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LABOR-MARKET DISCRIMINATION, UNDOCUMENTED-WORKER EFFECTS, AND THE EARNINGS OF MEXICAN AMERICAN MEN

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June, 1991

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LABOR-MARKET DISCRIMINATION, UNDOCUMENTED-WORKER EFFECTS, AND THE EARNINGS OF MEXICAN AMERICAN MEN

Abstract

The study of the inverse relationship between the labor-market density and the earnings of Mexican Americans yields fruitful insights into the formation of Mexican American earnings. This empirical effort leads to an interesting result: the inverse relationship is strongest among Mexican Americans who are either non-natives or in low-skill occupations. This result raises questions about earlier research that has recommended increasing the low earnings of Mexican Americans by exclusively focusing on human-capital enhancing programs, ignoring discrimination and immigration reform.

LABOR-MARKET DISCRIMINATION, UNDOCUMENTED-WORKER EFFECTS, AND THE EARNINGS OF MEXICAN AMERICAN MEN

Social scientists have devoted much effort to the study of Mexican American labor markets. Interest in this topic derives from the growing presence and the persistently low earnings of the second largest ethnic minority in the U.S. Earlier attempts have been made to determine whether labor-market discrimination and undocumented workers depress the earnings of Mexican Americans. These research efforts have some notable disagreements that partly hinge on methodological variations among studies. But these disagreements among researchers also depend on the reported differences in the concentration of Mexican Americans contained in the samples employed by these analyses. Namely, studies using samples with high concentrations of Mexican Americans generally find evidence of labor-market bias or undocumented-worker effects.[1]

Despite its importance to the study of Mexican American labor markets, previous work does not attempt to reconcile the potential sources of the inverse relationship between the density and the earnings of Mexican Americans. Earlier researchers, however, offer several interesting explanations for this phenomenon. (1) Regions with high concentrations of rMexican Americans have high unemployment rates and low cost-of-living levels (e.g., Hansen, 1981). (2) The employer distaste for Mexican Americans could be intensified with the size of this population (Reimers, 1984; Bellante, et al., 1990). (3) Undocumented Mexican workers may gravitate to areas with large Mexican American workforces (Bean, et al., 1988). (4) Mexican Americans may be willing to receive hedonic wages to remain closer to their cultural heritage (Reimers, 1984).

In this study, we address each of these sources for the relationship

between Mexican American earnings and their geographic concentration. We find that this inverse relationship partially results from the degree of association that Mexican Americans have at an occupational level with fellow ethnics and other minority groups. This finding holds net of regional cost-of-living and employment-opportunity differences. This finding allows us then to closely examine the effects of labor-market bias, undocumented-workers, and hedonic wages on the formation of Mexican American earnings. Our general findings are robust with respect to two complementary data sets: the 1980 Public-Use Microdata sample (PUMS) and the National Chicano Survey (NCS).

Conceptual Issues

Wage differentials arising from location decisions may be studied by employing a geographic-wage differential framework. Conceptually, the wage gaps of similarly-qualified Mexican Americans should disappear over the long-run in a world characterized by both costless information and perfectly competitive product and factor markets. Indeed, labor-demand models (e.g. Bradfield, 1976) demonstrate that under perfect competition real long-run wage differentials persist because of differences in the efficiency of labor as well as factors giving rise to compensating wage differentials across regions or occupations (Gerking and Weirick, 1983).[2]

Such theoretical framework can be specified in a form suitable for statistical estimation. For example, let W_p be individual p's measure of earnings expressed in logarithmic form, B_p represent a vector of human capital characteristics for individual p which accounts for the efficiency of labor. Let also R_p measure the degree of contact Mexican Americans have with their ethnic group and other minorities. The α and β coefficients capture the effects of R and B on W, and e denotes the random error term. The model,

then, can be stated as suggested by human-capital theory as follows:

$$W_p = \alpha B_p + \beta R_p + e \qquad (1).$$

A regression analysis finding $\beta < 0$ is evidence that either (1) some of the mechanisms leading to long-run earnings equilibrium have yet to have their full impact on the labor market, or (2) **B** does not fully capture important human-capital and non-pecuniary factors in the labor market.

