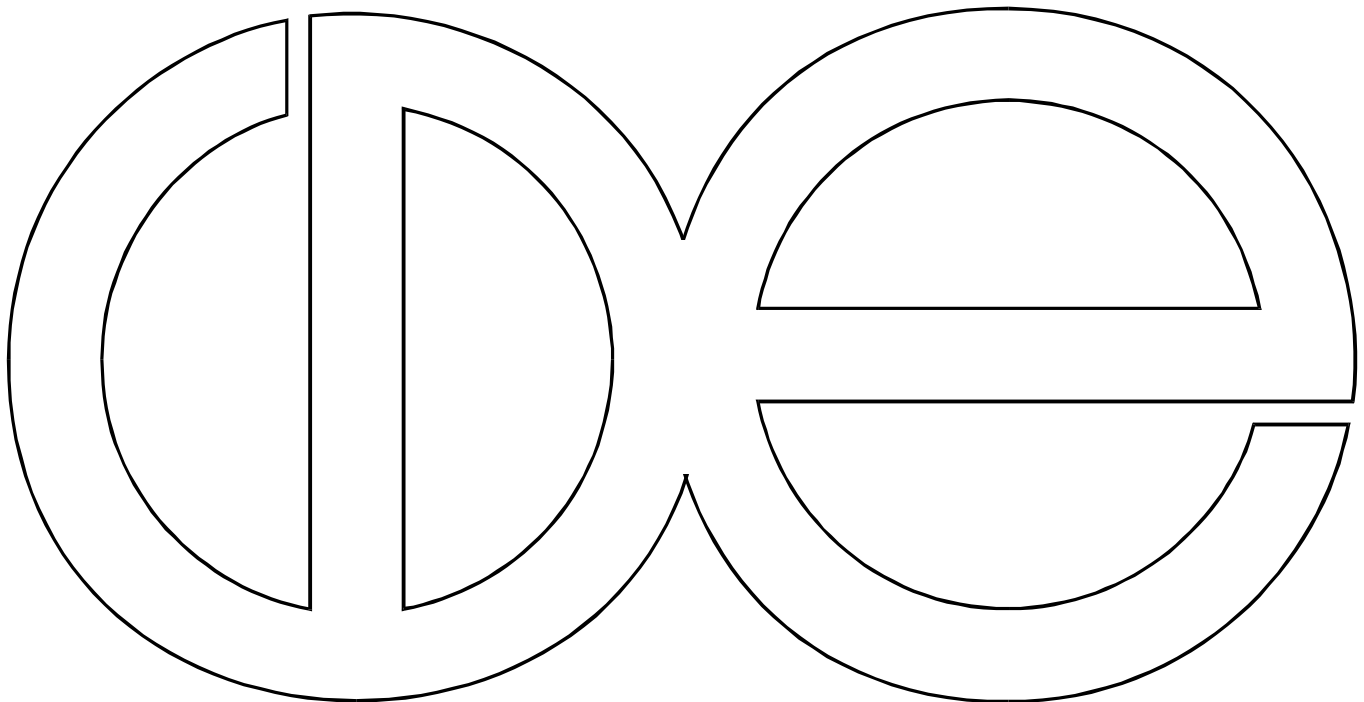


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Ethnic Concentrations and Labor Market Opportunities

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ETHNIC CONCENTRATIONS AND LABOR MARKET OPPORTUNITIES

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Abstract

This paper seeks to determine whether employment in co-ethnic niches enhances labor market opportunities for urban workers, and whether the immigrant share of the workforce of an employment sector is associated with joblessness, low occupational attainment and low hourly wages. The results indicate that while substantial shares of minority populations are employed in co-ethnic niches, these concentrations are not associated with lower odds of being jobless or having higher occupational status and hourly wages. Contrary to much previous research, results reported in this paper indicate that high immigrant concentrations in employment sectors and changes in concentrations between 1980 and 1990 are substantially associated with high joblessness, and low occupational status and low hourly wages of some urban workers.

Introduction

This paper presents results from an analysis of the association of ethnically based industry/occupation-specific employment sector concentrations with labor market outcomes, such as joblessness, occupational status and hourly earnings. We ask whether such employment sector concentrations or ethnic niches provide favorable labor market outcomes relative to worksites in which workers are not concentrated on the basis of ethnicity. I proceed on the assumption that local labor markets are organized along the lines of gender and ethnic relations and that the relative economic well-being of men and women and members of different ethnic populations is substantially affected by the nature of their worksites, and whether or not worksites constitute employment sector niches (Waldinger, 1996a).

There is a growing literature on ethnic niches and their roles in providing employment opportunities for co-ethnics and in contributing to the dynamism inherent in local labor markets (see Lieberman, 1980; Morawska, 1990; Model, 1993; Logan, Alba and McNulty, 1994; Model and Ladipo, 1996; Waldinger, 1996a). The term ethnic niche is used here to designate employment sector categories (whether occupation and/or industry based) in which members of a specific ethnic group are concentrated above a level one would expect based on their share of the total labor force of a local labor market. Sociologically, an employment-based ethnic niche is a social collectivity in which a substantial fraction of its members are known to each other, and are a part of a social network formed by common ties of culture, family, religion, race, national origin, and co-residence. Ethnic niches can develop from a variety of sources, including 1) the concentration of co-ethnic owners and workers in one or more related industries for the purpose

of exporting goods or to meet market demand arising internally within the ethnic group; 2) businessmen of one ethnic group acting as middleman minorities in providing goods and services to members of another ethnic group; and 3) concentration and specialization in industrial/occupational activities based on co-ethnic members ability to meet labor demand through social network connections, and, in some instances, based on group members possessing some special skills or experience that employers consider relevant to productivity. The first source reflects the development of ethnic economies, including ethnic enclaves if specialization and concentration is involved. There are numerous examples of this in the literature (see Bailey and Waldinger, 1991; Aldrich and Waldinger, 1990; Logan, Alba and McNulty, 1994; Model, 1993; Portes and Bach, 1985; Portes and Jensen, 1989; Waldinger, 1996a), even though, as suggested by Alba and Nee (1997), there is still considerable confusion regarding the distinction between ethnic economies and ethnic enclaves. In this case, as with middleman minorities, entrepreneurs are the key actors responsible for promoting the development of ethnic niches, through the establishment of business enterprises which rely on co-ethnics as a labor supply. Residential concentration and the institutionalization of the provision of resources, goods, and services through social networks facilitates the use of co-ethnics as a labor supply, particularly if English is not the standard form of discourse.

Much research suggests that labor market niching is related to the flow of immigrants, with particular skills, experiences and human capital attributes, to a given destination in conjunction with the opportunity structure encountered at that destination, the policies of receiving governments, and whether members of succeeding generations have the potential and inclination to exploit occupational opportunities outside traditional areas of employment

concentration (see Morawska, 1990; Model, 1993; Portes and Rumbaut, 1996; Waldinger, 1996a and 1996b). Since migration is a network driven process, immigrants, except perhaps those who arrive with job offers, do not select destinations at random; but rather, move to places where there is an existing network of friends and relatives who can provide them with various forms of assistance, including jobs (see Massey et al. 1994). Moreover, the influence of social networks extends beyond the neighborhood and ethnic enclave, providing employment opportunities in other sectors of the labor market where co-ethnic owners are not present. Several researchers have taken note of the fact that pioneer migrants may establish a presence in a given labor market activity -- either because of prior experience, skills, propensity or language -- and others of similar backgrounds quickly follow suit (see Model, 1993; Morawska, 1990; Lieberman, 1980; Portes and Rumbaut, 1996; Waldinger, 1996a). Waldinger (1996a) suggests that through social networking, occupational closure quickly follows the establishment of occupational specialization. In the contemporary labor market, niching by members of one group is preceded by succession by members of another group who shift to other activities.

Waldinger (1996a:24-26) also suggests that labor market niching enables ethnic group members to compensate for background deficits and discrimination through the exploitation of the social capital embedded in their community to promote further employment. Social networks, as a form of social capital, are an important element of niches and form a critical link between labor supply and demand in a local labor market. It is often through the relations existing between co-ethnics that information about available employment opportunities is channeled; employers often identify new workers by tapping into the social networks of current employees. It is through this process of selective recruitment that niches acquire a group identity and subsequently, also

acquire regulatory mechanisms and procedures to protect the niche against encroachment from members of other groups.

Recently arrived immigrants with co-ethnics already in residence at place of destination are often able to secure jobs through current workers who are in a position to sponsor them. This type of employment benefit to members of an ethnic group can continue as long as their niche does not become saturated or the excess workers are able to exploit other opportunities.

Lieberson (1980), in a study of the labor market experiences of African-Americans and immigrants from Southern and Eastern Europe at the beginning of this century, indicates that members of these groups established occupational niches. However, immigration restrictions in the 1920's probably played a significant role in reducing the continued pressure that would have been caused by an otherwise expanding labor supply. The situation for African-Americans was quite different, mainly because internal migration is not subject to policy manipulation and because the limited absorption capacity of their niches forced some African-Americans to seek employment in occupations controlled by members of other ethnic groups.

Do employment-based niches provide economic benefits to ethnic group members that they otherwise would not have access to if they worked in other areas of a local labor market? Waldinger (1996a:95) suggests that industrial niches provide a “protected environment” for members of a particular ethnic group, because members are more favorably treated with respect to access to employment opportunities and are likely to receive more equitable compensation than members who work in other industries. But, as Waldinger suggests elsewhere, the latter benefit may not apply if the niche is a part of an ethnic economy, because workers may accept low compensation in exchange for the acquisition of a skill or learning how to operate a business

(page 24). Workers in ethnic economies who are faced with limited mobility options and who work at low wages may very well seek employment in the general urban market once their initial deficits have been removed and/or they are able to access and evaluate information regarding employment prospects outside the ethnic economy (see Nee, Sanders and Sernau, 1994). On the other hand, just as niches may offer a protected environment for members of particular ethnic groups, to members of out-groups, selective recruiting mechanisms can be perceived as barriers to employment, because information about jobs and access to jobs through informal channels are closed to them.

Labor market discrimination faced by members of an ethnic group may lead to the formation of employment niches in sectors of the labor market in which there are few if any discriminatory barriers. For example, among members of the least desired group in the job queue, niches may emerge not just through self selection, but also because group members are more or less forced to accept whatever residual jobs are available once groups higher up in the queue have made their selections. Model and Ladipo (1996), in a comparative analysis of the occupational attainment of selected minority groups in New York and London, suggest a queueing model offers the most plausible explanation of the differences between the occupational attainment of immigrants from the same origin but who immigrated to either New York or London. In New York, the presence of indigenous minorities, namely African-Americans and Puerto Ricans, was associated with higher occupational standings for foreign-born Chinese, East Indians and West Indians than their counterparts in London, largely because of the absence of such indigenous groups in the latter.

Although recent empirical findings indicate that a substantial number of ethnic group members are employed in ethnic niches, few attempts have been made to determine what share of these groups are actually concentrated in niches, and whether the extent of niche concentration changes as a result of the immigrant share of a ethnic group's total workforce declining over time; or if other changes such as rising educational attainment might be associated with changes in concentration. These issues direct our attention to the question of whether niching has been pursued as a long term employment strategy by ethnic groups because of the economic advantages associated with specializing and concentrating in a given activity. Waldinger (1996a) provides a partial answer to this question. He (1996a) presents results for selected ethnic groups in New York City, indicating the share of the labor supply of each group concentrated in industrial niches since 1940 and niche/non-niche differences in wages for 1990. At least a third of each group's workforce, except Italians, were employed in industrial niches in 1990. In the case of Jews, Italians, and Blacks, for whom the time trend extends back to 1940, there is a clear pattern of decline in the share of each group's workforce who were concentrated in niches. This pattern did not hold for Jews whose employment in niches declined to 41 percent by 1980, then increased to 49 percent in 1990. The decline in niche employment also occurred for West Indians, Chinese and Dominicans, but the series only extends back to 1970. The volume of immigration for these groups has been substantial during the 1970-90 period and continues. The recent large-scale migration from non-Anglophonic countries might explain why niche employment for Chinese and Dominicans was still at or greater than 50 percent. The continued concentration of at least a third of the native born groups in ethnic niches, even considering that each experienced

educational upgrading, suggest that these concentrations have economic value as a labor market strategy (see Waldinger, 1996a).

While employment in niches persisted at a high level for Jews during the 1940-90 period, the industry and occupational composition of the niches changed substantially. Initially, Jewish niches centered on commercial activities, mainly small retail sector stores, and wholesalers, and work in the garment and related industries. During the late 1920's and 1930's with the entrance of the second generation into the labor market, public sector employment was added. In the post World War II period, Jews shifted into the professional service sectors, in higher education, legal and business services, health, publishing, advertising, public relations and theaters. Along the way, they shed the blue-collar and smaller proprietorship-type niches and moved into highly technical professional niches, as educational attainment increased and labor market discrimination declined. Thus the Jewish population did not abandon niching, but transformed their niches in response to changing labor market conditions and their position in the labor queue.

In contrast, while niche employment of African-Americans and Italians also underwent a transformation from unskilled to skilled blue-collar occupations and employment in the public sector, the share of total employment in niches of each of these groups declined over the 1940-1990 period. However, it was still the case that one in three native born Italians and African-Americans were employed in niches in 1990. Overall, these results suggest that native born groups also concentrate in niches and that the organization of labor market activities through ethnic niches can continue to provide economic value even to succeeding generations who are regarded as having been assimilated.

Waldinger also presents niche/non-niche wage differentials in 1990 for the ethnic groups he studied to address the question of whether ethnic group members economically benefitted from employment in niches. The wages of workers of the three native-born groups (Jews, Blacks, and Italians) were higher in industrial niches, whereas the opposite was true for Chinese and Dominicans. Since employment overall in niches declined substantially for Italians and Blacks between 1940 and 1990, one could speculate that higher compensation for employment in the remaining niches was due to the specialized and skilled nature of the work involved and the fact that groups may exercise some influence over the recruitment process. If one were to ask whether working in a niche lowers the gap between the average wages of members of a ethnic group relative to native-born whites, Waldinger's results indicate that only the gap between black niche workers and whites was reduced more than the gap between black non-niche workers and native-born whites. The favorable wages of black niche workers probably reflects their concentration in public sector jobs where barriers to equal opportunities are the least.

The Current Study

Studies by Waldinger, Model and others (cited in Morawska, 1990) raise some important issues regarding economic returns to employment in ethnic niches. The number of ethnic groups, their composition with respect to nativity, their historical mode of insertion into the host economy, available capital resources--financial, human and social -- and their relations with dominant groups have all played a role in structuring the labor market experiences of their members. If, as previous research suggests, local labor markets are organized around gender and

ethnic relations, we would expect the concentration of workers in ethnic niches, differentiated with respect to industry and occupation, to be a salient feature of employment sectors.

The current analysis seeks to explore a number of issues relevant to employment in ethnic niches and in employment sectors in general with varying concentrations of immigrants. First, do industry/occupation-based ethnic niches provide economic benefits with respect to employment, occupational or earnings attainment? To address this question, I include terms in a model of labor market outcomes to estimate the effects of ethnic composition of employment sectors and changes therein; and terms which capture particular features of employment sectors, such as the extent of co-ethnic control of employment relations and changes therein and whether employment in niches is more beneficial for those who speak English poorly. I compare labor market outcomes for ethnic group members working in niches with those of co-ethnics who work in the general sector of the local economy. If niche employment is more advantageous, one would expect workers in niches to have a lower probability of joblessness, and higher occupational and earnings attainment. Those effects for niche workers should be enhanced in industries in which there is a high percentage of co-ethnic owners, managers and supervisors; and reduced for individuals who work in niches but who speak English poorly.

An important feature of the model estimation used in this paper is that I am able to assess the association of labor market outcomes with changes in the characteristics of employment sectors, including changes in the concentration of co-ethnics, share of co-ethnics who are owners, managers and supervisors, sex composition of the workforce and in the share of the workforce that is foreign-born. This makes it possible to determine whether the potential benefits of niche employment rise as the relative number of co-ethnics increase and as co-ethnic control of

employment relations increases; and whether an increase in the share of the workforce of an employment sector that is foreign born is associated with greater joblessness of native workers and lower levels of occupational and earnings attainment.

Second, I ask whether the economic benefits of employment in industry/occupation-based niches are the same for Asians, African-Americans, Hispanics and Whites. Do some groups benefit more than others because of the characteristics of the niches and/or employment sectors in which they work or because of the characteristics of workers themselves? Queuing theory indicates that employers follow a preference ordering in selecting their workforces, which in part reflects the skill requirements of jobs, attitudes and work habits of workers, the composition of the existing workforce, and previous experiences of employers with workers from a given group. Previous research suggest that Whites are at the top of the queue, followed by Asians, Hispanics, and African-Americans.

Third, does the foreign-born composition of work sites have an independent effect on labor market outcomes? Although ethnic groups may provide a large share of the workforce at a given employment sector, there are other employment sectors in which the workforce is foreign-born but in which no particular ethnic group dominates. This may change with time as members of one ethnic group are able to increase their share of employment to a level which enables the group to control the recruitment of new workers. Moreover, the key point I wish to make is that a high concentration of the foreign-born, independent of ethnic background, may indicate the operation of a number of forces shaping labor demand that are specific to employment sectors organized by industry and occupation.

Factors associated with concentrations of the foreign-born in industries connected to ethnic economies are well known (see Logan, Alba and McNulty, 1994; Portes and Rumbaut, 1996). Although the workforce in some of these economies may be homogeneous, one can cite numerous examples of employment sectors in these economies which are ethnically mixed (see Waldinger, 1996b). With members of different ethnicities forming a division of labor organized around occupations, the owners and managers of these enterprises are driven to keep wages low to remain competitive, and one of the ways in which this can be accomplished is by recruiting an ethnically differentiated workforce based on co-ethnic identity, skill requirements, and the willingness of workers to accept a given level of compensation. Workers are willing to accept low compensation, either because of low reservation wages linked to conditions at origin and/or because employment in this employment sector will provide the opportunity for learning and adjusting to the host environment.

Many employers in the general local economy also have strong economic incentives to keep compensation packages low, not only because of competition, but also because the goods and services they provide are locally consumed. Their profit margins are low and they have fewer relocation options available to them, and hence cannot move to take advantage of locations where it may be possible to offer lower compensation packages. Employers may be less concerned with the ethnic/immigrant composition of their workforce as long as the offered compensation package is acceptable and workers of different nationalities are able to work together to maintain the desired level of productivity.

The data for this analysis are derived from the 1980 and 1990 PUMS files, 5% sample, for respondents who were 16 years of age and over and had a job sometime between 1978 and 1980

or 1988 and 1990, and who lived in twenty-three of the largest (consolidated) metropolitan areas. I use data for both the 1980 and 1990 files to construct aggregate measures for employment sectors consisting of thirty-two major industry categories and seven major occupational categories, further stratified within metropolitan areas by ethnicity. These aggregate measures are used to identify ethnically based employment niches and to provide summary information for employment sectors in 1980, 1990, and 1980-90 changes (see below). A niche is defined as an employment sector (industry-specific occupational category), with at least 500 workers, and in which members of a specific ethnic group are 1.5 times more likely to be concentrated than members of all other ethnic groups. Initially, employment sector-based measures were constructed for twenty-six ethnic groups, including twelve European ancestry groups, seven Hispanic, six Asian, and one African-American ethnic groups. In this analysis, these groups are aggregated into four major ethnic categories, including African-American, Asian, Hispanic and White.

