The Geographic Context of Racial Residential Disattainment

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Background

Persistent and profound disparities in wealth, residential location, and housing opportunities have contributed to longstanding racial inequalities in homeownership. Over the last three decades, however, a growing black middle class, reductions in racial residential separation, and governmental programs and lending practices have both expanded and democratized credit, helping to narrow the homeownership gap between racial groups (Rohe et al. 2002; Rossi and Weber 1996; Shlay 2006). Yet, despite this promising trend toward racial residential equality, widening economic inequalities that disproportionately impact minority families combined with the racialized context of the foreclosure crisis raise concerns not only about continued progress in closing racial ownership gaps, but also about the ability of minorities' to reap the long-term benefits of homeownership.

Decades of scholarship have examined the processes that limit minorities' access to privileged residential attainments in general and homeownership in particular (see, for example, Alba and Logan 1992; Logan and Alba 1993; Rosenbaum 1996; South et al. 2005; Woldoff 2008). Recent scholarship, however, has found that as racial differences in residential attainment – e.g., access to ownership, high-quality housing, and more-advantaged neighborhoods – have converged, racial inequalities in residential disattainment – the loss of these privileged residential statuses – have grown (see Sharp and Hall 2012). Part of the explanation for the increasing salience of racial housing disattainment is that the nature of residential stratification has undergone a shift from exclusionary to non-exclusionary mechanisms that make ownership a riskier venture for blacks, and some other minority groups, than whites. There is considerable evidence, for example, that black mortgage applicants receive less favorable loan terms than whites with similar credit profiles (Oliver and Shapiro 1997; Ross and Yinger 2002; Williams et al. 2005) and that black homebuyers, especially those living in majority-black neighborhoods, were far more likely than comparable whites to sign subprime mortgages during the run up to the housing crisis (Gerardi and Willen 2009; Immergluck et al. 2009; Williams et al. 2005). There is also research suggesting that black homeowners are treated less favorably by homeowner associations, insurers, and other institutions homeowners interact with (Massey 2005; Roscigno 2007; Roscigno et al. 2009).

Research has also documented that while racial segregation in American metropolitan areas has declined substantially over time, there is considerable variation across places in both the magnitude of segregation as well as changes in these levels. Between 1980 and 2010, average black-white dissimilarity declined by 20% and isolation of blacks fell by 26% (Logan and Stults 2011); however, cities with the largest black populations – e.g., Detroit, Milwaukee, and New York – hardly changed over the period. Metropolitan segregation also varies significantly across regions and by industrial structure, demographic change, and housing supply (Farley and Frey 1994; Iceland et al. 2012; Logan et al. 2004). Moreover, the impacts of the Great Recession and the foreclosure crisis that prompted it have been experienced unevenly across labor and housing markets with differing racial compositions. Cities where minorities, especially blacks, concentrate were some of the hardest hit by the recession, experiencing pronounced rates of joblessness, unemployment, and also facing heightened rates of housing foreclosure. Thus, many minorities are dually-disadvantaged by the combined effect of being especially susceptible to the impacts of shifting economic conditions and to those impacts being intensified in the areas where they tend to live.

Diversity in the structure, composition, and historical development of metropolitan locations raises the possibility that patterns of residential inequality vary across geographic contexts. Previous urban scholarship confirms this, finding that metropolitan characteristics influence minority ownership (Flippen 2010), their ability to move out of segregated or poor neighborhoods (Crowder et al. 2011; South et al. 2011) and into more-advantaged ones (Pais et al. 2012), as well as the quality of their housing (Hall 2012). Similarly, the magnitude of racial inequalities in employment, wages, and wealth varies across space (Black et al. 2012) and metropolitan factors shape levels of inequality within those areas (Cohen 1998; Madden 2001; McCall 2001; Tienda and Li 1987).

The implication is that metropolitan context may be a critically important omitted factor in assessing racial disparities in residential disattainment. Moreover, the repercussions of disattainment and its implications for broader patterns of segregation and neighborhood change may vary across metropolitan locations. Accordingly, our primary goal in this project is to evaluate how the association between race and the retreat from ownership status is influenced, and potentially moderated, by the broader geographic context in each householders live. Using data from the 1968-2011 waves of the Panel Study of Income Dynamics, linked to census data on respondents' neighborhoods and metropolitan areas of residence, we ask the following three research questions:

1. What role does the uneven distribution of racial groups across American metropolitan areas have on estimates of residential disattainment?
2. How do measurable features of metropolitan areas, including characteristics of housing supply, economic condition, racial inequality, and historical development influence residential disattainment and moderate its relationship with race.
3. Do the neighborhood destinations of householders undergoing downward housing mobility vary across metropolitan locations, and as a function of metropolitan characteristics?

