

# Catching Up: Wages of Black Men

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This is a summary of recent trends in the wages of African-American men (black men) relative to the wages of European-American men (white men). The 1960's and the early 1970's witnessed rapid improvement in the relative status of blacks, and the research that studied this trend tried to disentangle effects of antidiscrimination legislation and executive-branch edicts from responses to increasing educational levels and to the school-provided resources devoted to education. James P. Smith and I observed that, although the relative wages of blacks were increasing, there was little evidence of improvement within cohort; instead the gains were dominated by the labor-market arrival of cohorts who would do better than earlier arrivals, but not as well as those to follow (Smith and Welch, 1977, 1984, 1989). Furthermore, although there was clear evidence of employment shifts toward industries with concentrations of firms presumed to be more sensitive to affirmative-action pressures (industries with high proportions of employees in firms that were federal contractors and those with the larger firms required to report to EEOC), the wage gains were pervasive and not restricted to these industries. As such, we argued that improvements in the quantity and quality of schooling were more important than the legislation. As a counterpoint, James Heckman and Brook Payner (1989) used case studies of firms to argue that legal sanctions against segregation and discrimination created opportunities for nondiscriminatory behavior by employers that make them less vulnerable to reactionary pressures from clients, patrons, and white employees.

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Later, the gains in the relative economic status of black Americans became more problematic, and by some measures, notably ratios of average wages, there was clear regression. Although there were suggestions that the regression resulted from a loss of support for affirmative action generally and reduced funding to EEOC specifically during the Reagan administration (Gerald D. Jaynes, 1990; Jonathan S. Leonard, 1990; John Bound and Richard Freeman, 1992), in fact, the decline began in the mid-1970's and continued for a decade so that it included part of the Ford administration, all of the Carter administration, and the first half of the Reagan administration. The timing of the onset of this backward movement is coincidental with the beginning of the 1974-1975 recession, and its end coincides with the recovery following the Carter/Reagan 1979-1983 recession. While it may be fun to speculate about the consequences of changes in the political environment, it appears in this case that there is a more mundane explanation: minority workers have always suffered disproportionately during recessions.

In examining possible reasons for the "slow-down" in the economic progress of blacks, Chinhui Juhn et al. (1991) showed that part of the decline in the ratio of average wages was a simple artifact of the general economy-wide increase in wage dispersion. Increasing wage inequality within groups matched on age, schooling, gender, and race would be the central subject of research in labor economics for at least a decade, but until Juhn et al.'s work on race differences, the link between growing dispersion and group comparisons of wages had not been recognized.

With a full-distribution increase in wage dispersion, wages below the median fall relative to the median while wages above the median increase relative to it, and the changes in relative wages increase as the fraction of the population that lies between the median and a given point in the distribution increases. To see how much

of the loss in the relative wage of blacks was due to increases in wage dispersion generally, Juhn et al. suggested that quantile (e.g., percentile) locations of wages be compared. Instead of defining the relative wage of blacks as the black/white ratio of average wages, they suggested that wage comparisons include percentile scores the same way that scores on achievement tests are often compared. That is the convention I adopt here.

Comparisons are restricted to men: black versus white. I use the wage distribution of white men as the reference with two kinds of comparisons. First, I compare the fraction of black men whose wages fall within a given quantile range of the white men's distribution. The choices are the lower decile and quartile and the upper decile and quartile. Since 10 percent of white men inhabit the deciles and 25 percent inhabit the quartiles, frequencies of blacks are presented relative to those for whites. Thus, for example, a normalized representation of black men in the lowest wage decile of 1.50 indicates that black men are 50-percent more likely than whites to have such low wages: 15 versus 10 percent.

The main comparison is the average quantile location. By definition, the average score for white men in their wage distribution is the 50th centile. If one's score on a standardized test given in high school was, say, 88 percent, it means that 88 percent of the test-taker competitors had a lower score. A simple way of viewing the average quantile score of all men is that for two randomly selected men the probability that the second has a lower wage than the first is 50 percent. Similarly, the average wage quantile score of black men in the white men's wage distribution, is the probability that a randomly selected white man will have a lower wage than a randomly selected black man. The average quantile scores of black men are presented relative to the average for whites, so that 1.00 is the norm for equality in wage rankings.

