

Racial Differences in Spatial Job Search Patterns: Exploring the Causes and Consequences*

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Abstract: In this paper, we present an analysis of the spatial job search patterns of black, white, and Latino workers in Los Angeles. We find that blacks and Latinos tend to search in areas where employment growth is low, whereas whites tend to search in areas where it is high. Moreover, over half of the mean racial and ethnic differences in the quality of spatial job search (as measured by mean employment growth in areas searched) is explained by racial residential segregation. In addition, racial segregation is a more important explanation of racial differences in spatial job search quality than systematic differences in social networks and job search methods, though these factors matter. Spatial job search quality has a positive and significant effect on the employment of whites and blacks, but not Latinos, and explains nearly 40 percent of the difference between white and black employment rates. These results are consistent with the existence of spatial mismatch in urban labor markets and imply that racial residential segregation limits the job opportunities of blacks, and to a lesser extent Latinos, in metropolitan areas.

Key words: spatial mismatch, geographic job search, race.

Large interracial differences in employment and earnings are prominent and persistent characteristics of the U.S. labor market. Among the myriad of competing theories offering explanations for the relatively poor labor market outcomes of African Americans, the spatial mismatch hypothesis (SMH) has received much recent attention from both academics and policymakers. First articulated by John Kain (1968), the hypothesis holds that involuntary residential segregation of

blacks to the inner city, coupled with the movement of jobs from central cities to suburbs, has disadvantaged blacks both absolutely and relative to whites in metropolitan labor markets. Despite the fact that the mismatch hypothesis is a conceptually simple and intuitively appealing idea, it has proven to be notoriously difficult to test. As a result, there is a fair amount of uncertainty concerning the relative importance of urban economic geography in explaining the interracial difference in labor market outcomes.¹

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¹ For literature reviews on the SMH, see Ihlanfeldt and Sjoquist (1998), Kain (1992), and Holzer (1991). For evidence against it, see Holloway (1996), Taylor and Ong (1995), Cooke (1993), and Ellwood (1986).

Several recent studies examine the SMH either by attempting to directly measure geographic variation in labor demand (or alternatively stated, accessibility) and correlating these measures with intraregional differences in employment outcomes or by comparing employment outcomes across predetermined geographic areas where demand-side conditions are thought to vary from area to area. For example, several researchers use average commute times as accessibility measures (McLafferty and Preston 1996; Holloway 1996; Ihlanfeldt and Sjoquist 1991; Cooke and Shumway 1991), while others use geocoded employment data to measure distance from employment opportunities (Raphael 1998a; Stoll 1998; Cohn and Fossett 1996; Cooke 1993). An additional set of studies uses residential location as a measure of job access, implicitly assuming that suburban residents enjoy greater physical accessibility to employment (Stoll 1999a; Raphael 1998b; Cooke 1996). These studies imply support for the mismatch hypothesis when measures of job access affect employment outcomes and when blacks are found to have worse job access than whites.

A number of recent studies find support for the SMH (Stoll 1999a, 1998; Raphael 1998a, 1998b; Holzer and Ihlanfeldt 1996; McLafferty and Preston 1996; Holzer, Ihlanfeldt, and Sjoquist 1994). To believe these results, however, one must assume that private search behavior does not undo intraregional mismatches caused by racial segregation and employment decentralization. For example, to the extent that labor is highly mobile within regional markets, blacks' search patterns could be indistinguishable from that of whites, so that both groups of workers search in high-opportunity areas. In this instance, black-white differences in employment outcomes would have little to do with spatial friction in labor markets. On the other hand, if place of residence anchors the center of the job search area and if search costs limit the geographic extent of job search, racial housing segregation will ensure that the areas searched by black workers will be qualita-

tively different than the areas searched by whites. The existing SMH research offers little evidence that would permit evaluation of these alternatives.

In this paper, we present an analysis of the spatial search patterns of black, white, and Latino workers that provides an alternative test of the spatial mismatch hypothesis and that complements past research. While the lion's share of mismatch research focuses on racial segregation and its effect on the relative employment prospects of black workers, several researchers have focused more broadly on other racial and ethnic groups. For example, Ihlanfeldt (1993), Raphael (1998b), and Stoll (1999b, 1998) analyze the effect of mismatch on Latinos in addition to blacks and whites. A priori, one would expect mismatch to play a smaller role in explaining white-Latino differences in employment and earnings because blacks are considerably more segregated than Latinos (Massey and Denton 1993). Nonetheless, Latinos are more likely than whites to reside in declining urban communities, especially in Los Angeles. Hence, we feel that the analysis of a multicultural urban area such as Los Angeles should extend beyond the conventional black-white comparison. We characterize the quality of the spatial distribution of search efforts according to the average number of new opportunities in the areas searched. To the extent that job growth is greater in suburbs than central cities and that racial residential segregation limits blacks', and to a lesser extent Latinos', search to central city job centers, the quality of black and Latino spatial search distributions will be lower than those of whites.

The results of this analysis reveal a number of interesting patterns. They indicate that the spatial job search quality of blacks and Latinos is poorer than that of whites. Our analysis suggests that racial residential segregation, coupled with spatially related job search costs, ensures that blacks, Latinos, and whites search for work in different parts of the metropolitan area and near their residential areas. However, the

analysis also demonstrates that employment growth in or near minority areas is not as strong as that in or near white areas. Hence, blacks and Latinos tend to search in areas where employment growth is low, while whites tend to search in areas where employment growth is high. These patterns have important implications for understanding racial differences in employment. Our analysis reveals that spatial job search quality has a positive and significant effect on the employment of whites and blacks, but not Latinos, and therefore explains a large part of employment difference between whites and blacks. These results are consistent with the existence of spatial mismatch in metropolitan areas.

Geographic Job Search and Spatial Job Search Quality

In standard search theory, individuals choose reservation wages and search intensity by comparing the marginal benefits and costs of search and equating them at the margin (Lippman and McCall 1976). Search costs include foregone earnings, time, and other resources devoted to looking for a job, while the benefits include increases to the future stream of earnings. Incorporating geography into search models adds a new decision margin to the analysis. In particular, taking space into account entails modeling the decision of how large an area to search (the extensive margin) and, holding the area constant, how thoroughly to search (the intensive margin) (Stoll 1999b). In addition, introducing space into the analysis admits a role for transportation mode in determining the length of unemployment spells and expected wages.

Geographic isolation from high-opportunity areas increases search costs in several ways. To the extent that the flow of job information weakens with distance from the workplace location, workers residing far from high-opportunity areas must exert greater efforts in acquiring information about job vacancies. In addition, those

search costs that vary with travel, such as the additional out-of-pocket and time costs of an extra kilometer of travel during search, depend on residential location. For example, each additional kilometer of private auto travel during search requires more out-of-pocket costs for such items as gas, while traffic congestion and use of public modes of transportation increase the time costs. Stoll (1999b) provides empirical support for spatial search models. He shows that distance from search areas and not having access to a car constrains the geography of search areas, thus suggesting the importance of spatially related search costs. To the extent that these geographic costs of job search are substantial, one would expect the geographic areas searched by two otherwise equal individuals residing in different regions of the same metropolitan area to differ.

