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An Examination of the Role of Student Race and Ethnicity in Higher Education Since 1972

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1. Introduction

Several recent court and legislative actions have effectively eliminated state-sponsored affirmative action—preferences based on race and ethnicity—in a variety of public institutions, including education. Proposition 209 in California, the *Hopwood* decision in Texas and a recent ballot initiative in Washington state all have the potential to dramatically affect the racial and ethnic composition of students in higher education. The short run impact of these changes may already have been felt: many attribute a recent fall in the number of black and Hispanic undergraduate students admitted to University of California campuses to the initiative.¹ California and Texas have already reacted to the recent actions against the use of racial/ethnic preferences in admissions policy by restructuring admissions criteria in an attempt to maintain diversity. Texas, for example, has recently begun to require the University of Texas to admit the top ten percent of each high school class. Given school district demographics, this would guarantee admission of students at predominately black and Hispanic high schools without regard to an individual's performance on national tests. California is planning to implement a similar approach.

Admissions policies can potentially have a dramatic effect on the economic structure of society given that access to higher education is one of the main avenues to economic mobility. Research has consistently shown that earnings increase substantially with years of schooling and there is a particularly sharp increase with the attainment of a college degree. Further, the economic returns to higher education have also grown rapidly over the past few decades (Bound and Johnson 1992; Katz and Murphy 1992; Murphy and Welch 1992; Grogger and Eide 1995;

¹ The fall has been particularly striking at Berkeley (blacks down 57%, Hispanics down 40%) and Los Angeles (blacks down 40%, Hispanics down 33%), although  at all 8 UC campuses combined there has been a drop (blacks down 18%, Hispanics down 7%).

Brewer et al. 1999; Coleman 1995). For example, Murphy and Welch (1992) estimated that between 1979 and the late 1980s, the college wage premium for all age groups increased almost 20 percentage points, while the college wage premium for workers with one to five years of experience grew by 38 percentage points.

In fact, college attendance is also cited as a primary explanation for the narrowing of the earnings gap between blacks and whites (Grogger 1996). The percentage of black high school graduates completing one or more years of college has grown markedly since the early 1970s: in 1971 only about one-fourth of black high school graduates age 25-29 had attended at least one year of college; by 1991 this fraction increased to about 43 percent (NCES 1995a). A similar pattern is found among Hispanic students, as the percentage of Hispanic high school graduates who attended some college rose from about 30 percent to over 42 percent (NCES 1995b).

In addition to higher returns to college overall, there is growing indication that the *type* of college an individual attends plays an important role in determining labor market outcomes. Brewer et al. (1999) find a statistically significant labor market payoff to attending the elite private institutions. They estimate that attending an elite university (where elite status is based on the *Barrons Profiles of American Colleges* rankings) increases earnings by as much as 39 percent over attending the least competitive schools. They also find that this pay premium has been increasing over time.² Behrman et al. (1996) estimate that over the course of a lifetime, the gains from attending a higher quality college amount to differences in present discounted earnings of \$8170 for females and \$9946 for men. For non-white students, the gains are larger, ranging from \$11,000 to \$15,000.³ These results indicate that not only is access to college

² In addition, Eide et al. (1998) find that attending the most prestigious institutions significantly increases the likelihood of attending graduate school at a major research university.

³ This calculation is based on a 45 year time horizon, a 4 percent discount rate, and a 2000 hour

important but the type of college attended is an important determinant of economic success.⁴

What will be the impact of measures that limit the use of affirmative action on access to higher education for minority students, and their consequent economic success? Will the progress made by blacks and Hispanics in gaining access to college be maintained? What alternative policy levers are available to college admissions officers and to state and federal policymakers to achieve the same ends as affirmative action? We believe these questions cannot fully be answered without understanding the role students' race/ethnicity has played in application and admission into colleges and universities of differing type in the past. In this paper, we use national data on the high school classes of 1972 and 1992, that includes detailed information about students' background as well as the colleges they applied to and where they were admitted. We estimate the importance of a range of factors, including a student's race/ethnicity, family background, ability, and college costs, on application and admission to different types of college. Our estimation strategy allows us to determine the extent to which race/ethnicity has been important at various points in the past, holding other factors constant.

