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ABSTRACT

This study examined the college attendance and degree completion rates of black and white students using census data and data from the class of 1980 of the High School and Beyond Study. Introductory information examines the racial gap in earnings. The following sections consider: differences in educational attainment in relation to wage differences; the effects of standardized test scores, high school characteristics and family background on racial differences in college entry; differences in college retention and the racial gap in educational attainment; differences in colleges attended by blacks and whites students; differences in retention among blacks and whites attending predominantly white institutions; effects of attending historically black institutions. Overall findings include the following: (1) college entry rates of blacks were higher at every SAT (Scholastic Aptitude Test) quartile; (2) the mean enrollment rate of Blacks was lower than for whites; (3) black college completion rates (by SAT quartiles) were generally slightly higher for blacks than for whites; (4) increased access and financial aid had but marginal impact on degree completion rates for blacks; (5) enrolling in a historically black college or university increased retention rates for blacks; and (6) the disproportionate numbers of black youth receiving low test scores appeared to be the primary obstacle to black student retention. (DB)

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Race, College Attendance and College Completion

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I. *Introduction*

The racial gap in mean earnings among males expanded during the Eighties, reversing several decades of progress in shrinking racial earnings inequities.[1] One force driving this widening racial disparity has been the rise in the value of schooling, which has tended to force open the racial fissures in the national earnings distribution due to continuing large differences in educational attainment between black and white youth.[2] As labor market trends have again brought racial differences in educational attainment into the spotlight, this paper attempts to provide a summary of the sources of these differences in college entry and completion between and among black and white youth.

Despite the increasing importance of a college education in the labor market, roughly half as many blacks as whites from current cohorts are completing 4 years of college.[3] The analysis in this paper uses data from the high school class of 1980 to study racial differences in college entry. Although black youth graduating in 1980 were 8 percentage points less likely to enter a 4-year college, much of that difference can be attributed to differences in high school preparation and family background

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[1] For a description of trends in racial earnings differences since 1940, see Smith and Welch (1986).

[2] The bulk of this increase in earnings inequality is due to increases in racial disparities within educational groups, not just increases in the returns to education. For a more thorough discussion, see Bound and Freeman (1993).

[3] Given recent trends in college enrollment (Kane (1994), Hauser (1993)), that gap may actually be expanding, rather than shrinking.

differences. In fact, black youth were considerably more likely to enter college than white youth with similar family backgrounds and test scores, with the largest differences for those with lower scores and family incomes.

College entry has not been the only obstacle to black educational progress. Rates of high school graduation and college entry did increase more quickly for blacks than for whites between the early Sixties and early Eighties. Unfortunately, the proportion of college entrants completing 4 or more years of college have been considerably lower for black youth. As a result, the increases in high school graduation and college entry have born little fruit, increasing the proportion of African American youth graduating from college from 7% of those turning 18 in 1961-67 to 11% of those turning 18 in the late Seventies.

In the popular media and in academic debates, a number of reasons have been cited as being responsible for racial differences in college completion, including such factors as differences in prior academic preparation, differences in family income and parental education, the racial climate on college campuses and, more controversially, alleged "affirmative action" in college recruitment and admission decisions. This paper describes the differences in college choice decisions for black and white youth and attempts to weigh the importance of each of these factors in generating differences in college completion rates. Although there is evidence that blacks are not only more likely to attend school, but also more likely to attend schools with higher SAT scores than white youth with similar scores, the evidence for the importance of match quality to completion rates, though admittedly hard to identify, is not

overwhelming. Conditional upon test scores, black college students attending non-predominantly black institutions are not less likely to graduate than similar white students.

Further, there is evidence that black students attending historically black institutions are more likely to graduate from college than black youth attending other schools, even after accounting for the fact that the average SAT score at many of these institutions is often low. One interpretation of this observation is that racial climate on college campuses can have an important effect on retention rates. However, student self-selection is an obvious alternative interpretation: students with the best match for these institutions may be more likely to attend. Instrumental variables estimates of the affect of HBI attendance, using the proportion of youth in the state in which one lives as an instrument, have large standard errors and do not help to resolve the issue. It may be impossible to identify how much of the effect of black institutions on enrollment rates is due to racial climate or student self-selection, but the results are suggestive. The final section of the paper contains a brief discussion of the policy implications of this research.

II. *Decomposing the Racial Earnings Gap: The Role of Educational Attainment and the Educational Wage Differences*

Differences in educational attainment have been an important source of observed racial differences in earnings. As reported in Table 1, employed black males aged 28-34 in 1979 earned roughly $126 ($1991) less per week on average than employed white males overall.[4] However, a portion of this difference was due to the fact that blacks and whites had different mean levels of education. For instance, 22% of employed black males aged 28-34 were high school drop-outs in 1979-80 as compared with 10% of whites. As reported in the decompositions in the lower panel of Table 1, equalizing the educational distribution would have eliminated 27% ($34) of the racial earnings gap. Racial differences in the earnings of those with similar levels of education accounted for the remaining difference.

The racial gap in educational attainment did shrink somewhat for those turning 18 in 1974-81. Most importantly, high school drop-out rates declined by 8.8 percentage points for black males, while high school drop-out remained virtually unchanged for whites. Black males in this sample also showed a slight decline in college entry between the two periods. However, reflecting the decline in college enrollment rates accompanying the end of the Vietnam War and the passing of the baby boomlet during the Seventies, the proportion of white males with at least some

[4]Based upon author's tabulations of Merged Outgoing Rotation Group Files, 1979-80 and 1990-91. The earnings of all non-self-employed males, aged 28-34, were used, including both full-time and part-time workers.

college education declined by more than that of blacks.[5] Therefore, even at the college level, there was some relative improvement for black males over the period.

