nearly $5,000. Whites were impervious to the shock of the Recession, and the slight decline for Latinos was not significant. The black "penalty" for changes in neighborhood income status is also greater in Chicago than in Los Angeles (Figure 6).
9. Importantly, the large white-black gap in both cities cannot be explained away in terms of background characteristics such as income, education, homeownership, or employment,

or by social or residential mobility. In Chicago, the black-white gap also does not materially decline after accounting for noncognitive and cognitive skills.

10. Racial inequality in exposure to low-income neighborhood environments is so strong that high-income blacks are exposed to greater neighborhood poverty than low-income whites. Blacks are also exposed to greater unemployment, numbers of single-parent families, and social organizational deprivation in the form of crime, disorder, and low collective efficacy. Furthermore, almost a fifth of blacks in Chicago experience living in poor neighborhoods *and* living in individual poverty at the same time by the end of our study compared to only a handful of whites (less than 1 percent). Deprivation is thus multidimensional and compounded in character, with sharp divisions by race.

Policy Implications: Affirmative Action for Neighborhoods?

Synthesizing to a more general level, these conclusions imply that a singular focus on individual income mobility is misleading. It is not that individual mobility is unimportant, but that contextual mobility has its own logic and demands independent inquiry. The strong spatial foundations of income inequality further imply that policies should aim to change the neighborhood context of individuals or change places themselves. One way to think about policy responses to spatial inequality is therefore to separate them by target of analysis—individual or community. The first approach to reducing spatial inequality begins with the premise of promoting personal choice, highlighted symbolically and concretely in the voucher movement, which advocates vouchers as a way to move individuals away from poor performing schools or poor communities. An example of an individual policy is to give housing vouchers to induce residents to move away from concentrated poverty areas, such as occurred in the Moving

to Opportunity experiment. The second approach is to intervene holistically at the scale of neighborhoods or places themselves. Rather than simply move people out of targeted low-income communities, the idea is to renew what is already there with an infusion of resources.

Person-based versus *place-based* interventions have in fact been the subject of much debate that goes well beyond the scope of this paper. A fair summary is that there is no "magic bullet" intervention at either level. Voucher programs have shown some positive effects, but the evidence is mixed, and residents of poor areas have locally-based social ties that are potentially disrupted by moves. It is also not clear that "scaling up" voucher programs to the national level is feasible, and there are worries that concentrated poverty would simply be shifted to other locations. What poor residents seem to want most is not to move but simply to have their communities revitalized. The latter is not simple, of course, and there is a long history to failed community-level or place-based interventions. And while neighborhood income mixing has surfaced as a favored policy tool and is the subject of growing scholarly discussion, research evaluating its sources and consequences is sparse and has produced conflicting results.[7]

Nonetheless, the data I have presented on the persistent inequality underlying contextual economic mobility points to the need for sustained interventions at the neighborhood level. It is surprising how few interventions are taken with the long view in mind. As Sharkey (2013: 179) has argued, most interventions are single-site and time-constrained such that outcomes are measured locally and in the short run. But the evidence implies we need *durable investments* in disadvantaged urban neighborhoods to match the persistent and longstanding nature of institutional disinvestment that such neighborhoods have endured over many years. Several

[7] Several reviews of the person-versus-place debate, neighborhood effects, and place-based interventions are available (e.g., Clampet-Lundquist and Massey 2008; Ellen and Turner 1997; Galster 2011; Goering and Feins 2003; Joseph and Chaskin 2012; Leventhal and Brooks-Gunn 2000; Sampson 2008; Sanbonmatsu et al. 2011; Sharkey 2014; Stahl 2014; Wimer 2014).

strategies to improve communities currently exist and are logical candidates for retooling with an emphasis on sustained investment. Although evaluations are not uniformly available, place-based candidates include the construction of new affordable housing and renewal of older housing in poor neighborhoods; violence reduction integrated with community policing and prisoner reentry programs that foster the legitimacy of criminal justice institutions; integrated community-based social services that recognize the multidimensional nature of poverty; modification of restricted zoning rules to permit low-income housing; code enforcement and crackdown on landlord disrepair and illegal eviction practices; enhanced protections against housing discrimination; and early educational and other supports for healthy child development in high-risk, poor communities. Hybrid interventions that seek to create a more equitable mix of incomes, such as the HOPE VI mixed-income intervention, also make logical sense.

What is needed are not just local policies targeted at specific communities but a federally based or large-scale set of interventions, sustained over time and targeted to many, and ideally all, disadvantaged communities. A long-term focus is also consistent with the emerging body of research that demonstrates the critical importance of early childhood development for later wellbeing and economic mobility (Heckman and Mosso 2014; Heckman 2006). As reviewed earlier, there is a mounting body of evidence which suggests that prolonged exposure to concentrated disadvantage and violence undermines early child development and human capital skills (Chetty, Hendren and Katz 2015; Sampson, Sharkey and Raudenbush 2008; Sharkey 2010). National interventions now being promoted by the federal government in many cities, such as Choice Neighborhoods and Promise Neighborhoods, informed by localized efforts such as the Harlem Children's Zone, thus provide grounds for optimism that a new generation of social-level thinking for children can be integrated with contextual, place-based policies.

A factor that looms large in the present analysis and that cannot be set aside in these conversations is racial inequality. It is a not a topic that is sits comfortably nowadays in policy circles, but the race penalty in my data beg the question. Do we need affirmative action for neighborhoods? I would conclude yes, and that we can do so in creative ways that link individual and spatial logics. In addition to placed-based programs that target formerly disinvested and hence disproportionately minority neighborhoods, one policy option is to give cash assistance or reduce the tax rate for those in compounded deprivation—that is, *poor residents* w*ho also live in poor or historically disinvested areas.* Cash assistance or tax relief could also be combined with jobs training or public works job creation (Wilson 2013).