Respondents on the 1990 PUMS who were 19 to 64 years of age, worked at least one week since 1989 for wages or salary, and who were not in school at the time of the census are used to estimate the association of joblessness, occupational attainment, and hourly wages with selected characteristics of workers including demographic, labor market position, employment sector in 1980 and 1980-1990 change. The models used to estimate these associations are of the following form:

$$\begin{aligned} \text{Log}(P/1-P) = & \alpha + \sum \beta_i V_j + \sum \beta_i W_k + \sum \beta_i X_1 + \sum \beta_i Z_m \\ & + \sum \beta_i V_j W_A + \sum \beta_i V_j X_1 + \sum v_j Z_m \end{aligned} \quad (1)$$

$$\begin{aligned}
& \text{Log (SEI)} \\
& \text{and} \\
\text{Log (HRWAGE)} &= \alpha + \sum \beta_i V_j + \sum \beta_i W_k + \sum \beta_i X_l + \sum \beta_i Z_m \\
& + \sum \beta_i V_j W_k + \sum \beta_i V_j X_l + \sum \beta_i V_j Z_m + e
\end{aligned} \tag{2}$$

Where P is the probability that a respondent was jobless (either unemployed or not in the labor force during the census week), versus being employed; SEI is an index of occupational attainment (see Hauser and Warren, 1997); and HRWAGE is hourly wages for respondents who worked at least one week since 1989; V is a vector of demographic characteristics including age, age squared, work limiting disability, marital status, household income other than respondent, sex, ethnicity, English speaking ability, duration of residence in the U.S. if immigrant, immigrated before age 11, immigrated after age 10, MSA residence, and college graduates ability to speak English; W is a vector of labor market position variables, including major occupation (7) and major industry sector (32); X is a vector of employment sector characteristics in 1980 including share of employment sector's labor force foreign born, share of ethnic group working in own group niche, share of ethnic group members working in employment sector in which members of another group has established a niche, share of ethnic group (I)'s workforce that are women, index of employment sector concentration for ethnic group (I), and share of co-ethnics who are owners, managers, and supervisors in an industry for ethnic group (I); and Z is a vector of variables measuring changes in the characteristics of the employment sector including the ratio of 1990/1980 index of employment sector concentration for ethnic group (I), ratio of 1990/1980 share of women in workforce for ethnic group (I); ratio of 1990/1980 share of foreign-born workers; and ratio of 1990/1980 share of co-ethnics who are owners, managers and supervisors

for ethnic group (I); and the product vectors VW, VX and VZ represent the interaction of ethnicity and sex with a select number of the other variables. Definitions of all variables are reported in Appendix Table A2. Household income other than respondent's, terms for major occupation, and terms for the interaction of ethnicity and sex with occupation are only included in the logistic equation for joblessness; age squared is included in the equations for SEI and HRWAGE; and SEI is included in the equation for HRWAGE. In estimating equations (1) and (2), I use the weights assigned to respondents, but divide them by the average sample weight to remove the effect of the 1990 PUMS sample design.

The specifications included in equations (1) and (2) provide a means of evaluating a number of hypotheses, including whether working in an ethnic niche and other characteristics of employment sectors influence labor market outcomes; and whether the foreign born composition of an employment sector is associated with higher joblessness, and low occupational and earnings attainment among workers. Much empirical research suggests the presence of immigrant workers has little or no effect on the labor market circumstances of native workers (see Wilson and Jaynes, 1998). However, most of these studies have focused on the global effects of immigration, ignoring the possibility that the effect of immigrant concentrations within specific industry and occupational sectors may be negative because of labor supply substitutions. I investigate this possibility here by seeking to determine whether the economic circumstances of native workers are adversely affected by the share and change in the share of the workforce at an employment sector which is foreign born.

Results

Since employment in industry-specific occupational niches is a central focus of the reported analysis, a general review of the distribution of respondents according to whether or not they work in niches would be useful. Table 1 reports the percentage of respondents who work in niches by ethnic identity. The categories were formed by identifying industry and occupational sectors in which members of a particular ethnic group have a 1.5 times greater likelihood of working than members of other groups. Respondents in column (1) work in sectors in which no group has established a niche. Column (2) includes workers who work in employment sectors in which ethnic groups other than their own have established a niche, whereas Columns (4) and (5) include employment sectors in which the respondent's own ethnic group has established a niche. Column (5) in contrast to column (4) includes workers in employment sectors in which their own group as well as other groups have established a niche.

Table 1 about Here

The results reported in Table 1 indicate that at least one in five workers in each ethnic group work in the general sector of local labor markets in 1990, but this percentage represents a decline from the 1980 level. The modal category for all ethnic groups is employment sectors in which members of other ethnic groups have established a niche. It should be noted that this does not necessarily mean that these individuals are attached to actual worksites that are dominated by members of other groups. The percentage of workers in this category is less in the case of African-Americans than the other three groups. At least one in four of African-American, Asian, and Hispanic workers are employed in niches dominated by co-ethnics. However, only African-

Americans have more than 10% of their workforce employed in industry and occupational sectors in which only they have established a niche. In 1990, for example, 20% of the African-American labor force versus 2% of Asians, 7% of Hispanics and 3% of Whites work in employment sectors in which only members of their respective groups have established a niche. These percentages are slightly lower than they were in 1980, and may indicate a decline in areas of local labor markets in which only one group dominates. A higher percentage of Asians and Hispanics work in employment sectors in which at least one other group has also established a niche. And, one can note in Column (5) that the percentage of workers in this category increased for all groups, but especially for Asians and Hispanics.

One implication of the results reported in Table 1 is that while ethnicity clearly is an important factor around which employment relations are structured, the majority of workers in each group are not concentrated in employment sectors in which co-ethnics are also disproportionately concentrated. The estimates of niche employment reported here are lower than expected, except, perhaps, for African-Americans. This is the case even considering that in constructing the estimates, I use a twenty-five category breakdown of ethnicity, but organized the reporting of results by the four pan-ethnic categories. However, two caveats are appropriate. First, census data on actual worksites and the organizational context within which employment occurs are not available on the PUMS files, thus one cannot estimate the extent of under-coverage of labor force based niches. Second, in defining niches as being employment sectors with five hundred or more workers, it is highly likely that small somewhat specialized employment niches have been excluded. These types of niches are not likely to be randomly distributed across ethnic

groups, but rather concentrated in those groups in which ethnic economies are also likely to be present.

Table 2 presents the distribution of ethnic niches by occupation in the top panel and the distribution of sample respondents employed in ethnic niches by occupation in the bottom panel for 1980 and 1990, and I combined categories 4 and 5 of Table 1 in order to focus on employment in niches without regard to whether other groups have established a niche in a given sector. These distributions are summed over industry and metropolitan area of residence. Between 1980 and 1990, all groups except African-Americans experienced an increase in the number of industry and occupationally based niches. Whites increased from 890 to 994 niches, a 12 percent increase; Hispanics from 586 to 842, a 46 percent increase; and Asians from 202 to 427, a 111 percent increase. The greater percentage for Hispanics and Asians probably relates to the substantial addition to these populations through immigration. The fact that niche formation is higher among Asians may be related to a greater tendency for members of this group to be employed in ethnic economies. African-Americans experienced a decline in the number of niches associated with its members from 656 to 614, a 6.4 percent decrease. Whites are overwhelmingly concentrated in niches associated with managers and professionals, technical and sales, administration and skilled blue collar (craft and precision manufacturing) occupations. While Asians are also concentrated in managers and professionals, technical and sales, and administration, unlike Whites, they are also concentrated in services and semi-skilled blue collar (fabricators and operators) occupations. In addition, Whites increased their concentration in managers and professional occupations, whereas Asians increased in technical and sales occupations.

Table 2 about here

The distributions for African-Americans and Hispanics who are employed in niches are quite different from those of Whites and Asians. African-Americans are concentrated primarily in administration, services, semi-skilled blue collar, and unskilled labor occupations. The percentage employed in the latter two categories declined between 1980 and 1990, while that in administration increased. It is of particular interest to note that the concentration of African-Americans in skilled blue collar niches is the lowest of all, at one percent. Hispanics are concentrated in services, blue collar and unskilled labor occupations. Their concentration doubled in services and declined in semi-skilled occupations by 18 percentage points. Like African-Americans, Hispanics' concentration in professional and managers and technical and sales occupations is very low, but unlike African-Americans, their concentration in administration is also low. In sum, the results in Table 2 show that the four ethnic groups differ not only in the number of niches formed by their members but also, in the distribution of members across niches distinguished by occupation. Next, I seek to determine whether these affiliations matter with regard to labor market outcomes.

Tables 3 through 5 report selected results from the estimation of equations (1) and (2). The coefficients for joblessness are odds ratios derived by taking the exponents of the log odds coefficients. Since both equations contain product terms used to test for net shifts in slope coefficients for some variables, such as sex, ethnicity and occupations, some of the coefficients have been summed to include both the main and interaction effects. The effects of control variables are not discussed and are not reported in Tables 3 through 5, although their effects are

reflected in the predicted values to be discussed below. The full set of results from equations (1) and (2) are reported in Appendix Tables 3 through 5 for the log odds of joblessness, occupational attainment, and hourly wages, respectively (1997). However, it is of interest to note that the main and interaction effects of industry and metropolitan residence are substantial and worthy of further review.

Table 3 reports selected results from a logistic regression predicting the odds of joblessness (or not working) at the time of the 1990 census. With respect to variation in joblessness by occupation for men, the results indicate that African-Americans are substantially more likely to be jobless than White, Asian, and Hispanic men. The odds of joblessness increases slightly as one goes down the occupational categories, with laborers having higher odds of joblessness than the other occupations. African-American male laborers are four times more likely to be jobless than White men, and this difference is the largest among men and women. Among women, the differences between African-Americans, Whites, and Hispanics are not as great as those observed for men, but note that Asian women clearly stand out as having lower odds of joblessness for most of the major occupations. The difference between men and women are not as great as one would expect, largely because respondents who had not worked since 1988 or earlier are excluded from the sample. This exclusion affected the level of joblessness observed among women more than men, largely because substantially more women of labor force age were not active in the paid labor force over longer time intervals.

Table 3 about here

Immigrants who spent their formative years in the U.S. are more likely to be jobless, while other immigrants fare no worse than native workers. The coefficient for duration of residence in the U.S., however, suggests that the odds of being jobless is responsive to the length of time an immigrant has spent in the U.S., somewhat independent of the age of the person at the time of migration.

The bottom panel of Table 3 focuses on the association of joblessness with characteristics of the sector of employment. The immigrant share of the labor force of an employment sector in 1980 is associated with substantially increased odds of joblessness, and the association is the same for members of each of the four ethnic groups. However, change in immigrant shares of the labor force is not related to the odds of Whites or Asians being jobless, but slightly increases joblessness for African-Americans and decreases it for Hispanics. We also consider whether the association of immigrant share in 1980 with joblessness varies across occupations. As the results in Table 3 indicate, the association of joblessness with immigrant share is lower for technical/sales, service, and fabricator/operative occupations. Why these associations vary across occupation in this manner, I can offer no substantive explanation. It may well be the differential association of some of the other variables that resulted in these outcomes.

Is employment in niches associated with the odds of being jobless? Being employed in employment sectors in which other groups have a niche is not associated with the likelihood of being jobless, but being employed in a niche linked to one's own group, is associated with high odds of joblessness. The odds of Whites, Hispanics and Asians being jobless is 1.24. The odds of joblessness among African-Americans is only slightly associated with employment in a niche. One can also note that the proportion of co-ethnic owners, managers, and supervisors in 1980 in an

industry level employment sector and 1980-90 changes in this proportion are not associated with the odds of being jobless. Individuals who speak English poorly but work in a niche are substantially less likely to be jobless. It is probable that this coefficient is capturing the benefit to immigrants associated with employment in ethnic niches, particularly those that are part of economic economies. These benefits may be crucial for immigrants who may experience difficulty in securing jobs in employment sectors in which there are few co-ethnic group members present.

The share of women in the labor force of an employment sector is associated with an increase in the odds of being jobless while 1980-90 changes in the share of women is associated with a decrease in the odds. In both instances, however, the coefficients, though statistically significant (at $P < .05$) are rather small. The same can be said for the index of concentration: it is positively associated with the odds of being jobless, but the co-efficient is small.

Table 4 reports the association of occupational attainment (log of SEI) with selected characteristics of individual respondents and employment sector. As with joblessness, a complete set of estimates derived from estimating equation (2) are reported in Appendix Table 4. Net of other relevant factors, African-American, Hispanic, and Asian men have higher net occupational attainment than White men. The coefficient for Hispanics is almost three times the size of the coefficient for the other two groups of men. The occupational attainment of women is appreciably lower than that of men. White women appear to have the lowest and African-American women the highest occupational attainment.

Table 4 about here

Foreign-born workers have significantly lower occupational attainment regardless of the age at which they migrated than native born workers, but among the foreign-born, length of residence in the U.S. is associated with higher occupational attainment. The latter association offsets the effect of being an immigrant, the greater the number of years someone of foreign birth has been in the U.S.

Share of immigrants in the workforce of an employment sector in 1980 is substantially associated with occupational attainment. Ethnic group members working in employment sectors with high immigrant share have lower occupational attainment. This is particularly true of Hispanic workers, followed by African-Americans, Asians, and Whites. Change in immigrant share between 1980 and 1990, is also associated with lower occupational attainment of African-Americans and Hispanics, but slightly higher occupational attainment of Whites and Asians.

Working in an employment sector in which other ethnic groups have established a niche in 1980 is positively associated with the occupational attainment of African-Americans, and to a lesser extent Whites and Asians. The occupational attainment of Hispanics is negatively associated with working in an employment sector in which other groups have established a niche. Working in an employment sector in which one's own group has established a niche in 1980 substantially lowers the occupational attainment of African-Americans and Hispanics, raises that of Asians, and has no effect on that of Whites. One can also note that workers who speak English poorly and work in a niche have slightly lower occupational attainment.

Hispanics who work in employment sectors in which co-ethnic owners, managers, and supervisors are present have lower occupational attainment, which is also true of Whites but to a lesser extent. But changes in the proportion of co-ethnic owners and managers between 1980 and

1990 slightly raises the attainment of all workers. The share of women in an employment sector in 1980 is associated with lower occupational attainment, while 1980-90 changes in share of women in the workplace slightly increases occupational attainment. Finally, the extent of relative concentration (index of concentration) of co-ethnic workers in an employment sector is associated with a slightly higher occupational attainment.

Table 5 reports the association of hourly wages (Log) in 1989 with selected characteristics of respondents and of employment sectors (see Appendix Table 5). As one would expect, the hourly wages of African-American, Hispanic and Asian men are lower than those of White men. Surprisingly, the net wages of Hispanic men are higher than those of the other two groups of men. The hourly wages of women are appreciably lower than that of men regardless of ethnic group affiliation.

Table 5 about here

The association of immigrant status with hourly wages exhibits the same pattern observed for occupational attainment; namely, immigrants have lower net wages than native workers, but the wages of immigrants increases with length of stay in the U.S. Hourly wages are positively associated with occupational attainment, with a 0.5 percent increase in wages associated with a one-unit increase in occupational attainment.

Immigrant share of the workforce of an employment sector is associated with slightly lower wages, and changes in immigrant share is associated with even lower wages. There are no ethnic group differences in either of these associations. Being employed in a sector in which other

groups have established a niche has no relation to hourly wages, but being employed in one's own ethnic niche is associated with lower wages for Whites, African-Americans and Asians. Speaking English poorly and working in a niche is associated with reduced wages.

The greater the proportion of co-ethnic owners, managers, and supervisors in an industry sector, the lower the wages of Hispanics, Asians and Whites (in that order). This variable is not associated with the hourly wages of African-Americans. Similarly, increases in the proportion of co-ethnic owners and managers is associated with lower wages. These results, along with those for occupational attainment, raise the possibility that these associations may in large part be reflective of employment conditions in ethnics economies. In this regard, it is interesting to note that with respect to both wages and occupational attainment, the coefficients for African-Americans are not statistically significant, the group least likely to be employed in an ethnic economy. Finally, we can note that a high proportion of women in the workforce of an employment sector in 1980 and changes in that proportion are associated with significantly reduced hourly wages.

Reported results do not provide an unambiguous picture of the role of ethnic niches in promoting economic opportunities, and whether the presumed benefits to niche employment differ by ethnic groups. In order to shed some additional light on this subject, I estimated predicted values for joblessness, occupational attainment and hourly earnings and organized these estimates by ethnicity, gender, nativity, and niche employment. These results are reported in Tables 6 through 8.

Table 6 reports the predicted probability of joblessness by ethnicity, gender, nativity, and whether a respondent worked in a niche in which her/his or another ethnic group had established a

niche. African-American men have the highest probability of joblessness relative to Asian, Hispanic, and White men. In addition, non-immigrant African-American men have higher levels of joblessness than immigrant men, while non-immigrant Hispanic men working in a niche have a higher probability of joblessness than other non-immigrant men. There is essentially no difference between nativity groups for Asian and White men. For Asian, Hispanic, and White men the probability of joblessness is higher for those working in co-ethnic niches. Among women, there do not appear to be any appreciable differences in the probability of joblessness by nativity. However, Hispanic women have the highest level of joblessness, followed closely by African-Americans. Employment in a co-ethnic niche does not appear to matter for African-American and Asian women. For Hispanic and White women, joblessness in a niche is substantially higher.

Table 6 about here

Table 7 reports predicted occupational attainment values by gender, ethnicity, and nativity. In almost every instance, non-immigrants have higher occupational attainment values than immigrants, and working in a co-ethnic based niche is associated with substantially lower occupational attainment. These differences apply to both men and women. The uniformity of this pattern of results suggests that workers may pay a penalty for working in niches. The source of this disadvantage may be restricted opportunities for career mobility. It may also be that a substantial portion of employment in niches is the result of workers of different groups being channeled into different occupations with few other options available under conditions of labor surplus.

Table 7 about here

The gaps between men and women are not large and in some instances favor women over men. African-American and Hispanic women appear to have higher occupational attainment than men, even among non-immigrants, particularly in niches. This is an unexpected finding, because conventional wisdom indicates a substantial gap in occupational standing favoring men.

Individuals who work in employment sectors in which another group has established a niche have the highest occupational status. Why this should be the case, I can only speculate. It may well be that a substantial number of the firms operating in this sector and the non-niche sector follow more bureaucratic procedures for hiring workers, or workers are better able to secure employment without heavy reliance on co-ethnic networks.

Table 8 reports predicted wages by gender, ethnicity, and nativity. In most instances, non-immigrants have higher wages than immigrants. This is not the case for African-American men employed outside of co-ethnic niches. The wages of non-niche workers are higher than those of niche workers, especially Asian and Hispanic men, and Hispanic women. Women uniformly have lower wages than men, although the differences are smaller between African-American men and women.

Table 8 about here

Summary

The results reported in the previous section suggest the following tentative conclusions. Employment in industry and occupationally based niches composed of co-ethnics represents a substantial share of the workforce of urban minority workers; including African-Americans at 37 percent, Hispanic at 36 percent, Asian at 27 percent, and Whites at 9 percent. A majority of African-Americans who work in co-ethnic niches are concentrated in industries and occupations in which no other group has a niche. The larger size of this population and their longer tenure in major metropolitan areas, may mean that, until recently, they were the major workforce for many of the low skilled jobs in the service and manufacturing sectors. Although recent immigrant groups may be moving into some of these jobs, as in, for example, the hospitality industry, these groups are also concentrating in entirely different sectors as well. In addition, given the substantial intermetropolitan variation in industry and ethnic composition, additional insight can be gained by performing similar analysis for individual metropolitan areas with sufficient sample sizes on the PUMS files.

I find little support for the hypothesis that employment in a niche offers advantages with respect to decreasing the risk of being jobless, and having access to high status jobs that pay wages above what one would expect in the general local labor market. In fact, high joblessness, low occupational status and wages are associated with employment in niches. In general, immigrants fare worse than non-immigrants. However, we should take note of the fact that, for those who speak English poorly, working in a niche does lower the odds of being jobless, even though the occupation and wages of the individuals remain low. For these individuals employment in a niche could be a distinct advantage.