The Data

We use data from the Public Use Microdata Sample of the 1980 Census (PUMS) and the National Chicano Survey (NCS) to estimate Equation (1). These two surveys contain representative samples of the Mexican American population in 1979. Moreover, the PUMS and the NCS are complementary surveys which give a broader understanding of the relationship between the labor-market density of Mexican Americans and their earnings. To avoid selectivity bias, we exclusively focus on adult civilian males who had positive labor income in 1979. The PUMS contains a sample of 15,560 workers and the NCS contains a sample of 237 workers.

To clarify our discussion, the following proxies for the corresponding data sets were established. For the PUMS, R_p from Equation (1) is the SW dichotomous variable in Appendix 1. SW equals 1 if the worker resided in Texas, New Mexico, Arizona, California, or Colorado in 1979; it equals 0 otherwise. For the NCS, R_p is proxied by the **CONTACT** categorical variable, which is defined as the degree of contact that Mexican Americans had with non-Hispanic whites. The variable ranges from 1 to 4, where 4 represents the lowest degree of contact with non-Hispanic whites. The control variables (**B** in Equation (1)) parallel those used by studies which estimate earning

functions.

Empirical Results

Two considerations motivated our first effort to estimate the relationship between Mexican American earnings and their labor-market density. First, Mexican Americans working in the Southwest (SW) earn less on average than their counterparts in the non-Southwest (NSW). Second, four out of five Mexican Americans live in the SW; this suggests that Mexican Americans in this region have relatively more contact with their ethnic group. Reimers (1984) notes, but does not test for the possibility, that the real earnings of Mexican Americans are lower in the SW because of their high concentration in this region. Similarly, Chiswick (1977) separates the Mexican American population by SW and NSW regions; however, he does not directly compare the real earnings differential between these two samples.

The PUMS reports the 1979 annual earnings of respondents and not their wages. Consequently, our analysis employs earnings as a dependent variable, but we control for hours worked in a year on the right-hand side of the earnings function. The geographic wage differential literature compares real and nominal earnings (Gerking and Weirick, 1983). Following the literature, we add a cost-of-living measure as an explanatory variable in the regression.

Appendix 1 displays the results of estimating Equation (1) and variable definitions on Mexican Americans and non-Hispanic whites.[3] The coefficient of the SW, a dummy variable for the Southwest versus the non-Southwest, is -0.077 and significant. Thus, the Mexican American earnings function suggests that, *ceteris paribus*, workers living in the SW earned 7.70 percent less than their counterparts living in the NSW in 1979. This finding supports our hypothesized relationship between Mexican American earnings and their labor-

market density.

Gwartney and Long (1978) uncover a similar result. They attribute their finding to cost-of-living and employment-opportunity differences between the Southern and Northern regions. Our findings show depressed SW Mexican American earnings net of our proxies for cost-of-living and employment-opportunity influences (**COL** and **HOURS**). We believe that these two backdrop variables adjust the level of earnings to the cross-sectional cost-of-living as well as employment opportunity variations. The results do not show a differential for non-Hispanic whites. This coefficient of SW is small, 0.003, and insignificant.

Next, we present evidence of the relationship between Mexican American earnings and the contact Mexican Americans have with fellow ethnics and other minorities using the National Chicano Survey (NCS). Mexican Americans living in the SW potentially interact more frequently with their ethnic group, but the NSW counterparts may be primarily employed in jobs which have high concentrations of Mexican Americans and other minorities.

We recall that the NCS data closely parallels some of the key socio-economic characteristics contained in the PUMS. However, unlike the PUMS, the NCS also includes a variable measuring the degree of contact that Mexican Americans have with the non-Hispanic white population and the respondent's union affiliation information.[4] Higher Mexican American earnings in the NSW may be attributed to the high level of union activity in this region. The contact variable is also a useful proxy for the visibility of the Mexican American population and for the degree of competition that Mexican Americans face from other minority workers. The NCS, however, limits the flexibility of our general analysis. It contains a sample of Mexican Americans in the SW

and the Chicago metropolitan area, omitting valuable information on Mexican Americans in other NSW regions. Further, the discrimination hypothesis cannot be tested with the NCS because it fails to provide a similar sample of non-Hispanic whites. Another difference lies in that the PUMS includes a continuous earnings measure, while the NCS only contains a categorical earnings variable. In particular, because the NCS quantifies earnings within certain intervals (e.g. 1-$1999, 2-$2999, ..., > $30000), their values are less precise and the open-ended $30000 interval leads to censoring problems. Consequently, OLS produces inconsistent estimates (Stewart, 1983). We estimate the NCS earnings functions with the ordered probit technique.[5]

