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WHAT WENT WRONG? THE EROSION OF RELATIVE EARNINGS AND EMPLOYMENT AMONG YOUNG BLACK MEN IN THE 1980s

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ABSTRACT

This paper shows a widening in black-white earnings and employment gaps among young men from the mid-1970s through the 1980s that differs among subgroups. Earnings gaps increased most among college graduates and in the midwest while gaps in employment-population rates grew most among high school dropouts. We attribute the differential widening to distinct shifts in demand for subgroups due to changes in industry and regional employment, the falling real minimum wage and deunionisation, the growth of the relative supply of black to white workers that was marked among college graduates, and to increased crime, that was marked among high school dropouts. The differential factors affecting the groups highlights the economic diversity of black Americans.

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From the mid 1960s to the mid 1970s black Americans made large gains in the labor market relative to whites. Title VII of the 1964 Civil Rights Act, affirmative action, and court interpretation of anti-bias laws combined with a tight job market and a consensus to redress historic inequities to raise the demand for black workers. The racial earnings gap among young men fell, effectively disappearing for those with the same years of schooling [Bound and Freeman, 1989; Freeman, 1976; Smith and Welch, 1986]. In ensuing years the environment for black advancement worsened. Economic growth slackened; the manufacturing share of jobs plummetted; wage inequality grew; and drugs and crime pervaded many inner city neighborhoods. The Reagan Administration opposed affirmative action before the Supreme Court and debated eliminating requirements, time tables, and measures of compliance from Executive Order 11246. Courts made it harder to prove discrimination.

In this study we use data from the Current Population Survey [CPS] and other sources to examine the relative economic position of young black men in this new environment and to assess the causes of observed changes. We focus on young men because their wages and employment are more sensitive to current market realities than those of older workers, whose specific human capital and seniority buffer them from market developments. Our evidence shows that the era of relative black economic advance ended in the Mid 1970s. The racial earnings gap for recent male labor market entrants widened from 1976 to 1989, especially among college graduates and workers in the Midwest. Racial differences in employment-population rates also widened. The mid-1970s onset of erosion rules out weakened affirmative action as the prime cause of change. The large increase in racial earnings gaps among college graduates and in the Midwest, where gaps had effectively disappeared in the

early 1970s, suggests that more was involved than the overall widening of the pay distribution that characterized the 1980s: a widening in the overall distribution could explain why lower paid blacks fared worse relative to higher paid whites but not why blacks fared worse compared to similarly paid whites. Finally, the decline in the relative employment of young black men rules out a selectivity-based explanation of the erosion of earnings given the usual assumption that the least productive (lowest paid) workers are the first to exit employment.

What, then, went wrong? Our analysis indicates that no single race-related factor explains the pattern of erosion. The increased differentiation of the black population post-1964, evinced in the development of an elite of college graduates and professionals on the one side and of labor force dropouts and criminal offenders on the other, makes any unicausal explanation difficult to sustain. This does not, however, mean that the erosion is inexplicable. To the contrary, we attribute much of the change to quantifiable but different shifts in the relative demand and supply of specific groups that occurred against the backdrop of weakened affirmative action and equal opportunity pressures. The economic decline of inner cities, loss of manufacturing jobs, fall in the real minimum wage, and drop in union density underlie, for example, the erosion of relative earnings among men with high school or less education, particularly in the midwest. Growth of crime went hand-in-hand with the joblessness of high school dropouts. Occupational downgrading, possibly due to weakened affirmative action and shifts in demand toward the most highly skilled, and a huge increase in the ratio of black to white college graduates reduced the relative earnings of black college graduates. Our stress on developments that differ among groups lacks the trenchancy of a unicausal explanation of change but has the virtue of reflecting the genuine economic diversity of the black American community.

I. Dimensions of Change

Our primary source of data are the usual weekly earnings and usual weekly hours worked questions of the CPS, available in usable micro form since 1973.[1] The Census asked the usual earnings and hours questions of all respondents in the May surveys through 1978 and of outgoing rotation groups in all months in later years, producing differently sized samples over time. The sample of men with less than ten years of potential work experience for whom earnings data exists averages 12,000 to 15,000 from 1973 to 1978 and 40,000 and over thereafter. The main virtue of the usual weekly data file is that since 1979 it has roughly three times as many observations as the widely used March CPS annual earnings data, yielding more reliable estimates of differentials. Another advantage is that the usual weekly data link current pay and characteristics whereas the March survey links last years' earnings to current characteristics[2].

There are still problems with the data. First, through 1988 weekly earnings are capped at $999, biasing downward the earnings of high earners. While potentially important for all men, less than one percent of the young black workers on whom we focus are at the cap. Also, in 1989 an edited earnings field capped at $1923 was available; using this field we calculated the geometric mean weekly earnings for men at the $999 cap in 1989 and used this figure in all years.

Second, beginning in 1976 the CPS oversampled small states, leading us to use sample weights in statistical analyses, with little effect on results. It also began to report residence in a central city as well as in a metropolitan area. To deal with this we estimated racial earnings differentials from 1976 to 1989 controlling for central city and metropolitan residence and from 1973 to 1989 controlling only for metropolitan residence, and obtained similar trends, with and without central city controls.

Third, in 1975 the Census changed its hot deck procedure[3] for imputing earnings for the 15 or so percent of whites and 20 or so percent of blacks who do not report earnings. This change does not appear to affect our results. The fraction of imputed observations was roughly constant over the period; regressions for 1979-89 that excluded observations with imputed earnings gave similar trends to those with imputed data; and the Census Bureau reports that the changed hot deck barely affected black/white earnings ratios in the year of the change [U.S. Bureau of Census 1977].

Fourth, approximately 30 percent of young black men and 10 percent of young white men are missing from the CPS. Many of these men are missing due to the undercount in the decennial Census [Fay, Passel, and Robinson, 1988]; others are missing because CPS counts of these groups fall short of the Census counts. This biases cross-section earnings and employment differentials. As long as the undercount proportions are stable over time, however, this need not bias trends. In any case, we can do little beyond noting the problem. We are about the counted population.

A. Earnings and Employment-Population Differentials

To see how the relative earnings of young black men changed from the early 1970s through the 1980s, we regressed the log of hourly earnings (= usual weekly earnings/usual weekly hours) on a race dummy and on dummy variables for individual years of potential employment experience[4] and for individual years of education. We limited our samples to black or white wage and salary workers with less than 10 years of potential work experience whose major activity was working; and excluded those whose imputed hourly pay exceeded $100 or was below $1 in 1983 dollars.

Figure I displays the resultant estimated hourly earning differentials from 1973 to 1989. The sample sizes in these regressions range from approximately 7,000 for all young

men in 1973 to 23,000 in 1989; approximately 10 percent of each years' sample are black; and the standard error of the differential is on the order of .01 to .02. The estimates show that after narrowing from 1973 to 1976, the black/white earnings gap widened through 1981, fell sharply in 1985, and was considerably below its peak level at the end of the decade. The magnitude of the erosion depends on the years one compares. The gap increased by .12 points from -.06 (.02) in 1976 to -.18 (.01) in 1989; and by .07 points from -.11 (.02) in 1973 to 1989 (standard errors are in parenthesis). A regression of these points on time shows the differential widening at 0.0057 (0.001) points per year from 1973 to 1989 (see table 2) for a 16 year trend drop of .086 log points (= 16 x .0057).

