# Geography and the Immigrant Division of Labor

Mark Ellis

*Department of Geography, University of Washington,*
*Seattle, WA 98195-3550*
*ellism@u.washington.edu*

Richard Wright

*Department of Geography, Dartmouth College,*
*6017 Fairchild Hall, Hanover, NH 03755-3571*
*richard.a.wright@dartmouth.edu*

Virginia Parks

*School of Social Service Administration, University of Chicago,*
*969 East 60th Street, Chicago, IL 60637*
*vparks@uchicago.edu*

**Abstract:** Immigrants concentrate in particular lines of work. Most investigations of such employment niching have accented either the demand for labor in a limited set of mostly low-wage industries or the efficiency of immigrant networks in supplying that labor; space has taken a backseat or has been ignored. In contrast, this article's account of immigrant employment niching modulates insights built on social network theories with understandings derived from relative location. We do so by altering the thinking about employment niches as being metropolitan wide to considering them as local phenomena. Specifically, the analysis examines the *intraurban* variation in niching by Mexican, Salvadoran, Chinese, and Vietnamese men and women in four industries in Los Angeles. Niching is uneven; in some parts of the metropolitan area, these groups niche at high rates in these industries, whereas in others, there is no unusual concentration. We show how a group's propensity to niche in an industry is generally higher when the industry is located close to the group's residential neighborhoods and demonstrate the ways in which the proximity of competing groups dampens this geographic advantage. The study speaks to debates on immigrant niching and connects with research on minority access to employment and accounts of the agglomeration of firms. More generally, it links the geographies of home and work in a new way, relating patterns of immigrant residential segregation to those of immigrant employment niches.

**Key words:** immigrant division of labor, employment niching, job accessibility, social networks.

U.S. immigrant workers concentrate—or niche—in a limited number of industries (e.g., Waldinger 1992; Ellis and Wright 1999; Wright and Ellis 2001; Waldinger and Der-Martirosian 2001; Wilson 2003; Wang 2004). Explanations of this phenomenon have accented either the demand for labor in a limited set of mostly low-wage industries or the efficiency of immigrant networks in supplying that labor (e.g., Sassen 1988, 1991; Waldinger 1996). Studies of niching foreground social network approaches, in part, because most empirical investigations of immigrant employment have been conducted at the metropolitan scale, with no regard for intraurban variation in the division of labor among immigrants. The metropolitan scale makes it easy to imagine networks funneling immigrants to particular sectors in a frictionless space because the scale of analysis occludes the alternative—that intraurban labor market geographies, predicated on home–work spatial relations, influence where and in which industry immigrants niche. This article presents an account of intraurban variation in the employment niching of immigrants in Los Angeles that modulates insights from social network theory with recognition of the effects of local labor market processes.

In a broader sense, the analysis shows the value of integrating research on immigrant residential segregation into the study of the incorporation of immigrants into the labor market—topics that have been poorly connected both conceptually and empirically. Most work on the residential segregation of immigrants has sidestepped questions about how these residential geographies relate to immigrant employment patterns within metropolitan economies. Similarly, scholarship on the employment of immigrants has typically ignored the effects that the location of immigrant neighborhoods has on spatial accessibility to jobs. This article's investigation offers one way to weave together these research strands by measuring employment niching at the census-tract scale and by assessing the effect of home–work spatial accessibility on tract-scale niching. A unique set of confidential

1990 long-form census data, which records the census tracts of the homes and workplaces of immigrants (along with immigrants' personal characteristics), makes this type of analysis possible.

The article answers three questions: Does an immigrant group's propensity to niche in an industry attenuate as spatial accessibility from the work-tract location of the industry to the group's residential-tract clusters declines? Or does social accessibility, through the combined power of ethnic networks and employer preferences, mitigate the spatial constraints on information flow and commuting time and maintain the industry as a uniform group niche throughout the metropolitan labor market? Third, does an industry switch from being an intraurban niche for one group in one work-tract location to that for another group in another location because of differential spatial accessibility to each group's residential-tract clusters? This analysis of the sensitivity of the immigrant division of labor to home–work spatial relations has three parts. First, we review accounts of niching that have emphasized social networking and offer an alternative that integrates intraurban employment and residential geographies into our analytical framework. Next we discuss data and measurement issues and present our empirical results. We conclude with summary remarks on the analysis, followed by a discussion of the general implications of the findings and some suggestions for future spatially inflected research on immigrant employment niching.

## Networks, Space, and Niching

Almost three decades ago, sociologists began a vigorous debate about ethnic enclaves that concerned whether intraurban space mattered for the growth and form of immigrant employment (e.g., Wilson and Portes 1980; Portes and Manning 1986; Portes and Jensen 1989; Sanders and Nee 1987; Zhou and Logan 1989; Light, Sabagh, Bozorgmehr, and Der-Martirosian 1994). One position was that immigrant residential clusters defined the space of an enclave

economy (e.g., Sanders and Nee 1987). Another was that enclaves are workplace clusters that do not require co-location with ethnic residences (e.g., Portes and Jensen 1989). Others rejected the enclave idea and preferred to speak of ethnic economies instead of enclaves to rid the discussion of what they considered to be a needlessly confusing concern with intraurban geography (e.g., Light, Sabagh, Bozorgmehr, and Der-Martirosian 1994). At the conclusion of the exchanges, the balance of the argument favored the position that ethnic economies are not co-located with ethnic neighborhoods but instead range well beyond them. Consequently, most subsequent work on the employment of immigrants in the United States—performed mostly by sociologists—has paid little attention to the intraurban location of jobs and their spatial accessibility to residentially segregated immigrant workers.

With intraurban space sidelined, social network-based explanations of immigrant employment have had virtually free rein in the literature. Waldinger's (1996) influential study of the ethnic division of labor in New York City is emblematic of this aspatial perspective. His analysis of the incorporation of immigrants into the New York economy argued that newcomers who entered the region's labor market beginning in the 1960s found work in the service and manufacturing sectors as replacements for the aging descendents of early twentieth-century European-origin immigrants. Waldinger suggested that new immigrants built on these initial inroads through a mutually reinforcing combination of co-ethnic networks and employer preferences.

The literature offers a couple of reasons for why employers prefer to hire workers using networks. First, networks save time and money in searching for and selecting employees; new workers who are supplied through and screened by ethnic networks can be rapidly hired. Second, ethnic networks have built-in disciplinary mechanisms, such as "bounded solidarity" and "enforceable trust," which motivate members to recommend to employers those

they know with the favored qualities of dedication, hard work, and reliability (Bailey and Waldinger 1991; Portes and Sensenbrenner 1993; Waldinger and Lichter 2003).

Network explanations of immigrant employment patterns are compelling. Their theoretical elegance and apparent empirical substantiation have understandably suppressed interest in returning to the fractiousness of the ethnic-enclave debate, with its disputes about the role of intraurban spatial relations. Yet the failure to supplement network theories with a spatial perspective is puzzling in light of the large body of theory and evidence amassed by geographers and others on the importance of home–work geographies for local labor market outcomes (e.g., Vance 1960; Smart 1974; Peck 1989; Scott 1989; Simpson 1992; Hanson and Pratt 1995; England 1993; Stoll and Raphael 2000). The absence of the consideration of home–work spatial relations in accounts of immigrant employment is all the more odd given the central role these relations play in discussions of the long-term employment disadvantages of U.S.-born minorities, groups who, in some key respects, closely resemble poorly educated immigrants. This research has centered on the well-known spatial mismatch hypothesis, which asserts that the residential isolation of central-city minorities from suburban jobs, or job growth, damages their employment prospects because of increased commuting costs and distance-constrained flows of information about jobs (e.g., Kain 1968; Ihlandfeldt and Sjoquist 1991; Cooke 1993; Fernandez 1994; Raphael 1998; Preston, McLafferty, and Liu 1998; Mouw 2000; Parks 2004a; Houston 2005; Stoll 1999, 2005).

What are we to make of labor market literature that, on the one hand, champions social networks over spatial accessibility for immigrants but, on the other hand, features intraurban geography centrally in its hypothesizing about U.S.-born minorities? As with all binaries, a fusion of social network versus spatial perspectives would likely yield a more thorough explanation of employment accessibility in both instances. African

Americans and other U.S.-born minorities probably do not have networks that match in size and strength those of immigrant groups, but they likely possess some contacts that alleviate the geographic disadvantages of their residential circumstances (e.g., Fernandez and Fernandez-Mateo 2006). Immigrants may also have networks that enable them to overcome their residential disadvantages more easily than do African Americans; after all, these networks have often drawn them thousands of miles and across international borders to jobs. Yet immigrants who have traveled great distances via transnational networks are, in one sense, like everyone else upon their arrival; they are constrained by the physical, financial, and informational limits of their daily time-space geographies. Parks (2004a), for example, found that immigrant women's unemployment is the highest in neighborhoods with the poorest spatial accessibility to jobs. So, contrary to Sassen's (1995) claim, networks cannot defeat the constraints of daily time-space geography and render spatial proximity marginal to immigrant labor market outcomes.

One reason why intraurban geographies have remained in the background in studies of the immigrant division of labor is because scholars have operationalized their empirical work at the metropolitan scale. Metropolitan-scale investigations identify a sector as a niche when a group's share of employment in the sector is substantially greater than its share of all metropolitan-area jobs (e.g., Wright and Ellis 2001; Allen and Turner 1997; Waldinger 1996; Hudson 2002; Wilson 2003; Wang 2004). The precise statistical details of the method are not important at this juncture (we discuss them later in our analysis); suffice it to say that this procedure allows for the specifics of metropolitan-area economies and populations to condition understandings of the division of labor. Yet, the definition of a sector in a metropolitan area as a "niche" implicitly assumes that its jobs function as such *throughout* the metropolitan area. This assumption makes perfect sense when the geographies of niche industries and immi-

grant residential neighborhoods overlap. In such circumstances, the social networks that link workers to the niche do not have to overcome a substantial travel or spatial-information constraint nor fend off competition from other, more favorably located, immigrant groups. It also makes perfect sense if social networks exclusively link workers to jobs no matter where the job is located relative to the workers' residential neighborhoods. Reality, of course, is messier than these scenarios allow. What happens when we consider spatial accessibility in tandem with social network explanations?

Although mainstream research on immigrants' employment has yet to include the idea that intraurban space matters for the division of labor, there is a tributary of research—mostly by geographers—on this possibility. For instance, historical geographers have noted that immigrants who arrived at the beginning of the twentieth century clustered in neighborhoods with co-ethnics, much like immigrants do today, and worked in jobs that were close to home (e.g., Ward 1971). Of course, the situation for today's immigrant workers is vastly different. Transportation systems now allow immigrants to commute well beyond the confines of their ethnic neighborhoods. Yet there is evidence that neighborhood structure and spatial accessibility to jobs still matter for today's immigrants. For instance, Parks (2005) revealed that immigrant women experience similar spatial constraints on employment as U.S.-born women do—their commutes are shorter and their local labor markets are less extensive spatially than are those of their male counterparts. Logan, Alba, and Zhang (2002), Parks (2004b), and Wang (2006) showed that residence in immigrant neighborhoods elevates the probability of working a niche-sector job, which is consistent with the idea that spatial proximity to co-ethnics promotes access to networks. Most relevant to this article, however, is that Parks (2004b) also found that the probability of niche employment is directly related to spatial accessibility to niche-sector jobs, which indicates that metropolitan areas are not the frictionless

spaces that pure network accounts of immigrant employment suggest.