However, despite such progress, educational attainment continued to account for 26 percent of the difference in average weekly earnings between blacks and whites. One reason for this apparent anomaly is the fact that differences in earnings across educational levels also grew. As reported in the bottom panel of Table 1, we would have expected the racial gap in weekly earnings to have shrunk by 14 percent (-$18/$126), simply due to the closing of the gap in educational attainment between blacks and whites. However, rather than shrinking, the racial earnings gap widened by 37 percent ($46/$126). As revealed in Table 1, there were two important causes. First, and most importantly, racial earnings differences expanded among those with similar levels of education, accounting for a $33 widening of the gap. Although troubling, this is not our primary concern in this paper. Rather, we will focus on role played by differences in education levels in the fact of rising educational wage differentials: The value of schooling increased during the Eighties, and because whites continue to achieve higher levels of educational attainment than blacks, the earnings differential expanded. By the estimates in Table 1, the rising price of skill amplified existing racial differences in educational attainment, and accounted for roughly half of the widening of the pay gap. For the remainder of this paper, we will focus our attention on accounting for these differences in educational attainment.

[5]For a more detailed description of these trends, see Freeman (1976).

III. Decomposing the Effects of Standardized Test Scores, High School Characteristics and Family Background on Racial Differences in College Entry

A number of factors have been cited in the popular and academic debates as potential causes of racial differences in college entry. For instance, racial differences in family income, parental education, standardized test scores and high school characteristics have all been singled out as important "causes" of the difference in rates of college-going by blacks and whites. Indeed, many such hypotheses have been tested in a number of individual studies over the years. For instance, Manski and Wise (1983) analyzed the college entry decisions of the high school class of 1972. The purpose of this section is to use more recent data from the High School and Beyond class of 1980 and to develop a common basis for weighing the relative importance of these differences in accounting for the difference in enrollment rates that we observe.

The standard approach to decomposing the effect of family background differences would be, first, to estimate the relationship between family income and college-going among whites and blacks separately and, second, to ask how much one would expect the enrollment rates of blacks to increase if one equalized the differences in family incomes. Such a thought experiment has a long history in the social sciences, particularly in evaluating race and gender differences in earnings, as patterned after the work of Oaxaca (1973). Although it can be a useful accounting mechanism, there are certainly weaknesses to such an approach. For instance, in

evaluating the effect of differences in test scores, one has to worry about the extent to which such measures are simply measuring family wealth and not academic achievement or cognitive ability. The approach taken below will be to also control for family income and parental education differences when evaluating the impact of the test score difference. However, such concerns can never be fully resolved to the extent that we have imperfect and incomplete measures of family background differences. Therefore, the reader should bear these limitations in mind when interpreting the results presented below.[6]

Among those who graduated from high school in 1980, there was an 8 percentage point difference in the percentage of blacks and whites entering a 4-year college at some point before 1986 (52% of whites versus 44% of blacks). As reported

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[6] The following equations were estimated separately by ordinary least squares using the High School and Beyond sample of high school seniors from 1980:

$$College = X_b B_b + \epsilon_b \quad for\ Blacks$$

$$College = X_w B_w + \epsilon_w \quad for\ White, Non\text{-}Hispanics$$

where "college" is equal to 1 if a respondent ever reported enrolling in a 4-year college between 1980 and 1986 and 0 otherwise. The explanatory variables include a number characteristics of the youth and of their schools: the score on the HSB-administered test, self-reported high school grades, gender, percentage of students from one's high school attending college or who were disadvantaged, pupil teach ratios, expenditures per pupil, region, urbanicity, family income and parental education. (The coefficients and means of the independent variables are reported in Appendix Table 1.)

With a little algebra, it can be shown that the difference in college enrollment rates can be expressed as below:

$$\bar{College}_w - \bar{College}_b = (\bar{X}_w - \bar{X}_b)\hat{B}_w + (\hat{B}_w - \hat{B}_b)\bar{X}_b$$

where the first term represents the effect of the racial differences in the mean of each of the characteristics as weighted by the impact of each characteristic on college-going probabilities among whites. The second term accounts for the fact that each of these characteristics may have different effects for Whites and Blacks.

in the first column of Table 2, the most important source of this difference was the difference in base-year test scores. The mean test score for white youth was roughly 1 standard deviation greater than the mean score for black youth. Given the relationship between college-entry and test scores among white youth, such a difference in scores alone would have led us to expect a 16 percentage point gap in college entry. White youth also reported higher high school grades, another important predictor of college entry. Equalizing the difference in mean high school grades, based upon the relationship between grades and college entry among white youth, would have generated another 5 percentage point increase in black enrollment rates relative to whites.

Family income, parental education and the presence of both parents in the home are also important predictors of college enrollment among white youth, even beyond the indirect effect each of these might have through their influence on base-year test scores and grades. Given the differences in these characteristics among white and black youth, equating mean family background characteristics for blacks and whites would lead to another 8 percentage point increase in enrollment for blacks.

Among the characteristics studied in Table 2, there were few other differences in characteristics between blacks and whites which would have accounted for much of a difference in enrollment. For instance, there were racial differences in the percent of one's high school class who are disadvantaged, in pupil/teacher ratios and expenditures per pupil at the high school. However, after controlling for family

background and the child's standardized test scores, few of these differences had a direct effect on college entry. Despite large differences in regional location (60% of African American youth lived in the south, as compared to a quarter of whites) and urbanicity (43% of African American youth attended high schools in central cities as compared to 16% of whites), these seemed to little impact on entry rates.

The second column of Table 2 reports the differences in the impacts of each of these characteristics on college-going prospects among black and white youth. The positive sign on the test score in the second column is due to the fact that the HSB test score is a stronger predictor of college entry for whites. An alternative way of expressing the same fact is that the gap in enrollment rates between blacks and whites is wider at lower test scores. The same is true for high school grades, family income and parental education.

However, enrollment rates for whites in central cities and the south are lower than for blacks in the same areas. If blacks had the same enrollment rates as whites in these areas, and everything had remained the same, we would expect college entry rates of blacks to have been 9 percentage points lower.

The total at the bottom of column 2 reports the difference in enrollment rates among black and white youth with characteristics equal to the mean for blacks. Among the class of 1980, white youth with characteristics equal to the mean for blacks were 20 percentage points *less* likely to enter college by 1986 than a black youth with the same characteristics. On the other hand, the above results suggested that differences in characteristics increased white enrollment rates by 28 percentage

points relative to whites. By virtue of the linearity of OLS, all of the above add up to the 8 percentage point difference in college entry rates observed. Although a higher proportion of whites entered college, blacks from the class of 1980 were generally more likely to enter college than similar white youth, particularly among those with lower test scores and high school grades. There were simply many more black youth with low test scores, parental education and family incomes.

