Was Justice O'Connor Right?

Race and Highly Selective College Admissions in 25 Years[1]

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In her opinion in *Grutter v. Bollinger*, Justice Sandra Day O'Connor concluded that affirmative action in college admissions is justifiable, but not in perpetuity: "We expect that 25 years from now, the use of racial preferences will no longer be necessary to further the interest [in student body diversity] approved today."

The rate at which racial gaps in precollegiate academic achievement can plausibly be expected to erode is a matter of considerable uncertainty. In this essay, we attempt to evaluate the plausibility of Justice O'Connor's conjecture by projecting the racial composition of the 2025 elite college applicant pool. Our projections extrapolate past trends on two important margins: Gaps between the economic resources of black and white students' families, and narrowing of test score gaps between black and white students with similar family incomes. Just as the last decades have seen considerable narrowing of gaps on each margin, further progress can be expected over the next quarter century.

Our central question is whether this progress will plausibly be fast enough to validate Justice O'Connor's prediction. We are well aware of the hazards inherent in our exercise: No such distant projections can be definitive. Nevertheless, by relying on reasonable historical assumptions that are arguably optimistic, we develop a baseline case for assessing the likelihood of O'Connor's forecast.

We conclude that under reasonable assumptions, African American students will continue to be substantially underrepresented among the most qualified college applicants for the foreseeable future. The magnitude of the underrepresentation is likely to shrink—in our most optimistic simulation, somewhat over half of the gap that would be opened by the elimination of race preferences will be closed by the projected improvement in black achievement.

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1. This essay is based on Krueger, Rothstein, and Turner ("Race, Income, and College in 25 Years: Evaluating Justice O'Connor's Conjecture," *American Law and Economics Review* [forthcoming]), which contains methodological details and additional analyses not included here. We thank Bill Bowen for suggesting this topic; Martin Kurzweil and Nirupama S. Rao for help with the Mellon Expanded College and Beyond data; and the UCLA Center on Education Policy and Evaluation, the Russell Sage Foundation, the Carnegie Corporation, and the Princeton Industrial Relations Section for generous research support. We are grateful to Orley Ashenfelter, Humphrey Doermann, Martin Kurzweil, Gary Solon, and Jacob Vigdor for excellent comments.

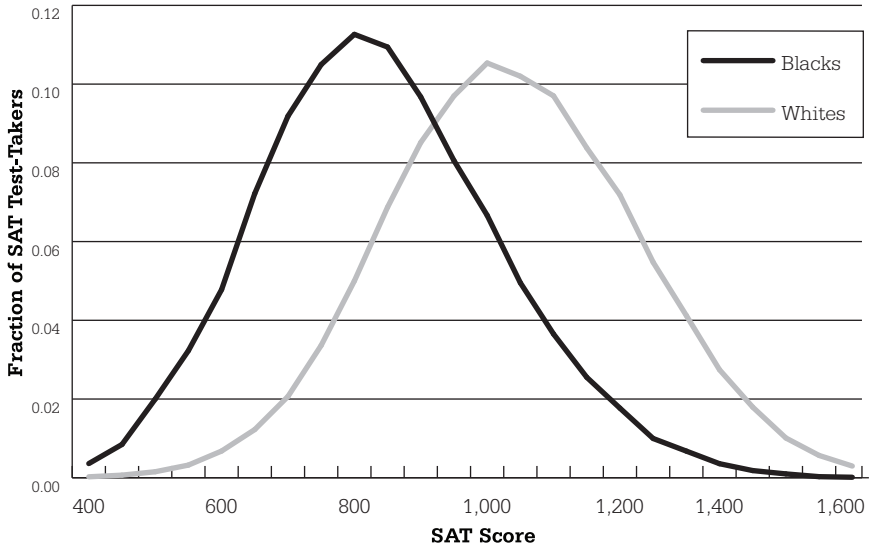
Still, it seems unlikely that today's level of racial diversity will be achievable without some form of continuing affirmative action. If the Supreme Court follows through with O'Connor's stated intention to ban affirmative action in 25 years, and if colleges do not adjust in other ways (such as reducing the importance of numerical qualifications to admissions), we project substantial declines in the representation of African Americans among admitted students at selective institutions.