The data are from the 1964–2002 March Annual Demographic Supplements to the Current Population Surveys. Since each survey gathers information about earnings and employment in the preceding year, the relevant period is 1963–2001. Wages are weekly earnings of full-time employees. Wages for the self-employed and for those not working full time

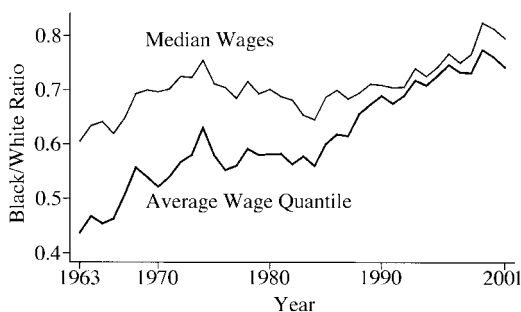


FIGURE 1. THE IMPROVING RELATIVE STATUS OF BLACK MEN

*Note:* The graph shows the average wage quantile of black men relative to white men's weekly wage distribution and the ratio of median wages.

are imputed using a modified "hot deck" procedure to match recipients with donors.<sup>1</sup> The weekly wage is an estimate of the wage that would have been earned with usual weekly hours between 35 and 40.

Figure 1 provides the time-series average wage quantile of black men expressed relative

<sup>1</sup> Earnings are wages plus self-employed and farm income, if positive. The weekly wage is earnings divided by weeks worked. Weekly earnings are top-coded at the 98th centile and bottom-coded at the 2nd centile value. There is a wage sample consisting of those whose class-of-worker is not self-employed, who worked at least 10 weeks and at least 35 hours per week during the year. These are presumed to represent the valid wage observations; they constitute the regression observations, and they are the donor population for wage imputations. The regressors include age adjusted for schooling as potential prior experience, schooling, race, weeks worked, race, and marital status. The population is restricted to black and white men with 1–40 years of potential experience. The functional form for the regression includes the log of the weekly wage against a quartic in experience, indicators for weekly hours between 40 and 55 and for hours greater than 55, weeks worked as a quadratic with an indicator for 52 weeks, with indicators for race, schooling, and marital status in full detail, which varies over time. Following the regression, weekly wages for the donor population are adjusted to the 35–40 weekly hours interval using the regression coefficients for the adjustment. Next, a fitted value is constructed from the regression for the full population with weeks for nonworkers set to 10 and hours set to the 35–40 interval. The fitted values are adjusted to the 35–40 hours interval. Finally, the imputation is completed by using the fitted values to match recipients with donors. The recipient wage is the hours-adjusted wage from the donor, and it is the hours-adjusted wage that is used throughout the comparisons.

to the white men's average of the 50th centile. The series is a fixed, uniform, weighted average of the ratios within each of the 40 experience levels so that it is not sensitive to changes in age distributions. In 1963, the mean for black men was 21.9 percent or 43.7 percent of the average for whites. By 2001, the mean had increased to 37.1 which is 74.2 percent of the white average. If one measures the black-white wage gap as the difference between the two averages, then during the 38 years, slightly over one-half of the gap closed. The series is noisy, and 1974 appears to be an unusually large positive departure from trend. However, it is 1988 before the series exceeds its 1974 level. The local minimum is in 1976, but it is the mid-1980's before the trend becomes clearly positive.

Figure 1 also graphs the black/white ratio of median wages for comparison with the quantile measure. While the medians track movement only in the centers of the wage distribution, the quantile mean is sensitive to changes throughout the distribution. The two series (the mean quantile and the ratio of median wages) behave similarly in the sense that the extremes coincide and growth is interrupted after 1974 and resumes after 1984. The primary difference between the two is that the ratio of medians shows more rapid early-period growth and a quantitatively larger drop during the period of regression.

As Juhn et al. (1991) noted, the difference is the result of rapidly increasing wage dispersion during the period. Notably, prior to 1984, increasing wage dispersion was more pronounced in the lower half of the distribution. From that time forward, the primary action was in the upper half. The two series agree, however, on the most important point; measured either by the full-distribution calculation or by ratios of medians, roughly half of the black/white wage gap among men was eliminated during the later third of the 20th century.

Figures 2 and 3 examine the corresponding trends at the extremes of the wage distribution. Figure 2 traces the relative representation of black men in the lowest decile and quartile. In 1963, black men were 4.7 times as likely as white men to have wages in the lowest 10 percent of wages and 2.8 times as likely to have wages among the lowest 25 percent. Since then the overrepresenta-

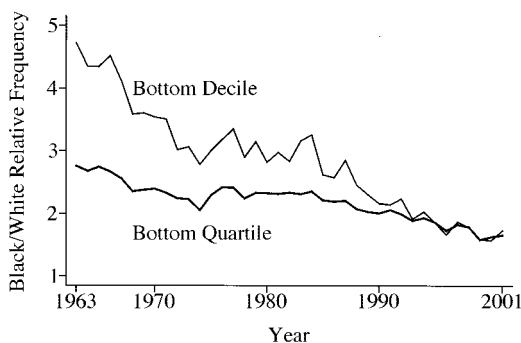


FIGURE 2. BLACK MEN IN THE LOWEST DECILE AND QUARTILE

Note: The graph shows the ratio of percentages in white men's weekly wage distribution.

tation has declined, and just as is true of the averages, there is a hiatus in the progress of black men's wages during the period immediately after 1974. During the 1963–2001 span of the data, the representation of black men in the lowest wage decile declined to 1.73, relative to whites, while in the lowest quartile it declined to 1.66. Thus in 38 years, the overrepresentation fell by 80.4 percent in the lowest decile and by 63.6 percent in the lowest quartile.