Although these prior studies signal a role for intraurban space in the participation of immigrants in niches, they did so by operationalizing niches at the metropolitan scale. As such, they showed that an immigrant's residential location affects his or her position within a division of labor that is fixed across metropolitan space. This assumes that jobs in sector x are a niche for group y throughout the metropolitan area, but that the probability of workers from group y working in sector x depends on where they live. In contrast, our research asks: what if niches vary locally rather than being fixed across metropolitan space, such that the specialization of group y in sector x declines with decreasing spatial accessibility from sector x to group y residences? Put differently, does the division of labor depend on a group's neighborhood locations relative to the geography of industries? If the answer is yes, it raises the possibility that a sector may be a niche for different groups in different parts of the city, depending on which group is most geographically proximate to the particular line of work.

An intraurban niching approach of this sort argues that immigrant group employment specialization depends on the interaction of the intraurban spatial distribution of industries and immigrant residential geographies. As such, it integrates two key geographic facets of the metropolis into the study of the immigrant division of labor: the spatial division of labor, a concept elaborated by Massey (1984) at the regional scale but considered here at the intraurban scale, and the residential segregation of immigrants (e.g., Alba et al. 1999; Alba, Logan, and Stults 2000; Allen and Turner 1997, 2005; Iceland 2004; Massey 1985). Scott's (1989, 1993) work on agglomeration in Los Angeles laid the groundwork for such a fusion. Using a combination of publicly available data and purpose-driven surveys, Scott (1993, 196–98) attempted to show that the division of labor within an industrial sector (in this case, the assignment of tasks within electronics assembly) varied

among immigrant groups, depending on the groups' relative spatial accessibility to jobs in that sector. His findings were inconclusive on this spatial effect, probably because of small sample sizes. Yet the larger theoretical questions posed by his analysis and by his suggestion that the ethnic division of labor varies at the intraurban scale remain significant starting points for new investigations of the role of intraurban space in immigrant employment niching. We take these questions up here.

The possibility of an intraurban immigrant division of labor poses a thorny question about causality: does this division of labor arise because of the movement of industries toward immigrant neighborhoods or does it stem from a preference for living close to those jobs? These processes are likely endogenous; disentangling them is a challenging empirical task, probably requiring a detailed historical analysis of the simultaneous evolution of industry and immigrant residential geographies. Our objective here is modest by comparison and concerns verification of some key geographic principles underpinning such a complicated project. Specifically, in the next section, we investigate whether intraurban variation in niches actually exists and, if so, fluctuates with spatial accessibility to immigrant workers in expected ways. Confirmation of these effects will attest to the existence of an intraurban immigrant division of labor founded on spatial accessibility between groups and industries. Such a result would provide a spatial complement to the network-dominated literature on niching and, we hope, help reignite debates about the role of the geographies of local labor markets in immigrant employment outcomes.

## The Study

The investigation of the effect of geographic access on patterns of immigrant employment hinges on whether group niches are spatially invariant at the intraurban or local scale. This invariance will exist if immigrant networks are powerful enough

to overcome the spatial constraints on the flow of information and commuting time. If geographic accessibility matters, however, a group's propensity to niche in an industry should fall as the spatial accessibility of that industry to the residences of the group declines. This relationship will also depend on the industry's intraurban accessibility to competing immigrant groups. If competing groups have better relative spatial accessibility to the industry's jobs, then they should be more strongly niched in that industry than the original group, that is, unless the networks of the original group are strong enough to mitigate the disadvantages of their relatively poorer residential location.

## Data and Definitions

Our study required data on immigrant workers by neighborhood of residence and employment. The confidential files of the 1990 U.S. census long form provide such information in a one-in-six sample. We used these data from this particular year because the research presented in this article comprises part of a longer-term project built on access granted by the Census Bureau to these confidential files. These data are detailed enough and sufficiently large to identify immigrant employment niches by gender at the metropolitan scale *and* by neighborhood. Following conventions established in studies of urban segregation, we defined neighborhoods using census tracts. In 1990, this region had almost 15 million residents, of which about one-third were foreign born. Like many late twentieth-century "gateway" cities, Los Angeles in 1990 was in the midst of significant immigration-driven demographic change wherein the foreign-born population grew apace while the metropolitan area simultaneously suffered a net population loss from domestic migration (Frey and DeVol 2000).

To define a *niche,* one can use occupations, industries, or combinations of the two. We prefer industries for a couple of reasons. First, prior work found that immigrants in Los Angeles cluster in specific industries (Ellis and Wright 1999; Wright and Ellis

2000; Waldinger and Bozorgmehr 1996). Second, industries encapsulate the possibility that immigrants work in different occupations in the same workplace as their co-ethnics. Ethnic divisions of labor exist within industries; occupational data may be better suited to illustrate these divisions in some instances, but this advantage is likely to be small. Overall, U.S. census occupational data do not yield significantly more information on distinctive patterns of immigrant employment than do industry data. To demonstrate, the correlation between occupational and industrial indexes of dissimilarity among 11 major immigrant and U.S.-born groups in Los Angeles subdivided by gender (calculated using the full set of 1990 census occupational and industrial categories) is 0.91.

We focus on four foreign-born groups for analysis—Mexicans, Salvadorans, Chinese, and Vietnamese—selected to capture a range of sociodemographic conditions. Mexicans form the largest immigrant group in Los Angeles and are central to any study of immigration to southern California. Salvadorans are valuable to compare with Mexicans; they tend to work similar jobs and to have similar educational profiles, but live in different parts of the city. Chinese immigrants, on average, are more educated than are Mexicans and Salvadorans; they also have well-defined and distinct residential and employment clusters. Vietnamese immigrants share some industry niches with Chinese immigrants but tend to be less well educated on average; many Vietnamese and Chinese immigrants also live segregated from one another. Subdividing these four immigrant groups by gender yields eight potential subgroups for our intraurban niching analysis.

Our identification of an employment niche at the metropolitan scale uses the standard formula:

$$N_m = \frac{w_{gi} \left/ \sum_g w_{gi}\right.}{\sum_i w_{gi} \left/ \sum_{g,i} w_{gi}\right.},\qquad(1)$$

where $w_{gi}$ is the number of workers in group $g$ and industry $i$. In essence, the niche quotient is the ratio of two percentages: the percentage of industry $i$'s workers from group $g$ divided by the percentage of the metropolitan area's workforce from group $g$. Group $g$ is overrepresented in industry $i$ when the ratio, $N_m$, exceeds 1. Most analysts consider an industry a niche when this ratio is greater than 1.5—which means at least a 50-percent overrepresentation of group $g$ in industry $i$.

To extend this niche ratio formula down to the level of census tracts, we added an extra subscript, $k$, to identify the tract of work:

$$N_k = \frac{w_{gik} \Big/ \sum_g w_{gik}}{\sum_{ik} w_{gik} \Big/ \sum_{g,i,k} w_{gik}} \qquad (2)$$

In this case, $N_k$ is the ratio of group $g$'s percentage share of industry $i$'s workforce in work tract $k$ over group $g$'s percentage share of the metropolitan-area workforce. This ratio is equal to 1 when a group's share of industry $i$'s jobs in census tract $k$ is equal to group $g$'s share of metropolitan-area jobs. As with $N_m$, values of $N_k$ higher than 1.5 indicate niching by group $g$ in industry $i$ in tract $k$. The critical issue that concerns us is whether $N_k$ varies within Los Angeles. If its values hover around those for $N_m$ (the metropolitan-scale niche ratio), then the immigrant group in question maintains its niche everywhere, evenly across intra-urban space. If $N_k$ (the tract-level niche ratio) varies significantly, with large niche ratios near residential concentrations of group $g$ and niche ratios approaching zero at distant locations from group $g$'s residential neighborhoods, we have evidence that local geography, measured by spatial accessibility, diminishes the power of immigrant networks to shape the division of labor.

We calculated values of $N_k$ for a limited number of industries for each of our four immigrant groups by gender. Our calculations used samples of workers that were older than age 18 and not self-employed. Five criteria influenced our choice of industries. First, the industry had to be a metropolitan-area niche, $N_m$, for either the men or women of one of the four immigrant groups. By examining industries in which the group is known to niche at the metropolitan scale, we restricted the analytic focus to industries in which the group has a substantial employment concentration in the Los Angeles consolidated metropolitan statistical area (CMSA) as a whole. Second, the industry had to have at least 10,000 jobs in the Los Angeles CMSA. This requirement assured that the investigation examined only sectors with a meaningful presence in the regional economy. Third, we searched for industries in which two or more of our groups niched. Such an overlap allowed us to inquire into the effect of a supply of competing workers on a group's propensity to niche in an industry. Fourth, we aimed for sectoral variability in the industries so as to assess the effect of spatial accessibility on niching across a range of manufacturing and service jobs. Fifth, we tried to select at least two niche industries for both men and women of each group so as to observe variation in spatial accessibility effects within groups.

With these criteria in mind, we whittled down the number of industries to 8 from the full set of 264 industry categories available in the 1990 census. To expedite the investigation, we decided to restrict our inquiry to four of these eight industries that function as metropolitan-scale niches for two or more of our subgroups: furniture and fixtures, computers and related equipment, apparel, and private household services. The downside of this strategy is that it excluded Chinese women from the analysis and provided only one niche industry for Chinese men, Vietnamese men, and Vietnamese women. Yet, by focusing our analytical attention on industries in which two or more of our subgroups compete for jobs, we gained one significant advantage; we could see if a group's intraurban variation in the propensity for niching depends on the industry's accessibility to its own resi-

**Table 1**

Selected Groups and Industries in the Los Angeles CSMA for the Intraurban Niching Analysis

|  | Workers | Metropolitan Niche Ratio[a] |
|---|---|---|
| Furniture and fixtures | | |
| (Census code 242) | | |
|    Mexican men | 18,015 | 3.1 |
|    Salvadoran men | 1,381 | 2.0 |
| Computers and related equipment | | |
| (Census code 322) | | |
|    Chinese men | 953 | 3.1 |
|    Vietnamese men | 1,850 | 7.1 |
| Apparel, except knit | | |
| (Census code 151) | | |
|    Mexican women | 26,847 | 4.5 |
|    Salvadoran women | 6,070 | 5.0 |
|    Vietnamese women | 1,004 | 1.7 |
| Private household services | | |
| (Census code 761) | | |
|    Mexican women | 15,321 | 2.7 |
|    Salvadoran women | 11,182 | 9.9 |

[a] Metropolitan niche ratio, $N_m$, is percentage of male (female) workers from the group in industry in Los Angeles CMSA/percentage of male (female) workers from the group in Los Angeles CMSA.

dential clusters and to those of its competitors. Table 1 presents relevant group employment totals and metropolitan-scale niche ratios in the four industries that we selected.