Given the racially segregated residential patterns observed in most U.S. metropolitan areas, coupled with the suburban bias in the spatial distributions of employment growth characterizing changes in postwar urban economic geography, the theoretical arguments above suggest several predictions concerning which areas are searched by minority and white workers and the relative quality of these search areas. Assume that residential segregation concentrates blacks in jobs-poor central city areas, while whites are concentrated in suburban neighborhoods with ample employment opportunities. Furthermore, assume that search costs are high enough to preclude casting geographic search nets over the entire metropolitan area. Under such conditions, blacks will search in areas centered predominantly around the inner city, while whites will search in areas centered around suburban job centers. Given the relative shortage of employment opportunities in the central city, black workers are likely to lower their reservation wages below those of their suburban white counterparts and attempt to offset the lower quality of the areas searched by expanding the geographic radius of their search areas. Nevertheless, nontrivial geographic search

costs should result in qualitative differences in the areas searched by black and white workers.

Recent empirical research suggests that urban economic geography corresponds to the segregated patterns assumed above. Residential segregation remains quite high in the United States, especially in large metropolitan areas, although it declined somewhat over the decade from 1980 to 1990 (Zubrinisky and Bobo 1996; Massey and Denton 1993). In 1990, while 34.1 percent of whites in metropolitan areas of the United States lived in the central city, the comparable figure for African Americans was 70 percent (U.S. Bureau of the Census 1993), down from 73 percent in 1980. This suggests that black suburbanization increased from 1980 to 1990. However, black suburbanization occurs largely in inner-ring areas that border central cities (Schneider and Phelan 1993) and that are economically depressed and far from newer suburban growth areas (Kain 1992, 1985; Schneider and Phelan 1990). Thus, increasing black suburbanization need not imply that blacks are moving closer to job opportunities.

At the same time, there is evidence that job opportunities are greater in suburbs than in central cities, especially those opportunities best suited to low-skill workers. Employment, defined as either total, high-skill, or low-skill jobs, steadily decentralized from 1970 to 1990, with greater decentralization for low-skill than high-skill jobs (Stoll 1998). This evidence seems to support the contention that central city employment opportunities, especially for the less-skilled populations, have been declining over time (Kasarda 1985; Wilson 1987). Moreover, recent research has shown that between 1990 and 1993 suburban jobs grew at 10.4 percent, while jobs in central cities declined by 1.3 percent (U.S. HUD 1997). Finally, in 1994, 65 percent of available low-skilled job opportunities in Atlanta, Boston, Detroit, and Los Angeles were located in white suburbs (Stoll, Holzer, and Ihlanfeldt 2000).

To be sure, there are other factors that impact search quality, yet have little to do with urban mismatch. Several researchers argue that social networks and contacts are the primary mechanisms through which employment information flows and that while blacks may be located farther from employment opportunities than whites, their principal disadvantage is their social rather than physical distance from employers (Cohn and Fossett 1996; Granovetter 1974). Kasinitz and Rosenberg (1996) found evidence in a Brooklyn neighborhood that blacks were unable to secure employment at a local manufacturing firm because of their social disconnect from networks within the firm. Residing in neighborhoods with high unemployment rates is likely to further compound the problem of attaining quality social networks for blacks (Wilson 1987, 1996). To the extent that employers recruit locally through their employees or local newspapers (Neckerman and Kirschenman 1991), inner city minorities are likely to be put at an even greater disadvantage in the labor market than their suburban counterparts.

In addition, use of differential job search methods may also affect the quality of job search. Research indicates that intermediary organizations (e.g., private placement agencies) have a positive impact on employment for racial and ethnic minority workers, while other methods such as using newspapers or walking in and applying for jobs either have little or negative impacts (Melendez and Falcon 1997; Holzer 1987). If we extend this line of reasoning to examine the spatial areas targeted by different search methods, some methods are more likely than others to connect searchers to areas with greater job opportunities. For example, to the extent that intermediary institutions are tied to employers located in areas with substantial job growth, then the job search quality of those who use such organizations is likely to be high. Alternatively, use of friends by black and Latino job seekers, who are more likely to live in jobs-poor central cities, may

lead to poor job search quality, restricting the search to central city areas where job growth is slow or nonexistent.

Finally, social factors such as race and gender may also limit the quality of spatial job search, though they are beyond the scope of this analysis. If discrimination is predominantly white, jobs-rich suburban areas is more intense than in the central city, racial minorities may choose not to seek jobs in these locations because they expect to find a racially hostile environment (Sjoquist 1997). Similarly, family and household responsibilities, gendered social relations in which job information is likely to flow within gender groups, and the strategic location of particular industries, namely those with heavily "pink collar" occupations, near specific race-gender groups could cause women to search for work closer to home (England 1995, 1993; Hanson and Pratt 1991; Nelson 1986). The existence of these factors could also cause racial minorities and women to have much more localized job searches than other groups.

Data Description and Empirical Methodology

The primary data sets used here are the Los Angeles Survey of Urban Inequality (LASUI 1994) and employment data from the Southern California Association of Governments (SCAG 1980, 1990). LASUI is a sample of single housing units with approximately equal proportions of the four major racial/ethnic groups residing in Los Angeles County. The sample includes individuals 21 years of age and older. The survey used a random stratified sample where households in the county were stratified by income/poverty level and the racial/ethnic composition of census tracts in 1994. Concentrated poverty areas were oversampled. The data set contains weights that adjust for both the oversampling and differential probabilities of selection due to household size. We use these weights throughout the analysis. The LASUI data are comparable to 1990 census data within

each major racial/ethnic category with respect to age, sex, nativity, education, and occupation. The sample data closely parallel U.S. census distributions for each variable within each racial/ethnic category (Johnson, Oliver, and Bobo 1994). In all, there are 4,025 completed interviews (out of 5,885 eligible households), for an overall response rate of 68 percent. Adjusting the response rate by excluding nonrespondents raises the response rate estimate to 73 percent.

We restrict the LASUI data to those white, black, and Latino respondents, aged 21 to 65, who searched for work within the year prior to the survey ($N = 705$). Given that employment status is current (i.e., at the time of the survey), whereas the search behavior that is measured could have occurred any time prior to the survey, restricting the sample in this manner should yield a stronger correspondence between observed employment outcomes and observed search behavior. The survey includes questions concerning whether respondents had searched in any of seven areas of Los Angeles at any time prior to the survey. We further restrict the one-year search sample to those who searched in at least one of the predesignated search areas. This restriction eliminates about 6 percent of cases. We also restrict the sample to respondents with no work-preventing physical disabilities (about 2 percent of cases eliminated). Our final sample has 648 observations.

Our empirical strategy is as follows. We first construct a measure of job search quality and analyze the factors determining search quality, such as residential location, quality of social networks, and search methods. Our search quality measure is constructed by averaging total job growth between 1980 and 1990 in those areas searched by the respondent in question; for example, for a worker searching in areas 1, 2, and 3, search quality is the average of job growth in these three areas. We construct this measure using the seven search areas for which LASUI gathered information. Employment counts for the seven areas

come from the SCAG employment data sets.² These employment data record all businesses in the state of California through employment counts furnished by Dun and Bradstreet and American Business Information (ABI). SCAG employment data are geocoded to census tracts and then aggregated within the seven search areas identified in Los Angeles. We place particular emphasis on assessing the degree to which racial/ethnic differences in residential patterns explain mean racial/ethnic differences in search quality.