With respect to joblessness, African-Americans stand out as having the highest level among men, particularly non-immigrants. Indeed, for non-immigrants, their level of joblessness is almost identical to that of African-American women. It is clear that high joblessness among African-American men and women has little to do with employment in a co-ethnic niche. This is not the case for Asian and Hispanic men and non-immigrant women. Given the overall pattern exhibited in Table 6, it seems unlikely that niche formations among the other ethnic groups could have contributed to the high joblessness among African-Americans. However, a clearer picture might emerge if we were to focus on industry and occupation-specific categories to determine whether the influx of workers from other groups is associated with the outflow of African-Americans.

The analysis also addressed the question of whether the immigrant share of the workforce in an employment sector is associated with labor market outcomes. The results reported here clearly suggest that a high immigrant share in 1980 is associated with the odds of being jobless for African-Americans and Hispanics, and lower occupational status and wages for all groups. Changes in immigrant shares between 1980 and 1990 are associated with greater joblessness for African-Americans and lower joblessness for Hispanics, and with lower occupational attainment for Blacks and Hispanics, and lower hourly wages for members of all groups.

These results are consistent with those reported by Wilson and Jaynes (1998), who use similar measures, but inconsistent with results reported by others. It is not clear whether these differences are substantive in character or simply the consequence of the use of different measures. Most previous research assesses the association of immigration flows with labor market outcome of native workers, and use educational attainment of workers as an important

stratifying variable. In this paper, I assess the association of accumulated immigrant stock (immigrant share) with labor market outcome of local workers in specific industry and occupational groupings. Immigration flow measures, even when observed at the local level, are global in the sense that no effort is made to identify and take account of the specific sectors in which immigrants are seeking employment. A global measure cannot evaluate whether displacement of one group by another is occurring since it is not sector specific. It is possible to make such an evaluation with the approach used in this paper. Industries and occupations define the activity of the individual in the labor market; it is possible to assess more precisely whether and to what extent immigrants are seeking employment in sectors in which members of other groups are concentrated.

Although reported results establish an association between immigrant shares within an industry and occupationally specific employment sector with labor market outcomes, these relations should not be interpreted as causal in nature. The industry and occupational categories are somewhat broad, such that the composition of an employment sector may have confounded the true relations (see Scott, 1996). Similarly, the use of broad pan-ethnic categories may also be a source of confounding, since the individual ethnic groups subsumed under each category are not identical with respect to their relative position in the labor market. We know little about the links between immigrant flows and the development and expansion of ethnic niches except for a few case studies (see Waldinger, 1994 and 1996a).

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Table 1: Percentage Employed in Industry Specific Occupational Niches, 1980 and 1990.

Ethnic Group and Time Period	Non-Niche Employment	Employed in a Niche				Total
		Other Group's Niche	Own Group			
			Total	Only	Multi-Group	
African-American						
1980	28.8	30.5	40.6	25.1	15.6	12.2
1990	24.5	38.4	37.2	20.1	17.1	12.2
Asian						
1980	27.3	48.7	24.1	02.1	22.0	02.8
1990	20.6	52.8	26.7	02.0	24.7	4.9
Hispanic						
1980	27.0	41.2	31.8	08.4	23.4	08.8
1990	19.1	44.8	36.1	06.8	29.3	12.4
White						
1980	40.7	51.4	08.0	03.3	04.7	76.2
1990	33.3	57.8	09.0	02.9	06.1	70.5
Totals						
1980	37.7	47.9	14.5	06.4	08.1	43,720 ¹
1990	29.8	53.6	16.6	05.4	11.2	51,150 ¹

Source: 1980 and 1990 PUMS

1. These are population counts reported in thousands.

Table 2: Number and Distribution of Ethnic Populations in Niches by Major Occupations, 1980 and 1990.

ETHNIC	TOTAL	MANPROF	TECHSALE	ADMIN	SERVICES	SKILBLUE	SSKLBLUE	UNSKLABR	
				Niches					
White									
1980	890	48.2022	16.2921	11.7978	2.9213	12.9213	4.7191	3.1461	
1990	994	52.1127	17.9074	9.6579	2.2133	11.0664	4.6278	2.4145	
Black									
1980	656	1.5244	3.2012	14.3293	30.6402	3.3537	26.9817	19.9695	
1990	614	3.0945	7.8176	17.9153	31.1075	3.4202	21.8241	14.8208	
Hispanic									
1980	586	0.5119	1.0239	4.0956	16.3823	13.9932	44.3686	19.6246	
1990	842	1.0689	2.2565	5.4632	23.6342	14.1330	35.0356	18.4086	
Asian									
1980	202	36.6337	13.8614	14.3564	16.8317	4.9505	11.8812	1.4851	
1990	427	33.9578	21.0773	11.7096	16.1593	6.3232	9.8361	0.9368	
				Population					
White									
1980	2,649,320	54.5000	16.6428	7.9628	3.6825	11.2104	3.6764	2.3251	
1990	3,470,312	62.3713	15.1885	6.2548	3.4210	8.7604	2.6405	1.3635	
Black									
1980	2,174,320	2.6068	3.5119	23.3848	35.1650	1.3319	21.5681	12.4315	
1990	2,497,904	4.7523	6.3908	27.3365	37.4039	1.2108	15.3653	7.5404	
Hispanic									
1980	1,226,620	0.1272	0.4141	2.8534	15.4147	12.8369	52.5591	15.7946	
1990	2,462,726	0.3283	2.0062	3.1460	30.6718	13.2803	34.1945	16.3729	
Asian									
1980	291,180	33.2784	9.9869	14.6507	22.2062	3.1596	15.7360	0.9822	
1990	724,081	31.9863	18.5664	13.2956	20.2890	4.7568	10.6321	0.4737	

Source: 1980 and 1990 PUMS, 5% sample. Sample include respondents 16 years of age and over who worked at least one week since 1978 or 1988.

Table 3: Factors associated with the odds of being jobless, 1989.

	Total Sample	White	African- American	Hispanic	Asian
<u>Occupation</u>					
Men					
Professional, Managers	-----	-----	----	----	----
Technical, Sales		1.077	1.943	1.274	1.077
Administration		1.403	2.001	1.403	1.403
Services		1.480	2.346	1.480	1.480
Craft, Precision Manufact.		1.378	2.250	1.378	1.378
Fabricators, Operatives		1.749	2.516	1.749	1.749
Laborers, Pvt. Household		2.514	4.071	2.114	1.915
Women					
Professional, Managers		----	----	----	----
Technical, Sales		2.508	2.577	3.340	2.084
Administration		1.806	1.771	2.008	1.501
Services		2.673	2.388	2.973	2.221
Craft, Precision Manufact.		2.490	2.290	2.769	2.069
Fabricators, Operatives		3.160	2.559	3.514	2.626
Laborers, Pvt. Household		3.570	3.256	3.339	2.260
<u>Immigration Status</u>					
Non-Immigrant	----				
Immigrated<Age 11	1.179***				
Immigrated>Age 10	0.972				
Duration of Residence	0.993***				

Table 3 continued

	Total Sample	White	African- American	Hispanic	Asian
<u>Characteristics of Employment Sector</u>					
Speak English Poorly and Work in a Niche	0.764***				
Immigrant Share, 1980		1.641***	1.641***	1.641***	1.641***
Change in Immigrant Share, 1980-90		0.000	1.003**	0.995*	0.000
Work in Other Group Niche, 1980		0.000	0.000	0.000	0.000
Work in Own Niche, 1980		1.236***	1.019***	1.236***	1.236***
Co-ethnic Owners & Managers, 1980		0.000	0.000	0.000	0.000
Change in Co-ethnic Owners and Managers 1980-90	0.000				
Share of women, 1980	1.024*				
Change in Share of Women 1980-90	0.999*				
Index of Concentration, 1980	0.000				
Change in Index of Concentration, 1980-90	0.999**				

Source: Appendix Table 3A.

*P<.05; **P<.01; ***P<.001

Table 4: Maximum-Likelihood Estimates of Factors Associated with Occupational Attainment, 1990.

	Total	White	African-American	Hispanic	Asian
<u>Gender & Ethnicity</u>					
Men		---	0.033***	0.095**	0.033***
Women		-.042***	-.001***	-.033***	-.023***
<u>Immigration Status</u>					
Non-Immigrant	---				
Immigrated<Age 11	-.014***				
Immigrated>Age 10	-.025***				
Duration of Residence	0.011***				
<u>Characteristics of Employment Sector</u>					
Speak English Poorly and Work in a Niche	-.021*				
Immigrant Share, 1980		-.041***	-.102***	-.161***	-.104***
Change in Immigrant Share, 1980-90		.0005***	-.0001*	-.004***	.0005***
Work in Other Group Niche, 1980		0.042***	0.145***	-.004***	0.042***
Work in Own Niche, 1980		-.002	-.184***	-.195***	0.0268** *
Co-Ethnic Owners and Managers, 1980		-.015***	-.037	-.057***	-.020
Change in Co-Ethnic owners and Managers, 1980-90	-.0005***				
Share of Women, 1980	-.085***				
Change in Share of Women, 1980-90	0.0004** *				
Index of Concentration, 1980	0.0003** *				
Change in Index of Concentration, 1980-90	0.000				

Source: Appendix Table A4

*p<.05; **p<.01; ***p<.001

Table 5: Maximum-Likelihood Estimates of Factors Associated with Hourly Wages, 1989.

	Total	White	African-American	Hispanic	Asian
<u>Gender & Ethnicity</u>					
Men		---	-.045***	-.016**	-.045**
Women		-.094***	-.075***	-.082***	-.082***
<u>Immigration Status</u>					
Non-Immigrant	---				
Immigrated<Age 11	-.043***				
Immigrated>Age 10	-.043***				
Duration of Residence	0.002***				
<u>Occupational Attainment (SEI)</u>	0.005***				
<u>Characteristics of Employment Sector</u>					
Speak English Poorly and Work in a Niche	-.012*				
Immigrant Share, 1980		-.013*	-.013*	-.013*	-.013*
Change in Immigrant Share, 1980-90		-.001***	-.001***	-.001***	-.001***
Work in Other Group Niche, 1980		0.000	0.000	0.000	0.000
Work in Own Niche, 1980		0.012***	-.010***	0.012***	-.013***
Co-Ethnic Owners and Managers, 1980		-.022***	-.017	-.085***	-.043***
Change in Co-Ethnic owners and Managers, 1980-90	-.001***				
Share of Women, 1980	-.016***				
Change in Share of Women, 1980-90	-.00001***				
Index of Concentration, 1980	0.0001				
Change in Index of Concentration, 1980-90	-.00001**				

Source: Appendix Table A5

*p<.05; **p<.01; ***p<.001

Table 6: Mean Predicted Probability of Joblessness by Nativity, Niche Employment, Gender and Ethnicity, 1990.

Gender and Ethnicity	Non-Immigrant ²			Immigrant ²		
	Non-Niche Occupation	Niche Occupation		Non-Niche Occupation	Niche Occupation	
		Other Group	Own Group ³		Other Group	Own Group ³
Men						
African-American	.146	.142	.138	.120	.127	.122
Asian	.064	.058	.079	.061	.057	.081
Hispanic	.088	.086	.129	.100	.101	.118
White	.070	.061	.119	.065	.063	.121
Women						
African-American	.148	.138	.137	.138	.125	.140
Asian	.104	.090	.099	.105	.098	.092
Hispanic	.152	.142	.261	.170	.171	.234
White	.117	.108	.140	.117	.119	.136

¹Predicted mean probability derived from coefficients estimated from equation (1) and reported in Appendix Table A3.

²Immigrant refer to individuals who migrated to this country after age 10.

³The “Own Group” niche category include occupations in which members of other ethnic groups may have also established a niche.

Table 7: Mean Predicated Occupation Attainment Scores by Nativity, Niche Employment, Gender and Ethnicity, 1990.

Gender and Ethnicity	Non-Immigrant ²			Immigrant ²		
	<u>Niche Occupation</u>			<u>Niche Occupation</u>		
	Non-Niche Occupation	Other Group	Own Group ³	Non-Niche Occupation	Other Group	Own Group ³
Men						
African-American	31.415	36.408	27.185	30.908	35.743	26.379
Asian	38.799	42.730	34.807	36.837	40.079	29.911
Hispanic	32.183	32.679	21.810	26.863	25.821	19.010
White	36.909	42.045	31.826	35.443	38.547	28.138
Women						
African-American	33.971	40.245	28.794	32.028	38.561	26.410
Asian	37.015	40.327	36.327	33.867	35.919	34.441
Hispanic	32.203	33.324	18.684	28.486	25.419	15.831
White	36.203	40.109	35.820	34.076	35.712	33.177

¹Predicted mean derived from coefficients estimated from equation (1) and reported in Appendix Table A.

²Immigrant refers to individuals who migrated to this country after age 10.

³The “Own Group” niche category includes occupations in which members of other ethnic groups may have also established a niche.

Table 8: Mean Predicted Hourly Wages by Nativity, Niche Employment, Gender and Ethnicity, 1990.

Gender and Ethnicity	Non-Immigrant ²			Immigrant ²		
	Non-Niche Occupation	<u>Niche Occupation</u>		Non-Niche Occupation	<u>Niche Occupation</u>	
		Other Group	Own Group ³		Other Group	Own Group ³
Men						
African-American	10.153	11.909	10.374	10.422	12.312	09.683
Asian	13.029	14.970	10.861	12.255	13.754	09.344
Hispanic	10.344	11.113	08.580	08.799	08.674	07.452
White	13.738	16.983	14.834	14.014	15.983	13.955
Women						
African-American	09.172	10.910	08.792	08.903	11.104	07.929
Asian	10.505	11.694	10.294	09.671	10.366	10.521
Hispanic	08.026	08.843	06.572	07.352	06.935	05.736
White	09.436	11.060	10.402	09.615	10.447	09.771

¹Predicted mean weekly wages derived from coefficients estimated from equation (2) and reported in Appendix Table A4.

²Immigrant refers to individuals who migrated to this country after age 10.

³The “Own Group” niche category includes occupations in which members of other ethnic groups may have also established a niche.

Appendix Table A1: CMS/MSA's Included in Analysis

<u>CMSA/MSA</u>	<u>PMSA</u>	<u>Name</u>
7		Boston, MA CMSA
	1120	Boston, MA PMSA
	1200	Brockton, MA PMSA
	4160	Lawrence-Haverhill, MA-NH PMSA
	4560	Lowell, MA-NH PMSA
	7090	Salem-Gloucester, MA PMSA
14		Chicago, IL CMSA
	620	Aurora-Elgin, IL PMSA
	1600	Chicago, IL PMSA
	2960	Gary-Hammond, IN PMSA
	3690	Joliet, IL PMSA
	3800	Kenosha, WI PMSA
	3965	Lake County, IL PMSA
21		Cincinnati-Hamilton, OH-IN CMSA
	1640	Cincinnati, OH-IN PMSA
	3200	Hamilton-Middletown, OH PMSA
28		Cleveland, OH CMSA
	80	Akron, OH PMSA
	1680	Cleveland, OH PMSA
	4440	Lorain-Elyria, OH PMSA
31		Dallas-Ft. Worth, TX CMSA
	1920	Dallas, TX PMSA
	2800	Ft. Worth, TX PMSA
34		Denver-Boulder, CO CMSA
	1125	Boulder-Longmont, CO PMSA
	2080	Denver, CO PMSA
35		Detroit, MI CMSA
	440	Ann Arbor, MI PMSA
	2160	Detroit, MI PMSA
2840		Fresno, CA MSA/Salinas-Seaside-Monterey, CA MSA (7120)

Appendix Table A1: Continued

<u>CMSA/MSA</u>	<u>PMSA</u>	<u>Name</u>
42		Houston-Galveston-Brazoria, TX CMSA
	1145	Brazoria, TX PMSA
	2920	Galveston-Texas City, TX PMSA
	3360	Houston, TX PMSA
49		Los Angeles-Anaheim-Riverside, CA CMSA
	360	Anaheim-Santa Ana, CA PMSA
	4480	Los Angeles-Long Beach, CA PMSA
	6000	Oxnard-Ventura, CA PMSA
	6780	Riverside-San Bernardino, CA PMSA
56		Miami-Fort Lauderdale, FL CMSA
	2680	Fort Lauderdale-Hollywood-Pompano Beach, FL PMSA
	5000	Miami-Hialeah, FL PMSA
5120		Minneapolis-St. Paul, MN-WI MSA
70		New York-New Jersey-Long Island, NY NJ CMSA
	875	Bergen-Passaic, NJ PMSA
	3640	Jersey City, NJ PMSA
	5015	Middlesex-Somerset-Hunterdon, NJ PMSA
	5190	Monmouth-Ocean, NJ PMSA
	5380	Nassau-Suffolk County, NY PMSA
	5600	New York, NY PMSA
	5640	Newark, NJ PMSA
	5950	Orange County, NY PMSA
	5720	Norfolk-Virginia Beach-Newport News, VA PMSA
77		Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD CMSA
	6160	Philadelphia, PA PMSA
	8480	Trenton, NJ PMSA
	8760	Vineland-Millville-Bridgeton, NJ PMSA
	9160	Wilmington, DE PMSA
6200		Phoenix, AZ MSA

Appendix Table A1: Continued

<u>CMSA/MSA</u>	<u>PMSA</u>	<u>Name</u>
79		Portland-Vancouver, OR-WA CMSA
	6440	Portland, OR PMSA
	8725	Vancouver, WA PMSA
6920		Sacramento, CA MSA/Stockton, CA MSA (8120)
7320		San Diego, CA MSA
84		San Francisco-Oakland-San Jose, CA CMSA
	5775	Oakland, CA PMSA
	7360	San Francisco, CA PMSA
	7400	San Jose, CA PMSA
	7485	Santa Cruz, CA PMSA
	7500	Santa Rosa-Petaluma, CA PMSA
	8720	Vallejo-Fairfield-Napa, CA PMSA
91		Seattle-Tacoma, WA CMSA
	7600	Seattle, WA PMSA
	8200	Tacoma, WA PMSA
8280		Tampa-St. Petersburg-Clearwater, FL MSA
8840		Washington, DC MSA

Appendix Table A2: Definition of variables

Characteristics of Respondents

AGE is reported in years, 19 to 64.

AGE² is age squared.

DISABLE is one if respondent has a work related disability and zero otherwise.

OTINCOME is total household income in 1989 minus that of respondent.

MARRIED is one if respondent is married and zero otherwise.

EMARRIED is one if respondent has been previously married and zero otherwise.

SPEAK is a scale measuring English speaking ability. A value of one indicate respondent speaks no English and a value of five indicates respondent speaks only English at home.

SEX is one if respondent is a woman and zero otherwise.

COMGRADE is a scale for years of schooling completed. It has a value of one for respondents who completed less than 9 years of schooling and a value of 7 for respondents who completed graduate or professional school.

GRASPK is English speaking ability of college graduates.

ETHNIC5 is ethnic identification:

African-American (2)

Hispanic (3)

Asian (4)

White (6)

CMSA is metropolitan area of residence (see Appendix Table A1).

IMIGR1 is length of residence in the U.S. for immigrants.

IMIGANT1 is one if respondent immigrated to the U.S. before age 11.

IMIGANT2 is one if respondent immigrant to the U.S. after age 10.

OCCUP is major occupation of employment.

Professional/Managers (8)

Technical/Sales (2)

Administration (3)

Services (except private household) (4)

Craft/Precision Manufacturing (5)

Fabricators/Operatives (6)

Laborers/Private Household (7)

INDUSTRY is major industry of employment.

