

# Alternative Paths to Diversity:

## Exploring and Implementing Effective College Admissions Policies



### POLICY INFORMATION REPORT



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## RESEARCH REPORT

# Alternative Paths to Diversity: Exploring and Implementing Effective College Admissions Policies

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## 1. Social Science and the Future of Affirmative Action: The Supreme Court's *Fisher II* Decision and New Research

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The Supreme Court has established the parameters within which universities can practice race-conscious affirmative action for college admissions in a series of decisions beginning in 1978. The key issues concern the educational impact of campus diversity and whether or not it is necessary to give some consideration to students' race in order to produce a diverse student body in highly selective colleges. The most recent decision, *Fisher v. University of Texas II*, taken in June 2016, raised the question of whether there was a viable nonracial alternative policy that would produce the level of diversity for universities to realize the benefits of diverse learning experiences that are a central goal of the great majority of selective colleges and universities. This report explores the issues before the court and the continuing responsibilities of universities under the decision and introduces a series of new studies, most commissioned by a collaboration between the Civil Rights Project and ETS—three of which are included in this volume. The study concludes that the best evidence from the most recent social science studies and research syntheses show that the major proposed alternative policies are far less successful than affirmative action and thus do not meet the Court's definition of feasible alternatives. This conclusion led the Court to approve affirmative action.

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The future of affirmative action and diversity in American colleges now hinges on the question of whether there is a practical college admissions process with no consideration of a student's race that would produce racially diverse colleges. The basic premise of colleges choosing affirmative action is that it is essential to produce diversity for highly selective colleges. Whether it can continue, however, depends on the U.S. Supreme Court. Since 1968, the legality of considering race as one of a number of criteria for college admissions has rested on the Court's rulings in three great constitutional decisions, the 1978 decision in *Regents of the University of California v. Bakke*, *Grutter v. Bollinger* in 2003, and *Fisher v. University of Texas* in June 2016. Each decision supported limited affirmative action by a single vote for the purpose of increasing campus diversity. The *Fisher* case triggered two decisions, *Fisher I*, in 2013, and the 2016 decision *Fisher II*. *Fisher I* required the courts to carefully judge whether there was a feasible nonracial alternative that would produce the diversity that is necessary to obtain the educational benefits for all students. *Fisher II* ruled that the University of Texas met that requirement and strongly reaffirmed the legitimacy of affirmative action under those requirements. *Fisher II* held that



the University of Texas's trial of alternatives and careful consideration of the issues showed that race-conscious affirmative action satisfied the Court's requirements. The decision was very reassuring for campuses using affirmative action because it clarified standards for making this judgment, but the decision underlined the requirement that colleges document and periodically review their plans showing why affirmative action was needed. Nothing in the decision says that colleges must directly try many alternatives, although research shows that many colleges using affirmative action are actually also already implementing race-neutral alternatives simultaneously, as Texas has done. A very important resource for colleges documenting the necessity of using affirmative action is the best available research showing whether the major race-neutral plans actually work. This volume provides important research on this key factual question that can help develop and legitimize the plans of American colleges.

The Supreme Court said in *Fisher I* that the courts could not defer to the universities on the issue of *color-blind* alternatives but must make their own judgment about whether there is a feasible nonracial way to create a sufficiently diverse student body. This is, of course, an empirical question whose answer in the courts under the standards of *Fisher II* will determine the outcomes of pending cases against Harvard University and the University of North Carolina and any future challenges. Courts are not well equipped to produce and analyze the evidence on such issues, particularly if the evidence in an individual case about one student becomes the basis for a decision impacting the entire country. The *Fisher* case did not even have an actual trial, even on the claims of Ms. Fisher, but was decided on the basis of the pleadings, so the record lacks what would have been shown by testimony, cross-examination, and the submission of more exhibits and data as the trial proceeded. *Fisher II* gives colleges more guidance and support but still requires well-documented plans from colleges.

In the courts, such a question is decided through a process very different than the process in the research community (Lempert & Sanders, 1986; Murphy, Pritchett, Epstein, & Knight, 2005; Rosen, 1972). There is no sample of institutions followed statistically over time, and there are no experiments to see what variables have what impact. The lawyers argued primarily about the information that happens to have been entered into the trial record by either the attorneys for the young woman, Ms. Fisher, who claims she was discriminated against, or by the University of Texas, which she sued. Only evidence brought forward by the lawyers for the two sides are entered in the court record, and groups such as national civil rights organizations—unless they become parties—have no voice in the proceedings (Abraham, 1998). Colleges need to be prepared.

We are basically living under policies enunciated by the Supreme Court in the 1978 *Bakke* decision, which were reaffirmed in the *Grutter* and *Fisher II* decisions. In both *Fisher* decisions, the Court reaffirmed the legitimacy of educational diversity as a sufficiently compelling interest to justify the consideration of race if there is no other feasible way to attain it. Lawyers for Ms. Fisher in *Fisher II* claimed that the University of Texas already had a workable alternative, the percent plan, making any consideration of race unconstitutional. After the Supreme Court, in a rare step, took the case back for another examination of oral arguments in December 2015, some feared it signaled the end of affirmative action, but the Court held that the University of Texas's conclusion that the Top Ten Percent Plan (TTPP) had not produced adequate campus and classroom diversity and that holistic review that actually fostered richer diversity in a fair way was legitimate grounds for continuing its policy.

The question about feasible alternatives is basically a complex social science question about the likely impact of both the Texas TTPP—admitting top students from any high school—and other hypothetical alternatives. The Court noted, for example, that the university already gave special attention to low-income students. The Court's ruling impacts all colleges. Traditionally, the Supreme Court relies very heavily on factual evidence on the trial record because the trial judge is the basic *finder of fact* (hearing the testimony and cross-examinations on evidence and deciding what exhibits of evidence to admit to the trial record). The higher courts do not hold additional hearings on the facts and are expected to reach conclusions about the relevant legal principles, although the high courts can overturn what they see as seriously erroneous findings of fact. This means that documentation available for a trial against any challenge is very important.

With a very high-stakes and severely flawed case before the Court, five of whose nine members had never voted for affirmative action, there was great concern in higher education. Major higher education and national research organizations tried to attract the Court's attention by filing amicus briefs with the Court, many citing evidence from research. Scores of briefs were filed, the great majority, 67 briefs, supporting the University of Texas (Adams, 2015). As state prohibitions of affirmative action had produced serious declines in access for students of color, particularly at highly selective

campuses, higher education groups felt an urgent need for the best data, both for the courts and for universities trying to decide what to do. The *Fisher II* decision relied strongly on both the experience at the University of Texas and the research data the university submitted. The outcome, of course, was affected by the death of Justice Antonin Scalia, an affirmative action opponent.

Producing basic research on possible nonracial alternatives to affirmative action was the goal of the collaboration between the Civil Rights Project and ETS, which commissioned the studies included in this report. These studies were commissioned before the Supreme Court decided to hear the *Fisher* case again as an aid to colleges thinking about the requirement that they seriously consider race-blind alternatives to affirmative action. The reports were intended not for the Supreme Court battle that developed later but to give the best possible research-based evidence for colleges trying to respond to the Court's requirement of careful consideration of feasible alternatives. The draft reports were discussed at a round table in Washington, DC, and were substantially redrafted. Now that the Court has decided the *Fisher II* case and clarified the law on affirmative action, these reports remain directly relevant for a great number of campuses that are using holistic review, including race, as one of many factors.

Higher education leaders know that before affirmative action, leading universities had very small, token enrollments of Black students and even smaller numbers of Latino and American Indian students. The faculties were overwhelmingly White. A total of 19 states had operated separate public colleges for African American students for generations, and there were scores of private Black colleges, many founded by religious groups to provide opportunities in the South where the door to higher education had been shut. Following the *Brown v. Board of Education* decision in 1954, it was clear that it was unconstitutional to require the segregation of public colleges, but very little was done to change most of those colleges until the 1964 Civil Rights Act became law and created powerful sanctions and enforcement tools to end discrimination at all institutions receiving federal funds (Grofman, 2000). In contrast to hundreds of school desegregation orders, the courts did little to change college patterns in most states and almost nothing outside the South.

The movement to integrate selective colleges outside the South came from within the academic world, which had been deeply affected by the urgency of the struggles of the civil rights revolution and the social crises and upheavals in the major cities, as well as intense student protests. The change was voluntary but reflected a recognition of long-term failure to integrate and involved various forms of targeted outreach and admissions of a more diverse student body (Bowen & Bok, 1998). The colleges had little expertise in such changes and felt their way forward, with many well-intentioned missteps. A half-century later, after a massive transformation of the racial composition of the college-aged population and amid many political conflicts, the great majority of selective colleges continue to rank diversity as one of their highest goals and have race-conscious policies to pursue it, but the controversies and struggles over the legality of their methods continue (Kennedy, 2013; Skrentny, 1996). During the Civil Rights era, there was widespread acceptance of the proposition that only serious race-conscious plans could make major progress, but college efforts were increasingly attacked as the political mood changed, and the Supreme Court was changed by the appointees of President Nixon, President Reagan, and both Presidents Bush (Coyle, 2014; Greenberg, 2007). The question of whether affirmative action may continue is determined nationally by the Supreme Court, so a negative decision would make race-conscious policies a constitutional violation and lead to the cutting off of federal funds to any college violating the order. The question of whether affirmative action actually continues is decided by individual campuses and university systems and, in some instances, by the state governments or referenda within the parameters set by the courts.

These studies attempt to answer the central question in the current debates: Is there a workable, nonracial way to achieve diversity without any consideration of a student's race in the admissions process? After America's most selective universities decided in the mid-1960s to become significantly racially integrated for the first time in their histories, it was not clear what would work. Because students choose where to apply and are not assigned to colleges, as they usually are for public high schools, simply reassigning students was impossible. In the 19 states with separate Black public colleges, the enactment of the 1964 Civil Rights Act created an obligation to take positive steps to desegregate campuses, and plans were developed during the 1970s, but enforcement dropped in the 1980s (Litolff, 2007; Williams, 1987).

Outside the South, the initial voluntary efforts focused on targeted outreach, recruitment, and special programs and special consideration in admissions and aid. The Great Society's war on poverty had created some programs, including Upward Bound, to help prepare students of color from weak, segregated schools for college, and the higher education legislation from the mid-1960s to the early 1970s provided substantial funding for need-based aid for students from low-income families. The passage of federal and state laws against job discrimination and the requirement for affirmative action employment plans for federal contractors called attention to the need to recruit faculty and staff on a broader

basis. In most colleges, student affirmative action was a purely voluntary effort, and no federal authority was issuing directions or regulations. Major institutional and cultural change is never easy, and inevitably, mistakes were made, and students whom colleges were not prepared to deal with were admitted. As the Black Power and other assertive movements developed, urban riots generated tension; the country was shocked by the assassination of Dr. King; conservative federal administrations took power; and there were conflicts and uncertainty. But affirmative action continued, producing what was usually a modest level of diversity.

The issue became very controversial as the conservative political reaction to the civil rights revolution of the 1960s gained strength, and the Supreme Court was transformed by the late 1980s with a majority who were critical of civil rights and who made decisions limiting previous policies. Although both the Court and civil rights officials had concluded in the 1960s that case-by-case enforcement was far too limited to address entrenched racial inequalities and that race-conscious policies and plans were needed for substantial changes, conservative administrations were increasingly skeptical, claiming that such efforts amounted to discrimination against Whites. As economic changes made college education far more crucial for middle-class status, and college admissions became much more competitive at leading institutions, the conflict over limited spaces grew. Conservatives claimed that civil rights advocates had gone too far and were now reverse-discriminating and that students should be admitted solely on *merit* (often meaning test scores), not *racial preferences* (meaning any consideration of race; Glazer, 1975; Skrentny, 1996).

Although the great majority of selective campuses concluded that without intentional strategies to identify, recruit, and admit students of color, they would not achieve substantial diversity, they were challenged in politics and in the courts. When the federal government fought to implement desegregation of southern campuses in the 1970s, there was major political pushback against the Carter administration's efforts (Hill, 1985; Williams, 1987).

### The Law

*Bakke* was a decision by a Court so deeply split that there were three different opinions, and the case was decided by the ninth judge, Lewis Powell, a Virginian appointed by President Nixon. He rejected the university's arguments about the historic absence of students of color and the needs of minority communities for doctors who understood them, but he upheld limited positive policies for the integration of colleges for the purpose of enriching educational diversity, which improved education for all by considering race a plus factor among the various considerations in choosing a new class for a college. Affirmative action survived in a more limited form with a more limited justification. The decision dramatically limited the arguments that could be used to justify the legality of affirmative action. Powell rejected arguments about general discrimination in society. Powell, a Harvard graduate, relied on the history of Harvard's long outreach for students from all areas and many kinds of talents and the report of a Harvard faculty committee on the educational value of such diversity.

In the decades following *Bakke*, there was very little research on the benefits of student diversity for the educational process, in part because, unlike public school integration, it was not justified by the Court as an educational remedy for discrimination but as a general value for all students. Many colleges and universities and researchers assumed that the educational benefits were obvious, and the important questions were about how to make it work better.