The logic behind this idea is that poor individuals living in poor neighborhoods face a very different social world than poor residents who are otherwise surrounded by resource-rich neighborhoods, and that blacks, more than whites or Latinos, have historically borne the brunt of differential exposure to concentrated poverty (Wilson 1987). Unfortunately, as I have shown, they continue to do so to this day. These facts could be addressed and communities potentially preserved even with a policy implemented for all qualified persons regardless of their race. The ecological impact would disproportionately benefit minorities and unlike MTO-like voucher programs, such a policy would allow poor residents to remain in place, if desired ("unstuck"), while at the same time increasing their available income. Extra income would in effect lower the neighborhood poverty rate and in theory lead to longer-run social investments in the community among stayers.[8] (Incentives to move could remain an alternative for residents wishing to leave).[9]

[8] For similar but more controversial argument on racial segregation see Pattillo (2014).

[9] Another advantage of cash assistance or a "negative income tax" (NIT) policy targeted to compounded deprivation is that large new bureaucracies are not required. Of course, versions of these programs have been criticized, inter alia, for decreasing incentives to work. But such

There are encouraging trends that give further hope to the idea that revitalizing disadvantaged communities, whether through place-based interventions and individual tax or job policies, is not naïve. For one thing, there is evidence that, contrary to stereotypes, disadvantaged communities have latent collective efficacy and capacities that are otherwise suppressed by the cumulative disadvantages built up after repeated everyday challenges (Sampson 2012: 394-413). The further good news is that many of these challenges have turned in the right direction. Violence is down dramatically, people are moving back into cities, racial segregation is down, and immigration is changing the nature of many neighborhoods. Taken together, these facts suggest real prospects for the increased sharing of neighborhoods across race and class boundaries in urban areas that not too long ago were written off or were thought to be dying (Ellen 2000). These trends also raise the possibility that with sustained policy interventions, the "black-white" gap that has dominated the urban scene for so long may decline.

Finally, as I have concluded elsewhere (Sampson 2012: 426), existing continuities and social inequalities are not inherent but are socially reproduced in multiple ways that can be acted upon. We act on individual incentives constantly, and macro national policies are woven into the identity of the country. There is thus nothing intrinsic about policy to prevent intervening at the scale of the community while attending to the realities of individual choice. Rather than privileging the "move out" approach, it may well be that the time has come for policies designed to allow poor individuals to remain in place but with new resources.

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limitations are not necessarily any worse than current policies, and a jobs creation program could be included to address concentrated unemployment (see e.g., the discussion of "The Local Job for America Act" in Wilson, 2013:16). And although blacks would benefit disproportionately, such a program would also aid Latinos and whites who live in compounded deprivation. At the very least, place-linked variants of the earned income tax credit or a revised version of the negative income tax deserve consideration for their potential costs and benefits.

Appendix: Mixed-Income Project Research Design

Chicago. The ***Project on Human Development in Chicago Neighborhoods*** (PHDCN) is a longitudinal cohort study of 6,207 children and their caregivers based on a representative sample drawn from a stratified probability sample of 80 neighborhood clusters (NCs) in Chicago in 1995 that were defined by racial/ethnic composition (seven categories) and SES (socioeconomic status: high, medium, and low). Within the eighty sampled NCs, children falling within seven age cohorts (0 [birth], 3, 6, 9, 12, 15, and 18) were sampled from randomly selected households based on a screening of more than 35,000 households. Dwelling units were selected systematically from a random start within enumerated blocks. Within dwelling units, all households were listed, and all age-eligible children were selected with certainty. Extensive in-home interviews and assessments were conducted with the sampled children and their primary caregivers three times over a seven-year period, at roughly 2.5-year intervals (wave 1 in 1995–1997, wave 2 in 1997–1999, and wave 3 in 1999–2001). Participants were followed no matter where they moved in the United States. Participation at baseline and retention at wave 3 were relatively high for a contemporary urban sample at 78 percent and 75 percent, respectively.

The Mixed-Income Project (MIP) traced and re-interviewed randomly sampled participants last contacted at wave 3 of PHDCN in the original birth cohort and the age 9-15 cohorts. The Chicago field operation engaged in a multi-method tracking effort using electronic, phone-based, and in-person methods (e.g., knocking on doors). The majority of interviews were carried out in person (around 60 percent) in 2012 and early 2013, but phone interviews were allowed if preferred by respondents or easier to implement. Despite the long time that elapsed since last contact at wave 3 and the contemporary setting, MIP achieved a response rate of 63

percent of eligible cases overall, yielding 1,057 respondents. The analyses in this paper focus on the 9-, 12-, and 15-year old cohorts who transitioned to young adulthood (age 26-32) by 2013.

To capture exposure to neighborhood income status, we geocoded addresses of the MIP sample to census tract boundaries and merged them with waves 1–3 of the PHDCN. Each individual was thus linked to a census tract for each of the four waves of the combined PHDCN-MIP survey. We then integrated census data across three decades and the American Community Survey (ACS) data from 2005-2009, 2006-2010, 2007-2011, and 2008-2012 for the entire U.S.

