

Black Employment, Segregation, and the Social Organization of Metropolitan Labor Markets

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Abstract: This broad analysis of the employment of blacks in metropolitan areas examines the role of residential segregation in comparison with four other key structural explanations for racial metropolitan inequality: industrial composition, minority concentration, immigration, and the racial disparity in skills. The goal of the analysis was to determine whether the spatial configuration of blacks relative to whites in a metropolitan area influences the employment rates of black men and black women in the context of the structural conditions of the local labor market. The study expanded the analysis of space and work beyond an emphasis on the physical distance between black communities and jobs to a broader conceptualization of residential segregation as a structural feature of the entire metropolitan labor market that is representative of its social organization with regard to race. Using a longitudinal data set of the structural characteristics of the 95 largest U.S. cities from the 1980, 1990, and 2000 decennial censuses, the study used a cross-sectional analysis of the cities in 2000 and a fixed-effects analysis to assess the impact of five dimensions of residential segregation and the four other structural factors on the employment of blacks across different labor markets and across time within each labor market. The results revealed that when the other structural characteristics are controlled, the employment rates of blacks are lower in more segregated cities and decrease as cities become more segregated over time. The clustering and evenness dimensions of residential segregation were the most determinative of black employment.

Key words: residential segregation, employment, blacks or African Americans, metropolitan areas.

Persistent racial disparities in access to employment continue to limit the full economic participation of black workers in U.S. metropolitan labor markets. Researchers have looked to the structural characteristics of metropolitan labor markets, namely, the industrial structure, the concentration of minority populations, immigration, differences in group skill levels, and spatial mismatch, to explain blacks' employment outcomes in metropolitan areas (Wilson 1987; Huffman and Cohen 2004;

Hamermesh and Bean 1998). These explanatory factors are unified by the notion that the structural conditions of the local labor market affect employment outcomes for individuals in that labor market, reproducing inequality at the structural level.

Residential segregation is an important structural feature of metropolitan labor markets that is thought to underlie racial inequality. Previous research on the relationship between residential segregation and employment has focused largely on the

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particular mechanisms associated with residential segregation that are believed to limit employment outcomes, chiefly commuting distances that are central to spatial mismatch analyses¹ (Stoll 1999; Wylie 1996; Ihlanfeldt and Young 1996). Ihlanfeldt and Sjoquist (1998, 851) stated that “spatial mismatch is only one dimension of the changing geography of metropolitan opportunity.” Few analyses of the role of the *structure* of residential segregation in metropolitan labor markets on the employment of minorities have been conducted.

In this article, I use an alternative conceptualization and examination of residential segregation than previous considerations: one that positions residential segregation as representative of the social organization of a metropolitan area with regard to race. In the study presented here, I conducted a broad analysis of the employment of blacks in metropolitan areas by examining the role of residential segregation in comparison with four other key structural explanations for racial metropolitan inequality: industrial composition, minority concentration, immigration, and group skill disparities. The goal of this comparative analysis was to determine whether the spatial configuration of blacks relative to whites in a metropolitan area influences minority men’s and women’s employment rates in the context of the structural conditions of the local labor market.

The notion of isolation is central to the theoretical link between residential segregation and labor market inequality. This argument rests theoretically on the concept of the social embeddedness of labor markets in which scholars have pointed to the interconnection of social isolation and joblessness (Tilly and Tilly 1998; Elliott 1999). Physical distance alone does not capture this isolation. In this article, I present an alternative analysis of the role of residential segregation in access to employment

that focuses conceptually on the isolation or interaction among racial groups in a metropolitan area. It adds a necessary complement to this research by examining the social organization of the entire city, not just particular neighborhoods. Many studies of space and work have typically analyzed these relationships in one or, at most, a few metropolitan areas. Testing theories of space and work across multiple metropolitan labor markets adds insights to this body of literature by assessing whether the relationships between residential segregation and access to work operate uniformly across metropolitan areas or whether metropolitan areas differ such that these patterns vary across metropolitan labor markets. Thus, in my study, I sought to determine how the spatial configuration of groups relative to one another affects the employment outcomes of blacks in metropolitan areas and specifically what type of racial configurations are associated with blacks’ employment rates in metropolitan areas.

I use the five dimensions of residential segregation outlined by Massey and Denton (1988) and argue that they may serve as proxies for the mechanisms attendant to residential segregation that are thought to impinge on individuals’ employment outcomes; these mechanisms include inequities in schooling and exposure to information about jobs and consequently offer insights into how residential segregation affects the access of minority groups to employment beyond physical distance. Moreover, given the existence of multiple labor market hierarchies, specifically gender and race, I ask whether residential segregation limits access to employment for both minority men and women in the same way, given that the labor market is gendered, as well as racialized (Dickerson 2002).

To test these relationships, I used a multi-year data set of 95 medium and large metropolitan areas that was drawn from the 1980, 1990, and 2000 decennial censuses. This unique multiyear data set allows for both a cross-sectional analysis of the cities in 2000 and a fixed-effects analysis, which controls for characteristics that are unique to

¹ Spatial mismatch studies use other measures besides commuting or distance to jobs to measure access to jobs (e.g., job density relative to minority communities). However, physical access to jobs seems to be central to all of these measures.

particular cities, some of which are impossible to measure but may confound the effects of residential segregation. These two analytic strategies provide two different ways to address the central research questions; the cross-sectional analysis determined if variations in these structural factors affect the employment rates of blacks in metropolitan areas as they vary across different labor markets, and the fixed-effect analysis determined if changes in these structural factors across time within the same labor market increased or decreased employment rates of blacks during the period under study.

Metropolitan Labor Markets

Underpinning all of the explanations for the employment of blacks in metropolitan areas that I examined is the notion that structural conditions vary across local labor markets and that these conditions affect employment outcomes for individuals in these labor markets. Beggs and Villemez (2001, 504) pointed to the “widespread recognition of the fact that significant variation exists in the type, quality, and likelihood of employment across regional labor markets,” where regional labor markets are defined as “a bounded geographic space in which most persons within the boundaries live and work” (Beggs and Villemez 2001, 510), most often measured as metropolitan areas. McCall (2001) argued that regional economies vary widely in history, policy, and industrial and demographic composition. She found that differences in the industrial and organizational structures of regional labor markets were associated with spatial variations in inequality. Since most individuals’ employment opportunities are limited to the local labor markets in which they reside, the characteristics of the social and geographic space in which individuals live constrain their choices. Thus, analyses of inequality at the level of the national labor market are limited in assessing opportunities to which workers have access. Metropolitan-level analyses have revealed variations in the influence of metropolitan

characteristics on outcomes for workers, such as the industrial structure on earnings (South and Xu 1990), the size and growth of the population on occupational sex segregation (Abrahamson and Sigelman 1987), and the density of the minority population and racial economic inequality (Beggs, Villemez, and Arnold 1997; Huffman and Cohen 2004). The remainder of this section presents the rationale for the five structural characteristics of metropolitan labor markets that were assessed in the study.

The *industrial composition* of a city shapes the city’s employment base and thus the type of employment opportunities that are available to workers. Because particular industry groups develop unevenly across the country and create regional variation in industrial composition, most cities tend to be overrepresented by particular industries (McCall 2001). This variation in industrial composition occurs both across labor markets, and over time within a labor market. Deindustrialization in the Rust Belt is one of the most famous and influential examples, particularly with regard to the employment of blacks. Between 1970 and 1995, employment in the service industries in U.S. cities rose substantially, while the manufacturing base eroded to 50 percent of its previous share (Jones-Correa 2001; Kasarda 1983). Deindustrialization and the accompanying deunionization depressed both the demand for workers and wages in the remaining jobs. The decline in the manufacturing industry has been highlighted as a primary factor in the increase in racial wage inequality over the past 40 years. Thus, I expect cities with a large service industry to have lower employment rates for blacks and those with a large manufacturing sector to be beneficial for black men. Higher employment in the public sector may boost employment for black women, given their overrepresentation in this sector (Bound and Dresser 1999). Although blacks are overrepresented in service *occupations* across industries, it is important to distinguish between occupation and industry and to note that blacks are not necessarily overrepresented in service *industries* (i.e.,

retail, finance, and the like) relative to other workers. This study included industry measures, specifically to control for the hypothesis that the increase of service industries and the decline of the manufacturing industry during this period affected the employment of blacks.