Our analysis proceeds from the assumption that the most likely future course will resemble past trends. Substantial changes in educational policy, in school effectiveness, and in income inequality would all have important effects on black test score distributions and on the admissions landscape.[2]

Recent Trends in Racial Inequality

Currently, racial gaps in precollegiate achievement are extremely large, and very few black students would be admitted to elite colleges under race-blind admissions rules. Figure 1a shows the distribution of SAT scores among black and white students in

Figure 1a. SAT distributions among black and white test-takers, 2000



Source: Authors' analysis of Test-Takers Database (an extract of SAT test-takers), 2000 cohort.

2. There are several additional limitations to our study. First, we restrict our attention to black and white students. In light of the United States' distinct historical legacy of racial policies, the representation of African Americans in elite colleges is of unique interest; in any event, projections are hazardous for groups experiencing substantial continuing immigration. Second, we focus on selective institutions. Thus, we say little about aggregate college attainment trends, which primarily reflect outcomes at nonselective, open-access institutions. Third, we neglect aspects of the college pipeline other than the admissions decision itself. Though application and matriculation behavior will certainly change—perhaps even in response to the trends that we study—these are not our focus.

2000. The black–white gap in mean scores is approximately 201 points, or almost exactly one standard deviation. More relevant is the top of the distribution, as the selective schools that are our focus admit few students with scores below 1200. As shown in Figure 1b, only 4 percent of students who earn SAT scores of 1200 are black (as compared with 14.3 percent of all SAT test-takers), and the fraction is even lower for higher scores; only 2.4 percent of students with scores exceeding 1200 are black.[3]

Historically comparable data on SAT score distributions are not readily available, but Figure 2 shows black–white test score gaps on the National

Figure 1b. Black share of black and white SAT test-takers, 2000

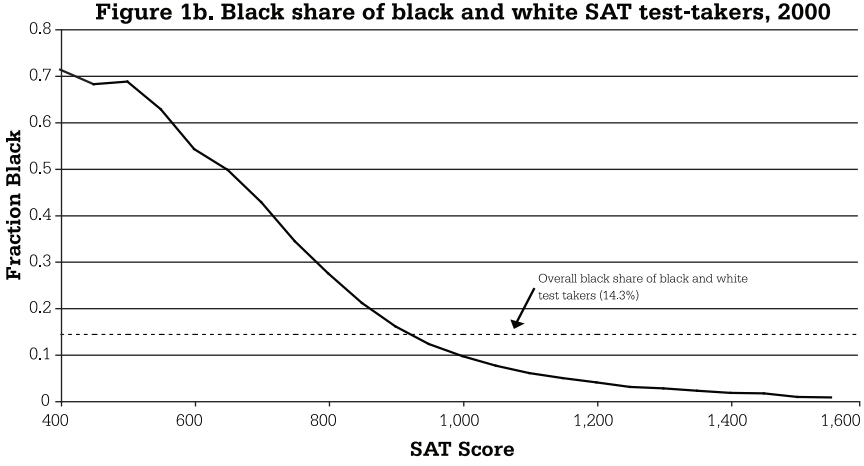
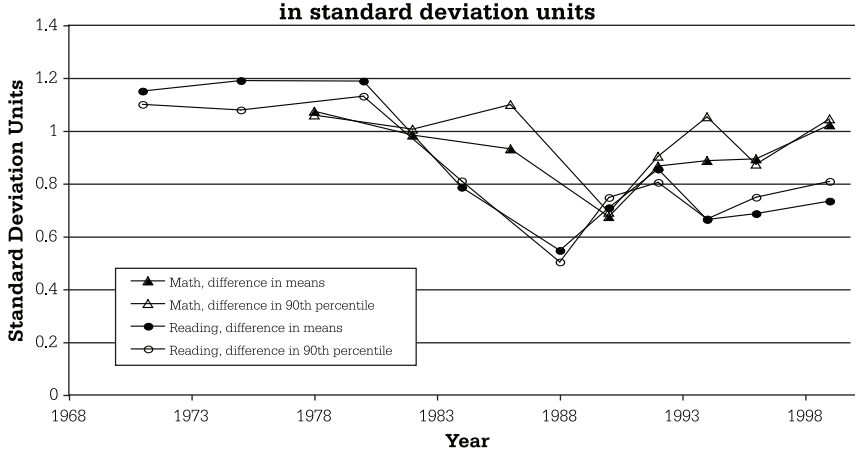


Figure 2. Trends in black–white gaps in student achievement at age 17, in standard deviation units



Source: National Assessment of Educational Progress results (National Center for Education Statistics, 1999).