IV. *The Importance of Differences in College Retention to the Racial Gap in Educational Attainment*

Although "access" to college is the usual focus of debate, the proportion of the population completing a college degree is the product of three factors: high school graduation, college entry and college completion. Table 3 uses this simple algebraic identity to decompose the racial difference in college enrollment due to each of these factors. The table is based upon the combined educational attainment of men and women, aged 30-34 in 1977 and 1991.[7]

Among those who turned 18 between 196. and 1965, whites were 3 times more likely to complete 4 or mores years of college (20% versus 7%). Some of this difference was "due to" the higher high school graduation rate of whites, which was 16 percentage points greater than that of blacks. (83% versus 67%). As reported in the first column of the bottom panel of Table 3, if we had held the college entry rates

[7]These estimates were drawn from the Bureau of the Census, P-20 series publication titled, Educational Attainment in the United States, Nos. 314 and 462.

of high school graduates and the college persistence rate constant and simply equalized high school graduation rates, the gap in college completion would have closed by only 1.5 percentage points. Likewise, if we had held high school graduation rates and college persistence rates constant and equalized college entry rates by high school graduates, the proportion of all blacks graduating from college would have increased by only 2.4 percentage points. Both of these effects are small relative to the impact of equalizing 4-year completion rates by college entrants while holding high school graduation rates and college entry constant, which would have led to a 5.5 percentage point closing.[8] Making the same calculations for those turning 18 in the period, 1976-80, the conclusion is similar: The bulk of the difference in college completion seems to have been due to the much lower 4-year completion rates by those entering college.[9]

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[8]This difference was not due to the greater concentration of black youth at 2-year comunity colleges. As reported by the National Center for Education Statistics (1984), a similar percentage (38-40%) of black and white college entrants started at two-year colleges.

[9]Although there was a 10 percentage point closing of the gap in high school graduation, and a 5 percentage point closing of the gap in college entry for those turning 18 in 1961-65 and 1976-80, the racial gap in college completion rates closed by only 2.7 percentage points, from 13.8 to 11.1. Changes in high school graduation have led to large percentage increases in completion-- in fact, the college completion rate for blacks increased by 64%, from 6.7 percent of the population to 11 percent of the population. However, the changes have been small in percentage point terms, because college completion rates have been so low for blacks. This is more than just a semantic difference, since the difference in mean incomes between blacks and whites depend upon percentage point differences in college completion and not percentage changes.

V. *Differences in Colleges Attended by Blacks and Whites*

The popular discussion has often suggested that the college admissions process may be related to low retention rates among African American students. For instance, racial preference in college admissions has long been an issue at the University of California at Berkeley, where reports of low retention rates among minority students have been used to argue against so-called "affirmative action" admissions policies.[10] Further, advocates of predominantly black colleges have often noted the special role these institutions play in contributing to the stock of black college graduates. This section includes a description of the differences in the colleges attended by blacks and whites with similar family backgrounds and standardized test scores. The next section will attempt to weigh the importance of these differences to racial differences in college retention.

Data on Mean SAT Scores of Colleges Attended

In order to learn about the differences in the colleges attended by black and white youth, we supplemented the HSB data with data on mean SAT scores from the Peterson's guides from the early Eighties.[11] We worried about the accuracy of the

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[10]For instance, see Bunzel (1988).

[11] Mean SAT scores for colleges and universities were obtained from UCLA's Higher Education Research Institute (HERI). HERI, apparently, gathers data from printed college guides, such as Peterson's and Barron's. SAT scores in these guides are self-reported by the schools.

The data manager for the Peterson's guidebooks reported sending out yearly mailings to 1,950 four-year schools. Schools are asked to indicate what percentage of their admitted students

Peterson's data, since it is self-reported by colleges and universities themselves. Therefore, as a rough test of their accuracy, we first standardized the HSB base-year math and reading test scores to have a similar mean and standard deviation as the scores in the SAT for 1980.[12] Since the SAT and the HSB base-year exam were designed to be similar tests, this should serve as a rough proxy for each students' SAT score. We then estimated the difference between one's own score and the school attended for every member of the HSB senior sample that attended college between 1980 and 1986.[13] If the HSB provides a representative sample and if the Peterson's reports are correct-- on average, that is-- then the mean of this deviation should equal zero. The mean deviation for the students for whom we had a mean SAT score for the college attended was -87, suggesting that the Peterson's scores may be overstated

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fell within 100-point ranges on the math and verbal sections of the SAT. Beyond ensuring that the percentages in each range add up to 100%, they do not attempt to verify the accuracy of the data.

Printed on the form mailed to the school are the school's responses from the previous year. The respondent has the option to indicate the data is unchanged and mail it back. When asked how many schools did so, our contact said that a large proportion of community colleges just checked it off as unchanged and sent it back; that the "better" schools update the information each year; and that of other four-year colleges, about 50% updated the information and 50% sent it back unchanged.

Peterson's, therefore, reports distributions and not means. When using Peterson's data. HERI calculated a weighted average based on the midpoints of the ranges.

[12]This was done by simply adding the appropriate mean and dividing by the ratio of the actual standard deviation to the standard deviation in SAT scores.

[13]For those attending multiple schools, we replicated their observation for each school attended. When studying the effects of matching in the next section, we simply use the mean score of the first school attended and did not replicate the observation.

on average.[14]

Differences in College Choice by Race[15]

The three panels of Figure 1 report the reported mean test scores of the school attended as well as the standardized HSB test score for black youth attending non-HBI's, white students and black youth attending HBI's. Overlaying each panel are the OLS-fitted values for each of the three groups. Figure 1 suggests at least two conclusions regarding the college entry decisions of black and white college students. First, there were differences in the mean SAT score of the schools attended by blacks and whites with similar HSB test scores: black youth attend schools with mean SAT scores 30 points higher than white youth with similar scores, although the slope is similar. (It is hard to know if this is "large" or "small" until we study the effect of ability matching on completion rates below.) Second, the relationship between one's own score and the mean score of the school attended seems to be very different for blacks attending predominantly black institutions. One interpretation of this fact is that black students are considering factors other than mean SAT score, when considering attending the predominantly black campuses. Indeed, many students with high HSB test scores attended such institutions, even when the average SAT

[14]Future drafts will contain a more careful analysis of the nature of the measurement error, whether it seems to be proportional to test scores, whether it is correlated with enrollment by race, etc.