There is a well-established relationship between the size of the minority population of a metropolitan area and the degree of racial economic inequality (Blalock 1956; Beggs, Villemez, and Arnold 1997). A higher proportion of blacks in a metropolitan area has been associated with greater racial disparities in earnings or income, employment rates, and job segregation (Huffman and Cohen 2004; Tigges and Tootle 1993). To explain this relationship, scholars have used the threat hypothesis founded in Blalock's (1967) competition theory, which states that greater numbers of blacks pose a higher possible threat to the dominant group's social and economic privilege. Evidence of this hypothesis is found in whites' worse negative attitudes toward blacks in areas with larger proportions of blacks (Quillian 1996; Fossett and Kiecolt 1989). Residential segregation may act as a mediating factor in this relationship because it provides a structure to limit the access of the black population to social and economic resources. Accordingly, I expect cities with a larger black population to have lower aggregate employment rates for blacks.

Another important change in metropolitan labor markets during this period was the surge in immigration that began in the 1980s. Currently, almost half of the growth in the U.S. population has been due to immigration, in contrast to new births (Jones-Correa 2001). Patterns of chain migration have resulted in uneven immigration flows in which some cities have a disproportionate share of immigrant populations relative to other cities and others have small to nonexistent immigrant populations (McCall 2001). Borjas, Freeman, and Katz (1996) argued that the rise in *immigration* has consequently increased the supply of less-skilled workers and hypothesized that in light of blacks' aggregate lower educational levels, an influx

of lower-educated workers would pose significant competition to blacks' employment outcomes. Borjas, Grogger, and Hanson (2006) found both national and state-level effects of immigration on the wages, employment, and incarceration of blacks between 1960 and 2000. Hamermesh and Bean (1998) reported a small negative effect of immigration on the wages of low-skilled blacks. However, the findings have been mixed. Borjas, Grogger, and Hanson (2006) noted that metropolitan-level analyses have most often found small to insignificant effects from immigration, whereas national-level studies have found more significant effects on native workers' employment outcomes. Given the tendency for low-wage men to leave labor markets with large influxes of immigrant workers (McCall 2001; Frey 1995), it may be difficult to detect these effects at the metropolitan level. The literature seems fairly conclusive that immigration is not the primary source of inequality or disadvantage for black workers. Thus, I expect a modest negative or nonsignificant effect on blacks' employment.

Another significant development from 1980 to 2000 was the shift to technological and service industries in the economy that changed the type of work available and the commensurate *skills* that employers sought among potential workers. Both the supply of skilled workers in a labor market and the supply of jobs with particular skills sets (or demand for particular skills) influence employment opportunities for workers in that labor market. An under- or oversupply of workers with certain skills relative to the demand for those skills varies spatially and can affect the rewards to workers with different levels of skills (Bound and Holzer 1993; McCall 2001). An undersupply of a particular skill group increases rewards to workers with those skills, and an oversupply results in lower wages and unemployment for those workers. The penalty for the *disparities in skills* between blacks and whites is thought to be increasing, given that the currency in skills is increasing (Juhn, Murphy, and Pierce 1993). Consequently, the lower demand for low-skilled workers is

argued to be a significant factor in blacks' poor employment outcomes (Holzer 1996). This hypothesis then predicts that metropolitan labor markets with a higher proportion of educated workers and an oversupply of lower educated workers will have lower employment rates for blacks.

The contribution of each of these structural factors individually has been shown to be important to understanding employment outcomes for blacks. In addition to these structural characteristics of metropolitan areas, I argue for a consideration of the role of residential segregation, or the social organization of metropolitan areas with regard to race, on the employment of blacks. Only a few studies have used indices of residential segregation at the metropolitan level to predict employment outcomes across multiple metropolitan areas (Cutler and Glaeser 1997; Massey, Gross, and Eggers 1991), but they have not done so while considering the confounding effects of other important structural characteristics.

Dimensions of Residential Segregation and the Employment of Blacks

Residential segregation is thought to affect employment opportunities by facilitating an unequal distribution of resources, many of which influence blacks' access to work. Dickerson (2002) divided these mechanisms into supply- and demand-side factors. Residential segregation limits the *supply* of minorities applying for available jobs in the mainstream by restricting their access to jobs physically, as has been amply documented in the spatial mismatch literature, and by limiting their access to information about jobs, particularly good jobs. For example, various forms of *social closure*—word-of-mouth recruiting, closed-hiring pools, segregated social networks, and selective postings of job openings—have been found to be enabled by the structure of residential segregation. Kirshenman and Neckerman (1991) found that employers use the structure of residential segregation to distribute information about job opportunities selectively

in certain communities but not in others, effectively withholding information about jobs from certain groups. Green, Tigges, and Browne (1995) found that blacks who used neighbors to find employment had worse employment outcomes than those who did not.

In addition, residential segregation influences employers' *demand* or preference for minority workers by reinforcing employers' perceptions and stereotypes of minorities (Fernandez and Su 2004; Kasinitz and Rosenberg 1996). Kirshenman and Neckerman (1991) reported that employers based their hiring decisions on assumptions that blacks from particular types of neighborhoods in Chicago would be unproductive workers. This and other findings offer evidence that employers use residential segregation as a structure to demarcate and consequently exclude entire categories of workers by race. Newman (1999) found that McDonald's managers in a New York community avoided hiring nearby youths in a largely black and poor community, but would hire black youths from other neighborhoods, and in Kasinitz and Rosenberg's (1996) study, employers in a Brooklyn commercial district confided their unwillingness to hire blacks from a nearby public housing complex. These findings are evidence of what researchers call spatial signaling, whereby employers screen applicants by where they live. Residential segregation also indirectly plays a role in the weaker employer demand for less-educated black workers. Since school funding is tied to neighborhood property taxes, residential segregation undergirds patterns of inequality in schooling (Orfield 1993). Segregated into inferior schools with substantially lower per-pupil spending than white students, black youths are more likely to enter their local labor market with less and lower-quality education, making them less desirable to local employers.

These phenomena reflect the social embeddedness of labor markets in which social relations and hierarchies in a metropolitan area inform employment inequalities in the labor market (Elliott 1999;

Shulman 1996). Residential segregation is a structural feature of a social context that represents a social relationship between groups in that context; theories that argue for this link stem from a concern with minorities' *relationship* to the mainstream. The current understanding of the role of residential segregation in employment inequality has been influenced most heavily by the literature that has tested the spatial mismatch hypothesis. Fernandez and Su (2004) and Ihlanfeldt and Sjoquist (1998) reviewed this literature and concluded that distance to work does provide a significant barrier to work. However, both articles also pointed out that spatial mismatch analyses examine one piece of the link between residential segregation and employment, namely, distance. There are other aspects of segregation besides those that decrease the likelihood that blacks will encounter jobs or individuals and social spaces with information about jobs.² In this article, I offer an alternative conceptualization and operationalization of residential segregation as representative of the social organization of the metropolitan area with regard to race that may add to the understanding of how blacks' access to employment is limited.

The inner city–white suburb configuration that is most commonly associated with residential segregation is not the only way in which groups are segregated from one another. Groups may be segregated in a variety of ways. “Urban spatial structure is inherently multidimensional (Timms 1971), and residential segregation, in particular, does not stem from a single process, but from a complex interplay of many different social and economic processes that generate

² A smaller literature on social networks and neighborhoods has explored the role of segregation in the racial composition and effectiveness of individuals' job information networks (Greene, Tigges, and Diaz 1999; Elliott 1999). However, this literature has typically focused on minority neighborhoods within one or a few metropolitan areas, as opposed to the relationship to the larger metropolitan labor market.

various constellations of outcomes interpreted as ‘segregation’” (Massey and Denton 1988, 311). Massey and Denton used factor analysis to identify five dimensions of measurement—evenness, concentration, clustering, exposure, and centralization—that underlie the broader construct of residential segregation and posited that each dimension reflects a different aspect of spatial variation.

The *evenness* dimension of residential segregation measures how evenly distributed the minority group is across the census tracts in the metropolitan area relative to the majority group. The *clustering* dimension measures the extent to which predominantly minority tracts adjoin one another or cluster in a metropolitan area. High levels of clustering create ethnic enclaves or ghettos that are typically characterized by a high concentration of poverty. *Concentration* measures the share of physical space or land area that is occupied by a minority group in the city relative to that occupied by the majority group. *Centralization* measures the extent to which a minority group is crowded near the center of the urban area. *Exposure* measures the degree of potential contact or interaction between members of the minority and the majority groups, based on the extent to which the two groups share common residential areas. The measures that represent each of the dimensions and their analytical relationship with one another are discussed in more detail in the Measures section.

