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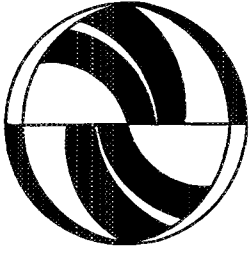
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Spatial Isolation of Minority and
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Working Paper
UCTC No. 290

**The University of California
Transportation Center**
University of California
Berkeley, CA 94720

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**Teenage Employment and the Spatial Isolation of
Minority and Poverty Households**

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*Working Paper
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by

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- I Introduction
- II Data and Measurement
- III Empirical Models
- IV Results
- V Implications and Conclusions

June 1995
Revision

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Abstract

Teenage Employment and the Spatial Isolation of Minority and Poverty Households

Using micro data from the US Census, this paper tests the importance of the spatial isolation of minority and poverty households for youth employment in the largest US metropolitan areas. We first estimate a model relating youth employment probabilities to individual and family characteristics, race, and metropolitan location. We then investigate the determinants of the systematic differences in employment probabilities by race and metropolitan area. We find that a substantial fraction of differences in youth employment can be attributed to the isolation of minorities and poor households. Minority youth residing in cities in which minorities are more segregated or in which minorities have less contact with non-poor households have lower employment probabilities than otherwise identical youth living in similar but less segregated metropolitan areas. Simulations suggest that the magnitude of these spatial effects is not small. It may explain a substantial fraction of the existing differences in youth employment rates for white, black, and hispanic youth.

JEL Classification: J634, I30, R23

I. Introduction

Many have argued that the concentration of poor and minority households in central portions of metropolitan areas exacerbates a host of urban problems -- ranging from the low quality of public services, such as education, to the high level of antisocial activity, such as violent crime. The hard evidence on the existence of concentration effects upon social outcomes is somewhat ambiguous (see Jencks and Mayers, 1990, for a review; Case and Katz, 1991, and Plotnick and Hoffman, 1995, for recent developments), but the emergence of an urban "underclass" has generated new debate about the implications of the spatial isolation of poor and minority households upon their own well being and that of others.

Regardless of the overall effects of concentrated poverty on social outcomes, there is reason to anticipate specific impacts on the operation of urban labor markets. The well-known "spatial mismatch theory" suggests that minority workers concentrated in central cities will experience lower employment rates than will similar workers who are not spatially isolated from emerging job concentrations at suburban sites. Again, empirical evidence on the magnitude of the mismatch in jobs is not definitive (see Kain, 1992, and Holzer, 1991, for recent reviews), but there can be little doubt that job movement to the suburbs reduces employment opportunities for those left behind. Several recent studies have documented the relationship between the lower employment levels of black and hispanic workers and measures of travel times to jobs (Ihlanfeldt and Sjoquist, 1990; Ihlanfeldt, 1993).

Regardless of the importance of the "mismatch" hypothesis, the social isolation arising from concentrations of poverty households may

presume that the residence sites of youth are influenced less by the accessibility demands of youth and determined more by those of the family. Thus, youth primarily seek employment whose accessibility is measured from their predetermined residential locations. In addition, Census data on at-home youth include extensive data on the household in which they reside, permitting us to control for a variety of frequently-omitted family characteristics.³ This also helps to control for the endogeneity of residential location. There are 55,393 observations on at-home youth in 1980 and 243,138 in 1990.

Racial and poverty concentrations in each MSA are measured by two versions of a standard segregation index reflecting average level of "exposure" between members of two groups.⁴ We are specifically interested in the extent to which minorities and the poor have social access to whites and the non-poor. This specific dimension of segregation is best captured by the "exposure index" measuring interaction between groups.⁵ It is calculated as follows:

$$(1) \quad E_{ij} = \sum_t (n_{it}/N_i) (n_{jt}/N_t) \quad .$$

E_{ij} is the exposure of the i th group to members of group j . n_{it} and n_{jt} are the number of group i and group j people in tract t , N_i is the total number of group i people in the MSA, and N_t is the total number of

³ For reasons of confidentiality, the data do not include the census tract of residence.

⁴ See White (1986) for a comparison of various measures.

⁵ See Massey and Denton (1988) for a discussion of five distinct dimensions of segregation and an evaluation of the exposure index in this context.

people in tract t . Group i 's exposure to group j is simply the tract level exposure to group j (the proportion of the tract which belongs to group j) weighted by the fraction of the total population of group i in each tract, and summed over all tracts. The index number, which ranges from 0 to 1, measures the probability, for the average member of group i , that a randomly picked resident of his or her census tract is a member of group j .