Next, we test for effects of the quality of the areas searched on the probability of being employed. We estimate a series of probit employment models (where the dependent variable is a binary employment indicator), including our measure of search quality along with a host of covariates in the model specification. We estimate separate models for the three racial/ethnic groups. These results are then used to estimate the extent to which differential search quality explains observed racial/ethnic differences in employment rates.

Surely, our proposed measure of search quality is imperfect. The LASUI survey only gathered information on seven possible search areas in the Los Angeles metropolitan area. Hence, if a person searches anywhere within the search area in question, employment growth for the entire area is averaged into the search-quality measure. In addition, several alternative measures of labor demand could be used instead of employment growth in calculating average search quality—for example, job vacancy rates or ratios of employment growth to population growth. Unfortunately, we do not have more spatially disag-

gregated measures of search behavior. Nonetheless, to the extent that our search-quality variable is plagued by measurement error, estimates of the effect of search quality on the probability of having a job will be biased downward. This bias should be kept in mind when interpreting the results presented below. Concerning our choice of job growth as a gauge of the health of the local labor market, we compare local job growth to other measures of local labor market conditions and find that employment growth is strongly correlated with several alternative measures of demand conditions.

In addition to our measure of search quality, the primary explanatory variables used in the models estimated below include measures of residential location, social networks, job search methods, and the standard vector of observed demographic and human capital variables. We use a host of geographic dummy variables to capture the effects of residential location. Unlike many eastern and midwestern U.S. cities, the urban sprawl of Los Angeles does not conform to the simple central city/suburban dichotomy often used to characterize residential location in empirical models of employment outcomes. The economic geography of Los Angeles is better described by numerous economic nodes spread throughout a large urban land mass, rather than by the classic monocentric form.³ Here, we define 15 submetropolitan areas in Los Angeles and include dummy variables for these areas as controls for residential location. These 15 regions (represented geographically in Fig. 1) represent areas that are well understood as

² SCAG data record these employment counts by industry in 1990, but not in 1980. Thus, only total employment counts are used in the analysis, though employment distribution across industries could vary by submetropolitan area and over time. As a result, we were unable to construct measures of employment growth by industry and compare such measures of accessibility by race.

³ For example, East Los Angeles, which is predominantly Latino, is classified as a suburban area but has many of the characteristics of an inner city, such as urban density, and is less than 8 kilometers (5 miles) from downtown. San Fernando Valley, a predominately white, middle-class area with densities comparable to other suburban areas, is classified as part of the central city although it is nearly 32.2 kilometers (20 miles) from downtown.

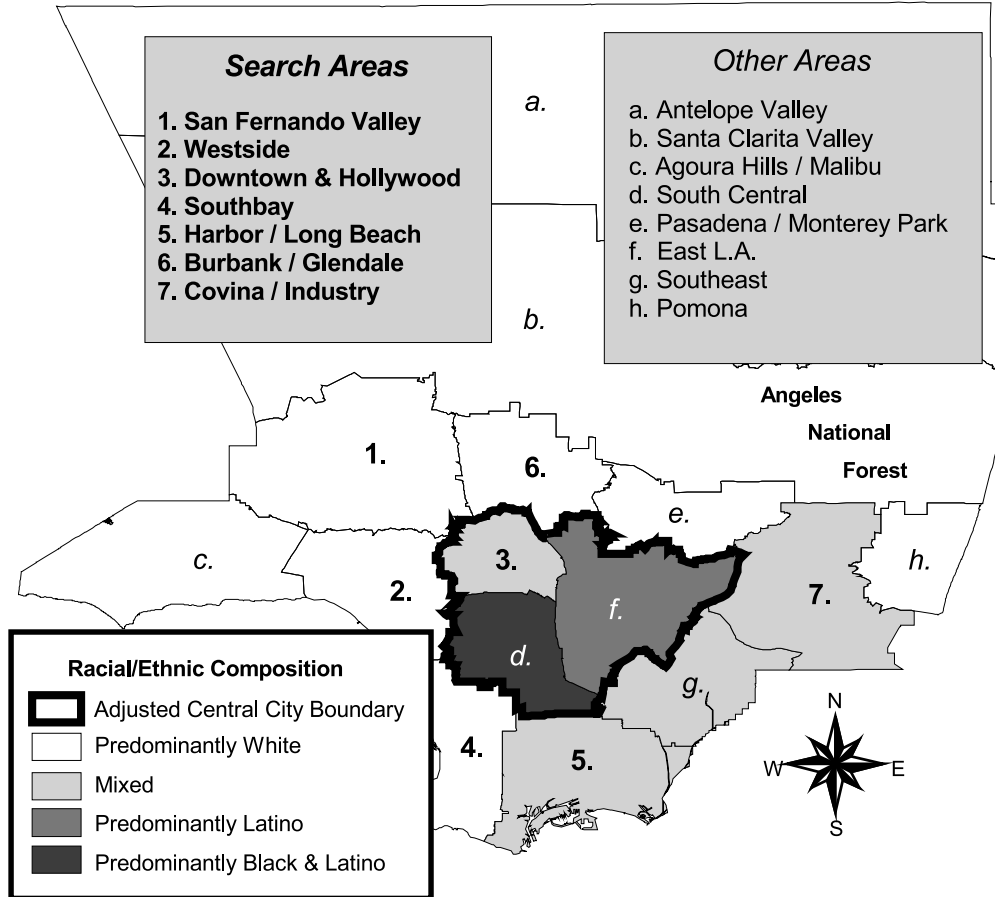


Figure 1. Submetropolitan areas of Los Angeles County. *Source:* LASUI (1994) and U.S. Bureau of the Census (1993).

distinct residential and/or commercial areas of Los Angeles and are not necessarily delineated by political jurisdiction boundaries. Figure 1 also includes an adjusted central city boundary that includes East Los Angeles as part of the central city and excludes the San Fernando Valley as part of the central city.

To determine the quality of social networks, we use the number of employed persons among the respondent's immediate circle of acquaintances. This variable is derived from a series of questions in LASUI that ask respondents about (up to a maximum of three) close friends and asso-

ciates outside of the household with whom they have interacted in the past six months. The more employed persons in a respondent's network, the better information they may have about the spatial location of job opportunities. We experimented with other measures of social network quality, yet none of these alternatives yielded results that were qualitatively different from those presented below.⁴

⁴ We constructed a social network quality index that measures and weights the characteristics of up to three of the respondent's close social ties. The original concept of this index was developed by Michael Lichter, research associate at the Center for the Study of Urban

Finally, we include several controls for job search methods used during the most recent search. Several researchers have shown that job search methods are important determinants of employment outcomes (Holzer 1988; Melendez and Falcon 1997). Moreover, differences in search methods used may be important determinants of search quality, as defined here. For those who searched for employment in the year prior to the survey, LASUI asks whether respondents used up to 11 job search methods, including answering help wanted signs, walking in and applying for work, sending resumes, and the use of friends, relatives, school job placement offices, newspapers, state, temporary, and private employment agencies, and labor unions. From these questions, we developed four, more general job search dummy variables, including open, social, credential, and intermediary methods. Open methods include answering help wanted signs and just walking in and applying for a job, while social methods involve use of friends and relatives. Credential-based methods, for which credentials might be a prerequisite for employment, include sending resumes and using newspapers, which usually advertise for semi- and skilled jobs. Finally, intermediaries include those methods that use intermediary agencies to search for work, such as school job placement offices, state, temporary, and/or private employment agencies, and unions. In addition, factor analysis revealed that search strategies generally bundled along these dimensions.