I propose that these dimensions may tie into some of the different mechanisms through which residential segregation is theorized to affect access to work. Although these measures cannot capture the microlevel social processes that I discussed earlier (particularly as other detailed case studies have done), I offer that the various configurations may facilitate or be associated with some of these mechanisms. For example, both evenness and clustering may facilitate schooling inequities, given that public schools are funded through neighborhood property taxes; residential segregation creates unequal resources across

neighborhoods, which is why school segregation is tightly associated with residential segregation (Orfield 1993). Clustering, in particular, produces ethnic enclaves or ghettos that are typically characterized by a high concentration of poverty (Massey and Denton 1993). Residents in these enclaves are often extremely isolated and not integrated into the social and economic mainstream of the local labor market. This form of segregation can facilitate spatial signaling, in which employers in Kirschenman and Neckerman's (1991) study referred to "those blacks" from the South Side of Chicago: a large black enclave with concentrated poverty and joblessness, in which was confined a subpopulation of individuals whom the employers considered to be undesirable. Clustering may also facilitate employers' selective posting of job openings by creating well-defined spatial boundaries that allow for selective access to information about jobs. Clustering is the configuration that is most likely to create exclusion from the labor market, not just marginalization, through joblessness, either in the form of unemployment or discouragement and non-labor force participation. The exposure dimension, which measures blacks' likelihood of contact with whites, maps onto theories of isolation and may explain why members of minority and majority groups do not share similar social networks. The centralization dimension measures the inner-city phenomenon and maps the spatial mismatch hypothesis in that this configuration creates disparities between blacks and whites in commuting distances to jobs. This macrolevel analysis will determine to what extent these patterns operate more generally across metropolitan areas, rather than in a few unique cases.

Segregation is the experience not only of the underclass who live in ghettos, but also of the average black person, including the middle class (Massey, Condran, and Denton 1987; Massey and Denton 1993). Measuring the extent of segregation of all blacks throughout the metropolitan area, not just those in predominantly black neighborhoods or ghettos, improves the existing approaches

by shifting the focus from ghettos (neighborhood-level analyses) to the segregation of the entire metropolitan area, allowing for an examination of the economic impact of segregation on all blacks: poor, working class, and middle class.

The literature on space and work has focused largely on explaining racial inequality among men, with less attention paid to examining gender differences within race (Press 2000). However, I expect that the relationship between residential segregation and employment may differ for men and women for several reasons. Work is a gendered phenomenon for all workers, regardless of race. Thus, like workers of other races, black men and black women tend to seek and are employed in different kinds of work. Given their different structural locations in the labor market, the structural factors that have been hypothesized to affect employment opportunities may affect men's and women's employment outcomes differently. Specifically, different effects for men and women with respect to these structural factors have been documented. For example, significant gender differences in the effect of immigration on natives' employment outcomes have been found and have been attributed to gender occupational segregation; immigrant women and men cluster in particular sectors of the labor market and hence pose a different threat to native men and women, who are themselves segregated into different occupations and sectors of the market. Baker (1999) found that the presence of immigrant women increases the wages of black women and white women, presumably lifting them out of low-paid work into better-paying jobs. Beggs, Villemez, and Arnold (1997) noted that the negative effect of the concentration of the black population is stronger for black women than for black men. As for spatial mismatch, McLafferty and Preston (1992, 1996) reported that minority women had worse access to jobs in local labor markets than did white women, but better spatial access than did minority men. The literature on employment losses as a result of deindustrialization has most often focused on black men, given black

men's higher concentration in manufacturing relative to black women's. However, negative effects of deindustrialization on wages have been found for both black women and black men (Bound and Dresser 1999).

Data, Methods, and Measures

Data

This study used a unique data set of the structural characteristics of the 95 largest U.S. cities. The demographic, employment, educational, occupational, and industrial characteristics of this panel of cities were drawn from the 1980, 1990, and 2000 decennial censuses' 1-percent Public Use Microdata Sample data aggregated to the metropolitan level. The geographic unit of observation is a metropolitan statistical area (MSA) or the primary metropolitan statistical area (PMSA), defined consistently in the three successive censuses. The changing definitions of the metropolitan areas over the three census years resulted in substantial changes in the number of cities that were comparable over time; many cities that existed in the 1980 census no longer existed by the 1990 census, usually because they had merged with a larger nearby metropolitan area. The 95 cities in this study accounted for approximately two-thirds of the black population and half of the white population. To this data set of city characteristics were merged residential segregation indices for 1980, 1990, and 2000, created from census data that were analyzed and published by the Housing and Household Economics Statistics (HHES) Division of the U.S. Census Bureau. The HHES calculated the segregation indices using constant metropolitan area boundaries, as defined on 30 June 1999, and imposed them back to 1990 and 1980, but allowed the census-tract boundaries to vary.

Methods

The multivariate analyses involve a cross-sectional analysis of the cities in 2000 to

determine if variations in these structural factors affected the employment rates of blacks in metropolitan areas as they varied across different labor markets and a fixed-effects analysis to determine if changes in these structural factors across time within the same labor market affected these employment rates. Fixed-effects analysis is a simple transformation of standard ordinary least-squares (OLS) regression that estimates variation *within* an individual unit (city) over time, as opposed to variation *across* individual units that is estimated in conventional OLS. In fixed effects, for each individual unit, the mean of all the observations for that individual across time is subtracted from the value for each variable (Kennedy 2003). This technique is designed to remove the effects of unmeasured characteristics of cities that are fixed or stable by subtracting the city mean from each observation, permitting me to examine whether changes over time in segregation *within* a city are associated with changes in employment, in addition to whether different levels of segregation across cities are associated with higher or lower rates of employment (tested in the OLS analyses). I conducted fixed-effect models using all three years (1980, 1990, and 2000) of city data to yield three observations for each city. Implicit in the model are dummy variables for each year and each city which control for unobservable (as well as observable) time-invariant characteristics of that city, which may otherwise mediate the coefficients on the residential segregation indices and other structural variables.

The model is represented as follows:

$$Y_{it} = b_0 + \sum b_k X_{kit} + e_{it} \quad (1)$$

where $e_{it} = u_i + v_t + w_{it}$, with i = cities, k = observed independent variables, t = time, u = city component of error, v = time component of error, w = random error component.

The fixed-effects analyses provide a more stringent test of the association between residential segregation and employment outcomes. A separate analysis was run for

each of the five residential segregation measures, since three of the five indices are highly correlated with one another.

Measures

The outcome variable for each analysis is the gender-specific aggregate employment rate, calculated as the share of working-age adults (18 to 64 years old) who are employed. Employment status distinguishes between those with jobs and the jobless, including non-labor force participants (discouraged or injured workers), as well as the formally unemployed, capturing a wide breadth of joblessness. I chose the employment rate instead of the unemployment rate in light of criticisms of the unemployment rate made by Lichter (1988) and others, pointing to the inability of the unemployment rate to capture fully the underutilization of labor resources. Official statistics measuring the unemployed population include only those who have worked less than one hour in the reference period, have looked actively for a job, and are available to work immediately. Many marginalized populations have given up and stopped looking for work, leading to artificially low and thus less informative unemployment rates. Because of these concerns, much of the literature on the minimum wage and employment rates of black men at the city level has used the employment rate almost exclusively as the chief measure of employment opportunities (Freeman 1991; Card and Krueger 1992).

The structural characteristics of the metropolitan areas are measured as follows. Industrial composition is measured as the percentage of workers in the city who are employed in the city's manufacturing, service, public sector, and retail industries. The skills thesis is assessed by the percentage of residents who have less than a high school degree and the percentage who have a college degree or higher. The minority concentration thesis is represented by the percentage of the city's population who are black, and the immigration thesis is measured by the percentage of residents

who are foreign born.³ The overall employment rate of the control group (white men for black men and white women for black women) is included as an indication of the economic health of the city.

The following section describes the measures that were identified by Massey and Denton (1988) to represent the five dimensions of residential segregation. The inter-correlations among the indices can be found in Table 7 and the equations can be found in Massey and Denton (1988). For evenness, the *dissimilarity index* compares "the weighted mean absolute deviation of every unit's minority proportion from the city's minority proportion" (Massey and Denton 1988, 284); segregation is at its lowest when all tracts in the city reflect the same relative number of minority and majority members as the entire city. For clustering, the *spatial proximity index* averages the proximity of predominantly minority tracts with respect to each other. High clustering occurs when minority areas are "contiguous and closely packed," creating a racial enclave (Massey and Denton 1988, 293). When blacks live nearer each other than to whites, the index is greater than 1; it is equal to 1 when there is no differential clustering between blacks and whites. For exposure, the *interaction index* measures the probability that a minority member shares a tract with a majority member by taking "the minority weighted average of each spatial unit's majority proportion" (Massey and Denton 1988, 288). The index varies between 0 and 1, with higher values indicating greater exposure. For concentration, the *relative concentration index* measures the share of physical space (land area) that is occupied by a minority group in the city relative to the majority group. The minority group is more segregated if its members are confined to a smaller share of the total area in the city. The index varies

³ I also controlled for the overall population size and found that it had no significant effect on the results.

between -1 and $+1$, with higher values indicating that the minority's concentration exceeds that of the majority. For centralization, the *absolute centralization index* measures the extent to which a minority group is crowded near the center of the urban area by comparing a group's spatial distribution to the distribution of land area around the city center. The index varies between -1 and 1 , and positive values indicate that minority members tend to be located closer to the city center than to the outlying areas of the city, and vice versa.