Figure II records black-white differentials (net-of-experience and schooling) over a longer time period, 1963-1989, in weekly earnings (= yearly earnings/weeks worked) from the March CPS files.[5] These data show the massive decline in the black-white earnings gap in the late 1960s-early 1970s in the aftermath of the Civil Rights Act of 1964 and accompanying national anti-bias policies and a rough stability or modest erosion of those gains from the mid-1970s through the end of the 1980s. Here, the black-white earnings gap bottoms out in 1975, rises through 1983, then fluctuates. The 1989 gap of -.18 is nearly seven percentage points greater than the 1975 minimum, but is smaller than the 1973 gap of -.21. Because the May/outgoing rotation group files contain so many more observations than the March files, we stress the erosion shown in the May/outgoing rotation data; if we pooled the two data sets, the erosion shown in figure I would dominate.[6]

Figure III turns from earnings differentials to employment rates (ER). It records ERs by race from the outgoing rotation group files, standardized for single years of experience and single years of education. The samples in these calculations include all persons in the relevant group who report a major activity other than attending school; this yields

substantially larger samples than those in Figure I. The standardization is based on logit equations that estimate the effect of individual years of experience and schooling on the probability a person is employed; the figure records estimated employment rates for a reference group of men with 5 years of potential work experience and 12 years of schooling. For this group black ERs fell sharply from .84 (1973) to .69 (1975) as the economy turned down and recovered only to .74 in 1989. White ERs dropped from .93 (1973) to .86 (1975) and then rose to .89 in 1989. The gap in employment rates between the groups increased from .09 points at the beginning year to .15 points at the end.[7] The picture of deterioration in the relative economic position of young black workers thus shows up in quantity as well as price terms.

B. Differentials for Disaggregated Groups

We also estimated black-white earnings differentials for men in three education categories: high school dropouts; high school graduates; and college graduates; and in the three regions where blacks are found in sizeable numbers: the midwest (East North Central Census division), the northeast (New England and the Mid-Atlantic), and the south (South Atlantic, East South Central, and West South Central divisions). Our analyses controlled for individual years of experience and schooling; our regional analysis treated high school graduates or dropouts for whom labor markets are relatively local; analyses that include college graduates are similar.

Table I presents the estimated racial earnings differentials from multivariate regressions that control for individual years of experience and education for all young men and for the disaggregated groups. It shows that the erosion in relative earnings was exceptionally large for two groups: **black college graduates and less educated men in the midwest**. Black college graduates, who in the mid-1970s earned a premium over young

white graduates (possibly the result of affirmative action), had such a severe drop in relative earnings that by 1989 they earned 0.17 log points less than whites. Even if one discounts the mid-1970s premium, the differential rose by .13 from the near equality established in 1973 [Cotton (1990) gives parallel results for the occupational earnings of the black male middle class]. Since the differential among high school graduates increased by less from 1973 to 1989 (.11 points to .18 points) and by much less from its minimum value to its 1989 value than did the differential among college graduates, by the end of the 1980s black/white differentials for college graduates were as large as for high school graduates -- in sharp contrast to the situation in the early/mid 1970s.[8] The drop in relative black earnings in the economically depressed midwest is equally striking. In 1973 the black-white differential in the midwest was .01. In 1989, it was -.21, greater than the differential in the south where blacks have historically fared worst.

Finally, as a concise summary of the secular trends of interest we regressed our estimated annual earnings and employment differentials net of education and experience on a linear time trend over 1973-89.[9] We chose this starting year rather than a later trough to avoid exaggerating the trend due to sampling error, and because 1973 and 1989 are at similar points of the business cycle. The resultant trends (and their standard errors) are given in table II for hourly earnings differentials and for employment-population rate differentials. The estimates for education groups shows that while black high school dropouts suffered only modest losses in relative earnings, their relative employment deteriorated greatly. The estimates for regional groups shows that young black men in the midwest suffered sharp drops in relative employment as well as in relative earnings.

To explain the pattern of trend erosion among groups -- the exceptional decline in relative earnings for college men and for those in the midwest; and the sharp drop in relative

employment for black high school dropouts -- we use two analytic tools. First, we develop a regression based earnings decomposition model in which we add potential explanatory variables to our log earnings regressions and estimate trends in race differentials net of those variables. The difference between trends with/without a given variable is its contribution to erosion. To interpret these estimated effects, we further decompose them into a part due to shifts in employment and a part due to changes in the wage structure of the groups. Our second method of analysis estimates the effect of shifts in fixed coefficent indices of changes in employment among industries and demographic changes in the ratio of young black to young white men on earnings and employment differentials in a market-clearing model.

II. Regression Decomposition Analysis

Our regression decomposition analysis estimates the effect of changes in the following variables on the erosion of relative black earnings: location by region and metropolitan status; industry and occupation of employment; deunionization; and the fall in the real minimum wage.

A. Decomposition model

To show how the decomposition works, we provide a step-by-step accounting of how we estimated the effect of region on outcomes. First, as our starting point, we take the estimated black-white earnings differentials in the absence of region as given in table I:

$$(1)\ \ln(w_{it}) = A_t + b_t D_i + c_t X_{it}$$

where D is 1 if the worker is black and 0 if he is white; X is a vector of the variables for individual years of experience and individual years of schooling; and t indexes year. The coefficients b_t are our measure of the hourly earnings differential in t.

Second, we estimate the racial differential net of region by adding a vector of eight

dummy variables (R) for Census division to equation (1):

$$(2)\ \ln(w_{it}) = A'_t + b_t' D_i + c_t' X_{it} + d_t' R_{it},$$

Here b_t' is the racial earnings differential net of region. The difference between b_t' and b_t shows how region affects relative earnings in year t. If blacks are overrepresented in low wage regions, b_t' will be less than b_t. Changes in the regional location of blacks and whites or in regional pay differentials can lead b_t'-b_t to change over time. If, for instance, black employment becomes relatively more concentrated in low wage regions, or if wages fall in regions in which blacks predominate, region would contribute to the erosion.

Third, we estimate trends in differentials with and without regional controls by regressing our annual estimates of b and b' on linear time. The difference between the trend coefficient for b and that for b' we identify as the part of the trend "due to region".

Fourth, we divide the effect of region into "a quantity effect" due to changes in the relative distribution of blacks by region and a "price effect" due to changes in regional earnings differences. To make this division we averaged the coefficients on region dummies from our annual regressions to obtain a vector of average regional wage effects, W_R; multiplied this vector by a vector of the difference in the regional employment distribution of blacks (R_{bt}) and whites (R_{wt}) to obtain a single measure of the effect of regional distribution on racial earnings: RQ_t (= W_R x (R_{bt}-R_{wt}). Since W_R has no time subscript changes over time in RQ_t represent the effect on earnings of changes in the regional location of blacks and whites at a constant set of prices. Regressing the time series of RQ_t on a trend variable yields our estimate of the contribution of the quantity component of region on the earnings differential. The price component of region is the difference between the full region trend in b'-b and our estimated trend in RQ_t.

We perform a similar analysis for other factors, adding them sequentially so that the

effect of each factor's effect is measured net of the effects of those already in the regression. The ordering is from location to industry, occupation, unionization, and the minimum wage. The factors are sufficiently orthogonal that re-ordering has a marked effect only on unionization and industry: if union coverage is entered first, the effect of unionism is increased notably relative to the effect of industry.

B. Decomposition results

Table III gives the contribution of each factor to the annual percentage point trend in the black-white earnings gap, as estimated by our decomposition analysis. The first line in the table, labelled "trend", is the estimated trend in b without region controls, as in table 2. The -.565 in the upper left column shows that there was decline in relative black earnings by over one-half percentage point per year over the period. The next line "Due to Region" gives our estimate of the effect of region on the trend; it is obtained by adding eight region dummy variables to the earnings regression and estimating the trend net of region (b') as described above. For the United States as a whole correcting for region has a negligible effect on the adverse trend in black-white earnings differentials, raising it by .02 points from -0.57 to -0.59. There is no effect for persons in the midwest since this is a single Census division, and relatively little effect in the South. Region has an impact in the Northeast, where it accounts for .25 points of the .80 erosion in relative earnings. The lines "quantity" and "price" under "Due to Region" estimate the effect of changes in regional employment distribution at the average regional wage pattersn and of changes in regional wage differentials on the trend erosion, estimated by the procedure described above. This calculation shows that the limited regional effects are due primarily to changes in regional wage differentials rather than to changes in regional employment distributions. The sizeable regional effect in the Northeast reflects black concentration in the Mid Atlantic states rather

than in New England, where earnings rose rapidly in the period, rather than a shift in relative concentration from high to low wage areas in the region.

