The Reconcentration of Poverty:

Patterns of Housing Voucher Use, 2000 to 2008

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Abstract

The expansion of the Housing Choice Voucher program has been motivated by goals of racial integration and the deconcentration of poverty; vouchers should allow low-income families to access housing in otherwise inaccessible neighborhoods. Using 2000 and 2008 Picture of Subsidized Households data for the 50 largest U.S. metropolitan areas, linked to Census and American Community Survey data, the author finds that voucher households are in fact more economically and racially segregated than an extremely low-income comparison group. While voucher households have become less racially and economically segregated over time, they remain more segregated than other low-income households.

The federal Housing Choice Voucher ("voucher") program—formerly termed Section 8 vouchers and certificates—has become the leading program for providing affordable housing to low-income households. Whereas affordable housing policy originated with the construction of public housing developments, the growth of the voucher program has meant that policy now relies overwhelmingly on private rental housing. Households participating in the voucher program typically pay 30% of their income toward their rent; the program pays the remainder up to a Fair Market Rent determined by the federal Department of Housing and Urban Development (HUD). Between 2000 and 2008, the voucher program grew from roughly 1.8 million households to more than 2.2 million households nation-wide. This growth stemmed largely from the Hope VI demolition of public housing projects and the expiration of project-based Section 8 contracts, both of which furthered an on-going shift in affordable housing policy from supply-side to demand-side strategies.

The expansion of the Housing Choice Voucher program was closely tied to the idea of the deconcentration of poverty. In theory, vouchers would allow low-income families to access housing in neighborhoods that were previously inaccessible to them (U.S. Department of Housing and Urban Development 2010a, 11). Moreover, housing vouchers have served as the primary vehicle for enacting consent decrees requiring the racial integration of public housing residents, raising the question of whether they serve the same function when considered at full scale. Due a combination of forces, including opposition from landlords and residents of white and middle class neighborhoods, the lack of affordable rental units in non-poor areas, and voucher users' housing preferences (Popkin et al. 2003), I hypothesize that Housing Choice

Vouchers have actually perpetuated the concentrated poverty and racial segregation that they are intended to challenge.

The Growth of the Housing Voucher Strategy

Traditionally, federal affordable housing programs have taken a supply-side approach, constructing hard units to house eligible families. This strategy has included both publically- and privately run programs. On the public side, public housing projects have been built and managed by local housing authorities using federal dollars. On the private side, programs such as Project-based Section 8 have provided incentives to private developers to provide affordable housing for low-income renters. These strategies dominated the affordable housing landscape until 1974, when President Nixon declared a moratorium on all new construction of subsidized housing.

In tandem with the moratorium on new construction, 1974 saw the creation of the Section 8 housing voucher program (originally including the closely-related housing certificate program, as well). This program relied on the private rental market to provide affordable units. Program participants were expected to pay 25% of their income on housing—increased to 30% under the Reagan administration—with Section 8 paying the remainder. The Section 8 Voucher Reform Act of 2007, which reframed the program as the Housing Choice Voucher program, increased funding for the program and expanded the portability of vouchers from one housing authority to another.

In the housing research literature, the voucher approach has been legitimized by the Gautreaux Assisted Housing Program (Rubinowitz and Rosenbaum 2000) and the Moving to

Opportunity experiment (Kling, Liebman, and Katz 2007). In the Gautreaux program, civil rights lawyers representing African American residents of Chicago public housing successfully sued the Chicago Housing Authority and HUD for racial discrimination. Though the Gautreaux consent decree originally called for the new construction of scattered site public housing development, the CHA's failure to comply led the voucher strategy to dominate the Gautreaux program (Polikoff 2006). Over the course of two decades, 7,000 families moved via the Gautreaux program, mostly to majority-white suburbs. Follow-up with those families showed suburban movers to be enjoying safer neighborhoods, greater school success, and better employment outcomes than movers who remained in the city, though suburban movers also reported numerous incidents of race-based harassment (Rubinowitz and Rosenbaum 2000).

The five-city Moving to Opportunity experiment (MTO) was motivated, in part, by a desire to provide a truer test of the "neighborhood effects" demonstrated by Gautreaux (Ludwig et al. 2008). Whereas the Gautreaux program had involved a degree of arbitrariness with regard to movers' new locations, in that participants were forced to take the first apartment available when they reached the top of the Gautreaux waiting list, MTO was a formally randomized experiment. Rather than focusing on racial integration, as Gautreaux had done, MTO participants were directed toward "opportunity areas" defined by poverty rate. Contrary to the optimistic findings from the Gautreaux project, evaluations of MTO have suggested mixed effects on participants' well-being. Whereas mental health improved for women and adolescent girls in MTO's experimental group (Kling et al. 2004), negative effects were observed with regard to male adolescents' delinquent behavior (Kling, Ludwig, and Katz

2005). Moreover, labor force participation and earnings were not affected by the experiment (Ludwig et al. 2008).

Compared to Gautreaux and MTO, HUD's Hope VI program brought the housing voucher strategy to a new scale. However, while Gautreaux and MTO participants moved voluntarily, Hope VI oversaw the forced relocation of public housing residents, who were typically "vouchered out" so that their homes could be demolished. Many displaced households received little advance notice of the timing of the demolitions; some demolitions happened midway through the school year, interrupting children's learning; and the little relocation counseling available was spread quite thin (Venkatesh et al. 2004). While proponents of Hope VI foregrounded the mixed income developments that would replace public housing, few former public housing residents have actually secured housing in these mixed developments (Popkin et al. 2004).

Thus, whereas Gautreaux and MTO were expressly concerned with the racial and economic desegregation of their participants, the emphasis on desegregation has been less prevalent in the larger-scale programs of Hope VI and the Housing Choice Voucher program. Through its performance rating system, HUD provides the local housing authorities operating the voucher program with an incentive to house voucher households in low-poverty neighborhoods (Devine et al. 2003). Yet the extent to which this incentive has been effective has been debated in the previous literature.

There is a small but growing literature on the location patterns of voucher households. With regard to either the poverty concentration or racial segregation of voucher households,

only two studies have included examinations of the program on a nation-wide scale. At least ten additional studies have focused on the geographic reach of the program within specific metropolitan areas.

Nation-Wide Studies

Using HUD data from 1998, Pendall (2000) found that 2.3% of voucher and certificate users lived in "severely distressed" neighborhoods and 17% lived in "mildly distressed" neighborhoods. Voucher households resided in these types of neighborhoods less often than other poor renters, of whom 4.5% and 22.6% lived in the respective neighborhood types. However, Pendall's comparison group of poor renters was limited to households earning less than $10,000 per year. Households may earn far more than $10,000 and still receive a housing voucher, suggesting that Pendall's comparison group was significantly less advantaged than the voucher-using group.

More recently, Devine et al. (2003) published a HUD report examining the spatial distribution of voucher households nation-wide. They concluded that vouchers were used widely throughout metropolitan areas, particularly compared to participants of place-based subsidized housing programs such as public housing. Furthermore, they found that voucher households typically resided in neighborhoods with a poverty rate of less than 20% (per the 1990 Census). The present study builds from the work of Pendall (2000) and Devine et al. (2003), by providing a more precise low-income comparison group and utilizing more recent data for both voucher holders and comparison households.

Studies of Specific Metropolitan Areas

A set of studies describing the location of voucher households, without a comparison group, demonstrates the clustering of these households in poor and racially segregated neighborhoods. For example, Lahr and Gibbs (2002) explored the suburbanization of voucher households within Alameda County, California. They found that many of these households moved to poor neighborhoods within the generally more affluent suburbs, concluding that the voucher program "remains severely limited in its ability to induce the deconcentration of its clients" (Lahr and Gibbs 2002, 209). Similarly, Oakley and Burchfield (2009) tracked the relocation patterns of the public housing residents whose homes were demolished under Chicago's Plan for Transformation. Using housing vouchers, these households remained spatially clustered within disadvantaged, predominantly African American neighborhoods. However, the lack of a comparison groups in these studies leaves unaddressed the specific contribution of housing vouchers, above and beyond pre-existing patterns of concentrated poverty and racial segregation.

Studies including interviews of voucher holders uncover processes that cannot be addressed by relying solely on census tract characteristics. Varady and Walker (1999) document the subjective experiences of families being relocated from public housing in four cities. They found that, while families did not tend to move far from their previous homes in public housing, their moves resulted in increased feelings of safety, as well as greater satisfaction with their homes and neighborhoods. Likewise, Trudeau (2006) found that families relocated from public housing in Buffalo, New York overwhelming moved to African American

neighborhoods. Yet Trudeau's interviews revealed that the pattern was more a result of movers' preferences than a lack of opportunities for integration.