While there is some overlap among some of the indices, they measure distinct phenomena (Massey and Denton 1988). The clustering, concentration, and centralization indices are distinct from evenness and exposure in that they are explicitly spatial; they are comprised of spatial relationships (land area, distance functions, areal centroids, and so forth), whereas exposure and evenness rely on minority and majority proportions of the population (i.e., the percentage of blacks). However, even though exposure tends to be correlated with evenness empirically, exposure differs in that it takes into account the relative size of the two groups. A minority group can be evenly distributed throughout the city, but have little exposure if its members make up a large share of the population; the converse is true if they are a small proportion of the population. Similarly, with concentration and centralization, a minority group that is highly centralized in a city is not necessarily highly concentrated in that city.

Several caveats regarding the analyses and data should be mentioned here. The broad comparative approach necessitates the sacrifice of an in-depth test of each theory. It does not allow for the most specific and detailed measures, particularly in the case of the industry categories, which are broad. Although I hypothesized that the dimensions map conceptually to particular mechanisms that are associated with residential segregation, they cannot substitute for the direct measurement of these micro-processes. Also, the number of cities in the data is smaller than in metropolitan studies

that have examined a single census year, particularly 2000, because of the difficulty in matching cities across the census years. However, the resulting set of cities includes only medium and large metropolitan areas, where a large majority of urban blacks reside.

Results

Economic and Demographic Characteristics of Metropolitan Areas, 1980–2000

Table 1 shows the aggregate employment rates for each racial group by gender. From 1980 to 2000, black men's employment rates decreased, whereas black women's employment rates increased and then fell slightly. Black women's and men's employment rates converged, reflecting the growing importance of women's labor force participation as men's wages and job stability decreased; welfare-to-work rules that were enacted during this period also contributed to women's increased employment rates. The similar pattern for whites suggests that these patterns reflect generalized gender differences in the population; whites were included here only briefly to provide a comparison for blacks' rates. Although not the focus of this article, the most marked increase among all the groups was white women's rates, whereas white men's rates were stable compared to every other group. These local economies seem to have effectively absorbed these new labor market entrants, chiefly white women and immigrants, during this period.

Even though the mean metropolitan employment rate for black men and black women that is shown in Table 1 had converged to parity by 2000, the distribution of their employment rates across cities differed substantially. Figure 1 reveals that there were fewer cities in which the employment rate of black women was high compared to that of black men; in every year, the number of cities in which the employment rate of black men was high dwarfed that of black women. The highest concentration for both groups in all years was in the

Table 1

Employment Rates for Blacks and Whites, by Gender, and Change in the Black Employment Rate Across Metropolitan Areas in 1980, 1990, and 2000

Year	Mean	Standard Deviation	Minimum	Maximum
Black men				
1980	69	9	40	94
1990	66	11	27	100
2000	62	10	17	82
White men				
1980	84	3	74	91
1990	84	3	76	90
2000	82	4	68	90
White women				
1980	58	5	46	68
1990	68	4	56	78
2000	70	4	53	80
Black women				
1980	57	9	0	70
1990	63	9	41	100
2000	62	9	0	79
Mean change 2000–1980				
Women	6	11	–16	79
Men	–7	9	–34	23
Mean change 1990–1980				
Women	5	12	–23	100
Men	–4	10	–38	40
Mean change 2000–1990				
Women	0	12	–100	23
Men	–3	10	–51	23

medium category. In 1980, the employment rate of black women was lower than that of black men; there were more cities with low employment and fewer with high employment. By 1990, the number of cities in which the employment rate of black women was high increased dramatically. By 2000, cities in which the employment rates of black men and black women were high had dropped, closing the gap between the two, although the employment rate of black men was still high in three times as many cities as that of black women. The maps in Figures 2 and 3 offer a visual representation of the distribution of the employment of blacks in metropolitan areas in 2000. There was some variation by region; the employment rate for blacks was higher in the Northeast, particularly for men. However, there was a fair amount of variation within regions and even

states (e.g., Florida). This metropolitan variation within geographic regions suggests that the characteristics of cities themselves are associated with the employment of blacks.

Returning to Table 1, the change in the employment rates of blacks during this period offers further insights. In general, the average change across the period was small (a mean change of 6 points between 1980 and 2000), but the standard deviations (varying from 8 to 12 points) indicate that the change in the employment rates of blacks during this period varied a good deal across metropolitan labor markets. The smallest change, on average, was from 1990 to 2000. In addition, the range measures (minimum and maximum) reveal that in some markets, swings in the employment rate of blacks were substantial in both directions. These descriptive statistics

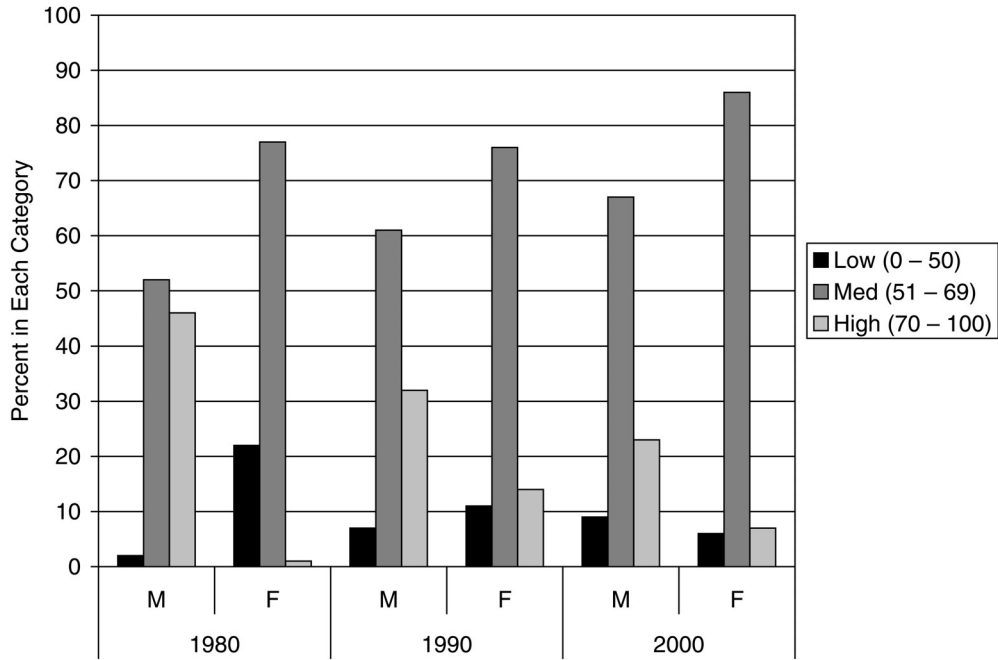


Figure 1. The employment rates for black men and black women: 1980, 1990, and 2000.

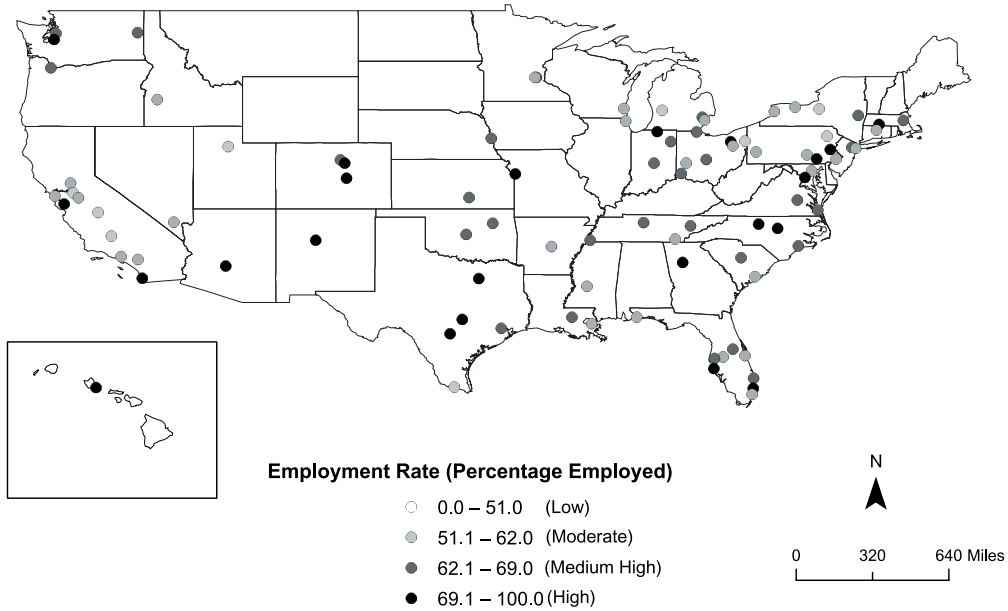


Figure 2. The metropolitan employment rate in 2000 for black men aged 16–64.