3. Here and elsewhere, the fraction refers to the black share of black and white students; students of other races are omitted from all computations.

Assessment of Education Progress (NAEP) assessment since 1970. In that year, the average 17-year-old black student scored over 1.1 standard deviations below the average white student in reading. For reasons that are not well understood, this gap was stable in the 1970s, shrunk dramatically in the 1980s, and has grown somewhat since around 1990. Today, the black–white gap stands at about three quarters of a standard deviation in reading, and is even higher in math.

An obvious partial explanation for the persistence of the test score gap is the continuing gap in economic resources between black and white students' families. Black workers earn substantially less, on average, than do whites, though the differential has slowly narrowed. The earnings gap between black and white men was 38 percent in 1960 and 26 percent in 2000. This progress has been largely offset, however, by deterioration in black family structures, as single parenthood has risen and the number of children in two-earner families has consequently fallen. The gap in total family income between black and white children has hardly moved in three decades.

Affirmative Action and College Access for Black Students

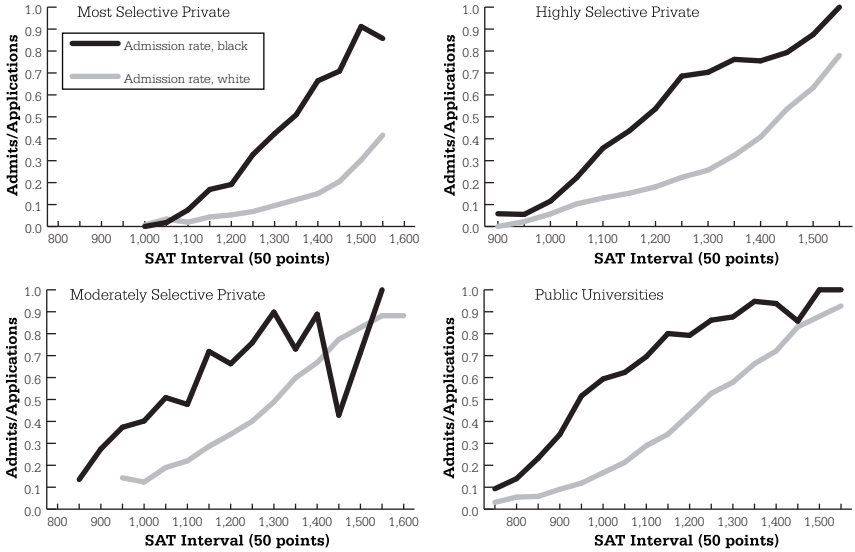
The precise mechanics of selective college admissions are closely guarded secrets.[4] Still, by examining average admissions probabilities among groups defined by important determinants, like SAT scores, it is possible to get an idea of the current roles of race and academic qualifications in admissions. We focus on four groups of colleges and universities: most selective, highly selective, and moderately selective private institutions, and elite public universities.[5] It must be emphasized that these labels are relative characterizations; even the least selective group in our typology is extremely selective by any national standard.

Admissions profiles are shown in Figure 3. These show evidence of substantial affirmative action preferences, with black admissions rates exceeding those of white students with much higher SAT scores. Table 1 shows the current black share of admitted students in each group and our estimate of what it would be if black students were admitted according to the profiles seen for white applicants.

4. Jerome Karabel, *The Chosen: The Hidden History of Admission and Exclusion at Harvard, Yale, and Princeton* (Boston: Houghton Mifflin, 2005).

5. William Bowen, Martin Kurzweil, and Eugene Tobin have generously provided us extracts from the Expanded College and Beyond (ECB) study of the 1995 admissions cycle that was assembled by the Andrew W. Mellon Foundation and used in their book, *Equity and Excellence in Higher Education* (Charlottesville, Va.: University of Virginia Press, 2005). The most selective private institutions are Harvard, Princeton, and Yale; the highly selective are Columbia, the University of Pennsylvania, Swarthmore, and Williams; and the moderately selective are Barnard, Bowdoin, Middlebury, Oberlin, Pomona, and Wellesley. Public universities are Pennsylvania State University and the University of Virginia. Confidentiality requirements prevent a more disaggregated presentation.