The last column in Appendix 1 offers the NCS earnings function which relates the contact measure to the labor income of Mexican Americans. Recall that **CONTACT** is a categorical variable ranging from 1 to 4, with 4 representing the lowest degree of contact with non-Hispanic whites. Hence, it is reasonable to accept **CONTACT** as a variable which measures the contact of Mexican Americans with their own ethnic group. The regression coefficient of **CONTACT** is -0.076 and significant at the one percent level. This implies that Mexican Americans earn less, the more they associate with their fellow ethnics and other minorities. The NCS findings thus lend strong support to the hypothesis of an inverse relationship between the labor-market density of minorities and the earnings of Mexican Americans at the occupational level. Put differently, this result suggests that the relatively low SW Mexican American real wages could result from their high degree of association with fellow ethnics and other minorities in the SW as compared to the NSW.

Potential Sources of Earnings Differentials

From our conceptual framework, the foregoing results ensue because

either (1) we are not accurately measuring the pecuniary and non-pecuniary characteristics of SW Mexican American workers, or (2) SW Mexican American labor is relatively immobile across regions and is not a perfect substitute for non-Hispanic white labor in the SW. Issue (1) is a reasonable possibility, but cannot be fully addressed with our data sources. Consequently, we focus our attention on issue (2).

In labor theory, if perfect competition exists between Mexican Americans and non-Hispanic whites, and non-Hispanic whites are (as they appear to be) geographically mobile, the Mexican American regional wage gap should vanish in the long run. Non-Hispanic white workers would respond to depressed SW wages by migrating to the NSW. The non-Hispanic white employment vacancies in the SW would put upward pressure in the wages of both groups in this region, eventually eliminating the regional wage differential. This theoretical argument is more robust, the higher the degree of labor substitutability between Mexican Americans and non-Hispanic whites. To assume that the two groups are not substitutes for one another is to imply that a segmented labor market exists for Mexican Americans in the SW.

The relative regional immobility of SW Mexican American labor can be justified on various grounds. Regional immobility is often associated with imperfect labor-market information. Recent research on the migration patterns of Mexican Americans supports the labor-immobility assumption for low-skilled workers, a significant component of Mexican American labor. This argument proposes that the low-skilled group participates in regional labor markets, and is slow to respond to favorable economic news at the national labor-market level. In addition, the moving costs, both pecuniary and non-pecuniary, may be comparatively high for low-skilled labor (Saenz and Davila, 1991).

Occupational immobility is symptomatic of occupational discrimination, but, again, it could also reflect the fact that two labor groups possess different levels of unmeasurable human-capital characteristics. The reasons Mexican Americans in the SW concentrate in certain occupations deserve future research.

A. Labor Market Discrimination in the SW

Casual observation suggests that the large presence of Mexican Americans in the SW may be a source of labor-market discrimination in this region. Discrimination theory (Becker, 1957) argues that labor-market discrimination depends on the size and visibility of the minority population.

Consider the impact that an increase in density of Mexican Americans has on their relative wage according to this neo-classical model. Employers in a labor market are sorted according to their taste for discrimination, from lowest to highest. Therefore, the demand for Mexican American labor can be seen as a downward sloping function relating their relative wage to their relative presence in a labor market. At the margin, the labor market equates the supply and demand for Mexican American labor. Then, the greater the density of Mexican Americans in a labor market (e.g. SW vs. NSW), the lower the wages of Mexican Americans relative to those of non-Hispanic whites. Reimers (1984) discusses this possibility in the context of the SW-NSW Mexican American wage differential. Cain (1986) addresses this issue with respect to occupational Mexican American wage differentials.