Poverty at UCLA. We determined the direction of these weights by referring to the literature concerning the effect of particular characteristics on employment. For each tie, we gave the social network quality index greater positive weight if the tie was married, had a job, had high educational levels, provided general assistance, or helped out in crisis (Granovetter 1974). We gave the index greater negative weight if the tie lived in the neighborhood, was on welfare, or had a low educational level (Wilson 1987).

Descriptive Statistics: The Economic Geography of Los Angeles

The geographic location of the search and nonsearch areas in Los Angeles are shown in Figure 1. The search areas queried in LASUI are located in either predominantly white or mixed areas and not in the predominantly black/Latino or Latino areas of Los Angeles.⁵ The incomplete coverage of search areas in Los Angeles (shown in Fig. 1) is likely to bias our estimates of racial and ethnic differences in search quality and the number of areas searched. Below, we discuss in detail the direction of these biases and argue that the estimates presented here provide lower-bound estimates of racial and ethnic differences in search quality and lower-bound estimates of the relative culpability of differences in search quality in explaining racial differentials in employment rates.

Measures of employment opportunities for the search and nonsearch areas of Los Angeles are provided in Table 1. Although employment growth and not employment levels has been shown to be a major source of employment opportunities for blacks in particular (Raphael 1998a; Freeman 1991), we provide alternative measures of employment growth, each with their own advantages and disadvantages, to verify the spatial distribution of employment opportunities in Los Angeles. Column 1 presents the absolute change in jobs from 1980 to 1990 in the search and nonsearch areas of Los Angeles using employment data from

⁵ Using data from the 1990 U.S. Census Summary Tape File (STF 1994) for Los Angeles County, we defined areas as predominantly white if 50 percent or more of the population was white and predominantly Latino where Latinos represented more than 50 percent of the population. Areas where no group represented more than 40 percent of the population were defined as mixed, and areas where blacks and Latinos each represented at least 40 percent of the population were defined as predominantly black/Latino.

Table 1

Employment Opportunities in Submetropolitan Areas of Los Angeles

	Δ in Total Jobs, 1980-90	Δ in Jobs/ Δ in Population, 1980-90	Δ in Jobs, 1980-90 (%)	1993-94 Job Vacancy Rate
Employment opportunities				
Search areas				
San Fernando Valley	145,732	0.74	31.30	0.039
Westside	60,159	3.07	15.69	0.085
Downtown	2,874	0.03	0.52	0.002
South Bay	19,500	0.58	5.71	0.009
Harbor/Long Beach	65,912	0.48	22.84	0.007
Burbank/Glendale	43,047	0.76	25.63	0.032
Covina/Industry	92,037	0.79	53.81	0.016
Other areas				
South Central	17,411	0.11	4.47	0.002
East Los Angeles	-2,225	-0.01	-0.40	0.001
Southeast	52,987	0.48	22.70	0.021
Pomona	20,226	0.36	33.37	0.022
Pasadena	30,988	0.99	19.43	0.020
Agoura Hills/Malibu	34,119	1.61	266.55	0.071
Totals	581,767	0.46	15.37	0.019
Correlations (weighted by 1980 levels)				
Change 1980-90	1.00	.8433	.8661	.9420
Ratio	.8433	1.00	.7250	.8643
Δ 1980-90 (%)	.8661	.7250	1.00	.7776
1993-94 vacancy rate	.9420	.8643	.7776	1.00

Sources: Data on jobs from SCAG (1980, 1990); data on population from U.S. Bureau of the Census (1983, 1993); data on job vacancy rates from MCSUI (1994).

SCAG. Column 2 presents the change in jobs from 1980 to 1990 divided by the change in population during the same period. Column 3 provides the percentage change in jobs from 1980 to 1990. All three of these provide long-term measures of job growth (loss), but do not convey whether it occurs through job destruction, addition, or turnover. The first and third measures do not control for labor supply, while the second one does. Finally, Column 4 shows the job vacancy rates for each area calculated with establishment-level data from the 1993-94 Multi-City Study of Urban Inequality Survey of Employers (MCSUI

1994).⁶ These data are an employee-weighted sample of firms interviewed in 1993. The vacancy rate should incorporate both the frequency of new hiring, reflecting turnover and net employment growth at establishments, as well as the average durations of such efforts, reflecting employers' ability to find acceptable applicants for these jobs, at any one point in, but not over a longer period of, time.

MCSUI includes observations on 3,220 employers in four cities (approximately 800 per city): Atlanta, Boston, Detroit, and Los Angeles. The firm vacancy rate is calculated using the equation: vacancy rate = total vacancies / (total employment + total vacancies). The area vacancy rates presented in Table 1 are the average of firm vacancy rates in the area.

⁶ Harry Holzer, Michigan State University, developed and administered this survey.

Three strong patterns emerge from Table 1. First, the four measures of employment opportunities indicate similar spatial distributions of employment opportunities across submetropolitan areas of Los Angeles. All four measures of local labor market conditions are strongly correlated. Hence, similar to the findings of Ihlanfeldt (1997), the change in total employment between 1980 and 1990 appears to be a good gauge of the geography of opportunities in the Los Angeles area.⁷ Second, there is considerable variation in employment opportunities across the seven search areas and across all submetropolitan areas of Los Angeles. In the search areas, employment growth is relatively high in the San Fernando Valley, the Covina/Industry, and the Westside areas, while growth is relatively low in downtown and the South Bay. In nonsearch areas, employment growth is relatively high in Agoura Hills/Malibu and Pasadena and relatively low in East Los Angeles and South Central. Finally, employment growth and opportunities are weakest in and around minority residential areas. Thus, if blacks and Latinos limit their job search to areas in or near predominantly minority residential areas, such as South Central, East Los Angeles, and downtown, they are likely to have poor spatial job search quality. Indeed, Stoll (2000) shows that blacks and Latinos in Los Angeles are more likely than whites to search in the relatively low-growth areas of downtown, South Bay, and Harbor/Long Beach and

⁷ Of course, to the extent that total job growth is weakly correlated with the availability of low-skilled employment opportunities, total job growth will be a poor measure of the quality of one's search. For example, high growth in total employment may reflect growth in high-skilled industries that employ few low- and semi-skilled workers that are most likely to be affected by spatial mismatch. However, recent research suggests that low-skill job growth is occurring fastest in suburban areas and slowest in black residential communities (Stoll, Holzer, and Ihlanfeldt 2000; Raphael 1998a).

less likely to search in the relatively high-growth areas of San Fernando Valley and Burbank.