Figure 3. Admission rates by type of institution, SAT score, and race



Source: Authors' calculations from the Expanded College and Beyond database.

Table 1. Black share of admitted students at elite institutions, 2000, actual and with race-blind admission rules

	Most Selective Colleges	Highly Selective Colleges	Moderately Selective Colleges	Public Universities
Actual	0.171	0.142	0.094	0.118
With race-blind admissions	0.051	0.060	0.051	0.053
Change with shift to race-blind admissions	-70 %	-58 %	-46 %	-55 %

Notes: "Most selective" is a composite of Harvard, Princeton, and Yale; "highly selective" is a composite of Columbia, the University of Pennsylvania, Swarthmore, and Williams; "moderately selective" is a composite of Barnard, Bowdoin, Middlebury, Oberlin, Pomona, and Wellesley; and "public" is a composite of the University of Virginia and Pennsylvania State.

With race-blind admissions, black representation at the four clusters of schools would fall by 70, 58, 46, and 55 percent, respectively.

Projections

Test Scores

Our projections of likely future improvement in the black relative test score distribution proceed in two stages. First, we estimate the degree to which black family income gains can be expected to close the test score gap shown in Figure 1. As SAT scores depend heavily on family income, predictable increases in black families'

relative incomes will lead to increases in black students' relative scores. Second, we incorporate plausible reductions in the black–white gap in test scores among children with the same family incomes by extrapolating the trend in NAEP scores shown in Figure 2.[6] Reasonable people may differ in their projections of the likely rate of future convergence on either margin; our estimates are meant to indicate what sort of progress will be required to obtain desired admissions results.

Among families with children ages 15 to 17 in the 2000 census, black families had incomes 54 percent less than white families, on average. Estimates of the intergenerational transmission of incomes indicate that, on average, somewhere between 40 and 60 percent of the gap between a family's income and the mean income will be closed with each generation.[7] We take the center of this range, which implies that the black–white income gap will decline by half with each successive generation. This does a good job of fitting the black–white gap in male earnings in recent decades, which fell from 37 percent in 1969 to 19 percent in 1999.[8] As noted above, however, it overstates recent progress in family incomes, and our assumption that the gap on this margin will fall by half in the next quarter century is thus probably optimistic.

Halving the black–white gap in log family incomes will have disproportionate effects on the number of black families at the very high income levels from which elite college applicants are largely drawn. We estimate, for example, that the fraction of black families with incomes between $80,000 and $100,000 will increase by 69 percent (from 4.7 percent to 8.0 percent). Because children from families with higher incomes are more likely to take the SAT and more likely to earn high scores, increases in black family incomes will yield increases in the number of high-scoring black students. To quantify this, we assume that the "new" high-income black students will have test-taking rates and score distributions like those of current high-income black students. When we apply the projected

6. "Results Over Time—NAEP 1999 Long-Term Trend Summary Data Tables," National Center for Education Statistics (1999), http://nces.ed.gov/nationsreportcard/tables/Ltt1999/. For details of our methods and descriptions of the underlying data, interested readers are referred to Alan B. Krueger, Jesse Rothstein, and Sarah Turner, "Race, Income, and College in 25 Years: Evaluating Justice O'Connor's Conjecture," *American Law and Economics Review* (forthcoming).

7. As is conventional, we work with the logarithm of family income rather than the level; all figures in this paragraph refer to log incomes. Bhashkar Mazumder, "Earnings Mobility in the U.S.: A New Look at Intergenerational Mobility," mimeo (2000); Gary Solon, "Intergenerational Mobility in the Labor Market," in *Handbook of Labor Economics*, Vol. 3A (Orley Ashenfelter and David Card, eds), (1999): 1761–1800, Elsevier Science: Amsterdam; Laura Chadwick and Gary Solon, "Intergenerational Income Mobility Among Daughters," *American Economic Review* 92, No. 1. (March 2002): 335–344; Gary Solon, "Cross-Country Differences in Intergenerational Earnings Mobility," *Journal of Economic Perspectives* 16, No. 3 (Summer 2002): 59–66.