The issues became much more urgent after affirmative action was forbidden in the nation's two largest states in 1996. Opponents had failed in Congress and state legislatures to defeat the affirmative policy of universities but found that if they could shape the questions as they saw them, they could win in some state referenda. In California, in 1996, the voters adopted Proposition 209, the Civil Rights Amendment, which wrote into the state constitution a ban on affirmative action, described by the measure as *racial preference* (Chavez, 1998). In Texas, the U.S. Court of Appeals for the Fifth Circuit decided in the *Hopwood v. Texas* decision of 1996 that affirmative action was unconstitutional. With the sudden prohibition in the two largest states, which contained the majority of all U.S. Latinos and large groups of other minorities, it became apparent that the issues were heading toward the Supreme Court.

The intense division over the issue and a likely Supreme Court challenge stimulated the launching of a number of empirical studies addressing the great questions that would come before the Court in a major decision. The University of Michigan, which became the target of the cases that went to the Supreme Court, invested in major research studies by leading faculty members. The Civil Rights Project and other research groups commissioned new research by scholars across the country. A series of Supreme Court decisions on other issues had set up two key legal tests for affirmative action. The Court held, in a series of decisions beginning in the late 1980s, that decisions made on the basis of race were inherently

suspect even if they were intended to create benefits for minorities, so there had to be proof of a “compelling interest” before it could even be considered. (The Warren Court had treated decisions considering race to achieve integration to be fundamentally different than those fostering segregation.) Given the *Bakke* decision, the compelling interest could only be proof that diversity actually produced measurable educational gains for all groups of students. The second issue that required research was the question of whether there was any feasible alternative to considering race that would produce the diversity needed to attain the educational benefit. Obviously, that would require evidence on the efficacy of proposed alternatives, including the Texas TTPP for admissions created for the University of Texas by state legislation after the *Hopwood* ban on affirmative action. That became the central issue in *Fisher*.

A quarter century after *Bakke*, in 2003, the Court decided two cases challenging the University of Michigan. One, *Gratz v. Bollinger*, rejected Michigan’s practice in undergraduate admissions in which the university simply added some points to the admissions formula for racial diversity as it did for other diversity factors in undergraduate admissions. That was too mechanical a consideration of race, the Court decided, and the college was forced to rework its plan. However, in the *Grutter v. Bollinger* decision, the Court approved of the University of Michigan Law School’s practice of considering each student holistically, with race being only one of many factors in admissions decisions. This became the model for selective campuses across the United States. This essentially meant that large public universities that believed affirmative action was necessary had to adopt the more costly individual review model used by elite private colleges.

A great deal of empirical research had been conducted by the time the Court heard the Michigan cases. The University of Michigan had mobilized researchers, including Professor Patricia Gurin (1999), to examine actual consequences of racial contact in the classrooms and campus lives. A number of other scholars had conducted a variety of studies of key issues, and several books had appeared containing important recent research. There were a number of briefs filed in the case by scholars and scholarly associations as well as important briefs by business and military leadership. The *Grutter* opinion relied heavily on research and the briefs in reaffirming the basic legal principles of *Bakke*, including a book that grew out of the Civil Rights Project conferences and commissioned research and the brief of the American Educational Research Association, which brought together evidence from many social science studies. The opinion affirmed that there were educational benefits for all, a compelling interest justifying a consideration of race among many factors. The decision also expanded the justification to include the preparation of leaders with skills to better operate leading military and business institutions in our multiracial society and the preparation of our citizens for good operation of our democracy. The Court pointed to the scientific evidence on the educational value of diversity that had been published in recent years, citing specific books and social science briefs.

These studies the Court relied on showed that students who experienced diverse classes developed abilities to understand differing perspectives, that they developed abilities to communicate more effectively across lines of social division, that they often developed new perspectives about their own profession, and that the students who were admitted through affirmative action programs had great success in highly challenging institutions and tended to make large contributions in their later professional lives, among other key findings.

In the *Grutter* decision, the Court relied on research on the alternatives, including studies of the Texas TTPP, and the Court’s respect for the universities’ autonomy in accepting Michigan’s argument about the lack of a feasible alternative. The research was still limited.

Although the *Grutter* decision held that affirmative action, under these rules, should be accepted for at least 25 years, after the replacement of Justice O’Connor, the decision’s author, the Court took another case just nine years later, the *Fisher v. University of Texas* case. In its 2013 decision, the Court accepted the value of diversity but sent the case back to the lower courts to determine whether there were workable nonracial alternatives. The Court basically affirmed the compelling interest in diversity in its 7–1 decision but returned the case to the lower federal courts, ending the deference to universities on the narrow tailoring issue, requiring them to make an independent judgment about alternatives. When the Supreme Court sent the *Fisher* case back to the Court of Appeals, many thought that the court would send it down to the district court for further proceedings with new testimony and evidence to strengthen the record on the key issues—whether there were feasible alternative ways to achieve diversity and whether the Texas TTPP was already accomplishing enough to satisfy this need. The Court of Appeals, however, decided that there was already enough evidence to support the university’s policy and that no new district court proceedings were needed over the objection of the University of Texas, which wished to present more evidence. It decided by a 2–1 majority that the university had adequately considered the alternatives and that its plan was legal. Although it is rare for the Supreme Court to consider the same case



twice, the Court accepted an appeal in June 2015, and the case was argued again before the Supreme Court on December 9, 2015. Justice Kennedy, the key member whose views determined the outcome given the well-established positions of the other justices, was frustrated. He complained that the Court was again hearing an argument on the same inadequate evidence that was in the record when it was heard before. The case had been sent back for clearer answers, but there had been no new fact gathering.

The first *Fisher* decision meant that colleges and courts needed to think carefully about the possibility of a nonracial solution. Long before the Supreme Court took the case back for a second look, a joint project of the Civil Rights Project and ETS, directed by Professor Orfield, was created to commission leading researchers to explore the major alternatives to affirmative action in order to aid colleges and universities across the country in meeting their obligation to consider feasible alternatives by providing the best available evidence on the major alternatives that had been suggested—the Texas TTPP, affirmative action on the basis of socioeconomic status (SES), instituting a variety of outreach and student preparation strategies, or finding some other set of admissions variables that would produce a diverse class without any consideration of race. We also wanted to review the most extensive record of alternative approaches, the two-decade experience of the University of California, which experimented with all of the major alternatives. We surveyed the field and identified the researchers with the best track records willing to undertake these tasks and commissioned new studies to help answer the question. These studies were presented in draft form at a roundtable of education experts in Washington, DC, in August 2013, long before the Supreme Court took the *Fisher* case again in June 2015.

Before introducing this research, it is important to know what kinds of plans U.S. universities and colleges are actually using and what techniques and policies their admissions experts think are needed. Colleges often proclaim their commitment to diversity but do not discuss the specifics of how they seek it, particularly given the sensitivity of the issue in a time of politics and threatened lawsuits. In the world of higher education, where there is a great emphasis in general on research and expansion of knowledge, there is too little shared knowledge on these key issues that help shape university communities themselves. In two decades of active interest in these issues, there has been little systematic knowledge of what colleges are doing. The issues became even more sensitive with the announcement of a systematic legal attack on affirmative action and the filing of cases against the University of North Carolina at Chapel Hill and Harvard (Sullivan, 2014). Of course, college attorneys often want to protect information.

The best way to obtain this information was with the support of major higher education organizations and scholars urging cooperation and guaranteeing anonymity to participating institutions, but it was still very difficult. This survey, sponsored by the American Council on Education, the Civil Rights Project, and the research arm of Pearson, went out to colleges across the country with the National Association of College Admissions Counseling and the American Association of Collegiate Registrars and Admissions Officers, with the College Board actively supporting the effort. It was overseen by an advisory committee of leading researchers (Espinosa, Gaertner, & Orfield, 2015). Despite all this effort, the survey's response rate was low, but information was collected from a very large number of campuses. It cannot claim to be a scientific sample, but it is by far the best data that exist or are likely to exist for the foreseeable future—338 colleges enrolling a total of 2.7 million students.

Most admissions offices reported that they were well aware of the first *Fisher* decision; 89% said that they were either familiar or very familiar with the decision, but very few of those practicing affirmative action had abandoned it—only three colleges in the entire large sample. The survey showed that a large majority of selective universities responding had affirmative action plans and did consider race in admissions decisions. About 70% of the surveyed selective schools in the states where affirmative action had not been outlawed were using it (Espinosa et al., 2015).

The survey indicated that colleges saw race-conscious and race-neutral policies not as fundamental alternatives but rather as complements (Espinosa et al., 2015). Many critics of affirmative action pose affirmative consideration of poverty as a viable and likely alternative, suggesting that if race consciousness in holistic admissions processes were outlawed, colleges would turn to affirmative admission for low-income students to produce diversity. (Whether it would in fact work is analyzed in several of the reports in this volume.) The survey showed that campuses did not see this as an either-or proposition. Contrary to the assumption that those that did not pursue race-conscious policies would be more likely to favor low-income students, the opposite turned out to be true. Those with affirmative action policies were more likely to also give special consideration to low-income applicants; 86% of the schools that considered race had targeted recruitment for low-income students, and 74% gave them special consideration in admissions, compared to only 27% of the schools without affirmative action. Schools that saw racial diversity as a benefit also worked for SES diversity. It was usually either

both or neither. That meant that the probable impact of ending affirmative action would not be the substitution of a different approach but the elimination of what they saw as an essential part of a multidimensional strategy. Looking at a number of policy options studied, the report concluded that “among the 338 institutions in our study, those that do not consider race are also less likely to use a broad array of diversity strategies, a finding that holds across level of selectivity” (Espinosa et al., 2015, p. 30). The report by Patricia Gandara and William Kidder in this volume explores the many ways in which the University of California has pursued all of the major alternatives during the two decades of the state’s affirmative action ban.

The fact that the large majority of colleges with affirmative action policies were already simultaneously implementing special policies to support the enrollment of low-income students and other nonracial impacts is very important in terms of the standards set in *Fisher II*. In that decision, the Court praised and relied on such efforts by the University of Texas as showing a serious effort to document that they were only relying on race to the extent necessary.

A survey can tell a lot about strategy and institutional values, but it cannot say what will actually work. The colleges surveyed, for example, rated the Texas TTPP as one of the least effective alternatives for producing campus diversity, but that is only their opinion (Espinosa et al., 2015). The question is, of course, an empirical question that is studied in a variety of ways in the report by Stella Flores and Catherine Horn in this volume. One reason why Texas was targeted in the *Fisher* cases was that it had the most extensive percent plan in the country. In *Fisher II*, the Court accepted the University of Texas’s conclusion that the Texas TTPP was both excessively rigid and inadequate to meet the university’s needs.

There is, of course, no way to scientifically test all the alternatives directly without randomized experiments in many campuses. There are also practical limits to some of the alternatives. If a college decided to admit only low-income students, for example, it would be very likely to get a better representation of students of color given the income distribution in the United States, but colleges would confront many problems, such as the far lower average academic achievement records of poor students and a huge loss of tuition income that very few colleges could afford because most depend on tuition for a very significant part of their budgets and have limited financial aid funds. Similarly, if a college were to give a large preference to native Spanish speakers, it would be very likely to have a substantial increase in its share of Latino students, although it would confront many of the same problems. Most of the best prepared students are White or Asian, from strong high schools, and from middle- or upper-class families. The practical question is whether there are methods at a feasible cost other than considering race and ethnicity that would produce a similar level of diversity without forcing a radical transformation of the entire college or pushing it toward financial crisis or loss of other basic goals. In the first *Fisher* decision, the Court recognized that an alternative must be administratively feasible.

In a half-century of discussion of voluntary diversity policies, only a few alternatives have emerged, and they are the subject of this report. The significant alternatives are the Texas TTPP pioneered at the University of Texas and adopted by several states (Chapa & Lazaro, 1998), the idea of affirmative action on the basis of student poverty rather than race, and the creation of a variety of recruitment, targeted, precollege training, and support and recruitment programs that have been widely used on campuses where state laws forbid affirmative action. A final possibility discussed here might be called the kitchen sink alternative—simply scan all available variables and see if any set of them is sufficiently related to racial and ethnic diversity that it would produce the diversity desired without any direct consideration of race.

We are publishing here three of the four new studies commissioned in this project, but we will first discuss one that was developed by Sean Reardon and associates and released as an issue brief by this project (Reardon, Baker, Kasman, Klasik, & Townsend, 2015), which is to be published separately in a scholarly journal.

### Does the Percent Plan Work?

The immediate issue in the *Fisher* case was whether the University of Texas’s TTPP has succeeded in producing the diversity necessary to meet the compelling educational needs of the university. The argument was fundamentally based on looking at the number of students of color enrolled before affirmative action was stopped in 1996 and the growth of minority enrollment under the Texas TTPP. The lawyers for Ms. Fisher added together the number of Latino and Black students enrolled under the Texas TTPP and said that there was sufficient diversity. In other words, they argued, the university should recognize that it had succeeded and cancel affirmative action, which—under those circumstances, they said—discriminated against White students. This is the question that Stella Flores of New York University and Catherine Horn at the University of Houston examined in their report in this volume. They analyzed the three different statewide percent plans (the others are in Florida and California), reviewed the very extensive research over two decades in Texas,

and examined the literature on the many forces that have been shown to influence college choice. They pointed out that the question cannot be answered without carefully analyzing the changing demography of young people in the state being examined; they considered the efficiency (or feasibility) of alternatives to affirmative action, and they made suggestions to educators and the courts about how to address the underlying issues.