Table 2 presents means for employment rates, spatial search quality, and other main variables used in the analysis for the entire sample and separately by race and ethnicity. The employment rates for blacks and Latinos are substantially lower than the white employment rate. Likewise, there are significant racial and ethnic differences in the quality of spatial job search.⁸ Unlike whites, blacks and Latinos tend to search in areas where the change in total employment from 1980 to 1990 is relatively low. Moreover, these differences in search quality occur even after adjusting for the number of areas searched (Table 2). Mean employment growth in area of residence for blacks and Latinos is less than half that for white searchers. Hence, the racial and ethnic differences in the quality of areas searched combined with comparable differences in employment growth in area of residence suggest that search areas are anchored around residential location. In addition, the mean differences in employment rates and search quality in residential area presented in Table 2 suggest that differences in search quality induced by racial residential segregation may explain a considerable portion of the racial and ethnic employment differentials observed in the LASUI sample.

As noted earlier, the incomplete coverage of search areas in Los Angeles generated by the survey design is likely to bias estimates of the racial and ethnic differences in search quality. Survey respondents were not asked whether they searched for work in the predominantly

⁸ Use of the alternative measures of employment opportunities listed in Table 1 produced similar results. In addition, we used these alternative measures of employment opportunities in the regression analysis to verify the robustness of our findings. Although the magnitude of the estimates varied with each measure used, the qualitative story that emerged was identical to the one shown here throughout the analysis.

Table 2

Means of Main Variables, 1994 (Standard Deviations in Parentheses)

	White	Black	Latino	Total
Outcome				
Employed	.61 (0.49)	.42* (0.49)	.54* (0.50)	.50 (0.50)
Spatial job search quality				
Mean for areas searched	60,189.80 (21,299.56)	44,990.00* (17,403.21)	47,217.20* (26,829.40)	52,452.53 (24,519.03)
By number of areas searched				
0-1 areas	64,816.09	38,267.11*	41,415.74*	50,504.70
2-3 areas	57,842.22	43,313.94*	43,914.33*	48,535.83
4-5 areas	60,004.54	47,936.88*	58,406.13	58,058.79
6-7 areas	61,073.52	52,110.28*	58,807.07	58,982.17
Mean employment growth in area of residence	49,936.8 (30,905.7)	22,171.7* (17,748.5)	18,634.1* (22,582.7)	28,636.9 (21,486.7)
Number of areas searched				
Unadjusted	3.30 (1.90)	3.29 (1.72)	2.88* (1.71)	3.13 (1.76)
Adjusted (Table 4)	.22 (1.86)	.32* (1.71)	.26 (1.71)	.27 (1.73)
Residence				
In a search area	.57	.24*	.45*	.41
Downtown	.14	.12	.29*	.19
South Central	.02	.66*	.27*	.36
East Los Angeles	.03	.01	.15*	.06
Social networks				
Employed persons in network	1.81 (1.08)	1.21* (1.11)	1.31* (1.22)	1.40 (1.17)
Search methods				
Open	.52	.75*	.77*	.70
Social	.86	.83	.83	.83
Credential	.90	.88	.78*	.85
Intermediaries	.54	.49	.33*	.44
N	156	239	253	648

Source: LASUI (1994).

*Statistically different from whites at the .05 level of significance.

minority areas of South Central, East, and Southeast Los Angeles (see Fig. 1). To the extent that individuals are likely to search first in their areas of residence and in those areas contiguous to their residence, and to the extent that blacks and Latinos are more likely than whites to live in low-growth, jobs-poor areas, the estimates of spatial job search quality for minority respondents are likely to overstate the quality of areas searched and understate racial and ethnic differences in this variable. Blacks and Latinos are much more likely than whites

to live in the predominately minority areas of South Central and East Los Angeles, as shown in Table 2. Hence, the true racial differences in search quality are likely to be larger than those implied by our estimates in Table 2. This downward bias should be kept in mind when interpreting the results presented below.

The incomplete coverage of the LASUI search areas is also likely to understate the number of areas searched by minority respondents relative to the number searched by whites. Again, minority resi-

dential areas were not included as search areas in the survey. Thus, to the extent that people are likely to search first in their areas of residence and in those areas bordering their residence, and to the extent that minorities are less likely than whites to live in one of the omitted search areas, the estimate of the number of areas searched by minority workers in this survey will be biased downward. Whites are much more likely than blacks and Latinos to live in one of the search areas and thus are likely to have an advantage in the number of areas searched (Table 2). The results also show that whites searched in more areas than Latinos, but not blacks. However, once statistical adjustments are made to account for the survey design bias, blacks, but not Latinos, searched in more areas than whites.⁹ These results are consistent with those in Stoll (1999b) and suggest a behavioral response by blacks that is consistent with living in jobs-poor areas.

There are other notable differences in the means presented in Table 2. Blacks and Latinos have fewer employed individuals within their immediate social networks relative to the comparable figure for whites. Finally, whereas blacks and Latinos are more likely than whites to use open job search methods, Latinos are less likely than blacks and whites to use credential-based job search methods and intermediaries.

⁹ To account for the survey design bias, we estimated ordinary least-squares (OLS) regressions for each racial/ethnic group and the group as a whole, with the number of areas searched as the dependent variable. The independent variables include dummy variables for whether an individual lived in a search area or not and dummy variables for whether the individual resided in a search area that bordered no, one, three, or four search areas (bordered two search areas is the reference category). These regressions are shown in Table 4. The adjusted means for the number of areas searched shown in Table 2 are the means of the predicted residuals from the regression models in Table 4.

Empirical Results

Explanations of Racial Differences in Spatial Job Search Quality

In this section, we use ordinary least-squares (OLS) regression analysis to examine the factors that determine spatial search quality and to identify those factors that account for the large differences in this variable between racial and ethnic groups. Our complete model specification is given by

$$SJSQ_i = \beta' \chi_i + v \mathbf{R}_i + N_i \theta + \phi \mathbf{JSM}_i + AS_i \delta + u_i \quad (1)$$

where i indexes individuals, $SJSQ_i$ is our spatial job search quality variable, χ_i represents a vector of personal characteristics, \mathbf{R}_i is a vector of residential dummy variables corresponding to the areas listed in Figure 1, N_i indicates the number of employed persons in i 's network, \mathbf{JSM}_i is a vector of dummy variables indicating search methods used by individual i during the most recent search, AS_i indicates the number of areas searched by i , and u_i is the error term that is assumed to be normally distributed. The personal characteristic variables include age (measured in years); dummy variables for educational attainment (high school dropout, high school graduate, some college, and college graduate), with high school dropout as the reference category; and sex. Personal characteristic variables also include a dummy variable for marriage, presence of own children, whether the individual ever received job training, foreign birth, and English fluency. Table 3 presents the means of the personal variables for the sample used in the analysis. In the pooled regressions, we also include dummy variables for race/ethnicity (black and Latino).