Researchers comparing the spatial concentration of housing vouchers to a comparison group have reported mixed results. Deng (2007) compared housing vouchers to low-income housing tax credits (LIHTC), a supply-side housing assistance program. In 5 of the 6 metropolitan areas that Deng studied, voucher households were less likely than LIHTC households to live in very low-income neighborhoods (median income less than 50% of the area median income), but more likely to live in low-income neighborhoods (median income between 50 and 80% of the area median income). Toward the goal of racial integration, Deng found that vouchers outperformed the LIHTC program.

Examining the Washington, D.C. metropolitan area, Hartung and Henig (1997) found that voucher households were more likely to be located in the suburbs than households receiving supply-side housing assistance. However, as with Lahr and Gibbs (2002), they found that these families were clustered in suburban neighborhoods with lower socioeconomic status and higher proportions of people of color.

Guhathakurta and Mushkatel (2000) reported that voucher households in Phoenix, Arizona were somewhat more dispersed than traditional public housing developments, yet were still highly clustered in ten poor census tracts. Moreover, the presence of supportive housing for people with severe mental illness was a strong predictor of the presence of voucher households in a given tract, indicating that various forms of assisted housing cluster together, as well.

More recently, Carlson et al. (2008) examined the effects of receiving a Housing Choice Voucher on a variety of household and neighborhood characteristics for families in Wisconsin. Using propensity score matching, they found small but statistically significant improvements in neighborhood quality for voucher holders, compared to their matched cohorts, including more favorable poverty rates and unemployment rates in voucher holders' neighborhoods. This study also contains a number of subgroup analyses, including a comparison of neighborhood outcomes for black versus white voucher holders. The authors find that, four years after receiving a voucher, black households resided in neighborhoods that were better in four separate dimensions, whereas white voucher households saw declines in neighborhood quality compared to similar households who did not receive a voucher.

The one published study to change over time in the overall distribution of voucher households was limited to the Cincinnati metropolitan area (Varady et al. 2010). Using spatial hotspot analysis, the authors found that there was no change in the economic or racial dispersion of voucher households between 2000 and 2005.

The present study seeks to build on this growing body of knowledge in three major ways. First, the inclusion of the 50 largest metropolitan areas provides a relatively program-wide evaluation. As will be shown below, the consistency of findings across these metropolitan areas adds assurance that the observed patterns are not driven by idiosyncratic characteristics of particular cities or regions. Second, estimates for a precisely-defined comparison group consisting of income-eligible households not receiving vouchers allows for an evaluation of the program with respect to pre-existing pattering of economic and racial segregation. Third, the

comparison of voucher location patterns in 2000 and 2008 provides insight into how the Housing Choice Voucher program has changed as it has grown, and brings knowledge of vouchers households' locations up to date.

"A Picture of Subsidized Households"

The central data set in this study is HUD's "Picture of Subsidized Households" ("Picture"; U.S. Department of Housing and Urban Development 2000; U.S. Department of Housing and Urban Development 2008). The Picture data provide the number of voucher households in each tract, as well as basic demographic characteristics of those households.[1] In 2000, 77% of the 1.8 million vouchers distributed had available tract information in the Picture data, increasing to 88% of 2.2 million vouchers in 2008. In my analyses, I limit the analytic sample to tracts within the 50 largest Metropolitan Statistical Areas (MSAs), geographical areas defined by the U.S Census Bureau (2010a) that include cities and their surrounding suburbs. The resultant data set includes 785,597 vouchers with known locations in 2000 and 1,127,328 vouchers with known locations in 2008. In order to calculate the economic and racial concentration indices and create the comparison groups, two additional datasets were merged to the Picture data. For the 2000 comparison group, Decennial Census data were used (U.S. Census Bureau, 2001). For the 2008 comparison group, estimates from the American Community Survey 5-year data, 2005 to 2009, were merged into the Picture data (U.S. Census Bureau, 2010b).

Using this merged data set, the concentration of voucher households is considered along three dimensions: economics, race/ethnicity, and space. Economic concentration is measured using both the Herfindahl index and the Dissimilarity index. For the economic

Herfindahl index, tracts in each MSA are divided into deciles of median income. The index is then computed as the sum of squared shares of vouchers in each income decile, where the "share" is the ratio of voucher households in a given decile to total voucher households in the MSA. Additionally, Dissimilarity indices (Massey and Denton 1988) are calculated to measure the extent to which voucher households are interspersed among households earning $50,000 per year or more.

For racial concentration, the tracts in each metropolitan area are broken down into deciles by the percent of the tract population that is white, and the Herfindahl index is computed using these deciles. I use percent-white due to the history of active exclusion of affordable housing opportunities from more homogenous white communities (Briggs 1999; Polikoff 2006). In order to examine change in the program over time, each Herfindahl index was computed for voucher households in both 2000 and 2008, as well as for comparison groups comprised of eligible households, which are described in further detail below.

For the measure of spatial concentration, I compute Herfindahl indices by tract (as opposed to deciles of tracts) within each MSA. The spatial Herfindahl index is the sum of squared shares of voucher households within each tract, where the "share" is the ratio of voucher households in a given tract to total voucher households in the MSA. Thus, the higher the Herfindahl index, the greater the disparity in voucher households between tracts.

In order to benchmark the economic, racial, and spatial distributions of voucher households, comparison groups were formed from a subset of households from the 2000 Census and 2005-09 American Community Survey, respectively. For an ideal comparison, the

comparison groups would be as similar as possible to the voucher households; for instance, it would be ideal for the comparison group to have an income distribution equivalent to that of voucher households in each metropolitan area. However, due to the fact that all data were aggregated to the tract level and not available at the individual level, the only option was to create a comparison group that was somewhat more or less advantaged than the voucher group. If the comparison group was more advantaged than voucher households, the results would be biased toward making the voucher households appear relatively more segregated. Conversely, if the comparison group was relatively disadvantaged, the results would be biased toward making the voucher households appear less segregated. Because I hypothesized that voucher households would be more segregated by class, race, and space compared to other low-income households, I chose to use a relatively disadvantaged comparison group, providing a more stringent test of the hypothesis. Specifically, the comparison group contains households at income levels below the "targeted" income threshold for the voucher program (30% of area median income; U.S. Department of Housing and Urban Development 2010b).[2]

In short, the comparison group consists of very low-income households that are slightly less advantaged, on average, than the voucher households. Figure 1 depicts the resulting income distributions of the voucher households and the comparison groups at each time point. While the annual incomes of voucher households ranged from less than $10,000 to more than $20,000, the comparison group is limited to those households with annual incomes of less than $15,000.

[PLACE FIGURE 1 ABOUT HERE]

After computing the Herfindahl and Dissimilarity indices described above for the voucher and comparison groups, the results are transformed into density plots, in order to more clearly depict the overall trends. Kolmogorov-Smirnov equality-of-distributions tests are then run, to determine the statistical significance of differences between vouchers and comparison households across the 50 metropolitan areas.

Patterns of Housing Voucher Use

Simple descriptive statistics demonstrate the substantial variation across metropolitan areas. Table 1 includes the targeted income thresholds for each metropolitan area, which range from $7,225 in San Juan to $29,204 in San Jose, with a mean of $20,130 across all metropolitan areas. Table 1 also demonstrates the dramatic increase in the total households receiving housing vouchers from 2000 to 2008. While the average metropolitan area included over 15,000 vouchers in 2000 and over 23,000 vouchers in 2008, the largest metropolitan areas grew most dramatically. For instance, New York added almost 64,000 vouchers between 2000 and 2008, for total of 189,473 vouchers in 2008. Los Angeles added over 27,000 vouchers over that time period, for a 2008 total of 104,013. Only one metropolitan area—San Juan, Puerto Rico—saw a decline in the number of families receiving vouchers between 2000 and 2008.

[PLACE TABLE 1 ABOUT HERE]

Table 2 provides descriptive information on the percentages of the largest racial or ethnic groups as defined by the Census: white (non-Latino), African American or black (non-Latino) and Latino (of any race). Again, the variation across metropolitan areas is striking. Many of the largest areas, for example New York, Chicago, Dallas, Miami, and Houston, have

significant percentages of each of the three racial or ethnic groups. Numerous metropolitan areas in Rust Belt, however, are overwhelmingly white, such as Pittsburgh (84.7% white) and Cincinnati (75.9% white). The largest percentages of respondents identifying as African-American or black were found in Southern metropolitan areas, such as Memphis (51.6% black), Virginia Beach (34.0% black), and Atlanta (35.0% black). As in Table 1, San Juan was a unique case, with 98.7% of the population self-identifying as Latino.