We believe that this approach represents one of the most comprehensive examinations of the importance of race/ethnicity in college choices.⁵ We use national data and analyze multiple stages of the college choice process – application and admission decisions - in the context of

work year.

⁴ The reason *why* students who attend certain colleges – those that are more selective – achieve a higher payoff in the labor market is not well established. Possible explanations include higher skill acquisition through better teaching or peer interaction, and access to well connected alumni networks.

⁵ There are very few statistical analyses of the role race/ethnicity in college admissions and these tend to be limited to one cohort and examine only admissions decisions (Kane, 1994, 1998; Bowen and Bok, 1998; Chaplin, 1998).

different types of colleges.⁶ By using two cohorts of students spanning a twenty-year period we can attempt to determine how race/ethnicity effects have changed over time, thereby providing a better basis for speculating about the use of affirmative action policies. While we believe our approach yields useful and important insights, it is important to recognize its limitations. In particular, we may lack important information that is used by colleges to assess applicants and must rely on individuals' responses to survey questions about application and admission that may not always be accurate.

2. Identifying the Role of Race and Ethnicity

While there is a substantial body of research on the labor market differences between racial/ethnic groups and on the effect of affirmative action policies on employment outcomes, the literature that directly addresses the role of race/ethnicity in students' higher education choices is quite sparse (Bowen and Bok 1998, Danziger 1990; Kane and Dickens 1996, 1998; Nettles et al. 1998).⁷

Kane (1998) uses data drawn from *High School and Beyond* to estimate the likelihood of being admitted to colleges of varying selectivity, and finds strong evidence of racial/ethnic preferences in admission to elite universities, but weaker evidence in non-elite institutions. Specifically, black and Hispanic students receive an 8 to 10 percent preference at the most academically selective fifth of four-year institutions but only a 3 percent preference in schools

⁶ In other work, we have have also examined a third stage of the process -- whether students who have applied to a given type of college, and have been admitted, ultimately decide to enroll in that institution.

⁷ For examples of studies which focus on the ultimate labor market effects of various affirmative action policies see Holzer and Neumark 1998; Leonard 1990; Orleans and O'Neill 1992; and Smith 1993. Loury and Garman (1993) examine the labor market performance of black and white college graduates of different types of college, but do not consider affirmative action in

ranked in the fourth of the five tiers. His findings suggest eliminating racial/ethnic preference in college admissions will have little effect on most high school students because there is no race effect in colleges in the three lower quality tiers; roughly 60 percent of colleges and universities admit nearly all applicants.

Bowen and Bok (1998) investigate affirmative action using a unique dataset, *College and Beyond* (C&B), consisting of more than 80000 undergraduates who entered school in the fall of 1951, the fall of 1976, and the fall of 1989, at 28 academically selective colleges and universities. In 1976, all 28 schools had SAT test score averages above 1000 and 8 of the 28 schools had SAT averages of more than 1250 (before re-centering of SATs). These eight enrolled 40 percent of all freshmen entering these selective schools. For five of these institutions, Bowen and Bok have enough detailed information (from 1989) to estimate fully specified admission and enrollment models. These authors estimate models of college admission for colleges of three selectivity categories, and their findings suggest that race neutral admissions policies would lead to a drop in black matriculants from 7.1 to between 2.1 and 3.6 percent.⁸ Consistent with Kane's findings, Bowen and Bok predict the most selective schools would experience the largest drop. The drop in Black enrollment would increase the white probability of admission, but only by 1.5 percentage points from 25.0 to 26.5 percent.

Although these recent studies have significantly advanced our understanding of the role of race/ethnicity in higher education, they have focused on the admissions decision of institutions, rather than also examining the application process, and have utilized single cohorts of students, or a small select group of schools. We now turn to our study, in which we try to

college admissions.

⁸ The precise drop in enrollment depends on the assumptions used in determining the likelihood that a candidate that has been offered admission accepts the offer (the yield).

build on previous work to present a more complete picture of the role that students' race/ethnicity has played in higher education over the past few decades.