The percent plan has been extensively researched for years by a number of scholars, including a massive multiyear analysis by Princeton University researchers and a series of major studies by Stella Flores and Catherine Horn (Harris & Tienda, 2012; Horn & Flores, 2003; Long & Tienda, 2008). The Flores and Horn report in this volume summarized and added to previous research on the subject, which has been one of the most researched issues in higher education policy.

The study (Flores & Horn, this volume) concluded that the claimed success of the percent plan is an illusion in two ways. The growth in the share of Latinos at the University of Texas is basically not the product of the plan but of the large decline in the White share of young Texans and a massive increase in the share of Latino high school graduates in the state in the last two decades. The probability of Latino applicants gaining access to the University of Texas has actually declined rather than increased. The increased numbers are not the product of the Texas TTPP but of the fact that even a declining chance of success of a very rapidly growing population produces rising numbers (Flores & Horn, this volume). The plan has not been successful in achieving a significant representation of Blacks on campus, even though the Black share of young Texans has remained constant as the White share has fallen sharply. The Texas TTPP, they concluded, has had no significant impact, even though it was augmented by special partnerships between the university and a number of highly impoverished, heavily non-White high schools. Even with a very large increase in Texas TTPP-eligible students of color and special efforts by the University of Texas to offer targeted scholarships at high-poverty, heavily non-White high schools, eligible White and Asian students were far more likely to actually enroll at the state's top campuses. Blacks, who had been most discriminated against historically, had the lowest probability.

The Texas TTPP may well confront increasing pressure in the years to come as already intense demand for the University of Texas at Austin grows to be much more difficult to manage. The plan has already been cut back to the top 7% because it could have filled the entire class and had students left over if the university had continued to guarantee that all students in the top 10% (and meeting academic preparation requirements) were actually admitted. The plan has been capped at 75% of freshman admissions already. As time passes and the number of students applying continues to grow, it would be likely to become an ever smaller fraction of top high school students even if nothing else would change. The University of Texas System chancellor Bill McRaven urged the state's Higher Education Coordinating Board in January 2016 to terminate the Texas TTPP, saying that it denied the university the flexibility to admit and recruit the very best students by automatically admitting three fourths of the entering class primarily on the basis of their rank within their high schools, no matter how weak the schools might be. The pressure to do this, he said, was intensified by a drive in Texas to raise the standing of its leading university, which did not rank among the nation's top 50 universities, although Texas has the second largest population. McRaven claimed that being able to admit the students the university selected would put the university in a position to be more selective. He continued to press the issue in the face of questions and criticisms from University of Texas student groups and some legislators (Wong, 2016). Administrators who want the most qualified diverse student body see a serious tension in the plan (Watkins, 2016). Many Texas supporters, however, see it as the reed they leaned on between 1996 and 2003, when affirmative action was banned by the courts, and the plan was the major alternative.

The Texas TTPP is a plan to preserve some diversity by creating a mechanical process based on segregation that takes away from the university the ability to select the students of all races it thinks would add the most to the university. The plan provides students of color because the state high schools are highly segregated, and there are many schools where the top 10% are non-White. The Texas TTPP bases admissions on a standard that varies among more than 1,000 Texas high schools. An admissions plan should not punish Black and Latino students able to attend integrated schools or deny the university's admissions experts from admitting students who would add a great deal to the class. Several studies have shown that replacing a holistic admissions policy with a top 10% plan nationwide would not successfully restore the number of students of color at the most selective four-year campuses that would be achieved under a policy that considers race (Espenshade & Radford, 2009; Howell, 2010; Long, 2004b; Reardon, Baker, & Klasik, 2012). These findings hold true for a number of situations, including those in which high schools are assumed to be completely racially isolated, where admission under the percent plan is extended to students from out of state and guaranteed at any institution of choice, and where percent plan admissions are in place at private colleges and universities. There is no indication, in the states where

affirmative action is already prohibited, that any of these conditions are likely to be implemented. Percent plans are limited to public campuses and concern in-state students only, and only the Texas university actually offers guaranteed access to the campus the student wants most (and limits are being imposed in Texas). Because a percent plan privileges students of color in segregated schools, which are usually doubly segregated by both race and poverty, the students of color who are admissible are unlikely to have families with money to pay the costs of attending a flagship university. Students of color who are eligible to attend are substantially less likely to actually enroll. This is one of the major reasons why Texas created the Longhorn scholarships focused on highly impoverished schools, but of course, even if states can provide help, it often is not enough to meet students' actual needs.

### **Would Affirmative Action for Low SES Students Produce Racially Diverse Campuses?**

There has been a great deal of attention, much of it generated by Richard Kahlenberg and his projects at the Century Foundation, on the feasibility of using SES affirmative action as an alternative way of achieving racial diversity. The basic idea is that if colleges would give active preference to low-income students, they would achieve racial diversity without the necessity of considering a student's race in any way (Kahlenberg, 2012). Black, Latino, and American Indian families earn significantly less income than White and Asian families; they tend to live in substantially poorer neighborhoods; and they, on average, attend schools with far more poor fellow students than do Whites and Asians, conditions related to much weaker preparation for college (Venezia & Kirst, 2006). So, if all these relationships exist, why would SES not work just about as well? If the relationship is sufficiently strong, this theory would work. Because a number of studies have shown that the relationship between race and SES plus academic qualifications is not high, some advocates now suggest using more complex versions of SES, using measures of education, wealth, and so on, some of which go far beyond the data colleges normally collect from applicants.

Professor Sean Reardon and several of his associates on the Civil Rights Project–ETS project have been working to develop ways of addressing the hypothetical questions the Court has asked colleges and judges to decide (Reardon et al., 2015). When a court needs to decide whether an affirmative SES strategy or a percent plan would work under feasible conditions to produce the diversity the university deems necessary for good education of its students, it is a complex hypothetical question. Obviously, there are many different ways that a campus could define lower SES and many things that might affect its success, which could depend on factors including the amount of resources the university has to subsidize the full cost of attendance to families able to make no contribution. The Court is asking universities to show why they have concluded that these alternative plans would not produce adequate diversity and directed judges to independently assess that finding. Considering a policy affecting thousands of colleges, which face differing conditions in their recruitment areas, have different institutional missions and offerings, and so on, the question becomes vastly more complicated. The best source for campuses to answer this hypothetical question is research demonstrating the probable outcomes.

Reardon et al. (2015) have attempted to answer the question about the feasibility of achieving racially and ethnically diverse student bodies through affirmatively admitting on the basis of SES by creating elaborate and complex simulations of the admissions process using a wide array of data sources and building statistical models that try to move beyond simple correlations to show how the processes operate over time. The authors have concluded that the only reasonable way to answer the question is to create a sophisticated statistical model incorporating large data sets. They drew on longitudinal data about the actual behavior of a large sample of young people of college-going age from the major national longitudinal study, the Educational Longitudinal Study, which included measures of race, SES and test scores, family resources, college applications, college experience, and so on (Reardon et al., 2015).

Simulations prepared by the research team show that gaps in enrollment in terms of both race and income have become substantially larger since the 1980s, despite a narrowing academic achievement gap (Reardon et al., 2015). That could relate to the increase in college costs and applications for leading campuses. These simulations also show that the growing racial disparities in national college enrollment cannot be explained by differences in income according to race and ethnicity. At any income level, White students are twice as likely as Black students to attend a highly selective college. In the upper half of the income distribution, White students are twice as likely as Latinos to attend a highly selective college. Despite a myriad of race-neutral approaches, selective undergraduate institutions in states with bans on affirmative action have experienced significant declines in student body diversity.

College admissions for selective campuses is never, of course, conducted merely on the basis of either race or class. The Supreme Court has authorized affirmative action only as one factor among many in admitting students. All colleges have



academic requirements, and those are very unequally distributed among races. Colleges can only select among students who actually apply, and knowledge of college and admissions requirements and processes is very unequally distributed. Finally, wealth and resources to pay for preparation, applications, and actual college expenses show huge differences by race and ethnicity. Students from families with higher income, more education, and greater wealth are much more likely to be informed about, apply to, be admitted to, and actually attend selective four-year colleges. So, when we talk about substituting SES for race, we are actually talking about changing only one element in a multidimensional equation (Reardon et al., 2015).

There is, of course, a significant correlation between the schools with high poverty, particularly very high poverty levels, and schools with segregated Black or Latino populations, but there are many poor Whites and middle-class non-Whites who attend segregated, low-achieving schools (Reardon et al., 2015). The race–poverty correlation is far from perfect, and a great many students of color, including many of those best prepared for college, are not in such schools, and the schools that do have double segregation by race and class tend to be the very schools that are the least effective in preparing students for college for many reasons. Because the least prepared students of color are likely to be in the schools that would be identified using a poverty proxy and the best prepared are likely to be in integrated schools with mixed SES that would not be identified using an SES proxy, it is a very inefficient way to identify the students of color the colleges most want. It would produce many more students needing, on average, much more academic and financial support and are less likely to succeed than better prepared Black and Latino students who need less support and aid. Because, in a color-blind framework, the aid would have to be available equally to students of all races, the expense would be very high, and much of the aid would not go to students who would increase racial diversity.

Reardon et al. concluded,

Based on our simulations, SES-based affirmative action policies do not seem likely to be effective at producing racial diversity. The SES-based affirmative action policies we simulated are fairly aggressive in terms of the weight they give to SES, and they had large effects on socioeconomic diversity, so their failure to produce substantial increases in racial diversity at elite colleges is not a result of tepid implementation. These results are consistent with Sander (1997), who found that SES-based affirmative action at the UCLA law school did not produce the levels of diversity achieved under race-based affirmative action policies. (Reardon et al., 2015, p. 19)

Under current conditions of school funding, the great majority of private colleges are without large endowments. Far from practicing affirmative action for poor students, many actually practice now a form of affirmative action for students with resources, because they cannot afford to do otherwise. In fact, many practice enrollment management, offering small scholarships to students without need to raise the campus's net income and ratings based on the test scores of admittees. Many public universities are now pursuing out-of-state and international students who can pay high tuitions to try to make up for the drastic cuts in the proportion of costs covered by state and federal funds in the last three decades. Because practicing affirmative action for all potential low-income students in a color-blind manner would require a vast increase in resources, it cannot, as the authors concluded, be considered a feasible alternative (Reardon et al., 2015).

Given the drastic decline in state support for higher education and the fact that the leading source of student grants, the federal Pell Grant program, covers a small and declining share of student costs, colleges have become much more tuition-dependent and are devoting an increasing share of their available seats to students who can pay more. This is not because they wish to; it is because they believe they have no other choice. This means that there are a great many practical barriers to using SES for admissions, particularly success as measured by the number of students who actually enroll. There are no diversity gains from admitting students who cannot do the work, much less those who cannot even afford the cost of surviving the academic year. Aside from a few of the richest private universities, there are almost no major U.S. campuses that have the funds for admitting poor students and providing them with aid and loan packages that cover all of their needs. As the Court acknowledged in *Fisher*, in evaluating race-neutral alternatives, the courts should consider whether such means can be implemented at a “tolerable administrative expense” (*Fisher I*, 133 S. Ct. at 2420). An alternative is actually realistic only if the expense is tolerable, and any solution that requires a level of resources to fully fund student need in general financial aid, for example, that none of the 50 states has been able to provide, cannot be defined as a feasible alternative (Reardon et al., 2015).

### The University of California Experience

The University of California is the extreme case of long and costly investments in the major alternatives. The results have been particularly disappointing, especially at several University of California campuses that have far more competitive admissions than the University of Texas, as analyzed in the report by William Kidder and Patricia Gandara (this volume). The authors described the efforts of the university, which included attempts to use all of the leading alternatives, including unusually generous financial aid packages, a set of special early identification and summer training programs to prepare and recruit students, a percent plan, local recruiting in home communities by current University of California students and many other efforts, a comprehensive review of applications, and even cooperation with private fund-raising for students of color outside the university, to accomplish what the university is forbidden to do. A great barrier to the efforts, in which the university has invested hundreds of millions of dollars, is that because the prohibition on affirmative action makes it impossible to create special programs for students of color, students from the well-represented White and Asian communities can claim spots in those programs, and the number of students of color who can be reached within a given budget becomes substantially smaller, as does any net impact on diversity. So, it becomes far less feasible to reach a large share of the students of color. What the authors concluded is that the alternatives are costly, inefficient, and, for highly competitive campuses, simply do not work. They also reported that another result has been that the university loses many of the students of color it most wants to enroll to elite private and out-of-state campuses that can offer race-conscious aid. The authors concluded that no state is likely to be able to do as much as the University of California system has done and that, as a result, there is no feasible alternative.