We test the regional heterogeneity assumption with the familiar wage decomposition technique (e.g., Oaxaca, 1973).[6] Wage differences between two groups arise because the two groups differ in human capital or because they receive unequal returns to their human capital, presumably because of labor

market discrimination.

PUMS lacks information on the wages earned by individuals. To arrive at a nominal wage measure for each respondent, the 1979 earnings of each worker are deflated by his number of hours worked in 1979. This number is then adjusted by the cost-of-living measure. The earnings functions contain the standard human capital variables used in these types of analyses.

To illustrate our next step, let m and n stand for Mexican American and non-Hispanic white, respectively. Let the vector of regression coefficients of the standard human capital variables be denoted by **B**, and the vector of means of standard human capital variables be denoted by **X**. Then, the wage differential between the two groups in logarithmic form can be expressed as

$$L_nW_n - L_mW_m = B_nX_n - B_mX_m \qquad (2).$$

Rearranging we can decompose the above expression as follows:

$$L_nW_n - L_mW_m = B_n(X_n - X_m) + X_m(B_n - B_m) \qquad (3).$$

The first expression on the right side of Equation (3) measures the observed real wage differential component which is explained by the standard human capital variables. The second expression on the right side of Equation (3) measures the "discrimination" component of the wage differential.

Appendix 2 shows the regression estimates of the earnings functions and the results of decomposing the real wage differential between non-Hispanic whites and Mexican Americans at three regional levels: national, SW, and NSW. The national sample suggests an unexplained real wage differential favoring non-Hispanics of 9.2 percent.[7] We oversample the Mexican American population for the sub-regional (and occupational) breakdowns. This oversampling,

however, may have biased our results. We therefore performed a sensitivity analysis at the national level with a weighted sample of Mexican Americans (N = 1,524). Our results show an "unexplained" real wage differential of .081, which differs slightly from our reported result (Appendix 2, bottom). We conclude that the extent of the oversampling bias is minimal. At the national level, then, results are consistent with those of earlier research (e.g., Reimers, 1983).

The SW-NSW regional dichotomy broadly tests the assumption that labor-market discrimination differs across U.S. regions. It also emphasizes the sensitivity of discrimination estimates to the relative size of the Mexican American population contained in the sample used for analysis. The NSW sample in Appendix 2 implies that human capital accounts for most of the wage gap between Mexican Americans and non-Hispanic whites. The unexplained real wage differential for the NSW sample is a small negative one percent! This compares to an unexplained real wage differential of 19.3 percent in the SW. Mexican Americans may have faced labor market discrimination in 1979, but only in the SW.

We remain agnostic, however, about whether these results suggest discrimination against Mexican Americans in the SW. For example, the earnings functions show that SW Mexican Americans receive relatively higher returns to education and work experience, weakening the discrimination argument. On the other hand, an argument could be made that in the SW discrimination occurs against Mexican Americans in secondary rather than primary markets. Thus, the returns to formal and informal education would be higher for Mexican Americans in the SW: Mexican Americans in the SW who acquire education and on-the-job training would reap higher returns as they moved from the secondary to the

primary sector. Nevertheless, the findings may also be attributed to the labor-supply factors and the Becker (1959) theory mentioned above.

B. Undocumented Worker and Hedonic Effects

In particular, labor-market supply forces can generate long-run wage differentials if labor is relatively immobile across regions. Two of these forces are particularly relevant to our study of Mexican American earnings: the compensating wage differential effect and the undocumented-worker effect.

Reimers (1984) was among the first to suggest the compensating-wage effect in Mexican American earnings functions. The compensating-wage differential hypothesis, applied to this case, implies Mexican Americans pay a hedonic premium to be near their cultural heritage. Reimers notes, however, that the inverse relationship between Mexican American earnings and their labor-market concentration may also reflect discrimination. However, she ignores the possibility that this inverse relationship may also reflect an undocumented-worker effect. In particular, illegal aliens can be expected to gravitate to areas with high concentrations of Mexican Americans, depressing Mexican American wages.