## Descriptive Results

We set the stage with a sequence of maps of the location of jobs in these four industries (see Figure 1) and the residential patterns of the groups that niche in them (see Figure 2). Jobs in computers and related equipment (Figure 1b) cluster in central Orange County around Santa Ana, on the west side of Los Angeles especially near El Segundo, and to the north in the San Fernando Valley. The Vietnamese appear to have a distinct locational advantage in Orange County where they cluster residentially (Figure 2a); but the Chinese are more favorably located with respect to the other job concentrations in this sector (Figure 2b). Employment in furniture and fixtures (Figure 1a) concentrates in downtown Los Angeles, Compton, and Santa Ana.

The residential clusters of Mexicans (Figure 2c) and Salvadorans (Figure 2d) are differentiated enough to provide differential levels of spatial accessibility to jobs in this sector. Although both groups are reasonably close to downtown Los Angeles and Compton, Mexicans are at a geographic advantage in Santa Ana and its immediate environs. It is not surprising that private household service work (Figure 1d) is much more widely distributed than is work in manufacturing. Yet there are expected concentrations of this work in wealthy neighborhoods. Salvadorans appear to be located advantageously with respect to accessing the wealthy homes of the west side, hill, and canyon communities, including Beverly Hills. Apparel jobs (Figure 1c) cluster in and around downtown Los Angeles. Here, employers can draw on several nearby concentrations of immigrant women who niche in the industry. Mexicans in apparel jobs have an advantage that the maps do not reveal; their number in these downtown locations far surpasses that of the Salvadorans and Vietnamese who cluster nearby.
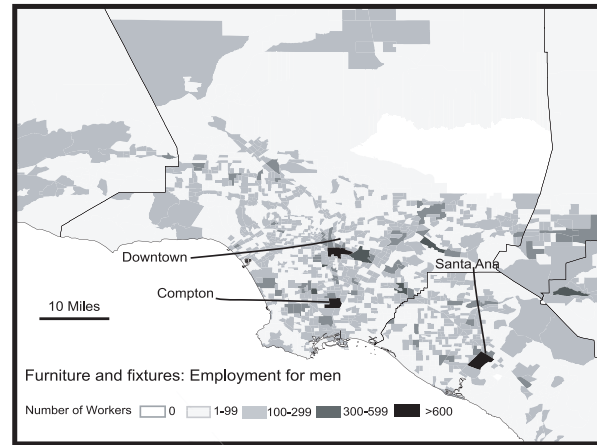
(a)
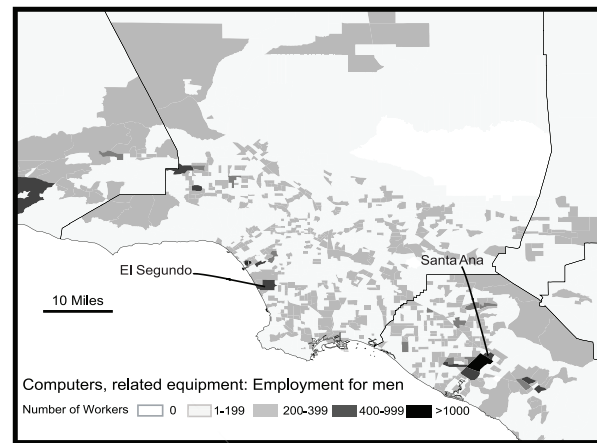


(b)

**Figure 1.** Industry employment maps *(continued on next page).*

How does the propensity of groups to niche in these four industries vary geographically across the Los Angeles region? Using four categories of the work-tract niche ratio (defined in equation 2), Figure 3 shows the extent of local variability in niching by group and industry. For each of the four industries, a chart illustrates the distribution of tracts by the tract niche ratio, $N_k$, for relevant groups. (We excluded tracts in which the job count in the relevant industry is fewer than 50 to minimize the effect of small numbers on variation in the census-tract niche ratios.) Although these four industries

can be classified as niches for each of the respective groups at the metropolitan scale, Figure 3 makes it evident that there is considerable variation in these industries' status as niche industries at the tract level. For example, Mexican men are not overrepresented in the local furniture workforce in all tracts with furniture jobs, despite their overrepresentation in this industry at the metropolitan scale. While many tracts yield a local concentration of Mexican men in furniture jobs (approximately 600 tracts have Mexican niche ratios greater than 1.5), a third of all tracts with furniture jobs yield
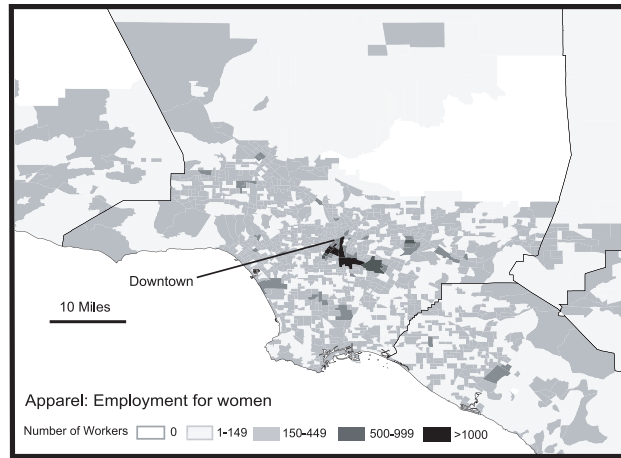
(c)
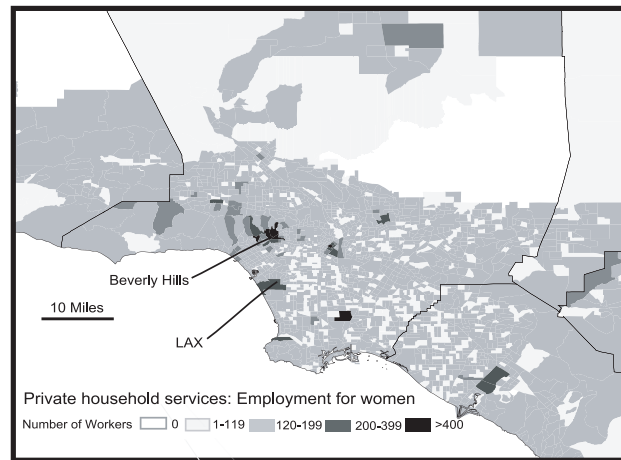


(d)

**Figure 1.** Industry employment maps *(continued).*

no such concentration. In other words, furniture work is not disproportionately Mexican work in many work tracts.

The patterns for other immigrant groups and industries are similar. In fact, for every group (with the exception, barely, of Mexican men in furniture) the modal tract-niche ratio is less than 1.5, the standard threshold for the identification of a niche. Figure 3 reveals there is no one-to-one mapping of the metropolitan-wide immigrant division of labor onto the intra-urban immigrant division of labor. Who concentrates in what line of work depends upon where that work takes place within the city.

Although Figure 3 depicts considerable local variation in work-tract niche ratios, these charts are insensitive to *counts* of jobs by tract. Perhaps tracts with low niche ratios for a particular group have few jobs in these industries. To assess this possibility, we counted the number of jobs in each industry by levels of the work-tract niche ratio for relevant groups. These frequencies, shown in Figure 4, display the distribution of jobs in each of these industries across the same
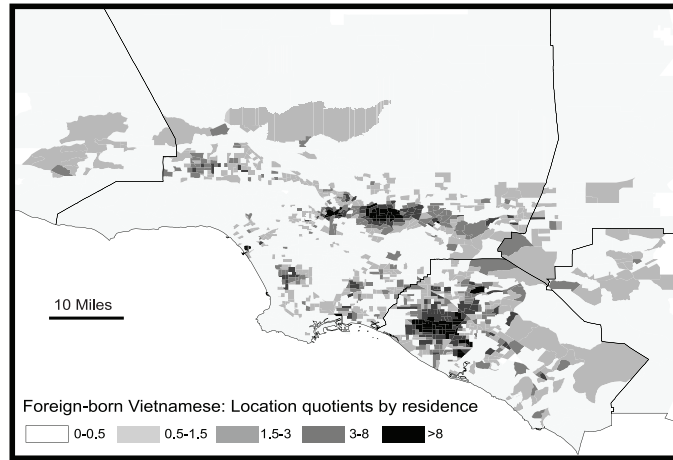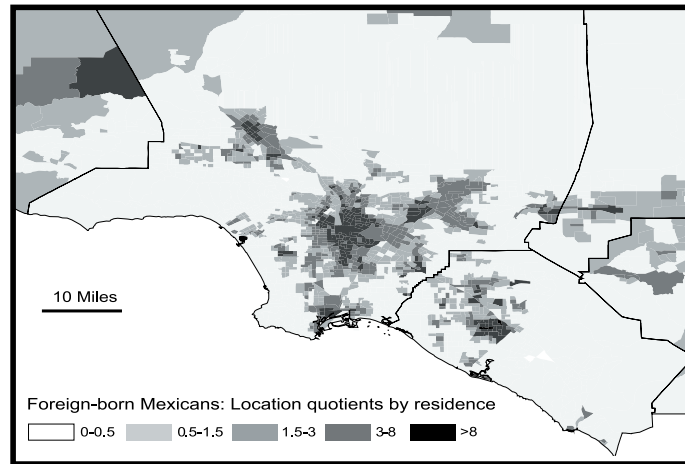
(a)
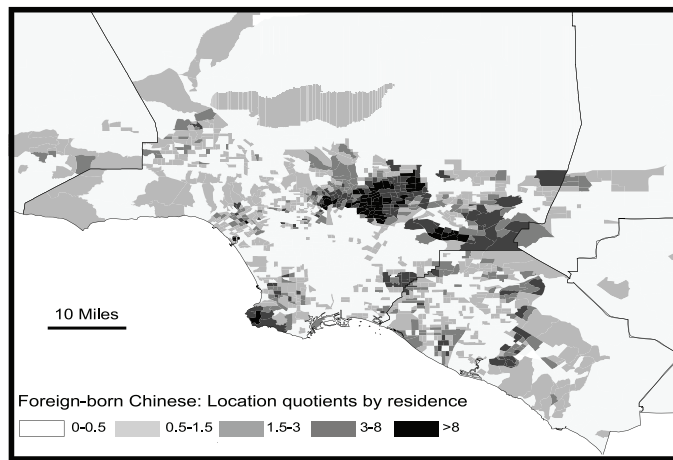


(b)

**Figure 2.** Residential concentration maps. *Note:* The location quotient is the ratio of the group's percentage of the tract population to its percentage of the Los Angeles CMSA population. Quotients greater than 1 indicate overrepresentation in the tract, whereas those less than 1 mean underrepresentation in the tract. Unity means a group's tract population aligns with its regional population share *(continued on next page).*

four niche-ratio categories used in Figure 3.[1]

Figure 4 tells a different story from that told in Figure 3. Take Mexican men in the furniture and fixtures industry as an example. The sum total of jobs in tracts in which

---

[1] Again, we excluded tracts in which the job count in the relevant industry is fewer than 50 to maintain congruency with Figure 3.