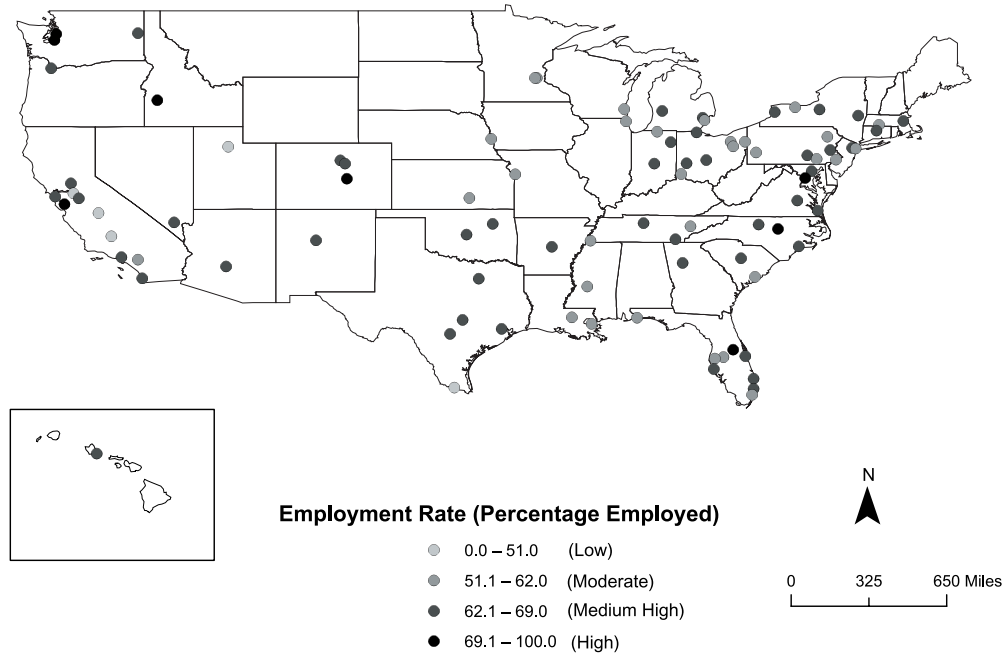


Figure 3. The metropolitan employment rate in 2000 for black women aged 16–64.

indicate that the employment rate of blacks varied considerably across metropolitan labor markets.

It is useful to get a sense of how the structural characteristics underlying racial inequality are distributed across the metropolitan areas and how they changed during the 20-year period. Table 2 describes the structural characteristics of the cities in the study (the means for each characteristic were calculated across metropolitan areas). Three of the five measures of black-white residential segregation decreased slightly from 1980 to 2000; the interaction index increased, but this was an improvement, since this measure is coded in the opposite direction of the other measures. The majority of cities across all years were moderately or highly segregated. By 2000, over half of the cities were still highly segregated. However, this was a marked improvement from 1980 in which nearly 80 percent of the cities were highly segregated.

The demographic composition of the cities in the sample reveals a small increase

in the proportion of the population that was black. Increasing immigration during this period resulted in a 57-percent increase in the percentage of the population that was foreign born. An increase in the percentage of college graduates and a decrease in the percentage of high school dropouts reflect rising levels of education in metropolitan areas from 1980 to 2000.

The city's industrial structure is the share of the city's workers who are employed in each of the four major industry groups. From 1980 to 2000, retail employment increased and then underwent a slight decline, while manufacturing decreased steadily. Public-sector employment declined, and in line with the phenomenon of restructuring, service-sector employment grew.

Structural Characteristics of Metropolitan Areas and Black Employment Rates

The chief objective of my study was to determine how various configurations of

Table 2

Mean Structural Characteristics of 95 Metropolitan Statistical Areas
in 1980, 1990, and 2000

	Means		
	1980	1990	2000
Residential segregation			
Dissimilarity index	0.68	0.62	0.58
Spatial proximity index	1.28	1.25	1.25
Absolute centralization index	0.77	0.77	0.75
Interaction index	0.49	0.54	0.55
Relative concentration index	0.56	0.59	0.61
Percentage of cities with low, medium, and high black-white segregation ^a			
Low segregation	3.16	6.32	10.53
Medium segregation	17.89	31.58	38.95
High segregation	78.95	62.11	50.53
Minority concentration			
Percentage black	12	12	15
Immigration			
Percentage foreign born	7	8	11
Educational levels			
Percentage with less than a high school education	24	19	16
Percentage with a high school education	35	30	27
Percentage with some college	24	31	32
Percentage with a college degree or higher	16	21	25
Industrial composition ^b			
Percentage in manufacturing employment	27	22	20
Percentage in public-sector employment	17	15	14
Percentage in retail employment ^b	18	19	12
Percentage in service employment	71	74	77

^a Thresholds for residential segregation (dissimilarity index) are as follows: low 0 to 41, moderate 42 to 59, and high 60 to 100.

^b Retail employment is a subgroup of service employment.

segregation influence the employment of minorities in the broader context of key structural explanations of metropolitan inequality. The following analyses were designed to determine the relative influence of residential segregation on the percentage of blacks who were employed in metropolitan areas in conjunction with other structural characteristics of cities.

The OLS regressions in Tables 3 and 4 test the influence of each of five dimensions of residential segregation—evenness, exposure, clustering, centralization, and concentration—in comparison with the other structural characteristics on the employment rates of black men and women in metro-

politan areas in 2000. Table 3 presents the OLS regressions for the employment rates of black men. Model 1 reveals that the evenness dimension of residential segregation has a negative and significant impact on the aggregate employment rate of black men at the metropolitan level. The uneven distribution of blacks in a metropolitan area relative to whites lowers the percentage of black men who are able to find employment after controlling for other structural factors in the local labor market; the employment rate of black men was lower in cities with higher residential segregation scores in 2000.

Model 2 of Table 3 reveals that the clustering dimension of residential segregation

Table 3

OLS Regression of the Effects of Structural Characteristics of Metropolitan Areas on Black Men's Metropolitan Employment Rates, Testing Five Different Dimensions of Residential Segregation, 2000

Structural Characteristics	Dimension of Segregation				
	Model 1 Evenness	Model 2 Clustering	Model 3 Exposure	Model 4 Centralization	Model 5 Concentration
Residential segregation index	-0.21 ^{***} (0.08)	-0.12 ^{**} (0.06)	0.12 [*] (0.07)	0.12 [*] (0.06)	0.00 (0.03)
Percentage black	0.04 (0.09)	0.04 (0.10)	0.10 (0.12)	-0.05 (0.08)	-0.07 (0.09)
Percentage foreign born	0.37 ^{***} (0.14)	0.40 ^{***} (0.14)	0.42 ^{***} (0.14)	0.42 ^{***} (0.14)	0.38 ^{***} (0.14)
Percentage with less than a high school education	-0.54 ^{**} (0.25)	-0.49 [*] (0.26)	-0.52 ^{**} (0.26)	-0.51 [*] (0.26)	-0.50 [*] (0.27)
Percentage with a college education	-0.09 (0.25)	-0.05 (0.25)	-0.09 (0.26)	0.04 (0.26)	-0.04 (0.27)
Percentage in manufacturing employment	0.30 (0.45)	0.14 (0.45)	0.10 (0.45)	-0.08 (0.44)	-0.05 (0.45)
Percentage in public-sector employment	0.15 (0.30)	0.25 (0.30)	0.27 (0.30)	0.52 [*] (0.30)	0.40 (0.33)
Percentage in service employment	0.38 (0.45)	0.22 (0.45)	0.20 (0.46)	-0.18 (0.45)	-0.01 (0.48)
Percentage in retail employment	1.47 [*] (0.81)	1.48 [*] (0.84)	1.64 [*] (0.83)	2.64 ^{***} (0.87)	2.00 ^{**} (0.91)
White men's employment rate	1.55 ^{***} (0.30)	1.58 ^{***} (0.31)	1.66 ^{***} (0.31)	1.61 ^{***} (0.31)	1.65 ^{***} (0.32)
Constant	-1.02 (0.48)	-0.90 (0.49)	-1.19 (0.50)	-1.01 (0.49)	-0.96 (0.50)
R^2	0.54	0.52	0.52	0.52	0.50