8. Alan B. Krueger, "The Supreme Court Finds the 'Mushball Middle' on Affirmative Action," *New York Times* (July 23, 2003): C2.

future income distribution, we compute that black average scores will be about 19 points higher than they are today, and that the black SAT participation rate will rise by 0.7 percent. Figure 4a shows the current black SAT score distribution and the projected future distribution (labeled "income growth only"), while Figure 4b shows the impact on the fraction black at each SAT score.[9]

Figure 4a. Projections of future black SAT score distribution

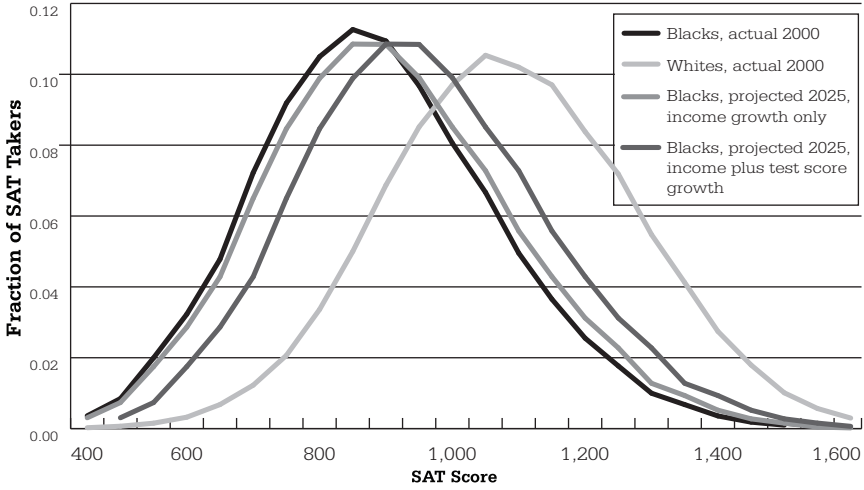
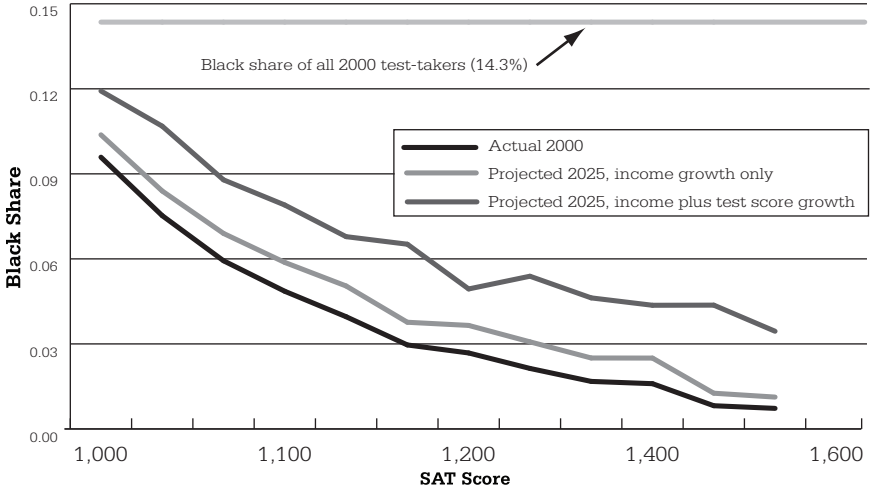


Figure 4b. Projections of black share of SAT test-takers, by score



9. One disconnect between our simulation and the educational process is worth noting. Although the reasons why family income affects student performance on the SAT are unclear, it is quite likely that the entire stream of family income over a child's time at home is relevant, not just income in the year he or she takes the SAT. Unfortunately, we lack data on family income in earlier years. Many of the intergenerational convergence estimates in the literature apply to long run, not annual, income.

The way to interpret our projection is that we increase black families' incomes by the amount predicted from the narrowing of the black–white gap over a generation, while holding everything else—the distribution of white incomes and the distribution of test scores conditional on income and race—constant. Of course, real income growth will raise both black and white incomes over the next quarter century, and black and white mean test scores may evolve in tandem. Absent changes in inequality, however, this will not affect the shape of the distribution. Our approach indexes black income and test score growth against that of whites, and we implicitly assume that admissions standards adjust to maintain each institution's selectivity.