Construction (4)

Food and Kindred Products (5)

Other Durable Goods (6)

Textile Mill Products; Apparel and Other Finished Textile (8)

Paper and Allied Products; Printing, Publishing and Allied Products (10)

Chemical and Allied Products; Petroleum and Coal (11)

Lumber, Wood and Furniture (13)

Appendix Table A2: Continued

Other Durable Goods (14)
Primary Metals; Fabricated Metals (15)
Machinery, Except Electrical (17)
Electrical Machinery and Equipment (18)
Motor Vehicle and Equipment (19)
Other Transportation Equipment (20)
Miscel. Manufacturing; not Specified manufacturing (22)
Railroads; Trucks, Warehouse, Storage; other Transportation (25)
Utilities, Sanitary Services (27)
Wholesale (28)
Grocery, Dairy, Retail Bakeries (30)
Motor Vehicle, Dealers and Gas Stations (31)
Eating and Drinking (32)
General Merchandise; Other Retail (33)
Finance, Insurance, Real Estate; Banks and Credit Unions (35)
Business Services; Legal, Engineering and Other Profession Services (36)
Repair Services (37)
Private Household (38)
Other Personal Services (39)
Entertainment and recreation (40)
Hospitals (41)
Health Services, Excluding Hospitals (42)
Elementary and Secondary Schools; College and University; Other Education Services (45)
Social Services, Religious, Membership (46)
Public Administration (48)

Characteristics of Employment Sectors

NATIVE8 is the proportion of the workforce in an industry/occupation (employment) Sector that is foreign born in 1980.

CNATIVE is the ratio of the proportion of workforce in an employment sector that is foreign-born in 1990 to the same proportion in 1980.

SEX80 is share of workforce of an employment sector that are women in 1990.

CSEX is ratio of share of workforce of an employment sector that are women in 1990 to the same share in 1980.

ODDS80 measures workforce concentration for a given ethnic group. It is the share of a group's workforce employed in a given industry/occupation divided by the share of all other groups' workforce employed in the same employment sector.

CODDS is 1980-90 changes in the index of employment sector concentration for a given ethnic group.

Appendix Table A2: Continued

SUPER80X is proportion of a group's workforce employed in an industry who are owners, managers and supervisor.

CSUPER is 1980-90 change in the proportion of a group's workforce employed in an industry who are owners, managers and supervisors.

NICH85 is one if respondent is employed in an industry/occupation sector in which groups other than his own have established a niche and zero otherwise..

NICH86 is one if respondent is employed in an industry/occupation sector in his own group has established a niche and zero otherwise.

NICHSPK8 is one if respondent speaks English poorly and works in a co-ethnic niche.

The numbers in parentheses for ETHNIC5, OCCUP AND INDUSTRY correspond to numeric values reported in the Level 1 and Level 2 columns of Appendix Tables A3-A5.

Appendix Table A3. Logistic Regression estimates of Factors Associated with the Log Odds of Being Jobless, 1990.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
1	INTERCEPT			-2.6285	0.0550	0.0001
2	AGE			0.0047	0.0003	0.0001
3	MARRIED			-0.1338	0.0086	0.0001
4	DISABLE			1.3696	0.0104	0.0001
5	OTINCOME			0.0173	0.0006	0.0001
6	SPEAK			-0.0166	0.0070	0.0187
7	EMARRIED			-0.1528	0.0110	0.0001
8	SEX			0.5894	0.0377	0.0001
9	IMMIGR1			-0.0067	0.0009	0.0001
10	OCCUP	2		0.0669	0.0221	0.0025
11	OCCUP	3		0.3327	0.0246	0.0001
12	OCCUP	4		0.4036	0.0249	0.0001
13	OCCUP	5		0.3182	0.0227	0.0001
14	OCCUP	6		0.5427	0.0234	0.0001
15	OCCUP	7		0.9082	0.0285	0.0001
16	OCCUP	8		0.0000	0.0000	.
17	NATIVE8			0.4954	0.1102	0.0001
18	CMSA	7		-0.0256	0.0215	0.2331
19	CMSA	14		-0.2583	0.0183	0.0001
20	CMSA	28		-0.0702	0.0242	0.0037
21	CMSA	31		-0.1329	0.0217	0.0001
22	CMSA	34		-0.2043	0.0280	0.0001
23	CMSA	35		-0.0136	0.0204	0.5038
24	CMSA	42		-0.0317	0.0223	0.1550
25	CMSA	56		-0.1185	0.0268	0.0001
26	CMSA	70		-0.1121	0.0150	0.0001
27	CMSA	77		-0.2502	0.0198	0.0001
28	CMSA	79		-0.0921	0.0265	0.0005
29	CMSA	84		-0.1439	0.0193	0.0001
30	CMSA	91		-0.0802	0.0236	0.0007
31	CMSA	720		-0.3738	0.0277	0.0001
32	CMSA	2840		0.0316	0.0437	0.4693
33	CMSA	5120		-0.2728	0.0241	0.0001
34	CMSA	5720		-0.1050	0.0386	0.0065
35	CMSA	6200		-0.0661	0.0266	0.0129
36	CMSA	6920		-0.0433	0.0285	0.1290
37	CMSA	7320		0.0432	0.0260	0.0966
38	CMSA	8280		-0.0199	0.0261	0.4457
39	CMSA	8840		-0.3938	0.0241	0.0001
40	CMSA	9950		0.0000	0.0000	.
41	ETHNIC5	2		0.1827	0.0876	0.0370
42	ETHNIC5	3		-0.1393	0.1003	0.1648
43	ETHNIC5	4		-0.2110	0.1811	0.2439
44	ETHNIC5	6		0.0000	0.0000	.
45	INDUSTY	4		0.8419	0.0376	0.0001
46	INDUSTY	5		0.2820	0.0665	0.0001
47	INDUSTY	6		0.3616	0.0835	0.0001
48	INDUSTY	8		0.5452	0.0775	0.0001
49	INDUSTY	10		0.0894	0.0510	0.0793
50	INDUSTY	11		0.0049	0.0637	0.9388
51	INDUSTY	13		0.5507	0.0744	0.0001
52	INDUSTY	16		0.3124	0.0527	0.0001
53	INDUSTY	17		0.3782	0.0506	0.0001
54	INDUSTY	18		0.4488	0.0534	0.0001
55	INDUSTY	19		0.3369	0.0588	0.0001
56	INDUSTY	20		0.2370	0.0563	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
57	INDUSTY	22		0.6211	0.0621	0.0001
58	INDUSTY	25		0.2485	0.0403	0.0001
59	INDUSTY	26		0.6270	0.0544	0.0001
60	INDUSTY	27		0.0760	0.0618	0.2190
61	INDUSTY	28		0.1486	0.0418	0.0004
62	INDUSTY	30		0.2438	0.0504	0.0001
63	INDUSTY	31		0.4584	0.0472	0.0001
64	INDUSTY	32		0.7276	0.0441	0.0001
65	INDUSTY	33		0.4916	0.0403	0.0001
66	INDUSTY	35		0.2911	0.0406	0.0001
67	INDUSTY	36		0.5236	0.0368	0.0001
68	INDUSTY	37		0.3526	0.0575	0.0001
69	INDUSTY	38		0.6467	0.1580	0.0001
70	INDUSTY	39		0.4547	0.0530	0.0001
71	INDUSTY	40		0.9012	0.0521	0.0001
72	INDUSTY	41		-0.0129	0.0586	0.8252
73	INDUSTY	42		0.1805	0.0610	0.0031
74	INDUSTY	45		0.3649	0.0435	0.0001
75	INDUSTY	46		0.1262	0.0617	0.0406
76	INDUSTY	48		0.0000	0.0000	.
77	SEX*ETHNIC5	2		-0.3931	0.0234	0.0001
78	SEX*ETHNIC5	3		0.1078	0.0272	0.0001
79	SEX*ETHNIC5	4		-0.1862	0.0471	0.0001
80	SEX*ETHNIC5	6		0.0000	0.0000	.
81	SEX*OCCUP	2		0.2676	0.0238	0.0001
82	SEX*OCCUP	3		-0.1388	0.0244	0.0001
83	SEX*OCCUP	4		0.0133	0.0246	0.5882
84	SEX*OCCUP	5		-0.0219	0.0339	0.5181
85	SEX*OCCUP	6		-0.0243	0.0278	0.3809
86	SEX*OCCUP	7		-0.2339	0.0371	0.0001
87	SEX*OCCUP	8		0.0000	0.0000	.
88	SEX*INDUSTY	4		-0.0607	0.0489	0.2151
89	SEX*INDUSTY	5		0.3904	0.0709	0.0001
90	SEX*INDUSTY	6		0.0892	0.0924	0.3343
91	SEX*INDUSTY	8		-0.0749	0.0717	0.2961
92	SEX*INDUSTY	10		0.2628	0.0565	0.0001
93	SEX*INDUSTY	11		-0.0013	0.0748	0.9865
94	SEX*INDUSTY	13		0.1131	0.0934	0.2257
95	SEX*INDUSTY	16		0.1078	0.0680	0.1126
96	SEX*INDUSTY	17		-0.0030	0.0613	0.9607
97	SEX*INDUSTY	18		-0.0640	0.0608	0.2932
98	SEX*INDUSTY	19		-0.0035	0.0811	0.9655
99	SEX*INDUSTY	20		-0.2677	0.0741	0.0003
100	SEX*INDUSTY	22		0.1983	0.0632	0.0017
101	SEX*INDUSTY	25		-0.0505	0.0477	0.2893
102	SEX*INDUSTY	26		-0.1356	0.0620	0.0287
103	SEX*INDUSTY	27		-0.0301	0.0878	0.7317
104	SEX*INDUSTY	28		0.2249	0.0475	0.0001
105	SEX*INDUSTY	30		0.4150	0.0537	0.0001
106	SEX*INDUSTY	31		0.3266	0.0534	0.0001
107	SEX*INDUSTY	32		0.1475	0.0462	0.0014
108	SEX*INDUSTY	33		0.3317	0.0439	0.0001
109	SEX*INDUSTY	35		-0.0409	0.0440	0.3529
110	SEX*INDUSTY	36		0.1316	0.0408	0.0013
111	SEX*INDUSTY	37		0.3826	0.0797	0.0001
112	SEX*INDUSTY	38		-0.1821	0.1558	0.2423

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
113	SEX*INDUSTY	39		0.1535	0.0536	0.0042
114	SEX*INDUSTY	40		0.0624	0.0548	0.2554
115	SEX*INDUSTY	41		-0.0538	0.0579	0.3531
116	SEX*INDUSTY	42		0.1968	0.0621	0.0015
117	SEX*INDUSTY	45		0.0510	0.0470	0.2778
118	SEX*INDUSTY	46		0.3706	0.0634	0.0001
119	SEX*INDUSTY	48		0.0000	0.0000	.
120	ETHNIC5*INDUSTY	2	4	0.2510	0.0673	0.0002
121	ETHNIC5*INDUSTY	2	5	0.2467	0.1026	0.0161
122	ETHNIC5*INDUSTY	2	6	0.5326	0.1474	0.0003
123	ETHNIC5*INDUSTY	2	8	0.2028	0.1127	0.0719
124	ETHNIC5*INDUSTY	2	10	0.3180	0.0893	0.0004
125	ETHNIC5*INDUSTY	2	11	0.2123	0.1121	0.0582
126	ETHNIC5*INDUSTY	2	13	0.2783	0.1583	0.0787
127	ETHNIC5*INDUSTY	2	16	0.0175	0.0992	0.8597
128	ETHNIC5*INDUSTY	2	17	0.0408	0.1116	0.7147
129	ETHNIC5*INDUSTY	2	18	-0.0954	0.1086	0.3798
130	ETHNIC5*INDUSTY	2	19	-0.0464	0.0995	0.6408
131	ETHNIC5*INDUSTY	2	20	-0.1132	0.1208	0.3486
132	ETHNIC5*INDUSTY	2	22	0.1511	0.0979	0.1227
133	ETHNIC5*INDUSTY	2	25	0.0677	0.0625	0.2781
134	ETHNIC5*INDUSTY	2	26	-0.2754	0.0933	0.0032
135	ETHNIC5*INDUSTY	2	27	-0.4225	0.1284	0.0010
136	ETHNIC5*INDUSTY	2	28	0.3058	0.0736	0.0001
137	ETHNIC5*INDUSTY	2	30	0.4327	0.0802	0.0001
138	ETHNIC5*INDUSTY	2	31	0.3024	0.0869	0.0005
139	ETHNIC5*INDUSTY	2	32	0.5192	0.0678	0.0001
140	ETHNIC5*INDUSTY	2	33	0.2898	0.0642	0.0001
141	ETHNIC5*INDUSTY	2	35	0.0656	0.0639	0.3043
142	ETHNIC5*INDUSTY	2	36	0.4102	0.0587	0.0001
143	ETHNIC5*INDUSTY	2	37	0.4517	0.1025	0.0001
144	ETHNIC5*INDUSTY	2	38	-0.4303	0.1230	0.0005
145	ETHNIC5*INDUSTY	2	39	0.3312	0.0743	0.0001
146	ETHNIC5*INDUSTY	2	40	0.1723	0.0923	0.0620
147	ETHNIC5*INDUSTY	2	41	0.1169	0.0686	0.0885
148	ETHNIC5*INDUSTY	2	42	0.1999	0.0677	0.0032
149	ETHNIC5*INDUSTY	2	45	-0.0421	0.0655	0.5203
150	ETHNIC5*INDUSTY	2	46	0.0620	0.0717	0.3869
151	ETHNIC5*INDUSTY	2	48	0.0000	0.0000	.
152	ETHNIC5*INDUSTY	3	4	0.0887	0.0939	0.3448
153	ETHNIC5*INDUSTY	3	5	0.2857	0.1164	0.0141
154	ETHNIC5*INDUSTY	3	6	0.1226	0.1527	0.4222
155	ETHNIC5*INDUSTY	3	8	-0.0937	0.1139	0.4109
156	ETHNIC5*INDUSTY	3	10	0.0475	0.1156	0.6813
157	ETHNIC5*INDUSTY	3	11	0.1311	0.1402	0.3497
158	ETHNIC5*INDUSTY	3	13	-0.1528	0.1397	0.2739
159	ETHNIC5*INDUSTY	3	16	-0.2129	0.1221	0.0812
160	ETHNIC5*INDUSTY	3	17	-0.0365	0.1237	0.7678
161	ETHNIC5*INDUSTY	3	18	0.0290	0.1160	0.8026
162	ETHNIC5*INDUSTY	3	19	-0.0500	0.1634	0.7597
163	ETHNIC5*INDUSTY	3	20	0.1013	0.1449	0.4843
164	ETHNIC5*INDUSTY	3	22	0.1217	0.1103	0.2698
165	ETHNIC5*INDUSTY	3	25	0.0679	0.0988	0.4923
166	ETHNIC5*INDUSTY	3	26	-0.0556	0.1434	0.6985
167	ETHNIC5*INDUSTY	3	27	-0.0114	0.1705	0.9468
168	ETHNIC5*INDUSTY	3	28	0.1865	0.0971	0.0548

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
169	ETHNIC5*INDUSTY	3	30	-0.0247	0.1083	0.8196
170	ETHNIC5*INDUSTY	3	31	0.1272	0.1116	0.2543
171	ETHNIC5*INDUSTY	3	32	-0.1048	0.0942	0.2661
172	ETHNIC5*INDUSTY	3	33	-0.0248	0.0942	0.7923
173	ETHNIC5*INDUSTY	3	35	-0.0499	0.0965	0.6047
174	ETHNIC5*INDUSTY	3	36	0.0584	0.0907	0.5200
175	ETHNIC5*INDUSTY	3	37	0.0476	0.1231	0.6988
176	ETHNIC5*INDUSTY	3	38	-0.5283	0.1344	0.0001
177	ETHNIC5*INDUSTY	3	39	0.0647	0.0987	0.5123
178	ETHNIC5*INDUSTY	3	40	-0.2101	0.1246	0.0916
179	ETHNIC5*INDUSTY	3	41	-0.0051	0.1087	0.9624
180	ETHNIC5*INDUSTY	3	42	-0.0271	0.1073	0.8008
181	ETHNIC5*INDUSTY	3	45	-0.1174	0.1019	0.2495
182	ETHNIC5*INDUSTY	3	46	-0.0263	0.1098	0.8108
183	ETHNIC5*INDUSTY	3	48	0.0000	0.0000	.
184	ETHNIC5*INDUSTY	4	4	-0.0976	0.1934	0.6139
185	ETHNIC5*INDUSTY	4	5	0.0156	0.2601	0.9521
186	ETHNIC5*INDUSTY	4	6	0.3427	0.3256	0.2924
187	ETHNIC5*INDUSTY	4	8	-0.5062	0.2010	0.0118
188	ETHNIC5*INDUSTY	4	10	0.3271	0.2187	0.1348
189	ETHNIC5*INDUSTY	4	11	0.3740	0.2660	0.1597
190	ETHNIC5*INDUSTY	4	13	0.0681	0.3597	0.8499
191	ETHNIC5*INDUSTY	4	16	-0.0094	0.2854	0.9738
192	ETHNIC5*INDUSTY	4	17	-0.0889	0.2141	0.6781
193	ETHNIC5*INDUSTY	4	18	0.0352	0.1928	0.8550
194	ETHNIC5*INDUSTY	4	19	-0.2311	0.4081	0.5711
195	ETHNIC5*INDUSTY	4	20	0.0065	0.2440	0.9788
196	ETHNIC5*INDUSTY	4	22	-0.0460	0.2161	0.8314
197	ETHNIC5*INDUSTY	4	25	0.0392	0.1852	0.8325
198	ETHNIC5*INDUSTY	4	26	-0.2938	0.2928	0.3156
199	ETHNIC5*INDUSTY	4	27	-0.0932	0.3950	0.8134
200	ETHNIC5*INDUSTY	4	28	0.0964	0.1852	0.6029
201	ETHNIC5*INDUSTY	4	30	0.0920	0.1959	0.6385
202	ETHNIC5*INDUSTY	4	31	-0.2928	0.2250	0.1932
203	ETHNIC5*INDUSTY	4	32	-0.0482	0.1736	0.7813
204	ETHNIC5*INDUSTY	4	33	0.0304	0.1721	0.8597
205	ETHNIC5*INDUSTY	4	35	0.0748	0.1696	0.6590
206	ETHNIC5*INDUSTY	4	36	0.1965	0.1647	0.2329
207	ETHNIC5*INDUSTY	4	37	-0.9208	0.3648	0.0116
208	ETHNIC5*INDUSTY	4	38	-0.1105	0.3367	0.7427
209	ETHNIC5*INDUSTY	4	39	0.0604	0.1815	0.7394
210	ETHNIC5*INDUSTY	4	40	0.1904	0.2252	0.3978
211	ETHNIC5*INDUSTY	4	41	-0.1593	0.1878	0.3961
212	ETHNIC5*INDUSTY	4	42	0.1200	0.1905	0.5288
213	ETHNIC5*INDUSTY	4	45	0.4916	0.1772	0.0055
214	ETHNIC5*INDUSTY	4	46	0.1249	0.2127	0.5572
215	ETHNIC5*INDUSTY	4	48	0.0000	0.0000	.
216	ETHNIC5*INDUSTY	6	4	0.0000	0.0000	.
217	ETHNIC5*INDUSTY	6	5	0.0000	0.0000	.
218	ETHNIC5*INDUSTY	6	6	0.0000	0.0000	.
219	ETHNIC5*INDUSTY	6	8	0.0000	0.0000	.
220	ETHNIC5*INDUSTY	6	10	0.0000	0.0000	.
221	ETHNIC5*INDUSTY	6	11	0.0000	0.0000	.
222	ETHNIC5*INDUSTY	6	13	0.0000	0.0000	.
223	ETHNIC5*INDUSTY	6	16	0.0000	0.0000	.
224	ETHNIC5*INDUSTY	6	17	0.0000	0.0000	.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
225	ETHNIC5*INDUSTY	6	18	0.0000	0.0000	.
226	ETHNIC5*INDUSTY	6	19	0.0000	0.0000	.
227	ETHNIC5*INDUSTY	6	20	0.0000	0.0000	.
228	ETHNIC5*INDUSTY	6	22	0.0000	0.0000	.
229	ETHNIC5*INDUSTY	6	25	0.0000	0.0000	.
230	ETHNIC5*INDUSTY	6	26	0.0000	0.0000	.
231	ETHNIC5*INDUSTY	6	27	0.0000	0.0000	.
232	ETHNIC5*INDUSTY	6	28	0.0000	0.0000	.
233	ETHNIC5*INDUSTY	6	30	0.0000	0.0000	.
234	ETHNIC5*INDUSTY	6	31	0.0000	0.0000	.
235	ETHNIC5*INDUSTY	6	32	0.0000	0.0000	.
236	ETHNIC5*INDUSTY	6	33	0.0000	0.0000	.
237	ETHNIC5*INDUSTY	6	35	0.0000	0.0000	.
238	ETHNIC5*INDUSTY	6	36	0.0000	0.0000	.
239	ETHNIC5*INDUSTY	6	37	0.0000	0.0000	.
240	ETHNIC5*INDUSTY	6	38	0.0000	0.0000	.
241	ETHNIC5*INDUSTY	6	39	0.0000	0.0000	.
242	ETHNIC5*INDUSTY	6	40	0.0000	0.0000	.
243	ETHNIC5*INDUSTY	6	41	0.0000	0.0000	.
244	ETHNIC5*INDUSTY	6	42	0.0000	0.0000	.
245	ETHNIC5*INDUSTY	6	45	0.0000	0.0000	.
246	ETHNIC5*INDUSTY	6	46	0.0000	0.0000	.
247	ETHNIC5*INDUSTY	6	48	0.0000	0.0000	.
248	NATIVE8*INDUSTY	4		-0.5214	0.1166	0.0001
249	NATIVE8*INDUSTY	5		-0.4296	0.1465	0.0034
250	NATIVE8*INDUSTY	6		-0.7132	0.1794	0.0001
251	NATIVE8*INDUSTY	8		-0.0972	0.1427	0.4957
252	NATIVE8*INDUSTY	10		-0.2553	0.1349	0.0584
253	NATIVE8*INDUSTY	11		-0.3108	0.1660	0.0612
254	NATIVE8*INDUSTY	13		-0.3795	0.1579	0.0163
255	NATIVE8*INDUSTY	16		-0.4726	0.1441	0.0010
256	NATIVE8*INDUSTY	17		-0.4951	0.1373	0.0003
257	NATIVE8*INDUSTY	18		-0.5223	0.1406	0.0002
258	NATIVE8*INDUSTY	19		-0.2636	0.1792	0.1413
259	NATIVE8*INDUSTY	20		-0.1009	0.1575	0.5220
260	NATIVE8*INDUSTY	22		-0.4983	0.1368	0.0003
261	NATIVE8*INDUSTY	25		-0.3406	0.1288	0.0082
262	NATIVE8*INDUSTY	26		-0.8187	0.1646	0.0001
263	NATIVE8*INDUSTY	27		-0.3462	0.1888	0.0668
264	NATIVE8*INDUSTY	28		-0.4089	0.1213	0.0007
265	NATIVE8*INDUSTY	30		-0.3266	0.1273	0.0103
266	NATIVE8*INDUSTY	31		-0.4661	0.1305	0.0004
267	NATIVE8*INDUSTY	32		-0.4038	0.1184	0.0006
268	NATIVE8*INDUSTY	33		-0.4463	0.1181	0.0002
269	NATIVE8*INDUSTY	35		-0.3633	0.1143	0.0015
270	NATIVE8*INDUSTY	36		-0.4152	0.1143	0.0003
271	NATIVE8*INDUSTY	37		-0.4674	0.1388	0.0008
272	NATIVE8*INDUSTY	38		-0.2435	0.1778	0.1709
273	NATIVE8*INDUSTY	39		-0.6104	0.1256	0.0001
274	NATIVE8*INDUSTY	40		-0.0559	0.1313	0.6703
275	NATIVE8*INDUSTY	41		-0.3594	0.1366	0.0085
276	NATIVE8*INDUSTY	42		-0.5392	0.1229	0.0001
277	NATIVE8*INDUSTY	45		-0.4316	0.1175	0.0002
278	NATIVE8*INDUSTY	46		-0.2067	0.1379	0.1339
279	NATIVE8*INDUSTY	48		0.0000	0.0000	.
280	NATIVE8*ETHNIC5	2		0.0296	0.0576	0.6078