Note: Standard errors are in parentheses.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

negatively affects black men's metropolitan employment rates. In metropolitan areas in which predominantly black tracts cluster to a greater degree, black men's employment rates are lower. This spatial configuration maps onto the tendency of black tracts to cluster, creating the ghettos that are marked by extreme poverty and isolation that Wilson (1987) wrote of when he called attention to the isolation of blacks in metropolitan areas. Model 3 indicates that the exposure dimension has a marginally significant effect on black men's employment rates, which are higher in metropolitan areas where black men's exposure to, and potential interaction with, whites is higher. That the centralization dimension (Model 4) is positively related

to the employment rate of black men indicates that, in 2000, the employment rate of black men was higher in metropolitan areas in which blacks were more centrally located. This finding is opposite of what the decentralization hypothesis would predict. The concentration measure (Model 5) is not significantly related to the employment rate of black men.

Two demographic factors, the percentage of foreign-born residents and the percentage of high school dropouts in the city, also have a significant influence on black men's employment across all the models. The positive coefficient for the percentage of foreign born indicates that in metropolitan markets in which the density of immigrants is higher,

black men's employment is higher when controlling for the other factors in the model. Although this analysis did not isolate this effect specifically for low-skilled workers, it supplements that body of research by illustrating the utility of considering a wider set of structural conditions of metropolitan labor markets to assess the impact of immigration on the employment of blacks. The models also revealed that a higher density of high school dropouts lowers black men's employment rates. In markets in which there is a larger proportion of low-educated workers, competition may be stiffer for jobs that require fewer educational credentials—jobs in which many black workers, who, on

average, tend to have lower educational attainment than do white workers, are over-represented. Finally, one of the industry-composition variables, retail, is marginally positive for black men's employment in all of the models in addition to the positive effect of the employment rate of white men.

Model 1 in Table 4 reveals that the evenness dimension of residential segregation has a significant and negative impact on the aggregate employment rate of black women in metropolitan areas. The clustering dimension of residential segregation has a negative effect on black women's employment rate as it did for black men, but the exposure dimension is not significantly

Table 4

OLS Regression of the Effects of Structural Characteristics of Metropolitan Areas on Black Women's Metropolitan Employment Rates, Testing Five Different Dimensions of Residential Segregation, 2000

Structural Characteristics	Dimension of Segregation				
	Model 1 Evenness	Model 2 Clustering	Model 3 Exposure	Model 4 Centralization	Model 5 Concentration
Residential segregation index	-0.18** (0.08)	-0.12** (0.06)	0.06 (0.07)	0.05 (0.06)	0.02 (0.03)
Percentage black	0.25*** (0.09)	0.26*** (0.09)	0.25** (0.12)	0.17** (0.08)	0.17** (0.08)
Percentage foreign born	0.39*** (0.14)	0.41*** (0.14)	0.42*** (0.14)	0.41*** (0.14)	0.40*** (0.14)
Percentage with less than a high school education	-1.02*** (0.26)	-0.99*** (0.26)	-1.01*** (0.27)	-1.01*** (0.27)	-0.97*** (0.28)
Percentage with a college education	-0.19 (0.24)	-0.13 (0.24)	-0.14 (0.25)	-0.06 (0.26)	-0.07 (0.26)
Percentage in manufacturing employment	0.14 (0.46)	0.05 (0.46)	-0.07 (0.47)	-0.14 (0.46)	-0.17 (0.46)
Percentage in public-sector employment	-0.24 (0.29)	-0.17 (0.29)	-0.11 (0.29)	0.01 (0.29)	0.02 (0.32)
Percentage in service employment	0.03 (0.47)	-0.06 (0.46)	-0.20 (0.47)	-0.36 (0.46)	-0.37 (0.48)
Percentage in retail employment	0.37 (0.83)	0.30 (0.85)	0.63 (0.85)	1.08 (0.89)	0.98 (0.91)
White women's employment rate	0.62** (0.28)	0.56** (0.28)	0.61** (0.28)	0.53* (0.29)	0.57* (0.29)
Constant	0.37 (0.43)	0.51 (0.43)	0.39 (0.46)	0.49 (0.44)	0.52 (0.45)
R ²	0.43	0.42	0.40	0.40	0.40

Note: Standard errors are in parentheses.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

related to black women's employment rate as it was for black men. Exposure may affect black women's ability to get jobs less than it does their ability to get good jobs, especially in comparison to other factors that are more directly related to accessing employment opportunities. Neither centralization nor concentration is significantly associated with black women's employment rate. Black women's employment rate is higher in metropolitan areas where the percentage of the black population is higher. The percentage of high school dropouts and the percentage of foreign-born residents are similarly related to black women's employment as they were for black men's. However,

in contrast to black men, none of the industry employment variables is a significant predictor of black women's employment. Cities that were outliers in these analyses (i.e., did not fit the model well) were Syracuse, New York, and Monmouth-Ocean, New Jersey, both of which are northeastern cities with relatively high percentages of blacks and a large affluent class of whites.

The analyses in Tables 5 and 6 use fixed-effects regressions to determine if changes in these structural factors over time within a metropolitan labor market influence changes in the percentage of blacks who are employed in the metropolitan area. Fixed-

Table 5

Fixed-Effects Regression of the Effects of Structural Characteristics of Metropolitan Areas on Black Men's Metropolitan Employment Rates, Testing Five Different Dimensions of Residential Segregation in 1980, 1990, and 2000

Structural Characteristics	Dimension of Segregation				
	Model 1 Evenness	Model 2 Clustering	Model 3 Exposure	Model 4 Centralization	Model 5 Concentration
Residential segregation index	0.15 (0.15)	-0.20 [*] (0.12)	-0.03 (0.13)	-0.09 (0.12)	0.06 (0.04)
Percentage black	0.15 (0.23)	0.26 (0.22)	0.19 (0.22)	0.21 (0.22)	0.20 (0.22)
Percentage foreign born	-0.05 (0.27)	-0.24 (0.26)	-0.14 (0.26)	-0.15 (0.25)	-0.17 (0.25)
Percentage with less than a high school education	-0.05 (0.28)	0.01 (0.28)	0.00 (0.28)	-0.03 (0.28)	0.04 (0.28)
Percentage with a college education	0.11 (0.32)	0.15 (0.32)	0.14 (0.32)	0.15 (0.32)	0.16 (0.32)
Percentage in manufacturing employment	-0.10 (0.40)	0.11 (0.40)	-0.04 (0.40)	0.01 (0.40)	0.04 (0.40)
Percentage in public-sector employment	0.83 ^{**} (0.33)	0.91 ^{***} (0.32)	0.86 ^{**} (0.33)	0.88 ^{***} (0.33)	0.87 ^{***} (0.32)
Percentage in service employment	-0.41 (0.29)	-0.27 (0.29)	-0.39 (0.29)	-0.38 (0.29)	-0.31 (0.29)
Percentage in retail employment	-0.07 (0.24)	0.02 (0.24)	-0.01 (0.24)	0.04 (0.24)	0.01 (0.23)
White men's employment rate	1.47 ^{***} (0.27)	1.44 ^{***} (0.27)	1.47 ^{***} (0.27)	1.48 ^{***} (0.27)	1.48 ^{***} (0.27)
Constant	-0.48 (0.37)	-0.32 (0.37)	-0.43 (0.38)	-0.41 (0.37)	-0.57 (0.37)
R ² (within)	0.34	0.34	0.33	0.33	0.34

Note: Standard errors are in parentheses.

^{*} $p < 0.1$; ^{**} $p < 0.05$; ^{***} $p < 0.01$.