Income is not the only source of potential changes in admissions qualifications, so the "income growth only" estimate in Figures 4a and 4b might be seen as a lower bound. An alternative includes some closing of the black–white test score gap within income groups. To make our projections, we assume that conditional-on-income test score gaps will close as much in the next 25 years as the unconditional gaps did over the last 25 years. The black–white gap in NAEP scores has shrunk by an average of about 1 percent of a standard deviation per year (with faster progress in reading and slower progress in math). If this average rate of progress continues for 25 years, we should see the racial gap in SAT scores fall by 50 points.

The final series in Figures 4a and 4b shows the combined impact of this and income convergence. This almost certainly overestimates the extent of black score growth over the next quarter century. As Figure 2 indicates, essentially all of the progress over the last 25 years in NAEP scores occurred in the 1980s, and the gap grew during the 1990s. It requires substantial optimism to believe that future progress will occur at the rate seen over the full NAEP period rather than the much slower rate seen recently, particularly as we are assuming that this progress will be in addition to that generated by income convergence.

Admissions Projections

Our interest is in how the projected changes in the relative distribution of the academic achievement (measured by test scores) of black and white students will alter the relative representation of black and white students among those likely to be admitted to selective colleges and universities under race-blind admission policies. Our income convergence estimate implies a 33 percent increase in the number of black students who score above 1200 (over today's low level); when we additionally apply NAEP trends, we project a 109 percent increase. Even under this counterfactual, however, the proportion of blacks scoring above 1200 will be about one-third of the corresponding proportion of whites, with more extreme underrepresentation at higher scores.

The next step is to convert the projected change in the SAT distribution to admissions rates. We model expected admissions to "composite" schools corresponding to each of our four clusters, rather than to the individual institutions.

To calculate expected admissions under each of our simulations, we simply multiply the projected number of test-takers at each SAT level by an estimated application rate to each type of school and then by an estimated admissions rate. Under the current regime both application rates and admissions rates differ by race. Under a race-neutral policy, blacks and whites with the same test scores would face the same probability of admission, conditional on application; we use observed white admissions rates (Figure 3) as a proxy for the race-blind admissions rule.[10]

A large shift in admissions probabilities would likely lead to responses in black students' decisions about where to apply. At each SAT score, black students are currently more likely than whites to apply to the most selective institutions. One might expect application rates to converge as admissions probabilities do. On the other hand, at least in the short run the elimination of race-conscious admission policies in Texas and California appears not to have altered the pattern of applications of high-achieving black students.[11] Our baseline estimates assume that race-specific application rates do not change, but we also consider a scenario in which black application rates come to resemble those of whites with similar scores.

Table 2 presents simulations based on the assumption that black application behavior remains as it is today. The first two rows repeat the actual black representation in 2000 and the simulated current race-blind representation from Table 1.[12] Row 3 applies the race-neutral admissions rule to the first counterfactual SAT distribution, assuming income convergence but no additional progress in test scores. This produces small gains in the representation of black students. Row 4 allows for projected reductions in the black–white test score gap among students with the same family income, on top of the impact of expected income convergence. This has a substantial effect on black representation.

10. If application behavior is unchanged, the elimination of racial preferences will reduce the total number of admittees. As the share of students admitted under affirmative action is small, this effect is as well. Nevertheless, to the extent that colleges lower the race-blind admissions standards to compensate, we will very slightly overestimate the effect of affirmative action on black admission shares.

11. David Card and Alan Krueger, "Would the Elimination of Affirmative Action Affect Highly Qualified Minority Applicants? Evidence from California and Texas," *Industrial and Labor Relations Review* 58, No. 3 (April 2005): 416–434.

12. Note that our analysis focuses on the number of admissions offers to black and white students. A single student may be admitted to several schools but can accept only one offer. We do not attempt to project changes in matriculation decisions.