[15]In the following analysis of the effects of college characteristics on retention rates, we use the characteristics of the first four-year college attended, even if youth transfer to another school.

score on campus was often quite low. Whatever the underlying behavioral explanation, the diversity of pre-college preparation within the predominantly black institutions seems to be greater than within other colleges and universities. The implications of both of these facts for the racial difference in college retention are evaluated below.

VI. *Differences in Retention among Blacks and Whites Attending Predominantly White Institutions*

Suppose that the probability of completing a BA degree within 6 years of graduating from high school can be described as below:

$$P_i = X_i\beta + \gamma Test_i + \phi \bar{SAT}_j + \delta(Test_i - \bar{SAT}_j) + \epsilon_j$$

where $Test_i$*=Person's test score,* $\bar{SAT}_j$*=School mean test score and* X_i*=other characteristics.*

where γ captures the direct effect of one's own test score on one's chance of completing, ϕ measures the effect of college quality on the probability of completion and δ measures the effect of ability matching on the chances of completion. Though the three may be conceptually distinct, it is not possible to identify γ, ϕ and δ separately, due to their linear dependence. However, it is possible to estimate $(\gamma+\delta)$ and $(\phi-\delta)$, as the coefficients on one's own test score and the mean of the school attended respectively. That is the approach taken in Table 4, pooling black and white students attending predominantly white institutions and estimating a linear probability model with the probability of college completion conditional upon college entry as the dependent variable.

Column (1) of Table 4 reports the difference in mean completion rates between

blacks and whites attending 4-year predominantly white institutions. There was a [illegible] percentage point difference in 4-year degree completion, before conditioning upon any other differences between blacks and whites (46% of whites as compared with 24% of blacks completed BA's by 1986). Column (2) adds the students' own test scores (scaled to be similar to the SAT, as described above), high school grades and family background measures. In fact, after conditioning upon these characteristics, the racial difference in completion rates is still negative, although not statistically significantly so.

The third column includes measures of the mean SAT score of the college, as reported to the Peterson's guides, as well as whether the school is public or private. Retention rates are higher at institutions with higher SAT scores, even conditioning upon the students' own scores. There are two potential interpretations of this fact. There may be no "causal" importance of attending a higher quality school on one's chances of completing college. Such a coefficient merely may be picking up differences in student characteristics at these institutions unmeasured by individual test scores, high school grades and our family background measures. Alternatively, it may be that universities with higher SAT scores offer a product in greater demand by students, either because of higher consumption value or higher quality human capital, leading students to remain longer in school. Note that ϕ-δ>0, implying that the positive effects of attending a higher "quality" school outweigh the negative effects of ability matching, i.e. reducing one's performance relative to the school's mean.

Rather than attempting to measure school quality directly with schools' self-

reported SAT scores, the fourth column includes fixed college effects, essentially comparing the completion rates among students attending the same schools. Although the effect of own test score again decreases, possibly reflecting the better controls for student characteristics represented by the school fixed effects, the impact of own test score is still positive and signficant.

There are at least two problems with these estimates. First, we might worry that the measure of school quality presented by schools' reported mean SAT scores may be badly mismeasured. One solution to such a measurement error problem is to identify a second independent measure of the same concept. As a result, mean HSB test scores were computed for each school. Although these estimates will be quite inaccurate as well, given the small number of students from the HSB sample attending many colleges, these should serve as a valid instrument for the mismeasured school quality as long as the measurement errors are uncorrelated and both are uncorrelated with actual quality. Indeed, the point estimate of the effect of school quality rises in column (5) using these mean HSB test scores by college as an instrument for a school's mean SAT score.

A second problem, hinted at above, is that one's school of choice is obviously not a result of random assignment. Student's choose to attend various schools based upon unmeasured characteristics, which may lead us to understate the effect of match quality on retention rates. However, since 80% of postsecondary enrollment is at public institutions, overwhelmingly within the state of a youth's residence, the mean and standard deviations of SAT scores within a state may also serve as

instruments. Whether one attends a "high score" school may, indeed, be a function of whether one resides in a "high score" state. These scores will be valid as long as they do not include other differences in the college bound population between states not being measured by the individual characteristics already included. Column (6) presents these estimates. Both the effect of own test scores and the mean test score of the school attended seem to increase in importance.

In columns (2) through (6), none of the racial differences in retention rates after conditioning upon personal characteristics and the quality of the institutions attended are significantly different from zero. There are apparently no differences in completion rates among blacks and whites with similar test scores attending similar colleges. Further, the net effect of attending a school with a higher mean SAT score, conditional upon one's own test score, is positive. Therefore, these results would suggest that affirmative action admissions, to the extent that they lead to higher college quality for Blacks, may actually have positive effects on retention rates.

VII. The Effect of Attending Historically and Predominantly Black Institutions

The familiar fact that the historically black institutions graduate a disproportionate number of bachelor's degree recipients long ago entered the conventional wisdom of educational policy discussions. However, it is difficult to know what to make of such a fact. For instance, such statistics have often been

interpreted as evidence for the importance of racial climate in retaining minority students. However, the historically black colleges and universities often differ in a number of ways, other than the racial composition of their student bodies. This section takes a closer look at differences in retention rates among black students at different types of schools, after controlling for student and institution characteristics.

Table 5 contains estimates from linear probability specifications using the sample of 850 black youth from the HSB survey who were observed attending a 4-year college and for whom test score data were available. The first column reports that retention rates at the historically black colleges (HBI's), as compared to all other institutions, were 7 percentage points higher on average, without adjusting for any differences between the students or the schools. However, not all institutions which were predominantly black in 1980 are considered to be "historically black institutions". As a result, a more expansive definition was used for "predominantly black institutions", including any other school with more than 25% of the student body being black. The second column includes the predominantly black institutions. In these data, HBI's seem to be quite different from PBI's: Retention rates are 16.2 percentage points lower at PBI's than at predominantly white institutions and 22 percentage points lowere than at HBI's.