Los Angeles. The ***Los Angeles Family and Neighborhood Survey*** (LAFANS) is a multilevel longitudinal study of children, families, and communities in Los Angeles County. Wave 1 of the survey was collected in 2000-2001 and consisted of a probability sample of 65 neighborhoods (census tracts) within L.A. County; and, within neighborhoods, a sample of blocks within tracts, a sample of families within blocks, and a sample of individuals within families. Neighborhoods were stratified by poverty status, and households with children (persons under 18) were oversampled, comprising 70 percent of the sample. In these households, one adult was randomly selected and interviewed. One randomly selected child, the primary caregiver of the child (who might or might not be the same person as the randomly selected adult), and a randomly selected sibling were also interviewed. Within childless households, one member was selected as respondent, denoted as the randomly selected adult. Of the 3,085 randomly selected adults within sampled households, 2,260 (85 percent) completed an adult interview.

In 2006-2008 (hereafter "wave 2"), interviewers re-interviewed the same respondents if they still resided in Los Angeles County. Wave 2 status was ascertained for 1,775 respondents of eligible adult respondents (64 percent of released cases). Extensive interview information was

collected to complement the detailed battery of items from wave 1, including a retrospective log of all residences in which they had resided over the interim years. Over 90 percent of wave 2 interviews were completed before the economic crash of September 2008.

The MIP follow-up study (hereafter "wave 3") attempted to locate and re-interview a random probability sample of approximately 1,500 participants (i.e., randomly selected adults, primary caregivers, and children) from the earlier LAFANS. To this end, the Los Angeles field operation first assigned selected respondents to a telephone survey center for interviews. Cases that were not interviewed by telephone were transferred to experienced field interviewers in the Los Angeles area. The final response rate was 76 percent of eligible participants from earlier waves, for a combined sample of 1,032. 59 percent of Los Angeles interviews were completed in person and 41 percent by phone; most interviews were completed in 2012, but the data collection period extended to March of 2013. Given the approximately half-dozen years that lapsed since last contact at wave 2, the final yield results compare well with other research on contemporary urban settings; for further details, see Sampson et al. (2015).

Parallel to Chicago, we used the geocoded address histories to integrate tract-level U.S. census data from 2000 and American Community Survey (ACS) data from 2005-2009 and 2008-2012. With this strategy we match census data to the year of the data collection—2000 for wave 1, ACS 2005-2009 for wave 2, and ACS 2008-2012 for wave 3.

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TABLE 1

Neighborhood-Level Mobility in Median Family Income,
1990 to 2000 and 2000 to 2008-2012: United States, excluding Puerto Rico

A.		**1990 Median Family Income Quintiles**					
		1	2	3	4	5	Total
2000 Income Quintiles	1	8,059	1,856	193	25	4	10,137
		80.15	18.36	1.91	0.25	0.04	20.06
	2	1,747	5,700	2,344	343	21	10,155
		17.37	56.39	23.14	3.39	0.21	20.09
	3	181	2,237	5,315	2,270	151	10,154
		1.80	22.13	52.48	22.41	1.49	20.09
	4	50	252	2,099	5,908	1,774	10,083
		0.50	2.49	20.72	58.33	17.53	19.95
	5	18	63	177	1,582	8,172	10,012
		0.18	0.62	1.75	15.62	80.74	19.81
Total		10,055	10,108	10,128	10,128	10,122	50,541
		100	100	100	100	100	100

B.		**2000 Median Family Income Quintiles**					
		1	2	3	4	5	Total
2008-12 Income Quintiles	1	7,727	2,124	249	28	5	10,133
		76.26	20.96	2.46	0.28	0.05	19.96
	2	1,943	5,287	2,584	338	12	10,164
		19.12	52.02	25.42	3.33	0.12	20.02
	3	311	2,303	4,992	2,395	159	10,160
		3.06	22.67	49.13	23.57	1.56	20.01
	4	79	342	2,116	5,779	1,851	10,167
		0.78	3.36	20.81	56.84	18.20	20.03
	5	45	103	218	1,628	8,145	10,139
		0.44	1.02	2.15	16.06	80.07	19.97
Total		10,105	10,159	10,159	10,168	10,172	50,763
		100	100	100	100	100	100

Notes: cell entries are the number of cases and column percent, respectively; only census tracts with family populations above 50 in 1990 (N=50,667), 2000 (N = 50,887) and 2008-2012 (N = 50,959) are included.

TABLE 2

Neighborhood-Level Mobility in ICE (Index of Concentrated Extremes), 1990 to 2000 and 2000 to 2008-2012: United States, excluding Puerto Rico

A.		**1990 ICE Quintiles**					
		1	2	3	4	5	Total
2000 ICE Quintiles	1	8,134	1,821	164	20	3	10,142
		80.81	18.00	1.62	0.20	0.03	20.07
	2	1,729	5,800	2,312	300	19	10,160
		17.18	57.34	22.86	2.96	0.19	20.10
	3	158	2,219	5,347	2,270	146	10,140
		1.57	21.94	52.86	22.43	1.44	20.06
	4	32	225	2,125	5,880	1,828	10,090
		0.32	2.22	21.01	58.10	18.06	19.96
	5	13	50	167	1,651	8,128	10,009
		0.13	0.49	1.65	16.31	80.28	19.80
Total		10,066	10,115	10,115	10,121	10,124	50,541
		100	100	100	100	100	100

B.		**2000 ICE Quintiles**					
		1	2	3	4	5	Total
2008-12 ICE Quintiles	1	7,799	2,091	232	17	3	10,142
		77.13	20.58	2.28	0.17	0.03	19.98
	2	1,908	5,411	2,515	317	9	10,160
		18.87	53.27	24.75	3.12	0.09	20.01
	3	292	2,292	5,096	2,355	125	10,160
		2.89	22.56	50.14	23.18	1.23	20.01
	4	91	303	2,132	5,788	1,845	10,159
		0.90	2.98	20.98	56.97	18.14	20.01
	5	21	61	188	1,683	8,189	10,142
		0.21	0.60	1.85	16.56	80.51	19.98
Total		10,111	10,158	10,163	10,160	10,171	50,763
		100	100	100	100	100	100

Notes: cell entries are the number of cases and column percent, respectively; only census tracts with family populations above 50 in 1990 (N=50,667), 2000 (N = 50,887) and 2008-2012 (N = 50,959) are included.