[PLACE TABLE 2 ABOUT HERE]

Economic, Racial, and Spatial Distributions

Figure 2 provides density plots of the estimates for the economic concentration and economic evenness of voucher households versus the comparison group.[3] Both in terms of the Herfindahl index and the Dissimilarity index, voucher households are more concentrated in poor tracts than their eligible counterparts. A Kolmogorov-Smirnov equality-of-distributions test suggested that vouchers households and the comparison group were statistically different in terms of both the economic Herfindahl ($p < .001$) and the Dissimilarity index ($p < .001$).

[PLACE FIGURE 2 ABOUT HERE]

The racial distribution of voucher households, compared across deciles of the percent of residents who self-report as white, is reported in Figure 3. Voucher households are more concentrated in areas with lower proportions of white residents than the comparison group of extremely low-income families. The racial Herfindahl index for voucher households was dramatically different than that of the comparison group: On average, the racial concentration

of voucher households was 41% higher than that of the comparison group (Kolmogorov-Smirnov $p < .001$).

[PLACE FIGURE 3 ABOUT HERE]

With regard to the question of the spatial distribution of housing vouchers, Figure 3 shows that housing vouchers are more clustered within specific tracts than the comparison group households. This pattern holds true across every one of the 50 metropolitan areas and at both time points. The measures of spatial concentration were dramatically higher for voucher households than for the comparison group: The average spatial Herfindahl index was typically about twice as large among voucher households (Kolmogorov-Smirnov $p <. 001$).

Metropolitan Areas in Detail

In order to examine the economic and racial distributions in greater detail, Figure 4 provides the proportions of eligible and voucher households across deciles of tract-level median income (on the left-hand side) and percent-white (on the right-hand side). If households were distributed equally across neighborhoods, the graph would show a straight line at 10%. Thus, points above 10% suggest an over-representation of households in a given decile, whereas points below 10% suggest an under-representation of voucher households. In the three most populous metropolitan areas—New York, Los Angeles, and Chicago—the line for comparison households is relatively flat compared to the downward-sloping lines for the voucher households, as would be expected from the results in Figures 2 and 3.

[PLACE FIGURE 4 ABOUT HERE]

Though the overall pattern of the economic and racial concentration of voucher households is consistent across MSAs, some interesting patterns emerge. In the New York area, both economic concentration and racial segregation of voucher households are greater than in the eligible population. Economic concentration has a particularly steep slope for both voucher group and the very low-income comparison group, though voucher holders are particularly over-represent at the second decile (or a neighborhood median income of $30,261 to $39,252). With regard to racial segregation, differences between the voucher group and the comparison group are most pronounced at New York's first and second deciles (or 0% to 8% white).

In Los Angeles, the economic distribution of vouchers likewise varies most obviously from the comparison group at the second decile ($31,523 to $37,763 for Los Angeles). The pattern of racial and ethnic segregation of voucher households is somewhat harder to interpret in Los Angeles, with voucher households particularly over-represented in the first decile (0% to 2% white) neighborhoods and then again in the 4th and 5th decile (9 to 28% white).

As with Los Angeles, Chicago's voucher holders are over-represented in the bottom deciles of median income ($6,923 to $36,140 for the bottom two deciles). Perhaps the starkest contrast between the voucher and the comparison group comes from the racial distribution of Chicago's voucher households, with vouchers households over-represented at the bottom two deciles (0% to 7% white) and under-represented at the 7th through 10th deciles (71% to 100% white).

Change Over Time

Though voucher households are less integrated into affluent and white communities than other very low-income families at the latest available time point, Figure 5 suggests that voucher households are more likely to be found in these communities in 2008 than in 2000. In terms of economic concentration, the average Herfindahl index decreased slightly, from .164 in 2000 to .149 in 2008. The average Dissimilarity index also decreased slightly over time, from .662 in 2000 to .619 in 2008. The distributions of results depicted in Figure 5 are significantly different between 2000 and 2008 for both the Herfindahl index (Kolmogorov-Smirnov $p < .01$) and the Dissimilarity index (Kolmogorov-Smirnov $p < .001$)

[PLACE FIGURE 5 ABOUT HERE]

As was the case with economic concentration and dissimilarity, the Herfindahl index of racial concentration also decreased over time for voucher households, from an average of .170 in 2000 to .157 in 2008. The distributions of results depicted in the top plot of Figure 6 are significantly different between 2000 and 2008 voucher households (Kolmogorov-Smirnov $p < .05$). The Herfindahl index for the spatial distribution of voucher households indicated no statistically significant change over time (Kolmogorov-Smirnov $p = .45$).

[PLACE FIGURE 6 ABOUT HERE]

Unpacking "Choice"

A major justification for the expansion of the Housing Choice Voucher program was that it would foster the deconcentration of poverty in metropolitan areas. Moreover, the voucher strategy in affordable housing has roots in residential mobility programs like Chicago's

Gautreaux program, which aimed to foster racial integration. The results of the present study suggest that, contrary to these policy goals, the Housing Choice Voucher program in fact has led to greater racial and economic segregation. These trends could be thought to reflect a combination of (1) the preferences of voucher households and (2) the unavailability of affordable rental housing outside of poor communities and communities of color.

In terms of tenant preferences, the analysis of ideals for neighborhood racial composition has been called "perhaps the most contentious subfield in the study of race and place," (Pattillo 2005). While African Americans have been more likely than other groups to favor some degree of integration, there is also substantial empirical support for the idea that many households would prefer neighborhoods with large percentages of residents with similar racial or ethnic backgrounds as themselves (Charles 2000; Krysan and Farley 2002). Moreover, very few respondents in these studies would prefer to be a member of a small minority. Hartman and Squires (2010) use the term "integration exhaustion" to refer to what they consider a growing feeling that the challenges of racial integration for people of color—which can include a disruption of social networks at best and overt harassment and even violence at worst—are not worth the benefits. Corroborating this view in the specific context of housing vouchers, Popkin et al. (2003) documented a feeling of integration exhaustion, stemming from apprehension of white hostility, among public housing residents who were asked to be the agents of integration following consent degrees in eight separate cities.

However, the results from the present study show that not only are voucher households unlikely to live in predominantly white communities, but that they live in white communities at

rates even lower than those of other low-income (voucher-eligible) households. This finding might suggest that there are additional constraints facing voucher households compared to other poor households. These constraints, which include landlords' reticence to participate in the program and the definition of fair market rents, are appropriate targets for reform if the objectives of desegregation and deconcentration of poverty are to be pursued via the Housing Choice Voucher program.

The costs to landlords of participating in the Housing Choice Voucher program are nontrivial. Voucher units must undergo inspections by the local housing authority, during which time no rent income is received. Additionally, some landlords are wary of stigma attached to the program, and may be reticent to rent to poor families due to negative stereotypes that they may hold. Moreover, landlords may use administrative concerns as a proxy for discrimination against potential tenants on the basis of race or ethnicity (Rotem 2010). An amendment to the Fair Housing Act outlawing discrimination on the basis of legal sources of income has been one proposed way of increasing landlord participation (Finkel and Buron 2001); indeed, some states have already taken the controversial step of mandating landlord participation (Sterken 2009). An additional option would be the creation of tax incentives or other payments to landlords to encourage their participation. Other affordable housing programs—such as the Low Income Housing Tax Credit and project-based Section 8—have met success in garnering the participation of private developers and landlords via tax incentives.

An additional target for reform is the method by which fair market rents are defined. The fair market rent is the maximum rent allowable within the voucher program. Presently, HUD sets fair market rents at the 40th percentile of rental costs within a metropolitan area, which may be increased to the 50th percentile for metropolitan areas in which units below fair market rent are concentrated in high poverty areas. With the availability of five-year estimates of rental costs from the American Community Survey, HUD will soon be able to determine fair market rents based on geographic areas smaller than the MSA. HUD has recently announced a demonstration program for the determination of small-area fair market rents (HUD 2010c); such an adjustment to program coverage would likely lead to greater access to more integrated neighborhood.

The Illinois Assisted Housing Action Research Project (2010) provides a number of additional policy recommendations for ways in which the Housing Choice Voucher program might better foster "real choice" for its participants. These recommendations include increasing mobility housing counseling, expanding the provision of project-based vouchers using Housing Choice Voucher funds, and conducting an information campaign to educate prospective landlords about the Housing Choice Voucher program.