Table 6

Fixed-Effects Regression of the Effects of Structural Characteristics of Metropolitan Areas on Black Women's Metropolitan Employment Rates, Testing Five Different Dimensions of Residential Segregation in 1980, 1990, and 2000

Structural Characteristics	Dimension of Segregation				
	Model 1 Evenness	Model 2 Clustering	Model 3 Exposure	Model 4 Centralization	Model 5 Concentration
Residential segregation index	-0.12 (0.22)	-0.51 ^{***} (0.16)	0.12 (0.18)	0.19 (0.16)	0.16 ^{***} (0.05)
Percentage black	0.02 (0.30)	0.15 (0.29)	0.02 (0.30)	-0.04 (0.30)	-0.01 (0.29)
Percentage foreign born	-0.39 (0.36)	-0.50 (0.32)	-0.35 (0.33)	-0.31 (0.32)	-0.38 (0.31)
Percentage with less than a high school education	0.10 (0.39)	0.08 (0.37)	0.09 (0.38)	0.14 (0.39)	0.23 (0.37)
Percentage with a college education	0.17 (0.41)	0.15 (0.39)	0.14 (0.40)	0.12 (0.40)	0.20 (0.39)
Percentage in manufacturing employment	-0.58 (0.59)	-0.25 (0.58)	-0.59 (0.59)	-0.64 (0.59)	-0.26 (0.58)
Percentage in public-sector employment	0.17 (0.46)	0.30 (0.45)	0.17 (0.46)	0.15 (0.46)	0.26 (0.45)
Percentage in service employment	-0.97 ^{**} (0.40)	-0.67 [*] (0.40)	-0.97 ^{**} (0.40)	-0.97 ^{**} (0.40)	-0.71 [*] (0.40)
Percentage in retail employment	-0.14 (0.31)	-0.13 (0.29)	-0.18 (0.30)	-0.27 (0.31)	-0.12 (0.29)
White women's employment rate	0.65 ^{**} (0.25)	0.68 ^{***} (0.22)	0.65 ^{***} (0.24)	0.71 ^{***} (0.23)	0.80 ^{***} (0.22)
Constant	1.08 (0.57)	1.31 (0.53)	0.95 (0.54)	0.87 (0.54)	0.50 (0.54)
R ² (within)	0.20	0.25	0.20	0.21	0.25

Note: Standard errors are in parentheses.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

effects analysis is an altered form of the standard OLS estimation that estimates a different component of variation than does standard OLS, which estimates how variation *across* individual units (cities) affects variation in the dependent variable (e.g., the previous analyses). Fixed-effects analyses estimate variation *within* an individual unit (city) over time; the coefficients for the independent variables indicate whether change in the variable (the structural characteristics of the city) over time affects change in the dependent variable (the employment rate for blacks) over time *within* that city. In the previous analyses, which used standard OLS, the variation measured was that *between* cities. Whereas the OLS analyses

assessed whether different levels of segregation across cities are associated with higher or lower employment across cities, the goal of this second set of analyses is to determine whether changes in segregation over time *within* a city affect changes in the employment rate of blacks.

Tables 5 and 6 reveal that the clustering dimension is significantly related to changes in both black men's and women's employment rates; as black tracts increasingly cluster in a metropolitan area over time, the employment rate for black women and black men decreases. This clustering effect is particularly large for black women. Figure 4 demonstrates graphically the steep effect that the increasing clustering of predomi-

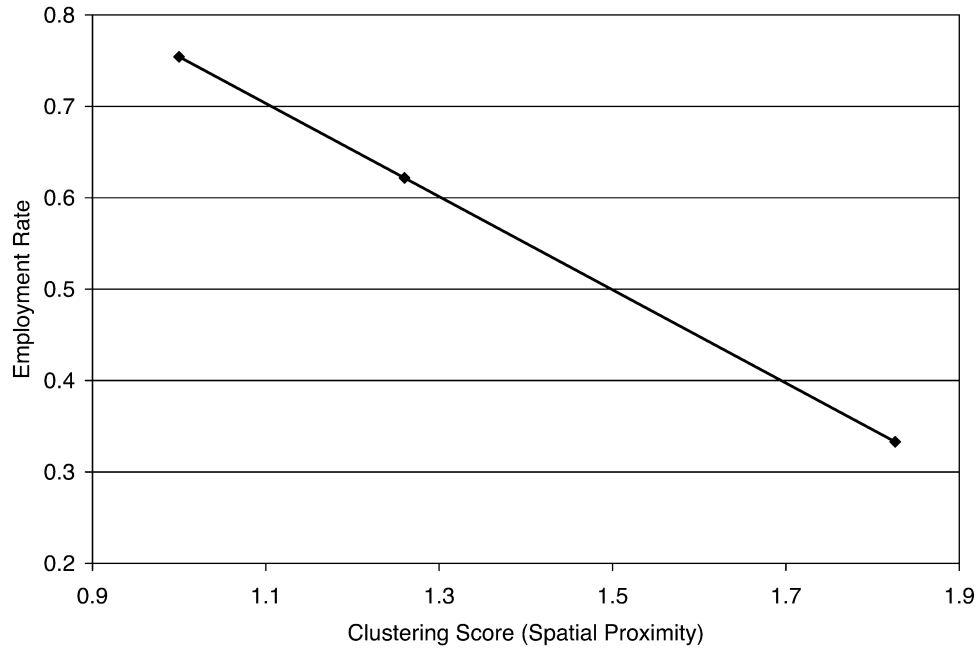


Figure 4. The metropolitan employment rate for black women at different levels of clustering.

nantly black neighborhoods in a metropolitan area over time has on the overall employment rate of black women. The concentration measure is positively related to the employment of black women; in cities in which blacks were confined to an increasingly smaller share of the city's land area over time, black women's employment increased. This change did not affect black men's employment rates. Changes in the evenness, exposure, and centralization indices over time, however, did not significantly relate to changes in the employment rate for blacks when the other structural factors were controlled.

The industry employment variables, however, did. Increases in public-sector employment resulted in increases in black men's employment rates. Increasing levels of service-sector employment in the metropolitan area lowered black women's employment rates over time, lending support to the restructuring hypothesis. In addition, changes in both black women's and black men's employment rates were a function

of the overall economic health of the local economy, as measured by the employment rates of white men and white women, respectively. The demographic and education variables were not significantly related to changes in black women's and black men's employment rates over time; that is, changes in the skills base and the demographic composition of the metropolitan population over time did not significantly effect changes in the employment rates of blacks when all the factors in the model were considered. Salt Lake City, Utah, and Elkhart, Indiana, stood out as outliers from the model. Salt Lake City is in the West, and Elkhart is in the Midwest, where there are relatively small populations of blacks; segregation indices are more sensitive and less reliable when the number of minorities is smaller.

Discussion

The findings of this study inform our understanding of how the structural conditions of metropolitan labor markets shape

the employment of minorities. Specifically, the goal of this study was to determine if residential segregation, conceptualized and operationalized as a structural feature of metropolitan labor markets, limits the employment rates of blacks in the context of the other structural factors of the metropolitan area. From 1980 to 2000, metropolitan-level segregation was significantly associated with the aggregate employment rates of blacks. Furthermore, certain types of segregation affected these rates, while others did not. Cross-sectional analyses revealed that this effect operated across metropolitan labor markets, and fixed-effects analyses showed that it operated as segregation and other structural factors changed within a labor market over time. The structural characteristics explain more variation across cities than variation within cities over time. These patterns were similar but not identical for black men and black women.

Across labor markets, the dimensions of residential segregation that were significantly associated with the employment rates of blacks were evenness and clustering for black men and black women and exposure and centralization for black men. The uneven distribution of minorities across census tracts in the metropolitan area and the clustering of these tracts in the city had the greatest impact on black men's and black women's employment rates. The centralization measure was positively related to black men's employment rates, indicating that these rates were higher in metropolitan areas where blacks were more centrally located, which is counterintuitive to the decentralization hypotheses. The fixed-effects analyses demonstrated that as residential segregation changed over time, however, only the clustering dimension of residential segregation affected change in both black women's and black men's employment rates. In cities where blacks were confined to an increasingly smaller share of the city's land area over time, black women's employment rates increased.