Social isolation of minority households decreases their contact with both non-minority (white) and non-poor households. The measure of exposure to whites in 1980 is taken from Douglas Massey and Nancy Denton (1987); we reproduced this measure for 1990 using the same methodology. For each MSA, we calculated the exposure to whites of three groups: the exposure to whites experienced by whites; exposure to whites by blacks; and exposure to whites by hispanics.⁶ We presume that exposure to whites, who have higher employment rates (and perhaps greater influence in workplace decisions), is a measure of access to job contacts and, hence, to jobs.⁷

The second index measures exposure to poor individuals. Using data provided by Douglas Massey and the Census, we calculated indices of exposure to poverty for whites, blacks, and hispanics, for each MSA.⁸ Poor individuals are presumed to provide less valuable information about jobs.

⁶ Note that these measures are only available at the MSA level.

⁷ For the 1980 sample, the average index value of exposure to whites is: 0.870 for whites, 0.385 for blacks, and 0.668 for hispanics. For 1990: 0.821 for whites, 0.383 for blacks, and 0.668 for hispanics.

⁸ For 1980, the average index value of exposure to poverty is: 0.063 for whites, 0.194 for blacks, and 0.114 for hispanics. For 1990: 0.084 for whites, 0.216 for blacks, and 0.148 for hispanics.

III. Empirical Models

The first stage of the analysis is based on a logit model, relating youth employment probabilities to a vector of individual and family characteristics. The model includes race and ethnicity-specific effects which vary by MSA:

$$(2) \quad \log [P_i/(1-P_i)] = \alpha X_i + \sum_j \beta_{1j} w_i M_j + \sum_j \beta_{2j} b_i M_j + \sum_j \beta_{3j} h_i M_j$$

M_j is a set of MSA dummy variables, having a value of one if individual i resides in metropolitan area j and zero otherwise. This vector is interacted with a series of race/ethnicity dummy variables: w_i is a dummy variable with a value of one for whites and zero otherwise, b_i is a dummy variable with a value of one for blacks and zero otherwise, and h_i is a dummy variable with a value of one for hispanics and zero otherwise.

The set of parameters β_{rm} (for $r = 1, 2, 3$ races and $m = 1, 2, \dots, 47$ or 73 metropolitan areas) represents the shift in the logit of employment probability depending upon the race of the individual and the metropolitan area in which that individual resides.

In the second stage we analyze the determinants of these metropolitan wide differences:

$$(3) \quad \beta_{rm} = \gamma Z_m + \delta E_{rm} .$$

Z_m is a vector of MSA characteristics expected to influence local labor market outcomes, and E_m is the exposure index described in equation (1). We estimate several different forms of equation (3).

IV Results

Table 1 presents a summary of the logit models described in equation (2). The basic model differs from 1980 to 1990 only in the omission of the central city dummy variable, which is not available in the 1990 census. The coefficients on individual characteristics are consistent across the years. There are two exceptions. Surprisingly, in 1980, youth in female-headed households appear more likely to be employed (although the coefficient is only marginally significant). This result obtains only after controlling for both race and the presence of a working parent,⁹ and is not found in the 1990 results.

The second difference appears in the effect of other household income (parents' and siblings') on youth employment. This result may reflect differences in the effect of family socio-economic status on youth by their school enrollment status. For 1990 the sample size is adequate to estimate the model separately for in-school and out-of-school youth. While other family income significantly decreases the likelihood of employment for in-school youth, it significantly increases employment probabilities for out-of-school youth. The head of

⁹ When the dummy variable indicating a working parent is omitted, the coefficient on female-headship is negative and significant. We include both variables in the results reported in the text, but have replicated the analysis omitting this variable (with essentially the same results throughout).

Table 1
 Logit Models of Employment Probabilities
 for at-Home Youth

	<u>1980</u>	<u>1990</u>
Sex (1=female)	-0.102 (5.37)	-0.036 (3.99)
Central City (1=yes)	-0.100 (4.33)	--
Age (years)	0.274 (21.76)	0.335 (64.53)
Education (years)	0.267 (27.03)	0.189 (56.46)
In School (1=yes)	-0.615 (24.50)	-0.504 (49.89)
Female Headed Household (1=yes)	0.050 (1.79)	-0.109 (9.51)
Education of Head (years)	-0.010 (3.10)	-0.015 (8.43)
Other Household Income (thousands)	1.320 (1.89)	-1.060 (11.08)
Parent Working (1=yes)	0.537 (15.17)	0.666 (41.77)
Sample Size	55,339	243,138
Chi-square	10,639.3	38,250.8
degrees of freedom	145	208

Note: Models do not include an intercept term. t-ratios are in parentheses.