While regional changes have relatively little effect on the trend in relative earnings in the United States as a whole, metropolitan residence accounts for .08 points of the annual erosion, or 15% of the trend (=.084/.565) For men in the midwest, metropolitan residence has a larger effect, reducing the trend by .19 points per year. Separating changes in the distribution of blacks and whites from changes in pay differentials between metropolitan and other areas shows that metropolitan residence adversely affected the relative earnings of young blacks because relative earnings fell modestly in metropolitan areas where blacks are exceptionally concentrated rather than because employed blacks were increasingly concentrated in inner cities.[10]

If black employment grew relatively rapidly in lower paying industries or if blacks were concentrated in industries with declining relative wages, addition of industry controls to the regressions will reduce estimated trends in racial differentials. Accordingly, we added 18 industry dummy variables to our earnings equations (which already controlled for location, education, and experience) and obtained yearly net-of-industry differentials, which we then regressed on time. The results under the item "due to industry" in table III show that industry had a moderate effect on the trend in differentials for all young men, accounting for .06 log points of the .57 point 1973-89 erosion. As with metropolitan status, however, industry has a massive effect on workers with high school or less education in the midwest -- accounting for over one-third of the increased racial earnings differential (.46 points of a total drop of 1.42 points). What drives this large effect is the huge drop in the proportion of young black workers in manufacturing.[11] Decomposing the industry effect into its quantity and price components following the same methodology described for region effects[12] shows

that for most groups (college graduates are the notable exception) the industry effect is dominated by shifts in industrial employment rather than in the industrial wage structure.

Turning to occupation, CPS data show that the occupational attainment of young black men worsened from 1973 to 1989 relative to that of young whites with similar years of schooling. In the 1970s young black college graduates were as likely to be managers or professionals as were young white college graduates; in 1988-89 black graduates were 13 percentage points less likely to be in those occupations than whites. Similarly, young blacks with high school education were underrepresented as craftworkers but overrepresented as operatives in the 1970s; whereas by 1988-89 they were no more likely to be operatives than whites but had fallen further behind as craftworkers.[13] To quantify the effect of these and related shifts on relative black earnings we applied our earnings decomposition analysis to occupations, adding nine one-digit occupation dummy variables to our regressions. The results are given in the item "occupation" in table 3. For all young men, occupation contributed .11 points to the 1973-88 erosion. Most of this is due to the fact that blacks were in occupations with falling relative pay rather than to disproportionate shifts of young blacks into low wage occupations. For college graduates, on the other hand, the .30 point contribution of occupation to the erosion was due to deterioration in the relative occupational attainment of young blacks.

Overall, controlling for location, industry, and occupation reduces the adverse trend in black-white earnings differentials among all young men substantially, from -.57 to -.34, suggesting that 40% of the erosion of relative earnings is attributable to these "structural factors". For the two groups with the greatest loss in relative earnings, however, the structural factors account for very different proportions of the erosion in relative earnings:

they explain 31% of the adverse trend among college graduates compared to 57% of the adverse trend among workers in the midwest.

C. Institutional Factors

Two changes in labor market institutions are potential contributors to erosion: falling union density and the decline in the real minimum wage.

The fall in **union density** is likely to reduce relative black earnings because young blacks were overrepresented in unions at the outset: in 1973 31 percent of young blacks were unionised compared to 26 percent of young whites. Controlling for education and industry, the unionisation rate for blacks was 6 points higher than for whites in the United States and 10 higher in the northeast and midwest. As union density fell, black and white unionisation rates converged, so that by 1989 blacks were no more likely to be unionised than similarly educated whites in the same industry.

To quantify the effect of declining black union membership on relative earnings, we estimated black-white differentials after inclusion of a union dummy. The results, given in the item "unionisation" in table III, show that for the United States the decline in unionism reduced the relative earnings of young blacks by just .03 log points per year -- roughly 5 percent of the trend. For young male workers with no more than a high school education, however, the effect was large in regions of traditional union strength, the northeast (.11 points) and midwest (.13 points).

The decline in the real value of the **minimum** wage from 1980 to 1989 was a likely contributing factor to the erosion in relative black earnings because young blacks have historically been at the lower tail of the earnings distribution, where the minimum has some bite. To estimate the effect of the declining real minimum, we simulated a distribution of earnings for 1989 in which we held the real minimum constant from 1981 to 1989. We

raised the reported hourly earnings of workers earning $3.35 per hour (the 1981 minimum) to $4.57 in 1989 by the 36 percent rate of inflation in the CPI from 1981 to 1989; raised the hourly earnings of workers paid less than $3.35 an hour by a similar percentage, keeping their earnings a constant percent below the minimum; and conservatively raised the earnings of workers earning between $3.35 and $4.57 to the new $4.57 postulated minimum. We then estimated the black/white earnings differential controlling for experience, education, location, industry, occupation, and union status with and without this wage adjustment. The minimum wage effect is the difference between the differentials with and without the adjustment, making it net of the other factors. It indicates that the black-white differential would have been 1.55 percentage points smaller in 1989 than it was. In terms of **annual** trends over the 1973-89 period under study this 1.55 percentage point decline translates into -.097 percentage points per year, accounting for 17% of the 1973-89 erosion. For high school dropouts, the trend would have been .20 points smaller per year than it was, explaining all of the modest drop in the relative earnings of dropouts. Among regions, the fall in the real value of the minimum accounted for the 75% of the erosion in the south but for only 7% of the decline in the midwest where pay levels were substantially above the minimum. As minimum wage laws fix pay at rates above potential market clearing rates, their reduced importance in the 1980s presumably acted to raise employment. Given estimated elasticities of employment to the minimum [Brown, 1988; Castillo-Freeman and Freeman, 1991], however, these effects are unlikely to have been large. They were certainly too weak to offset the adverse factors that lowered the relative employment of young black men.

All told, our decomposition does a surprisingly good job accounting for the level and pattern of erosion. As the bottom line in table III shows, the decomposition explains 62% of the erosion in relative earnings for all young men, all of the erosion for groups where blacks

suffered modest declines in relative earnings, and nearly three-quarters of the massive erosion for less educated workers in the midwest. By contrast, our analysis does a poor job accounting for the declining relative earnings of young black college graduates.

III. Demand-Supply Shift Analysis

An alternative way to assess the determinants of erosion is to calculate indices of demand and supply for young black and white workers and estimate how changes in these indices altered relative wages and employment. On the demand side, we examine shifts that result from differences in the industrial composition of employment of blacks and whites and the differing growth of employment across industries.[14] For the ith (race, race-education, or race-region) group we calculate the shift in demand (D_i') as the weighted percentage growth of employment by industry (EMP'_j):[15]

$$(3)\quad D'_i = \Sigma a_{ij}\, EMP'_j,$$

where j indexes industry; a_{ij} is the fraction of the group employed in the jth industry in the base year; and where a_{ij} and EMP'_j relate to the specific group under consideration (i.e., we use a_{ij} and EMP'_j for workers in the Midwest in our analysis of those workers; a_{ij} and EMP'_j for workers in the South in our analysis of the South and so on).

To the extent that workers are overrepresented in a sector because they have a comparative advantage in the type of work performed there, contraction will lower their relative pay. Comparative advantage must, however, be viewed loosely to account for differences in the industrial employment of black and white men with the same years of schooling. Differences in industry mix between these workers presumably reflect historic (discriminatory) recruitment patterns, the location of industries relative to the residence of workers, and differences in the quality of education [Card and Kreuger, 1990]. Whatever the

reason, however, blacks are likely to suffer, at least in the short run, when sectors employing them in large numbers contract.[16]

For fixed coefficient demand indices like (3) to explain differences in the labor market experience of workers, it is necessary that the workers have different distributions of employment among sectors; and that sectoral growth rates of employment vary greatly. Both of these criterion are met in our data: in the early 1970s less educated blacks are more highly represented in manufacturing than whites, while black college graduates are overrepresented in government employment.[17] Both of these sectors experienced substantial relative declines in employment. In addition, however, black employment fell disproportionately rapidly in manufacturing, particularly in the midwest where blacks went from 6 percentage points more likely to be in manufacturing than whites in the 1970s to 10 points less likely in 1988-89.