There are numerous limitations to the present study. Though the comparison group from the Census was temporally aligned with the 2000 voucher data, the comparison group for the 2008 vouchers came from estimates from 2005 through 2009. Clearly, neighborhoods could change along dimensions of race and class over the course of five years, which could potentially bias the comparison group estimates at the latter time point. Furthermore, the

separate consideration of poverty concentration and racial segregation left critical questions unaddressed. For instance, are vouchers particularly over-represented in poor, minority neighborhoods? Or are black and Latino middle-class neighborhoods more likely to receive voucher families? These important questions should be addressed in future research.

An additional limitation of this study was the lack of a true counterfactual. Poor households were not randomly assigned housing vouchers, so it is not possible to say with absolute certainty where those voucher households would have resided in the absence of a voucher. Nonetheless, the results across metropolitan areas, across time, and across types of segregation (economic, racial, and spatial) are remarkably consistent: Voucher households are more segregated that the voucher-eligible comparison group. These results should be taken as strong prima facie evidence that the Housing Choice Voucher program is not meeting the goals of poverty deconcentration or racial integration.

Notes

1. Data on voucher households' characteristics, such as race, income, and household size, are available only for tracts including at least ten voucher households. As a result, these data are not available for 6% of voucher households in 2000 and 4% of voucher households in 2008.

2. Note that the eligibility threshold for the program is 50% of area median income. However, federal law requires that at least 75% of vouchers go to "extremely low income" families, who earn less than 30% of area median income. To provide a stringent test for the hypothesis that voucher families are more segregated than similar families, the lower income threshold (30% of area median income) was employed as an upper bound for the comparison group.

3. For the Herfindahl and Dissimilarity index results for each specific metropolitan area, see Appendices 1-4.

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TABLE 1. Descriptive Statistics: Area Median Income and Number of Vouchers

MSA	Targeted Income Threshold, 2008[a]	Total Voucher Households		MSA	Targeted Income Threshold, 2008†	Total Voucher Households	
		2000	2008			2000	2008
Atlanta, GA	$20,608	18,618	27,590	Minneapolis, MN	$24,270	14,191	18,923
Austin, TX	$20,730	2,991	6,316	Nashville, TN	$18,691	5,715	8,266
Baltimore, MD	$23,460	13,222	16,567	New Orleans, LA	$17,940	7,764	10,183
Birmingham, AL	$17,272	4,237	7,021	New York, NY	$22,274	125,552	189,473
Boston, MA	$25,518	33,460	48,899	Oklahoma City, OK	$16,461	7,612	11,401
Buffalo, NY	$18,270	8,912	12,979	Orlando, FL	$17,760	4,300	5,778
Charlotte, NC	$19,139	4,457	7,345	Philadelphia, PA	$22,290	21,482	31,618
Chicago, IL	$21,251	44,238	61,322	Phoenix, AZ	$19,260	9,724	12,127
Cincinnati, OH	$19,748	12,463	17,654	Pittsburgh, PA	$17,918	11,508	15,149
Cleveland, OH	$18,630	13,508	19,627	Portland, OR	$20,250	10,319	15,111
Columbus, OH	$19,608	8,028	13,573	Providence RI	$21,577	10,917	13,686
Dallas, TX	$19,399	24,348	40,082	Richmond, VA	$20,730	3,193	5,883
Denver, CO	$21,540	9,664	14,647	Riverside, CA	$18,600	14,081	16,820
Detroit, MI	$20,709	13,927	23,144	Rochester, NY	$19,050	6,071	9,395
Hartford, CT	$24,412	8,146	12,598	Sacramento, CA	$21,300	8,546	13,653
Houston, TX	$18,431	14,603	19,602	San Antonio, TX	$16,366	12,471	12,120
Indianapolis, IN	$19,452	5,016	7,732	San Diego, CA	$21,630	18,270	27,440
Jacksonville, FL	$19,114	5,678	6,440	San Francisco, CA	$26,907	29,381	40,083
Kansas City, MO	$20,244	9,077	14,607	San Jose, CA	$29,204	11,475	16,746
Las Vegas, NV	$19,170	5,872	8,412	San Juan, PR	$7,225	5,688	4,512
Los Angeles, CA	$19,543	76,598	104,013	Seattle, WA	$23,335	15,191	25,146
Louisville, KY	$17,706	8,282	11,444	St. Louis, MO	$19,304	13,047	17,865
Memphis, TN	$16,170	4,798	7,480	Tampa, FL	$16,950	10,345	15,759
Miami, FL	$17,657	23,883	33,014	Virginia Beach, VA	$19,530	8,756	12,300
Milwaukee, WI	$20,310	6,907	9,505	Washington, DC	$29,560	19,065	26,278

[a] 30% of AMI. In MSAs with >1 AMI, the average is reported.

Note: MSA = Metropolitan Statistical Area, AMI = Area Median Income

TABLE 2. Descriptive Statistics: Racial/Ethnic Groups

MSA	% White	% Latino	% Black	MSA	% White	% Latino	% Black
Atlanta, GA	50.6	9.0	35.0	Minneapolis, MN	78.7	5.4	7.8
Austin, TX	56.2	30.2	7.8	Nashville, TN	71.8	5.8	18.9
Baltimore, MD	59.6	3.1	32.1	New Orleans, LA	49.1	5.6	41.6
Birmingham, AL	60.0	3.3	34.6	New York, NY	49.3	20.8	18.9
Boston, MA	75.5	9.0	7.3	Oklahoma City, OK	66.1	11.3	12.5
Buffalo, NY	77.5	3.6	15.0	Orlando, FL	58.0	20.1	16.4
Charlotte, NC	61.1	8.0	26.6	Philadelphia, PA	67.1	6.4	21.0
Chicago, IL	50.4	18.8	24.7	Phoenix, AZ	58.8	30.7	3.9
Cincinnati, OH	75.9	1.9	18.7	Pittsburgh, PA	84.7	1.2	11.1
Cleveland, OH+A7	64.4	4.7	27.6	Portland, OR	78.6	9.5	3.1
Columbus, OH	74.1	3.1	18.0	Providence RI	80.2	9.7	4.7
Dallas, TX	49.6	28.9	15.5	Richmond, VA	58.2	4.0	33.1
Denver, CO	68.2	21.3	4.9	Riverside, CA	41.4	44.6	6.5
Detroit, MI	65.7	3.4	26.2	Rochester, NY	73.4	6.9	15.8
Hartford, CT	69.7	13.2	12.0	Sacramento, CA	60.7	18.5	6.8
Houston, TX	41.4	33.9	18.4	San Antonio, TX	34.5	56.4	6.0
Indianapolis, IN	71.6	5.3	19.7	San Diego, CA	52.1	30.5	4.8
Jacksonville, FL	63.3	5.4	26.8	San Francisco, CA	46.5	19.1	9.1
Kansas City, MO	69.0	8.4	18.3	San Jose, CA	40.0	25.4	2.3
Las Vegas, NV	53.1	28.4	9.0	San Juan, PR	0.9	98.7	0.2
Los Angeles, CA	34.2	43.0	6.9	Seattle, WA	72.3	7.3	5.2
Louisville, KY	90.0	2.1	5.2	St. Louis, MO	70.8	2.2	23.5
Memphis, TN	41.4	4.0	51.6	Tampa, FL	69.9	13.9	12.0
Miami, FL	41.9	34.4	20.2	Virginia Beach, VA	56.3	4.1	34.0
Milwaukee, WI	63.0	9.4	22.9	Washington, DC	48.3	12.0	30.2