Mexicans have no niche advantage (i.e., where their tract niche ratio is less than 1.5) is barely more than 2,000. The remaining 23,000 jobs in this industry are in census tracts in which Mexicans have a niche advantage (i.e., where their work-tract niche ratio is greater than 1.5). Thus, when the focus is on tract job counts, the Mexican metropolitan-scale niche in furniture and fixtures appears to be almost universal. In other

Foreign-born Mexicans: Location quotients by residence

| 0-0.5 | 0.5-1.5 | 1.5-3 | 3-8 | >8 |

(c)



Foreign-born Salvadorans: Location quotients by residence

| 0-0.5 | 0.5-1.5 | 1.5-3 | 3-8 | >8 |
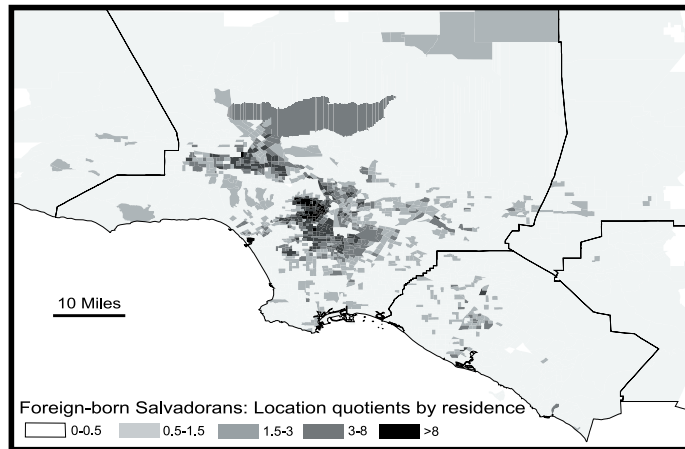
(d)

**Figure 2.** Residential concentration maps *(continued)*.

words, while Figure 3 shows that the work-tracts in which Mexicans do not niche in furniture and fixtures are numerous, Figure 4 reveals that these places hold few jobs in this industry.

The situation is almost the reverse for Salvadorans. More than 14,000 of the region's total jobs in furniture and fixtures—about 40 percent—are in tracts where there is no Salvadoran niching. There are just 7,500 jobs in tracts where Salvadorans are highly niched, i.e., where the tract niche ratio is between 3 and 7.9 (6,000 jobs) or 8 or higher (1,500 jobs). In other words, a signif-icant number of furniture jobs are in tracts where Salvadorans do not have a niche pres-ence, probably because the Salvadoran work-force in this sector in Los Angeles as a whole is relatively small. The lower metropolitan-scale concentration of Salvadorans than Mexicans in this sector (the metropolitan-scale niche ratio for Salvadorans is 2.0, whereas that for Mexicans is 3.1) probably also influences these tract-level results.

A similar polarity in the findings for counts of tracts versus jobs, albeit less extreme, occurs between Vietnamese and Chinese men in computers and related equipment.

**Figure 3.** Distribution of tracts, by tract niche ratio for various industries and groups.
*Note:* Excludes tracts in which the number of jobs in the industry is less than 50.
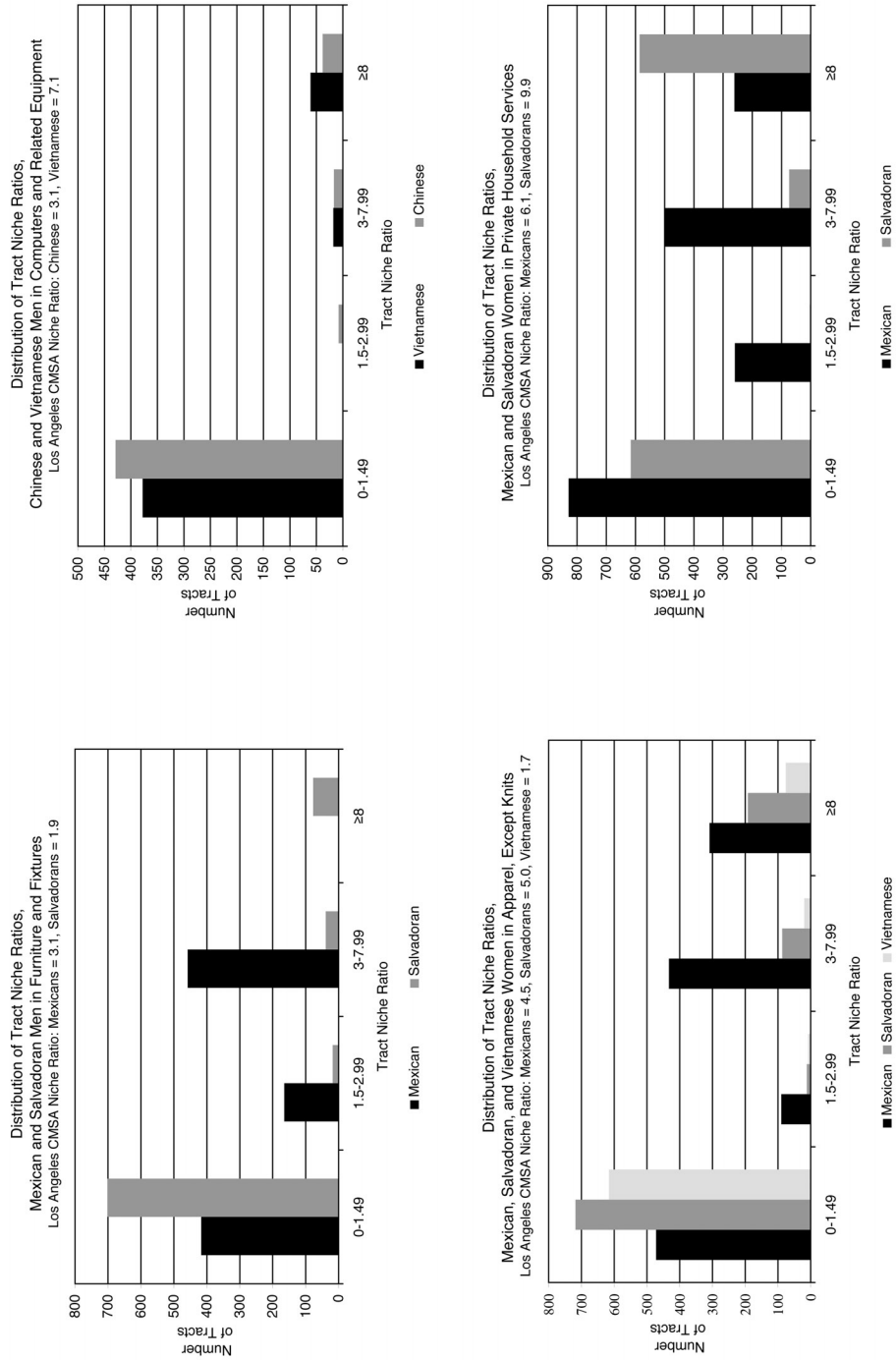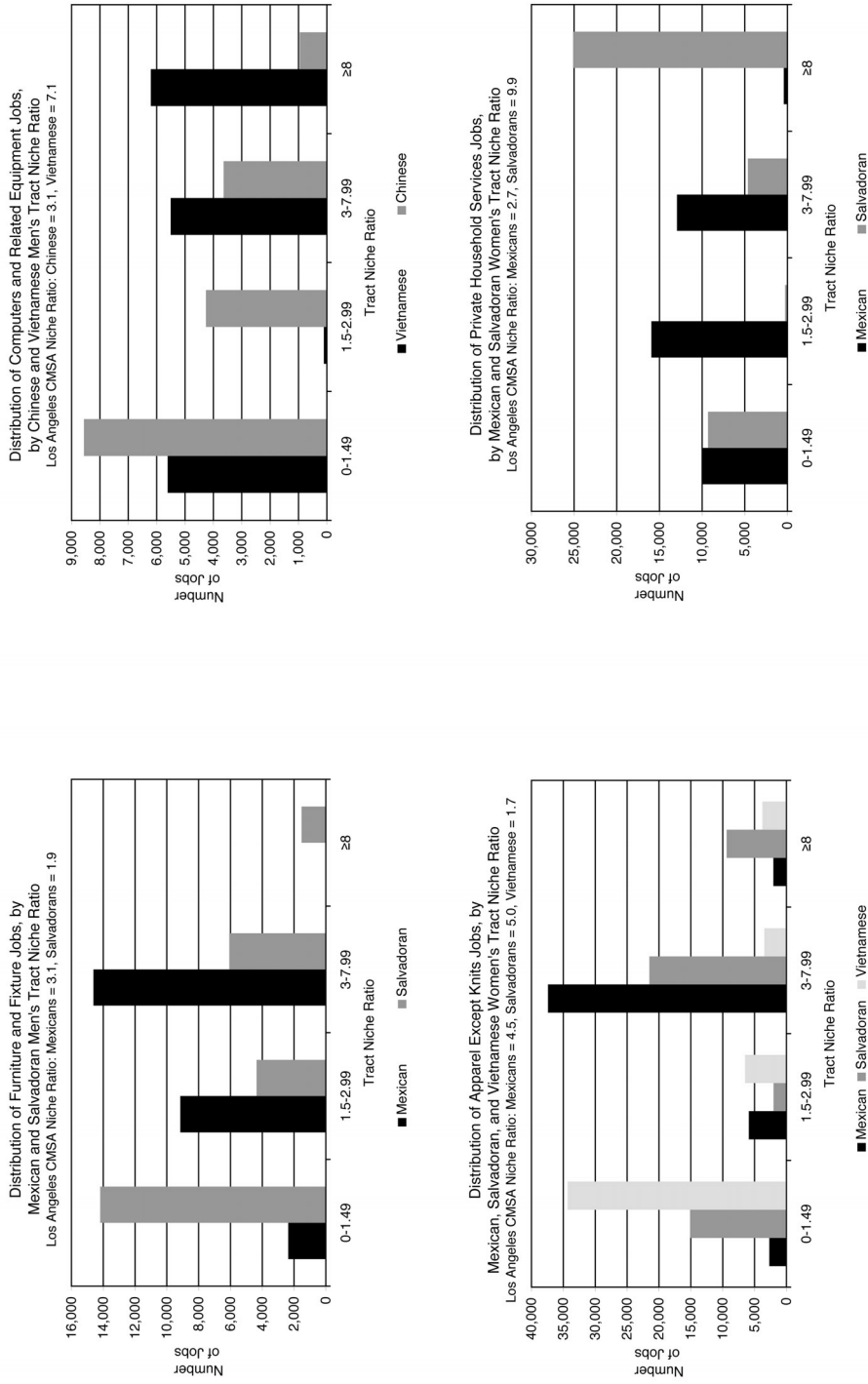
**Figure 4.** Distribution of jobs, by tract niche ratios for various industries and groups.
*Note:* Excludes tracts in which the number of jobs in the industry is less than 50.

Figure 3 indicates that in most of the tracts where this work takes place there is no niche presence for either of these groups. Figure 4 offers a different perspective; about half the jobs in this industry are in tracts in which Chinese men have a niche advantage. In contrast, over two-thirds of the jobs in computers and related equipment are in tracts in which Vietnamese men niche in this industry.

A striking gender pattern emerges in the two remaining graphs signaling greater localization of the division of labor for immigrant women. Reflecting immigrant women's more highly segmented labor markets (Parks 2004b, 2005, 87), women have higher metropolitan-scale niche ratios in their representative industries (apparel and private household services) than do men (furniture and fixtures and computers and related equipment). Local niching tendencies are stronger for women as well. We found that nearly 70 percent of all apparel jobs are in tracts where Mexican women hold a niche advantage. Most of these jobs are located in tracts where Mexican women have a strong niche presence—tracts with a niche ratio of 3 or greater (62 percent of all apparel jobs). Similarly, the majority of all apparel jobs are located in tracts where Salvadoran women niche in this industry. In contrast, Vietnamese women have no niche presence in tracts that contain two-thirds of apparel jobs.