We include the number of areas searched to control for spatial job search intensity. Maximizing individuals choose search behavior based on calculations of the costs and potential benefits of search (Lippman and McCall 1976). Thus, the

Table 3

Means of Personal Variables, 1994 (Standard Deviations in Parentheses)

	White	Black	Latino	Total
Age	37.1 (10.4)	34.1 (9.7)	33.5 (10.3)	34.3 (10.2)
No high school degree	.04 (.20)	.15 (.36)	.56 (.50)	.30 (.46)
High school degree	.38 (.49)	.55 (.50)	.29 (.45)	.40 (.49)
Some college	.16 (.37)	.19 (.39)	.07 (.26)	.13 (.34)
College degree and more	.43 (.50)	.10 (.31)	.08 (.27)	.17 (.37)
Female	.50 (.50)	.56 (.49)	.44 (.50)	.51 (.50)
Married	.32 (.47)	.16 (.36)	.37 (.48)	.27 (.45)
Children	.30 (.46)	.51 (.50)	.55 (.50)	.48 (.50)
Training	.45 (.50)	.49 (.50)	.20 (.40)	.35 (.48)
Foreign born	.09 (.23)	.05 (.22)	.78 (.40)	.36 (.48)
Difficulty with English	.01 (.11)	.00 (.07)	.65 (.48)	.27 (.44)
<i>N</i>	156	239	253	648

Source: LASUI (1994).

extent of spatial job search is determined by trade-offs between employment and wage payoffs and the related transportation, travel time, and out-of-pocket costs that increase with the number of geographic areas searched. We also included dummy variables for mode of transportation used during search, but these were never significant, as the residential location dummies dominated and/or incorporated their effects on the quality of geographic job search. Given that the survey design is likely to cause a downward bias in estimates of the number of areas searched by African American and Latino workers (because these workers are less likely to reside in one of the search areas or to reside in areas that are contiguous with the survey's predesignated search areas), we first adjust this variable for the effects of residential location. Specifically, Table 4 presents the results

from regressions of the number of areas searched on dummies indicating whether the individual resides in the search areas, and a set of dummies indicating whether the residential area borders zero, one, two, three, or four search areas. The residuals from these regressions are included in our specification of the search quality models.

Table 5 presents the results for several OLS specifications of the spatial search quality model when the sample is pooled across racial and ethnic groups. The first model (1) controls for race and ethnicity only. The results from this specification correspond to the mean differences presented in Table 2 and provide baseline estimates of racial and ethnic differences in search quality against which the results from the more richly specified models will be compared. Model (2) adds the personal characteristics listed in Table 3 to the base

Table 4

Linear Regressions of Number of Areas Searched (Standard Errors in Parentheses)

Variable	All	White	Black	Latino
Residence in search area	0.398* (.240)	0.629* (.368)	0.127 (.811)	0.193 (.378)
Border 0 search areas	-0.514 (1.128)	-0.462 (1.184)	—	—
Border 1 search area	0.236 (.596)	-0.962 (1.037)	-0.833 (1.555)	1.253 (.823)
Border 3 search areas	0.300 (.367)	0.538 (1.038)	1.667 (2.057)	0.323 (.453)
Border 4 search areas	0.391* (.233)	1.705*** (.513)	-0.480 (.791)	0.167 (.402)
Constant	2.313*** (.251)	2.462*** (.316)	3.333*** (.777)	2.414 (.341)
R^2	0.06	0.09	0.01	0.01
N	648	156	239	253

*Statistically significant at $p < .10$.**Statistically significant at $p < .05$.***Statistically significant at $p < .01$.

specification in Model (1). Adding personal control variables to the basic specification in Model (1) yields a large decrease in the coefficient estimate on Latino, but not on black.¹⁰ Specifically, controlling for personal characteristics substantially decreases the coefficient on Latino relative to the results in Model (1) (about 54 percent) yet yields only a small decrease in the coefficient on black (about 10 percent).

The specification in Model (3) adds dummies for residence in the 15 submetropolitan areas of Los Angeles to the specification of Model (2). We show results only for downtown, South Central, and East Los Angeles, since these areas are within the adjusted central city boundary and since predominantly minority areas are regions of particular interest. Residing in the downtown and South Central parts of the

¹⁰ Age and ability to speak English well are positively and significantly correlated with quality of search, whereas the remaining personal characteristic variables, such as gender and education, are not significantly correlated. These results are also borne out in the racial/ethnic specific regressions of spatial job search quality shown in Table 6.

central city significantly reduces the quality of spatial job search.¹¹ Adding the residential dummies causes large declines relative to the results in Model (2) in the estimated black-white spatial job search quality difference (56 percent) and the estimated Latino-white difference (51 percent). Hence, racial and ethnic residential segregation appears to be a principal determinant of differences in job search quality.

Model (4) adds the social network variable and the job search method dummies to the specification in Model (2) to examine the extent to which social networks and search behavior are responsible for the relatively poor quality of the areas searched by blacks and Latinos. The results indicate that social networks and job search strategies do matter for an individual's spatial job search quality. Each additional employed person in an individual's network and use of job search intermediaries increases the

¹¹ Though not shown in Table 5, none of the other residential variables are statistically significant in the equations, with the exception of the San Fernando Valley (positive and significant coefficient).

Table 5

Linear Regression Estimates of Spatial Job Search Quality (Standard Errors in Parentheses)

Variables	Model (1) ^a	Model (2)	Model (3) ^b	Model (4)	Model (5) ^c
Black	-15,199.8*** (2,461.8)	-13,810.2*** (2,681.5)	-6,103.8*** (3,087.6)	-8,020.7*** (2,916.8)	-6,217.8*** (2,982.0)
Latino	-12,972.6*** (2,422.0)	-5,961.0* (3,470.1)	-2,903.7 (3,374.3)	-4,625.9* (3,391.3)	-3,686.1 (3,485.3)
Number of areas searched ^b	—	—	—	—	3,841.9*** (518.1)
Residence	—	—	—	—	—
Downtown	—	—	-14,244.3*** (5,456.7)	—	-16,995.6*** (5,297.0)
South Central	—	—	-11,244.6*** (2,630.5)	—	-14,064.6*** (5,300.7)
East Los Angeles	—	—	-4,193.5 (6,256.5)	—	-7,012.7 (6,035.2)
Social networks	—	—	—	—	—
Employed persons	—	—	—	1,290.8* (778.3)	1,279.3* (782.5)
Search methods	—	—	—	—	—
Open	—	—	—	275.0 (2,087.7)	980.7 (2,011.4)
Social	—	—	—	-4,029.7* (2,409.0)	-4,691.2*** (2,361.9)
Credentialed	—	—	—	-39.6 (2,628.1)	328.0 (2,517.2)
Intermediaries	—	—	—	3,168.4* (1,828.3)	3,051.8* (1,844.6)
Personal characteristics ^e	No	Yes	Yes	Yes	Yes
R ²	0.06	0.10	0.19	0.16	0.26
N	648	648	648	648	648

^aDummy variables for all submetropolitan residential areas in Los Angeles shown in Table 1 are included in models (Westside as reference variable).

^bPredicted residuals from linear regression estimates of number of areas searched shown in Table 4 for all respondents.

^cControls for personal characteristics include variables for age and dummy variables for educational attainment, sex, marriage, children, job training, foreign-born status, and English language difficulty.

*Statistically significant at $p < .10$.

**Statistically significant at $p < .05$.

***Statistically significant at $p < .01$.

quality of spatial job search, whereas use of friends or family during search reduces search quality. Moreover, the addition of these social network and job search methods variables to the model specification reduces the estimate on the coefficient for blacks by 42 percent and for Latinos by 22 percent.