Column 1 of table IV records the estimated growth of ln demand for young black men relative to young white men from our fixed coefficient analysis. To obtain these numbers we chose 1973 as our base period and calculated the 1973 proportion of young blacks and of young whites employed in each of the 18 industries used in our regressions.[18] Then we estimated the trend in the growth of employment in each industry (in each industry by region in our regional analysis) by regressing each industry's share of men with 0-9 years of potential work experience on a 1973-89 time trend. The relative demand indices in the table are the difference between the average of the growth rates weighted by the 1973 black employment distributions and the average of the growth rates weighted by 1973 white employment distributions. A negative number implies that blacks were concentrated in industries whose employment growth was less than the employment growth in industries in which whites were concentrated; a positive number has the opposite meaning. Most of the numbers are negative. Many are large. The estimates show that the industrial composition

of employment shifted against black young men relative to whites by 0.33 percent per year overall, but by much greater rates for the groups with the largest erosion of relative earnings -- college graduates (1.87 percent per year) and for men with high school or less education in the midwest (1.49 percent per year).

The substantial effect of industry on the relative demand for black college graduates in Table IV contrasts markedly, the reader will note, with the absence of a significant industry effect for college graduates in the decomposition analysis in Table III. The difference reflects the different components of change that the two analyses stress. The decomposition analysis treats a shift in employment from a low wage declining industry in which a group was initially overrepresented as improving the groups' economic position, whereas the fixed coefficient model treats such a decline of employment as adversely affecting demand. For college graduates, the decomposition treats the shift of graduates from the contracting public sector (where black graduates were highly concentrated in the 1970s) as raising the earnings of black graduates whereas the fixed coefficient analysis treats the contraction as reducing demand for them. Which analysis more closely reflects reality depends on the ease with which workers obtain jobs in "nontraditional sectors".

Turning to the supply side of the market, we estimate relative supplies by the ratio of the noninstitutional population of blacks to the noninstitutional population of whites in the relevant group. Column 2 of table IV shows that overall the number of young blacks increased substantially from 1973 to 1989 compared to the number of young whites -- the result of differing patterns of baby boom births two decades or so earlier. The relative supply increase was, moreover, greatest among groups experiencing the largest erosion of relative earnings: college men (blacks increased enrollment greatly due to the opportunities and high returns for black college-going following the Civil Rights Act [Freeman, 1976]);

and men in the Midwest (possibly due to migration responses to the opportunities of the 1970s). By contrast, the ratio of black to white high school dropouts fell, while the ratio of blacks to whites with high school or less education in the South was roughly constant.

Taken together, the direction of and magnitude of the changes in the demand and supply indices are, with the notable exception of dropouts, consistent with the pattern of erosion. For the overall sample, relative demand for young black male workers decreased and relative supply increased, with the increase in supply markedly larger in absolute value than the decrease in demand. The largest declines in demand and increases in supply are for college graduates and less educated men in the midwest, the groups with the greatest erosion of relative wages. To transform the shift analysis into quantitative predictions of changes in relative earnings and employment is, however, difficult, for it requires well-specified elasticities of responses that our data are not rich enough to yield and that are unavailable in existing literature. Still, we can assess crudely the quantitative fit of the model by considering the supply and demand elasticities that would allow it to account for observed changes. In a market clearing model, shifts in demand and supply alter relative wages by the inverse of the sum of the elasticities of labor supply and labor demand and alter employment to population ratios with a parameter equal to the elasticity of supply divided by the sum of the supply and demand elasticities. Formally, defining all variables as log differentials between blacks and whites, if $E_d' = D' - hW'$ is the relative demand curve and $E_s' = S' + e W'$ is the relative supply curve, market clearing yields: $W' = (D'-S')/(e + h)$ and $E'-S' = e (D'- S')/(e+h)$. Given W', E', and D' (our fixed coefficient shift indicator and S' (the change in relevant population) we can solve for the demand and supply parameters that fit each groups' experience. Parameters of plausible magnitudes that are reasonably similar for all the groups would lend support to the model; whereas parameters that differed widely

among them would raise questions about its validity.

Columns 3-4 of table IV record the trends in ln earnings and employment-population ratios necessary to calculate the implicit supply and demand parameters. Since the shift analysis does not treat location, the trends are net of location; the earnings trends are derived from table III, line 4; the employment trends differ modestly from those in table II because they are for log employment-population ratios, adjusted for location. Given these statistics and the estimated shifts in supply and demand, we calculated the implicit supply and demand elasticities for each group. The results recorded in columns 5 and 6 show that for the groups for which the model works elasticities are of roughly comparable magnitudes. The relative supply elasticities are considerably below uniity. The elasticities of labor demand for black relative to white workers are large, presumably because the comparisons are between workers with the same education, though far from infinite.[19] The failure of the model to yield sensible estimates for the south is not a major drawbook as actual and predicted changes are slight so that the data do not provide the variation needed to obtain reasonable estimates. Indeed, the earnings changes were fully explained in table III as resulting primarily from the declining real minimum wage. The failure to account for the experience of black high school dropouts is another matter. The fixed coefficient index shows an increase in relative demand due to the expansion of service industries where black dropouts were initially overrepresented, while the ratio of black to white dropouts increased. These shifts should have raised relative employment and earnings, contrary to fact. The implication is that factors beyond those in the shift model affected the relative economic position of black high school dropouts. The evidence in table III suggests that the modest relative hourly earnings decline among dropouts is attributable to the decline in the real value of the minimum wage and the fall in unionisation, leaving the decline in relative employment of black dropouts as

the major anomolous development. We explore next two factors that may help account for this development: changes in unmeasured skills; and increased participation in crime.

A. Unmeasured Skills

We find little support for the hypothesis that deteriorated labor market skills of young blacks due, say, to poor schooling, worsened family background resources, or increased drug use, explains their declining economic position. The notion that the school skills of young blacks deteriorated runs into an immediate problem: standardized test scores show that on average black achievements rose modestly relative to those of whites in the period [National Center for Educational Statistics, 1988, p 144]. While this does not rule out the possibility that the skills of dropouts deteriorated as the dropout share of the population declined, it creates a hurdle for such a story, as selectivity would have to dominate changes in the mean for the population.[20] The hypothesis that declining family background resources accounts for the erosion fails because the cohorts suffering erosion were brought up **prior** to the big growth in single parenting and widening family income differentials at a time when the numbers of siblings among blacks fell and parental education increased [Kane, 1990]. As blacks report no greater use of drugs or alcohol than whites and as drug use among youths fell in the 1980s [National Institute of Drug Abuse, 1989] increased drug use among blacks is not likely to have caused the deterioration. The likelihood that the CPS undercounts persons with drug problems also makes this explanation of erosion untenable: serious drug users are unlikely to be in the CPS.

Two direct CPS-based tests also lead us to reject the declining skills hypothesis. In one test we added marital status to our regressions on the argument that if marriage is a valid indicator of unobserved quality, and the declining skills argument were correct, its inclusion should reduce the estimated erosion. Instead, it had essentially no effect on the coefficient on

the race dummy variable. Further, if declining skills were behind the drop in marriage and the loss in relative earnings, erosion would have been concentrated among unmarried men. In fact, the reverse is true. In our second test we contrasted changes in the economic position of black and white cohorts as they age. If erosion was due to deteriorated skills of entering black cohorts, the relative position of older cohorts, whose skills were determined in earlier periods, ought to be constant; in fact the relative earnings of those cohorts follows closely the pattern in figure I[21], with sizeable erosion for the youngest cohorts as they age -- a result also found in the March CPS tapes [Bound and Freeman, 1989].