3. Data and Estimation

Data

In assessing the effect of race/ethnicity on application and admission in colleges and universities of differing selectivity, we employ data on two cohorts of students from the graduating high school classes of 1972 and 1992. These data, collected by the National Center for Education Statistics, are *The National Longitudinal Study of the High School Class of 1972* (NLS72) and the *National Educational Longitudinal Study of 1988* (NELS).⁹ These data were explicitly designed for cross-cohort analyses. The NLS72 survey is based on approximately 21,000 students who graduated high school in 1972 and the NELLS surveyed about 24,000 students who were in the eighth grade in 1988 (high school class of 1992). Each of the surveys is a nationally representative sample. Information regarding college attendance was collected in subsequent surveys, including the colleges to which a student applied and whether they were admitted. Limited information on the students' financial aid receipt is also available. The surveys contain detailed individual, family, and schooling characteristics for each cohort of students, including information on race/ethnicity, family composition and income, high school performance, and a measure of ability.

Additional information can be obtained by linking these student data to various components of the *Higher Education General Information Survey (HEGIS)/Integrated Postsecondary Education Data System (IPEDS)*, which contains information on the state in

⁹ Comparable work with the sophomore cohort of the *High School and Beyond* is in progress.

which the college is located, its form of control (public/private), tuition levels, and undergraduate enrollment. After eliminating missing values and merging all necessary data our sample sizes are a maximum of 3925 for the 1972 cohort and 4385 for the 1992 cohort.

A crucial component of our analyses is how we rank institutions according to college quality. Throughout the analyses we employ a three-fold classification of college type, based on selectivity measures derived from various editions of Barron's *Profiles of American Colleges*. Barron's ratings are based primarily on selectivity of admissions decisions, such as students' class rank, high school grade point average, average SAT scores, and the percentage of applicants admitted. We divide institutions into three groups based on a rating of most competitive or highly competitive ("top" or "elite"), very competitive or competitive ("middle"), and less competitive or non-competitive ("bottom").¹⁰ We estimate application models separately for students who applied to public institutions and private institutions, as well as for the full sample (public and private together); small sample sizes in the admissions models prevent us from estimating separate models for public and private institutions.

Estimation Approach

We represent the decision to *apply* to the college of a particular type as a function of race/ethnicity, a vector of individual characteristics (gender, ability (test score), high school GPA, family income, and parental education), and a vector which proxies for the expected net

¹⁰ It is important to note that we have classified institutions according to their Barron's ranking *in each year*, matched to our student data. In other words, the specific institutions in each category may be shifting over time. Because our results may be affected by changes in which schools fall into each college quality category over time, we re-estimated all models holding the mix of institutions in each category fixed according to the quality classifications for the 1992 cohort. Our results remained largely unchanged with this exercise, and so we report the results where institutions are classified according to their Barron's ranking in each year as matched to our

costs and benefits of college attendance. The expected net costs are the tuition less financial aid the student would face were they to attend a particular college type. The expected benefit of a college type is a function of the likelihood of being accepted into each, and may be reflected in higher expected labor market earnings or an increased expected probability of acceptance into a prestigious graduate program (see Brewer et al., 1999, for a discussion of the structural model implicit in this framework). A detailed description of the construction of the expected net costs and benefits is provided below (in the discussion of the application to college types). We measure race/ethnicity (black, Hispanic, other), gender, and parental education as binary variables, while ability, high school GPA, and family income are continuous measures.

If we define I_i to be an indicator function representing each of the three (J) college types (top, middle, and bottom), we can estimate the probability an individual will apply to a given college type as a multinomial logit model:

student data.

Equation 1

$$\Pr(I_i = j) = \frac{\exp(R_i \alpha_j + X_i \beta_j + Z_i \delta_j)}{\sum_{k=1}^J \exp(R_i \alpha_k + X_i \beta_k + Z_i \delta_k)}$$

where R_i is a vector of dummy variables for race/ethnicity, X_i is a vector of individual characteristics, and Z_i is a vector of net cost variables. Of primary interest are the estimated coefficients on the race dummies, α_j , which show how race/ethnicity affects the decision to apply to different college types (for example, whether black students are less likely than white students to apply to the “elite” colleges and universities, *ceteris paribus*).