In private household services, Mexican and Salvadoran women exhibit a similar pattern; many jobs in this industry are found in census tracts where both groups register a niche advantage. To be precise, just under half of all household service jobs are located in tracts with a niche ratio for Mexican women of 1.5 or greater (see Figure 3). A more extreme version of this pattern obtains for Salvadoran women who niche in tracts where a preponderance of private household service jobs are located (see Figure 4). Remarkably, almost 70 percent of private household service jobs are in tracts in which the niche ratio for Salvadoran women exceeds 8. Where Salvadoran women niche in this industry, they tend to do so

overwhelmingly. Yet, against this pattern of Mexican and Salvadoran dominance of private household service work, there are geographic pockets in which neither group harbors a niche concentration in this industry; roughly 20 percent of the jobs in domestic service are in tracts where neither Salvadoran nor Mexican women have a niche presence.

## Modeling the Effects of Spatial Accessibility on Tract-Level Niching

The results reported so far suggest that job niches that are found at the metropolitan scale in Los Angeles exist unevenly at the intraurban scale. A metropolitan-scale industry-niche designation disguises the fact that the industry does not project a niche advantage in all or even many tracts of work. The next logical question is whether a group's residential geography relative to the location of industry jobs accounts for the distribution of the presence or absence of local-scale niches. In other words, is a group's niche presence in an industry in a specific location a direct function of that work tract's accessibility to the residential tracts of the group?

To answer this question, we modeled the relationship between geographic accessibility and local niching propensity using a multinomial logit model. Using work tracts as observations, the model predicts a work tract's niche ratio, measured at four different levels, for a particular group in a particular industry as a function of accessibility to that group's residences from the work tract. The four categories duplicate the breaks used in Figures 3 and 4: 0–1.49, 1.5–2.99, 3.0–7.99, and ≥ 8. The multinomial logit allows us to assess nonlinearities in the relationship between accessibility and work-tract niche ratios better than linear regression could. The basic form of the logit model is:

$$p_{mgik} = \frac{\exp(\beta_{0mgi} + \beta_{1mgi}A_{gk} + \beta_{2mgi}C_{ik})}{\sum_{m}\exp(\beta_{0mgi} + \beta_{1mgi}A_{gk} + \beta_{2mgi}C_{ik})} ,(3)$$

in which $P_{mgik}$ is the probability that workers from group $g$, niche at level $m$ in industry $i$, work tract $k$. The estimation of this model requires that one of the four levels of $m$ acts as a base or excluded category to facilitate the calculation of three sets of coefficients for the remaining three levels of $m$. The model's functional form means that the log odds of niching at level $m$ (in relation to the base category) are a linear function of the predictors and level $m$'s coefficients. We set our base category as the niche ratio between 0 and 1.49. This means that our model yields estimates predicting three levels of the work-tract niche ratio equal to or greater than 1.5.

We calculated a measure of adjusted geographic accessibility to workers of group $g$ who live in residence tracts $j$ from work tract $k$:

$$A_{gk} = \sum_j (g_j / G) \times \exp(\gamma d_{jk}), \qquad (4)$$

where $g_j$ is the number of workers of group $g$ who live in tract $j$, $G$ is the sum of all workers of group $g$ in the Los Angeles CMSA, $\gamma$ is an empirically derived distance decay coefficient from a gravity model, and $d_{jk}$ is the highway travel time (based on automobile travel times at peak morning congestion levels) between tracts $k$ and $j$ derived from the Southern California Association of Government's (SCAG) travel matrix.[2] $A_{gk}$ is

an adjusted measure of spatial accessibility for group $g$ because it compensates for the different workforce size of each immigrant group in the Los Angeles region. Without this adjustment, Mexicans would always have higher spatial accessibility because their regional workforce is so much larger than that of any other immigrant group. Thus, our measure assures that groups who share the same residential tract will have the same spatial accessibility to any work tract, regardless of differences in their populations in that residential tract. For each group, the adjustment renders an average of accessibility values ($A_{gk}$) across all tracts equal to 1.

There are compelling reasons to incorporate transit and automobile times into a measure of spatial accessibility (see Shen 1998). We used automobile travel times because they provide the most conservative estimate of the effect of spatial accessibility and the most parsimonious approach, given our question. Although it may seem counterintuitive, our measure is more conservative precisely because it may "overstate accessibility" (given that automobile travel times are faster than public transportation times). Public transportation times build in a "stronger" friction of distance and lead to a heavier weighting of proximal jobs and a lighter weighting of more distal jobs than do automobile travel times. Thus, spatial accessibility will matter *more* for the employment outcomes of those who are dependent on public transportation. As such, using automobile travel times alone likely exerts a downward pressure on the accessibility parameters, providing the most conservative estimate of the friction of distance on local patterns of the immigrant division of labor. If, under the best modal conditions, we still see a significant effect of spatial accessibility, then we have strong evidence that intraurban geography matters for immigrant employment niching.

In addition to an accessibility measure, the basic form of the model includes a count

---

[2] We derived the distance-decay parameter to be directly input into this equation by estimating the gravity model:

$$T_{kj} = \kappa L_j^\alpha E_k^\beta \exp(\gamma d_{kj}),$$

where $j$ indexes all residence tracts (origins); $k$ indexes all employment tracts (destinations); $T_{kj}$ is the count of workers who live in tract $j$ and work in tract $k$; $L_j$ is the count of workers who live in tract $j$; $E_k$ is the count of workers (jobs) who are employed in tract $k$; $d_{kj}$ is the distance between tracts $j$ and $k$, measured in minutes by private commute time in the SCAG data; and $\alpha$, $\beta$, $\gamma$, and $\kappa$ are parameters to be estimated. Using a negative binomial count model, we estimate $\gamma = -0.058$. This weights jobs at $d$ distance from tract $i$ by 0 minutes = 1, 5 minutes = .75,

10 minutes = .56, and 20 minutes = .31. See Parks (2004a) for an explanation of how the SCAG travel data were matched to census data.

of the number of jobs, $C_{ik}$, in industry $i$, tract $k$. The results reported in Figures 3 and 4 suggest that the niche ratio is sensitive to counts of jobs in tracts; thus, we controlled for this effect. The expectation is that $C_{ik}$ should be positively related to the probability of work-tract niching, and its effect should be larger at higher values of the tract niche ratio. In line with previous reasoning (e.g., if workers tend to take jobs closer to home because of commuting constraints), $A_{gk}$ should also be positively related to the probability of work-tract niching; its effects should also grow stronger at higher levels of the tract niche ratio.

A more complex form of the model adds one or more measures of the accessibility of a competing labor supply. It resembles the model in equation (3) but adds one or more terms, $A_{hk}$, where $h$ subscripts groups that niche in industry $i$, and $h \neq g$. These models capture the potential effects of spatial competition between groups. As such, the effect of $A_{hk}$ on the probability of work-tract niching for group $g$ should be negative; higher values of $A_{hk}$ should result in smaller probabilities of niching in work tracts for group $g$ at any value of $A_{gk}$. Model 1 for each group includes a measure of industry accessibility to its own residential neighborhoods only ("own-group accessibility"). Model 2 adds industry accessibility to a second group's residential neighborhoods to capture the effects of labor competition ("competing labor-supply accessibility").

## Results of the Models

Table 2 lists coefficients for the models of Vietnamese and Chinese men in computers and related equipment. The own-group accessibility models indicate significant positive accessibility effects at higher levels of work-tract niching: for Vietnamese men, only at the highest niche category; for Chinese men, at the two highest niche ratios of 3.0–7.99 and ≥ 8. For both groups, these results indicate that jobs in computers and related equipment that are located in tracts closest to Vietnamese and Chinese neighborhoods are those in which these workers are most likely to niche. Thus, the Vietnamese and Chinese metropolitan-scale niche in computers and related equipment is actually localized in tracts that are close to the neighborhoods of these two groups, and their niche advantage fades in tracts that are far from home. While this finding may seem intuitive, especially to geographers, keep in mind that it confirms the *geographic unevenness* of niching and undermines the prevailing idea in the literature that immigrant social networks can overcome intra-urban spatial constraints to project a fixed division of labor for immigrants across metropolitan space.

The parameter estimates also point to a threshold effect of spatial accessibility that operates in slightly different ways for Vietnamese than for Chinese men. For the former, accessibility is statistically significant only at the highest level of niching. That is, tracts with very high concentrations of Vietnamese workers in this industry are those that have significantly greater spatial accessibility to these workers residentially. This finding may reflect a classic ethnic-enclave economy, in which the spatial patterns of work and home overlap. For Chinese workers, spatial accessibility has a lower threshold of significance in computers and related equipment, occurring at the two higher niching levels, not just the highest. Moreover, the Chinese accessibility coefficient is larger at the middle level of niching and then drops in magnitude (although not in significance) at the highest level of niching. Thus, localization effects for Chinese men are greater at moderate than at high levels of niching, perhaps as a result of the willingness or ability of those who are employed in tracts with the highest niche ratios to commute farther. Why this is the case is beyond the analytical frame of this article, but the answer may lie in differences in the types of computer sector jobs that Chinese men do at different levels of the tract-scale niche ratio.

The addition of the accessibility of a competing labor supply in Model 2 has the anticipated effect at the highest levels of niching for Vietnamese men—own-group

**Table 2**

Spatial Accessibility Models for Computers and Related Equipment

| Niche Ratio | | Vietnamese Men | | Chinese Men | |
|---|---|---|---|---|---|
| | | Model 1 | Model 2 | Model 1 | Model 2 |
| 1.5–2.99 | Access to Vietnamese | –0.27624 | –2.83900 | | 1.86811* |
| | Access to Chinese | | 2.00175 | –1.09217 | –5.85322** |
| | Number of Jobs | 0.00906 | 0.00924 | 0.00998*** | 0.01008*** |
| | Constant | –6.02709*** | 5.86347*** | –4.31961*** | 3.28058*** |
| 3.0–7.99 | Access to Vietnamese | 0.07972 | 0.27101 | | –0.41615 |
| | Access to Chinese | | –0.16919 | 0.05355*** | 0.37460 |
| | Number of Jobs | 0.01107*** | 0.01072*** | 0.00694*** | 0.00795*** |
| | Constant | –3.93148*** | 3.97403*** | –3.79575 | 3.73202*** |
| ≥8 | Access to Vietnamese | 0.18502* | 0.55437*** | | –0.30471 |
| | Access to Chinese | | –0.50298** | 0.02405*** | 0.22977 |
| | Number of Jobs | 0.00881*** | 0.00822*** | 0.00119 | 0.00190 |
| | Constant | –2.49212*** | 2.41181*** | –2.49025 | 2.38831*** |
| | $N$ | 458 | 458 | 492 | 492 |
| | LR $\chi^2$ | 64.42 | 72.33 | 54.22 | 62.85 |
| | Pseudo $R^2$ | 0.1245 | 0.1391 | 0.1101 | 0.1276 |

*Notes:* Model 1 includes own-group accessibility only. Model 2 adds competing-group accessibility.
* $p > 0.1$; ** $p > 0.05$; *** $p > 0.01$.

accessibility increases the log odds of niching, whereas accessibility to Chinese men decreases it. The findings in Model 2 for Chinese workers at the lowest niche level reverse the expected accessibility coefficients; own-group accessibility is negatively related to the log odds of niching (evident in Model 1, but not statistically significant in that model), whereas competing-group accessibility increases it. This finding suggests that Chinese men have a niche advantage in computer jobs that are a long commute from Chinese neighborhoods but near Vietnamese residences. This situation may be the result of group complementarities in the division of labor wherein Chinese men commute long distances to manage computer firms near where Vietnamese live and work in Orange County. Or it may mean that Chinese men, who live outside their residential concentrations, but near Vietnamese neighborhoods, work in computer jobs alongside the Vietnamese. As expected, the number-of-jobs variable in the computer and related equipment models is positive and significant

at most niching levels in both specifications; it indicates that niching levels are higher in tracts where the number of jobs is large.