Model for 1980 also includes 136 dummy variables: race of the individual interacted with dummy variables for metropolitan areas. Model for 1990 also includes 200 dummy variables.

household's education level, also a measure of family socio-economic status, follows a similar pattern.¹⁰

We also estimated these models with race/ethnicity dummies but no MSA dummies, and found the set of MSA coefficients to be highly significant in both years. The key finding is that, after controlling for individual characteristics, the employment probabilities of "otherwise identical" white, black, and hispanic at-home youth vary substantially by MSA.

We now investigate the sources of these systematic differences in employment probabilities. The coefficients estimated from equation (2) are the dependent variables, and we estimate models of the form of (3).¹¹ Since the dependent variables in this analysis are regression coefficients (observed with sampling error), the models are estimated by generalized least squares.¹²

Table 2 presents two regressions relating the differences in employment probabilities for otherwise identical youth to aggregate economic conditions by metropolitan area, and to the level of racial segregation by race.¹³ We expect that differences in employment

¹⁰ Note that previous research reports similar effects of area characteristics on youth regardless of school enrollment status. Freeman (1982) found similar effects of local economic conditions on youth employment for enrolled and not-enrolled youth; Ihlanfeldt and Sjoquist (1991) found that a measure of employment access had a similar effect.

¹¹ Due to the small sample size for minorities in some MSAs, in 1980 we estimate 136 coefficients (3 coefficients for 47 MSA less 5 hispanic effects) and in 1990 we estimate 200 (3 coefficients for 73 MSAs less 4 black effects and 15 hispanic effects).

¹² The GLS procedure incorporates information about the estimated variance and covariances of the dependent variable (see Hanushek, 1974).

¹³ As noted in the text, there remains the possibility of simultaneity between the measure of access and the outcome measure. Without

itself present a barrier to employment (Wilson, 1987; O'Regan and Quigley, 1991). Direct observation on job search strategies indicates that a large fraction of job seekers obtain information on specific jobs from friends and relatives (Holzer, 1987). The importance of these informal networks in affecting access to employment suggests that some networks are far more valuable than others in obtaining employment, i.e., networks which include a larger fraction of employed members, or members with "better" jobs. Formal models of job search suggest that those in networks with low employment rates may be further disadvantaged in the labor market (Montgomery, 1991; O'Regan, 1993).

This paper provides an empirical test of the importance of these phenomena. The empirical analysis is conducted in two steps. First, we estimate a logit model relating youth employment probabilities to individual and family characteristics, race and metropolitan region. We then investigate the determinants of the systematic differences in employment probabilities by race and metropolitan area (MSA). Specifically, we relate these differences to aggregate economic conditions in each MSA and to the spatial isolation of minority and poor households in each metropolitan area.

We find that a substantial fraction of the variation in employment probabilities for otherwise identical youth can be attributed to the spatial isolation of poor and minority households. Cities in which minorities are more segregated from whites, or in which the poor are more segregated from the non-poor, are cities in which minority youth have lower employment rates than do identical youth in similar but less segregated cities.

We use these results to estimate the employment effects that could reasonably be attributed to an integrated pattern of residence by race and poverty status, thereby reducing two barriers to the labor market access of minority workers. These employment effects are quite large.

II Data and Measurement

Our empirical work is based on 1980 and 1990 Census data for non-hispanic white(white), non-hispanic black (black), and hispanic youth living at home (with at least one parent) and aged 16 to 19. The 1980 sample covers 47 of the largest metropolitan statistical areas.¹ The 1990 sample includes these same 47 MSAs and all other MSAs of equivalent size, 73 MSAs in total.²

We focus on the employment of youth to control for the endogeneity of residential location. Several recent papers analyzing neighborhood and peer effects on behavior have highlighted the difficulty of controlling adequately for family characteristics and choice in identifying neighborhood and peer influence (Corcoran et al, 1992, Evans et al, 1992, Plotnick and Hoffman, 1995). We recognize that these problems are not eliminated by focusing on youth employment. Nevertheless, in contrast to the analysis of adult workers, we can

¹ For these 47 metropolitan areas: (i) MSA sample sizes of youth available through the public use micro sample (PUMS) are large enough to estimate area-specific effects; (ii) residential segregation indices have been calculated; and (iii) central city residence is distinguished in the PUMS data.