TABLE 3

Neighborhood-Level Transitions Mobility in ICE, 2000 to 2008-2012: Chicago Cook County (N=1,298) and Los Angeles County (N=2,023)

A.

		Chicago 2000 ICE Quintiles					
		1	2	3	4	5	Total
2008-12 ICE Quintiles	1	237	73	10	1	0	321
		74.06	34.76	4.22	0.41	0.00	24.92
	2	57	89	96	22	0	264
		17.81	42.38	40.51	8.94	0.00	20.50
	3	15	31	88	69	4	207
		4.69	14.76	37.13	28.05	1.45	16.07
	4	9	10	29	121	60	229
		2.81	4.76	12.24	49.19	21.82	17.78
	5	2	7	14	33	211	267
		0.62	3.33	5.91	13.41	76.73	20.73
Total		320	210	237	246	275	1,288
		100	100	100	100	100	100

B.

		Los Angeles 2000 ICE Quintiles					
		1	2	3	4	5	Total
2008-12 ICE Quintiles	1	463	26	1	0	0	490
		72.34	6.95	0.32	0.00	0.00	24.22
	2	160	217	40	2	0	419
		25.00	58.02	12.62	0.66	0.00	20.71
	3	13	114	146	39	2	314
		2.03	30.48	46.06	12.96	0.51	15.52
	4	3	16	119	187	47	372
		0.47	4.28	37.54	62.13	12.02	18.39
	5	1	1	11	73	342	428
		0.16	0.27	3.47	24.25	87.47	21.16
Total		640	374	317	301	391	2,023
		100	100	100	100	100	100

Notes: cell entries are the number of cases and column percent, respectively; only tracts with family populations above 50 in 2000 and 2008-2012 are included.

TABLE 4

Individual-Level Transitions in Exposure to Income Extremes (ICE), Chicago (1995-2013) and Los Angeles Samples (2000 to 2013)

A.

		Chicago Wave 1 ICE Quintiles					
		1	2	3	4	5	Total
Wave 4 ICE Quintiles	1	140	50	30	6	4	229
		60.56	34.42	18.89	5.66	11.08	34.14
	2	53	35	46	18	2	155
		23.17	24.36	29.27	17.5	6.24	23.06
	3	23	36	33	15	3	109
		9.96	24.65	20.76	14.79	7.76	16.27
	4	9	14	26	35	12	97
		3.99	9.73	16.69	34.61	33.53	14.46
	5	5	10	23	28	15	81
		2.32	6.84	14.39	27.45	41.39	12.07
Total		231	145	157	101	37	671
		100	100	100	100	100	100

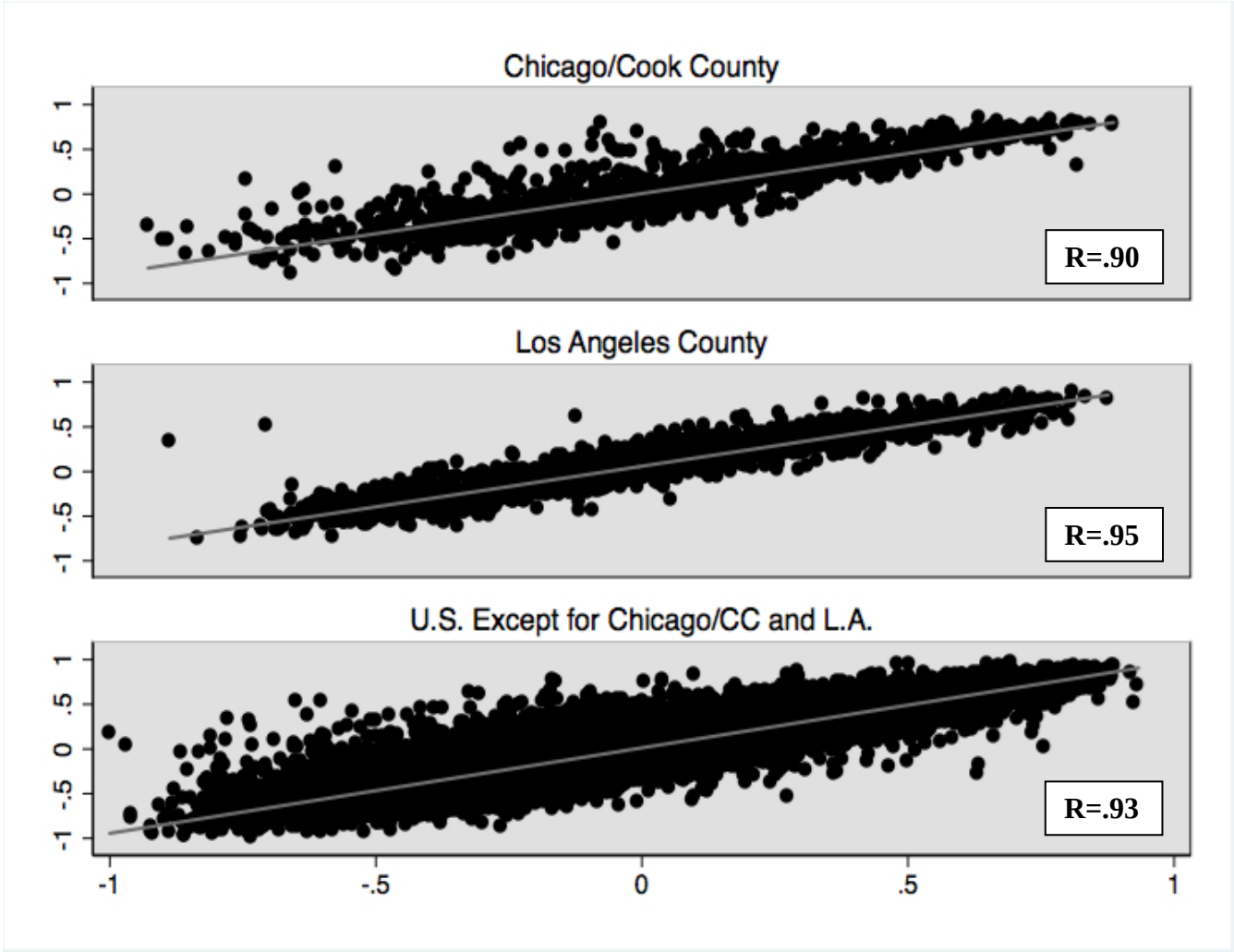
B.