The accessibility effects in the furniture and fixtures models in Table 3 for Mexican and Salvadoran men are much clearer and more robust than in the computers and related equipment models. Own-group accessibility is positive and significant at all levels at which the groups niche. The competing-group accessibility effect works in the expected way for Salvadorans but is statistically significant only at the middle niching level. Accessibility to Salvadoran workers has no effect on Mexican niching at the tract level. This latter result may reflect the larger Mexican workforce in the region and its widely distributed residential geography, plus the lower level at which Salvadorans niche in this industry in the Los Angeles region.

Our models of the intraurban immigrant division of labor in apparel (Table 4) include three competing groups (Mexican, Salvadoran, and Vietnamese women). Both Salvadorans and Mexicans have significant

own-group spatial accessibility effects at all niching levels in models without competing-group labor supply variables. Without competition, Vietnamese women have a marginally significant own-group accessibility effect at the lowest niching level, but no own-group accessibility effects at higher niching levels. The introduction of competing-group accessibility effects yields a complex set of findings that only partially conform to expectations. In the Mexican case, at the lowest niching level, the nearness of Salvadorans has the expected significant negative effect. Vietnamese competing accessibility, though, is positive and significant. Perhaps this finding indicates some form of ethnic competition in apparel jobs tasks between Mexican and Salvadoran women, but compatibility between Mexican and Vietnamese women (see Light, Bernard, and Kim 1999). This relationship reverses at higher levels of niching; the probability of Mexican women niching at very high levels goes up with increased accessibility to their Salvadoran competitors.

The competing-accessibility model for Vietnamese women mirrors the findings observed in the Mexican women's case at the lowest level of niching. Specifically, Vietnamese women's propensity to niche in apparel at this level increases with that industry's accessibility to them and to Mexicans but falls with increasing accessibility to Salvadorans. The pattern of these effects remains constant at higher niching levels, although the magnitude of the coefficients and their significance wanes. The Salvadoran competing-access models are perhaps the most difficult to interpret. Their positive own-group access effects turn insignificant or negative when competing-group accessibility is added to the specification. Moreover, there are no negative competing-accessibility effects for Salvadoran women. In fact, Salvadoran women's propensity to niche at the higher levels increases as workplace accessibility to Vietnamese women increases. These complex competing-accessibility results call for an explanation through a detailed sectoral analysis of group complementarities and substitutions in apparel,

**Table 3**

Spatial Accessibility Models for Furniture and Fixtures

| Niche Ratio | | Mexican Men | | Salvadoran Men | |
| --- | --- | --- | --- | --- | --- |
| | | Model 1 | Model 2 | Model 1 | Model 2 |
| 1.5–2.99 | Access to Mexicans | 0.81565*** | 0.79642*** | | –0.03345 |
| | Access to Salvadorans | | 0.01049 | 0.38954*** | 0.33270 |
| | Number of Jobs | 0.02838*** | 0.02852*** | 0.01840*** | 0.01904*** |
| | Constant | –2.50297*** | –2.50073*** | –5.46826*** | –5.37663*** |
| 3.0–7.99 | Access to Mexicans | 0.71050*** | 0.56478*** | | –0.81744* |
| | Access to Salvadorans | | 0.10618 | 0.35524*** | 0.76417*** |
| | Number of Jobs | 0.02692*** | 0.02719*** | 0.01753*** | 0.01924*** |
| | Constant | –1.27086*** | –1.24703*** | –4.43996*** | –4.13320*** |
| ≥8 | Access to Mexicans | No Mexican niching | | | –0.48697 |
| | Access to Salvadorans | at this level | | 0.42659*** | 0.63955*** |
| | Number of Jobs | | | –0.00034 | 0.00134 |
| | Constant | | | –2.88306*** | –2.66904*** |
| | N | 1,039 | 1,039 | 835 | 835 |
| | LR χ² | 166.56 | 168.1 | 127.57 | 134.29 |
| | Pseudo R² | 0.0786 | 0.0793 | 0.1289 | 0.1357 |

*Notes:* Model 1 includes own-group accessibility only. Model 2 adds competing-group accessibility.
* $p > 0.1$; ** $p > 0.05$; *** $p > 0.01$.

**Table 4**

Spatial Accessibility Models for Apparel, Except Knit

| Niche Ratio | | Mexican Women | | Salvadoran Women | | Vietnamese Women | |
|---|---|---|---|---|---|---|---|
| | | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 |
| 1.5–2.99 | Access to Mexicans | 0.39363** | 0.70630** | | 0.60873 | | 2.35974*** |
| | Access to Salvadorans | | -1.68123*** | 0.65430*** | -1.11962 | | -5.03097** |
| | Access to Vietnamese | | 1.08947*** | | 0.98541* | 0.36085* | 1.91649** |
| | Number of Jobs | 0.05562*** | 0.05470*** | 0.01486*** | 0.01526*** | 0.00209*** | 0.00493*** |
| | Constant | -3.56875*** | -3.52222*** | -5.93828*** | -5.84415*** | -5.34704*** | -5.06061*** |
| 3.0–7.99 | Access to Mexicans | 0.47526*** | -0.03042 | | -0.42204 | | 1.23861** |
| | Access to Salvadorans | | 0.18470 | 0.55595*** | 0.32174 | | -3.28123** |
| | Access to Vietnamese | | 0.26869* | | 0.41859** | -0.10537 | 1.17752** |
| | Number of Jobs | 0.05590*** | 0.05477*** | 0.01569*** | 0.01594*** | 0.00179*** | 0.00380*** |
| | Constant | -2.13033*** | -2.11091*** | -3.87331*** | -3.60431*** | -3.46118*** | -3.05215*** |
| ≥8 | Access to Mexicans | 0.25067* | -0.28991 | | -0.16829 | | 0.61100** |
| | Access to Salvadorans | | 0.65135** | 0.59292*** | -0.83108* | | -1.07025* |
| | Access to Vietnamese | | -0.18246 | | 0.97026*** | 0.12926 | -0.08511 |
| | Number of Jobs | 0.00054 | 0.00079 | 0.01076*** | 0.01199*** | 0.00009 | 0.00228** |
| | Constant | -0.69714*** | -0.62055*** | -2.69272*** | -2.19586*** | -2.25564*** | -1.66109*** |
| | $N$ | 1,303 | 1,303 | 1,008 | 1,008 | 720 | 720 |
| | LR $\chi^2$ | 484.74 | 512.53 | 205.85 | 230.22 | 25.88 | 57.9 |
| | Pseudo $R^2$ | 0.1477 | 0.1562 | 0.1242 | 0.1389 | 0.0341 | 0.0773 |

*Notes:* Model 1 includes own-group accessibility only. Model 2 adds competing-group accessibility.

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

which is beyond this article's remit. The own-group accessibility models, however, unequivocally suggest that explanations for niching in this sector must consider home–work spatial relations.

Own-group accessibility effects in private household services—Table 5—are not very strong; only Salvadoran women at the most extreme niching level—greater than 8—have a significant positive accessibility effect. This result is similar to that observed for Vietnamese men in computing. While not likely reflective of an ethnic-enclave situation (since these women are not likely to be working in homes in their own neighborhoods), this pattern highlights the importance of relative geographic accessibility. Work tracts for domestic labor—wealthier residential neighborhoods—that are located nearer to Salvadoran neighborhoods are more likely to have high concentrations of Salvadoran women who are employed as domestics. Thus, although domestic employment is dispersed across wealthier neighborhoods throughout Los Angeles, the relative location of these neighborhoods

nonetheless matters. Furthermore, as Figure 4 makes clear, over 70 percent of service jobs in private households are in neighborhoods in which Salvadoran women's niche ratio is 8 or higher. So in the tracts in which these types of jobs cluster and in which Salvadoran women have a strong niche advantage, geography plays a significant role in shaping the composition of the immigrant workforce.

The competing-accessibility models for private household services increase the size and significance of own-group accessibility effects and yield significant competing-group accessibility effects for both groups (although only at the two highest niching levels for Salvadorans). The signs on these significant parameters are in the anticipated direction. That competing-accessibility measures are significant and that their inclusion sharpens own-group accessibility effects illustrates the importance of the geography of a competing labor supply in shaping the intraurban division of labor in a ubiquitous service industry in Los Angeles.

## Table 5

### Spatial Accessibility Models for Private Household Services

| Niche Ratio | | Mexican Women | | Salvadoran Women | |
|---|---|---|---|---|---|
| | | Model 1 | Model 2 | Model 1 | Model 2 |
| 1.5–2.99 | Access to Mexicans | 0.02784 | 0.32189 | | –4.41315 |
| | Access to Salvadorans | | –0.22721* | 0.06209 | 2.08642 |
| | Number of Jobs | 0.03345*** | 0.03476*** | 0.04056*** | 0.04029*** |
| | Constant | 2.30022*** | –2.36706*** | –6.75067*** | –5.11373*** |
| 3.0–7.99 | Access to Mexicans | 0.11152 | 0.85124*** | | –0.51235* |
| | Access to Salvadorans | | –0.58937*** | –0.02947 | 0.16317 |
| | Number of Jobs | 0.02333*** | 0.02586*** | 0.03910*** | 0.03925*** |
| | Constant | 1.26556*** | –1.42694*** | –3.31978*** | –2.98277*** |
| ≥8 | Access to Mexicans | 0.10117 | 0.99296*** | | –1.79199*** |
| | Access to Salvadorans | | –0.70453*** | 0.34535*** | 1.16698*** |
| | Number of Jobs | –0.08295*** | –0.08038*** | 0.03602*** | 0.03637*** |
| | Constant | 0.02731 | –0.18140 | –1.60583*** | –0.75002*** |
| | N | 1,844 | 1,844 | 1,275 | 1,275 |
| | LR $\chi^2$ | 461.83 | 513.63 | 264.45 | 368.19 |
| | Pseudo $R^2$ | 0.0989 | 0.11 | 0.1166 | 0.1624 |

*Notes:* Model 1 includes own-group accessibility only. Model 2 adds competing-group accessibility.
* $p > 0.1$; ** $p > 0.05$; *** $p > 0.01$.