A few of the variables used in the application model merit further discussion. First is the calculation of net costs. Initially we calculate the net costs of all six alternative college types which an individual might apply to and attend (top, middle and bottom in public and private sectors). For tuition, we rely on the fact that a majority of individuals attend a college in the state in which they went to high school.¹¹ We calculate the mean state tuition (weighted by enrollment) in the relevant year for each type of college, i.e., in top public institutions, middle public, etc., and match this figure to the student’s high school state. For public colleges we use in-state tuition figures. If no institution exists in a particular quality/sector group for a state we use a regional mean instead. Even though we categorize all institutions as top, middle, or bottom

¹¹ The extent to which students attend a college in the state in which they went to high school varies across college type. Brewer and Ehrenberg (1996) report that among 1980 high school seniors, 85 percent of those at public colleges came from within the state (67% at top, 83% at middle, and 88% at bottom ranked schools) compared to 58% of students at private schools (40% at top, 62% at middle, 57% at bottom ranked schools).



in the multinomial logit model, we calculate net costs for all six possible types of institutions due to the large tuition differences between public and private schools. This cost difference is particularly important to distinguish when we estimate our models separately for public and private institutions.

Financial aid, disbursed through a variety of federal, state, and institutional programs, is determined largely by academic and/or athletic merit and family financial status. The aid an individual with given characteristics receives is determined by the policies an individual institution pursues including its tuition policies. Our data contain the (self-reported) financial aid a student received in the college in which he or she actually enrolled in the initial year of attendance. We use this information to construct estimates of annual predicted financial aid each individual in the sample would have received in each of the six types of college. For those attending each type of institution, this can be done by regressing actual aid received on individual characteristics including gender, race/ethnicity, academic ability (proxied by high school GPA and a test score measure), high school athletic status, parental income and family size. Also included in the models is a set of state dummies to reflect price variation and differences in state aid policy. (Since many students receive zero aid, a maximum likelihood tobit is used to obtain these predictions.) These financial aid models yield results regarding the extent to which race/ethnicity influences financial aid receipt, holding constant other factors, and coefficient estimates from these models are used to construct predicted aid in that college type for all individuals in our sample.¹² Estimates of tuition and financial aid are combined to produce the predicted net costs each individual would face in each college type for each of our cohorts.

¹² It is important to note, therefore, that we rely in part on “out-of-sample” predictions.

Not all students can attend elite institutions and they surely take this into account in deciding where to send their college applications. In our application model, we proxy the likelihood a student is admitted to a given type of college by including the availability of college openings (“slots”) in each college type in the state (or region) in which the student went to high school.¹³

We next examine the probability a student is *admitted* to a particular college type, conditional on having applied to that particular college type. That is, our samples for the admissions models are *conditional* samples: an individual can only be admitted to a top institution if the student applied to a top institution. Implicitly a school will seek to maximize some objective function that will likely include the applicant’s academic ability relative to the average ability level of the institution’s student body, income levels and athletic status. We model the probability of admission as a function of the student’s race/ethnicity, student ability, average SAT score of the institution, and individual characteristics including high school athletic status. Specifically, we estimate three binomial logit models, one for each college quality type, where the dependent variable equals one if the student is admitted to that quality type (i.e. the student’s first choice quality type) and equals zero otherwise.¹⁴ The estimated parameters for the race/ethnicity dummies show the extent to which a student’s race/ethnicity plays a role in being admitted to each college quality type (conditional on having applied to that type as a first

¹³ In the application model we also experimented with including variables for the percent black and percent Hispanic in each college quality type, since minority students may prefer to attend schools where there are relatively more students of their ethnicity. These additional variables had little effect on the estimated race/ethnicity effects, however.

¹⁴ We also estimated these models for the student’s second and third choice schools, and the results are qualitatively the same. We note that a possible drawback to our estimation strategy is that it only captures whether the student is admitted to the *first choice school*, and it ignores whether the student was admitted to a different quality type.

choice), while the estimated parameters for the ability measure and individual characteristics show how these factors affect the probability of admission to a given college type.

3. Students' Application Decisions

If minority students do not apply to colleges and universities they cannot be admitted. Expanding the diversity of the applicant pool is therefore a critical first step towards ensuring more minority students ultimately enroll in college. Despite this seemingly obvious fact, the types of decisions made by students as to where to apply, and the underlying determinants of these decisions are understudied. We begin, therefore, by presenting some descriptive information on the characteristics of the applicants to different types of college in each of our cohorts, focusing on how these have changed over time. We then present some evidence on the explanations for these patterns.