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
281	NATIVE8*ETHNIC5	3		-0.1187	0.0605	0.0500
282	NATIVE8*ETHNIC5	4		0.1447	0.1052	0.1690
283	NATIVE8*ETHNIC5	6		0.0000	0.0000	.
284	ETHNIC5*OCCUP	2	2	0.4088	0.0436	0.0001
285	ETHNIC5*OCCUP	2	3	0.1789	0.0398	0.0001
286	ETHNIC5*OCCUP	2	4	0.2749	0.0396	0.0001
287	ETHNIC5*OCCUP	2	5	0.3118	0.0508	0.0001
288	ETHNIC5*OCCUP	2	6	0.1882	0.0467	0.0001
289	ETHNIC5*OCCUP	2	7	0.3015	0.0533	0.0001
290	ETHNIC5*OCCUP	2	8	0.0000	0.0000	.
291	ETHNIC5*OCCUP	3	2	0.1707	0.0552	0.0020
292	ETHNIC5*OCCUP	3	3	0.0432	0.0501	0.3884
293	ETHNIC5*OCCUP	3	4	-0.0530	0.0499	0.2880
294	ETHNIC5*OCCUP	3	5	0.0816	0.0576	0.1565
295	ETHNIC5*OCCUP	3	6	-0.0423	0.0544	0.4367
296	ETHNIC5*OCCUP	3	7	-0.1688	0.0612	0.0058
297	ETHNIC5*OCCUP	3	8	0.0000	0.0000	.
298	ETHNIC5*OCCUP	4	2	0.0356	0.0781	0.6481
299	ETHNIC5*OCCUP	4	3	0.0690	0.0763	0.3659
300	ETHNIC5*OCCUP	4	4	-0.1110	0.0813	0.1719
301	ETHNIC5*OCCUP	4	5	0.0758	0.0990	0.4439
302	ETHNIC5*OCCUP	4	6	-0.0348	0.0915	0.7038
303	ETHNIC5*OCCUP	4	7	-0.2712	0.1371	0.0478
304	ETHNIC5*OCCUP	4	8	0.0000	0.0000	.
305	ETHNIC5*OCCUP	6	2	0.0000	0.0000	.
306	ETHNIC5*OCCUP	6	3	0.0000	0.0000	.
307	ETHNIC5*OCCUP	6	4	0.0000	0.0000	.
308	ETHNIC5*OCCUP	6	5	0.0000	0.0000	.
309	ETHNIC5*OCCUP	6	6	0.0000	0.0000	.
310	ETHNIC5*OCCUP	6	7	0.0000	0.0000	.
311	ETHNIC5*OCCUP	6	8	0.0000	0.0000	.
312	CMSA*ETHNIC5	7	2	0.1460	0.0857	0.0883
313	CMSA*ETHNIC5	7	3	0.4402	0.1035	0.0001
314	CMSA*ETHNIC5	7	4	0.0003	0.1766	0.9988
315	CMSA*ETHNIC5	7	6	0.0000	0.0000	.
316	CMSA*ETHNIC5	14	2	0.2594	0.0520	0.0001
317	CMSA*ETHNIC5	14	3	0.1769	0.0545	0.0012
318	CMSA*ETHNIC5	14	4	0.2907	0.1059	0.0060
319	CMSA*ETHNIC5	14	6	0.0000	0.0000	.
320	CMSA*ETHNIC5	28	2	0.0998	0.0758	0.1879
321	CMSA*ETHNIC5	28	3	0.4166	0.1818	0.0219
322	CMSA*ETHNIC5	28	4	0.7905	0.2646	0.0028
323	CMSA*ETHNIC5	28	6	0.0000	0.0000	.
324	CMSA*ETHNIC5	31	2	-0.1093	0.0674	0.1052
325	CMSA*ETHNIC5	31	3	-0.1250	0.0695	0.0721
326	CMSA*ETHNIC5	31	4	-0.0213	0.1674	0.8987
327	CMSA*ETHNIC5	31	6	0.0000	0.0000	.
328	CMSA*ETHNIC5	34	2	0.1028	0.1175	0.3816
329	CMSA*ETHNIC5	34	3	0.2261	0.0884	0.0105
330	CMSA*ETHNIC5	34	4	0.1125	0.2275	0.6208
331	CMSA*ETHNIC5	34	6	0.0000	0.0000	.
332	CMSA*ETHNIC5	35	2	0.2162	0.0593	0.0003
333	CMSA*ETHNIC5	35	3	0.5997	0.1271	0.0001
334	CMSA*ETHNIC5	35	4	0.2136	0.2028	0.2921
335	CMSA*ETHNIC5	35	6	0.0000	0.0000	.
336	CMSA*ETHNIC5	42	2	-0.0963	0.0619	0.1199

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
337	CMSA*ETHNIC5	42	3	0.0604	0.0576	0.2943
338	CMSA*ETHNIC5	42	4	-0.0050	0.1461	0.9728
339	CMSA*ETHNIC5	42	6	0.0000	0.0000	.
340	CMSA*ETHNIC5	56	2	-0.2852	0.0703	0.0001
341	CMSA*ETHNIC5	56	3	0.1384	0.0559	0.0133
342	CMSA*ETHNIC5	56	4	0.3148	0.2102	0.1343
343	CMSA*ETHNIC5	56	6	0.0000	0.0000	.
344	CMSA*ETHNIC5	70	2	0.0085	0.0456	0.8523
345	CMSA*ETHNIC5	70	3	0.3234	0.0426	0.0001
346	CMSA*ETHNIC5	70	4	0.1680	0.0735	0.0222
347	CMSA*ETHNIC5	70	6	0.0000	0.0000	.
348	CMSA*ETHNIC5	77	2	0.1491	0.0573	0.0092
349	CMSA*ETHNIC5	77	3	0.5304	0.0942	0.0001
350	CMSA*ETHNIC5	77	4	0.3580	0.1452	0.0137
351	CMSA*ETHNIC5	77	6	0.0000	0.0000	.
352	CMSA*ETHNIC5	79	2	0.0396	0.1932	0.8376
353	CMSA*ETHNIC5	79	3	0.2399	0.1634	0.1420
354	CMSA*ETHNIC5	79	4	0.0113	0.2100	0.9573
355	CMSA*ETHNIC5	79	6	0.0000	0.0000	.
356	CMSA*ETHNIC5	84	2	0.1320	0.0658	0.0447
357	CMSA*ETHNIC5	84	3	0.1952	0.0544	0.0003
358	CMSA*ETHNIC5	84	4	0.1361	0.0771	0.0773
359	CMSA*ETHNIC5	84	6	0.0000	0.0000	.
360	CMSA*ETHNIC5	91	2	0.1184	0.1029	0.2497
361	CMSA*ETHNIC5	91	3	0.1138	0.1567	0.4675
362	CMSA*ETHNIC5	91	4	-0.0403	0.1290	0.7549
363	CMSA*ETHNIC5	91	6	0.0000	0.0000	.
364	CMSA*ETHNIC5	720	2	0.1437	0.0721	0.0464
365	CMSA*ETHNIC5	720	3	0.6610	0.2963	0.0257
366	CMSA*ETHNIC5	720	4	0.0719	0.2944	0.8070
367	CMSA*ETHNIC5	720	6	0.0000	0.0000	.
368	CMSA*ETHNIC5	2840	2	0.1695	0.2021	0.4015
369	CMSA*ETHNIC5	2840	3	0.4493	0.0984	0.0001
370	CMSA*ETHNIC5	2840	4	-0.0838	0.2373	0.7239
371	CMSA*ETHNIC5	2840	6	0.0000	0.0000	.
372	CMSA*ETHNIC5	5120	2	0.5880	0.1114	0.0001
373	CMSA*ETHNIC5	5120	3	0.4010	0.2111	0.0575
374	CMSA*ETHNIC5	5120	4	0.0745	0.2273	0.7431
375	CMSA*ETHNIC5	5120	6	0.0000	0.0000	.
376	CMSA*ETHNIC5	5720	2	-0.0513	0.0876	0.5584
377	CMSA*ETHNIC5	5720	3	0.9956	0.2238	0.0001
378	CMSA*ETHNIC5	5720	4	0.7555	0.2317	0.0011
379	CMSA*ETHNIC5	5720	6	0.0000	0.0000	.
380	CMSA*ETHNIC5	6200	2	0.0690	0.1452	0.6344
381	CMSA*ETHNIC5	6200	3	0.0616	0.0842	0.4649
382	CMSA*ETHNIC5	6200	4	-1.1738	0.4623	0.0111
383	CMSA*ETHNIC5	6200	6	0.0000	0.0000	.
384	CMSA*ETHNIC5	6920	2	0.1540	0.1202	0.2001
385	CMSA*ETHNIC5	6920	3	0.4121	0.0929	0.0001
386	CMSA*ETHNIC5	6920	4	0.1972	0.1545	0.2017
387	CMSA*ETHNIC5	6920	6	0.0000	0.0000	.
388	CMSA*ETHNIC5	7320	2	0.1425	0.1037	0.1694
389	CMSA*ETHNIC5	7320	3	-0.0222	0.0737	0.7629
390	CMSA*ETHNIC5	7320	4	0.2479	0.1172	0.0344
391	CMSA*ETHNIC5	7320	6	0.0000	0.0000	.
392	CMSA*ETHNIC5	8280	2	-0.2938	0.1103	0.0077

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
393	CMSA*ETHNIC5	8280	3	-0.0168	0.1348	0.9009
394	CMSA*ETHNIC5	8280	4	0.1722	0.3920	0.6605
395	CMSA*ETHNIC5	8280	6	0.0000	0.0000	.
396	CMSA*ETHNIC5	8840	2	-0.1615	0.0628	0.0101
397	CMSA*ETHNIC5	8840	3	-0.0123	0.1006	0.9025
398	CMSA*ETHNIC5	8840	4	0.2978	0.1237	0.0160
399	CMSA*ETHNIC5	8840	6	0.0000	0.0000	.
400	CMSA*ETHNIC5	9950	2	0.0000	0.0000	.
401	CMSA*ETHNIC5	9950	3	0.0000	0.0000	.
402	CMSA*ETHNIC5	9950	4	0.0000	0.0000	.
403	CMSA*ETHNIC5	9950	6	0.0000	0.0000	.
404	NATIVE8*OCCUP	2		-0.0974	0.0433	0.0245
405	NATIVE8*OCCUP	3		0.0194	0.0399	0.6265
406	NATIVE8*OCCUP	4		-0.1257	0.0469	0.0073
407	NATIVE8*OCCUP	5		-0.0723	0.0475	0.1279
408	NATIVE8*OCCUP	6		-0.1086	0.0484	0.0248
409	NATIVE8*OCCUP	7		-0.0411	0.0598	0.4922
410	NATIVE8*OCCUP	8		0.0000	0.0000	.
411	NICH85			-0.0064	0.0089	0.4768
412	NICH86			0.2131	0.0330	0.0001
413	SEX80			0.0253	0.0113	0.0250
414	ODDS80			0.0000	0.0007	0.9741
415	GRASPK			-0.0200	0.0022	0.0001
416	IMIGANT1			0.1600	0.0381	0.0001
417	SUPER80X*ETHNIC5	2		-0.0648	0.2726	0.8120
418	SUPER80X*ETHNIC5	3		-0.0519	0.1227	0.6724
419	SUPER80X*ETHNIC5	4		-0.0370	0.1987	0.8524
420	SUPER80X*ETHNIC5	6		-0.0085	0.0271	0.7529
421	CSUPER			-0.0004	0.0004	0.3213
422	CSEX			-0.0004	0.0002	0.0246
423	CNATIVE			-0.0000	0.0004	0.9288
424	CODDS			0.0000	0.0000	0.0036
425	CNATIVE*ETHNIC5	2		0.0034	0.0013	0.0119
426	CNATIVE*ETHNIC5	3		-0.0056	0.0026	0.0288
427	CNATIVE*ETHNIC5	4		0.0101	0.0057	0.0783
428	CNATIVE*ETHNIC5	6		0.0000	0.0000	.
429	NICH86*ETHNIC5	2		-0.1926	0.0445	0.0001
430	NICH86*ETHNIC5	3		-0.0197	0.0675	0.7707
431	NICH86*ETHNIC5	4		-0.1004	0.1090	0.3572
432	NICH86*ETHNIC5	6		0.0000	0.0000	.
433	NICH85*ETHNIC5	2		0.0385	0.0278	0.1666
434	NICH85*ETHNIC5	3		0.0241	0.0299	0.4213
435	NICH85*ETHNIC5	4		0.0163	0.0578	0.7781
436	NICH85*ETHNIC5	6		0.0000	0.0000	.
437	IMIGANT2			-0.0281	0.0217	0.1943
438	COMGRADE			-0.1223	0.0026	0.0001
439	NICHSPK8			-0.2742	0.0586	0.0001
440	SCALE			1.0000	0.0000	.