Source: American Community Survey 2005-09

Note: MSA = Metropolitan Statistical Area

FIGURE 1. Income distribution of voucher households versus comparison groups

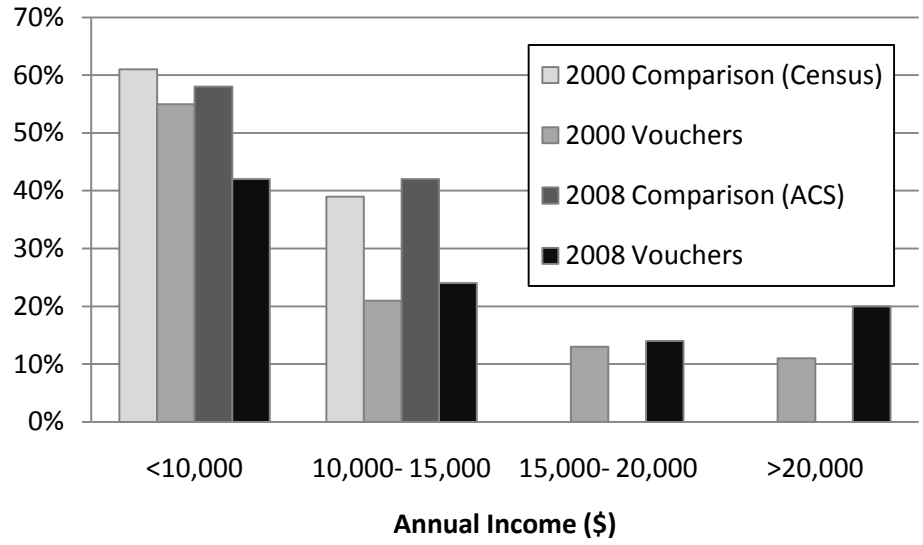
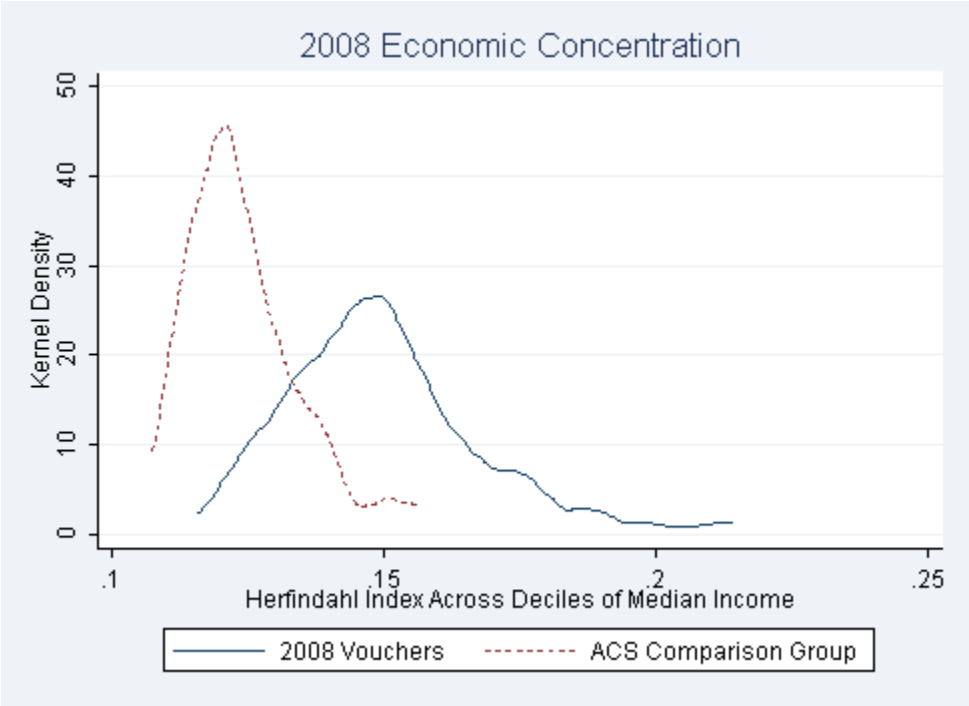


FIGURE 2. Neighborhood Economic Characteristics of Vouchers versus Comparison Group



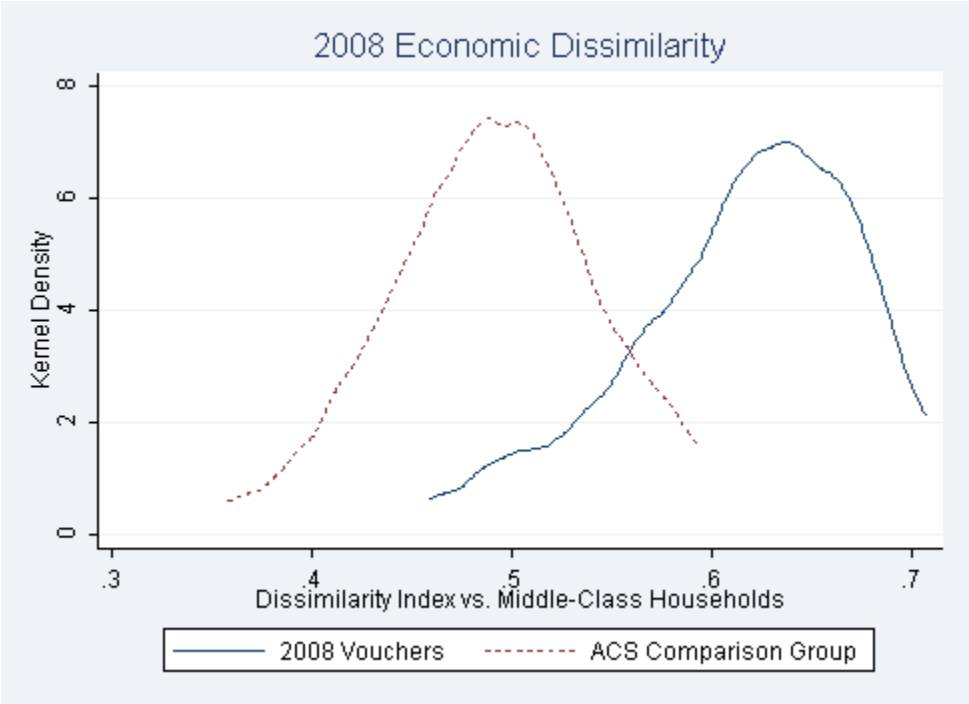
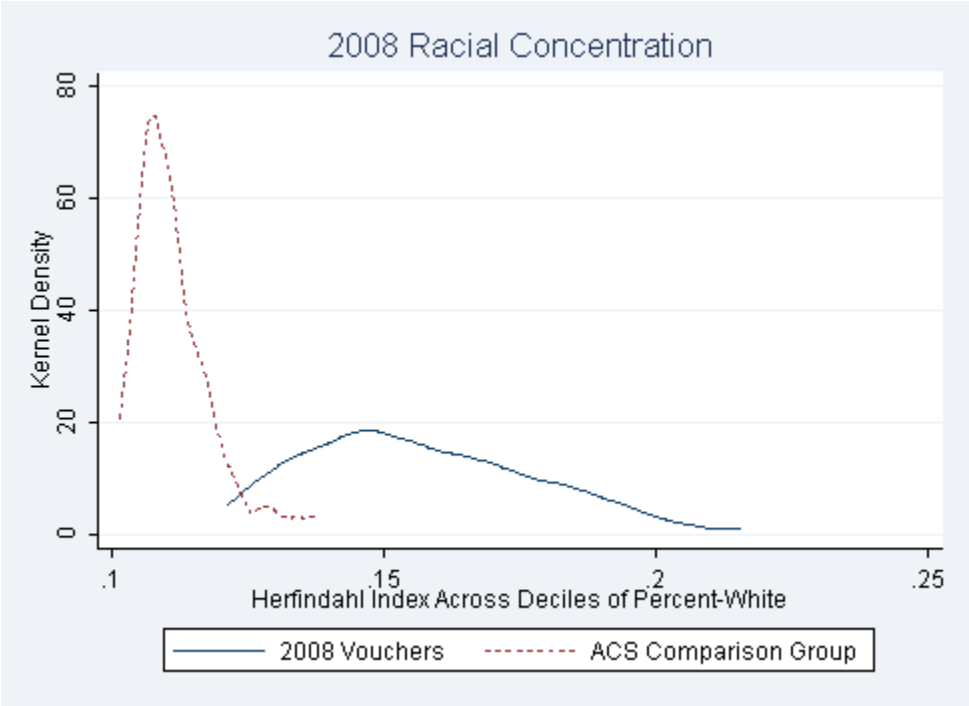