² The 1990 sample was selected to permit replication of the results for 1980 for the same cities and also to increase sample sizes to test the model on the subsample of youth not enrolled in school. The 1990 sample was gathered internally at the Census and includes all records on youth not enrolled in school.

populations and coefficients, the aggregate employment rate changes by less than two percentage points, and actually increases. The simulation for 1990 shows a similar pattern of redistribution, with barely any change in the aggregate employment rate.

The second simulation, Panel B, focuses on the segregation of poverty. The actual level of exposure to poverty is replaced by that which would be experienced if poverty were evenly dispersed across census tracts within each MSA. Again, this reallocation of the poverty population decreases minority exposure to poverty, and increases white exposure to poverty. Minority youth employment rates would increase -- by 3 or 4 percentage points for hispanics, and by 5 to 13 percentage points for blacks. White employment rates would decrease by 4 to 6 percentage points, and the aggregate employment rate for youth would decline by something less than 2 percentage points.²⁰

Although the numerical results of these simulations are subject to uncertainty for the usual reasons, the results are consistent: reductions in the spatial patterns of isolation of poor and minority households would lead to large increases in the employment probabilities for hispanic and for black youth. These changes would lead to small reductions in the employment probabilities of white youth.

V Implications and Conclusions

The results of this analysis provide empirical support for the existence of concentration effects: The employment prospects of

²⁰ We have conducted these simulations for Model I, with results similar to those presented in Table 4.

otherwise identical at-home youth depend, not only on the general economic conditions in the metropolitan areas in which they reside, but also on the patterns of isolation and segregation by race and by poverty status. Exposure to whites increases the employment probabilities for youth, while residential exposure to the poor reduces employment probabilities.

Given the high correlation between social and spatial access, our empirical work cannot confirm that either is a more important mechanism connecting youth to jobs. However, some aspects of our results suggest that social access is important.

For example, we estimated similar regressions in which alternative exposure measures were used: exposure to blacks, and exposure to hispanics. Exposure to blacks had the opposite effect of exposure to whites -- it significantly decreased employment probabilities for all youth. Exposure to hispanics, however, had an insignificant effect on white and black youth employment, but significantly increased hispanic youth employment. While it is difficult to explain this pattern strictly on the basis of spatial access, it is consistent with an explanation in terms of social networks -- in which linguistically-based networks among hispanics provide more effective job contacts than networks among blacks.

We also note that while the "mismatch hypothesis" relates principally to minority households, whose residential choices are constrained by racial discrimination in the housing market, the "social network hypothesis" applies to white workers as well. Our findings are consistent with a spatial explanation that applies to all youth; all

Table 2
 Racial Segregation and Youth Employment:
 Exposure of Individuals, by Race, to White Individuals

	1980		1990	
	<u>Model I</u>	<u>Model II</u>	<u>Model I</u>	<u>Model II</u>
Unemployment Rate (percent)	-0.111 (12.64)	-0.107 (14.75)	-0.128 (7.79)	-0.129 (7.98)
Business Services Employment (percent)	-0.023 (2.34)	-0.038 (4.15)	0.012 (0.62)	0.014 (0.70)
Intercept for:				
Whites	-7.577 (27.05)	-7.105 (22.39)	-8.490 (46.38)	-8.523 (35.71)
Blacks	-8.013 (34.24)	-7.950 (34.92)	-8.947 (57.94)	-9.014 (55.26)
Hispanics	-7.570 (29.85)	-7.333 (29.24)	-8.543 (50.02)	-8.463 (46.60)
Exposure to Whites	1.064 (6.79)		1.105 (10.15)	
Exposure to Whites by:				
Whites		0.688 (3.08)		1.140 (5.72)
Blacks		1.410 (5.81)		1.279 (6.73)
Hispanics		0.920 (4.20)		0.949 (5.69)
Sample Size	136	136	200	200
R ²	.565	.582	.820	.821

Note: R² is from ordinary least squares regression. All coefficients are estimated by generalized least squares. (See text for details of estimation procedure.) t ratios are in parentheses.

probabilities for youth across metropolitan areas depend upon the aggregate economic conditions in these MSAs. We use the unemployment rate for white adults in each metropolitan area as a measure of general economic conditions. Youth employment probabilities are significantly lower in MSAs with higher unemployment rates. This variable has a highly significant and large coefficient in every version of these regressions we have explored.