Two general types of empirical studies (not confined to city- or county-specific samples) account for the relationship between undocumented workers and regional wage differentials. The border/non-border wage differential research employs a geographic wage differential method to estimate the wage impact of illegal aliens in the U.S. (e.g., Davila and Mattila, 1985). These studies assume the American side of the U.S.-Mexico border receives the bulk of the undocumented population. This region then serves as a laboratory to study the wage impact of undocumented labor. The major shortcoming of this approach is that recent evidence suggests most undocumented workers reside in

non-border SW cities (Woodrow and Passel, 1985).

The second type of research employs a Leontief demand for labor methodology to assess the impact of undocumented immigrants on the wages of Mexican Americans (Bean, et al., 1988). This model takes account of the possibility that illegal labor may complement or substitute Mexican American labor in the production process. But the empirical specification of the model utilized by this investigation has the same form as (1). The sample used by Bean et al. also has some obvious weaknesses. The authors make strong assumptions about the number of undocumented workers at a city-wide level and the sample they use only includes SW cities. They also fail to account for cost-of-living differences across regions as suggested by the geographic wage differential framework. Finally, the labor concentration measure they employ to observe the degree of labor substitutability between undocumented workers and Mexican Americans may be contaminated with influences independent of the undocumented labor impact, such as the discrimination and hedonic effects.

Relevant socio-economic characteristics of illegal labor can nevertheless be employed to analyze the undocumented worker and compensating wage differential effects. In particular, illegal aliens compete mostly with unskilled U.S. workers (Heer and Passel, 1987); undocumented labor is highly concentrated in the SW (Woodrow and Passel, 1985); and, undocumented workers and Mexican American immigrants are close substitutes in the U.S. labor market (Heer and Passel, 1987).

Two working hypotheses can be derived from these empirical observations. First, the Mexican American contact relationship is more pronounced for unskilled rather than skilled Mexican American workers. Second, there is a stronger contact effect for immigrant Mexican Americans than for native

Mexican Americans. The rejection of these hypotheses, on the other hand, would suggest that the compensating-wage or discrimination effects are a potential source of the contact wage gap.

Appendix 1 (bottom) presents the SW-NSW earnings differential and the NCS contact coefficients using the skill/low-skill and native/non-native subdivisions. The skilled-unskilled partition is based on the educational attainment of the respondents: unskilled for reported education below a high-school education, skilled otherwise (Hill and Pearce, 1990). Both the PUMS and NCS report the respondents' country of birth (i.e. Mexico or U.S.). The findings reported in Appendix 1 appear to verify the notion that workers who compete with undocumented labor have lower wages. The earnings gaps with respect to Mexican American contact are greatest for Mexican American immigrants and low-skilled workers. These results provide little support for the compensating wage effect.

The undocumented-worker findings are nevertheless only suggestive. An alternative scenario is that low-skilled Mexican American workers (see Cain, 1986) and Mexican American immigrants experience relatively more labor-market discrimination than other workers. The employer distaste for these workers may be greatest, because of unmeasurable traits such as heavy accents and physical features (Telles and Murguia, 1990). In addition, some SW Mexican American immigrants may be relatively immobile because they lack job information about opportunities elsewhere. Immigrants may have less access to the ethnic networks that facilitate the adjustment and settlement of newcomers in their new environment (Massey, 1990).

Concluding Remarks

The potentially depressing effects that labor-market discrimination and

undocumented workers have on the earnings of Mexican Americans have long been debated in the social-science literature. We argue that a fruitful analytical approach for studying these issues centers on explaining the inverse relationship between labor-market density and the earnings of Mexican Americans. Our empirical effort at this venture led us to an interesting result: this inverse relationship is most noticeable among those Mexican Americans in low-skill occupations and among the non-natives of this population. Theoretically, this finding is symptomatic of labor immobility across both regions and occupations. The factors which lead to the labor immobility of these populations should be the object of future research and has important policy implications.

Our findings also re-open the issue of the impact of undocumented workers on the earnings of Mexican Americans. While our evidence suggests that this influence dominates the discrimination and compensating-wage effects, future research should explore the importance that these exogenous dimensions have in occupational and sub-regional Mexican American labor markets. Future research may find heterogeneous labor markets in key policy dimensions such as discrimination and immigration reform. Consequently, earlier studies which exclusively focused on human-capital enhancing programs should be broadened to include policies that target other important sources of depressed Mexican American earnings.