Our data provide information on one or more choices of institution to which students decide to apply. We cannot observe *all* these choices. Our data contain information on a maximum of three schools to which a student applied and was accepted or rejected in the NLS72, and a maximum of two schools for the NELS. Some students may have applied to more than three schools, in which case our data on application (and admission) would be truncated for those students. We focus on individuals' first choice of school.¹⁵

¹⁵ In the NLS72, only 15 percent of the students who applied to at least one school stated they applied to a third school, hence, the number of students who applied to more than three schools is likely small. Most students apply to only a small number of institutions, and they tend to apply to similar types of institutions in terms of selectivity. However, data from other sources reveal that students tend to apply to an increasing number of institutions: the percentage of freshman who applied to three or more colleges has more than doubled from 1967-1996 from about 15 percent to about 38 percent. The percent applying to six or more has more than quadrupled from about 2 percent to about 8 percent (Astin et al. 1997). In nearly all cases the first choice school is also the highest quality (top, middle, or bottom) school to which the student

Table 1 presents some evidence from each of our cohorts. Students in the 1972 cohort applied most frequently to middle and bottom institutions, followed by middle privates. Nearly half the white and Hispanic students applied to middle public schools, and black students were most represented in bottom publics. The percentage of each group applying to top schools was very small, with only about 3-6 percent applying to top privates, and less than 2 percent applying to top publics. The percentage of students in the 1992 cohort who applied to top private and top public schools increased relative to the 1972 cohort. The proportion of students applying to top private schools in the 1992 cohort ranges from 7 percent for blacks to 13 percent for whites, with Hispanics at 9 percent; the fraction of students applying to top public schools increased to 3 percent for blacks, 5 percent for whites, and 8 percent for Hispanics. If we consider the full twenty year span of our data it is clear that there is a modest but noticeable trend towards students applying to top institutions, both private and public.

In Table 2 we present the racial distribution of applicants *within* each college quality type. These figures are fairly intuitive, with white students typically accounting for between 60 to nearly 90 percent of the students within each college type. In the 1972 cohort black students are represented in greater numbers than Hispanic students in nearly every category, while in the 1992 cohort there is no clear pattern of overrepresentation for either group.

We now turn to our estimation results of the role of race/ethnicity in student application decisions. The racial/ethnic results are shown in Table 3, 4 and 5. Table 3 shows the results of models in which all students applying to a 4-year school (public or private) are considered; Table 4 examines just those applying to a public institution, and Table 5 those applying to a private

applied. We checked whether a second or third choice school may clearly be a higher quality school than the first choice, e.g. first choice is middle public and second choice top public, and if so we used the highest ranking school in the admittance model.

institution. The tables show the marginal effects derived from the logit models, with absolute value t-statistics in parentheses.¹⁶

Several results are striking from the pattern of estimated marginal effects. First, there is clear evidence of racial/ethnic differences in application behavior. If preferences for particular types of college were independent of race or ethnicity we would expect none of the estimated marginal effects to have t-statistics larger than 1.64. In fact, in Table 3 two thirds of the estimated marginal effects meet this standard. This means that, even after controlling for ability, family income, and other factors expected to influence applications decisions, white, black and Hispanic students have different probabilities of applying to different types of institutions. In multivariate statistical models of the type estimated here, there is always the possibility that the variables we have included to control for the factors explaining the applications decisions of students, do not adequately capture those factors. If there are systematic unobservable differences between black, white and Hispanic students on some dimension we have not captured, the estimated differences we attribute to race and ethnicity could in fact be due to these other factors. Considerable sensitivity testing of the robustness of our results suggests to us, however, that there are in fact racial/ethnic differences in applications behavior.

Second, there is strong evidence that both black and Hispanic students are more likely than white students to apply to a four-year top institution as their first choice school. All of the estimated marginal effects in Table 3 are statistically significant for top schools. Blacks are 5-7 percent more likely than whites to apply to a top institution, other things equal, and Hispanic students 5-14 percent more likely than whites to apply to such schools. There is evidence that

¹⁶ These marginal effects are derived from multinomial logit models of the probability of application to a first choice school of the particular type indicated. A full tabulation of the estimated logit coefficients of all the variables included in our models may be obtained from the

this racial/ethnic effect in application to top schools has been stable over time for blacks, but increasing for Hispanics. Further, there is some suggestion too that blacks are less likely than whites to apply to middle-ranked institutions: for both cohorts the estimated marginal effects are negative, and statistically significant and large (greater than 10%) for both cohorts. A possible story which is consistent with these strong minority effects in application decisions is that top schools may be encouraging minority students who are still in high school to apply to their institutions. If colleges value diversity in the student body as anecdotal evidence suggests, then institutions' recruitment of minority students may account for the finding that blacks and Hispanics are more likely than whites to apply to top colleges.