		Los Angeles Wave 1 ICE Quintiles					
		1	2	3	4	5	Total
Wave 3 ICE Quintiles	1	112	13	1	2	0	128
		59.98	12.02	1.36	3.04	0.00	21.00
	2	38	73	29	11	9	160
		20.17	65.50	33.50	14.85	6.08	26.18
	3	23	20	33	10	3	88
		12.11	17.51	37.89	13.75	2.07	14.44
	4	12	2	23	32	40	109
		6.48	2.04	26.35	42.48	26.25	17.84
	5	2	3	1	20	100	126
		1.26	2.94	0.91	25.89	65.60	20.55
Total		186	112	86	76	152	612
		100	100	100	100	100	100

Notes: cell entries are the number of cases and column percent, respectively. Panel A is reproduced from Sampson, Mare, and Perkins (2015) and Panel B is reproduced from Sampson, Schachner, and Mare (2015).

FIGURE 1.

Relationship Pre and Post Recession for ICE (Index of Concentrated Extremes in Income): Chicago Cook County, Los Angeles County, and the United States, excluding Puerto Rico



ICE 08-12

ICE 2000

FIGURE 2.

Chicago Median Income Trajectories of Young Adulthood Sample by Race/Ethnicity, Adjusting for Age, Sex, Length of Residence, Residential Mobility, Immigrant Generation, Education, Employment, Family Income, HH Size, Homeowner, and Marital Status (95% CI)