NOTES

1. Comparison across discrimination studies is problematic because of differences in standardization techniques and differences in the specification of earnings functions. Nevertheless, under two assumptions some broad comparisons can be made: (1) comparisons are based under the assumption that non-Hispanic whites would receive the same wage in the absence of discrimination; and (2) comparisons across studies are only in terms of nominal earnings. Studies using national samples find a human-capital adjusted difference between the earnings of non-Hispanic white men and Mexican American men of 4% (our estimate), 5% (Long, 1977), and 6% (Verdugo and Verdugo, 1984). Studies using selected samples with high Mexican-American concentrations find more evidence of discrimination: 9% (Gwartney and Long, 1977), 9% to 16% (Poston, et al, 1976), and 15% (Cotton, 1985).

Similarly, research on the impact of undocumented-workers on Mexican American earnings show depressed earnings only at county- or city-wide levels in areas with high Mexican American concentration (e.g., McCarthy and Valdez, 1986). Research employing broader regional aggregations, however, fails to find significant undocumented-worker effects (Bean, et al, 1988). Curiously, however, Bean et al. imply that there is an inverse relationship between the number of undocumented workers and the wages of immigrant Mexican Americans. However, in <u>their</u> footnote 7, they note that "not too much importance" should be attached to these findings (p. 47).

2. This is an industry model where the production function is homogeneous of degree one, where both product and factor markets are assumed to be competitive:

$$X = P_X A Q^{\alpha} N^{1-\alpha} \tag{4}$$

where X = value added by industry, P_X = price received by the firm for its output, A = neutral efficiency coefficient, Q = cK being the efficiency coefficient of capital K, and N = bL, b being the efficiency coefficient of labor L (b also accounts for any nonpecuniary aspects of a job).

Since the input markets are competitive, both labor and capital receive their value of marginal product:

$$VMP_K = rP_K = \frac{\partial X}{\partial K} = \alpha P_X A C^{\alpha} b^{1-\alpha} k^{1-\alpha} \tag{5}$$

where r = rate of interest, P_K cost of capital, k = K/L. Solving for k, equation (5) can be written as:

$$k = \left(\frac{rP_k}{\alpha P_X A C^{\alpha} b^{1-\alpha}}\right)^{\frac{1}{\alpha-1}} \tag{6}$$

$$VMP_L = W = \frac{\partial X}{\partial L} = (1-\alpha) P_X A C^{\alpha} b^{1-\alpha} k^{\alpha} \tag{7}$$

$$W = (1-\alpha)(P_X A)^{\frac{1}{1-\alpha}} (rP_X)^{\frac{\alpha}{\alpha-1}} C^{\frac{\alpha}{1-\alpha}} b \tag{8}$$

If a comparison is made between the wages of two regions, say regions i and j, then the ratio of (8) between these regions shows the factors that account for this differential:

$$W_{ij} = (P_{Xj} A_{ij})^{\frac{1}{1-\alpha}} (r_{ij} P_{Xij})^{\frac{\alpha}{\alpha-1}} (C_{ij})^{\frac{\alpha}{1-\alpha}} b_{ij} \tag{9}$$

Equation (9) reduces to:

$$W_{ij} - b_{ij} \qquad (10)$$

under the assumption of regional equality in product price and interest. Also, equation (10) assumes the efficiency of capital and technology are the same between i and j. Equation (10) shows that regional wage differentials can only arise because of differences in the efficiency of labor or compensating wage differentials.

3. The selection of the non-Hispanic white group is problematic, because this group is not homogeneous throughout the U.S. It is important to isolate a non-Hispanic white group that is both large in the SW and in the NSW and is representative of the average earnings of non-Hispanic whites. The English American group meets these two requirements (Farley, 1990). Consequently, only census respondents who classified themselves as English American are included in the non-Hispanic white group.

4. The contact variable is defined as the degree of contact that Mexican Americans had with non-Hispanic whites. Our assumption is that a low degree of contact with non-Hispanic whites reflects a high degree of contact with other Mexican Americans and minorities. Conversely, even if the reported contact is with the members of other minority populations, the discrimination and undocumented worker effects hold; although the compensating wage effect becomes questionable.