Relative to the trend for the quartile comparison the drop in the overrepresentation of black men in the lowest decile may seem extraordinary. One should be careful to not make too much of this comparison, however. Consider the effect of simply shifting workers from the lowest decile to the 11–25th centile. With the approximate 5:1 overrepresentation of black men in the lowest decile, the relative trends that are observed are more or less what one would expect unless the dispersion in the wages of black men increased rapidly relative to the dispersion in white men's wages. The surprise in the black/white wage comparisons at the extremes of the wage distribution does not occur in the lower levels; rather, it is at the top.

Figure 3 provides comparable trends for the upper decile and quartile. In 1963, only 2.1 percent of black men had wages in the highest decile, and only 5.9 percent had wages in the highest quartile. Relative to whites, these numbers are, respectively, 20.8 and 23.6 percent of what would be implied with black/white equal-

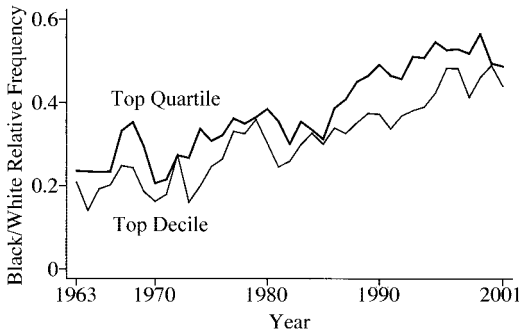


FIGURE 3. BLACK MEN IN THE HIGHEST DECILE AND QUARTILE

*Note:* The graph shows the ratio of percentages in white men's weekly wage distributions.

ity. Although the series are obviously noisy, it is clear that the increase in upper-level wages in the quartile and decile ranges are roughly parallel. Not only were they essentially equal at the beginning of the period, but they have remained that way. In both series the decline in underrepresentation has been modest in comparison to the gains at the lower extremes of the wage distribution. For example, underrepresentation declined by only 29.3 percent in the highest decile and by only 33.0 percent in the highest quartile.

Given the gain in the average quantile location of black men's wages, it seems clear that most of it can be attributed to improvements in the lower ranges rather than improvements in the upper wage quantiles. Relative to wage dispersion among whites, wages of black men are becoming less disperse as the black mean moves toward the white mean. Champions of equality ought to be happy with the composition of these trends, although disgusted by the abysmal levels at the beginning of the period and, possibly, disappointed that progress has not been more rapid.

Each number underlying Figures 1, 2, and 3, is calculated first within each of 40 single-year experience levels and then averaged using uniform weights. The fixed experience weighting avoids confusion with life-cycle wage evolution alongside black/white differentials in distributions of experience. The growth in black men's relative wages is presumably a mixture of

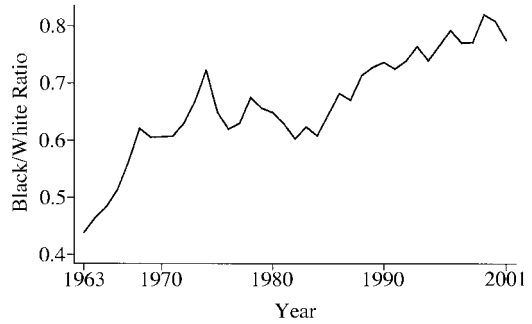


FIGURE 4. AVERAGE QUANTILE OF BLACK MEN IN WHITE MEN'S WEEKLY WAGE DISTRIBUTION WITH FIXED EDUCATION AND EXPERIENCE WEIGHT

*Note:* The graph shows the black/white ratio of quantile means.

growth among individuals matched on completed schooling and increasing school completion levels of black men. To distinguish between these components of growth, Figure 4, graphs the black/white ratio of quantile means (like those in Figure 1) that hold school-completion levels constant.<sup>2</sup> It should be obvious that Figures 1 and 4 are essentially identical. The two series begin at the same level and end within 5 percent of each other. The minor difference in terminal levels favors the fixed-educational-weight series, so there is no indication that increasing school completion has played a role in recent black/white wage convergence.

Figure 5 graphs the same data used in Figure 1. The difference is that Figure 1 traces fixed-experience weighted averages over time, while Figure 5 traces fixed-year weighted averages over experience. The negative gradient in the experience profile should be familiar to students of black/white wage differentials. This type of trend bears two possible explanations: one good, the other bad. The good one is that the

<sup>2</sup> Each year, mean wage quantile scores are first computed within schooling and experience level where schooling takes five values: less than high school, high-school graduate, some college, college graduate, and post-graduate. The cell means are then averaged with fixed education weights corresponding to the 39-year average educational distribution of black men. The experience-level means are then averaged as before.