Third, although inferences are made difficult because of sample size problems, there is weak evidence that there are some differences in applications to public and private institutions. For example, black and Hispanic students have been more likely than whites to apply to elite public institutions across cohorts, whereas racial/ethnic differences in application to the privates only appears in 1992 in our models. The marginal effects for application to elite private institutions are particularly striking. Table 5 shows, for example, that blacks in the 1992 cohort are 22 percent more likely than whites and Hispanics are 27 percent more likely than whites, to apply to these schools. This is a particularly interesting result that may reflect a number of factors. For example, there is anecdotal evidence that affirmative action has been utilized aggressively at these schools (although our own admissions results provide only weak evidence that this was the case, and then just at top schools) which may encourage minority students to apply to these schools. There is also evidence that the labor market payoff to attending these schools has been rising over time. It is possible that the labor market payoff to minority students

authors on request.

relative to white students is particularly high for successful applicants and subsequent graduates of these schools. There is some evidence that the labor market return for black students is indeed higher than for whites who attended selective schools (Loury and Garman, 1993, 1995).

Overall our application results suggest that race and ethnicity does play a role in students applications decisions. Although we cannot be certain why this is, it does at least suggest that part of the reason for the increasing enrollment of minority students is affirmative action.¹⁷

4. Institutions' Admissions Decisions

Once students have applied to a college, that institution will weigh a number of competing factors in deciding whether or not to offer a student *admission*. This is the step in the college process that has attracted the most attention in the recent policy debates over affirmative action – what types of students do institutions decide to admit. In this section, we consider the results of these institutional decisions for our cohorts of students in 1972 and 1992. Since students cannot be admitted to schools they did not apply to, the analyses presented here are for the appropriate conditional sample – i.e. among the applicants to a particular college type.¹⁸

Table 6 summarizes some basic features of the admissions decisions for each racial/ethnic group at each type of institution. This table simply shows the overall likelihood of admission for each group. Thus, it does not measure the likelihood of admission holding other characteristics, such as an individual's SAT score or grade point average, constant.

¹⁷ Since many black students attend Historically Black Colleges and Universities (HCBUs), we tested the sensitivity of our results by examining the outcomes of the application models when these schools are excluded from the data, and found that the coefficients were largely unaffected, with the exception of the bottom private category.

¹⁸ Again it is important to note the limitation imposed by our application data: we are examining whether a student is admitted to his or her *first* choice school only. It is plausible that admissions decisions are different for schools ranked less favorably in a student's applications decision.

The overall percentage of students who report being admitted to their first choice school is quite high for each college quality type. Nearly all students are admitted to colleges in the bottom quality categories in each cohort (over 90 percent for whites, black, and Hispanics in 1972 and 1992). This is not surprising given that these schools typically have an open admissions policy. As we would expect, the admissions rates tend to fall for the more selective institutions.¹⁹ An intriguing pattern evident for both cohorts is that, even based just on these raw data (i.e. not controlling for individual characteristics) the admissions rates for top private institutions are quite similar across the racial groups. For top public schools, there may be a slight advantage in admission probability for blacks. 

What factors underlie institutions' admissions decisions? As previously discussed, the process is a complex, subtle and for the most part private one. Evidence from other research suggests the following factors are formally likely to be considered by schools: student's standardized test score; student's high school GPA and/or class rank; student's high school courses; family income; parental education (including if a parent attended the institution); type of high school attended; student's athletic status in high school; student's extracurricular activities in high school; race, ethnicity, sex, religion in the case of some specialized institutions (HBCUS, etc.); and contributions to student body diversity on multiple dimensions. For example, Sedlacek (1998) reports on results of surveys of college admissions officers in which they rank the factors that are most important in admitting students to their institution. Test scores and high school GPA are the factors most often cited in student selection, followed by high school coursework (p. 47). However, a range of noncognitive factors are considered by some schools: "Some

¹⁹ We should note that many of these admissions figures seem too high (e.g. 1992 admissions rates for top privates of around 80%), and we attribute this to the fact that our admissions data is self-reported. This does seem cause for much concern, however, since there do not appear to be

colleges and universities (private more so than public institutions) consider such factors as leadership, community and social orientation, creativity and motivation in deciding whom to admit” (p. 60). The salience of each of these factors will vary somewhat across institution types and over time. As in our examination of students’ applications decisions, therefore, it is important to realize that there are many aspects of the admissions decision for which data on any large systematic scale are unavailable.