Other aspects of the local economy differentially affect youth employment. We included a variety of measures of industry mix and found the fraction of MSA employment in the business service sector to be the best summary measure.¹⁴ We tested several other categories of variables in these regressions, all which proved to be insignificant.¹⁵

improved data, we are limited to controlling for this by using at-home youth (whose residence choice is exogenous), extensive family background variables (thus, fewer unobservables), and information on parent employment status.

¹⁴ In similar regressions, we included other measures of industrial structure -- the fraction of employment in manufacturing, retail and wholesale trade, etc. None of the other results are affected by these more extensive measures of industrial structure.

¹⁵ First, we included several MSA-level variables describing the human capital characteristics of the population (median age, percent of the population with a high school diploma, etc.). These measures were insignificant; after controlling for individual human capital characteristics, aggregate measures provided no additional information. Second, we attempted to control for transport access in a variety of ways. From the Census, we used the average one-way commuting time and the share of total MSA employment in the central city as two measures of access. We also used an index designed to measure the access provided by local transit systems (see Linneman and Summers, 1993). Finally, using data from the Department of Transportation on public transportation systems, we created a variety of transit indices. None of these measures adequately captures physical proximity between workers and jobs, and none of these measures were significant in our regressions.

Throughout, we permit intercepts to vary for the three groups,¹⁶ to capture any systematic differences in youth employment probabilities by race and ethnicity.

Finally, after controlling for these other effects, we investigate the importance of exposure to whites. In Model I, the coefficient for the race-specific exposure index is constant across groups, and it is significantly positive in both 1980 and 1990. In Model II, we estimate separate coefficients for exposure to whites, by race.¹⁷ For all three groups, in both years, exposure to whites significantly increases a youth's probability of being employed.¹⁸

Table 3 presents analogous results using the poverty exposure index to measure social access. The results are quite similar to those reported in Table 2. In each of the models, in both years, exposure to poverty has a negative effect upon the employment probabilities for otherwise identical at-home youth.

Because exposure to whites and exposure to poverty are highly correlated (between -0.822 and -0.878), inclusion of both indices in a single regression yields ambiguous results.¹⁹ Exposure to whites

¹⁶ Specifically, we estimate $\beta_{rm} = I_1w + I_2b + I_3h + \gamma Z_m + \delta E_{rm}$, where w, b, h are race/ethnicity dummies. $I_1, I_2,$ and I_3 are the intercepts for whites, blacks, and hispanics, respectively.

¹⁷ Specifically, we estimate $\beta_{rm} = I_1w + I_2b + I_3h + \gamma Z_m + \delta_1 w E_{1m} + \delta_2 b E_{2m} + \delta_3 h E_{3m}$, where w, b, h are race/ethnicity dummies. E_1 refers to whites, E_2 refers to blacks, and E_3 refers to hispanics.

¹⁸ We have estimated the 1990 models using only youth who were not enrolled in school, with the same results.

¹⁹ For 1990, each measure is significant, and the OLS and GLS results are consistent with each other. For 1980, however, the OLS and GLS results differ greatly, and we cannot confidently distinguish effects of the two measures.

Table 3
 Poverty Segregation and Youth Employment:
 Exposure of Individuals, by Race, to Poor Individuals

	1980		1990	
	Model I	Model II	Model I	Model II
Unemployment Rate (percent)	-0.086 (8.74)	-0.083 (8.17)	-0.103 (5.62)	-0.092 (4.96)
Business Services Employment (percent)	-0.043 (4.66)	-0.040 (4.22)	-0.075 (3.69)	-0.076 (3.82)
Intercept for:				
Whites	-6.261 (29.18)	-6.162 (27.72)	-7.095 (48.99)	-7.006 (46.35)
Blacks	-6.515 (27.86)	-6.616 (24.61)	-7.655 (47.82)	-7.866 (45.45)
Hispanics	-6.234 (27.72)	-6.345 (26.24)	-7.213 (45.94)	-7.127 (42.00)
Exposure to Poor	-5.489 (10.56)		-2.956 (8.34)	
Exposure to Poor by:				
Whites		-7.836 (5.74)		-4.526 (5.28)
Blacks		-5.218 (6.86)		-2.181 (4.93)
Hispanics		-5.013 (6.19)		-3.783 (6.66)
Sample Size	136	136	200	200
R ²	.556	.558	.799	.808

Note: R² is from ordinary least squares regression. All coefficients are estimated by generalized least squares. (See text for details of estimation procedure.) t ratios are in parentheses.