FIGURE 3. Racial and Spatial Distribution of Vouchers versus Comparison Group



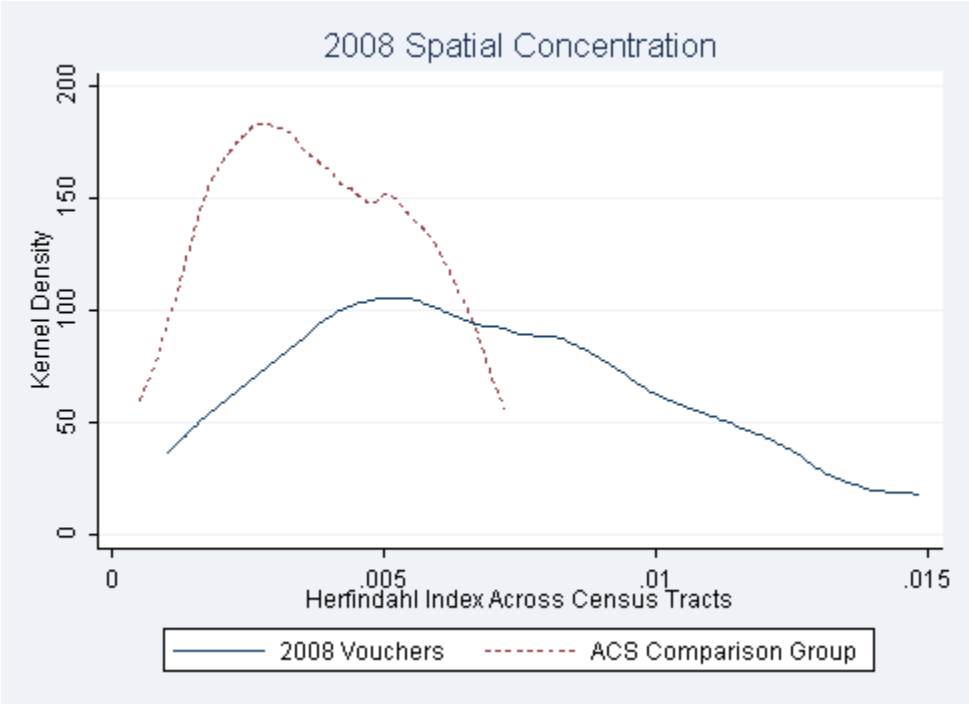


FIGURE 4. Economic and Racial Distribution of Households in the Three Largest Metropolitan Areas

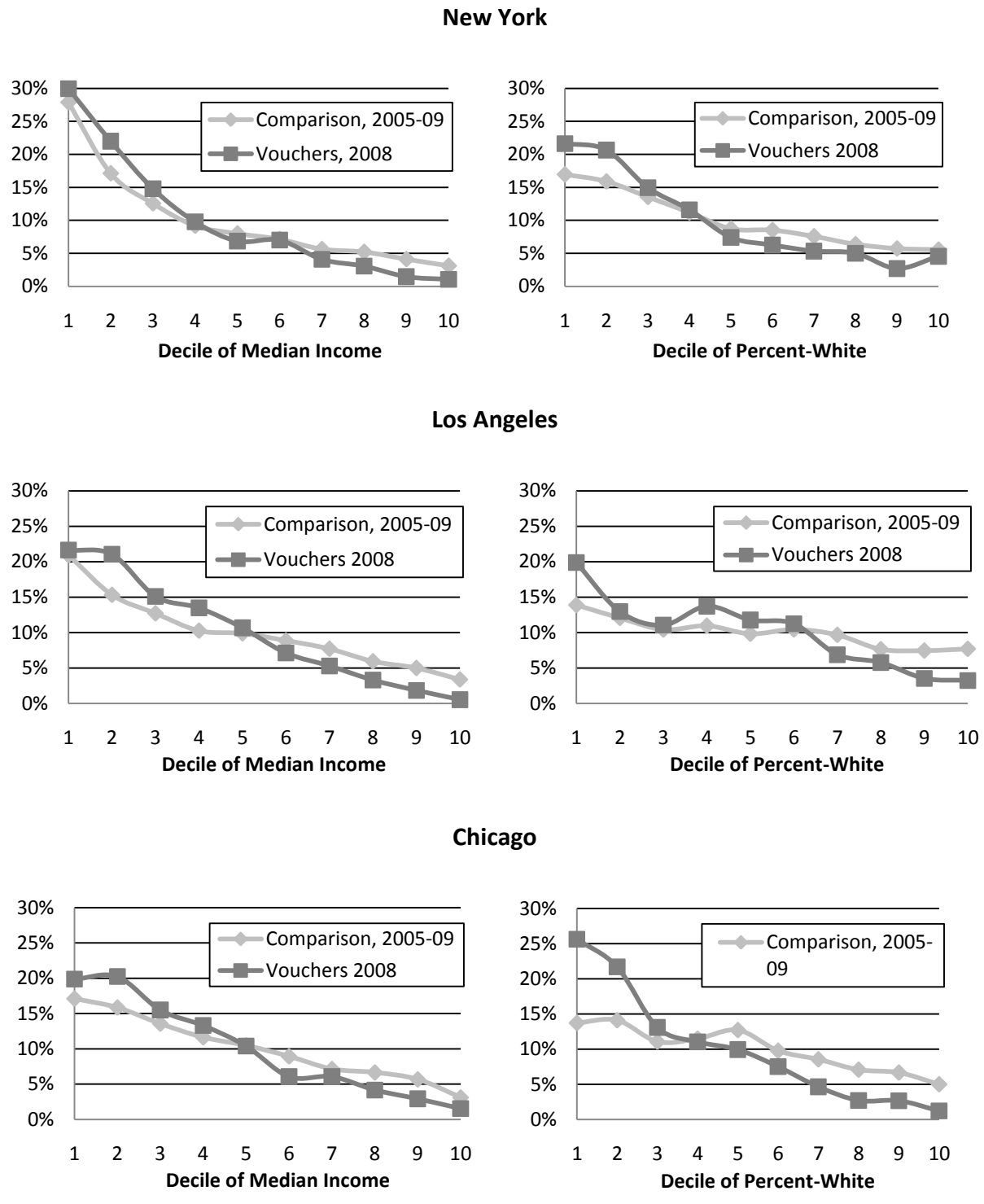
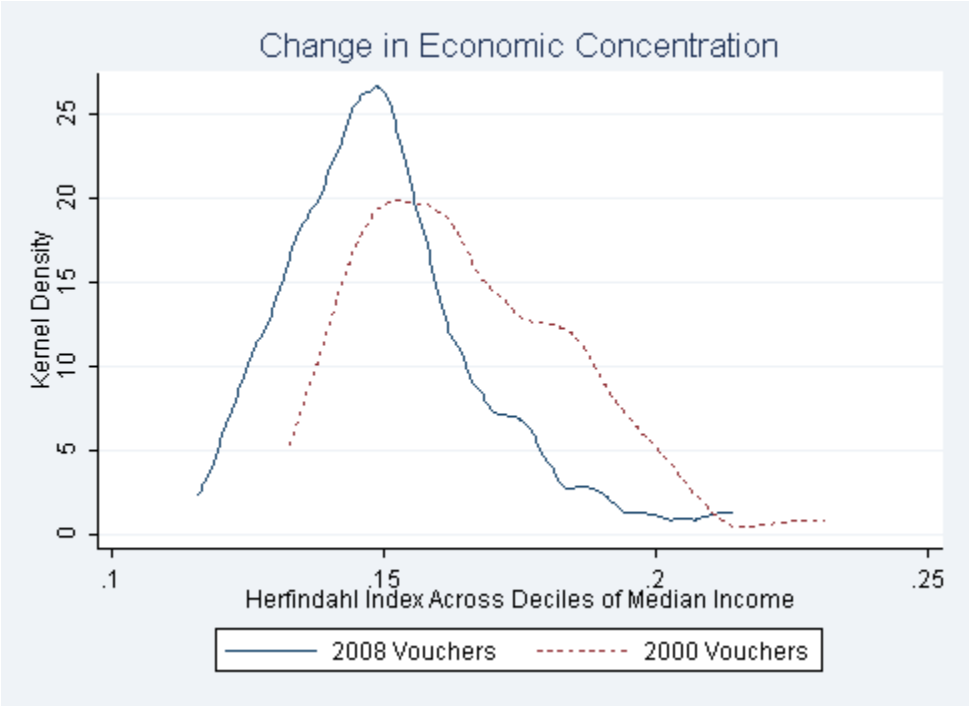