Data and Methods
To investigate the above research questions, we use restricted-access data from the Panel Study of Income Dynamics (PSID) for the period 1968-2011.[1] The PSID has followed a nationally-representative sample of almost 5,000 families since 1968, interviewing household members annually until 1997 and biennially thereafter. New families have been added to the sample as children and other original panel members leave to form new households. Currently, there are over 9,000 families in the panel with data collected on over 70,000 individuals (PSID 2011). The PSID's Geocode Match Files allow us to link respondents to the metropolitan area and neighborhood that they reside at each interview. Following prior work, we define neighborhoods as census tracts that are geographic units drawn-up by local committees of data users that comprise about 4,000 people (Jargowsky 1996; White 1987). To overcome potential limitations associated with boundary shifts in census geography, we use the Longitudinal Tract Database to fix tract boundaries over the entire period to their current (2010) definitions.[2] Similarly, we define metropolitan areas commonly throughout the study period using current CBSA definitions. We limit our analysis to non-Hispanic black and non-Hispanic white householders who owned a home during the study period.[3] Because housing careers for elderly households are influenced by a unique set of characteristics (Painter and Lee 2009), we exclude householders aged 65 and over. To capitalize on the longitudinal nature of the PSID, we organize the data into a series of person-period records with each observation representing the interval between subsequent interviews. The final analytic sample consists of 7,366 white and 3,244 black householders who contribute 69,542 and 23,042 person-intervals, respectively.

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[1] Correspondence with PSID administrators suggests that the 2011 wave will be released in early 2013.
[2] Because census geographies in the PSID Geocode Match Files are defined using 2000 boundaries, we use the geometric centroid of each household's census block and GIS tools to identify respondents' 2010-defined census tracts.
[3] We exclude Latino and Asian householders from the analysis given their small sample size and their non-representativeness to current populations.

In our analysis of homeownership exit, the dependent variable is a dichotomous indicator of whether a householder transitioned from owning to renting in the time between consecutive interviews. The key focal independent variable is a binary indicator of householders' race (1=black). Additional individual- and household-level explanatory variables include age (in linear and squared years), marital status, the number of children in the household, sex (1=female), employment status, educational attainment, logged family income (in 1000s of 2010 dollars), and the number of persons per room. Housing characteristics include length of tenure (in years) and the loan-to-value ratio (the quotient of remaining principal to the self-reported current value of the property), a standard measure of mortgage burden. To account for temporal variation in disattainment found by others (Sharp and Hall 2012), we include binary indicators of each of the four decades – 1970s (1968 and 1969 included), 1980s, 1990s, and 2000s – and to account for the PSID shift to a biennial interview schedule, we include a dummy variable for length of the interval between subsequent interviews. Neighborhood-level data used in the second portion of our analysis include the racial/ethnic and socioeconomic composition of respondents' census tracts, which is drawn from the summary files of the 1970-2010 decennial censuses and recent 5-year panels of the American Community Survey.

Data on respondents' metropolitan context come from county-level census tables of the 1970, 1980, 1990, 2000, and 2010 decennial censuses and the 2006-10 American Community Survey; non-census years are linearly interpolated (and extrapolated for 1968, 1969, and 2011). These data are then aggregated up to existing definitions of core-based statistical areas (see Frey et al. 2004). Following past work, we consider a range of metropolitan structural characteristics known to be related to residential attainment and segregation, including region (Northeast, Midwest, West and South), total population size (logged), percent immigrant, percent black, percent elderly, percent suburbanized (share of population living outside of a Census-defined central city), the vacancy rate, and percent of homes built in the preceding ten years, and various measures of economic structure (e.g., share of occupations in the science and technology, health, low-skill service, sales, construction, manufacturing, government, and military sectors). We additionally consider several characteristics of racial inequality, including multiple measures of residential segregation that correspond to the various dimensions of segregation (e.g., evenness, exposure, concentration, clustering [see Massey et al. 1996; Massey and Denton 1988]) and measures of economic inequality between whites and blacks (e.g., the ratio of black-to-white income).

Analytical Approach
In the first stage of our analysis predicting homeownership exit, we implement a two-stage modeling procedure that accounts for the selection into homeownership, which if ignored can yield biased and inconsistent estimates (Heckman 1979). In the first stage, we estimate a probit model of the likelihood of homeownership conditional on vectors of individual, household, and housing characteristics (level 1) and a vector of metropolitan structural and inequality characteristics.[4] The second-stage model predicting ownership exit includes the same set of covariates and a selection factor (inverse mills) to account for any possible bias associated with selectivity into homeownership. To address the first of our research questions, we estimate these models with and without metropolitan fixed effects to evaluate how differences in the geographic distributions of black and white householders influences the racial disparity in residential disattainment (see Black et al. 2012 for a similar approach). To further explore metropolitan variation in the association between race and homeownership exit and to consider the main and moderating effects of metropolitan structural features and racial inequality, we estimate two-level probit models in which respondents are nested within metropolitan areas of residence.