Table 2. Projected black share of admitted students at elite institutions in 2025

	Most Selective	Highly Selective	Moderately Selective	Public
	Black share of admits			
Actual, 2000				
Status quo admissions rules	0.171	0.142	0.094	0.118
Race-blind admissions rules	0.051	0.060	0.051	0.053
Projected, 2025, with race-blind admissions				
Income growth only	0.069	0.078	0.062	0.064
Income plus test score growth	0.118	0.117	0.087	0.088
	Share of gap closed			
Actual, 2000				
Race-blind admissions rules	0.000	0.000	0.000	0.000
Projected, 2025, with race-blind admissions				
Income growth only	0.153	0.214	0.254	0.169
Income plus test score growth	0.557	0.700	0.835	0.545

For each type of college, we measure the distance to be covered as the gap between the current representation of black students and that which would be seen with race-neutral admissions, as in Table 1. For each projection, we then compute the share of this distance that is actually covered. Income convergence alone closes only about one-fifth of the gap. *It appears that reasonable income convergence will not, on its own, allow for the abolition of affirmative action without severely affecting the representation of African American students at elite colleges*. Additional progress on test scores will be required. Our estimates show that past experience will not be sufficient, at least at the public and most selective institutions: Even in our optimistic projections, only half of the gap is closed. (At the highly and moderately selective institutions, progress is more impressive but still insufficient to reproduce today's racial diversity.)

The estimates in Table 2 are predicated on the assumption that black application behavior will not change in response to the elimination of race-based preferences. We have also conducted the analysis under the alternative assumption that black application rates will come to resemble those of whites with the same test scores. This is decidedly more pessimistic, as many more high-scoring whites than blacks opt not to apply to the most selective colleges. The impact of a shift to race-blind admissions would then be much more dramatic, and projected future black representation at elite colleges would fall far short of that seen today.[13]

13. Krueger, Rothstein, and Turner, "Race, Income, and College in 25 Years."

Discussion

In an equal opportunity society, the effects of past discrimination on current generations will eventually asymptote to zero, though there is substantial uncertainty about the rate at which this might be expected to occur. In *Grutter v. Bollinger*, Justice O'Connor suggests rapid progress, enough so that the use of affirmative action to achieve diversity will be unnecessary within the next generation. Our simulations suggest that O'Connor's prediction is quite optimistic but not outside the realm of possibility.

We are most confident in predicting that economic progress alone will not yield as much racial diversity as is generated with today's race-sensitive admissions policies. Under plausible assumptions, black economic gains over the next quarter century can be expected to provide only about 17 percent of the incremental representation of African American students on elite college campuses that is provided by affirmative action today.

Our projections that also extrapolate past increases in black students' test scores relative to whites' are more hopeful. In this scenario, and if black college application behavior is assumed stable, we find that race-blind admissions policies may approach the black representation achieved by affirmative action, at least in some categories of colleges. This projection is likely overly optimistic: The last 25 years saw two distinct regimes, with rapidly closing black–white gaps in the first period and a widening gap since 1990. To extrapolate a linear trend a full quarter century into the future is to assume a dramatic turnaround from recent patterns and sustained growth over a long period. On the other hand, if we could somehow return to and sustain the rapid rate of progress seen in the 1980s, the future will be brighter than even our optimistic forecasts indicate.

As an indication of the difficulty of achieving racial diversity on highly selective college campuses without affirmative action, we have also considered the effects of a wholly implausible intervention producing the complete integration of the nation's secondary schools.[14] This, we estimate, would produce only a small fraction of the test score gains that would be needed to make Justice O'Connor's prediction a reality. Clearly, substantial progress in increasing black students' precollegiate performance is critical to any hope of eliminating the need for affirmative action within the next generation.

14. David Card and Jesse Rothstein ("Racial Segregation and the Black–White Test Score Gap," National Bureau of Economic Research, Working Paper #12078 [May 2005]) show that racial segregation has a negative effect on black students' performance. We almost certainly overstate the benefits of integration by assuming that it would equalize the contribution of schools to black and white students' achievement (Krueger, Rothstein, and Turner, "Race, Income, and College in 25 Years"). That even this indicates substantially smaller test score gains than are assumed in our primary analysis serves to underscore the optimism inherent in the latter.

Absent such progress, a shift to race-blind admissions in 25 years would lead to substantial declines in black representation at the nation's most selective colleges and universities. Our simulations, crude as they are, lead us to agree with Justice Ruth Bader Ginsburg's concurring opinion in *Grutter*: "From today's vantage point, one may hope, but not firmly forecast, that over the next generation's span, progress toward nondiscrimination and genuinely equal opportunity will make it safe to sunset affirmative action."