The University of California spent billions of dollars, Kidder and Gandara reported (this volume), far more than most states could afford, over the past 20 years pursuing all of the major race-neutral alternatives to desegregation. It has a percent plan, and it leads highly selective universities in enrolling a high percentage of low-income Pell Grant students. It has experienced great frustration when it tried to target areas with substantial numbers of Latino students, only to find that the top students in this largely Latino area are, for example, new immigrants from Asia whose parents are temporarily low income but have advanced education. Depending on the strategy, it may cost several times more to recruit a student indirectly using a race-neutral alternative, and that student is likely to be far less prepared for university because students of color have only one tenth the level of access to the state's strongest high schools that Whites and Asians experience. The great majority of students touched by special costly outreach programs do not ever enroll in the university. The state has a massive investment in financial aid far more than most states, but even California's program leaves gaps that many low-income families cannot close.

The authors concluded,

California has made a long, expensive, creative, and multidimensional effort to make up for the losses in diversity caused by the affirmative action ban nearly two decades ago. It has tried all of the major alternatives and even actively encouraged private philanthropy to reach out directly to students of color. Given the cost and the unusually positive financial aid system, and the strong support from many system leaders for these alternatives, it is unlikely that any state will be able to do more. Yet the effort has fallen far short, the level of access for African Americans, American Indians, and Latinos who meet all the UC requirements has declined relative to Whites and Asians. (Kidder & Gandara, this volume, p. xx)

### Is There Any Variable or Combination of Variables That Would Be a Feasible Replacement?

It is, in fact, extremely difficult to identify any nonracial factor that would reliably increase the share of students of color. Mark Long's analysis in this volume of 195 variables found that very few nonracial variables reliably selected students of color, and the ones that were the most effective, such as the race of your best friend, might be rejected as simply proxies for race if direct considerations of race were rejected. Mark Long's exploration goes far beyond what might be considered administratively feasible to see if there is any reasonably available way that colleges could use their existing data (he has the elements available to the University of Texas) and even the data they might collect if they undertook also using Census data and all the data elements from a massive longitudinal survey. His conclusion that the only elements that might be efficient in identifying students of color are, basically, other ways of asking their color is profoundly discouraging for those who believe that there is some kind of feasible and efficient nonracial approach that can produce diverse colleges with no consideration of race or ethnicity.

## Conclusion

When affirmative action began, it reflected a broad desire to do something to integrate what had always been overwhelmingly White colleges in a society that was soon to enter a period of historic change in its demography. In the South, it was about breaking a long history of intentionally segregated higher education. Widely differing patterns of affirmative action developed across the country before the Supreme Court first laid down a legal framework in the 1978 *Bakke* decision on a subject that has always been controversial. It was a limited acceptance of a limited use of race for the purpose of adding to the academic diversity of higher education. By the 1990s, some courts were insisting on limiting any use of race, even for the best of goals, to what could not be accomplished without considering race in some way. The Supreme Court's first decision in *Fisher* told the lower courts and universities to tighten that standard and to seriously consider any feasible alternative. The research commissioned for this publication represents the conclusions of a group of leading social science scholars about the major alternatives that have been proposed and, in some cases, experimented on. The basic conclusion of this research is that there is no demonstrated feasible alternative that would produce the levels of diversity that selective universities find necessary for their educational missions without some consideration of race. This research shows that the alternatives are inefficient, cumbersome, and costly and that they do not accomplish the goal. To a large extent, the claimed successes are attributable to large changes in the demography of regions that make even declining proportionate access for a rapidly growing community of color in areas of declining White shares of college-aged students look like a success. Researchers, of course, can only reach conclusions about alternatives that have been invented to this point or that can be explored with existing data sets, but the wide-ranging exploration of many factors produces little optimism about the possibility of finding workable and feasible alternatives, particularly for the highly selective campuses at the focus of this debate. Research supports the 2016 Supreme Court decision recognizing the necessity of limited consideration of race to achieve diversity.

The affirmative action battle in the courts and in most of the research has been about freshman admissions to competitive colleges, and all of the major legal decisions have been about large public universities. The Texas cases, for example, have been about the most competitive public campus in a state where the great majority of students go to public universities within the state. Many university campuses are private, and many schools draw students across state and national lines, which would make state-based policies like the Texas TTPP impossible to use. As we think about colleges, law, and policy, it is, however, very important to keep in mind that affirmative action also applies to graduate and professional schools, which do practice affirmative action but where the leading alternatives cannot, in their nature, work. Competitive graduate schools do not choose students on the basis of high school standing, and their students come from a wide array of colleges that typically do not rank their graduates. The SES alternative cannot work because graduate and professional students are no longer dependent on their parents' income and are almost all poor in terms of current income. If a court had upheld an alternative that only worked for undergraduates in states with dramatic school segregation, there might not have been any alternative with any serious basis of evidence for the higher-level admissions that shape many of our professions and create the academic faculties and leadership of universities. This is one area in which further research and analysis is urgently needed. These reports, like all good social science, do not purport to be the last word, only the best evidence currently available on very important issues for colleges and our courts. In meeting the standards set in *Fisher II* for legitimatizing affirmative action, these reports provide essential systematic evidence about alternatives. Good research means that choices can be defended by campuses without having to try each alternative locally. The ETS and the Civil Rights Project strongly encourage further research in this field. These reports show that there are no simple answers but that the large majority of selective colleges across the country that have decided to continue using affirmative action to achieve diversity on their campuses and prepare leaders for our diverse society are making a decision that is well supported by the best available research. The Supreme Court has now reaffirmed the compelling interest that has led the large majority of selective universities to practice affirmative action and set clearer and attainable standards for justifying their conclusions. This research is part of the answer colleges need.

## Suggested citation:

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## 2. Texas Top Ten Percent Plan: How It Works, What Are Its Limits, and Recommendations to Consider

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In this report, we endeavor to contribute to efforts to implement college admissions strategies appropriate within the nation's developing law by examining percent plans, an alternative race-neutral path to college admissions in Texas, California, and Florida. We seek to do four things: (a) summarize the broad contributions to students' opportunities to access college; (b) describe the three state percent plans currently in place and the important role demography plays in their implementation; (c) synthesize what is known empirically about percent plans, their value, strengths, and limitations; and (d) provide empirically based considerations related to institutions considering the implementation of alternative admissions plans. As the higher education community contemplates percent plans as possible mediators of the equity crisis, this report finds that there is much to be learned from the rigorous research available on these plans to date and much work left to be done to cultivate their success.

**Keywords** Percent plans; race and college admissions; affirmative action; minorities

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In June 2013, the United States Supreme Court ruled on the most recent case in a series of cases challenging the legality of race-conscious college admissions processes. Specifically, this case argued that the automatic admissions policy in Texas, the Top Ten Percent Plan (TTPP), had been so effective as to render any race-conscious admissions plan unnecessary and therefore unlawful. In *Fisher v. University of Texas at Austin* (2013), the Court recognized the right of universities to pursue diversity as a compelling educational interest and affirmed prior decisions supporting the legality of the consideration of race in admissions. It also highlighted the critical nature of rigorous social science in making and defending sound decisions about admissions policies. Specifically, Justice Kennedy's majority decision in the *Fisher* case noted that institutions have an obligation to document "whether a university could achieve sufficient diversity without using racial classifications." Said differently, the decision clarified that judges cannot simply defer to colleges but must reach their own conclusions on this key issue.

Applying the judicial standard of review articulated in *Gratz v. Bollinger* (2003), *Grutter v. Bollinger* (2003), and *Regents of the University of California v. Bakke* (1978), the Supreme Court in *Fisher v. University of Texas at Austin* (2013) held that the lower courts did not view the Texas TTPP in the light of strict scrutiny, requiring the University of Texas to prove that its admissions plan "is narrowly-tailored to achieve the benefits of diversity" and remanded the case to the Fifth Circuit for findings consistent with the judicial standard. In 2014, the Fifth Circuit Court again found the Texas admissions policy to be narrowly tailored. This court particularly found that

... race-conscious holistic review is necessary to make the Top Ten Percent Plan workable by patching holes that a mechanical admissions program leaves in its ability to achieve the rich diversity that contributes to its academic mission—as described by *Bakke* and *Grutter*. (*Fisher v. Texas*, 2014, p. 35)

A key rationale of this court's decision identifies that the successful admission of additional minority students under the percent plan was a result of the changing demography of Texas as well as the continuing trends toward resegregation in the state's secondary education system. In June 2015, the Supreme Court agreed to rehear *Fisher*. At issue again is whether models such as the percent plan have been indeed sufficiently successful to act as a reliable, workable, race-neutral alternative.

A critical role of this report then is an assessment of the now more than 15-year study of the Texas TTPP. Automatic admissions policies—commonly referred to as percent plan policies—are located as a form of state or gubernatorial policy in Texas, California, and Florida and guarantee admission to a certain percentage of their high school graduates. Initially a state-level response to the end of race-conscious admissions as a result of the 1996 Fifth Circuit Court of



Appeals decision in *Hopwood v. University of Texas* — prohibiting affirmative action in university admissions in Texas and evolving into, for certain universities, an important mechanism within an “affirmative action plus” plan following *Grutter v. Bollinger* — percent plans remain an important ostensibly race-neutral mechanism to carefully understand (*Grutter v. Bollinger*, 2003).

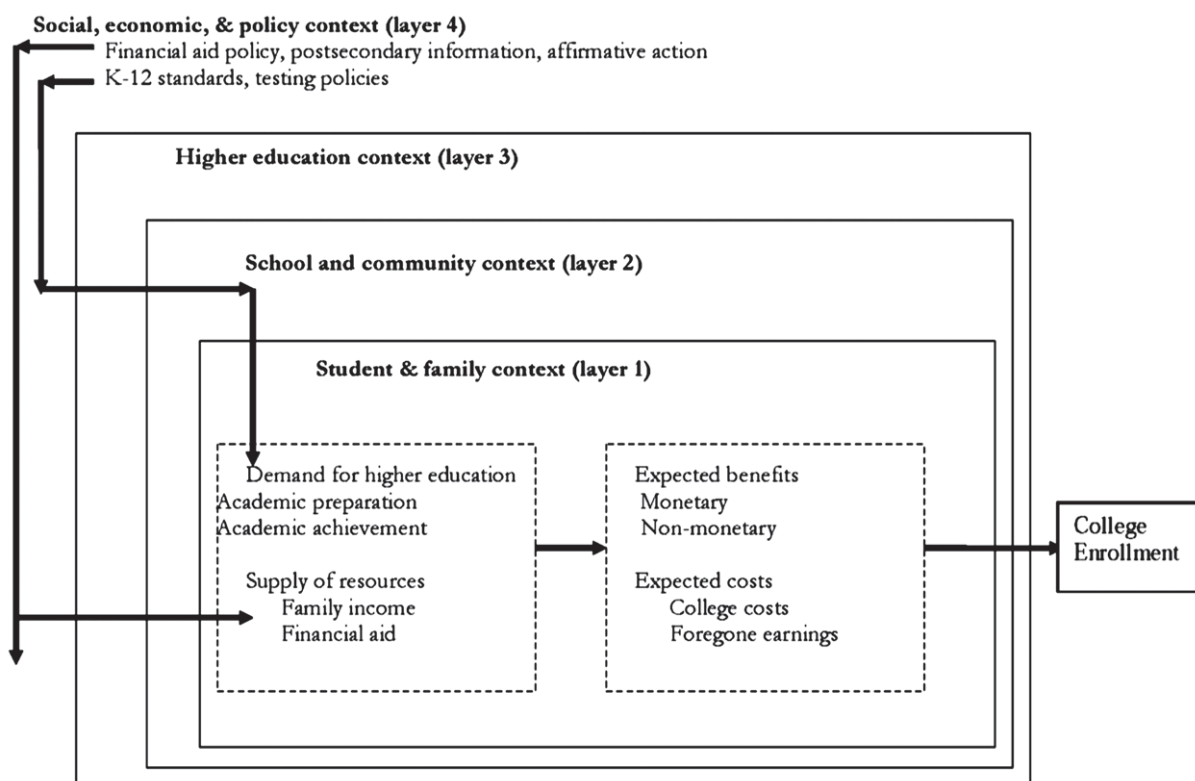
To that end, our charge with this paper is to review briefly the particulars of the three percent plans and their outcomes to date in a scaled way. In particular, in this paper, we seek to do four things: (a) summarize the broad contributions to students’ opportunities to access college; (b) describe the three state percent plans currently in place and the important role demography plays in their implementation; (c) synthesize what is known empirically about percent plans, their value, strengths, and limitations; and (d) provide empirically based considerations related to implementing a percent plan or race-neutral method. While the U.S. Department of Education and the U.S. Department of Justice have provided guidance to universities on the use of race in higher education settings in the United States (U.S. Department of Justice & U.S. Department of Education, n.d.), in this paper, we seek to contribute to efforts to implement admissions strategies appropriate within the nation’s developing law through the presentation of research-based recommendations. That is, we synthesize what we know from rigorous and related legal, theoretical, and empirical analyses to guide institutions and their leaders on race-conscious issues to date in the form of research-based recommendations, particularly recommendations related to responsibly designed research and evaluation.