After controlling for differences between the schools and between students, the apparent effect of attending an HBI actually increases, raising completion rates by 19 percentage points. This is simply due to the fact that mean test scores are lower at these institutions. However, the predominantly black institutions which are not

HBI's are no longer judged to have lower retention rates than predominantly white schools.

As above, the primary problem in interpreting these results comes with the extent of unmeasured matching occuring between students attending different types of schools. In other words, we need not expect that a black youth transfering from a predominantly white institution to a similar HBI would experience a 19 percentage point increase in their chance of completing. In columns (4) and (5), we use the percentage of the population and the percentage of 14-19 year olds by state as an instrument for HBI attendance (while continuing to include dummy variables on the right-hand-side for region of residence in 1980). Indeed, living in a state with a higher proportion of blacks in the population raised one's chances of attending an HBI. As long as the only way that the racial composition of one's state affected one's chances of completing college was through its effect on the likelihood of attending an HBI, then this should be a valid strategy. In fact, the resulting estimate of the effect of HBI attendance on one's chances of completing a BA (50 percentage points), while statistically significant, is almost implausibly large. In the final column, the ratio of HBI enrollment to the population of black 14-19 year-olds in the state is used as an additional estimate. The point estimate, while back within the range of the OLS-estimated effect of HBI attendance, is no longer statistically significant.

In sum, HBI enrollment very well may have an impact on retention rates directly, although it is impossible to resolve just how much of the apparent effect on retention rates is due to student matching versus a "treatment effect" of the colleges

themselves. It is even more difficult still to identify what it is about the environment provided by HBI's that might lead to higher retention rates. However, one piece of evidence suggests that it may not simply be the racial climate on campuses that makes a difference: black students attending institutions with high black enrollments, which are not counted among the Historically Black Institutions, seem to have no higher retention rates than those attending similar predominantly white institutions. Although this clearly does not resolve the issue, it may be worth wondering about other ways in which the historically black institutions differ.

VIII. Summary and Discussion

The basic results of the paper can be summarized neatly in Figure 1. The top right panel reports college enrollment rates of blacks and whites by base-year test quartile.[16] First, as implied in Table 2, college entry rates of blacks were higher at every test quartile. Second, this gap is wider in both percentage point terms as well as percentage terms at lower test quartiles. Third, the first two points above notwithstanding, the mean enrollment rate of blacks remains lower than the enrollment rate of whites. The resolution of this apparent anomaly lies in the fact that a higher proportion of blacks can be found in the lower test quartiles, as reported in the top left panel.

The bottom left panel of the figure reports BA completion rates by 1986, for blacks and whites who reported having enrolled in a 4-year college. Again, black completion rates are generally slightly higher than those of similar whites. The bottom right panel reports the proportion of blacks and whites in each of the categories who completed 4 year degrees (not conditional upon having entered college, but simply using the population of high school graduates in the denominator). As implied by the first three graphs, blacks are generally more likely to have completed

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[16]Black and white students in different test quartiles also have different high school grades. These estimates have been adjusted for high school grades by running separate regressions by race with high school grades, standardized test scores and the family background controls on the right hand side. Then entry, retention and completion rates were estimated after setting high school grades of all students to the mean for the combined sample of blacks and whites, but allowing all other characteristics to vary. Therefore, these estimates could be understood as controlling for high school grades and standardized test scores only, but still allowing for the direct differences in family background effects.

BA degrees by 1986 than whites with similar test scores.

The efforts of federal and state policymakers and college administrators has been focused on three main fronts: affirmative action in admissions, public support of traditionally black institutions and financial aid. Although this paper has not attempted to put a dollar value on the relative benefits and costs of these policies, it does seem that the first two of these may have had incremental positive effects on the number of black college graduates.

There is some evidence, too, that financial aid may have an impact on the racial gap in enrollment, but small effects on the number of BA's achieved. Financial aid need not be targeted by race to have an impact on the racial gap in enrollment and completion. Any change in policy-- increase in tuition costs or decline in financial aid-- will disproportionately affect black youth to the extent that lower income youth are more cost sensitive, since blacks are much more likely to come from low-income families. Table 6 provides estimates of these impacts based upon the HSB data, adding data on tuition levels at public 4-year institutions by state. High tuition states are not only more likely to have lower college entry rates, but the difference is particularly large among low income youth. As reported in Table 6, a $1000 increase in tuition is associated with a 10 percentage point decline in enrollment rates among youth from below median family SES and a 4.4 percentage point decline among youth above the median. Since 76% of black youth are in families below the median as compared with 45% of whites, a $1000 increase in college costs would lead to a 1.8 percentage point widening of the racial gap in enrollment.

However, Table 6 uses a similar approach to estimate the effect of financial aid on BA completion. While variation in tuition was associated with large differences in college entry, there seems to have been little or no relationship between public tuition levels and the proportion of youth in a state eventually completing BA's. This may simply be due the fact that our measure of the costs students face is poorer for students as they age[17]. However, it may also reflect the fact that the marginal students, whose decisions are affected by financial aid policies, may also be the youth with the lowest probabilities of completion.

This paper has provided a brief overview of evidence on a wide range of issues, at the risk of oversimplication. However, one of the goals of this paper has been to put each of these various issues in some perspective. Opening doors and increasing access to college education through admissions and financial aid policies has had only marginal effects on the number of black college graduates, simply because retention rates are so low. However, retention rates for black youth are low, on average. This is not because affirmative action admissions put African American youth at a disadvantage. There is little evidence that retention rates for minority students are any lower than for white students with similar test scores. The simple fact that black youth are disproportionately represented among low test score youth seems to be an important underlying obstacle. Until there is more progress in increasing the levels of attainment minority youth bring to colleges, it will be difficult to obtain substantial improvements in the racial gap in college graduation.