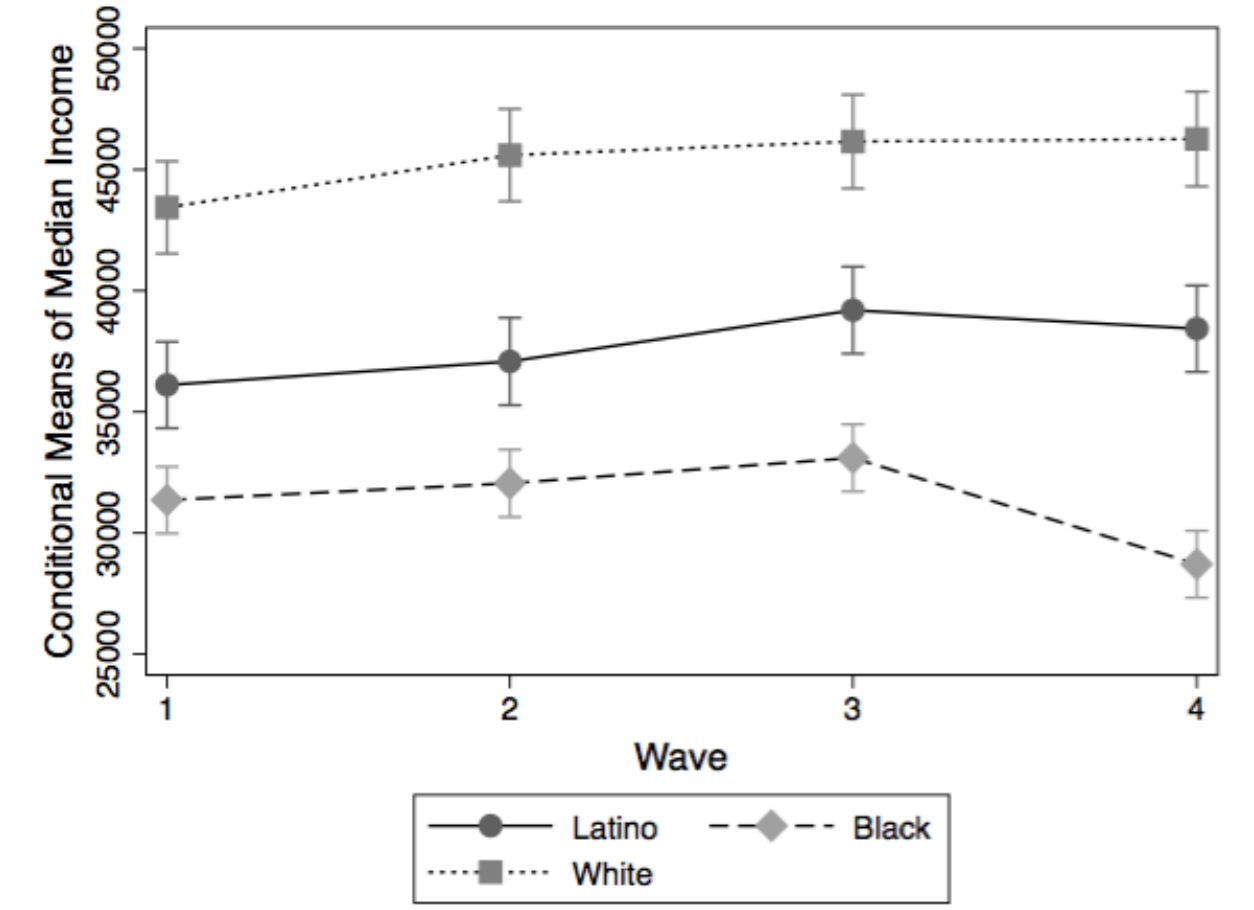


FIGURE 3.

Chicago ICE Trajectories of Young Adulthood Sample by Race/Ethnicity, Adjusting for Age, Sex, Length of Residence, Residential Mobility, Immigrant Generation, Education, Employment, Family Income, HH Size, Homeowner, and Marital Status (95% CI)

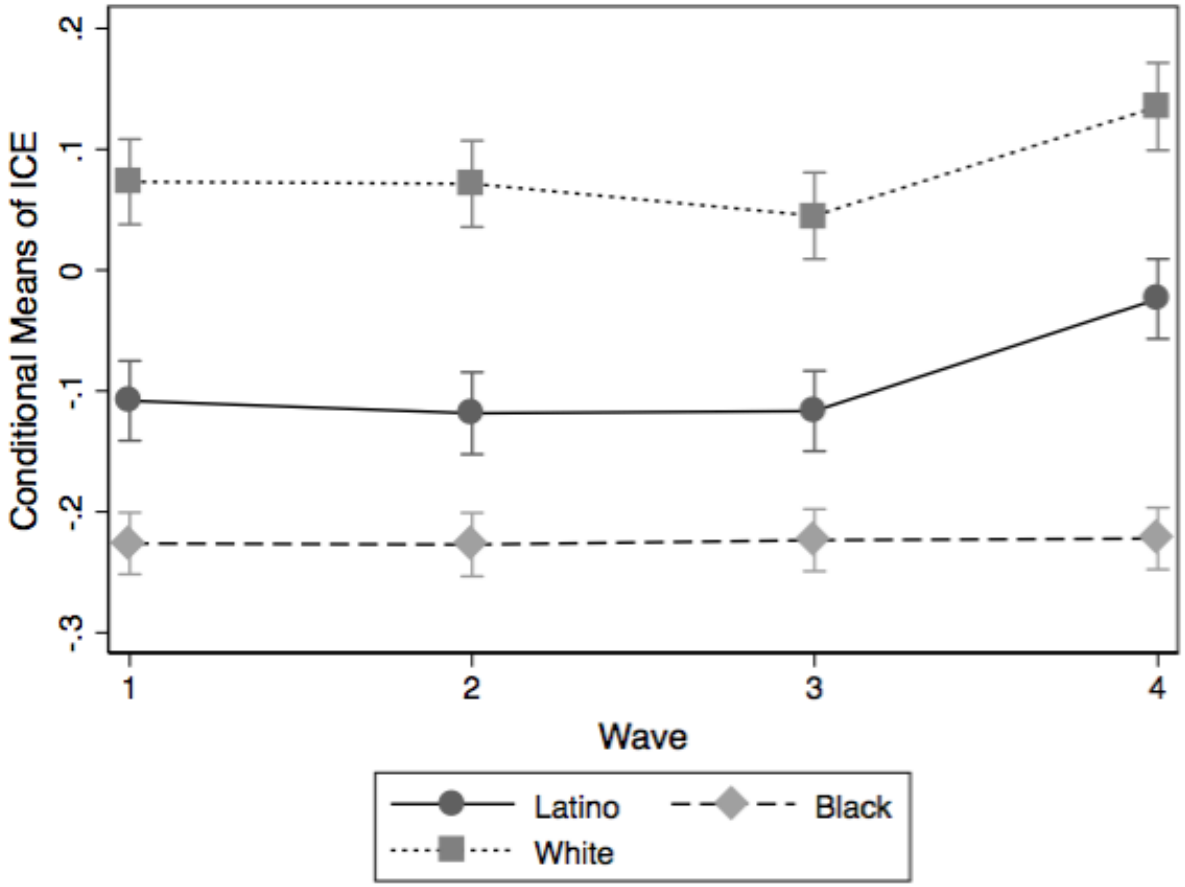


FIGURE 4.