### Accessing College

In order to understand percent plans and their relative effectiveness as admissions strategies, it is important first to place that discussion in the broader frame of what factors we know affect college access, particularly for traditionally underserved students. This paper is influenced, conceptually, by several related sets of frameworks for understanding the college access to success trajectory. First, Perna, Rowan-Kenyon, Bell, Thomas, and Li’s (2008) theoretical model of student college enrollment (Figure 2.1) suggests that multiple layers of influence are brought to bear in the decision-making process: students and their families; K-12 schools; higher education institutions; and the broader societal, economic, and policy context. Specifically, this model, building from St. John (2003), emphasizes that the quality and quantity of available resources and the information provided with respect to those resources influence how each layer in this model mediates or moderates the choice process. For example, financial aid available through institution, state, and federal sources bound the overall choices applicants have to consider when they are making decisions about college application and enrollment decisions (e.g., Heller, 1999; Kane, 2003; van der Klauuw, 2002). Additionally, aid influences application and enrollment decisions to the extent that students have access to and an understanding of clear and useful information about what the relative impacts are of related choices (e.g., availability of types of merit and/or need-based aid, selection of loans versus grants, the broader implications of community college versus four-year attendance; Dynarski, 2000; Heller, 1999; Kane, 2003). Said differently, the model reflects that “state and federal policies may directly impact access to information through programs aimed at reducing college knowledge barriers” (Bell, Rowan-Kenyon, & Perna, 2009, p. 668), further substantiating previous work examining the role of state policies on college enrollment decisions (Perna & Titus, 2004). As such, this framework clarifies important complexities that inherently underlie the understanding of percent plans (most prominently in Texas but also with implications in other states where these admissions plans currently exist).

Additionally, work on college access outcomes from economics has contributed to a conceptual frame for understanding college access. Using a variety of data sets both within and outside of traditional education data systems, such work has provided much on family characteristics and wealth in addition to income, as well as the operationalization of access to information networks. Research during the turn of the century began to emphasize the role of family characteristics and academic achievement in addition to the role of aid on college enrollment (Figure 2.2; e.g., Ellwood & Kane, 2000; Heller, 1997; McPherson & Schapiro, 1991, 1998). After 2000, however, the notion of information networks in the college access equation became more prominent, and the use of novel data sources to quantify this phenomenon aided in the further understanding of this process. Of particular relevance was the acknowledgment of information forces about college opportunities with regard to applications, state policies, outreach, and so on (Avery & Kane, 2004; Dynarski, 2004; B. T. Long & Riley, 2007; M. C. Long & Tienda, 2008; Pallais & Turner, 2006, 2007). Figure 2.3 demonstrates these factors in a more comprehensive way.

Initiated in Texas and varied in their guarantees, such policies, colloquially referred to as *percent plans*, offer an alternative race-neutral path to college admissions in Texas, California, and Florida (Horn, 2012; Horn & Flores, 2003). The



**Figure 2.1** Conceptual model of the influences on student access and enrollment. From “Typology of Federal, State, and Local Public Policies Designed to Promote College Access” by L. W. Perna, H. T. Rowan-Kenyon, A. Bell, S. L. Thomas, and C. Li, 2008, *Journal of Higher Education*, 79, p. 248. Copyright 2008 by The Ohio State University. Reprinted with permission.

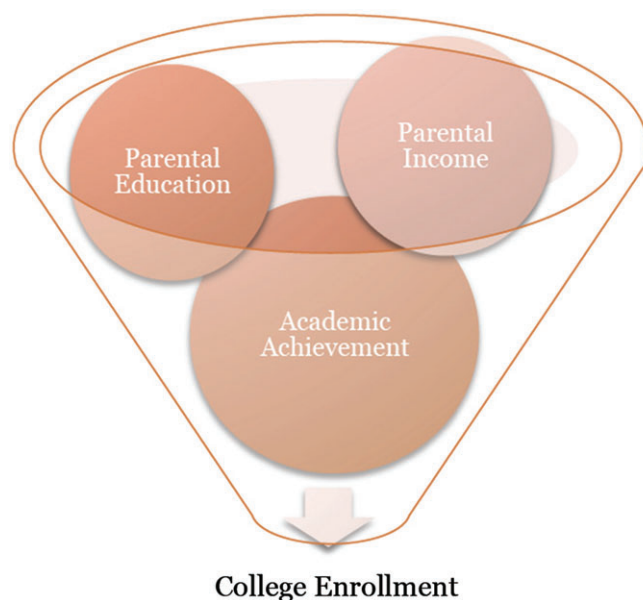
percent plans currently being implemented in Texas, California, and Florida share some overlap but are largely divergent in guarantees and processes (see Table 2.1). Each state’s plan and guarantees are discussed briefly in turn below.

### What Are the Percent Plans and How Does Demography Play a Role in Understanding Their Effectiveness?

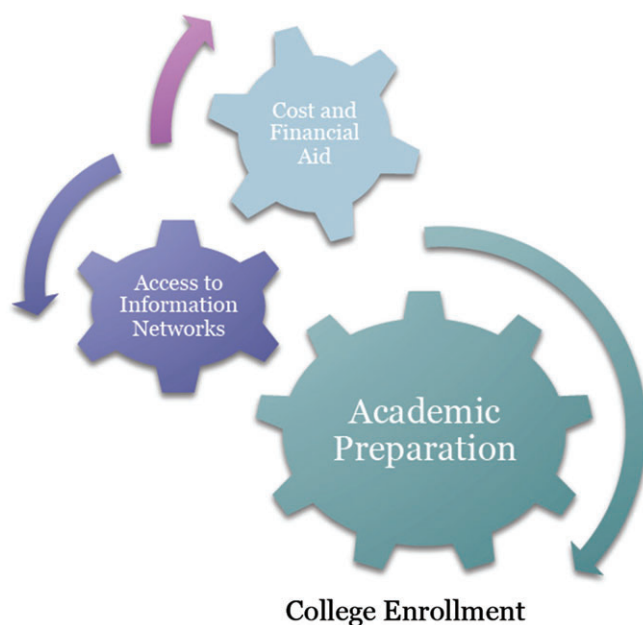
In Texas, eligible students must graduate in the top 10% of their high school class,<sup>1</sup> a classification made at the end of the junior year or beginning of senior year in high school (College for All Texans, 2012; Horn, 2012). Over time, revisions to the law resulted in the requirement that students graduate with a recommended or advanced high school program of study (or the portion of program available to them; Texas Education Code [TEC], 2009, 51.803–51.809). The Texas percent plan policy does not explicitly discuss the use of race-conscious scholarships and outreach, but multiple universities as well as the Higher Education Coordinating Board maintain either individual- or community-based grant opportunities for percent plan students with demonstrated financial need.

The University of California’s (UC) Eligibility in Local Context (ELC) plan provides guaranteed admission to a UC system institution for students graduating in the top 9% of their respective high school classes (Horn, 2012; Horn & Flores, 2003). While students identify campus preferences, ELC does not provide a guarantee that the student will be granted that preference, unlike Texas. Eligible students must have completed 11 UC-approved *a-g* courses<sup>2</sup> prior to the senior year and a UC-calculated GPA that meets or exceeds the threshold set by the university system for that high school (Horn & Flores, 2003). Similar to Texas, UC’s policy does not discuss financial aid or outreach requirements, and to date, no scholarships have been directly associated with ELC.

Florida’s Talented 20 program provides guaranteed admission to one of the state university system campuses for students graduating in the top 20% of their high school classes after the seventh semester of high school (Horn, 2012; Horn & Flores, 2003). Students must complete a designated set of 18 courses (Florida Department of Education, 2005). While aid is not directly attached to the Talented 20 program, priority for financial aid is given to those students in awarding



**Figure 2.2** Model of college enrollment: Influence of family characteristics and academic achievement.



**Figure 2.3** Model of college enrollment: Influence of information networks in addition to aid and academic preparation.

the Florida Student Assistance Grant (Florida Department of Education, 2005). Unique to the Talented 20 program, the original design maintained opportunities to undertake race-conscious outreach efforts (despite the plan's connection to the state's One Florida initiative, which prohibits such efforts in the admissions process; Marin & Lee, 2003).

In summary, then, while packaged in similar rhetoric of transparent eligibility, the three plans offer substantially different opportunities to access public higher education in their respective states. At one extreme, Texas offers the least restrictive set of guidelines, whereas California, on the other, offers much more reserved benefits for eligible students. Additionally, the percent plans also operate within a complex landscape of other state policies related to higher education, often tied to legislative priorities and available funding for public higher education. Among the percent plan states in this analysis, Florida, for example, has invested heavily in merit aid scholarship approaches prioritizing grades and test scores

**Table 2.1** Percent Plan Guarantees in Texas, California, and Florida

Question	Texas	California (original)	California (revised) <sup>b</sup>	Florida
Who gains admission?	Top 10%: public and private	Top 4%: comprehensive public and private	Top 9%: comprehensive public and private	Top 20%: public
To what does the policy grant admission?	Texas public university of student's choice <sup>a</sup>	A UC system university, but not necessarily of student's choice	A UC system university, but not necessarily of student's choice	A state university system campus, but not necessarily of student's choice
What are the coursework and other requirements?	Since 2004, recommended or advanced high school program or portion of program available to students	A-G system eligible coursework requirements	A-G system eligible coursework requirements	State-mandated coursework
Does the policy allow for or address race-conscious scholarships and outreach?	No; high-school-based scholarships and outreach	No; high-school-based scholarships and outreach	No; high-school-based scholarships and outreach	Yes, both allowed at time of implementation

*Note.* Sources: Horn & Flores (2003); Marin & Lee (2003); University of California Office of Strategic Communications (2009).

<sup>a</sup> In 2009, the Texas legislature modified the law to cap the guaranteed admissions to University of Texas at Austin to 75% of the entering class (i.e., TEC, 2009, §51.803). <sup>b</sup> In 2009, the UC Board of Regents modified the original Eligibility in Local Context (ELC) parameters (University of California Office of Strategic Communications, 2009).

for award receipt (Heller & Marin, 2004). Texas invested heavily in need-based financial aid in the early 2000s and then instituted tuition deregulation that negatively affected some racial groups over others (Flores & Shepherd, 2014).

## Demography and State Policy

In understanding the implementation and outcomes of percent plan policies, it is essential to acknowledge the connection between a state's demography and its policy. In this paper, we use Texas to illustrate this point. Between 2000 and 2010, the Hispanic population accounted for more than 50% of the total increase in the U.S. population (15.2 million out of 27.3 million). The Black population also grew faster than the total U.S. population (12% vs. 9%; Ennis, Rios-Vargas, & Albert, 2011; Rastogi, Johnson, Hoeffel, & Drewery, 2011), and these demographics are reflected in the nation's changing postsecondary education population. By 2011, for example, Hispanics constituted the largest minority group at the nation's four-year colleges and universities (Fry, 2011; Fry & Lopez, 2012).

During this same period, Texas had the greatest numeric population increase of all U.S. states (four million) as well as registering the second largest number of Hispanics (after California) and the third largest number of Blacks (after New York and Florida; Ennis et al., 2011; Mackun & Wilson, 2011; Rastogi et al., 2011). In fact, data from the Integrated Postsecondary Education Data System (IPEDS) in 2010 show that Texas had the nation's largest Black and Hispanic four-year undergraduate populations (Flores & Park, 2013).

In connecting the potential enrollment success of an implemented percent plan with demography, one necessary condition would include a large youth age population both eligible to *and* enrolling in college. Figures 2.4 and 2.5 present, geographically, the tremendous growth of the eligible underrepresented student population in Texas over time. That demographic *success*, however, masks substantial gaps in the expected rate of growth based on population size and, more specifically, where students are choosing to enroll in college. For example, despite an increase of more than 237,000 Hispanic college enrollees from 2000 to 2011, Texas remains well below the state higher education board's enrollment goals, which were set with consideration of the fact that Hispanics are expected to become the largest racial/ethnic group in the state by 2015. Black student college enrollment has fared more positively, although a growing majority of this enrollment has occurred at the community college level (Flores & Park, 2013).