B. The Crime-Employment Trade-off

The tremendous increase in crime among young black men in the 1980s [Freeman, 1991] is another possible cause of the eroding employment of black high school dropouts. On the one side, greater criminal opportunities may have induced some young men to forego employment. On the other side, the deteriorated job market for the less skilled may have also made crime more attractive, producing a cohort with criminal records that adversely affect future employment prospects.

To see how criminal activity affects high school dropouts, we used the the National Longitudinal Survey of Youth. This longitudinal survey of youths aged 14-22 in 1979 asked detailed questions about involvement with the criminal justice system in 1980 and records imprisonment at ensuing survey dates. Our measure of criminal behavior is based on a set of mutually exclusive dummy variables measuring the person's most serious involvement with the law as of 1980: incarceration, probation, conviction, charged with a crime, being stopped by police. We supplement this with additional information on whether the respondent was interviewed in jail or prison post-1980, which is available for all succeeding surveys. We categorized men interviewed in jail or prison after 1980 but before the date of our regression

as having been incarcerated, and gave them zeros in the other criminal involvement dummy variables to maintain the dummies as a mutually exclusive set. We regressed the 0-1 dummy variable "employed in survey week" on the vector of crime dummies and a set of control variables for all dropouts in the noninsitutional population in 1983 and 1988. The survey population is aged 18-26 in 1983 and thus in the same age and experience range as our CPS sample.

Table V records the regression coefficients and standard errors on the criminal involvement variables. It shows a striking adverse effect of past incarceration on employment: dropouts currently in the noninstitutional population who had been incarcerated have a 21 percentage point lower chance of employment in 1983 and a 17 point lower chance of employment in 1988. Dropouts whose most severe brush with the law resulted in probation as of 1980 have 16 and 11 points lower employment probabilities in the two years; while those with less criminal involvement are correspondingly less adversely affected. Analyses with other samples and data sets and with before-after longitudinal designs to control for unobserved heterogeneity show comparable effects [Freeman, 1991], indicating that the crime-employment trade-off is robust across data sets and specifications and cannot be explained as resulting from fixed unobservables.[22]

Did criminal participation by dropouts rise sufficiently rapidly in the 1980s for the crime-employment trade-off to account for a substantial portion of the decline in the relative employment of black dropouts? Tabulations from the 1980 Census of Population files A show that 7.4% of 18-29 year old black male dropouts were in prison or jail in 1980. On the basis of figures from the 1986 survey of state prison inmates [U.S. Department of Justice, 1988] 73% of 18-29 year old black male prisoners were high school dropouts, and 40% of all black male prisoners were 18-29 year old dropouts. Given that some 347,000 black males

were in prison or jail in 1986, we estimate that 140,000 black male dropouts aged 18-29 were incarcerated in that year. Current Population Survey data shows some 557,000 black male dropouts not enrolled in school in 1986.[23] Thus we estimate that 20.1% of black male 18-29 year old dropouts were incarcerated in 1989 -- an increase of 12.7 percentage points over the 1980 proportion. Between 1986 and 1989 the prison and jail population increased by about 20% whereas the number of 18-29 year old black dropouts not enrolled in school fell by 10% The implication is that from 1980 to 1989 the proportion of black dropouts incarcerated rose by more than between 1980 and 1986 -- conservatively by 15 percentage points, by our estimates.[24]

Since there is turnover in the prison or jail population, with short sentences given to many first offenders, and since some are given probationary sentences or convicted without being sent to prison, the proportion of young dropouts with criminal records is likely to be larger than the proportion in jail at a moment in time, and the increase in the fraction with criminal records correspondingly greater. From the NLSY we estimate that in 1988 16.8% of black dropouts in the noninstitutional population had been incarcerated at one time in their life whereas 12.2% of black dropouts were in jail or prison on average in that year. This suggests a ratio of young men with a prison record in the noninstitutional population to the incarcerated of 1.4 to one.[25] In addition, the NLSY data indicate that in 1980 for every black dropout who had been incarcerated, 1.2 had been put on probation as of 1980 (unfortunately the survey did not ask about probation after 1980). Multiplying our estimated .15 point increase in the percentage of 18-29 year old black dropouts incarcerated between 1980 and 1989 by these ratios, we estimate that the proportion of black high school dropouts in the noninstitutional population with a prison record increased by 21 percentage points (1.4 x .15) while the proportion on probation increased by 18 percentage points.[26] Multiplying

these proportions by the relevant coefficients from column 2 of table V yields an estimated reduction in employment by 5 points in 1989 due to the rise in the proportion with a prison or probationary record. While crime also rose rapidly among young white dropouts, the levels of white youth involvement are so much smaller as to have little effect on their labor market outcomes: in 1980, for instance, 1.3% of 18-29 year old white dropouts were institutionalized, implying negligible effects on the employment of the age group.

How much of the adverse trend in employment for black dropouts may be due to the increased proportion with an incarceration history? In our data, the employment rate of young black male dropouts fell from 62% in 1979 to 55% in 1989 while the employment rate of young white male dropouts remained constant at 80%. The increased proportion of young black dropouts with criminal records could thus account for 71% (=.05/.07) of the trend. Over the longer period, 1973-1989, the downward trend in employment population rates was 15 percentage points. As there was no rise in incarceration of young blacks in the 1970s, the implication is that the growth of the population with a criminal record accounts for one-third of the longer run erosion of employment. As some young men involved in crime are not caught, however, these statistics underestimate the full reduction in employment potentially due to crime.

C. Omitted Factors: the role of the state

Diverse statistics show that government pressures to increase minority employment lessened in the 1980s[27] and analyses of court interpretations of the law suggest that in the mid 1970s it became increasingly difficult to win discrimination suits [Culp, 1985]. Although our CPS-based analysis provides no evidence on how these developments affected black-white differentials, there is reason to expect that they contributed to the observed erosion of gains. Evidence that Equal Employment Opportunity and Affirmative Action help explain the huge

improvement in relative earnings of the late 1960s-early 1970s [Freeman, 1976; Leonard, 1984; Heckman, 1989] implies by symmetry that weakened pressure would have the converse effect. The large decline in the relative earnings and downgrading of the occupational position of young black college men found in our data is what one would expect from firms no longer facing an affirmative action gun, since young college men were the major beneficiaries of the previous decades' pressures [Freeman, 1976]. Leonard's [1987] finding that federal contractors, who have mandatory affirmative action plans, maintained the same (roughly constant) black male share of employment as noncontractors from 1980 to 1984 when AA pressures were off whereas they increased their black share of employment relative to noncontractors from 1974 to 1980 when affirmative action pressures were severe, is also consistent with weakened governmental pressures contibuting to the erosion of gains.

Note also that weakened government anti-bias pressures offers a way to reconcile the decline in the relative earnings of black college graduates with explanations of erosion based on the overall widening of the distribution of the earnings distribution [Juhn, Murphy, and Pierce, 1989]. According to the widening distribution hypothesis blacks lost ground in relative earnings because they were initially lower in the earnings distribution than whites with similar measured attributes during a period when the earnings distribution widened. The fact that young black college graduates (and the less educated in the midwest) with earnings parity/premia with whites in the mid 1970s suffered the greatest erosion is inconsistent with this hypothesis unless parity resulted from government (other) pressures that put blacks higher in the earnings distribution than employers would have otherwise placed them. In this interpretation, these young black men suffered a double hit: weakened affirmative action/equal employment activity that removed the pressures that put them high in the distribution; and the widening distribution of earnings among college graduates itself.