5. Consider the latent structure of the model as

$$Y^* - \beta' X + e \qquad \text{and}$$

$$Y - j \qquad \text{if } a_j < \text{income} < a_{j+1},\ j = 1, 2, 3, \ldots, M,$$

where Y^* as an index function, M is the number of income categories, X is a

set of individual characteristics used in a standard earnings function, and, for consistency, we define $a_1 = -\infty$ and $a_{j+1} = +\infty$. The index function Y^* is unknown, instead what we observe is the ranking of the individual's income given by Y, where value one is assigned to the lowest income category. The log-likelihood function to be maximized is

$$LnL = \sum_{j=1}^{M} \ln[\phi(\frac{a_{j+1} - \beta'X}{\sigma}) - \phi(\frac{a_j - \beta'X}{\sigma})]$$

where ϕ is the normal distribution function, and the expression inside [] is the probability for an observation whose dependent variable takes the value j, $P[Y_t=j]$.

6. Our decomposition technique assumes that non-Hispanic white males would receive the same wage in the absence of discrimination. This assumption allows us to compare our results with those of other scholars (refer to footnote 1). See Reimers (1983) and Cotton (1985) for a discussion of alternative discrimination assumptions.

7. This estimate most closely compares to Cotton's (1985) 1980 census results. Cotton, however, finds that differences in human capital account for about 64% of the nominal wage differential between non-Hispanic whites and Mexican Americans. We re-estimated our earnings functions (not shown) using nominal as opposed to real wages and find the comparable "explained" wage difference is 85% (see estimate in footnote 1). Again, the sample Cotton uses concentrates on a small set of states (Texas, California, Illinois, and four additional Midwestern states) that contain most of the Mexican American

population. We use a national sample. The difference between Cotton's results and ours is in line with our general philosophy that studies which focus on labor markets with large Mexican American populations are more likely to find depressed Mexican American earnings. In addition, our real wage result is preferable to Cotton's because, by definition, we account for the important influence of regional cost-of-living differentials.

APPENDIX 1: REGRESSION ESTIMATES FOR EQUATION 1
(DEPENDENT VARIABLE = LN(1979 EARNINGS))

		1980 PUMS		NCS
VARIABLE	HOW DEFINED	MEXICAN AMERICANS	NON-HISPANIC WHITES	MEXICAN AMERICANS
CONSTANT	------	6.196**	6.290**	6.414**
SW	SW = 1;0	-0.077**	0.003	------
CONTACT	CONTACT W/ANGLOS[a]	------	------	-0.076**
ED	SCHOOL YEARS	0.035**	0.039**	0.032**
EXP	WORK EXPERIENCE (AGE-ED-5)	0.035**	0.051**	0.017**
EXP^2	PUMS: WORK EXPERIENCE SQUARED	-0.0005**	-0.0009**	------
EXP^2	NCS: $EXP^2/1000$	------	------	-0.024
ENG	NCS: POOR ENGLISH=1; 0=OTHERWISE	------	------	0.032
SPEAKS ENGLISH	PUMS (SPEAKS ONLY=BASE)			
WELL	1; 0	-0.048**	-0.205	------
NOT WELL	1; 0	-0.161**	0.050	------
NOT	1; 0	-0.234**	------	------
BORN	US=1; 0	-0.123**	-0.041	0.049
US	YEARS IN US[b]	0.06**	-0.011	------
UNION	MEMBER=1; 0	------	------	0.237**
MARRIED	1; 0	0.120**	0.108**	0.056
HOURS	1979 WORK HOURS	0.0005**	0.0004**	0.030**
COL	COST OF LIVING[c]	0.966**	1.195**	1.800**
OCC	OCCUPATION	INCLUDED	INCLUDED	INCLUDED
Adj R^2	PUMS	0.26	0.28	------
R^2	NCS	------	------	0.35
N		15,560	4,182	237

SW AND CONTACT COEFFICIENTS FOR SELECTED MEXICAN-AMERICAN GROUPS

EARNINGS FUNCTION SUBDIVISIONS	MEXICAN AMERICAN SW COEFFICIENTS	CONTACT COEFFICIENTS
LOW SKILL	-0.114**	-0.082**
HIGH SKILL	-0.040	-0.052
BORN IN U.S.	-0.048	-0.043
BORN IN MEXICO	-0.108**	-0.085**