FIGURE 5. Change in Neighborhood Economic Characteristics of Voucher Households



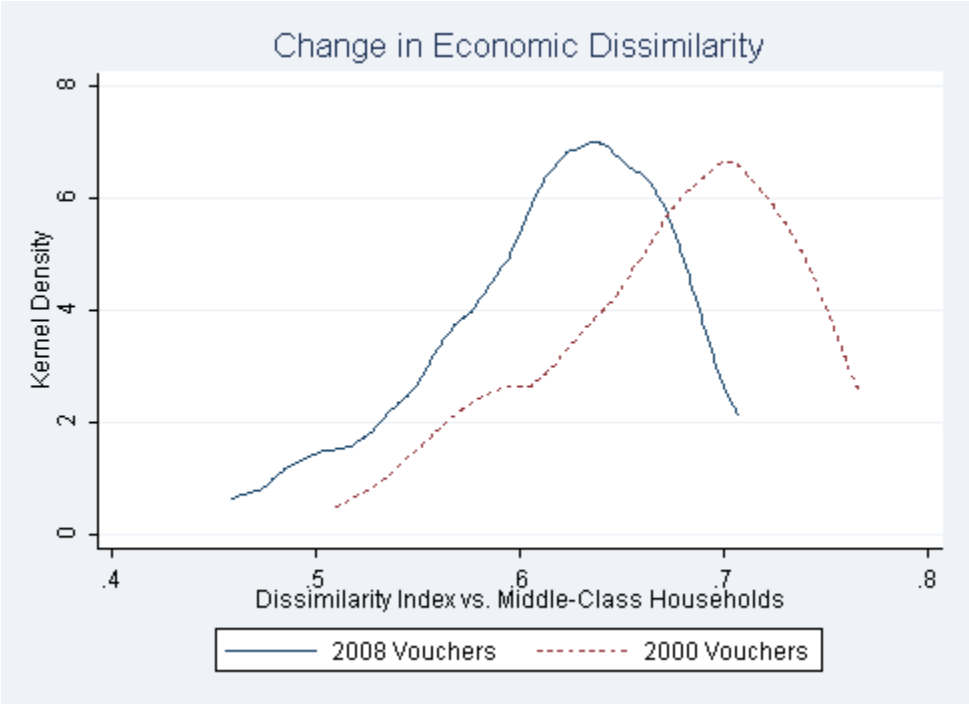
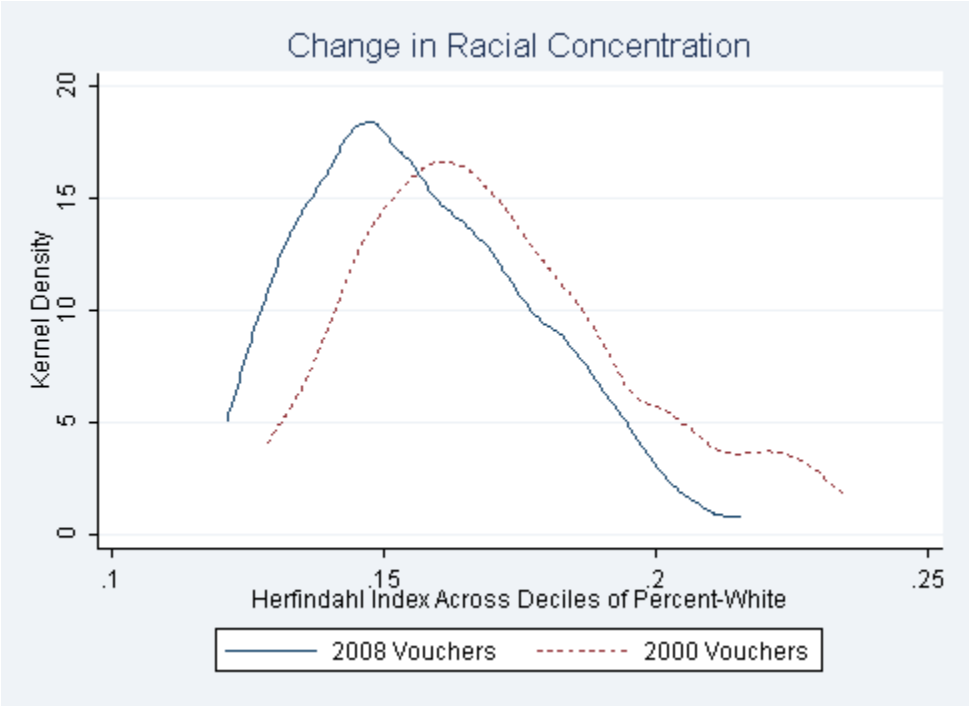
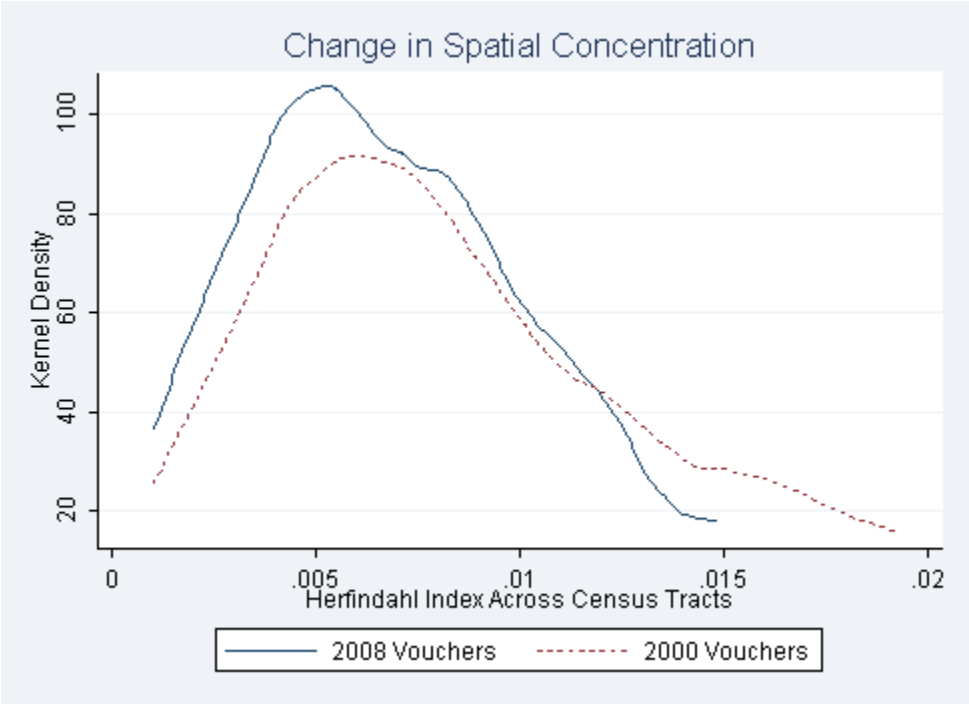


FIGURE 6. Change in the Racial and Spatial Distribution of Voucher Households





APPENDIX TABLE 1. Economic Concentration (Herfindahl Indices by Median Income)

MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers	MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers
Atlanta, GA	.114	.188	.110	.155	Minneapolis, MN	.119	.153	.135	.155
Austin, TX	.123	.158	.131	.127	Nashville, TN	.113	.148	.116	.149
Baltimore, MD	.126	.141	.128	.133	New Orleans, LA	.115	.138	.108	.150
Birmingham, AL	.116	.185	.116	.154	New York, NY	.144	.179	.151	.182
Boston, MA	.116	.160	.125	.151	Oklahoma City, OK	.112	.149	.115	.149
Buffalo, NY	.125	.172	.138	.172	Orlando, FL	.118	.153	.116	.140
Charlotte, NC	.111	.182	.107	.148	Philadelphia, PA	.146	.200	.156	.195
Chicago, IL	.119	.150	.119	.143	Phoenix, AZ	.132	.172	.121	.123
Cincinnati, OH	.111	.155	.124	.143	Pittsburgh, PA	.114	.174	.124	.172
Cleveland, OH	.116	.173	.124	.141	Portland, OR	.109	.150	.120	.150
Columbus, OH	.118	.169	.122	.143	Providence RI	.115	.147	.128	.159
Dallas, TX	.125	.156	.119	.140	Richmond, VA	.119	.151	.126	.140
Denver, CO	.140	.192	.145	.157	Riverside, CA	.116	.133	.111	.130
Detroit, MI	.131	.193	.135	.159	Rochester, NY	.109	.141	.116	.136
Hartford, CT	.120	.231	.137	.214	Sacramento, CA	.123	.157	.121	.128
Houston, TX	.122	.160	.119	.134	San Antonio, TX	.124	.148	.116	.128
Indianapolis, IN	.108	.162	.113	.148	San Diego, CA	.127	.177	.125	.161
Jacksonville, FL	.108	.165	.112	.150	San Francisco, CA	.128	.188	.137	.142
Kansas City, MO	.117	.150	.116	.130	San Jose, CA	.114	.145	.121	.145
Las Vegas, NV	.144	.196	.126	.116	San Juan, PR	---	.112	---	.112
Los Angeles, CA	.128	.146	.125	.153	Seattle, WA	.118	.175	.137	.182
Louisville, KY	.115	.196	.123	.168	St. Louis, MO	.113	.157	.115	.170
Memphis, TN	.122	.173	.118	.150	Tampa, FL	.117	.179	.119	.168
Miami, FL	.124	.174	.123	.154	Virginia Beach, VA	.128	.156	.128	.145
Milwaukee, WI	.114	.150	.116	.136	Washington, DC	.130	.148	.133	.130

Note: MSA = Metropolitan Statistical Area. Comparison estimates not available for San Juan due to low eligibility thresholds.