"matters" in explaining inter urban variation in the employment propensities of minority teenagers. Exposure to the poor also "matters." Whether these are separate and distinct effects cannot be clearly determined.

The nonlinearity of the logit relationship makes it difficult to interpret the magnitude of these coefficients. The importance of these effects can be assessed more easily by simulation. We use the results described above to conduct several simulations of the impact of reduced segregation on the employment probabilities of youth. The results of a representative set of these simulations are presented in Table 4.

The first row presents the base case, the average employment level predicted by youth characteristics and the regression coefficients in Table 1. Next, we simulate the effect of racial integration on youth employment probabilities. For each MSA, we calculate the exposure to whites under complete integration and compute the implied employment probability for each individual. Panel A presents the average probabilities, separately by race and ethnicity, aggregated across these large MSAs.

Our simulation takes a limited resource (the "social access" provided by white youth) and redistributes it equally among all youth. This integration would increase the exposure of minority youth to whites, but would also decrease the exposure of white youth to other whites. In 1980, this spatial reallocation would lead to a 14 percentage point increase in black youth employment, a 5 percentage point increase in hispanic youth employment, and a 1 percentage point decline in white youth employment. While this simulation reveals a substantial reallocation of employment, given the relative sizes of the

Table 4
 Estimated Change in Youth Employment Rates
 from Spatial Integration

	<u>Whites</u>	<u>Blacks</u>	<u>Hispanics</u>	<u>Average</u>
A. Integration by Race *				
<u>1980</u>				
Employment:				
Estimated Base Rate (%)	49.33	25.22	39.27	44.36
Projected Rate (%)	48.19	39.58	43.95	46.27
Change (percentage pts.)	-1.44	+14.35	+4.68	+1.92
<u>1990</u>				
Employment:				
Estimated Base Rate (%)	54.65	28.91	41.82	49.58
Projected Rate (%)	51.49	39.51	44.08	49.02
Change (percentage pts.)	-3.16	+10.60	+2.27	-0.56
B. Integration by Poverty Status **				
<u>1980</u>				
Employment:				
Estimated Base Rate (%)	49.17	24.37	38.00	44.36
Projected Rate (%)	43.67	36.06	42.30	42.36
Change (percentage pts.)	-5.50	+12.58	+4.29	-1.38
<u>1990</u>				
Employment:				
Estimated Base Rate (%)	54.52	29.89	40.50	49.54
Projected Rate (%)	50.96	34.85	43.25	47.81
Change (percentage pts.)	-3.57	+4.96	+2.76	-1.73

Notes:

* Based on coefficients reported in Table 2, Model II.

** Based on coefficients reported in Table 3, Model II.

youth are affected in their labor market prospects by increased contact with white and poor individuals.

Regardless of the specific mechanism which relates youth employment outcomes to the spatial configuration of labor markets, these results document an important connection. In addition to human capital and general economic conditions, youth employment probabilities also depend on spatial isolation, and these latter factors work to the disadvantage of minority youth.

Our findings are consistent with those recent studies based on neighborhoods or single metropolitan areas which have found evidence of spatial effects. For example, using geographic units approximately equivalent to census tracts, Crane (1991) found significant neighborhood composition effects on teenage pregnancy and school dropout rates. Case and Katz (1991) focussed on distinct neighborhoods within one metropolitan area and found that neighborhood peers substantially influence a variety of youth behavior, including youth propensity to work. Our results are also consistent with recent work by Ihlanfeldt and Sjoquist (1990) which focussed specifically on the effects of nearness to jobs upon youth employment in a single metropolitan area. Using census-tract-based measures of job proximity, they found that between 33 to 54 percent of the gap between black and white youth employment rates is explained by differential accessibility -- numbers which are similar in magnitude to our results.

Our simulations suggest that the quantitative effect of isolation on youth employment is quite large. For the simulations presented, approximately 21 to 25 percent of the existing employment gap between white and Hispanic youth is attributable to the spatial isolation of

hispanics. Approximately 30 to 35 percent of the employment gap between white and black youth arises from the spatial isolation of blacks. Moreover, there is good reason to believe that these simulations underestimate the effects of concentrations on employment.²¹

Thus, in cities with particularly isolated minority and poor populations, even modest changes in spatial isolation of these populations would dramatically improve their employment prospects.

²¹ Note, for example, that the simulations assume that changing poverty and/or racial concentrations will not lead to any endogenous changes in youths' education attainments, or fertility behavior, or in the employment status of their parents.

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