Appendix Table 3 Ends Here

Appendix Table A4. MLEstimates of Factors Associated with Occupational Attainment (SEI), 1990.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
1	INTERCEPT			2.8690	0.0050	0.0001
2	AGE			0.0089	0.0001	0.0001
3	DISABLE			-0.0418	0.0012	0.0001
4	AGE1			-0.0001	0.0000	0.0001
5	SPEAR			0.0085	0.0006	0.0001
6	SEX			-0.0414	0.0019	0.0001
7	IMMIGR1			0.0011	0.0001	0.0001
8	NATIVE8			-0.0412	0.0062	0.0001
9	CMSA	7		-0.0116	0.0015	0.0001
10	CMSA	14		-0.0100	0.0012	0.0001
11	CMSA	28		-0.0018	0.0018	0.3237
12	CMSA	31		0.0258	0.0015	0.0001
13	CMSA	34		0.0032	0.0019	0.0873
14	CMSA	35		-0.0114	0.0015	0.0001
15	CMSA	42		0.0299	0.0015	0.0001
16	CMSA	56		0.0296	0.0019	0.0001
17	CMSA	70		-0.0043	0.0010	0.0001
18	CMSA	77		-0.0021	0.0013	0.1081
19	CMSA	79		-0.0157	0.0020	0.0001
20	CMSA	84		-0.0095	0.0012	0.0001
21	CMSA	91		-0.0112	0.0017	0.0001
22	CMSA	720		0.0077	0.0018	0.0001
23	CMSA	2840		-0.0199	0.0033	0.0001
24	CMSA	5120		-0.0176	0.0016	0.0001
25	CMSA	5720		0.0155	0.0028	0.0001
26	CMSA	6200		0.0112	0.0019	0.0001
27	CMSA	6920		0.0000	0.0021	0.9808
28	CMSA	7320		0.0083	0.0019	0.0001
29	CMSA	8280		0.0058	0.0020	0.0040
30	CMSA	8840		0.0145	0.0014	0.0001
31	CMSA	9950		0.0000	0.0000	.
32	ETHNIC5	2		0.0320	0.0069	0.0001
33	ETHNIC5	3		0.0946	0.0068	0.0001
34	ETHNIC5	4		0.0322	0.0090	0.0003
35	ETHNIC5	6		0.0000	0.0000	.
36	INDUSTY	4		-0.1834	0.0022	0.0001
37	INDUSTY	5		-0.1668	0.0050	0.0001
38	INDUSTY	6		-0.0610	0.0059	0.0001
39	INDUSTY	8		0.0472	0.0059	0.0001
40	INDUSTY	10		-0.0746	0.0028	0.0001
41	INDUSTY	11		-0.0548	0.0031	0.0001
42	INDUSTY	13		-0.2144	0.0069	0.0001
43	INDUSTY	16		-0.1243	0.0034	0.0001
44	INDUSTY	17		-0.0119	0.0027	0.0001
45	INDUSTY	18		0.0455	0.0027	0.0001
46	INDUSTY	19		-0.2247	0.0043	0.0001
47	INDUSTY	20		0.0276	0.0028	0.0001
48	INDUSTY	22		-0.0349	0.0044	0.0001
49	INDUSTY	25		-0.1906	0.0023	0.0001
50	INDUSTY	26		0.0483	0.0030	0.0001
51	INDUSTY	27		-0.0878	0.0034	0.0001
52	INDUSTY	28		-0.1151	0.0021	0.0001
53	INDUSTY	30		-0.3388	0.0042	0.0001
54	INDUSTY	31		-0.2644	0.0033	0.0001
55	INDUSTY	32		-0.3058	0.0040	0.0001
56	INDUSTY	33		-0.1337	0.0023	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
57	INDUSTY	35		0.0151	0.0019	0.0001
58	INDUSTY	36		0.0666	0.0017	0.0001
59	INDUSTY	37		-0.2765	0.0048	0.0001
60	INDUSTY	38		-0.5304	0.0246	0.0001
61	INDUSTY	39		-0.2252	0.0042	0.0001
62	INDUSTY	40		-0.2542	0.0043	0.0001
63	INDUSTY	41		-0.0145	0.0027	0.0001
64	INDUSTY	42		0.1870	0.0025	0.0001
65	INDUSTY	45		0.0768	0.0020	0.0001
66	INDUSTY	46		-0.1541	0.0035	0.0001
67	INDUSTY	48		0.0000	0.0000	.
68	SEX*ETHNIC5	2		0.0404	0.0020	0.0001
69	SEX*ETHNIC5	3		0.0087	0.0025	0.0005
70	SEX*ETHNIC5	4		-0.0180	0.0031	0.0001
71	SEX*ETHNIC5	6		0.0000	0.0000	.
72	SEX*INDUSTY	4		0.1283	0.0036	0.0001
73	SEX*INDUSTY	5		-0.0226	0.0067	0.0007
74	SEX*INDUSTY	6		-0.1443	0.0090	0.0001
75	SEX*INDUSTY	8		-0.2004	0.0073	0.0001
76	SEX*INDUSTY	10		0.0428	0.0036	0.0001
77	SEX*INDUSTY	11		-0.0082	0.0046	0.0748
78	SEX*INDUSTY	13		0.0447	0.0104	0.0001
79	SEX*INDUSTY	16		-0.0083	0.0058	0.1536
80	SEX*INDUSTY	17		-0.0302	0.0042	0.0001
81	SEX*INDUSTY	18		-0.1644	0.0043	0.0001
82	SEX*INDUSTY	19		-0.0302	0.0075	0.0001
83	SEX*INDUSTY	20		-0.0812	0.0047	0.0001
84	SEX*INDUSTY	22		-0.0908	0.0059	0.0001
85	SEX*INDUSTY	25		0.1197	0.0030	0.0001
86	SEX*INDUSTY	26		-0.0496	0.0038	0.0001
87	SEX*INDUSTY	27		0.0324	0.0055	0.0001
88	SEX*INDUSTY	28		0.0216	0.0030	0.0001
89	SEX*INDUSTY	30		-0.0046	0.0048	0.3406
90	SEX*INDUSTY	31		0.0712	0.0044	0.0001
91	SEX*INDUSTY	32		0.0031	0.0041	0.4568
92	SEX*INDUSTY	33		-0.0157	0.0028	0.0001
93	SEX*INDUSTY	35		-0.0370	0.0024	0.0001
94	SEX*INDUSTY	36		-0.0419	0.0023	0.0001
95	SEX*INDUSTY	37		0.1758	0.0082	0.0001
96	SEX*INDUSTY	38		0.0046	0.0238	0.8457
97	SEX*INDUSTY	39		-0.0155	0.0043	0.0004
98	SEX*INDUSTY	40		0.0801	0.0043	0.0001
99	SEX*INDUSTY	41		0.0998	0.0028	0.0001
100	SEX*INDUSTY	42		-0.1201	0.0028	0.0001
101	SEX*INDUSTY	45		0.0743	0.0024	0.0001
102	SEX*INDUSTY	46		0.0547	0.0038	0.0001
103	SEX*INDUSTY	48		0.0000	0.0000	.
104	ETHNIC5*INDUSTY	2	4	-0.1345	0.0061	0.0001
105	ETHNIC5*INDUSTY	2	5	-0.1751	0.0128	0.0001
106	ETHNIC5*INDUSTY	2	6	-0.2039	0.0204	0.0001
107	ETHNIC5*INDUSTY	2	8	-0.1838	0.0160	0.0001
108	ETHNIC5*INDUSTY	2	10	-0.1501	0.0079	0.0001
109	ETHNIC5*INDUSTY	2	11	-0.1330	0.0093	0.0001
110	ETHNIC5*INDUSTY	2	13	-0.1569	0.0237	0.0001
111	ETHNIC5*INDUSTY	2	16	-0.2231	0.0104	0.0001
112	ETHNIC5*INDUSTY	2	17	-0.1775	0.0100	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
113	ETHNIC5*INDUSTY	2	18	-0.2038	0.0098	0.0001
114	ETHNIC5*INDUSTY	2	19	-0.0769	0.0105	0.0001
115	ETHNIC5*INDUSTY	2	20	-0.1271	0.0091	0.0001
116	ETHNIC5*INDUSTY	2	22	-0.1169	0.0120	0.0001
117	ETHNIC5*INDUSTY	2	25	0.0798	0.0047	0.0001
118	ETHNIC5*INDUSTY	2	26	-0.0444	0.0064	0.0001
119	ETHNIC5*INDUSTY	2	27	-0.1042	0.0088	0.0001
120	ETHNIC5*INDUSTY	2	28	-0.1675	0.0063	0.0001
121	ETHNIC5*INDUSTY	2	30	-0.1592	0.0100	0.0001
122	ETHNIC5*INDUSTY	2	31	-0.1450	0.0097	0.0001
123	ETHNIC5*INDUSTY	2	32	-0.2140	0.0083	0.0001
124	ETHNIC5*INDUSTY	2	33	-0.1523	0.0056	0.0001
125	ETHNIC5*INDUSTY	2	35	-0.1211	0.0044	0.0001
126	ETHNIC5*INDUSTY	2	36	-0.1663	0.0044	0.0001
127	ETHNIC5*INDUSTY	2	37	-0.1186	0.0131	0.0001
128	ETHNIC5*INDUSTY	2	38	0.2306	0.0192	0.0001
129	ETHNIC5*INDUSTY	2	39	-0.1699	0.0085	0.0001
130	ETHNIC5*INDUSTY	2	40	-0.0935	0.0095	0.0001
131	ETHNIC5*INDUSTY	2	41	-0.0957	0.0047	0.0001
132	ETHNIC5*INDUSTY	2	42	-0.1263	0.0052	0.0001
133	ETHNIC5*INDUSTY	2	45	-0.0990	0.0040	0.0001
134	ETHNIC5*INDUSTY	2	46	0.0781	0.0054	0.0001
135	ETHNIC5*INDUSTY	2	48	0.0000	0.0000	.
136	ETHNIC5*INDUSTY	3	4	0.0330	0.0069	0.0001
137	ETHNIC5*INDUSTY	3	5	-0.0678	0.0123	0.0001
138	ETHNIC5*INDUSTY	3	6	0.0409	0.0160	0.0108
139	ETHNIC5*INDUSTY	3	8	0.1024	0.0125	0.0001
140	ETHNIC5*INDUSTY	3	10	-0.0148	0.0094	0.1169
141	ETHNIC5*INDUSTY	3	11	-0.0576	0.0116	0.0001
142	ETHNIC5*INDUSTY	3	13	0.0480	0.0142	0.0007
143	ETHNIC5*INDUSTY	3	16	0.0166	0.0101	0.1009
144	ETHNIC5*INDUSTY	3	17	-0.0212	0.0101	0.0358
145	ETHNIC5*INDUSTY	3	18	-0.0566	0.0096	0.0001
146	ETHNIC5*INDUSTY	3	19	-0.1378	0.0163	0.0001
147	ETHNIC5*INDUSTY	3	20	-0.0871	0.0106	0.0001
148	ETHNIC5*INDUSTY	3	22	0.0253	0.0106	0.0168
149	ETHNIC5*INDUSTY	3	25	-0.0271	0.0071	0.0001
150	ETHNIC5*INDUSTY	3	26	0.0081	0.0099	0.4141
151	ETHNIC5*INDUSTY	3	27	-0.0903	0.0126	0.0001
152	ETHNIC5*INDUSTY	3	28	-0.0127	0.0072	0.0783
153	ETHNIC5*INDUSTY	3	30	0.0235	0.0104	0.0232
154	ETHNIC5*INDUSTY	3	31	0.0200	0.0102	0.0503
155	ETHNIC5*INDUSTY	3	32	-0.0663	0.0088	0.0001
156	ETHNIC5*INDUSTY	3	33	0.0304	0.0071	0.0001
157	ETHNIC5*INDUSTY	3	35	0.0036	0.0064	0.5780
158	ETHNIC5*INDUSTY	3	36	-0.0595	0.0063	0.0001
159	ETHNIC5*INDUSTY	3	37	0.0805	0.0113	0.0001
160	ETHNIC5*INDUSTY	3	38	0.1133	0.0188	0.0001
161	ETHNIC5*INDUSTY	3	39	-0.0882	0.0094	0.0001
162	ETHNIC5*INDUSTY	3	40	-0.0480	0.0115	0.0001
163	ETHNIC5*INDUSTY	3	41	-0.1520	0.0072	0.0001
164	ETHNIC5*INDUSTY	3	42	-0.0881	0.0075	0.0001
165	ETHNIC5*INDUSTY	3	45	-0.0163	0.0064	0.0112
166	ETHNIC5*INDUSTY	3	46	0.0464	0.0089	0.0001
167	ETHNIC5*INDUSTY	3	48	0.0000	0.0000	.
168	ETHNIC5*INDUSTY	4	4	0.0993	0.0109	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
169	ETHNIC5*INDUSTY	4	5	-0.0826	0.0221	0.0002
170	ETHNIC5*INDUSTY	4	6	-0.0600	0.0286	0.0360
171	ETHNIC5*INDUSTY	4	8	-0.0512	0.0169	0.0024
172	ETHNIC5*INDUSTY	4	10	-0.0266	0.0141	0.0600
173	ETHNIC5*INDUSTY	4	11	0.0226	0.0138	0.1016
174	ETHNIC5*INDUSTY	4	13	-0.0236	0.0372	0.5261
175	ETHNIC5*INDUSTY	4	16	-0.0273	0.0192	0.1565
176	ETHNIC5*INDUSTY	4	17	0.0375	0.0112	0.0008
177	ETHNIC5*INDUSTY	4	18	-0.0337	0.0105	0.0013
178	ETHNIC5*INDUSTY	4	19	-0.0338	0.0229	0.1406
179	ETHNIC5*INDUSTY	4	20	0.0360	0.0114	0.0015
180	ETHNIC5*INDUSTY	4	22	-0.0086	0.0164	0.6006
181	ETHNIC5*INDUSTY	4	25	-0.0087	0.0100	0.3848
182	ETHNIC5*INDUSTY	4	26	0.0126	0.0135	0.3493
183	ETHNIC5*INDUSTY	4	27	0.0420	0.0171	0.0142
184	ETHNIC5*INDUSTY	4	28	0.0196	0.0098	0.0451
185	ETHNIC5*INDUSTY	4	30	0.0417	0.0135	0.0021
186	ETHNIC5*INDUSTY	4	31	-0.0247	0.0155	0.1114
187	ETHNIC5*INDUSTY	4	32	-0.0554	0.0115	0.0001
188	ETHNIC5*INDUSTY	4	33	-0.0135	0.0097	0.1635
189	ETHNIC5*INDUSTY	4	35	-0.0322	0.0083	0.0001
190	ETHNIC5*INDUSTY	4	36	-0.0111	0.0080	0.1641
191	ETHNIC5*INDUSTY	4	37	-0.0049	0.0219	0.8210
192	ETHNIC5*INDUSTY	4	38	-0.0064	0.0478	0.8942
193	ETHNIC5*INDUSTY	4	39	-0.1045	0.0127	0.0001
194	ETHNIC5*INDUSTY	4	40	-0.0113	0.0174	0.5152
195	ETHNIC5*INDUSTY	4	41	-0.0030	0.0083	0.7180
196	ETHNIC5*INDUSTY	4	42	-0.0170	0.0091	0.0616
197	ETHNIC5*INDUSTY	4	45	-0.0229	0.0088	0.0091
198	ETHNIC5*INDUSTY	4	46	0.0197	0.0130	0.1295
199	ETHNIC5*INDUSTY	4	48	0.0000	0.0000	.
200	ETHNIC5*INDUSTY	6	4	0.0000	0.0000	.
201	ETHNIC5*INDUSTY	6	5	0.0000	0.0000	.
202	ETHNIC5*INDUSTY	6	6	0.0000	0.0000	.
203	ETHNIC5*INDUSTY	6	8	0.0000	0.0000	.
204	ETHNIC5*INDUSTY	6	10	0.0000	0.0000	.
205	ETHNIC5*INDUSTY	6	11	0.0000	0.0000	.
206	ETHNIC5*INDUSTY	6	13	0.0000	0.0000	.
207	ETHNIC5*INDUSTY	6	16	0.0000	0.0000	.
208	ETHNIC5*INDUSTY	6	17	0.0000	0.0000	.
209	ETHNIC5*INDUSTY	6	18	0.0000	0.0000	.
210	ETHNIC5*INDUSTY	6	19	0.0000	0.0000	.
211	ETHNIC5*INDUSTY	6	20	0.0000	0.0000	.
212	ETHNIC5*INDUSTY	6	22	0.0000	0.0000	.
213	ETHNIC5*INDUSTY	6	25	0.0000	0.0000	.
214	ETHNIC5*INDUSTY	6	26	0.0000	0.0000	.
215	ETHNIC5*INDUSTY	6	27	0.0000	0.0000	.
216	ETHNIC5*INDUSTY	6	28	0.0000	0.0000	.
217	ETHNIC5*INDUSTY	6	30	0.0000	0.0000	.
218	ETHNIC5*INDUSTY	6	31	0.0000	0.0000	.
219	ETHNIC5*INDUSTY	6	32	0.0000	0.0000	.
220	ETHNIC5*INDUSTY	6	33	0.0000	0.0000	.
221	ETHNIC5*INDUSTY	6	35	0.0000	0.0000	.
222	ETHNIC5*INDUSTY	6	36	0.0000	0.0000	.
223	ETHNIC5*INDUSTY	6	37	0.0000	0.0000	.
224	ETHNIC5*INDUSTY	6	38	0.0000	0.0000	.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
225	ETHNIC5*INDUSTY	6	39	0.0000	0.0000	.
226	ETHNIC5*INDUSTY	6	40	0.0000	0.0000	.
227	ETHNIC5*INDUSTY	6	41	0.0000	0.0000	.
228	ETHNIC5*INDUSTY	6	42	0.0000	0.0000	.
229	ETHNIC5*INDUSTY	6	45	0.0000	0.0000	.
230	ETHNIC5*INDUSTY	6	46	0.0000	0.0000	.
231	ETHNIC5*INDUSTY	6	48	0.0000	0.0000	.
232	NATIVE8*INDUSTY	4		-0.0463	0.0073	0.0001
233	NATIVE8*INDUSTY	5		0.0361	0.0113	0.0015
234	NATIVE8*INDUSTY	6		-0.1143	0.0147	0.0001
235	NATIVE8*INDUSTY	8		-0.3642	0.0128	0.0001
236	NATIVE8*INDUSTY	10		-0.0665	0.0086	0.0001
237	NATIVE8*INDUSTY	11		0.0119	0.0099	0.2295
238	NATIVE8*INDUSTY	13		0.0110	0.0136	0.4212
239	NATIVE8*INDUSTY	16		-0.0254	0.0099	0.0104
240	NATIVE8*INDUSTY	17		-0.1215	0.0085	0.0001
241	NATIVE8*INDUSTY	18		-0.0908	0.0086	0.0001
242	NATIVE8*INDUSTY	19		0.3785	0.0118	0.0001
243	NATIVE8*INDUSTY	20		0.0274	0.0090	0.0023
244	NATIVE8*INDUSTY	22		-0.0982	0.0100	0.0001
245	NATIVE8*INDUSTY	25		0.1550	0.0078	0.0001
246	NATIVE8*INDUSTY	26		-0.0108	0.0100	0.2824
247	NATIVE8*INDUSTY	27		0.1112	0.0105	0.0001
248	NATIVE8*INDUSTY	28		0.0333	0.0073	0.0001
249	NATIVE8*INDUSTY	30		0.0999	0.0099	0.0001
250	NATIVE8*INDUSTY	31		-0.0978	0.0099	0.0001
251	NATIVE8*INDUSTY	32		0.0049	0.0091	0.5873
252	NATIVE8*INDUSTY	33		-0.0580	0.0078	0.0001
253	NATIVE8*INDUSTY	35		0.0703	0.0066	0.0001
254	NATIVE8*INDUSTY	36		-0.0544	0.0067	0.0001
255	NATIVE8*INDUSTY	37		-0.0250	0.0105	0.0177
256	NATIVE8*INDUSTY	38		0.0056	0.0262	0.8306
257	NATIVE8*INDUSTY	39		0.0832	0.0091	0.0001
258	NATIVE8*INDUSTY	40		0.3508	0.0094	0.0001
259	NATIVE8*INDUSTY	41		0.3669	0.0073	0.0001
260	NATIVE8*INDUSTY	42		0.0949	0.0070	0.0001
261	NATIVE8*INDUSTY	45		-0.1081	0.0068	0.0001
262	NATIVE8*INDUSTY	46		-0.0432	0.0098	0.0001
263	NATIVE8*INDUSTY	48		0.0000	0.0000	.
264	NATIVE8*ETHNIC5	2		-0.0614	0.0054	0.0001
265	NATIVE8*ETHNIC5	3		-0.1201	0.0057	0.0001
266	NATIVE8*ETHNIC5	4		-0.0631	0.0071	0.0001
267	NATIVE8*ETHNIC5	6		0.0000	0.0000	.
268	CMSA*ETHNIC5	7	2	-0.0002	0.0081	0.9772
269	CMSA*ETHNIC5	7	3	-0.0790	0.0115	0.0001
270	CMSA*ETHNIC5	7	4	-0.0111	0.0116	0.3384
271	CMSA*ETHNIC5	7	6	0.0000	0.0000	.
272	CMSA*ETHNIC5	14	2	-0.0073	0.0047	0.1213
273	CMSA*ETHNIC5	14	3	-0.0708	0.0054	0.0001
274	CMSA*ETHNIC5	14	4	-0.0019	0.0064	0.7685
275	CMSA*ETHNIC5	14	6	0.0000	0.0000	.
276	CMSA*ETHNIC5	28	2	-0.0219	0.0077	0.0043
277	CMSA*ETHNIC5	28	3	-0.0769	0.0194	0.0001
278	CMSA*ETHNIC5	28	4	0.0849	0.0169	0.0001
279	CMSA*ETHNIC5	28	6	0.0000	0.0000	.
280	CMSA*ETHNIC5	31	2	-0.0481	0.0064	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
281	CMSA*ETHNIC5	31	3	-0.0511	0.0067	0.0001
282	CMSA*ETHNIC5	31	4	-0.0471	0.0108	0.0001
283	CMSA*ETHNIC5	31	6	0.0000	0.0000	.
284	CMSA*ETHNIC5	34	2	-0.0168	0.0113	0.1363
285	CMSA*ETHNIC5	34	3	-0.0655	0.0084	0.0001
286	CMSA*ETHNIC5	34	4	-0.0275	0.0167	0.0990
287	CMSA*ETHNIC5	34	6	0.0000	0.0000	.
288	CMSA*ETHNIC5	35	2	0.0152	0.0055	0.0061
289	CMSA*ETHNIC5	35	3	-0.0258	0.0129	0.0456
290	CMSA*ETHNIC5	35	4	0.0458	0.0111	0.0001
291	CMSA*ETHNIC5	35	6	0.0000	0.0000	.
292	CMSA*ETHNIC5	42	2	-0.0375	0.0057	0.0001
293	CMSA*ETHNIC5	42	3	-0.0499	0.0057	0.0001
294	CMSA*ETHNIC5	42	4	-0.0068	0.0087	0.4391
295	CMSA*ETHNIC5	42	6	0.0000	0.0000	.
296	CMSA*ETHNIC5	56	2	0.0030	0.0065	0.6413
297	CMSA*ETHNIC5	56	3	-0.0106	0.0049	0.0298
298	CMSA*ETHNIC5	56	4	0.0377	0.0144	0.0088
299	CMSA*ETHNIC5	56	6	0.0000	0.0000	.
300	CMSA*ETHNIC5	70	2	-0.0122	0.0040	0.0024
301	CMSA*ETHNIC5	70	3	-0.0293	0.0040	0.0001
302	CMSA*ETHNIC5	70	4	0.0029	0.0048	0.5438
303	CMSA*ETHNIC5	70	6	0.0000	0.0000	.
304	CMSA*ETHNIC5	77	2	-0.0055	0.0051	0.2811
305	CMSA*ETHNIC5	77	3	-0.0829	0.0097	0.0001
306	CMSA*ETHNIC5	77	4	0.0012	0.0091	0.8971
307	CMSA*ETHNIC5	77	6	0.0000	0.0000	.
308	CMSA*ETHNIC5	79	2	-0.0258	0.0199	0.1945
309	CMSA*ETHNIC5	79	3	-0.0983	0.0178	0.0001
310	CMSA*ETHNIC5	79	4	-0.0211	0.0143	0.1411
311	CMSA*ETHNIC5	79	6	0.0000	0.0000	.
312	CMSA*ETHNIC5	84	2	-0.0181	0.0059	0.0023
313	CMSA*ETHNIC5	84	3	-0.0411	0.0053	0.0001
314	CMSA*ETHNIC5	84	4	-0.0173	0.0051	0.0007
315	CMSA*ETHNIC5	84	6	0.0000	0.0000	.
316	CMSA*ETHNIC5	91	2	0.0205	0.0101	0.0410
317	CMSA*ETHNIC5	91	3	-0.0510	0.0139	0.0002
318	CMSA*ETHNIC5	91	4	-0.0304	0.0088	0.0006
319	CMSA*ETHNIC5	91	6	0.0000	0.0000	.
320	CMSA*ETHNIC5	720	2	0.0028	0.0064	0.6603
321	CMSA*ETHNIC5	720	3	-0.0291	0.0226	0.1974
322	CMSA*ETHNIC5	720	4	0.0385	0.0152	0.0113
323	CMSA*ETHNIC5	720	6	0.0000	0.0000	.
324	CMSA*ETHNIC5	2840	2	-0.0420	0.0218	0.0543
325	CMSA*ETHNIC5	2840	3	-0.0223	0.0109	0.0410
326	CMSA*ETHNIC5	2840	4	-0.0104	0.0174	0.5487
327	CMSA*ETHNIC5	2840	6	0.0000	0.0000	.
328	CMSA*ETHNIC5	5120	2	-0.0363	0.0119	0.0024
329	CMSA*ETHNIC5	5120	3	-0.0179	0.0185	0.3317
330	CMSA*ETHNIC5	5120	4	-0.0200	0.0145	0.1692
331	CMSA*ETHNIC5	5120	6	0.0000	0.0000	.
332	CMSA*ETHNIC5	5720	2	-0.0398	0.0080	0.0001
333	CMSA*ETHNIC5	5720	3	-0.0983	0.0272	0.0003
334	CMSA*ETHNIC5	5720	4	-0.0714	0.0209	0.0006
335	CMSA*ETHNIC5	5720	6	0.0000	0.0000	.
336	CMSA*ETHNIC5	6200	2	-0.0623	0.0154	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
337	CMSA*ETHNIC5	6200	3	-0.0622	0.0087	0.0001
338	CMSA*ETHNIC5	6200	4	0.0507	0.0171	0.0029
339	CMSA*ETHNIC5	6200	6	0.0000	0.0000	.
340	CMSA*ETHNIC5	6920	2	-0.0283	0.0118	0.0167
341	CMSA*ETHNIC5	6920	3	-0.0868	0.0099	0.0001
342	CMSA*ETHNIC5	6920	4	-0.0182	0.0112	0.1030
343	CMSA*ETHNIC5	6920	6	0.0000	0.0000	.
344	CMSA*ETHNIC5	7320	2	-0.0281	0.0105	0.0075
345	CMSA*ETHNIC5	7320	3	-0.0549	0.0074	0.0001
346	CMSA*ETHNIC5	7320	4	-0.0793	0.0092	0.0001
347	CMSA*ETHNIC5	7320	6	0.0000	0.0000	.
348	CMSA*ETHNIC5	8280	2	-0.0176	0.0109	0.1065
349	CMSA*ETHNIC5	8280	3	-0.0382	0.0118	0.0011
350	CMSA*ETHNIC5	8280	4	-0.0213	0.0294	0.4678
351	CMSA*ETHNIC5	8280	6	0.0000	0.0000	.
352	CMSA*ETHNIC5	8840	2	0.0013	0.0049	0.7958
353	CMSA*ETHNIC5	8840	3	-0.0641	0.0080	0.0001
354	CMSA*ETHNIC5	8840	4	-0.0424	0.0076	0.0001
355	CMSA*ETHNIC5	8840	6	0.0000	0.0000	.
356	CMSA*ETHNIC5	9950	2	0.0000	0.0000	.
357	CMSA*ETHNIC5	9950	3	0.0000	0.0000	.
358	CMSA*ETHNIC5	9950	4	0.0000	0.0000	.
359	CMSA*ETHNIC5	9950	6	0.0000	0.0000	.
360	NICH85			0.0422	0.0006	0.0001
361	NICH86			-0.0021	0.0031	0.4865
362	SEX80			-0.0848	0.0007	0.0001
363	ODDS80			0.0003	0.0001	0.0001
364	GRASPK			0.0239	0.0002	0.0001
365	IMIGANT1			-0.0137	0.0031	0.0001
366	SUPER80X*ETHNIC5	2		-0.0372	0.0250	0.1369
367	SUPER80X*ETHNIC5	3		-0.0567	0.0129	0.0001
368	SUPER80X*ETHNIC5	4		-0.0199	0.0131	0.1272
369	SUPER80X*ETHNIC5	6		-0.0153	0.0019	0.0001
370	CSUPER			-0.0005	0.0000	0.0001
371	CSEX			0.0004	0.0000	0.0001
372	CNATIVE			0.0005	0.0000	0.0001
373	CODDS			0.0000	0.0000	0.2893
374	CNATIVE*ETHNIC5	2		-0.0004	0.0002	0.0276
375	CNATIVE*ETHNIC5	3		-0.0044	0.0003	0.0001
376	CNATIVE*ETHNIC5	4		-0.0008	0.0005	0.0736
377	CNATIVE*ETHNIC5	6		0.0000	0.0000	.
378	NICH86*ETHNIC5	2		-0.1840	0.0043	0.0001
379	NICH86*ETHNIC5	3		-0.1951	0.0087	0.0001
380	NICH86*ETHNIC5	4		0.0268	0.0078	0.0006
381	NICH86*ETHNIC5	6		0.0000	0.0000	.
382	NICH85*ETHNIC5	2		0.1029	0.0024	0.0001
383	NICH85*ETHNIC5	3		-0.0424	0.0028	0.0001
384	NICH85*ETHNIC5	4		-0.0039	0.0038	0.2981
385	NICH85*ETHNIC5	6		0.0000	0.0000	.
386	IMIGANT2			-0.0253	0.0017	0.0001
387	COMGRADE			0.0870	0.0003	0.0001
388	NICHSPK8			-0.0208	0.0092	0.0246
389	SCALE			9.9780	0.0063	.