Furthermore, an evaluation of student *eligibility*, specifically for the percent plan in 2010, 12 years after its initial implementation, shows that the total number of TTPP-eligible students admitted to Texas colleges and universities was twice the number admitted in 1998 (26,600 vs. 13,092), and the number of these students enrolled showed a similar increase (17,701 vs. 9,957; Horn & Flores, 2012). Yet, this increase in the percentage of students admitted under the plan was not reflected by similar-level increases in enrollment for different racial/ethnic groups at elite and nonelite public institutions in Texas. In particular, underrepresented students eligible for the Texas TTPP were less likely to be represented at elite



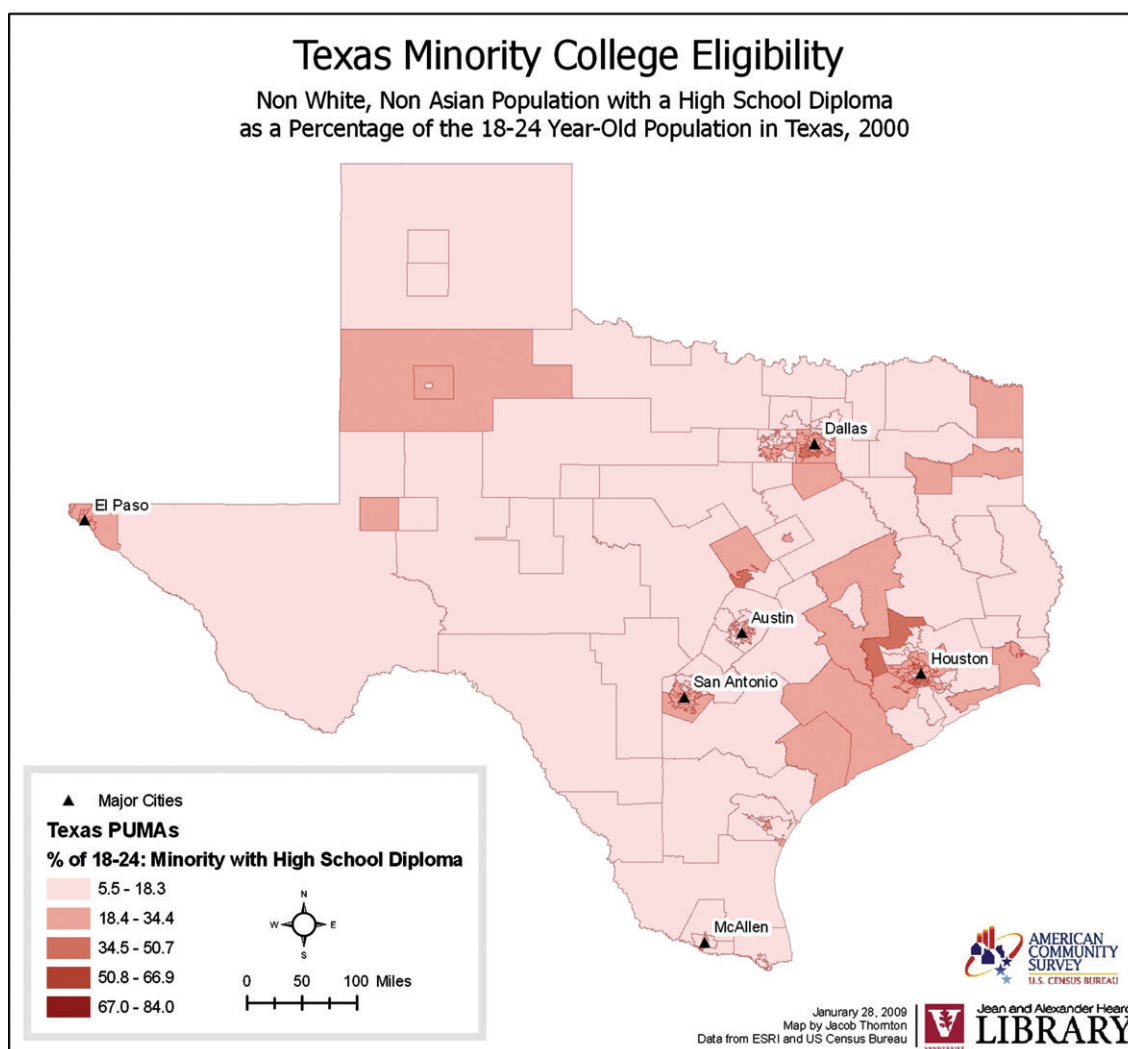


Figure 2.4 Texas minority college eligibility, 2000. Figure created by Jacob Thornton and Stella M. Flores. PUMA = public micro data area.

institutions despite noteworthy increases in their eligibility for admissions under the percent plan. In 2010, for example, 60% of White TTTP students enrolled in elite public institutions, compared to 69% of Asian American students, 44% of Hispanic students, and only 34% of Black students. In that same year, 36% of Black TTTP students enrolled in the non-selective four-year sector of Texas higher education, compared to 29% of Hispanic students, 19% of White students, and only 5% of Asian American students (Horn & Flores, 2012).

In sum, percent plans vary both in their guarantees and in the ways in which the demographic context nuances the understanding of their effectiveness. Scholars have sought to consider both, and in this paper, we now turn to what the literature has identified about percent plans, their strengths, and their limitations.

### What Have We Learned From 15 Years of Research on Percent Plans and Other Race-Neutral Admissions Approaches?

In line with Justice Kennedy's request for institutions to document whether universities can achieve sufficient diversity without using racial classifications, in this section of the paper, we present peer-reviewed research examining a set of related questions. Indeed, such questions have received some of the most rigorous analytical attention across multiple disciplines and methodologies of educational topics researched to date. While numerous scholars have contributed to the work on a range of diversity policies, we include the studies because of their influence in the literature as examinations

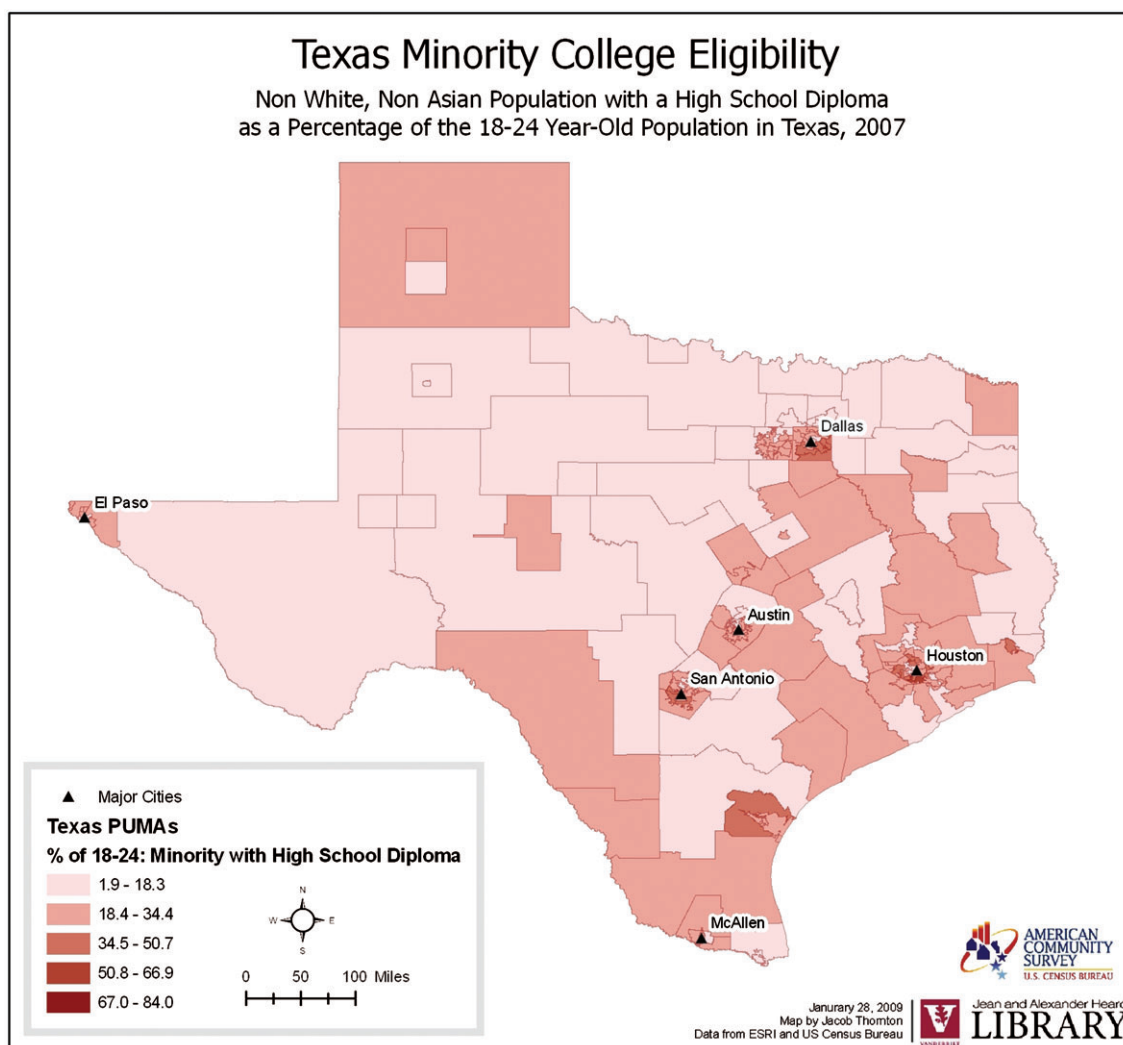


Figure 2.5 Texas Minority College Eligibility, 2010. Figure created by Jacob Thornton and Stella M. Flores. PUMA = public micro data area.

of race-neutral alternatives from a policy analysis perspective. That is, the analyses consulted specifically were used to examine the impact of various configurations of affirmative action and its alternatives, utilizing methodologies grounded in the theoretical frameworks that account for the various factors that affect these plans and their intended beneficiaries.

Broadly, three strands of research regarding the use of affirmative action in selective colleges and universities have surfaced in the public discourse and academic journals over the last decade and a half (Flores & Oseguera, 2013). The first wave of research examined relates to the effects of alternative admissions plans such as the state-specific, race-neutral admissions programs known as the college percent plans. The second wave of research examines the role of these alternative measures as efficient substitutes to affirmative action. The third wave of research evaluates the effects of state bans on affirmative action by way of state legislation or voter referenda in college admissions, and more recently, the effects of such bans in neighboring states.

### Are Percent Plans Effective?

The Texas TTPP is perhaps the most evaluated such plan in the literature to date. Much of the research on the Texas plan and its effects on the state's most selective and moderately selective institutions has focused on whether the level of diversity achieved before affirmative action was retracted has rebounded; whether college admissions mirrored the state's evolving demographics, which is a goal of state higher education leaders; and, to a lesser extent—although still

relevant—whether students admitted under a race-neutral regime were persisting and completing college at reasonable rates (Niu & Tienda, 2010).

M. C. Long and Tienda (2008) found that changes in college admissions decision structures from the percent plan prevented the type of rebound in diversity numbers experienced under a traditional affirmative action (i.e., race-conscious) admissions plan. Kain, O'Brien, and Jargowsky (2005) did find some restoration of diversity preban numbers, but they attribute this to the increasing percentage of the minority population over time and not to the effectiveness of the percent plan (Flores & Oseguera, 2013). More recently, Harris and Tienda (2012) confirmed the significance of accounting for the changing demographics in Texas, most notably the increasing percentage of Hispanic students. In particular, accounting for the changes in the size of high school graduation cohorts, it shows Hispanic students at a significant disadvantage with regard to enrollment outcomes compared to White students at the state's top two institutions. The authors provide additional clarity to the notion of perceived enrollment success by identifying the difference between increased enrollment outcomes on paper versus increased enrollment as it relates to the eligible population of interest that should theoretically be enrolling in college according to their rate of growth by age group. Specifically, Harris and Tienda (2012) found that Hispanic students experienced their lowest application and admissions rates during the years the percent plan was in effect, which resulted in their having a reduced presence at the state's flagship institutions compared to years when affirmative action was in place. These analyses are particularly important because descriptive reviews of admissions rates that do not account for the demographic growth of groups such as Hispanic students instead provide a portrait of increasing higher representation of this group than would otherwise be reported with appropriate statistical procedures. Said differently, ignoring the dramatic changes in the high school graduate population gives the appearance of substantially restoring access for students of color to levels before the percent plan, when, in reality, for a much larger population and share of students of color, it has actually declined.

While statewide analyses of the effects of the percent plan have yielded negative results on the use of this admissions alternative as a replacement for affirmative action, the analysis of one district in Texas employing a regression discontinuity design found some limited influence of the percent plan on college enrollment in flagship institutions in Texas for both White and minority (defined in the study as Asian, Black, and Hispanic) students. The results are tempered by the fact, however, that the study only considered one large urban district and found the strongest impacts only for students who attended high college-sending high schools (Daughtery, Martorell, & McFarlin, 2012). That is, any effect of the percent plan on flagship enrollment is concentrated in high schools that already send high percentages of students to college. In contrast, data from this large district show that the percent plan does not have an effect on students who attend the most disadvantaged high schools. In a state where underrepresented minorities are concentrated in low-achieving segregated schools (M. C. Long & Tienda, 2008; Niu & Tienda, 2010), other state and national studies, including similar schools (e.g., Adelman, 2006; M.C. Long, Iatarola, & Conger, 2009), identify a low probability that they will adequately prepare students equally for four-year institutions.

Interestingly, the analytical attention given to the Texas TTPP has not been seen in other states due primarily to issues of data availability stemming from the coordination of statewide data systems and the linking of the K-12 sector to that of the postsecondary sector. Much of the work on California, for example, has focused on the effects of state bans on affirmative action, primarily Proposition 209 (Grodsky & Kurlaender, 2010). In Florida, the work remains largely in the form of descriptive statistics, preventing a clearer understanding of the performance of the Talented 20 program.