Given our available data, we model different types of college’s decisions to admit a student (conditional on having applied) as a function of a vector of individual and family background characteristics – such as race/ethnicity, sex, academic ability, family income, parental education, etc. These results are presented in Table 7. Again we show marginal effects and t-statistics. Here, the former show the probability that a black or Hispanic student was admitted to each type of institution, relative to whites, given that they applied to that kind of school as their first choice. We show the results only for public and privates schools combined.²⁰

Two things are striking about these results. First, there is very little evidence that black or Hispanic students received, on average, any preferential treatment in college admissions at any point during the past twenty years, at bottom and middle ranked schools where there is less intense competition for a slot. In other words, controlling for family background and student ability, white, black and Hispanic students have about an equal probability of being admitted to most schools.

Second -- and here the evidence must be treated very cautiously since the results are not statistically strong-- there is some suggestion that black students have received preferential

systematic racial differences in these figures.

²⁰ Our results are sensitive to the small sample sizes.

treatment as compared to white students at the most selective schools, and that this effect has declined between the 1972 and 1992 cohorts. For the 1972 cohort, for example, black students had a 36 percent higher probability of being admitted to a top institution than an otherwise identical white student. Although we cannot be certain that this reflects the deliberate or purposeful operation of affirmative action policy by these institutions, it is a plausible explanation. The estimated effects for black students are positive and diminishing relative to whites – 36 percent and 7 percent for the 1972 and 1992 cohorts -- but we cannot be confident from our models that these effects are really present.²¹

We have some corroborating evidence that they may well be present from the work of Kane (1998) and Chaplin (1998). Both of these authors, using a similar model approach and similar data, but slightly different model specifications, do find statistically significant race effects at the most selective institutions. Their estimated magnitude of preference for blacks at top schools is 8-10 percent in 1982 and about 5 percent preference in 1992.²² This tends to confirm our suggestive results that racial preferences operated at elite schools throughout this period but that the effect was biggest in 1972 and has fallen considerably since then. We do not find a similar preference for Hispanic students (none of the Hispanic coefficients were statistically significant), although the trend (based on the coefficient estimates) is toward greater preference for Hispanic students over time.²³

²¹ We find the coefficient on black to be positive and statistically significant at the 5 percent level in 1972 and at the 15 percent level in 1992.

²² Kane's 'top' category is the top quintile of students in his sample (four-year college attendees); Chaplin's 'top' category is institutions with average SATs above 1100.

²³ We have also estimated two types of models of the effect of race/ethnicity on enrollment in schools of differing selectivity. The first type of enrollment model was conditional on having been admitted to a particular college quality type, which is conceptually consistent with our estimation framework, but in practice small sample sizes yielded uninformative results. The second type of enrollment model was unconditional, that is, the students were not constrained to

8. Conclusions

In this paper we have systematically examined the role that students' race and ethnicity have played in college going behavior over the past twenty years. The analysis is unique in several important ways. First, we use comparable national data for two different cohorts of high school seniors (the classes of 1972 and 1992). Second, we examine two stages of the process by which students end up in four-year colleges: application and admission. Third, we pay attention to the importance of financial aid and college costs in student application and enrollment decisions. Fourth, we examine differences between types of institution based on their selectivity and control.

What are the results of our efforts? The story that emerges is as follows (holding other factors constant): there is strong evidence that there are racial and ethnic differences in the *application* behavior of students; there is strong evidence that both black and Hispanic students are more likely than white students to apply to a four-year top institution as their first choice school; there is little evidence of widespread preferential treatment for minority students in institutions' *admissions* decisions at any point over the past 20 years; there is weak evidence that black students have received preferential treatment in admissions as compared to white students at the most selective schools and that this effect has declined over time; and there is some evidence that Hispanic students received preferential treatment in admissions as compared to white students at the most selective schools in 1992, and that this effect has increased over time.