IV. Conclusion

This study has documented that the relative earnings and employment of young black men declined from the mid 1970s through the 1980s and found that the rate of erosion of past gains differed markedly across education groups and regions. Black college graduates and blacks with high school or less education in the midwest had the biggest losses in relative earnings while dropouts had the largest drop in relative employment. We used two analytic techniques to examine the pattern of erosion among those groups: a regression decomposition analysis that accounts for changes in relative earnings by changes in the structure of employment and wages of groups; and a demand-supply shift analysis that accounts for changes by shifts in industry employment and in relative supplies. Despite the differing aspects of change stressed by the two procedures, they told a fairly consistent story of the causes of erosion. Both show that different economic forces affected different groups of young blacks. For those in the midwest, the decomposition analysis direct attention at changes in the industry and occupation composition of jobs, decline in unionism and the real minimum wage, and the growth of relative supply as major contributors to erosion. On the demand side, our analysis supports William J. Wilson's (1987) stress on the decline in manufacturing as a major cause of the problems faced by young black men in that region. For college graduates, the analyses directs attention at changed occupational composition, shifts in industry demand, and the growth of relative supply as the prime factors at work, with weakened affirmative action a likely cause of the occupational downgrading. For high school dropouts, the decline in the minimum wage explains the modest drop in relative earnings while increases in the proportion of young blacks with criminal records is a major cause of reduced employment. If our interpretation of the evidence is correct, relying on a

single race-related factor to explain changes, as is the practice in traditional discrimination literature, is no longer adequate. There is too much diversity in the black economic experience for a single factor story of change to stand up to scrutiny.

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Endnotes

1. The CPS first asked these questions in 1969 but data prior to 1973 are reported in broad intervals and are thus not readily useable.

2. The March CPS asks respondents annual earnings and weeks worked over the past calendar year; the data from 1964 to the present are available in micro files. Until 1976 the CPS did not include continuous measures of weeks or hours worked, so that estimates of hourly or weekly earnings are subject to measurement error due to the bracketing of earnings and hours before 1976. The yearly earnings data in the Annual Demographic Files tell a similar story to the one in this paper [Bound and Freeman, 1989].

3. The hot deck procedure is the method the Census uses to impute earnings for individuals who do not report earnings. It matches them with people having similar characteristics and imputes for them the earnings of the matches.

4. Potential experience was defined as min [age-18, age-education-6].

5. Because blacks have less schooling than whites, differentials based on regressions that include controls for education are invariably smaller than those without education controls. In the 1960s and 1970s the difference between the two sets of estimates fell as the black-white education gap narrowed substantially. In the 1980s, by contrast, there was a roughly constant gap between differentials with and without education controls. This is not because educational attainment narrowed less in the 1980s -- it narrowed about as much as in the 1970s -- but because returns to schooling rose, benefitting the more educated whites by enough to offset the effects of the reduced gap.

6. We examined whether the difference in the 1973-1989 trend in relative earnings shown in Figure I and Figure II is due to Figure I treating hourly earnings while Figure II treats weekly earnings. Our analysis shows the contrary: that the trend in racial earnings differentials is greater in usual weekly earnings than in usual hourly earnings. We also examined whether seasonal or rotation effects on earnings created an incompatibility between the data from the May CPS and that from the Annual File by looking rotation effects on the race coefficient using the May Tapes from 1973 through 1978 and looking for calendar month effects in the Annual files. We found no such effects.

7. This pattern is found in the raw (unstandardized) employment/population rates and in comparable published data for similar age groups [U.S. Department of Labor, 1989].

8. The fact that the racial earnings differential rose more rapidly for college graduates than for high school graduates does not, however, imply that the returns to college-going fell for blacks. The returns to college rose for both whites and blacks, but they rose much less rapidly for blacks.

9. The earnings differentials are from table I; the employment differentials are from logistic equations that standardize for experience and schooling, as in figure III.

10. In the underlying regressions the coefficient on metropolitan status fell modestly, but it has a relatively large effect because young black men are 50 percentage points more likely to be in central cities than comparable young whites.

11. Our data shows that in the mid-1970s over 40% of young black men in the midwest were employed in durable manufacturing. By 1989 this had fallen to 12% -- a 28 point drop! By contrast, among young white men in the midwest the drop in durable manufacturing employment was just 10 percentage points. We suspect that an important part of this differential change is the closing of older plants in the central cities of the midwest.

12. That is, we average industry coefficients from our annual 1973-89 regressions; form the vector product of these differentials with differences in the shares of blacks and whites in each industry; regress the resultant effect on time to obtain the trend effect of changes in industry employment on earnings differentials; and derive the effect of changes in industry pay as a residual,

13. We group 1970-79 for reasons of sample size in these comparisons. Our figures show that in 1970-79 68% of black college graduates were in professional/managerial jobs, whereas in 1988-89 46% were in such jobs. The comparable figures for white college graduates are: 1970-79: 69%; 1988-89, 59%. In 1970-79 16% of black high school graduates were in crafts jobs and 32% were operatives (including transportation), while in 1988-89 14% of blacks high school graduates were in crafts jobs and 23% were in operative jobs. In 1970-79 27% of white high school graduates were craftsworkers and 27% operatives; in 1988-89 the percentages were 28% (craft) and 22% (operatives).

14. It is possible, of course, to examine shifts in demand due to changes in the occupational mix, as well, just as we examined occupation in our decomposition analysis. Such an extension would presumably add to the explanatory power of the shift model.

15. This formulation follows directly from the usual fixed coefficient demand index in which the shift in demand equals the sum of fixed ratios of the group to total employment in sectors multiplied the absolute growth of employment in those sectors. It is simply the percentage change analogue of that relation.

16. For displaced workers the costs of adjustment are loss of sector specific skills and the need to search for new jobs. For young entrants the costs are less clear: loss of networks into jobs, potential geographic mobility when industries are locally concentrated. If blacks are in industries where discrimination is least, there is the additional cost of finding employers or co-workers with minimal prejudice.

17. The percentage of young blacks in manufacturing was 33% in 1970-79 and 20% in 1988-89; the percentage of young whites in manufacturing was 28% in 1970-79 and 23% in 1988-89. The percentage of young black college graduates in education and public administration was 38% in 1970-79 and 17% in 1988-89; the percentage of young white college graduates in those sectors was 28% in 1970-79 and 14% in 1988-89.

18. Had we used an average of a_{ij} for the 1973-79 period we would have obtained similar results.

19. To some, the implied elasticities may seem low, as blacks and whites with the same years of schooling should, absent unmeasured differences in school quality, be nearly perfect substitutes. We explored this issue with data from the 1970 and 1980 Censuses of Population and found support for the notion that young blacks and whites with similar years of education are imperfect substitutes. Using data on the 31 states with a high concentration of blacks, we regressed changes in black-white earnings differentials on changes in relative demand indices (defined as in equation (3)). Depending on specification the estimated coefficients on the demand indices were between .44(.29) and .50(.26) for college graduates and between .77(.38) and 1.24(.41) for high school graduates and dropouts combined. These coefficients are consistent with modest elasticities of demand, implying imperfect substitution between black and white workers

20. Another possibility is that the tendency of the armed forces to draw disproportionately on able black young men may have reduced the qualifications of young black men in the civilian work force. While there is evidence that the fraction of black and white military recruits with high AFQT scores rose in the 1980s, the proportion of 20-29 year old black men in the armed forces fell from 10% in 1979 to 8% in 1988, while the proportion of 20-29 year old whites in the military was virtually unchanged at about 5%. (U.S. Department of Defense, 1982, and unpublished updated tabulations) Thus, any adverse military effect on the qualifications of blacks in the noninstitutional population would have to come through the change in the proportion with high AFQT scores. We simulated what might happen to earnings given normal distributions of AFQT scores for whites and blacks (with whites having 1 standard deviation higher means) and the observed changes in the proportions in the military and in the AFQT scores of military recruits for the two populations. Our estimate is that the military accessions had at most a negligible .001 effect on relative earnings.