### **Are Alternative Admissions Plans Efficient?**

Building on work in the areas of taste-based discrimination (Becker, 1971), statistical discrimination (Arrow, 1973; Phelps, 1972), and the effects of affirmative action in the labor market (Coate & Loury, 1993; Lundberg, 1991), Chan and Eyster (2003) examined whether a ban on traditional affirmative action practices at a highly selective public institution in California equalized the applicant pool by failing to give minority students the advantage of admitting them with lower test scores. Using administrative data within a framework of efficiency, the authors determined that adopting an admissions rule that ignores standardized test scores and other measures of academic ability, traditionally identified by admissions officers for all applicants, is inefficient because doing so does not select the best candidates from any ethnic group (Flores & Oseguera, 2013). Said differently, admissions rules that partially ignore qualifications yield less-qualified candidates than an affirmative action rule that yields similar diversity but more-qualified candidates.

Using data from the 1989 College and Beyond data set, Fryer, Loury, and Yuret (2008) provided another experiment on what they call the limits of race-neutral approaches (Flores & Oseguera, 2013). Student outcomes were analyzed under three regimes: a color-conscious approach (authors use *color-sighted*) that uses traditional affirmative action practices, a color-blind approach equivalent to a race-neutral approach that incorporates proxies for race and ignores other measures of academic ability, and a laissez-faire approach that essentially does not incorporate affirmative action practices but operates more like a cutoff score, whereby applicants who meet a particular standard are admitted, and those who do not are not admitted. Similar to the work of Chan and Eyster (2003), Fryer et al. (2008) found that employing color-blind rather than color-sighted affirmative action resulted in a loss of efficiency, from less than one percentage point to just over six percentage points, depending on the college (e.g., differences in the size and location of elite institutions). In sum, the work of Fryer et al. (2008) suggests that firms (or organizations) constrained by a color-blind system (i.e., race neutral), yet still concerned with diversity, will employ rules that ultimately flatten the function that relates to a worker's (i.e., student's) level of qualification. Some less-qualified candidates will have a greater chance of being accepted, and some more-qualified candidates will face a lower chance of acceptance. The authors caution that such a practice may reduce a worker's (i.e., student) incentive of preparatory effort because of the loss of the benefit of this investment.

### **Do Purposeful Bans on Affirmative Action Reduce Student Participation of Underrepresented Minorities?**

Employing a four-stage college choice strategy utilizing data from the National Longitudinal Study of the High School Class of 1972, Arcidiacono (2005) presented one of the first analyses to structurally estimate an individual's decision on where to submit an application by modeling expectations on admittance, financial aid, and future earnings. The paper specifically evaluated the effect of eliminating race-conscious advantages in the admissions and financial aid processes, including future earnings, on Black students. Arcidiacono's four-stage model includes (a) students' choice of where to submit applications; (b) schools' decisions on admissions and financial aid; (c) students' choice of where, or whether, to attend a school based on the amount of financial aid offered and alternative options, which include opting out of college altogether and entering the labor market instead; and (d) students' decision to enter the labor market. Arcidiacono provided simulations using data from a time well before states banned affirmative action, and therefore, these simulations should be understood in this context. For example, the data Arcidiacono used looked at college entry in 1974, just a few years before the landmark Bakke decision, which clarified admissions practices in terms of race (*Regents of the University of California v. Bakke*, 1978). Admittedly, the cohorts of Black students applying to college in that earlier era were considerably smaller than current estimates of numbers of Black high school graduates, which reached a record number in 2009 according to the 2010 U.S. Census (Fry, 2011). Nevertheless, Arcidiacono found that removing affirmative action programs would have the greatest effect on the percentage of Black students attending top-tier schools. In some cases, the percentage of Black males attending colleges with an average SAT score above 1200 fell by over 40%. He found a more modest effect on the general distribution of total Black student enrollment; however, removing financial aid benefits related to race reduced the percentage of Black students who enrolled in any college as well.

Similar results can be found in an examination of the effect of the most recent bans of affirmative action on college admissions. The following analyses were used to examine these new political phenomena, which are increasing in number, on a national scale. Using a difference-in-difference strategy with Current Population Survey (CPS) and American Community Survey (ACS) data from 1995 to 2003, Hinrichs (2012) examined how state bans on affirmative action in California, Florida, Texas, and Washington affected college enrollment, educational attainment, and the demographic composition of universities. While there are numerous limitations with these data sources, in that it is impossible to account for precollege academic characteristics or the various stages of the choice process noted in other studies, there remains great value in the level of state representation in the CPS data and in the size of the ACS sample. First, Hinrichs found that while there was no effect from the bans on the typical student or typical college, the bans did reduce the enrollment of underrepresented minorities and increase White enrollment at selective colleges. Furthermore, in California in particular, there was a notable shift in where underrepresented minority (URM) students were attending college, from more selective to less selective campuses, confirming Arcidiacono's (2005) findings as well as predictions of a cascading effect found in various higher education news accounts (Selingo, 1999). Second, and of most relevance to this review, is the finding that such bans caused a significant drop in underrepresented student populations at the nation's most selective



colleges and universities. Such a finding should not be surprising because affirmative action policies in college admissions are the most relevant in highly selective colleges and universities.

To measure the effects of bans via an institutional effect approach, Backes (2012) employed data from the IPEDS. The author contributed to this wave of research on state bans despite having used aggregate-level data by attempting to account for state-level policies likely to affect college admissions, such as a high-stakes accountability system, a high school exit exam, and the presence of a percent plan. Backes found that fewer Black and Latino students enrolled at the most selective institutions as a result of the state bans. In short, the effects of affirmative action, as noted in previous studies, were limited to the nation's most selective colleges and universities. Also relevant to this review is the author's finding regarding enrollment shifts at private universities as a result of the state bans on affirmative action in college admissions. The study did not find an increase in minority student enrollment at private institutions in states with bans. In sum, a shift in the higher education landscape for traditionally underrepresented student enrollment in states with bans seems to be directed toward the lower-tier rather than higher-ranked institutions.

Utilizing another national data source, although with longitudinal student-level data, the National Educational Longitudinal Study of 1992, Howell (2010) provided simulation analyses which indicated that a nationwide ban on affirmative action would decrease minority enrollment nationally by 2% across all levels of selectivity in U.S. colleges and universities. When accounting for selectivity, however, the effect changes substantially. That is, implementing race-neutral admissions across the nation would decrease minority enrollment at selective four-year colleges by 10.2%. The effect is also not likely to be mitigated even by offers of financial incentives. Howell left some hope open in restoring some level of diversity through heavy recruitment of minority students but did not provide evidence on effective practices as this was not the intent of the study. Blume and Long (2014) provided similar results in a recent similar national analysis using a more updated national data set (although with implications that go beyond the banned affirmative action states of interest). The authors, unsurprisingly, found substantial declines in levels of affirmative action practiced in highly selective colleges in ban states. However, new to this area of literature is their finding that the decline in the use of affirmative action in such states also negatively affected students who live in adjacent states that lack highly selective colleges (e.g., Nevada, Arizona, and Idaho).

### **Empirically Guided Recommendations for Considering Percent Plan Implementation**

Justice Kennedy's majority decision in the *Fisher* case upheld the compelling benefits of diversity but also emphasized the obligation of universities to rigorously meet the expectations of narrow tailoring, specifically that institutions have an obligation to document "whether a university could achieve sufficient diversity without using racial classifications" (2016 *Fisher v. University of Texas at Austin*, p. 10). Specifically, universities were admonished by the Court in its rigorous expectation of universities having a narrowly tailored policy. Should institutional and state decision makers consider the ways in which alternative admissions plans to affirmative action, such as percent plans, might be incorporated into their higher education systems, we provide a set of empirically guided recommendations comprised from over a decade of rigorous social science research.

### **Understand and Forecast Your State and Institutional Context**

First, it is essential to acknowledge the demographic, economic, political, and broader context in which the discussion of race-conscious admissions is occurring and carefully consider the implications of that context on the potential success of an admissions plan. Furthermore, such information may prove useful in creating essential, target-related outreach, recruitment, and scholarship efforts. Finally, careful attention to context reflects the dynamic rather than static nature of the nation's college-age student population and reinforces a commitment to regularly review our outreach and recruitment efforts in particular. For example, this dynamic context is occurring across a number of states due to factors such as immigration, a surge in minority births, and the combination of more deaths and fewer births from the White population (Frey, 2013). Five jurisdictions now have majority-minority populations (California, Hawaii, New Mexico, Texas, and Washington, D.C.) and 14 have majority-minority child populations under the age of 5 (Arizona, California, Delaware, Florida, Georgia, Hawaii, Maryland, Mississippi, New Jersey, New Mexico, New York, Nevada, Texas, and Washington, D.C.). In addition, four jurisdictions contain over half of all foreign-born residents, and 14 others exceed the national

average share of the foreign born in the United States. State and institutional leaders would be wise to consider the forthcoming shifts in the K-16 population, the electorate, and other sociopolitical dimensions of their governing context. In summary, there are very different racial and ethnic compositions both between and within states that shape the possible kinds of diversity colleges can achieve and with whom they must be prepared to support effectively.

### **Carefully Consider the Effects of Race-Neutral Policies in Admissions**

The term *race-neutral* may be reflected in a broad array of admissions practices, which may need to be understood more precisely by institutions with regard to their effects in assessing their admissions strategies moving forward. Local practices, such as holistic review or test-based admissions, motivated by a variety of influences—including state bans as described earlier—need to continue to be carefully understood by institutional leaders. Multidisciplinary research across various state contexts, and the nation as a whole, to date has found that these alternative admissions plans do not reach or sufficiently restore the level of race and ethnic diversity present before the retraction of affirmative action, and knowing the outcomes of such decisions is a first step in understanding how to move into the future with other programming and policy decisions.

### **Broaden and Leverage the Concept of K-16 Partnerships, Especially in Recruitment**

Increasingly, states are turning toward legislated policies that seek to create a seamless flow for students from primary to secondary to tertiary education and a connectedness to the curricular experiences across grades and educational levels. Such a policy framework marks an important shift conceptually from traditional models, construing each of these educational levels as separate propositions and thus contributing to the continued stratification of educational opportunities and outcomes through the perpetuation of multiple and often competing levers of power and knowledge (e.g., Antonio, Venezia, & Kirst, 2004; Kirst & Venezia, 2004). In specifically enhancing admissions efforts then, such partnerships may enhance outreach as well as longer-term academic signaling. That is, the reform toward a seamless transition to higher education may induce students not likely to consider college; this possibility may translate into decisions by students to take more college-ready coursework to prepare them for the transition into the next sector of higher education. Such efforts have been documented already with regard to changes in curriculum choice in Texas (Domina, 2007), although the follow-through into college application behavior has had less success (Horn & Flores, 2012).

### **Thoughtfully Provide and Allocate Resources Across Multiple Tiers of Support Associated With Admission**

Institutions need to allocate resources to recruitment and retention carefully and connect them to the broader literature on what influences college choice. In particular, the empirical research suggests that substantial institution-driven resource allocation needs to be made with regard to enhancing student applications to the most rigorous institutions. Various research studies have documented the benefit of attending a more selective institution as it relates to college completion outcomes. Access-driven policies, however well intentioned, without the supports to apply or to persist in college are an incomplete formula for success, particularly in institutions with fewer resources and the capacity to support students, as compared to their better-resourced and more selective institutions.

### **Create Stakeholders for Access Teams Within a State**

Finally, it is important to recognize the strain this kind of effort puts on already limited university resources. Universities might seek to leverage current and ongoing efforts, particularly with regard to data collection at the state and national level, as well as to consider the formation of multistakeholder partnerships to take on these tasks. Organizations such as Marta Tienda's Texas Higher Education Opportunity Project at Princeton University and others serve as strong examples of the ways in which scholars, state officials, private foundations, and university leaders can work together to produce rigorous assessment that is useful in improving institutional decision making. With regard to data collection, the State Higher Education Executive Officers have provided a series of reports detailing the capacity of state data systems across the K-20 sectors, including workforce commissions. Understanding how to capitalize on a state's data capacity to create

stronger K-13 and higher education policy through such innovative data systems could lead to stronger and more creative policy development within a state and institution environment.

### Conclusion

Analyses of data over the last 12 years suggest two stories related to percent plans effectiveness, at least in Texas. First, the soaring numbers of the non-White population, particularly Latinos, among college-eligible students may be leading to inaccurate praise of not only the percent plan but other related state college enrollment policies as well. More accurate assessments of percent plan effectiveness that account for these demographic realities indicate that Latinos are less likely to go to college despite their heavily increasing share of the high school graduate population (Flores & Park, 2013). The second story of the percent plan in Texas is where eligible students choose to go to college. As noted, the data suggest that underrepresented students who are percent plan-eligible are more likely to enroll in a nonselective flagship institution, a choice likely influenced by concentrated disadvantages both economically and in the high schools attended (Harris & Tienda, 2012; Horn & Flores, 2012). That is, an admissions guarantee does not guarantee enrollment, and various data sources have pointed to this phenomenon to date.