Of course, the results of analyses such as ours are dependent to some extent on the data

have been admitted to a particular type of college. These results closely mimicked the application models, which seems reasonable since the application models yielded strong race/ethnicity results, but the admissions models did not produce significant findings. The

used and the types of statistical models estimated. While we have explored the robustness of our findings in many ways, it is still possible that effects that we attribute to race and ethnicity are in fact the result of other factors that we are unable to observe. The national longitudinal datasets that we use in this study are rich and detailed, but they do not capture everything one might like to know about the decision processes that ultimately determine college application and admissions decisions. This is true of both students and institutions. For this reason, one must treat our results cautiously. Overall, however, they tell a story that has several implications for higher education policy in this controversial arena. They also suggest directions for future research.

The policy debate over affirmative action has been focused to a large extent on admissions. Yet only at a very small number of colleges is there much selection of students, particularly as we have found on the basis of race/ethnicity. The decline in the already small preference given to blacks over whites at elite colleges also seems to suggest that the elimination of preferences might have relatively little effect on the overall distribution of students admitted to higher education institutions. Any negative effects may be confined to Hispanics, and even then only at the most academically selective schools.

The big uncertainty is what effect changes in affirmative action policy will have on student application decisions. We cannot be certain *why* blacks and Hispanics are systematically more likely to apply to elite schools – other than that this phenomena is independent of family income, parental education, a student’s test score, etc. It is possible that this behavior is driven in large part by ‘external’ forces – in other words by the higher labor market return that minorities who ultimately attend these schools appear (based on other

results of the enrollment models are available from the authors.

research) to receive.

But, it could be the result of institutional decisions and policies. First, the *perception* that institutions are more or less likely to admit certain racial/ethnic groups over others may well play a large role in explaining application behavior. These perceptions may or may not be correct – our evidence suggests that once students have applied minorities aren't given any preference at most schools and only modest preference at elite schools. But other research has suggested that student expectations may be uninformed and that these disconnects can persist. The extent to which Proposition 209–like measures systematically alter the expectations of students about their admissions chances, it could seriously impact the ultimate racial/ethnic distribution of enrollees to the nation's prestigious colleges and universities. More research on the role a student's expected likelihood of admission plays on application is clearly needed, although it would likely involve major new data collection.

Second, institutions' attempts to actively encourage minority students to apply to their schools may well have succeeded in each of our cohorts in persuading greater numbers of black (and more recently Hispanic) students to apply. Of course very little is known on any systematic basis on the efforts schools make in this regard or how those efforts have changed over time. It is at least plausible given our findings that policies that actively seek to maintain the level of applications from minority students may, even with race/ethnicity-blind admissions procedures, succeed in combating any negative effects that such policies may have on the overall diversity of the student body. The big unknown is what level of effort needs to be expended to overcome the likely important role that expectations play.

Finally, there is reason to believe that one way in which institutions have facilitated the college going behavior of black and Hispanic students over the past two decades is through

student financial aid policies. Again, this conclusion is tentative since our aid data combines financial assistance from all sources; further research with more reliable and detailed aid data is undoubtedly warranted. But we find strong evidence that black (and to a lesser extent Hispanic) students of equal ability and economic means receive higher levels of financial aid than comparable whites. Whether such a policy can persist in the face of new legislative attacks is open to question. It is likely in fact that the racial/ethnic advantage that we identify in financial aid receipt operates in very subtle ways within most institutions – for example, schools are more likely to provide large scholarships to students coming out of particular low-SES high schools, and this disproportionately affects minority students. Whether such ‘proxies’ can or will continue to be used is an open question.

Our conclusion, therefore, should be considered moderately positive to those seeking to maintain or increase the diversity of the students in our nation’s colleges and universities. These results begin to suggest that the key to the issue may be in encouraging minority applications and in using financial aid as a policy instrument. In this sense, the emphasis in the public discourse on affirmative action over institutional admissions policies may be somewhat misplaced. Only a small number of schools are particularly selective on any grounds, and any racial/ethnic preference over the past twenty years even at these schools has been relatively modest.

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