21. We estimated racial earnings differentials for the age cohorts that had 0-9 years of experience from 1973, 1979, and 1983, and compared trends in racial earnings differentials for these cohorts over time. For instance, we compared the differentials for men with 0-9 years of experience in 1973 with figures giving the differential for men with 15-24 years of potential experience in 1988. The data showed that during the 1973-89 period of erosion in earnings the relative earnings of older cohorts of black workers fell roughly as much as did that of entering cohorts.

22. In addition, we examined the effect of past incarceration experience on earnings of dropouts: for 1983 we have negligible statistically insignificant effects; for 1988 sizeable effects. As other data sets show little impact of incarceration on future earnings for youths from the same poverty neighborhoods [Freeman, 1991], we focus solely on the employment relation.

23. To get the number of black men in prison in 1986 we took the number of males in state and federal prisons from the U.S. Bureau of the Census Statistical Abstract 1990 table 328 and the number in jail from table 323. We multiplied the prison figures by 0.47, the proportion of proportion of state prison inmates in table 323. To get the number of black men in jail we took 41% of the number of men in jail from table 323. Our estimates of the high school dropout population are based on our own calculations of the proportion of 18-29 year olds not enrolled in school and civilian noninstitutional population figures in Bureau of Labor Statistics Employment and Earnings, Jan 1987.

24. This is a conservative figure. The black proportion of men in jail rose between 1986 and 1989 so that the black male prison population increased more rapidly. However, we lack data on the educational distribution of these prisoners. Adjusting our estimated .20 incarceration rate by the 20% increase in the overall prison and jail population and by the 10% drop in black dropouts yields a 1989 incarceration rate of .266, for a 1980-89 trend increase of 19.2 percentage points.

25. The Sentencing Project [table 1, p. 8] estimates from Justice Department data that among 20-29 year old blacks, 8% were incarcerated in 1989, 12% were on probation, and 3% were on parole, implying that there were roughly 1.9 times as many persons on parole or probation as in jail or prison. This is of comparable magnitude to our estimates.

26. Some of those who were on probation committed additional offenses and went to prison: 17% in our black dropout sample. However, others who were not on probation in 1980 were convicted of crimes and given probationary sentences in later years. Thus, our use of the 1980 ratio of persons on probation to those incarcerated is only a crude approximation.

27. The number of employment discrimination suits in federal district courts stabilized in the 1980s at about 9,000 per year after having risen rapidly (Administrative Office of U.S. Courts);

the number of class action discrimination suits fell; and most employment discrimination cases involved termination rather than hiring [Donahue and Siegelman, 1989]. From 1979 to 1985 the Equal Employment Opportunity Commission, which monitors Title VII, reduced its staff by 20 percent while holding real expenditures virtually constant; and the Office of Federal Contract Compliance, which administers afffirmative action, reduced its employment by 10 percent and its real budget by 20 percent [Leonard, 1987].

Table I:
Estimated Black-White Earnings Differentials, 1973-89
(controlling for years of experience and years of schooling)

	United States				Region (High school or Less)		
	Total	Dropouts	High school	College Grad	Midwest	North East	South
1973	-.109	-.179	-.109	-.038	.008	-.004	-.150
1974	-.107	-.167	-.138	.067	-.065	-.006	-.168
1975	-.076	-.129	-.106	.059	.079	.044	-.142
1976	-.062	-.116	-.107	.104	.026	-.041	-.107
1977	-.119	-.181	-.144	.027	-.037	-.004	-.183
1978	-.104	-.195	-.113	-.005	-.027	-.058	-.155
1979	-.115	-.191	-.133	-.025	-.025	-.068	-.172
1980	-.136	-.177	-.172	-.025	-.091	-.077	-.180
1981	-.114	-.162	-.141	-.032	-.062	-.097	-.157
1982	-.131	-.143	-.155	-.060	-.112	-.103	-.176
1983	-.137	-.186	-.141	-.099	-.052	-.117	-.170
1984	-.153	-.180	-.171	-.133	-.083	-.115	-.202
1985	-.190	-.222	-.201	-.151	-.155	-.071	-.226
1986	-.170	-.198	-.189	-.146	-.148	-.085	-.210
1987	-.161	-.160	-.174	-.163	-.193	-.089	-.166
1988	-.139	-.191	-.142	-.133	-.189	-.082	-.135
1989	-.179	-.180	-.183	-.169	-.209	-.148	-.183

Source: Calculated from May CPS files from 1973 to 1978 and from Annual Demographic Merged Files from 1979 to 1989. All the regressions include controls for individual years of potential experience, years of schooling, 8 region dummies and a dummy for metropolitan status (1973-75) or one for central city and one for suburbs (1976-89). The standard errors on the estimates range from .01 to .02 for the total and from .01 to .06 for the disaggregated groups. Detailed summary statistics for the beginning year 1973 and end year 1989 are:

	US				Highs School Grads or less		
	All	College grads	High grads	Dropouts	Northeast	Midwest	South
				1973			
sample size	7029	1479	2857	1249	867	896	1424
number blacks	640	52	201	187	62	86	289
std error of differential	.017	.060	.024	.034	.052	.042	.027
				1989			
sample size	23412	5642	9259	3120	2751	2059	4328
number blacks	2503	340	1204	325	273	193	851
std error of differential	.009	.025	.013	.022	.025	.029	.014

TABLE II:
Regression Estimates of 1973-89 Trends in Black/White Differentials (Net of Years of Experience and Years of Schooling) X 100*

	Ln Earnings		Emp/Pop	
	const	trend	const	trend
United States, by education				
total	-8.43	-0.57	-12.01	-0.35
	(0.92)	(0.10)	(1.40)	(0.15)
College Graduates	6.96	-1.55	-3.57	-0.20
	(1.85)	(0.20)	(1.09)	(0.12)
High school Graduates	-11.23	-0.45	-13.01	-0.25
	(0.93)	(0.10)	(1.06)	(0.20)
Dropouts	15.73	-0.21	-15.66	-0.95
	(1.11)	(0.12)	(1.86)	(0.20)
High School Graduates and Dropouts By Region				
Midwest	3.53	-1.42	-16.78	-0.88
	(1.82)	(0.19)	(2.55)	(0.29)
North East	-0.19	-0.80	-19.16	0.06
	(1.39)	(0.15)	(2.52)	(0.27)
South	-15.01	-0.24	-7.45	-0.66
	(1.23)	(0.13)	(1.73)	(0.18)

a All the coefficients have been multiplied by 100 for ease of presentation. Standard errors are in parenthesis.

Source: Calculated by regressing estimated annual racial differentials on a time trend variable. The underlying differentials in the employment equations are obtained from logits with single years of experience and education. The reference groups was men with 5 years experience and 16 years of schooling for college graduates, 12 years of schooling for high school gradutaes), and 10 years of schooling for dropouts; 12 years of schooling for the region groups.

Table III:
Estimated Contribution of Factors to Average Annual Percentage Point Trends in Racial Earnings Differentials, Men With 0-9 Yrs of Experience, 1973-89

	United States				Region (H.S. or less)		
	Total	College Grad	High Sch Grad	Drop-out	Mid West	North East	South
1. Initial Trend	-.565	-1.547	-.449	-.208	-1.424	-.797	-.241
LOCATION							
2. Due to Region	.022	-.113	.052	.198	-	-.246	.032
Quantities	.005	-.021	.001	.033	-	.000	-.002
Prices	.017	-.092	.051	.165	-	-.246	.034
3. Due to Metro.	-.084	-.054	-.094	-.090	-.188	-.053	-.046
Quantities	.023	.009	.010	.047	.001	.059	.010
Prices	-.107	-.063	-.103	-.137	-.187	-.112	-.056
4. Trend Net of Loc.	-.503	-1.380	-.408	-.317	-1.236	-.497	-.227
EMPLOYMENT STRUCTURE							
5. Due to Industry	-.057	-.108	-.045	-.106	-.455	-.140	.062
Quantities	-.087	.029	-.105	-.133	-.491	-.033	-.031
Prices	.029	-.137	.060	.027	.036	-.106	.093
6. Trend Net of Ind.	-.445	-1.272	-.362	-.211	-.781	-.357	-.289
7. Due to Occup'n	-.109	-.295	-.157	.018	-.163	.043	-.107
Quantities	-.021	-.231	-.040	.058	-.047	.034	-.015
Prices	-.088	-.064	-.117	-.040	-.116	-.076	-.091
8. Trend net of Emp.	-.336	-.976	-.205	-.229	-.619	-.315	-.183
INSTITUTIONAL CHANGES							
9. Due to Union	-.027	-.024	-.046	-.047	-.126	-.108	-.058
Quantities	-.026	-.018	-.050	-.049	-.125	-.121	-.051
Prices	-.001	-.006	.004	.002	.001	.013	-.007
10. Due to Min Wage	-.097	-.042	-.120	-.203	-.101	-.034	-.181
TOTAL ACCOUNTING							
11. Trend net of Instit. Change	-.212	-.910	-.039	.021	-.392	-.173	.056
12. Percent explained	62	41	91	100+	72	78	100+

Source: Calculated from regression analyses using CPS files as described in the text. Note that initial trend and all succeeding regressions include dummy variables for individual years of schooling and experience.