Los Angeles Median Income Trajectories of Middle Adulthood Sample by Race/Ethnicity, Adjusting for Age, Sex, Length of Residence, Residential Mobility, Immigrant Generation, Education, Employment, Family Income, HH Size, Homeowner, and Marital Status (95% CI)

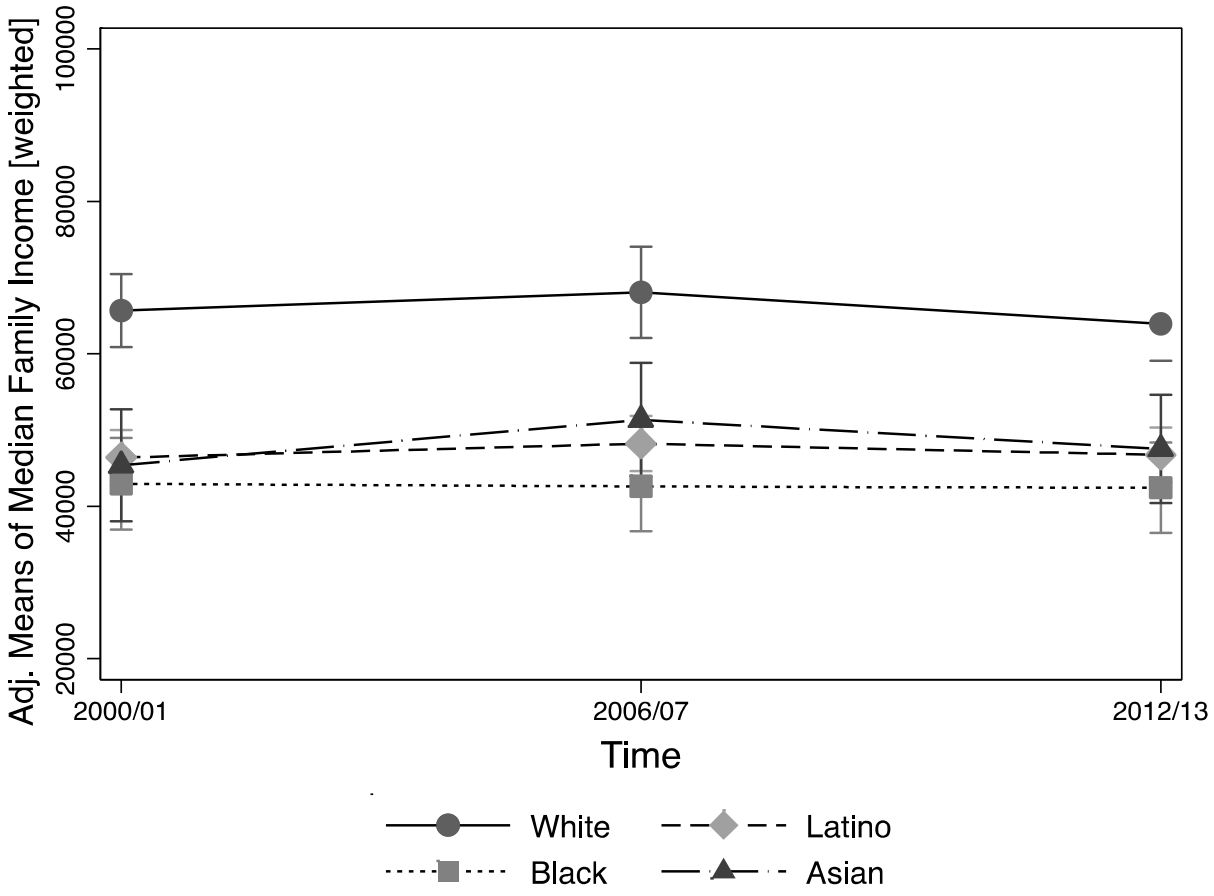


FIGURE 5.

Los Angeles ICE Trajectories of Middle Adulthood Sample by Race/Ethnicity, Adjusting for Age, Sex, Length of Residence, Residential Mobility, Immigrant Generation, Education, Employment, Family Income, HH Size, Homeowner, and Marital Status (95% CI)