These particular spatial configurations are likely associated with mechanisms that act as effective barriers to employment oppor-

tunities in the local labor market. A high degree of clustering creates ethnic enclaves or ghettos, which are characterized by severe isolation. The uneven distribution of racial groups across tracts in the city creates markedly unequal public school systems (Orfield 1993). Consequently, poor educational outcomes for black children resulting from such inequality shape labor market inequality. In the labor market, racial stereotyping and consequently employers' perceptions of minority job candidates may be worse in cities with high clustering or unevenness, increasing employers' reticence to hire minorities. The significance of the exposure dimension for black men's employment indicates that black men's employment rates were higher in metropolitan areas in which there was a greater potential for interaction with whites, lending support to the importance of social networks. However, this effect was fairly weak and was nonexistent for black women. Thus, the presumption that if blacks and whites lived in the same neighborhoods, their interaction via social networks would increase the employment of blacks does not find strong support here. In many metropolitan areas, lower segregation may not necessarily result in greater social interaction or opportunity. The stronger effects for evenness and clustering indicate that similar spatial access to employment as whites in the city as a whole may be more crucial to the employment of blacks. The utility of testing these hypothesized relationships across a number of metropolitan areas, rather than a few, is evidenced here. The theories linking space and work have been tested in a few metropolitan areas at a time even though cities vary widely on many dimensions. The goal of this study was to ascertain whether these relationships operated across metropolitan labor markets. The conceptualization of residential segregation that I used offers a macroview of a phenomenon that is driven by both micro- and macroprocesses. It does not directly capture those micro-processes in the way that case studies, such as Kasinitz and Rosenberg's (1996) study of Brooklyn employers' perceptions of

minority workers, have done. However, this analysis offers further evidence that space and work interact in urban labor markets and lends support to the connection between social isolation and joblessness that Tilly and Tilly (1998) theorized.

Thus, the different effects (and noneffects) of various configurations of residential segregation in a city indicate that the way minorities are arranged in a metropolitan area vis-à-vis whites and how their location affects access to employment opportunities for blacks varies across urban labor markets. The inner city-suburb configuration does not characterize all cities. Cities are configured differently—geographically, racially, and with regard to the spatial array of jobs. For example, the Brooklyn waterfront that Kasinitz and Rosenberg (1996) studied had a large number of industrial firms (jobs) located near minority neighborhoods, but local minorities still had high unemployment rates. The aim of this study was to explore other dimensions of the geography of metropolitan areas that affect employment, as suggested by Ihlanfeldt and Sjoquist (1998). This analysis has extended our understanding of how space influences access to work by examining different spatial configurations of racial groups across a sizable number of metropolitan areas and assessing their relative impact.

In addition to residential segregation, the other structural factors of the metropolitan labor market affected blacks' employment rates as well. In the cross-sectional analyses, residential segregation and demographic factors stood out as the most determinative of employment for blacks across different labor markets, whereas industry composition and residential segregation were more important over time within a metropolitan labor market, as was demonstrated in the fixed-effects analyses. The restructuring hypothesis found support in the analyses for black women; over time, black women's employment rates decreased as the percentage of employment in the services industry increased. An increase in public-sector employment was beneficial for black men's employment. Blacks have histor-

ically had better access to the public sector than the private sector, and it has been an important source of opportunity for them (Beggs 1995; Burbridge 1994). Across different cities, the cross-sectional analysis revealed that when the other structural factors were controlled, black women's employment rates were higher in metropolitan areas where the black population was larger; this finding is contrary to the well-established findings of the effects of minority concentration. The other factors in the model, particularly residential segregation, may mediate the relationship between the size of the black population and employment opportunities, particularly if residential segregation maldistributes access to employment by race. In addition, black men's and black women's employment rates were higher in cities with a higher immigrant population. The percentage of college-educated workers (higher-skilled workers) had no effect on the employment of blacks, while the percentage of high school dropouts had a negative effect. Although these simple measures do not offer the cleanest test of the skills hypothesis or the effects of immigration, which was not the aim of this study, they do suggest that considering these influences in the context of the multiple structural characteristics of labor markets offers a greater understanding of their role in shaping employment outcomes.

The findings revealed some gender differences: a stronger effect of clustering for black women than for black men over time and a modest positive effect of exposure for black men versus a nonsignificant effect for black women across metropolitan areas. Since the analyses did not focus squarely on gender difference, it is difficult to assess fully how meaningful these differences are, but they do suggest that the impact of residential segregation on black women's and black men's employment outcomes is significantly different to warrant consideration. Dickerson (2002) explored the potential gendered intervening mechanisms that link residential segregation and employment, such as the availability and accessibility of good-quality child care, to

explain why this relationship may look different for black men and black women. Gender differences in housing discrimination, commuting times, and employers' perceptions are all mechanisms that may mediate the relationship between residential segregation and work for black women and black men. Massey and Lundy (2001) found that black women were more likely than black men to be discriminated against (i.e., denied housing) by landlords when seeking housing, suggesting that the phenomenon of residential segregation itself may be gendered. Women, in general, are more likely to work near home, where service occupations, in which they are over-represented, are spatially concentrated. However, a few key studies on commuting differences by race and gender have found that this relationship does not hold as clearly among blacks. McLafferty and Preston (1992, 1996) found that the gender difference in commuting was not nearly as large among blacks as among other groups, but that black women have somewhat better access to local labor markets than do black men; their study was conducted using New York data. Press (2000) found that race explained commuting times for black women and black men in Los Angeles more than gender did. Both studies assessed these patterns in a single metropolitan labor market.

Furthermore, there is some evidence that employers' perceptions of black workers are gendered, as Kirschenman and Neckerman (1991) discovered in interviews with Chicago-area employers. Some employers made gender distinctions in describing their reticence to hire black applicants in general (e.g., black women had too many children versus black men were too aggressive), in addition to an avoidance of hiring blacks from predominantly black neighborhoods. Thus, the penalty associated with residential segregation is assessed differently for black women and black men. The phenomenon of clustering, in which predominantly black neighborhoods are grouped together in a city to create a large, contiguous enclave or ghetto, may intensify these mechanisms for black women to a larger extent than for

black men. Commensurately, increased exposure with whites in neighborhoods may diversify black men's job networks and offer greater employment opportunities via referrals, information, and the like in a way that does not occur for black women; perhaps even the gendered nature of jobs renders men's jobs more amenable to referrals than does women's jobs. Again, these mechanisms were not directly measured in this study, but the macrolevel analysis offers a sense of whether these patterns occur more generally across metropolitan areas and are not just limited to a few unique cases as were the studies described earlier.

Conclusion

The goal of this research was to expand our understanding of how residential segregation limits employment by capturing dimensions of residential segregation that have been theorized to affect work but that have not been examined in other analytic approaches. The study used a comprehensive model of the multiple determinants of the employment of blacks in metropolitan areas in which the role of residential segregation was considered in the context of other structural features of metropolitan labor markets. This alternative conceptualization of residential segregation as representative of the social organization of metropolitan areas allowed me to investigate the influence of the experience of segregation on the employment outcomes of all blacks, not just the underclass in ghettos. Certainly, poor employment outcomes limit housing choices; thus, one can expect that poor blacks likely face worse odds of escaping this cycle than do middle-class blacks. However, Massey, Condran, and Denton (1987) found that middle-class blacks with high incomes and education were still not able to access the type of neighborhoods that whites with similar socioeconomic status were able to and were relegated to poor, predominantly black neighborhoods.

In the interest of further refining the relationship between space and work and ultimately increasing our understanding of how

inequality is sustained, future research should include an examination of residential segregation's impact on underemployment or the overrepresentation of blacks in low-status and low-wage jobs. Dimensions of residential segregation that were not as consistently or strongly associated with blacks' employment status in this study, particularly concentration, exposure, and centralization, are more likely to explain the channeling of blacks into lower-status, low-wage jobs. Other employment outcomes—occupational mobility, and overrepresentation in the secondary labor market—need to be explored with a particular focus on the role that the social organization of the local labor market plays in sustaining these employment inequalities. In addition, multi-level analyses that simultaneously assess the influence of both individual and macrolevel factors on employment outcomes for blacks would shed further light on this problem. Analyses such as these are particularly pressing in addressing housing policy that is

related to the development of low-income housing and support for the enforcement of antisegregation practices in the housing market, specifically as the types of residential configurations that limit minorities' access to employment are identified.

As new forms of discrimination emerge in the labor market, existing structures in metropolitan areas, such as residential segregation, serve as ready frameworks to sustain inequality in local labor markets. Bobo, Oliver, Johnson, and Valenzuela (2000, 5) argued that the causes of ongoing racial inequality are "complex and multiply determined." A multiexplanatory approach such as this one allows for an inquiry into the workings of these structures by offering a comprehensive analysis of minorities' employment. By understanding residential segregation as a structure that enables the differential distribution of resources and thereby sustains inequality, we gain insights into how the racial structure of a city establishes barriers to employment.

Table 7

Correlations Among Residential Segregation Measures, 2000

Measures	SP	D	xPy	RCO	ACE
Spatial proximity (SP)	1				
Dissimilarity (D)	0.77	1			
Interaction (xPy)	-0.87	-0.77	1		
Relative concentration (RCO)	0.17	0.39	-0.16	1	
Absolute centralization (ACE)	0.07	0.07	0.001	0.41	1

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