Table IV:
Effects of Annual Shifts in Ln Relative Demand Indices and Supply on Trends in Black-White Ln Earnings and Employment-Rate Differentials Net of Location, 1973-89
(changes multiplied by 100)

	Relative Demand Shifts (1)	Relative Supply Shifts (2)	ΔLn Earnings (3)	ΔLn Emp Rate (4)	Elasticities[a] Supply (5)	Demand (6)
U.S.						
All Young males	-.33	.87	-.50	-.32	.64	1.8
By education						
College Grads	-1.87	3.19	-1.38	-.64	.46	3.2
High School Grads	-.77	1.41	-.41	-.22	.54	4.8
Dropouts	.44	-1.53	-.32	-2.11	*	*
By Region (High School or Less)						
Midwest	-1.49	.67	-1.24	-.48	.39	1.3
Northeast	-.51	1.50	-.50	-.26	.52	3.5
South	.06	-.08	-.23	.14	*	*

[a]These are the elasticities that enable the shift model to explain perfectly the changes in relative earnings and in the ln employment rate.

A (*) indicates that the model does not account for the changes.

Source: Authors' tabulations, as described in the text. The actual changes are changes after controlling for region and metropolitan status, as given in Table III.

Table V:
Estimates of the Effect of Criminal Records on
Working in Survey Week of Young High School Dropout Men
in the Noninstitutional Population

	1983		1988	
	mean	coefficient (std error)	mean	coefficient (std error)
dependent variable	.61	--	.79	--
incarcerated in prior yrs	.11	-.21 (.06)	.16	-.17 (.04)
1980/earlier:				
probation only	.12	-.16 (.05)	.10	-.11 (.05)
convicted only	.03	-.07 (.10)	.02	-.06 (.09)
charged only	.07	-.03 (.07)	.07	-.10 (.05)
stopped only	.16	.00 (.05)	.15	-.00 (.04)
controls		YES		YES
R^2		.11		.09
sample size		819		930

Notes: Estimated using 1989 wave of National Longitudinal Survey of Youth. Controls include: age, age-squared, dummy for race, dummy for marital status, three region dummies, years of schooling, urban dummy, smsa dummy, two dummies for level of unemployment in local labor market, dummy if person came from the "random" sample of the survey as opposed to the special oversampling of minority and poor youths; dummy variables for drinking; recent and lifetime use of marijuana and cocaine.

Figure 1: Black/White Earnings Gap for Men with less than 10 yrs Experience - 1973-89 (controlling for education)

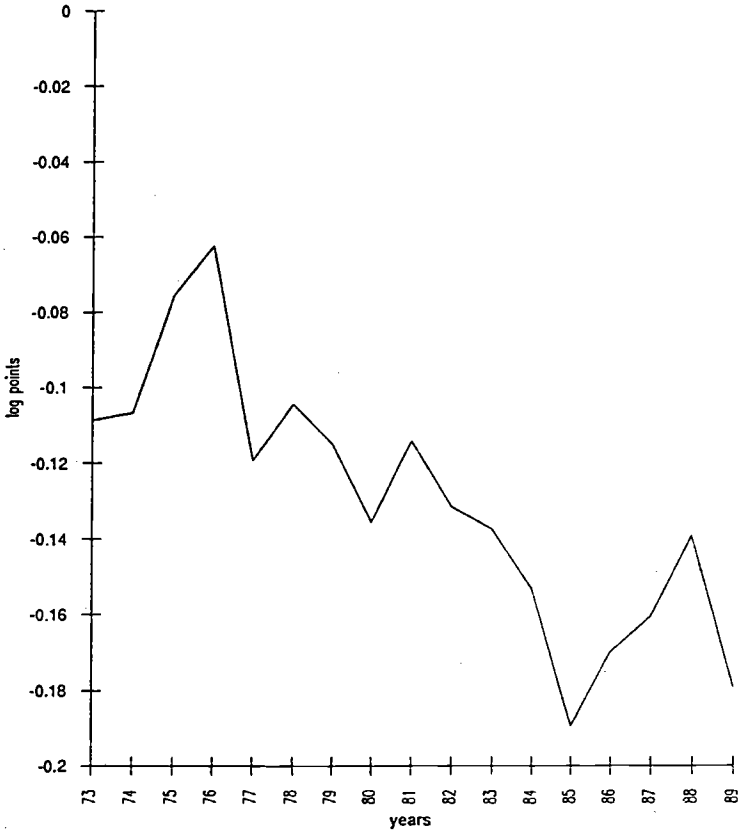
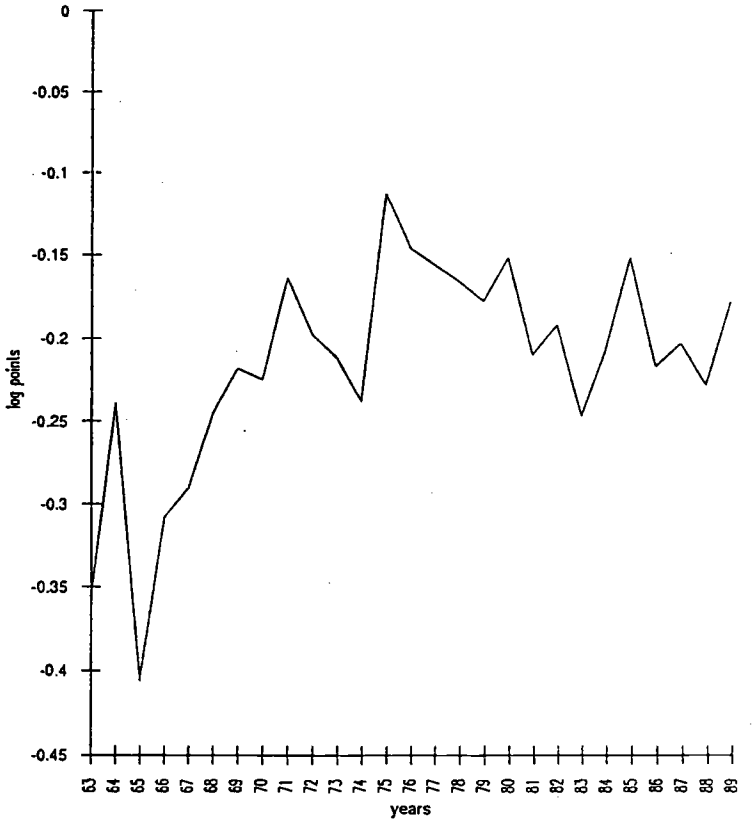


Figure 2: Black/White Weekly Earnings Gap for Men with less than 10 yrs Experience - 1963-89 (controlling for education)



Notes: Figure 2 reference category is men with 5 years of experience and 12 years of education.

Figure 3: Black and White Employment Rates for Men with less than 10 yrs Experience - 1973-89