In the final model, controls for residential location, social networks, and search methods are added simultaneously. The specification also includes our adjusted measure of the number of areas searched. The coefficient estimates on the residential location, social network, and job search method variables remain fairly stable, with coefficient estimates on residential location slightly higher than those estimated in Model (3). Moreover, the number of areas searched is statistically significant and positive, indicating that increased spatial job search is highly correlated with greater spatial job search quality. In addition, our measure of social connection to the labor market remains significant at the 10 percent level. Relative to the specification in Model (2), adding these controls simultaneously reduces the coefficient on black by 55 percent and on Latino by approximately 40 percent.

In sum, racial residential segregation accounts for a substantial portion of the mean racial and ethnic differences in the quality of spatial job search. Moreover, systematic differences in personal characteristics and residential locations between whites and Latinos explain nearly all of the Latino-white difference in the quality of spatial job search. Finally, mean differences in the quality of spatial job search among racial and ethnic groups also appear to be driven by systematic differences in the social networks and job search methods of these groups.

To test whether the effects of residential location, social networks, and the other variables of interest vary by race and ethnicity, Table 6 presents the results from estimating the final model in Table 5 for each group of workers separately. The results indicate that the effects of the hypothesized determinants of spatial

search quality vary by race and ethnicity. Residence in downtown is correlated with lower spatial job search for all groups. These negative effects are largest for Latino workers. Moreover, the number of areas searched is positively and significantly related to blacks' and Latinos', but not whites', spatial job search quality. These results suggest that blacks and Latinos live in jobs-poor areas and that limiting search to a few areas or to areas in or near these groups' residential areas will likely lead to poorer-quality job search.

Social networks have the largest effects on search quality for blacks, followed by Latinos and whites. This effect, however, is statistically significant for blacks only. Interestingly, use of intermediary agencies increases the quality of blacks' spatial job search, suggesting that such agencies direct blacks to areas with greater job opportunities. For Latinos, use of friends and family during search leads to lower job search quality.

The Effect of Spatial Job Search Quality on Employment

In this section, we attempt to assess whether our measure of search quality is positively associated with the probability of being employed. Using probit regressions where the dependent variable is a binary employment indicator, we estimate several models using alternative specifications of the search quality variable. First, we simply enter our search quality variable into an employment probit that controls for observable demographic and human capital variables. Next, we test for nonlinear effects by adding a set of dummy variables indicating which quartile of the search quality distribution the respondent is in.

For both the specification that includes the continuous measure of search quality and the specification with the quartile dummies, we estimate separate models for white, black, and Latino respondents. With respect to the other control variables, we estimate three specifications for each group and each measure of search quality:

Table 6

Racial/Ethnic Specific Linear Regression Estimates of Spatial Job Search Quality
(Standard Errors in Parentheses)

Variables	White	Black	Latino
Number of areas searched ^a	1,022.3 (1,065.3)	4,581.1*** (667.6)	5,106.5*** (1,032.0)
Residence			
Downtown	-28,646.1*** (6,702.3)	-16,920.4** (10,059.0)	-35,460.8** (18,198.0)
South Central	-11,319.5 (7,989.7)	-14,278.2*** (4,881.4)	-35,549.4** (18,142.2)
East Los Angeles	3,5254.0 (11,594.0)	6,571.7 (14,289.1)	-27,803.3* (16,353.0)
Social networks			
Employed persons	547.52 (1,702.5)	2,012.5** (1,026.3)	1,045.3 (1,404.6)
Search methods			
Open	5,690.6 (3,758.5)	574.1 (2,614.7)	-1,999.0 (3,909.4)
Social	-2,061.7 (5,119.3)	-1,841.9 (3,011.1)	-7,651.3* (4,447.1)
Credential	6,512.4 (6,308.5)	498.6 (3,658.8)	3,821.6 (4,167.9)
Intermediaries	1,935.1 (3,878.4)	4,314.7** (2,241.4)	4,320.3 (3,587.8)
R^2	0.20	0.31	0.22
N	156	239	253

Note: All models include controls for personal characteristics listed in Table 3 and dummy variables for all submetropolitan residential areas in Los Angeles shown in Table 1 (Westside as reference variable).

^aPredicted residuals from racial/ethnic specific linear regression estimates of number of areas searched shown in Table 4.

*Statistically significant at $p < .10$.

**Statistically significant at $p < .05$.

***Statistically significant at $p < .01$.

(1) a specification including the search quality indicators only; (2) the search quality variables plus the personal characteristics listed in Table 3; and (3) specification (2) plus controls for job search methods. In addition, all models control for spatial job search intensity, our adjusted measure of the number of areas searched. The models using specifications (2) and (3) include controls for our measure of network quality and a dummy variable indicating residence in a search area.¹²

¹² We do not include the 15 dummy variables for area of residence in the models specified

Table 7 presents the estimation results for our employment probits. The linear variable provides the coefficient estimates for the model using the continuous measure of search quality, while the non-linear variable presents the results using the search quartile dummies. The first three columns present the results for white respondents, the next three columns present the results for black respondents, while the final three columns present the results for Latinos. To conserve space, we only report the

here, since adding them eliminates most of the variation in our search quality measures.

Table 7

Racial/Ethnic Specific Probit Employment Estimates on Spatial Job Search Quality Variables (Dependent Variable = Binary Employment Indicator; Standard Errors in Parentheses)

Variables	White			Black			Latino		
	(1) ^a	(2) ^b	(3) ^c	(1)	(2)	(3)	(1)	(2)	(3)
Linear									
Spatial job search quality	2.85e-06 (.447e-06)	7.89e-06* (4.60e-06)	9.78e-06* (5.29e-06)	7.92e-06* (4.64e-06)	9.53e-06** (4.82e-06)	1.18e-05** (5.31e-06)	-2.78e-06 (2.92e-06)	-1.92e-06 (3.22e-06)	-1.65e-06 (3.43e-06)
Number of areas searched ^d	0.030 (.055)	0.056 (.058)	0.023 (.071)	0.036 (.024)	0.059* (.030)	0.055* (.031)	-0.038 (.049)	-0.040 (.057)	0.019 (.063)
Nonlinear (Quartiles)									
Spatial job search quality (31,517-47,255)	0.301 (.321)	0.466 (.329)	0.502 (.362)	0.184 (.229)	0.286 (.244)	0.257 (.262)	0.012 (.214)	-0.020 (.223)	0.146 (.244)
Spatial job search quality (47,256-61,323)	0.513* (.313)	0.775** (.358)	0.821** (.390)	0.441* (.254)	0.571** (.275)	0.589** (.292)	-0.126 (.254)	-0.356 (.291)	-0.406 (.323)
Spatial job search quality (> 61,323)	0.662* (.405)	0.827** (.419)	0.799* (.440)	0.530* (.283)	0.606** (.304)	0.596* (.313)	0.011 (.213)	0.038 (.237)	0.009 (.250)
Number of areas searched ^a	0.067 (.067)	0.094 (.070)	0.052 (.073)	0.030 (.024)	0.061** (.030)	0.055* (.032)	-0.041 (.056)	0.025 (.064)	0.092 (.069)
Personal variables	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Search method variables	No	No	Yes	No	No	Yes	No	No	Yes
N	156	156	156	239	239	239	253	253	253

Note: Personal and job search method variables include those listed in Table 3.