Appendix Table A4 ends here

Appendix Table A5. ML Estimates of Factors Associated ~th
 Hourly Wages, 1989.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
1	INTERCEPT			-0.0057	0.0046	0.2139
2	AGE			0.0260	0.0001	0.0001
3	DISABLE			-0.0547	0.0012	0.0001
4	AGE1			-0.0003	0.0000	0.0001
5	SPEAK			0.0136	0.0006	0.0001
6	SEX			-0.0949	0.0020	0.0001
7	IMMIGR1			0.0020	0.0001	0.0001
8	NATIVE8			-0.0135	0.0064	0.0342
9	CMSA	7		-0.0106	0.0014	0.0001
10	CMSA	14		-0.0336	0.0012	0.0001
11	CMSA	28		-0.0799	0.0017	0.0001
12	CMSA	31		-0.0737	0.0015	0.0001
13	CMSA	34		-0.0974	0.0019	0.0001
14	CMSA	35		-0.0447	0.0014	0.0001
15	CMSA	42		-0.0762	0.0016	0.0001
16	CMSA	56		-0.0500	0.0019	0.0001
17	CMSA	70		0.0097	0.0010	0.0001
18	CMSA	77		-0.0307	0.0013	0.0001
19	CMSA	79		-0.0981	0.0020	0.0001
20	CMSA	84		-0.0018	0.0012	0.1413
21	CMSA	91		-0.0572	0.0016	0.0001
22	CMSA	720		-0.0446	0.0018	0.0001
23	CMSA	2840		-0.0656	0.0033	0.0001
24	CMSA	5120		-0.0568	0.0016	0.0001
25	CMSA	5720		-0.0919	0.0029	0.0001
26	CMSA	6200		-0.0912	0.0019	0.0001
27	CMSA	6920		-0.0460	0.0020	0.0001
28	CMSA	7320		-0.0395	0.0018	0.0001
29	CMSA	8280		-0.1184	0.0021	0.0001
30	CMSA	8840		-0.0141	0.0014	0.0001
31	CMSA	9950		0.0000	0.0000	.
32	ETHNIC5	2		-0.0450	0.0066	0.0001
33	ETHNIC5	3		-0.0162	0.0064	0.0112
34	ETHNIC5	4		-0.0416	0.0092	0.0001
35	ETHNIC5	6		0.0000	0.0000	.
36	INDUSTY	4		0.0453	0.0020	0.0001
37	INDUSTY	5		0.0377	0.0042	0.0001
38	INDUSTY	6		0.0375	0.0052	0.0001
39	INDUSTY	8		0.0540	0.0053	0.0001
40	INDUSTY	10		0.0262	0.0026	0.0001
41	INDUSTY	11		0.0668	0.0029	0.0001
42	INDUSTY	13		-0.0018	0.0056	0.7425
43	INDUSTY	16		0.0592	0.0029	0.0001
44	INDUSTY	17		0.0398	0.0026	0.0001
45	INDUSTY	18		0.0244	0.0027	0.0001
46	INDUSTY	19		0.1320	0.0034	0.0001
47	INDUSTY	20		0.0257	0.0028	0.0001
48	INDUSTY	22		0.0120	0.0041	0.0038
49	INDUSTY	25		0.0269	0.0021	0.0001
50	INDUSTY	26		0.0452	0.0029	0.0001
51	INDUSTY	27		0.0680	0.0030	0.0001
52	INDUSTY	28		0.0332	0.0020	0.0001
53	INDUSTY	30		-0.0101	0.0033	0.0020
54	INDUSTY	31		-0.0089	0.0028	0.0016
55	INDUSTY	32		-0.1174	0.0034	0.0001
56	INDUSTY	33		-0.0368	0.0022	0.0001

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
57	INDUSTY	35		0.0243	0.0019	0.0001
58	INDUSTY	36		-0.0069	0.0018	0.0001
59	INDUSTY	37		-0.0376	0.0038	0.0001
60	INDUSTY	38		-0.1601	0.0171	0.0001
61	INDUSTY	39		-0.0743	0.0037	0.0001
62	INDUSTY	40		-0.0548	0.0040	0.0001
63	INDUSTY	41		-0.0231	0.0029	0.0001
64	INDUSTY	42		0.0202	0.0027	0.0001
65	INDUSTY	45		-0.0575	0.0021	0.0001
66	INDUSTY	46		-0.1194	0.0036	0.0001
67	INDUSTY	48		0.0000	0.0000	.
68	SEI			0.0048	0.0000	0.0001
69	SEX*ETHNIC5	2		0.0653	0.0019	0.0001
70	SEX*ETHNIC5	3		0.0290	0.0023	0.0001
71	SEX*ETHNIC5	4		0.0546	0.0031	0.0001
72	SEX*ETHNIC5	6		0.0000	0.0000	.
73	SEX*INDUSTY	4		-0.0462	0.0035	0.0001
74	SEX*INDUSTY	5		-0.0205	0.0055	0.0002
75	SEX*INDUSTY	6		-0.0409	0.0074	0.0001
76	SEX*INDUSTY	8		-0.0602	0.0057	0.0001
77	SEX*INDUSTY	10		-0.0323	0.0035	0.0001
78	SEX*INDUSTY	11		-0.0175	0.0043	0.0001
79	SEX*INDUSTY	13		-0.0301	0.0089	0.0007
80	SEX*INDUSTY	16		-0.0492	0.0051	0.0001
81	SEX*INDUSTY	17		-0.0025	0.0040	0.5279
82	SEX*INDUSTY	18		-0.0059	0.0039	0.1307
83	SEX*INDUSTY	19		-0.0162	0.0059	0.0061
84	SEX*INDUSTY	20		0.0290	0.0045	0.0001
85	SEX*INDUSTY	22		-0.0525	0.0052	0.0001
86	SEX*INDUSTY	25		-0.0145	0.0029	0.0001
87	SEX*INDUSTY	26		0.0264	0.0037	0.0001
88	SEX*INDUSTY	27		0.0029	0.0051	0.5759
89	SEX*INDUSTY	28		-0.0245	0.0029	0.0001
90	SEX*INDUSTY	30		-0.0500	0.0039	0.0001
91	SEX*INDUSTY	31		-0.0640	0.0039	0.0001
92	SEX*INDUSTY	32		-0.0313	0.0036	0.0001
93	SEX*INDUSTY	33		-0.0605	0.0028	0.0001
94	SEX*INDUSTY	35		-0.0172	0.0024	0.0001
95	SEX*INDUSTY	36		0.0017	0.0024	0.4644
96	SEX*INDUSTY	37		-0.0446	0.0077	0.0001
97	SEX*INDUSTY	38		-0.0053	0.0167	0.7526
98	SEX*INDUSTY	39		-0.0403	0.0039	0.0001
99	SEX*INDUSTY	40		-0.0414	0.0043	0.0001
100	SEX*INDUSTY	41		0.0235	0.0030	0.0001
101	SEX*INDUSTY	42		-0.0701	0.0031	0.0001
102	SEX*INDUSTY	45		-0.0122	0.0026	0.0001
103	SEX*INDUSTY	46		-0.0562	0.0039	0.0001
104	SEX*INDUSTY	48		0.0000	0.0000	.
105	ETHNIC5*INDUSTY	2	4	-0.0318	0.0051	0.0001
106	ETHNIC5*INDUSTY	2	5	-0.0262	0.0093	0.0049
107	ETHNIC5*INDUSTY	2	6	-0.0455	0.0155	0.0034
108	ETHNIC5*INDUSTY	2	8	-0.0701	0.0116	0.0001
109	ETHNIC5*INDUSTY	2	10	-0.0264	0.0070	0.0002
110	ETHNIC5*INDUSTY	2	11	-0.0329	0.0080	0.0001
111	ETHNIC5*INDUSTY	2	13	-0.0818	0.0177	0.0001
112	ETHNIC5*INDUSTY	2	16	-0.0047	0.0078	0.5448