(Appendix 1 continued on the next page)

(Appendix 1 (continued))

** Significant at the 1% level.

a A categorical variable ranging from 1 to 4, with 4 representing the lowest degree of contact with non-Hispanic whites.

b A variable ranging from 1 to 7; 1 is assigned to immigrants with the longest tenure in the U.S. and natives. The higher the numerical value of this variable, the shorter is the U.S. tenure of the respondent.

c This variable comes from the raw price data published by the American Chamber of Commerce Researchers Association ("Inter-City Cost of Living Indicators"). The data were merged with the PUMS and NCS with location data contained in these two data sets. Other researchers have used BLS data for their COL proxy. We use the American Chamber of Commerce data because the BLS data employs a different market basket of goods for western states (Mattila, 1984).

APPENDIX 2: MEAN VALUES AND REGRESSIONS COEFFICIENTS, PUMS 1980

	MEXICAN AMERICANS						NON-HISPANIC WHITES					
	ALL		SW		NSW		ALL		SW		NSW	
	Bm	Xm	Bm_s	Xm_s	Bm_{ns}	Xm_{ns}	Bn	Xn	Bn_s	Xn_s	Bn_{ns}	Xn_{ns}
LN REAL WAGE(LNW)		1.683		1.678		1.714		2.070		2.091		2.054
CONSTANT	.701**	-----	.636**	-----	1.009**	-----	.891**	-----	.928**	-----	.856**	-----
ED	.035**	11.67	.036**	11.743	.026**	11.24	.047**	15.73	.041**	16.00	.051**	15.53
EXP	.031**	19.46	.031**	19.403	.026**	19.84	.040**	20.99	.041**	20.84	.040**	21.10
EXP^2	-.0004**	546.69	-.0004**	545.46	-.0003**	554.33	-.0006**	624.02	-.0006**	613.60	-.0006**	631.73
WELL	-.037*	.24	-.047**	.23	.014	.27	-.221	.002	-.089	.001	-.275	.002
NOT WELL	-.154**	.18	-.139**	.18	-.207**	.21	-.051	.001	-.045	.002	-.055	-----
NOT	-.226	.07	-.216**	.07	-.220**	.06	-----	-----	-----	-----	-----	-----
BORN	-.104**	.51	-.105**	.53	-.108	.39	-.094	.97	-.291	.97	.072	.97
US	.049**	4.98	.053**	5.07	.043**	4.43	-.007	6.92	.028	6.92	-.035	6.92
MARRIED	.096**	.84	.101**	.84	.065**	.84	.071*	.82	.075	.79	.072	.84
OCCUPATION:												
PROFESSIONAL	.132**	.10	.142**	.10	.098	.08	.207	.34	.228**	.35	.196**	.34
CRAFT	.096**	.23	.104**	.24	.089	.18	.094**	.21	.118	.21	.077	.21
SERVICE	-.200**	.11	-.182**	.11	-.287**	.13	-.272**	.06	-.319**	.06	-.234**	.06
FARM	-.126**	.05	-.104**	.06	-.236**	.03	-.488**	.01	-.129	.01	-.747**	.01
TECHNICAL	-.011	.11	.003	.12	-.084	.116	.045	.23	.059	.25	.036	.22
Adj R^2	.131		.138		.107		.139		.127		.155	
N	15,560		13,401		2,159		4,182		1,778		2,404	

(Appendix 2 continued on the next page)

(Appendix 2 (continued))

DECOMPOSITION RESULTS

REGION	OBSERVED REAL WAGE DIFFERENCE[a]	WAGE DIFFERENCES DUE TO DIFFERENCES IN PARAMETERS[b]
NATIONAL	.386	.092
SW	.413	.193
NSW	.339	-.010

*,** Significant at the 1% and 5% levels respectively.

a $LnW_a - LnW_m = Bn_i [Xn_i - Xm_i] + Xm_i [Bn_i - Bm_i]$; where i = s, ns.

b $Xm_i [Bn_i - Bm_i]$

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