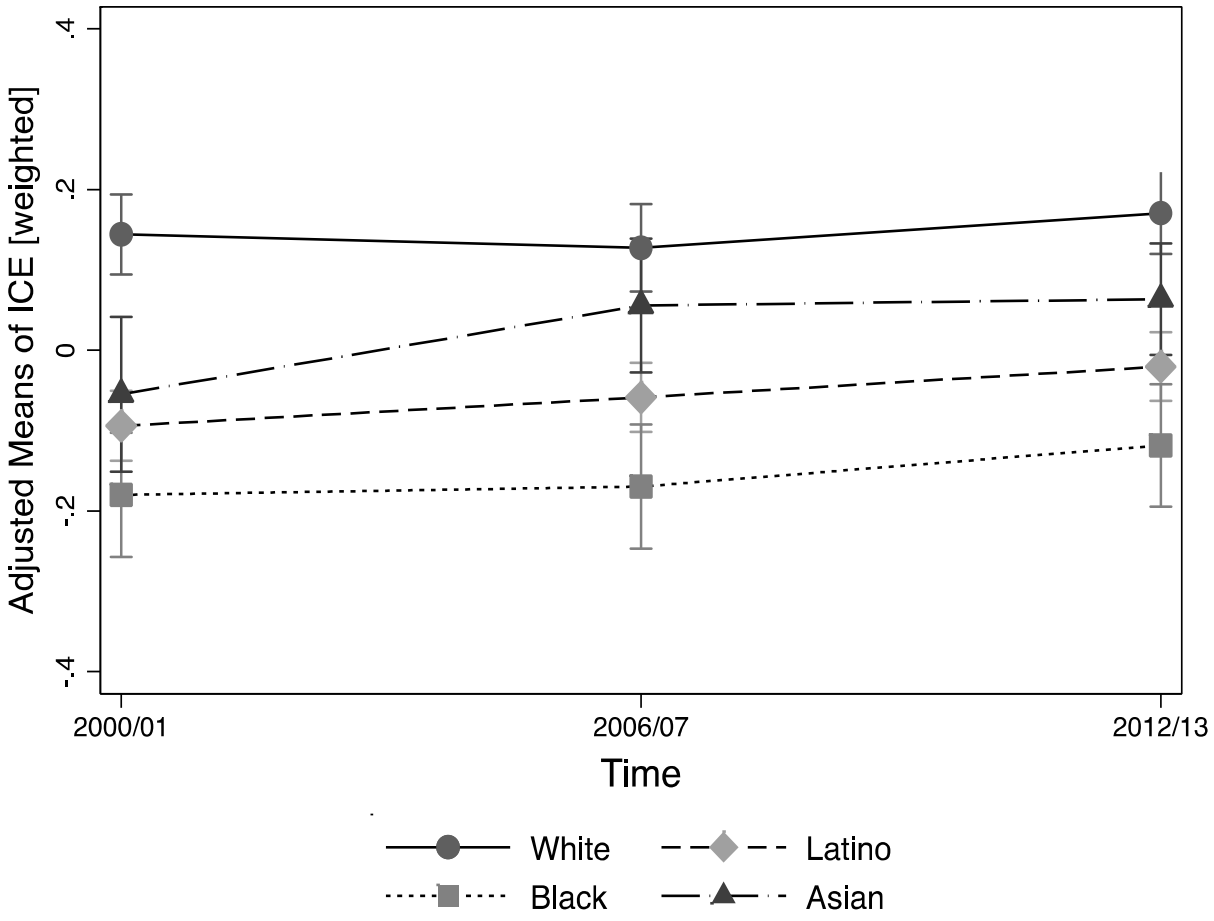
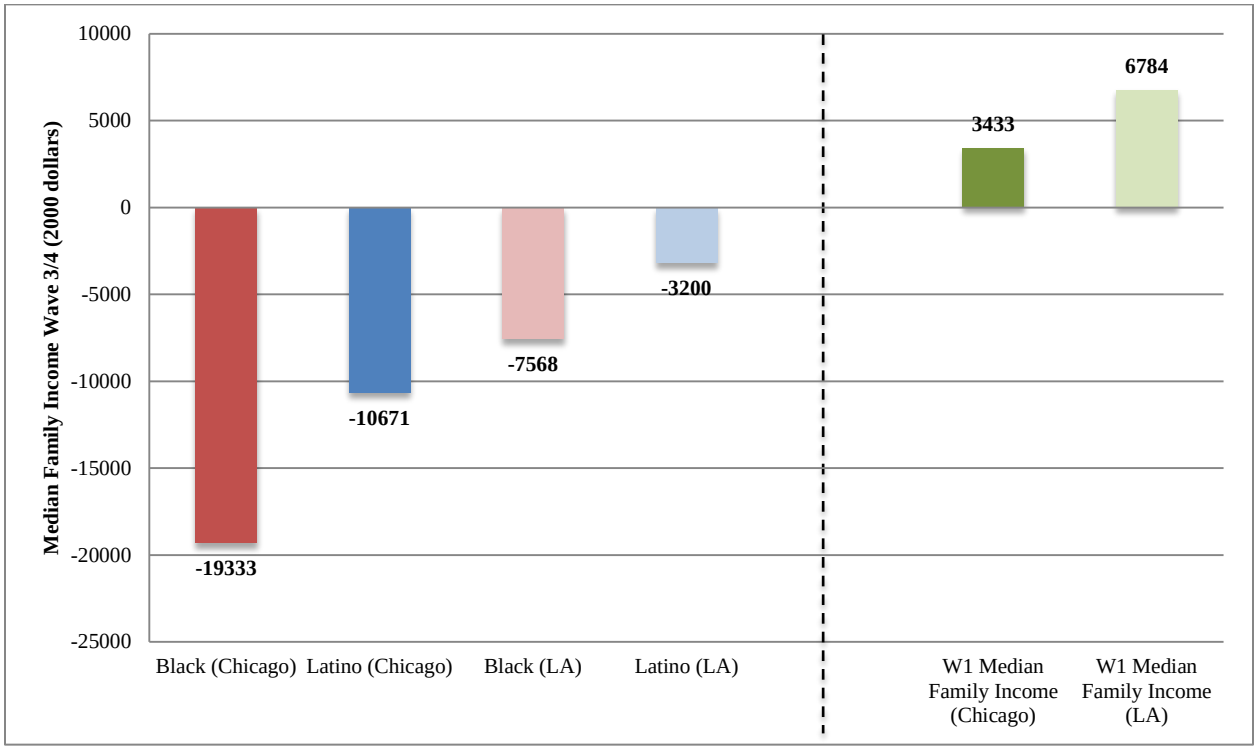


FIGURE 6.

Selected Coefficients Predicting Neighborhood Median Income of Respondents at Wave 3 (Los Angeles) or Wave 4 (Chicago). Adjusted for Age, Race, Sex, Length of Residence, Residential Mobility (Including Mobility out of Central Chicago/L.A.) and Baseline Neighborhood Income, Family Income, Education, HH Size, Homeowner, Employment, and Marital Status



Notes: The coefficients on Wave 1 Median Family Income have been re-scaled by 10,000. For the Chicago sample, baseline socio-economic covariates refer to the caregiver (e.g., marital status) or family (e.g., income), given the young age of respondents at the beginning of the panel. The Los Angeles data on middle-age adults pertain to the respondent or his or her family.