FIGURE 5. BLACK MEN'S AVERAGE WAGE QUANTILE BY EXPERIENCE, 1963–2001

Note: The figure shows the black/white ratio of quantile means.

younger workers are also more recent entrants into the job market, and perhaps, the more recent cohorts fare better in comparison to whites. The alternative explanation is that black men fall further behind as they age.

To distinguish between the competing explanations, I ran regressions on the experience-by-year means graphed in Figures 1, 2, and 3. The regressors are cohort, defined as the year that a cohort would have entered the job market, and years of experience. The coefficient on cohort estimates the annual rate of vertical shift in profiles like the one graphed in Figure 5, and the coefficient on experience, holding cohort constant, estimates the rate that each cohort's relative position changes as the career unfolds. Note in Figure 5 that by moving from one point in the line to the one corresponding to a one-year increase in experience, calendar year is held constant, and therefore, the labor-market entering cohort declines by one year; those with 10 years of experience today joined the labor force a year after those with 11 years of experience. The regressions are weighted by the number of wage observations in each cell, and results appear in Table 1.

Two things are obvious. First, unlike Figure 5, it is clear from the regressions that the relative wage position of black men does not deteriorate as the career unfolds. For every measure of relative status, the career profile is positively inclined. Second, the rate of improvement by cohort year swamps the experience-year rate of

TABLE 1—REGRESSIONS OF RELATIVE QUANTILE SCORES OF WAGES OF BLACK MEN WITHIN THE WAGE DISTRIBUTIONS OF WHITE MEN, 1963–2001

Dependent variable	Cohort	Experience	R <sup>2</sup>
Mean quantile	0.750 (43.0)	0.408 (16.4)	0.595
Top quartile	0.821 (23.3)	0.425 (8.5)	0.305
Top decile	0.738 (15.0)	0.221 (3.2)	0.181
Bottom quartile	-2.463 (36.9)	-1.317 (13.9)	0.521
Bottom decile	-6.836 (44.6)	-3.655 (16.7)	0.613

Notes: Main table entries are coefficients; *t* statistics are reported in parentheses. Regressions include 1,560 observations, 39 years with 40 experience levels in each. Observations are weighted by the number of black men used in each calculation. Cohort is defined as year less experience. In each regression the coefficient estimate for cohorts is statistically significantly greater than the coefficient for experience. Even so, the data clearly show that the relative wages of black men increase within cohorts as experience accrues as well as between cohorts.

TABLE 2—BLACK AND WHITE STUDENTS' MEDIAN READING TEST SCORES

Year	Age 9		Age 13		Age 17	
	Black	White	Black	White	Black	White
1971	171	215	223	262	239	293
1975	183	218	226	263	242	294
1980	192	223	233	265	244	294
1984	186	220	236	263	264	297
1988	188	219	242	262	274	295
1992	185	221	239	268	262	300
1996	191	222	235	268	266	296

Source: National Center for Educational Statistics, National Assessment of Educational Progress (NAEP), 1996 Long-Term Trend Assessment.

improvement within cohort. In every case, the coefficient on cohort is larger in absolute value than the coefficient on experience, and the difference in the two is statistically significant.

The final part of this numeric display focuses on sources of cohort gains in productivity. Table 2 provides black and white student median scores on reading tests, 1971–1996, as measured by the ETS's National Assessment of Educational Progress (U.S. Department of Ed-

ucation, 2000). There is some evidence that reading score differentials are declining.

The main point is that the black/white wage gap narrowed measurably during the 1963–2001 interval; roughly half of the initial differential was eliminated during the period. It is a personal matter as to whether this observation is reason to celebrate or less reason for shame and apology, but in either case, it is a real accomplishment. The secondary point is that most of the gain lies between cohorts and, perhaps surprisingly, has been accomplished disproportionately in the lower parts of the wage distribution.

We will long debate, and never resolve, the question of the relative roles of productivity growth versus effects of antidiscrimination legislation. I have long argued that the primary gains are productivity related. Those who believe otherwise must contend with the following facts. First, without gains in the productivity of black men relative to whites and contrary to the findings reported in Table 1, there would be no reason at all for an intercohort advantage over experience. Over time, as discrimination declines, blacks would gain relative to whites, and the gains should be equally distributed irrespective of age or cohort; only time would matter.

Second, I am aware of no theory of effects of antidiscrimination legislation that does not predict disproportionate gains at the top of the distribution. The basic idea is simple; there is greater pressure to increase representation where underrepresentation is most obvious.

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