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[17]There is only data on geographical location of the high school.

Table 1.
Decomposing the Impact of Educational Attainment
on the Racial Gap in Average Weekly Earnings: 1979-80 and 1989-90

Black Non-Hispanic Men, Aged 28-34						
	1979-80		1990-91		Difference:	
	Share	Mean Earnings	Share	Mean Earnings	Share	Mean Earnings
HS Dropout	.219	369	.131	287	-.088	-82
HS Graduate	.371	465	.484	349	.113	-116
Some College	.252	512	.244	439	-.008	-73
College Grad	.103	602	.110	525	.007	-77
Grad School	.054	753	.030	644	-.024	-109
Total	1.00	486	1.00	391	0	-95
White Non-Hispanic Men, Aged 28-34						
	1979-80		1990-91		Difference:	
	Share	Mean Earnings	Share	Mean Earnings	Share	Mean Earnings
HS Dropout	.098	485	.089	379	-.009	-106
HS Graduate	.305	565	.393	473	.088	-92
Some College	.266	602	.242	550	-.024	-52
College Grad	.184	684	.182	721	.002	37
Grad School	.146	722	.093	835	-.053	113
Total	1.00	612	1.00	562	0	-50

Decompositions:	*White-Black 1979-80*	*White-Black 1990-91*	*Change 79-80 - 89-90*
Differences in Educ. Attain.	34	45	-18
Earnings Differences by Educ. Attain.	92	127	33
Overall Changes in Educ. Attain.	----	----	-3
Overall Changes in Wages by Educ. Attain.	----	----	23
Remainder			10
Total	126	172	46

Note: Based upon author's tabulations of male, non-self-employed workers in the outgoing rotation group files of the Current Population Survey in 1979-80 and 1990-91. Part-time workers are included.

Table 2.
Decomposing the Difference in Four-year College Entry
between Blacks and Whites

	Difference in characteristics: $(\bar{X}_w - \bar{X}_b)\hat{B}_w$	Difference in impacts: $(\hat{B}_w - \hat{B}_b)\bar{X}_b$	Total:
Pre-college Preparation	*.202*	*.055*	*.257*
Base-year Test	.157	.043	.200
HS Grades	.045	.012	.057
Gender	*.001*	*.019*	*.020*
HS Characteristics	*.008*	*.020*	*.028*
Pct. in College	.007	.025	.032
Pct. Disadv.	-.000	-.019	-.019
Pupil/Teacher	.001	-.019	-.018
Expend/Pupil	.000	.033	.033
Location of High School	*-.014*	*-.089*	*-.103*
Region	-.010	-.055	-.065
Urbanicity	-.004	-.034	-.038
Family Background	*.080*	*.088*	*.168*
Family Income	.029	.064	.093
Parental Education & Presence	.051	.024	.075
Subtotal:	*.277*	*.093*	*.370*
Unexplained difference	___	*-.289*	*-.289*
Total Difference:	.277	-.196	.081

Note: Based upon OLS estimates and means of independent variables from High School and Beyond senior sample. See Appendix Table 1.a for coefficients and means.

Table 3.
Decomposing the Effect of High School Graduation,
College Entry by High School Graduates and 4-Year Completion Rates
on the Racial Gap in College Completion

Attainment of Blacks by Age 30-34:			
	Year Turned 18:		Change
	1961-65	1975-79	1961-65 - 75-79:
P(HS Graduate) X	.672	.821	.149
P(College | HSG) X	.381	.441	.060
P(Comp. 4 Yrs | College)=	.260	.304	.044
P(College Graduate)	.067	.110	.043
Attainment of Whites by Age 30-34:			
	Year Turned 18:		Change
	1961-65	1975-79	1961-65 - 75-79:
P(HS Graduate) X	.827	.875	.048
P(College | HSG) X	.519	.529	.010
P(Comp. 4 Yrs | College)=	.476	.476	.001
P(College Graduate)	.204	.221	.016
White - Black Difference by Age 30-34:			
	Year Turned 18:		Change
	1961-65	1975-79	1961-65 - 75-79:
P(HS Graduate)	.155	.054	-.101
P(College | HSG)	.138	.088	-.050
P(Comp. 4 Yrs | College)	.216	.173	-.044
P(College Graduate)	.138	.111	-.027
Decomposing the Difference in P(College Graduate):			
	Black-White 1961-65	Black-White 1975-79	Change in Black-White:
High School Graduation	.015	.007	-.010
College Entry	.024	.022	-.009
College Persistence	.055	.062	-.011
Remainder	.043	.019	.003
Total Difference	.138	.111	-.027

Note: Based upon figures on educational attainment of 30-34 year olds in the Bureau of the Census, *Educational Attainment in the United States* 1977 and 1991, P-20 Series, Nos. 314 and 462.

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Table 4.
BA Completion Rates Among Blacks and Whites
Attending Predominantly White Institutions

Dependent Var: Comp. BA by 1986	OLS				IV	
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-.222 (.039)	-.051 (.040)	-.062 (.040)	-.054 (.044)	-.069 (.040)	-.076 (.041)
HSB Test/1000 (SAT scale) (γ+δ)		.301 (.059)	.220 (.060)	.162 (.071)	.173 (.067)	.301 (.059)
Mean SAT of College/1000 (ϕ-δ)			.573 (.097)	---	.936 (.257)	1.264 (.231)
Private College			.060 (.020)	---	.052 (.021)	.044 (.021)
H.S. Grades: Mostly A's and some B's		.346 (.042)	.312 (.042)	.261 (.049)	.293 (.044)	.276 (.044)
Mostly B's and some C's		.205 (.040)	.181 (.040)	.135 (.048)	.168 (.041)	.157 (.041)
College fixed effects included?	No	No	No	Yes	No	No
Family Background Included?	Yes	Yes	Yes	Yes	Yes	Yes
Instruments: Mean HSB Test					X	X
Mean and s.d. of SAT in state of residence in 1980						X

Note: Family background effects include parental presence and education, parental income, region, urbanicity of high school. Gender was also included. Fixed effects were computed for 818 colleges. The variable being instrumented is the mean SAT score of the school attended. There were 2669 observations used in these calculations.