**Simulations**

To help illustrate all this to better effect, we used the model estimates to calculate tract-level probabilities of niching under various conditions for two industries. Furniture and fixtures shows clear and robust accessibility effects and a sharp difference between Mexican and Salvadoran men in competing labor-supply effects. Private household services illustrate how accessibility plays out in a nonmanufacturing industry in which Mexican and Salvadoran women dominate employment. Figure 5 plots the probability of niching in furniture and fixtures for Mexican and Salvadoran men under three conditions that simulate the increasing presence of the competing group: no competing group, with a competing group at their mean accessibility level, and with a competing group at five times their mean accessibility level. The predicted probability of niching in the charts is the sum of the probabilities of niching in the three niche ratio categories at or higher than 1.5. As one would expect from the coefficients in Table 3, increasing own-group accessibility raises the Mexican niching propensity in furniture and fixtures; and the presence of Salvadorans at any level of accessibility has no effect (in Figure 5a, the three lines perfectly overlap). As Figure 5b illustrates, the propensity for Salvadorans to niche also increases with own-group accessibility but at a slower rate than for Mexicans. The introduction of Mexican competition lowers this curve, indicating a Salvadoran disadvantage in the presence of an ample supply of proximate Mexican workers.

Figure 6 charts the niching probabilities for Mexican and Salvadoran women in private household services. As before, these probabilities are computed from estimates of the competing-accessibility models under the same three conditions: no competing group, with a competing group at their mean accessibility level, and with a competing group at five times their mean accessibility level. For both groups, the presence of the competing group dampens the probability of niching. This effect is more dramatic for
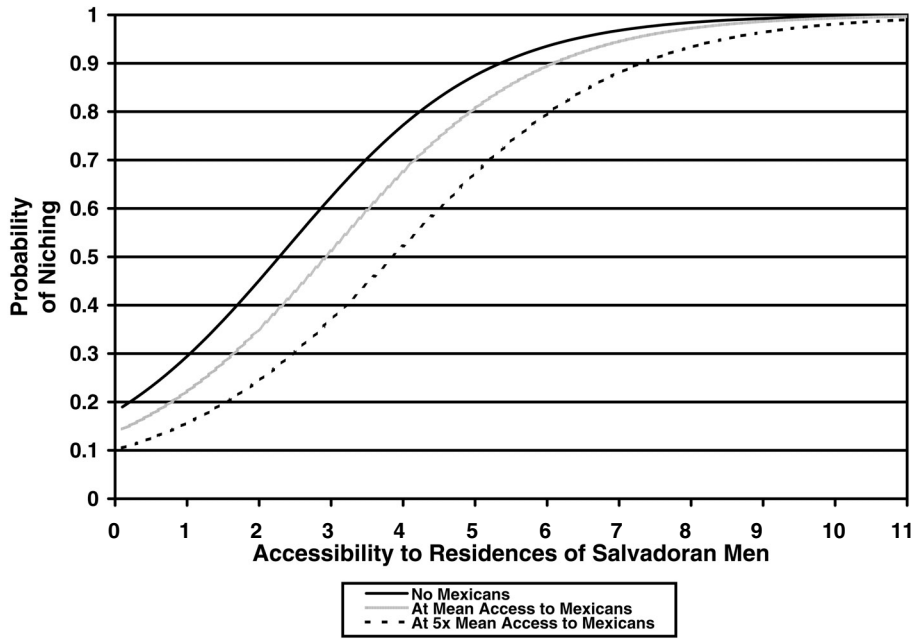
Salvadoran women (Figure 6b); Salvadoran curves at mean and five times mean competing (Mexican) accessibility drop further and more steeply than the same curves for Mexican women in the presence of Salvadoran competing accessibility effects. Like their male counterparts in furniture and fixtures, these charts show that Salvadoran women who work in household service jobs are disadvantaged in the presence of an ample supply of accessible Mexican women workers. This finding likely points to the development of "pan-ethnic" niches in which Mexican and Salvadoran workers work side by side but also experience competition effects as substitutes. These competition effects probably render Salvadorans at a disadvantage because of their considerably smaller group size.

## Discussion and Conclusions

Immigrants have helped reconfigure U.S. urban neighborhoods and workplaces by producing new residential concentrations and employment niches. The story of the employment of immigrants in metropolitan areas is most frequently recounted as a narrative of newcomers who are located in discrete neighborhoods and concentrated in particular industries. The main explanation for this division of labor rests heavily on the idea of networks that link immigrants directly to housing and jobs alongside their co-ethnics in the destination. This prevailing wisdom accentuates social accessibility to such an extent that the geographies of residential settlement, and therefore the potential effects of intraurban spatial-accessibility constraints, are frequently unacknowledged. This article, however, has shown that geography also shapes the immigrant division of labor. Social access is important, but niching varies across space in ways that suggest that spatial accessibility also matters. The contribution of this article has been to marry the insights that have been gleaned from local labor market research to scholarship that has centered on immigration, employment niching, and the power of weak ties in ethnic networks.
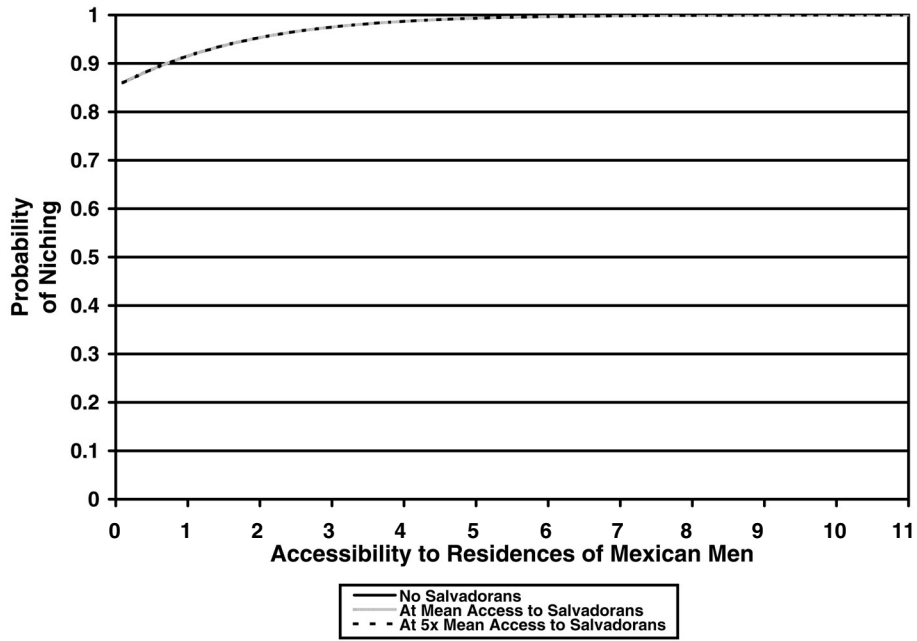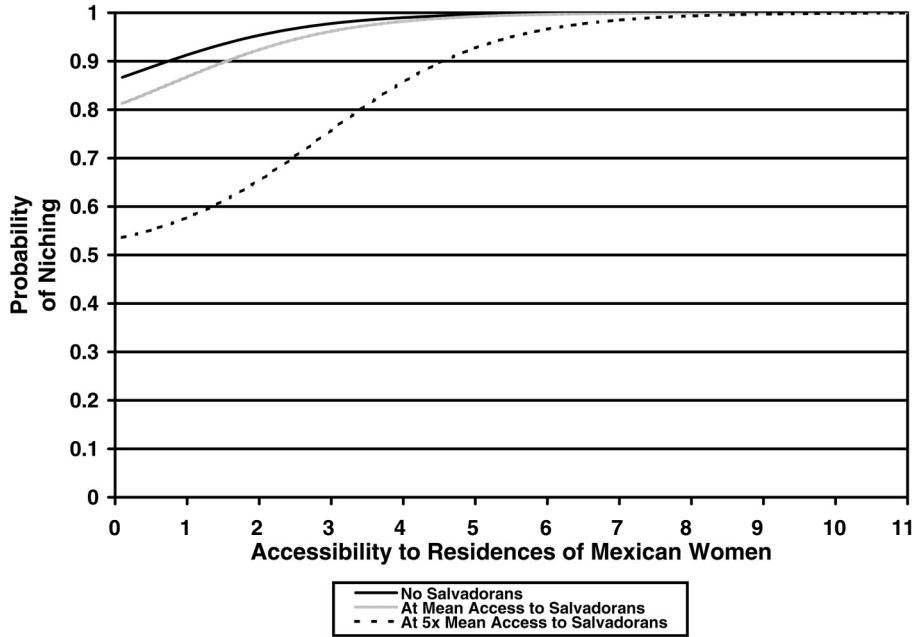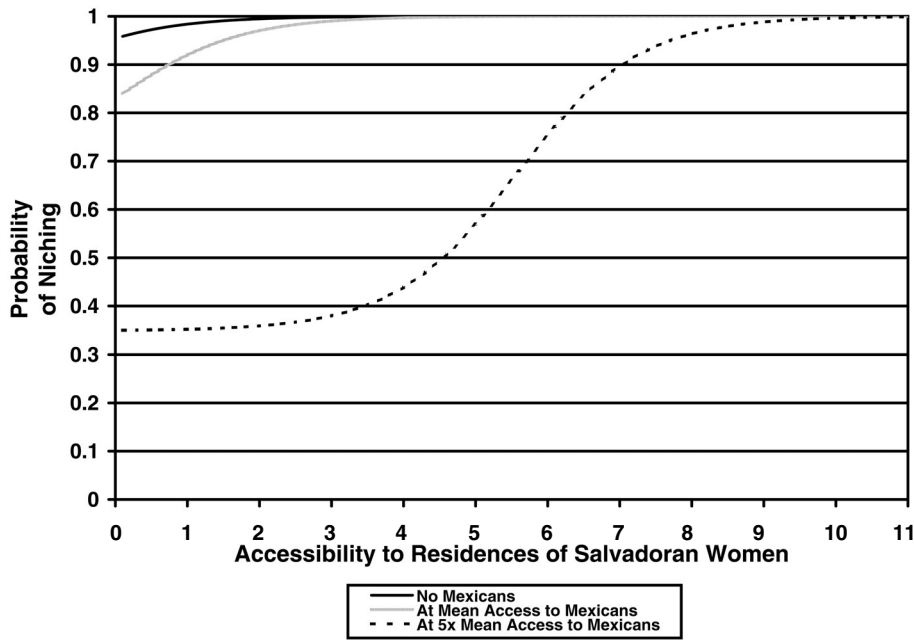
**(a) Mexican men**



**(b) Salvadoran men**

**Figure 5.** Effects of accessibility on the probability of niching for Mexican and Salvadoran men in furniture and fixtures.

**(a) Mexican women**



**(b) Salvadoran women**

**Figure 6.** Effects of accessibility on the probability of niching for Mexican and Salvadoran women in private household services.

As with most empirical investigations that have compared effects across groups under different conditions, the results do not provide uniform and unqualified support for the arguments in favor of spatial accessibility effects on niching. Geography matters for the immigrant division of labor much more for some groups than for others, varies in its effect by industry, and does not always have the expected stronger impact when niching is at its highest. While these qualifications deserve further investigation, they do not weaken the central argument of this article; explanations of the immigrant division of labor should pivot on both network-focused perspectives *and* the local geographies of home and work.