^aSpecification (1) includes the search quality indicators only.

^bSpecification (2) includes search quality variables plus personal characteristics.

^cSpecification (3) includes (2) plus controls for job search methods.

^dPredicted residuals from racial/ethnic specific linear regression estimates of number of areas searched shown in Table 4.

*Statistically significant at $p < .10$.

**Statistically significant at $p < .05$.

***Statistically significant at $p < .01$.

coefficient estimates on the search quality variables and the number of areas searched. The unreported coefficients are what one would expect. These results are available upon request.

Beginning with the results using the continuous search quality variable, search quality has a positive and weakly significant effect (at the 10 percent level) in specifications (2) and (3) for white respondents, is positive and statistically significant in all specifications for black respondents (at 10 percent in specification (1) and at 5 percent in specifications (2) and (3)), and has negative and statistically insignificant effects for Latino respondents. The point estimates for black and white respondents indicate that the marginal effects of search quality for black respondents are slightly larger than those for white respondents. This suggests an employment premium from extensive spatial job search by blacks that is consistent with living in jobs-poor areas. Checks for nonlinear effects show that the employment effect of spatial job search quality is positively and statistically significant for whites and blacks at the upper parts of the spatial job search quality distribution. In addition, systematic differences in personal and job search method characteristics do not explain these effects. Evaluating the probit estimate for specification (3) at the means of all other variables yields a 19 and 11 percentage point employment difference between whites and blacks, respectively, who searched and did not search in areas with mean employment growth above 47,256.

The significant effects of spatial job search quality on the employment of whites and blacks and the relatively low level of search quality for blacks suggests that part of the white-black employment rate difference can be attributed to the white-black difference in spatial job search quality. Borrowing from Oaxaca (1973) and Blinder (1973), we use partial decomposition analysis of the probit employment equations shown in Table 7 to measure the contribution of spatial job search quality to racial employment dif-

ferences.¹³ Using the coefficient estimates from the least parsimonious specification for blacks (specification (3) in Table 7), we first estimate the predicted employment probability for black workers when all non-search quality variables are evaluated at the actual means for black workers, but substituting the mean search quality value for white workers. This predicted employment probability, \hat{E}_b , gives the predicted probability of employment for black workers if we were to increase the mean quality of spatial job search to that observed for white workers. Next, we compute the difference between the mean white employment rate and the predicted black employment rate, \hat{E}_b , and compare this difference to the actual black-white difference in employment rates. We calculate this partial decomposition using both the continuous measure of search quality and the quartile-dummies specification presented in Table 7.

The results of this exercise are presented in Table 8. The results are laid out for the continuous search quality variable and then using the quartile dummies. The first column presents sample means by race for the search quality indicators, and the next column shows sample means for employment rates by race. The third column presents the hypothetical black employment rate, \hat{E}_b , when mean search quality is increased to the level of whites. Finally, the last column gives an estimate of the proportion of the observed black-white gap in employment that would be closed by increasing mean black search quality to the level of

¹³ We also used partial decomposition analysis of the probit employment equations in Table 7 to measure the contribution of social networks and job search methods to racial employment differences. The results indicate that between 11 and 16 percent of the observed racial difference in employment can be attributed to differences in the number of employed persons in blacks' and whites' networks. The results also indicate that between 21 and 26 percent of the observed racial difference in employment can be attributed to differences in the job search methods used by blacks and whites.

Table 8

Partial Decompositions of Probit Employment Regressions

	Spatial Job Search Quality	Actual Employment Rate	Predicted Employment Rate	Percentage of Racial Gap Explained
Linear				
White	60,189.80	.61	—	—
Black	44,990.00	.42	.47	26
Nonlinear				
White		.61	—	—
(< 31,517)	.145			
(31,517–47,255)	.138			
(47,256–61,323)	.342			
(> 61,323)	.375			
Black		.42	.50	42
(< 31,517)	.318			
(31,517–47,255)	.288			
(47,256–61,323)	.271			
(> 61,323)	.122			

Note: Partial decompositions are based on probit employment regressions in Table 7, specification c for each racial/ethnic group. The technique places white's spatial job search quality mean(s) in the black employment models.

the average white respondent. As can be seen, this decomposition suggests that a substantial portion of the mean black-white difference in employment rates can be explained by differences in spatial search quality. Using the continuous measure of search quality, increasing black search quality to the mean level of whites would close the racial gap in employment by 26 percent. Using the alternative quartile measures, the black-white gap in employment would close by 42 percent.

Conclusion

Space-related search costs coupled with racially segregated metropolitan areas imply that, on average, the spatial search patterns of blacks, whites, and Latinos are likely to differ. Moreover, given the suburban bias in employment growth, differences in search geography may correspond to differences in the quality of areas searched (quality being defined in terms of available employment opportunities). To the extent that the quality of an area searched determines the probability of locating an acceptable offer, differences in

search quality may lead to differences in employment prospects.

The results presented here support these contentions and imply that spatial search barriers are an important source of observed racial differences in employment outcomes. We find that the spatial search patterns of workers in Los Angeles are anchored by the respondents' residential location. Combined with the racial and ethnic housing segregation observed in Los Angeles and greater employment growth in nonminority regions, this spatial anchoring of job search results in blacks and Latinos searching in areas with weak employment growth and whites searching in areas with strong employment growth. Racial residential segregation explains more of the racial differences in spatial job search quality for this metropolitan area than social networks or job search methods, though these factors do affect search quality.

A further finding concerns the effects of our measure of search quality on the probability of being employed. For black and white workers, we find significant effects of search quality on the probability of being employed, with larger effects for black

workers than for white workers. In a partial decomposition of the black-white employment gap, we find that differential search quality explains between approximately 25 and 40 percent of the black-white difference in employment rates observed in the data.

These findings provide new evidence based on supply-side behavior on the relationship between residential location and employment prospects that complements existing research. Again, a key qualification to the existing body of mismatch research concerns the extent to which individual behavior can undo urban mismatch. If there are few spatial frictions that impede search and commute behavior, then where one lives in a metropolitan area should not be an important determinant of the likelihood of finding a job. Hence, while racial segregation and greater employment growth in the suburbs are necessary conditions for mismatch, they are certainly not sufficient. Our results, however, indicate that space constrains the geographic dimension of labor supply behavior. While past research on commute flows demonstrates that individuals tend to work close to home, the results here suggest that even search behavior is geographically restricted to subsections within a metropolitan area surrounding an individual's residence. Most importantly, such restrictions are not inconsequential.

The findings of this study combined with existing research on mismatch and its employment consequences points to the need for more detailed research focusing on possible policy responses to these problems. While a variety of studies to date using several alternative methodological approaches have demonstrated the importance of mismatch in explaining racial differences in employment, there has been little research focusing exclusively on the efficacy of alternative policy responses. For example, if policymakers were to pursue a transportation-based strategy, what would be the effects of rerouting buses to facilitate reverse commuting relative to policies that subsidize car ownership among the

poor and those most likely to suffer spells of joblessness? Alternatively, should policy responses focus on residential mobility? Such questions are now key to formulating effective responses to urban poverty and hence, should guide future research.

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