In the last portion of our analysis, we explore the repercussions of residential disattainment by evaluating the racial context of the neighborhoods to where those transitioning out of homeownership settle, and considering how this relationship varies by race and across metropolitan contexts. Specifically, we estimate a two-level

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[4] We follow Flippen (2001) and use disability status – whether respondents have a physical or nervous condition that limits their capacity to work – as an instrument.

linear model in which the percent co-racial (percent black for blacks; percent white for whites) in exiters' census tract at time *t* is regressed on the percent co-racial in tracts at time (*t-k*), where k is the interval between subsequent interviews. This simple correspondence between percent co-racial in neighborhoods of origin and destination documents the extent to which those who exit ownership remain in neighborhoods with similar racial composition or move to more racially-similar ones. We supplement this basic exercise by incorporating metropolitan-level characteristics known to be related to locational choice (e.g., availability of new housing, residential segregation) (see Crowder et al. 2012; Pais et al. 2012).

Preliminary Results and Ongoing Research
Initial analyses have examined average racial disparity in homeownership exit, adjusted for life cycle and socioeconomic characteristics of householders. As shown in Proposal Table 1 below, accounting for racial differences in demographic, life cycle, socioeconomic, and housing characteristics, black householders are considerably less likely to become homeowners and, among those who achieve ownership, are more likely to transition out of ownership. Additional analyses (not shown in Proposal Table 1) indicate temporal variation in this racial disparity, with the racial gap in residential disattainment being especially pronounced in the last decade.

Ongoing work will directly address the core research questions described in this proposal, by assessing the extent to which the racial gap in homeownership exit is affected by variation in the geographic distribution of blacks and whites. If the housing markets that blacks tend to occupy possess characteristics that are conducive to downward housing transitions, then the gap between whites and blacks may be partially attenuated by the inclusions of locational controls. Alternatively, if racial inequalities in residential processes are heightened in the metropolitan areas where blacks reside, then the racial gap in disattainment may be suppressed by geographic variation in whites' and blacks' locations. We are currently in the final process of linking respondents to the metropolitan and neighborhoods in which they live and have compiled the necessary metropolitan- and neighborhood-level covariates that will be used in subsequent parts of the proposed analysis.

Proposal Table 1: Two-Stage Probit Models of Selection into Homeownership and Homeownership Exit, for PSID householders, 1968-2009

	Selection Model of Homeownership		Homeownership Exit	
	Coef.	(S.E.)	Coef.	(S.E.)
Individual Characteristics				
Black	-.544	(.034) ***	.096	(.035) **
Age	.117	(.005) ***	-.047	(.010) ***
Age squared	-.001	(.000) ***	.000	(.000) **
Married (1=yes)	.845	(.022) ***	-.578	(.056) ***
Number of children	.051	(.007) ***	-.026	(.009) **
Female-headed household	.047	(.026)	-.239	(.027) ***
Number of persons per room			.191	(.036) ***
Employed (1=yes)	.231	(.019) ***	-.256	(.030) ***
Family income (logged)	.227	(.012) ***	-.095	(.017) ***
Education (years)	.027	(.002) ***	-.005	(.004)
Disability (1=yes)	-.098	(.022) ***		
Temporal Indicators				
Decade (ref. 1970s)				
1980s	.116	(.020) ***	.102	(.024) ***
1990s	.078	(.024) ***	.158	(.025) ***
2000s	.096	(.029) ***	.187	(.044) ***
Housing Characteristics				
Length of tenure			-.076	(.005) ***
Length of tenure squared			.002	(.000) ***
Loan-to-value ratio			.036	(.021)
Household Trigger Events				
Got divorced/widowed/separated			1.409	(.033) ***
Household size decreased			.463	(.022) ***
Became unemployed			.300	(.032) ***
Income decreased by 10% or more			.204	(.017) ***
Inverse Mills Ratio			-.006	(.098)
Constant	-6.423	(.132) ***	1.231	(.515) *
Wald chi-square		8999.2 ***		5596.0 ***
N of person-intervals		183504		92584

Note: * p < .05; ** p < .01; *** p < .001; Disability status is used as an exclusion restriction variable in the selection model of homeownership. Models also control for biennial wave.