APPENDIX TABLE 2. Dissimilarity Index (Vs. Households Earning >$50,000/year)

MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers	MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers
Atlanta, GA	.419	.746	.424	.646	Minneapolis, MN	.396	.630	.468	.599
Austin, TX	.498	.727	.489	.616	Nashville, TN	.402	.719	.448	.678
Baltimore, MD	.468	.659	.540	.597	New Orleans, LA	.504	.717	.526	.683
Birmingham, AL	.412	.744	.477	.708	New York, NY	.454	.645	.570	.646
Boston, MA	.343	.580	.485	.546	Oklahoma City, OK	.448	.685	.496	.653
Buffalo, NY	.463	.660	.588	.658	Orlando, FL	.393	.665	.406	.579
Charlotte, NC	.434	.729	.448	.647	Philadelphia, PA	.458	.705	.569	.691
Chicago, IL	.442	.672	.520	.627	Phoenix, AZ	.478	.709	.468	.569
Cincinnati, OH	.419	.672	.497	.643	Pittsburgh, PA	.388	.680	.503	.649
Cleveland, OH	.447	.751	.548	.653	Portland, OR	.312	.550	.380	.526
Columbus, OH	.460	.718	.514	.653	Providence RI	.385	.558	.541	.576
Dallas, TX	.490	.715	.516	.638	Richmond, VA	.444	.670	.494	.631
Denver, CO	.491	.698	.527	.594	Riverside, CA	.408	.593	.451	.568
Detroit, MI	.468	.732	.545	.667	Rochester, NY	.414	.661	.504	.626
Hartford, CT	.393	.740	.594	.704	Sacramento, CA	.424	.604	.450	.525
Houston, TX	.470	.748	.483	.660	San Antonio, TX	.504	.654	.504	.610
Indianapolis, IN	.436	.735	.512	.696	San Diego, CA	.404	.609	.468	.567
Jacksonville, FL	.391	.741	.422	.641	San Francisco, CA	.378	.613	.469	.488
Kansas City, MO	.453	.690	.503	.638	San Jose, CA	.278	.510	.358	.459
Las Vegas, NV	.494	.707	.435	.497	San Juan, PR	-----	.673	-----	.645
Los Angeles, CA	.404	.567	.480	.583	Seattle, WA	.349	.587	.433	.579
Louisville, KY	.417	.701	.491	.634	St. Louis, MO	.408	.677	.484	.663
Memphis, TN	.520	.767	.553	.699	Tampa, FL	.381	.703	.446	.603
Miami, FL	.409	.661	.421	.604	Virginia Beach, VA	.450	.637	.518	.604
Milwaukee, WI	.476	.692	.588	.646	Washington, DC	.432	.591	.500	.522

Note: MSA = Metropolitan Statistical Area. Comparison estimates not available for San Juan due to low eligibility thresholds.

APPENDIX TABLE 3. Racial Concentration (Herfindahl Indices by Percent-White)

MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers	MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers
Atlanta, GA	.106	.197	.105	.193	Minneapolis, MN	.112	.159	.113	.157
Austin, TX	.118	.215	.108	.182	Nashville, TN	.106	.183	.106	.180
Baltimore, MD	.119	.145	.116	.133	New Orleans, LA	.117	.173	.104	.191
Birmingham, AL	.110	.229	.109	.190	New York, NY	.121	.147	.116	.143
Boston, MA	.109	.162	.114	.153	Oklahoma City, OK	.108	.157	.108	.148
Buffalo, NY	.126	.184	.130	.169	Orlando, FL	.108	.175	.104	.173
Charlotte, NC	.104	.191	.105	.160	Philadelphia, PA	.132	.190	.137	.185
Chicago, IL	.113	.162	.109	.161	Phoenix, AZ	.114	.157	.107	.137
Cincinnati, OH	.109	.156	.114	.160	Pittsburgh, PA	.105	.176	.114	.159
Cleveland, OH	.112	.189	.112	.148	Portland, OR	.104	.140	.106	.139
Columbus, OH	.107	.154	.111	.148	Providence RI	.109	.128	.110	.139
Dallas, TX	.115	.153	.119	.141	Richmond, VA	.122	.160	.117	.159
Denver, CO	.134	.177	.121	.153	Riverside, CA	.107	.139	.101	.121
Detroit, MI	.121	.165	.121	.141	Rochester, NY	.108	.140	.110	.140
Hartford, CT	.114	.235	.126	.216	Sacramento, CA	.113	.161	.107	.158
Houston, TX	.115	.174	.110	.155	San Antonio, TX	.120	.155	.108	.141
Indianapolis, IN	.103	.215	.107	.171	San Diego, CA	.114	.154	.104	.145
Jacksonville, FL	.106	.191	.108	.177	San Francisco, CA	.118	.169	.108	.131
Kansas City, MO	.105	.145	.106	.133	San Jose, CA	.103	.143	.105	.133
Las Vegas, NV	.128	.217	.109	.137	San Juan, PR	---	.123	---	.167
Los Angeles, CA	.116	.130	.104	.124	Seattle, WA	.113	.179	.114	.165
Louisville, KY	.112	.211	.115	.182	St. Louis, MO	.110	.177	.110	.186
Memphis, TN	.113	.172	.109	.156	Tampa, FL	.108	.194	.108	.171
Miami, FL	.108	.168	.103	.156	Virginia Beach, VA	.127	.162	.118	.166
Milwaukee, WI	.112	.158	.108	.136	Washington, DC	.120	.149	.112	.133

Note: MSA = Metropolitan Statistical Area. Comparison estimates not available for San Juan due to low eligibility thresholds.

APPENDIX TABLE 4. Spatial Concentration (Herfindahl Indices)

MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers	MSA	2000 Comparison	2000 Vouchers	2005-09 Comparison	2008 Vouchers
Atlanta, GA	.002	.007	.002	.005	Minneapolis, MN	.002	.004	.003	.004
Austin, TX	.006	.017	.007	.014	Nashville, TN	.006	.018	.006	.015
Baltimore, MD	.003	.007	.003	.005	New Orleans, LA	.004	.011	.004	.008
Birmingham, AL	.006	.018	.006	.014	New York, NY	.000	.001	.001	.001
Boston, MA	.002	.003	.002	.003	Oklahoma City, OK	.005	.010	.005	.010
Buffalo, NY	.006	.010	.006	.011	Orlando, FL	.005	.015	.006	.010
Charlotte, NC	.005	.013	.005	.010	Philadelphia, PA	.001	.003	.001	.003
Chicago, IL	.001	.002	.001	.002	Phoenix, AZ	.002	.006	.002	.006
Cincinnati, OH	.003	.007	.004	.006	Pittsburgh, PA	.002	.005	.002	.005
Cleveland, OH	.002	.006	.003	.004	Portland, OR	.003	.006	.004	.006
Columbus, OH	.004	.009	.004	.007	Providence RI	.004	.007	.005	.007
Dallas, TX	.001	.004	.001	.003	Richmond, VA	.006	.012	.006	.010
Denver, CO	.003	.007	.004	.006	Riverside, CA	.003	.005	.003	.005
Detroit, MI	.001	.004	.001	.003	Rochester, NY	.005	.009	.006	.010
Hartford, CT	.005	.013	.006	.011	Sacramento, CA	.004	.007	.004	.007
Houston, TX	.002	.006	.002	.004	San Antonio, TX	.004	.010	.005	.009
Indianapolis, IN	.004	.011	.005	.011	San Diego, CA	.003	.005	.003	.004
Jacksonville, FL	.007	.019	.007	.014	San Francisco, CA	.002	.004	.002	.003
Kansas City, MO	.003	.008	.003	.006	San Jose, CA	.004	.008	.004	.007
Las Vegas, NV	.005	.016	.005	.009	San Juan, PR	---	.011	---	.008
Los Angeles, CA	.001	.001	.001	.001	Seattle, WA	.002	.005	.003	.005
Louisville, KY	.005	.014	.006	.010	St. Louis, MO	.003	.007	.003	.007
Memphis, TN	.006	.014	.006	.011	Tampa, FL	.003	.010	.003	.006
Miami, FL	.002	.005	.002	.004	Virginia Beach, VA	.005	.009	.005	.008
Milwaukee, WI	.003	.007	.004	.007	Washington, DC	.002	.003	.002	.003

Note: MSA = Metropolitan Statistical Area. Comparison estimates not available for San Juan due to low eligibility thresholds.