Table 5.
BA Completion Rates Among Blacks Attending
Predominantly White and Black Institutions

Dependent Var: Comp. BA by 1986	OLS			IV	
	(1)	(2)	(3)	(4)	(5)
Historically Black Institutions	.070 (.031)	.062 (.032)	.188 (.052)	.495 (.210)	.172 (.176)
Predominantly Black Institutions		-.162 (.087)	-.088 (.089)	—	—
HSB Test/1000 (SAT scale)			.210 (.087)	.230 (.091)	.208 (.088)
SAT of College/1000			.267 (.171)	1.000 (.516)	.227 (.437)
Private College			.013 (.035)	-.021 (.042)	.014 (.039)
H.S. Grades: Mostly A's and some B's			.206 (.051)	.212 (.052)	.208 (.052)
Mostly B's and some C's			.087 (.045)	.090 (.046)	.088 (.045)
F-test (p-value): HBI=PBI		.012	.004		
Family Background Included?			Yes	Yes	Yes
Instruments: % Black, % of 14-19 Black in state of residence in 1980				X	X
PBI Students/14-19 Blacks in state of residence in 1980					X

Note: The above were estimated for 850 black youth from the HSB senior cohort observed attending a 4-year college and for who test score data were available. Predominantly black institutions were defined as those with more than 25% black enrollment in 1980, which were not also HBI's. Family background measures include a dummy for region of residence in 1980.

Table 6.
The Effect of State Public Tuition Levels on
4-Year College Attendance and BA Completion Among Blacks and Whites

	Share of H.S. Grads:		Effect of $1000 Increase in Public Tuition	
Percentile of Family SES Distribution:	Blacks α_b	Whites α_w	Whites β_w (Standard Error)	
			Attend	BA
Bottom Half	.76	.45	-.101 (.025)	-.002 (.022)
Top Half	.24	.55	-.044 (.024)	.003 (.021)
Total	1.00	1.00		
Effect of $1000 increase in public 4-year tuition on Racial Gap:	$(\alpha_{w1}-\alpha_{b1})\beta_{w1}+(\alpha_{w2}-\alpha_{b2})\beta_{w2}$		.018	.001

Note: The above were estimated within a linear probability model of 4-year college entry and BA completion, for the HSB sample 6 years after graduating from high school. The coefficients represent interactions between tuition and SES status. Also included were dummies for family ses quartile, parental eduction, 4 region dummies, 2 urbanicity dummies and test scores. The average resident public 4-year tuition levels between 1980 and 1983 were used by state.

Appendix Table 1.a.
Coefficients in College Entry Specification and
Mean Personal and School Characteristics
for Blacks and Whites

	Blacks:		White, Non-Hispanic	
	Mean:	Coefficient: (Stand. Err.)	Mean:	Coefficient: (Stand. Err.)
Base-year Test	-.858	.209 (.014)	.1507	.156 (.009)
High School Grades:				
Mostly A's and B's	.215	.227 (.032)	.3712	.287 (.022)
Mostly B's or C's	.510	.132 (.025)	.4705	.131 (.020)
Male	.445	-.020 (.021)	.4856	.011 (.014)
High School Characteristics:				
Percent of Class Entering College	44.12	.0014 (.0006)	47.18	.0024 (.0004)
Percent Disadvantaged	32.63	.0008 (.0004)	11.46	.0002 (.0005)
Pupil/Teacher Ratio First Quartile	2.83	-.0021 (.0065)	3.41	.0030 (.0029)
Pupil/Teacher Ratio Second Quartile	5.05	.0001 (.0051)	4.45	-.0004 (.0022)
Pupil/Teacher Ratio Third Quartile	5.60	-.0031 (.0045)	4.23	.0008 (.0019)
Pupil/Teacher Ratio Fourth Quartile	4.10	.0009 (.0036)	5.36	-.0007 (.0015)
Pupil/Teacher Ratio Missing	.083	-.0648 (.0964)	.073	.0081 (.0449)
Per Pupil Expenditure First Quartile	47.61	.000054 (.000072)	50.13	-.000037 (.000050)
Per Pupil Exenditure Second Quartile	129.09	-.000011 (.000041)	188.62	-.000011 (.000027)
Per Pupil Expenditure Third Quartile	182.12	-.000017 (.000031)	231.50	-.000015 (.000020)
Per Pupil Expenditure Fourth Quartile	230.08	-.000009 (.000021)	365.86	-.000011 (.000014)
Per Pupil Expenditure Missing	.564	-.0198 (.0425)	.454	-.0362 (.0312)