Our research design generated insights into the balance not only between social and spatial accessibility by immigrant group, but also between the spatial accessibility of competing groups. This aspect of the research showed that group size affected the immigrant division of labor, muting the effect of competition. Mexicans dominate immigration to Los Angeles. The descriptive statistics, as well as the modeling results, indicate that both Mexican men and women in most of the sectors studied are less sensitive to competition effects; their numbers overwhelm those of other groups. Private household services is a partial exception to this observation; Salvadoran women are heavily niched in this line of work, and their degree of concentration in this sector appears to matter more than does their small workforce size relative to that of their main competitors—Mexican women.

Gender also works to position immigrant men and women in different lines of work (Wright and Ellis 2000; Parks 2004b). That said, we found few differences between immigrant men and immigrant women in terms of space and access to niches. The models produced few distinctive patterns that separated men from women. Future research may seek to compare men and women who work in the same industrial sector to tease out gendered differences in terms of geographic context and the immigrant division of labor. And on the subject of context, future research should also include different labor markets. The labor market of southern California is unusually extensive—the analysis of more geographically compact spaces may produce even more complex between-group interactions.

Our intention in this article was to provide evidence of the connection between intraurban geography and the immigrant division of labor. Future research should undertake the task of unraveling the development of this complex relationship over time. An historical approach could isolate the causative roles of immigrant residential preferences and industry locational choice on the division of labor. A temporal framework will also allow researchers to grapple with the effects of immigrant residential mobility on employment outcomes. As newcomers and their children seek out new neighborhoods away from the vicinities that provided vital social capital on arrival, how are shifts in the residential distribution of groups dependent on retaining spatial access to niches, and how do these moves affect the propensity for local- and metropolitan-scale niching? Perhaps these residential moves are triggered by moves out of niche employment.

All these thoughts point to a new and exciting research agenda that centers on the contingent relations between the geographies of home and work and the evolution of the intraurban immigrant division of labor. The employment of first-generation immigrants framed many of the concerns of this article. The findings, though, offer perspectives on the very building blocks of urban morphology. *Metropolis,* Allen Scott's book on the development of cities under capitalist production, has as its subtitle *From the Division of Labor to Urban Form.* One of Scott's objectives in this monograph was to produce a counternarrative to ecological theories of urban ethnicity—accounts of urban geography that seemed "incurious about the central problems of work and livelihood" (1989, 225). In this article, we have tried to show that immigrant neighborhoods matter not only as places of social reproduction, but also as locations that

are embedded in the spatial relations of capitalist production. Recognizing both these roles is imperative for understanding the ways in which urban form and the division of labor—for immigrants and others—are mutually constituted.

# References

Alba, R. D.; Logan, J. R.; and Stults, B. J. 2000. The changing neighborhood contexts of the immigrant metropolis. *Social Forces* 79:587–621.

Alba, R.; Logan, J.; Stults, B.; Marzan, G.; and Zhang, W. 1999. Immigrant groups in the suburbs: A reexamination of suburbanization and spatial assimilation. *American Sociological Review* 64:446–60.

Allen, J. P., and Turner, E. 1997. *The ethnic quilt: Population diversity in southern California.* Northridge: California State University, Center for Geographical Studies.

———. 2005. Ethnic residential concentrations in United States metropolitan areas. *Geographical Review* 95:267–85.

Bailey, T., and Waldinger, R. 1991. Primary, secondary, and enclave markets: A training systems approach. *American Sociological Review* 56:432–55.

Cooke, T. J. 1993. Proximity to job opportunities and African American male unemployment: A test of the spatial mismatch hypothesis in Indianapolis. *Professional Geographer* 45:407–15.

Ellis, M., and Wright, R. 1999. The industrial division of labor among immigrants and internal migrants to the Los Angeles economy. *International Migration Review* 33:26–54.

England, K. V. L. 1993. Suburban pink-collar ghettos: The spatial entrapment of women? *Annals of the Association of American Geographers* 83:225–42.

Fernandez, R. M. 1994. Race, space, and job accessibility: Evidence from a plant relocation. *Economic Geography* 70:390–416.

Fernandez, R. M., and Fernandez-Mateo, I. 2006. Networks, race and hiring. *Annual Review of Sociology* 71:42–71.

Frey, W. H., and DeVol, R. C. 2000. America's demography in the new century. Policy Brief No. 9, Milken Institute, Santa Monica, Calif.

Hanson, S., and Pratt, G. 1995. *Gender, work, and space.* London: Routledge.

Houston, D. S. 2005. Methods to test the spatial mismatch hypothesis. *Economic Geography* 81:407–34.

Hudson, M. 2002. Modeling the probability of niche employment: Exploring workforce segmentation in metropolitan Atlanta. *Urban Geography* 23:528–59.

Iceland, J. 2004. Beyond black and white: Residential segregation in multiethnic America. *Social Science Research* 33:248–71.

Ihlanfeldt, K., and Sjoquist, D. 1991. The effect of job access on black and white youth employment: A cross-sectional analysis. *Urban Studies* 28:255–265.

Kain, J. 1968. Housing segregation, Negro employment, and metropolitan decentralization. *Quarterly Journal of Economics* 82:175–97.

Light, I.; Bernard, R. B.; and Kim R. 1999. Immigrant incorporation in the garment industry of Los Angeles. *International Migration Review* 33:5–25.

Light, I.; Sabagh, G.; Bozorgmehr, M.; and Der-Martirosian, C. 1994. Beyond the ethnic enclave economy. *Social Problems* 41:65–80.

Logan, J. R.; Alba, R. D.; and Zhang, W. Q. 2002. Immigrant enclaves and ethnic communities in New York and Los Angeles. *American Sociological Review* 67:299–322.

Massey, D. B. 1984. *Spatial divisions of labor: Social structures and the geography of production.* New York: Methuen.

Massey, D. S. 1985. Ethnic residential segregation: A theoretical and empirical synthesis. *Sociology and Social Research* 69:315–50.

Mouw, T. 2000. Job relocation and the racial gap in unemployment in Detroit and Chicago, 1980 to 1990. *American Sociological Review* 65:730–53.

Parks, V. 2004a. Access to work: The effects of spatial and social accessibility on unemployment for native-born black and immigrant women in Los Angeles. *Economic Geography* 80:141–72.

———. 2004b. The gendered connection between ethnic residential and labor market segregation in Los Angeles. *Urban Geography* 25:589–630.

———. 2005. *The geography of immigrant labor markets: Space, networks, and gender.* New York: LFB Scholarly Press.

Peck, J. 1989. Reconceptualizing the local labor market: Space, segmentation, and the state. *Progress in Human Geography* 13:42–61.

Portes, A., and Jensen, L. 1989. The enclave and the entrants: Patterns of ethnic enterprise in Miami before and after Mariel. *American Sociological Review* 54:929–49.

Portes, A., and Manning, R. 1986. The immigrant enclave: Theory and empirical examples. In

*Comparative ethnic relations,* ed. S. Olzak and J. Nagel, 47–68. New York: Academic Press.

Portes, A., and Sensenbrenner, J. 1993. Embeddedness and immigration: Notes on the social determinants of economic action. *American Journal of Sociology* 98:1320–50.

Preston, V.; McLafferty, S.; and Liu, X. F. 1998. Geographical barriers to employment for American-born and immigrant workers. *Urban Studies* 35:529–45.

Raphael, S. 1998. The spatial mismatch hypothesis and black youth unemployment: Evidence from the San Francisco Bay area. *Journal of Urban Economics* 43:79–111.

Sanders, J., and Nee, V. 1987. Limits of ethnic solidarity in the enclave economy. *American Sociological Review* 52:745–73.

Sassen, S. 1988. *The mobility of labor and capital.* New York: Cambridge University Press.

———. 1991. *The global city: New York, London, Tokyo.* Princeton, N.J.: Princeton University Press.

———. 1995. Immigration and local labor markets. In *The economic sociology of immigration,* ed. A. Portes, 87–127. New York: Russell Sage Foundation.

Scott, A. J. 1989. *Metropolis: From the division of labor to urban form.* Berkeley and Los Angeles: University of California Press.

———. 1993. *Technopolis: High-technology industry and regional development in Southern California.* Berkeley and Los Angeles: University of California Press.

———. 2006. Geography and the division of labor. In *Geography and economy,* A. J. Scott, 1–48. Oxford, U.K.: Clarendon Press.

Shen, Q. 1998. Location characteristics of inner-city neighborhoods and employment accessibility of low wage workers. *Environment and Planning B* 15:345–56.

Simpson, W. 1992. *Urban structure and the labor market.* Oxford, U.K.: Clarendon Press.

Smart, M. 1974. Labor market areas: Uses and definitions. *Progress in Planning* 2:239–53.

Stoll, M. A. 1999. Spatial job search, spatial mismatch, and the employment and wages of racial and ethnic groups in Los Angles. *Journal of Urban Economics* 46:129–55.

———. 2005. Geographical skills mismatch, job search, and race. *Urban Studies* 42:695–717.

Stoll, M. A., and Raphael, S. 2000. Racial differences in spatial job search patterns: Exploring the causes and consequences. *Economic Geography* 76:201–23.

Vance, J. 1960. Labor shed, employment field and dynamic analysis in urban geography. *Economic Geography* 36:189–220.

Waldinger, R. 1992. Native blacks, new immigrants, and the post-industrial transformation of New York. In *Ethnic minorities and industrial change in Europe and North America,* ed. M. Cross, 205–25. New York: Cambridge University Press.

———. 1996. *Still the promised city? African Americans and new immigrants in postindustrial New York.* Cambridge, Mass.: Harvard University Press.

Waldinger, R., and Bozorgmehr, M. 1996. The making of a multicultural metropolis. In *Ethnic Los Angeles,* ed. R. Waldinger and M. Bozorgmehr, 3–38. New York: Russell Sage Foundation.

Waldinger, R., and Der-Martirosian, C. 2001. The immigrant niche: Pervasive, persistent, diverse. In *Strangers at the gates: New immigrants in urban America,* ed. R. Waldinger, 228–71. Berkeley: University of California Press.

Waldinger, R., and Lichter, M. 2003. *How the other half works: Immigration and the social organization of labor.* Berkeley: University of California Press.

Wang, Q. 2004. Labor market concentration of Asian ethnic groups in US metropolitan areas: A disaggregated study. *Population Space and Place* 10:479–94.

———. 2006. Linking home to work: Ethnic labor market concentration in the San Francisco CMSA. *Urban Geography* 27(1):72–92.

Ward, D. 1971. *Cities and immigrants: A geography of change in nineteenth-century America.* New York: Oxford University Press.

Wilson, F. D. 2003. Ethnic niching and metropolitan labor markets. *Social Science Research* 32:429–466.

Wilson, K., and Portes, A. 1980. Immigrant enclaves: An analysis of the labor market experiences of Cubans in Miami. *American Journal of Sociology* 86:295–319.

Wright, R., and Ellis, M. 2000. The ethnic and gender division of labor compared among immigrants to Los Angeles. *International Journal of Urban and Regional Research* 24:583–601.

———. 2001. Immigrants, the native-born, and the changing division of labor in New York City. In *New immigrants in New York,* ed. N. Foner, 81–110. New York: Columbia University Press.

Zhou, M., and Logan, J. 1989. Returns on human capital in ethnic enclaves: New York City's Chinatown. *American Sociological Review* 54:809–20.