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
113	ETHNIC5*INDUSTY	2	17	-0.0251	0.0087	0.0039
114	ETHNIC5*INDUSTY	2	18	-0.0176	0.0084	0.0355
115	ETHNIC5*INDUSTY	2	19	0.0202	0.0075	0.0069
116	ETHNIC5*INDUSTY	2	20	0.0110	0.0081	0.1768
117	ETHNIC5*INDUSTY	2	22	-0.0357	0.0095	0.0002
118	ETHNIC5*INDUSTY	2	25	0.0068	0.0042	0.1066
119	ETHNIC5*INDUSTY	2	26	-0.0134	0.0061	0.0289
120	ETHNIC5*INDUSTY	2	27	-0.0023	0.0074	0.7555
121	ETHNIC5*INDUSTY	2	28	-0.0497	0.0057	0.0001
122	ETHNIC5*INDUSTY	2	30	-0.0304	0.0077	0.0001
123	ETHNIC5*INDUSTY	2	31	-0.0693	0.0083	0.0001
124	ETHNIC5*INDUSTY	2	32	-0.0346	0.0069	0.0001
125	ETHNIC5*INDUSTY	2	33	-0.0352	0.0053	0.0001
126	ETHNIC5*INDUSTY	2	35	-0.0492	0.0043	0.0001
127	ETHNIC5*INDUSTY	2	36	-0.0557	0.0044	0.0001
128	ETHNIC5*INDUSTY	2	37	-0.0323	0.0100	0.0013
129	ETHNIC5*INDUSTY	2	38	-0.0240	0.0138	0.0833
130	ETHNIC5*INDUSTY	2	39	-0.0124	0.0069	0.0735
131	ETHNIC5*INDUSTY	2	40	-0.0052	0.0089	0.5633
132	ETHNIC5*INDUSTY	2	41	-0.0371	0.0047	0.0001
133	ETHNIC5*INDUSTY	2	42	-0.0628	0.0053	0.0001
134	ETHNIC5*INDUSTY	2	45	0.0109	0.0043	0.0102
135	ETHNIC5*INDUSTY	2	46	0.0423	0.0056	0.0001
136	ETHNIC5*INDUSTY	2	48	0.0000	0.0000	.
137	ETHNIC5*INDUSTY	3	4	-0.0200	0.0062	0.0013
138	ETHNIC5*INDUSTY	3	5	-0.0475	0.0095	0.0001
139	ETHNIC5*INDUSTY	3	6	-0.0316	0.0127	0.0130
140	ETHNIC5*INDUSTY	3	8	-0.0670	0.0098	0.0001
141	ETHNIC5*INDUSTY	3	10	-0.0274	0.0084	0.0010
142	ETHNIC5*INDUSTY	3	11	-0.0414	0.0098	0.0001
143	ETHNIC5*INDUSTY	3	13	-0.0642	0.0116	0.0001
144	ETHNIC5*INDUSTY	3	16	-0.0482	0.0085	0.0001
145	ETHNIC5*INDUSTY	3	17	-0.0610	0.0089	0.0001
146	ETHNIC5*INDUSTY	3	18	-0.0452	0.0086	0.0001
147	ETHNIC5*INDUSTY	3	19	-0.0855	0.0127	0.0001
148	ETHNIC5*INDUSTY	3	20	-0.0055	0.0096	0.5670
149	ETHNIC5*INDUSTY	3	22	-0.0539	0.0091	0.0001
150	ETHNIC5*INDUSTY	3	25	-0.0121	0.0065	0.0599
151	ETHNIC5*INDUSTY	3	26	-0.0173	0.0096	0.0729
152	ETHNIC5*INDUSTY	3	27	0.0070	0.0103	0.4967
153	ETHNIC5*INDUSTY	3	28	-0.0391	0.0067	0.0001
154	ETHNIC5*INDUSTY	3	30	-0.0462	0.0085	0.0001
155	ETHNIC5*INDUSTY	3	31	-0.0521	0.0089	0.0001
156	ETHNIC5*INDUSTY	3	32	-0.0280	0.0072	0.0001
157	ETHNIC5*INDUSTY	3	33	-0.0196	0.0067	0.0037
158	ETHNIC5*INDUSTY	3	35	-0.0434	0.0063	0.0001
159	ETHNIC5*INDUSTY	3	36	-0.0358	0.0062	0.0001
160	ETHNIC5*INDUSTY	3	37	-0.0043	0.0093	0.6430
161	ETHNIC5*INDUSTY	3	38	-0.0121	0.0138	0.3814
162	ETHNIC5*INDUSTY	3	39	-0.0028	0.0079	0.7168
163	ETHNIC5*INDUSTY	3	40	-0.0288	0.0104	0.0058
164	ETHNIC5*INDUSTY	3	41	-0.0323	0.0072	0.0001
165	ETHNIC5*INDUSTY	3	42	-0.0155	0.0077	0.0437
166	ETHNIC5*INDUSTY	3	45	-0.0027	0.0067	0.6820
167	ETHNIC5*INDUSTY	3	46	0.0050	0.0091	0.5839
168	ETHNIC5*INDUSTY	3	48	0.0000	0.0000	.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
169	ETHNIC5*INDUSTY	4	4	-0.0155	0.0106	0.1464
170	ETHNIC5*INDUSTY	4	5	-0.0375	0.0181	0.0381
171	ETHNIC5*INDUSTY	4	6	-0.0420	0.0250	0.0938
172	ETHNIC5*INDUSTY	4	8	-0.0873	0.0135	0.0001
173	ETHNIC5*INDUSTY	4	10	-0.0218	0.0135	0.1068
174	ETHNIC5*INDUSTY	4	11	-0.0317	0.0140	0.0234
175	ETHNIC5*INDUSTY	4	13	-0.0314	0.0305	0.3033
176	ETHNIC5*INDUSTY	4	16	-0.0393	0.0173	0.0231
177	ETHNIC5*INDUSTY	4	17	0.0004	0.0111	0.9708
178	ETHNIC5*INDUSTY	4	18	-0.0182	0.0104	0.0809
179	ETHNIC5*INDUSTY	4	19	-0.0036	0.0210	0.8653
180	ETHNIC5*INDUSTY	4	20	0.0065	0.0119	0.5854
181	ETHNIC5*INDUSTY	4	22	-0.0162	0.0149	0.2787
182	ETHNIC5*INDUSTY	4	25	0.0050	0.0097	0.6036
183	ETHNIC5*INDUSTY	4	26	0.0062	0.0138	0.6536
184	ETHNIC5*INDUSTY	4	27	-0.0358	0.0172	0.0373
185	ETHNIC5*INDUSTY	4	28	-0.0044	0.0098	0.6559
186	ETHNIC5*INDUSTY	4	30	-0.0740	0.0125	0.0001
187	ETHNIC5*INDUSTY	4	31	-0.0241	0.0137	0.0785
188	ETHNIC5*INDUSTY	4	32	-0.0352	0.0103	0.0006
189	ETHNIC5*INDUSTY	4	33	-0.0252	0.0098	0.0102
190	ETHNIC5*INDUSTY	4	35	-0.0210	0.0086	0.0151
191	ETHNIC5*INDUSTY	4	36	-0.0064	0.0085	0.4541
192	ETHNIC5*INDUSTY	4	37	0.0334	0.0176	0.0571
193	ETHNIC5*INDUSTY	4	38	-0.0509	0.0339	0.1330
194	ETHNIC5*INDUSTY	4	39	0.0165	0.0112	0.1400
195	ETHNIC5*INDUSTY	4	40	-0.0230	0.0173	0.1852
196	ETHNIC5*INDUSTY	4	41	0.0123	0.0089	0.1678
197	ETHNIC5*INDUSTY	4	42	0.0384	0.0097	0.0001
198	ETHNIC5*INDUSTY	4	45	0.0045	0.0097	0.6403
199	ETHNIC5*INDUSTY	4	46	0.0332	0.0137	0.0156
200	ETHNIC5*INDUSTY	4	48	0.0000	0.0000	.
201	ETHNIC5*INDUSTY	6	4	0.0000	0.0000	.
202	ETHNIC5*INDUSTY	6	5	0.0000	0.0000	.
203	ETHNIC5*INDUSTY	6	6	0.0000	0.0000	.
204	ETHNIC5*INDUSTY	6	8	0.0000	0.0000	.
205	ETHNIC5*INDUSTY	6	10	0.0000	0.0000	.
206	ETHNIC5*INDUSTY	6	11	0.0000	0.0000	.
207	ETHNIC5*INDUSTY	6	13	0.0000	0.0000	.
208	ETHNIC5*INDUSTY	6	16	0.0000	0.0000	.
209	ETHNIC5*INDUSTY	6	17	0.0000	0.0000	.
210	ETHNIC5*INDUSTY	6	18	0.0000	0.0000	.
211	ETHNIC5*INDUSTY	6	19	0.0000	0.0000	.
212	ETHNIC5*INDUSTY	6	20	0.0000	0.0000	.
213	ETHNIC5*INDUSTY	6	22	0.0000	0.0000	.
214	ETHNIC5*INDUSTY	6	25	0.0000	0.0000	.
215	ETHNIC5*INDUSTY	6	26	0.0000	0.0000	.
216	ETHNIC5*INDUSTY	6	27	0.0000	0.0000	.
217	ETHNIC5*INDUSTY	6	28	0.0000	0.0000	.
218	ETHNIC5*INDUSTY	6	30	0.0000	0.0000	.
219	ETHNIC5*INDUSTY	6	31	0.0000	0.0000	.
220	ETHNIC5*INDUSTY	6	32	0.0000	0.0000	.
221	ETHNIC5*INDUSTY	6	33	0.0000	0.0000	.
222	ETHNIC5*INDUSTY	6	35	0.0000	0.0000	.
223	ETHNIC5*INDUSTY	6	36	0.0000	0.0000	.
224	ETHNIC5*INDUSTY	6	37	0.0000	0.0000	.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
225	ETHNIC5*INDUSTY	6	38	0.0000	0.0000	.
226	ETHNIC5*INDUSTY	6	39	0.0000	0.0000	.
227	ETHNIC5*INDUSTY	6	40	0.0000	0.0000	.
228	ETHNIC5*INDUSTY	6	41	0.0000	0.0000	.
229	ETHNIC5*INDUSTY	6	42	0.0000	0.0000	.
230	ETHNIC5*INDUSTY	6	45	0.0000	0.0000	.
231	ETHNIC5*INDUSTY	6	46	0.0000	0.0000	.
232	ETHNIC5*INDUSTY	6	48	0.0000	0.0000	.
233	NATIVE8*INDUSTY	4		0.0125	0.0070	0.0732
234	NATIVE8*INDUSTY	5		0.0216	0.0098	0.0281
235	NATIVE8*INDUSTY	6		-0.0303	0.0124	0.0149
236	NATIVE8*INDUSTY	8		-0.0358	0.0107	0.0008
237	NATIVE8*INDUSTY	10		-0.0047	0.0083	0.5731
238	NATIVE8*INDUSTY	11		-0.0103	0.0093	0.2711
239	NATIVE8*INDUSTY	13		0.0340	0.0115	0.0030
240	NATIVE8*INDUSTY	16		-0.0146	0.0088	0.0985
241	NATIVE8*INDUSTY	17		0.0056	0.0081	0.4877
242	NATIVE8*INDUSTY	18		0.0195	0.0084	0.0202
243	NATIVE8*INDUSTY	19		-0.1179	0.0112	0.0001
244	NATIVE8*INDUSTY	20		0.0091	0.0091	0.3179
245	NATIVE8*INDUSTY	22		0.0025	0.0093	0.7919
246	NATIVE8*INDUSTY	25		-0.0039	0.0077	0.6075
247	NATIVE8*INDUSTY	26		-0.0188	0.0099	0.0582
248	NATIVE8*INDUSTY	27		0.0072	0.0098	0.4573
249	NATIVE8*INDUSTY	28		0.0024	0.0072	0.7366
250	NATIVE8*INDUSTY	30		0.0298	0.0087	0.0006
251	NATIVE8*INDUSTY	31		0.0313	0.0087	0.0004
252	NATIVE8*INDUSTY	32		0.0774	0.0083	0.0001
253	NATIVE8*INDUSTY	33		0.0143	0.0076	0.0615
254	NATIVE8*INDUSTY	35		0.0398	0.0067	0.0001
255	NATIVE8*INDUSTY	36		-0.0017	0.0070	0.8089
256	NATIVE8*INDUSTY	37		0.0268	0.0091	0.0033
257	NATIVE8*INDUSTY	38		0.0023	0.0192	0.9039
258	NATIVE8*INDUSTY	39		0.0215	0.0085	0.0113
259	NATIVE8*INDUSTY	40		0.1007	0.0093	0.0001
260	NATIVE8*INDUSTY	41		0.0203	0.0079	0.0101
261	NATIVE8*INDUSTY	42		0.0214	0.0074	0.0040
262	NATIVE8*INDUSTY	45		0.0012	0.0071	0.8625
263	NATIVE8*INDUSTY	46		-0.0317	0.0105	0.0025
264	NATIVE8*INDUSTY	48		0.0000	0.0000	.
265	NATIVE8*ETHNIC5	2		-0.0018	0.0050	0.7190
266	NATIVE8*ETHNIC5	3		-0.0083	0.0049	0.0935
267	NATIVE8*ETHNIC5	4		-0.0114	0.0069	0.0976
268	NATIVE8*ETHNIC5	6		0.0000	0.0000	.
269	CMSA*ETHNIC5	7	2	0.0177	0.0076	0.0191
270	CMSA*ETHNIC5	7	3	0.0206	0.0101	0.0422
271	CMSA*ETHNIC5	7	4	0.0231	0.0117	0.0495
272	CMSA*ETHNIC5	7	6	0.0000	0.0000	.
273	CMSA*ETHNIC5	14	2	-0.0094	0.0044	0.0325
274	CMSA*ETHNIC5	14	3	0.0155	0.0046	0.0008
275	CMSA*ETHNIC5	14	4	0.0112	0.0066	0.0880
276	CMSA*ETHNIC5	14	6	0.0000	0.0000	.
277	CMSA*ETHNIC5	28	2	0.0114	0.0070	0.1038
278	CMSA*ETHNIC5	28	3	0.0234	0.0181	0.1959
279	CMSA*ETHNIC5	28	4	0.0630	0.0191	0.0010
280	CMSA*ETHNIC5	28	6	0.0000	0.0000	.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
281	CMSA*ETHNIC5	31	2	-0.0200	0.0060	0.0009
282	CMSA*ETHNIC5	31	3	0.0129	0.0060	0.0329
283	CMSA*ETHNIC5	31	4	0.0308	0.0108	0.0045
284	CMSA*ETHNIC5	31	6	0.0000	0.0000	.
285	CMSA*ETHNIC5	34	2	0.0265	0.0107	0.0133
286	CMSA*ETHNIC5	34	3	0.0262	0.0078	0.0008
287	CMSA*ETHNIC5	34	4	0.0157	0.0174	0.3692
288	CMSA*ETHNIC5	34	6	0.0000	0.0000	.
289	CMSA*ETHNIC5	35	2	0.0004	0.0052	0.9376
290	CMSA*ETHNIC5	35	3	0.0524	0.0118	0.0001
291	CMSA*ETHNIC5	35	4	0.0303	0.0122	0.0131
292	CMSA*ETHNIC5	35	6	0.0000	0.0000	.
293	CMSA*ETHNIC5	42	2	-0.0246	0.0055	0.0001
294	CMSA*ETHNIC5	42	3	0.0186	0.0052	0.0004
295	CMSA*ETHNIC5	42	4	0.0030	0.0095	0.7538
296	CMSA*ETHNIC5	42	6	0.0000	0.0000	.
297	CMSA*ETHNIC5	56	2	-0.0169	0.0062	0.0060
298	CMSA*ETHNIC5	56	3	-0.0027	0.0046	0.5568
299	CMSA*ETHNIC5	56	4	0.0129	0.0155	0.4057
300	CMSA*ETHNIC5	56	6	0.0000	0.0000	.
301	CMSA*ETHNIC5	70	2	0.0083	0.0038	0.0276
302	CMSA*ETHNIC5	70	3	0.0073	0.0036	0.0405
303	CMSA*ETHNIC5	70	4	-0.0069	0.0048	0.1501
304	CMSA*ETHNIC5	70	6	0.0000	0.0000	.
305	CMSA*ETHNIC5	77	2	-0.0078	0.0048	0.1070
306	CMSA*ETHNIC5	77	3	-0.0050	0.0088	0.5656
307	CMSA*ETHNIC5	77	4	0.0263	0.0094	0.0052
308	CMSA*ETHNIC5	77	6	0.0000	0.0000	.
309	CMSA*ETHNIC5	79	2	0.0095	0.0190	0.6160
310	CMSA*ETHNIC5	79	3	0.0393	0.0162	0.0155
311	CMSA*ETHNIC5	79	4	0.0337	0.0145	0.0204
312	CMSA*ETHNIC5	79	6	0.0000	0.0000	.
313	CMSA*ETHNIC5	84	2	0.0115	0.0054	0.0353
314	CMSA*ETHNIC5	84	3	0.0374	0.0045	0.0001
315	CMSA*ETHNIC5	84	4	0.0166	0.0050	0.0009
316	CMSA*ETHNIC5	84	6	0.0000	0.0000	.
317	CMSA*ETHNIC5	91	2	-0.0007	0.0094	0.9370
318	CMSA*ETHNIC5	91	3	0.0348	0.0128	0.0065
319	CMSA*ETHNIC5	91	4	0.0307	0.0087	0.0004
320	CMSA*ETHNIC5	91	6	0.0000	0.0000	.
321	CMSA*ETHNIC5	720	2	-0.0057	0.0061	0.3490
322	CMSA*ETHNIC5	720	3	0.0582	0.0225	0.0096
323	CMSA*ETHNIC5	720	4	0.0671	0.0160	0.0001
324	CMSA*ETHNIC5	720	6	0.0000	0.0000	.
325	CMSA*ETHNIC5	2840	2	-0.0263	0.0211	0.2130
326	CMSA*ETHNIC5	2840	3	0.0429	0.0099	0.0001
327	CMSA*ETHNIC5	2840	4	0.0486	0.0171	0.0046
328	CMSA*ETHNIC5	2840	6	0.0000	0.0000	.
329	CMSA*ETHNIC5	5120	2	-0.0389	0.0118	0.0010
330	CMSA*ETHNIC5	5120	3	0.0031	0.0185	0.8677
331	CMSA*ETHNIC5	5120	4	0.0348	0.0148	0.0182
332	CMSA*ETHNIC5	5120	6	0.0000	0.0000	.
333	CMSA*ETHNIC5	5720	2	-0.0155	0.0079	0.0499
334	CMSA*ETHNIC5	5720	3	0.0056	0.0274	0.8391
335	CMSA*ETHNIC5	5720	4	-0.0220	0.0216	0.3092
336	CMSA*ETHNIC5	5720	6	0.0000	0.0000	.

OBS	PARM	LEVEL1	LEVEL2	ESTIMATE	STDERR	PVAL
337	CMSA*ETHNIC5	6200	2	-0.0253	0.0149	0.0899
338	CMSA*ETHNIC5	6200	3	0.0258	0.0078	0.0009
339	CMSA*ETHNIC5	6200	4	0.0232	0.0191	0.2230
340	CMSA*ETHNIC5	6200	6	0.0000	0.0000	.
341	CMSA*ETHNIC5	6920	2	0.0103	0.0111	0.3492
342	CMSA*ETHNIC5	6920	3	0.0461	0.0086	0.0001
343	CMSA*ETHNIC5	6920	4	0.0415	0.0109	0.0001
344	CMSA*ETHNIC5	6920	6	0.0000	0.0000	.
345	CMSA*ETHNIC5	7320	2	-0.0368	0.0102	0.0003
346	CMSA*ETHNIC5	7320	3	0.0125	0.0066	0.0592
347	CMSA*ETHNIC5	7320	4	-0.0138	0.0092	0.1321
348	CMSA*ETHNIC5	7320	6	0.0000	0.0000	.
349	CMSA*ETHNIC5	8280	2	0.0054	0.0106	0.6115
350	CMSA*ETHNIC5	8280	3	0.0392	0.0117	0.0008
351	CMSA*ETHNIC5	8280	4	0.0365	0.0324	0.2588
352	CMSA*ETHNIC5	8280	6	0.0000	0.0000	.
353	CMSA*ETHNIC5	8840	2	0.0147	0.0047	0.0019
354	CMSA*ETHNIC5	8840	3	0.0356	0.0073	0.0001
355	CMSA*ETHNIC5	8840	4	0.0080	0.0077	0.2953
356	CMSA*ETHNIC5	8840	6	0.0000	0.0000	.
357	CMSA*ETHNIC5	9950	2	0.0000	0.0000	.
358	CMSA*ETHNIC5	9950	3	0.0000	0.0000	.
359	CMSA*ETHNIC5	9950	4	0.0000	0.0000	.
360	CMSA*ETHNIC5	9950	6	0.0000	0.0000	.
361	NICH85			0.0008	0.0006	0.1653
362	NICH86			0.0117	0.0024	0.0001
363	SEX80			-0.0160	0.0007	0.0001
364	ODDS80			0.0001	0.0001	0.0932
365	GRASPK			0.0076	0.0001	0.0001
366	IMIGANT1			-0.0449	0.0029	0.0001
367	SUPER80X*ETHNIC5		2	-0.0171	0.0248	0.4894
368	SUPER80X*ETHNIC5		3	-0.0845	0.0115	0.0001
369	SUPER80X*ETHNIC5		4	-0.0432	0.0132	0.0010
370	SUPER80X*ETHNIC5		6	-0.0218	0.0019	0.0001
371	CSUPER			-0.0003	0.0000	0.0001
372	CSEX			0.0000	0.0000	0.0001
373	CNATIVE			-0.0001	0.0000	0.0002
374	CODDS			0.0000	0.0000	0.0037
375	CNATIVE*ETHNIC5		2	0.0003	0.0001	0.0557
376	CNATIVE*ETHNIC5		3	-0.0005	0.0002	0.0539
377	CNATIVE*ETHNIC5		4	-0.0004	0.0005	0.4355
378	CNATIVE*ETHNIC5		6	0.0000	0.0000	.
379	NICH86*ETHNIC5		2	-0.0220	0.0035	0.0001
380	NICH86*ETHNIC5		3	-0.0106	0.0062	0.0874
381	NICH86*ETHNIC5		4	-0.0253	0.0076	0.0009
382	NICH86*ETHNIC5		6	0.0000	0.0000	.
383	NICH85*ETHNIC5		2	-0.0010	0.0023	0.6521
384	NICH85*ETHNIC5		3	0.0011	0.0025	0.6768
385	NICH85*ETHNIC5		4	-0.0004	0.0038	0.9210
386	NICH85*ETHNIC5		6	0.0000	0.0000	.
387	IMIGANT2			-0.0431	0.0016	0.0001
388	COMGRADE			0.0220	0.0002	0.0001
389	NICHSPK8			-0.0120	0.0062	0.0524
390	SCALE			0.6163	0.0004	.

Appendix Table A5 ends here

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