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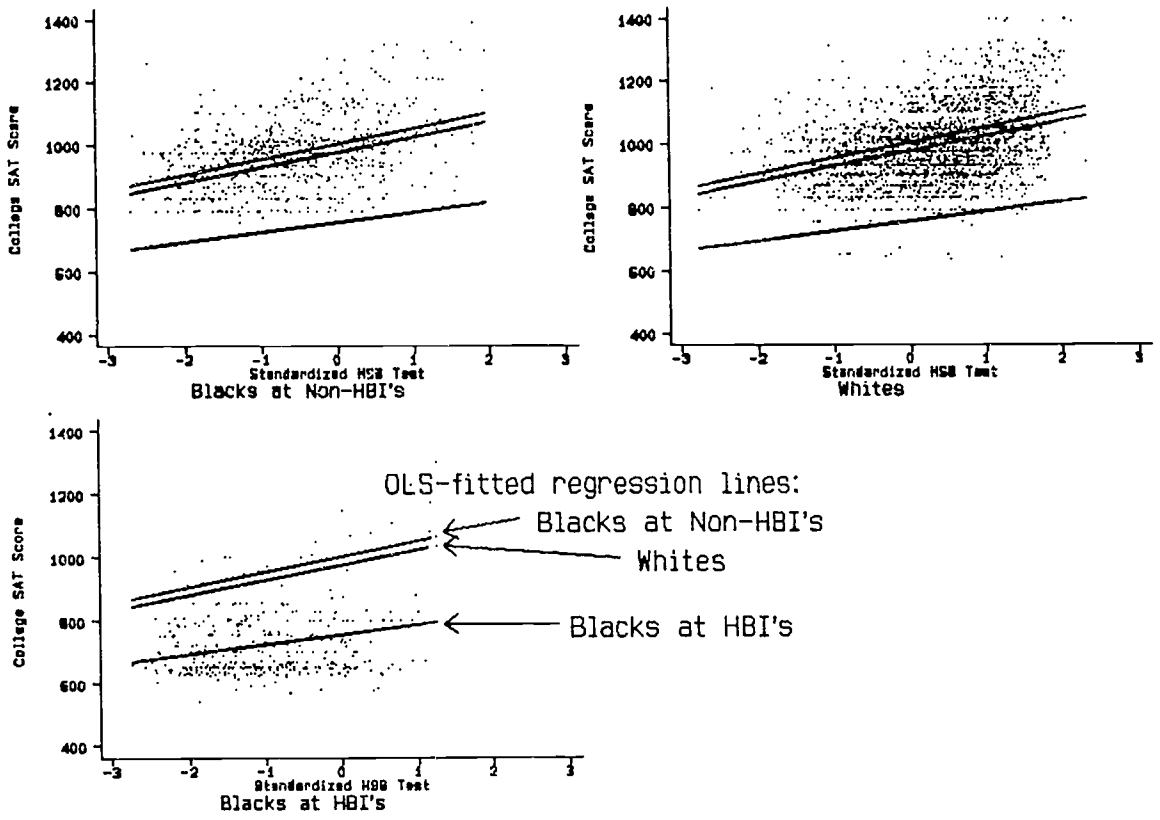
Location of High School:				
Central City in SMSA	.435	.0416 (.0294)	.147	-.0057 (.0212)
In SMSA, not CC	.307	.0445 (.0302)	.517	-.0240 (.0155)
Region:				
Northeast	.158	.1499 (.0561)	.232	.0452 (.0240)
North Central	.170	.1922 (.0549)	.354	.1314 (.0217)
South	.626	.1899 (.0522)	.265	.1147 (.0228)
Family Income	12.72	.00055 (.0013)	21.51	.00454 (.00072)
Family Income Missing	.1847	-.0625 (.0332)	.0951	.1130 (.0283)
Mother's Education:				
HS Grad	.4545	.0520 (.0257)	.539	.0227 (.0207)
Some College	.105	.0981 (.0387)	.154	.0871 (.0265)
College Graduate	.094	.2324 (.0429)	.148	.1469 (.0285)
Education Data Missing	.032	.0082 (.0649)	.013	-.0162 (.0647)
Father's Education/Presence:				
HS Grad	.348	.0103 (.0318)	.415	.0598 (.0205)
Some College	.079	.0200 (.0492)	.125	.1452 (.0267)
College Graduate	.092	.0604 (.0502)	.252	.1926 (.0256)
Education Data Missing	.119	-.1124 (.0621)	.014	.0214 (.0990)
Father Not Home	.371	-.0331 (.0369)	.134	.0412 (.0421)

Father Not Home and HS Grad	.135	.0420 (.0508)	.054	-.0213 (.0516)
Father Not Home and Some College	.019	.0280 (.0914)	.011	-.0405 (.0787)
Father Not Home and College Graduate	.025	-.0260 (.0853)	.032	-.0047 (.0573)
Father Not Home and Educ. Data Missing	.085	.1412 (.0751)	.009	.0143 (.1242)
Constant		.1667 (.1285)		-.1425 (.0597)

Note: Based upon author's tabulations of the High School and Beyond survey. Only those who participated in the base year and all 4 follow-ups were included in the sample.



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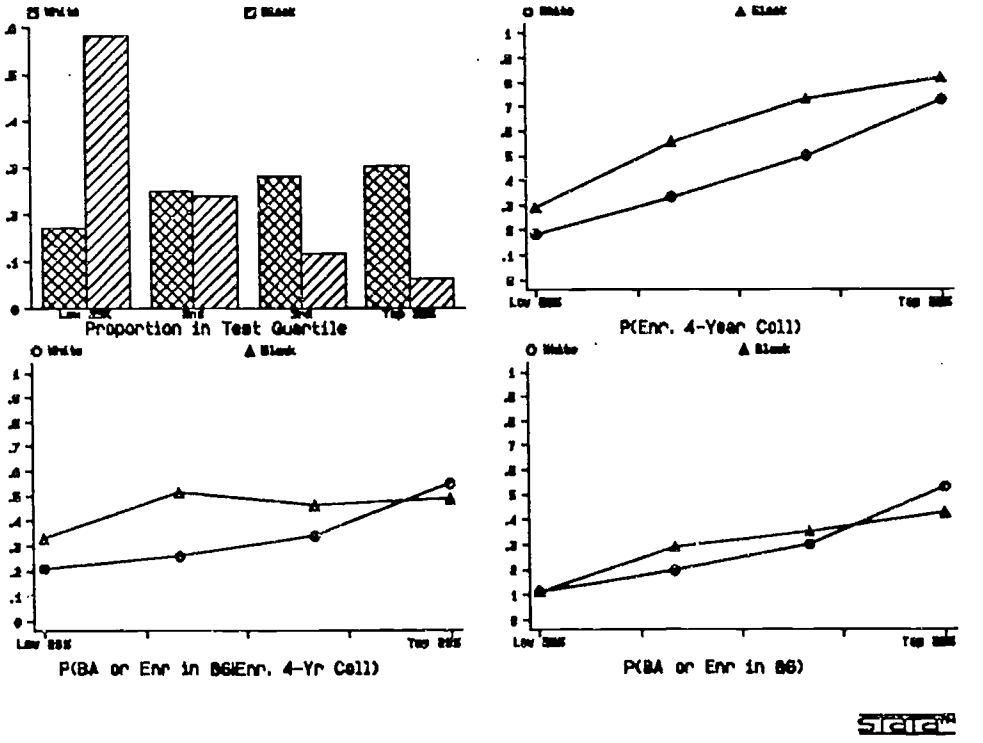

Figure 2. Racial Differences in College Entry and BA Completion by Test Quartile