In moving forward then, what this body of research on the percent plans requires one to consider is the balance in the relationship between the student and that student's personal context, the institution, and the policies that create opportunity. One of the fundamental issues policy makers and university leaders alike have to address is the underlying purpose(s) of admissions and how to assess whether those purposes are being met through the strategies being used. While those in the middle of percent plan implementation and those watching in the wings consider next steps, the paper ends with four simple questions to start the process. First, how can or will the implemented policy contribute to better and more meaningful connections between the primary, secondary, and postsecondary sectors? Second, in what ways does or can the policy address the broader factors that substantially influence access to college? Third, to what extent is a university or system willing to trade autonomy for transparency in college admissions and to what end? Finally, how are (or will be) outcomes of such policies defined, measured, and evaluated, and in what disaggregated contexts?

These simple examples, nestled in the broader empirical literature described, underscore the importance, then, of having a clear and shared policy and implementation understanding of disaggregation, where fine-grained income status and geography more complexly understood also proved important qualifiers to understanding policy success. Part of what will allow for this serious work to be done is to build, maintain, and put to use seamless data systems that connect preschool through college experiences and outcomes at the individual level and include adequate flags that let policy makers and educators carefully track the progress of all students through the full educational pipeline (Hoffman, Vargas, Venezia, & Miller, 2007). As the higher education community contemplates percent plans as possible mediators of the equity crisis, there is much to be learned from the case studies available in the United States, and much work left to be done to cultivate their success.

### Suggested citation:

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### 3. Two Decades After the Affirmative Action Ban: Evaluating the University of California's Race-Neutral Efforts

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In this study, we examine the issues raised by the Supreme Court's decision in the 2013 *Fisher v. University of Texas at Austin* case. The decision permitted affirmative action but required colleges challenged by students claiming discrimination to show that they could find no feasible way to achieve the needed diversity without considering race, among other factors,

in the admission process. This paper provides a case study of the efforts and outcomes of the race-neutral alternatives that were developed and implemented in the University of California (UC), the nation's largest system of research universities, in the wake of the loss of affirmative action. In spite of high investments of both human and financial resources in many areas, the UC has never recovered the same level of diversity that it had before the loss of affirmative action nearly 20 years ago—a level that, at the time, was widely considered to be inadequate to meet the needs of the state and its young people. It has never come close to a student body representing the state's population.

**Keywords** Affirmative action; *Fisher v. University of Texas at Austin*; admission policies; diversity

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### Setting the Context

In this paper, we analyze the University of California (UC) as a case study and its various race-neutral alternatives to affirmative action. Because California was the first state to adopt race-blind alternatives in the face of the loss of affirmative action, it has the most extensive experience and data on the results. In 1996, California voters passed Proposition 209 (Prop 209), a ballot initiative that prohibited affirmative action in university admissions, student financial aid, and in-state hiring as of 1998 (Cal. Const. art I. § 31). One year earlier, the UC regents passed a special resolution (known as SP-1) prohibiting affirmative action within the university.<sup>3</sup> Both bans took effect at the undergraduate level in 1998. In this paper, we simply refer to Prop 209 except in cases where the regents' ban took effect prior to the state ban (Geiser, Ferri, & Kowarsky, 2000; Orfield, 1998).<sup>4</sup>

Many progressive legislators and other stakeholders were swift in denouncing the ban and called for negative budget actions against the university in its wake (although the UC president and all nine chancellors in the system opposed the policy the regents adopted). The new policy was an apparent violation of the Organic Act, which established the UC in 1868, and stated:

... it shall be the duty of the regents, according to population, to so apportion the representation of students, when necessary, that all portions of the State shall enjoy equal privilege therein. (Organic Act, 1868, Sec. 14)<sup>5</sup>

Clearly, all portions of the state were not enjoying equal privilege with respect to access to the university, and many believed the ban would exacerbate an already inequitable situation.<sup>6</sup> Even before the ban, there had been deep concern about the underrepresentation of Latino, African American, and American Indian students in the state, which had led to a new admissions policy only seven years earlier in which the UC regents declared:

The University seeks to enroll, on each of its campuses, a student body that, beyond meeting the University's eligibility requirements, demonstrates high academic achievement or exceptional personal talent, and that encompasses the broad diversity of cultural, racial, geographic, and socioeconomic backgrounds characteristic of California. (University of California [UC] Board of Regents, 1988, p. 1)

Gaining access to the UC for talented minorities is not just an issue of equity; the costs of *not* attending a UC are high for both individuals and the state. It matters greatly where a student attends college. Students who go to the less selective four-year public campus have only about a 45% chance of completing a degree in six years compared to a UC-wide average completion rate of 80% and a completion rate for UC Berkeley and UC Los Angeles (UCLA) between 88% and 90% (California Postsecondary Education Commission, 2012). If students of color begin in a community college, best estimates are that only about 17% will actually transfer to a four-year college, and fewer will receive a degree (Gándara, Alvarado, Driscoll, & Orfield, 2012). Even controlling for prior grades and test scores, students who go to more selective schools complete degrees at much higher rates than those who attend less selective institutions (Alon & Tienda, 2005; Bowen & Bok, 1998).

It was therefore in this context that the UC decided to address the limitations imposed on its admissions process by Prop 209 with a series of race-neutral alternatives.

### Conceptual Framework: *Fisher* and Race-Neutral Alternatives

In a 7-1 ruling in the *Fisher v. University of Texas at Austin* case (2013), the Supreme Court accepted as given the Court's existing precedents permitting affirmative action, including *Bakke* (438 U.S. at 313, 1978), *Gratz v. Bollinger* (2003), and *Grutter v. Bollinger* (2003). The *Fisher* majority then held that the lower court had erred by not correctly applying *Grutter* with respect to the analysis of *narrow tailoring*—which refers to the university's burden of proving that the means it chose to attain diversity ensures that applicants are evaluated in a holistic manner and that the consideration of race is the minimum necessary to achieve the university's goal of achieving the educational benefits of diversity.

Training leaders is an important goal of educational diversity. In *Bakke*, Justice Powell emphasized that the “nation's future depends upon leaders trained through wide exposure’ to the ideas and mores of students as diverse as this Nation of many peoples” (539 U.S. at 324, 1978) and, moreover, the *Grutter* Court declared:

[U]niversities, and in particular, law schools, represent the training ground for a large number of our Nation's leaders . . . In order to cultivate a set of leaders with legitimacy in the eyes of the citizenry, it is necessary that the path to leadership be visibly open to talented and qualified individuals of every race and ethnicity. All members of our heterogeneous society must have confidence in the openness and integrity of the educational institutions that provide this training. (539 U.S. at 332, 1978)

In California, with four major racial groups and rapid demographic change, severe racial inequality, and intensely segregated and unequal public schools, this need has special urgency (Orfield & Ee, 2014).

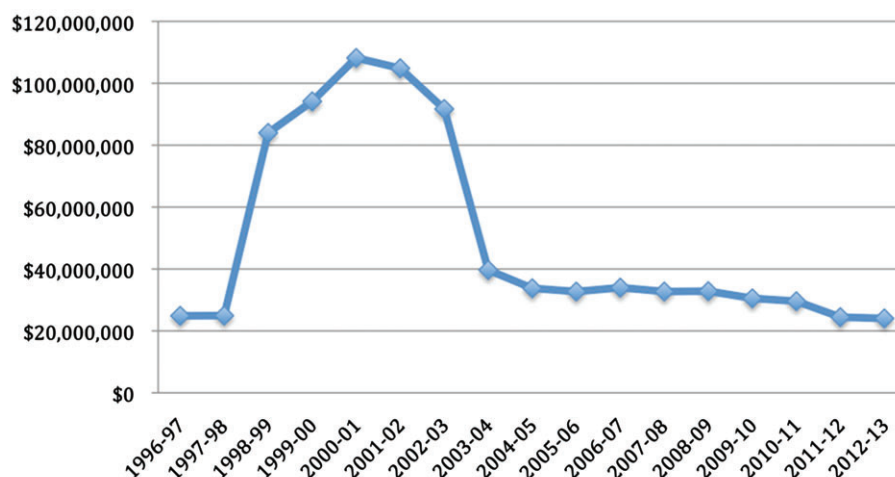
### Outreach and Academic Preparation Programs

The UC regents' July 1995 resolution banning affirmative action also required the UC to form a task force composed of members of the business community, the university, other segments of education, and organizations currently engaged in academic outreach to recommend ways to increase the preparation and enrollment of educationally disadvantaged students. The task force report, in 1997, laid out a four-pronged strategy to increase the diversity of the university undergraduate population through *outreach* (University of California Outreach Task Force, 1997, pp. 3–4). In order to increase diversity through race-neutral means, the report recommended that UC (a) expand the existing student-centered programs; (b) invest in new partnership programs that would bring 50 underperforming high schools and their feeder schools into partnerships with local UC campuses to help strengthen their academic offerings and effect whole school reform; (c) expand informational outreach; and (d) create a research and evaluation team, composed in part of UC faculty, to oversee the progress of the outreach efforts (Geiser et al., 2000).

A major expansion of outreach was immediately instituted, with the university doubling its outreach expenditures from \$60 million annually to \$120 million (Karabel, 1998). The objective was to work directly with the high schools that served high percentages of URM students in order to double the numbers of eligible URM students. The search for alternatives had strong political support. Under legislative pressure, the UC proposed to redouble its efforts in outreach to gain back lost ground (Gándara, 2005). At the programs' height in 1999–2000, expenditures on outreach from both state and university funds were in the range of \$110 million (in 2011 constant dollars). However, this level of funding would be short-lived (see Figure 3.1). This funding dynamic underlies what one of us has called *the politics of forgetting* that surrounds the erosion in state financial contributions post-Prop 209 to UC's academic preparation and outreach programs for disadvantaged K-12 youth in California (Gándara, 2005). In inflation-adjusted dollars, the State of California's overall contribution to UC (on a per-student basis) plummeted by more than half since 1990—from \$18,040 per student in 1990–1991 to \$13,870 per student at the time of SP-1 and Prop 209 (1995–1996) and only \$8,280 per student in 2014–2015 (UC Board of Regents, 2014). This is a characteristic pattern in the United States and creates a limit regarding the feasibility of funding extensive race-neutral alternatives.<sup>7</sup> As this study shows, there is a high cost to recruiting and preparing even a small fraction of potentially eligible students, and universities cannot rely on their state legislatures to continue supporting these efforts when state resources are constrained.

Expenditures on academic preparation programs came to over \$61 million in 2014–2015 at the UC (University of California Office of the President [UCOP], Diversity and Engagement, 2015), a significant amount of money, yet only slightly more than half the level of spending compared to 2000 when all funds were provided by the state general fund





**Figure 3.1** University of California Student Academic Preparation and Educational Partnerships (SAPEP), state and university budgeted funds in 1996–1997 to 2012–2013 (in constant 2011 dollars).

and the university. Over the last decade, many of the nation’s most prestigious public universities have faced similar, and even worse, reductions in state funding. This is a cautionary note for any institution depending on state funding for its diversity efforts and a major barrier to the feasibility of substantially expanding programs.

Some notable aspects of the strategies recommended by the task force in 1997 included increasing informational outreach, a problem that was well documented in the final report of the UC Latino Eligibility Task Force (1997), as a result of a survey that found a gross lack of information in the Latino community about how to apply and pay for a UC education, a problem that continues to this day. The task force report also recommended working with 50 underperforming schools (and their feeders), which meant effectively working with fewer than 5% of the state’s high schools—a small drop in a big bucket of underperforming schools. Finally, while these recommendations were referred to as *outreach* efforts, suggesting a need to simply establish better contact with diverse communities, it became increasingly apparent that education in California schools would require far more than outreach. In 2005, the Academic Outreach Program was renamed the Student Academic Preparation and Educational Partnership (SAPEP), reflecting the goal of attempting to equalize some of the vast disparities in academic preparation that are experienced by low-income and underrepresented students in California.

The challenge of preparing African American and Latino students for a highly competitive admission process when they are so unequally distributed across the state’s schools is evident from viewing Figure 3.2. Here, we show the racial and ethnic distribution of students by deciles on the state’s academic performance index (API), the accountability measure that ranks all schools in the state according to student achievement test scores from lowest (1st decile) to highest (10th decile).

While two thirds of all Latino and African American students are found in the lowest-performing half of the state’s schools, a much smaller percentage of White and Asian American students attend these schools, and those Asian Americans who are in the lower-performing schools tend to be low-income Southeast Asians (Orfield, Kucsera, & Siegel-Hawley, 2012). The more shocking story, however, is told in the percentage of each group found in the topmost decile—the highest performing schools in the state. These are the schools that prepare the bulk of incoming UC students. Here is where one third of all Asian American students are found and one in five of all White students. Yet barely 3% and 4% of Latinos and African Americans are in these schools. A number of studies have documented school segregation patterns in California (e.g., Orfield et al., 2012) and the related challenges unequal K-12 educational opportunities pose for UC and other higher education enrollment (Bonous-Hammarth, 2012; Martin, Karabel, & Jaquez, 2005). Thus, the SAPEP programs are effectively charged with addressing the enormous disparities in academic preparation that URM students receive prior to applying to college.

Figure 3.3 illustrates the profound magnitude of the educational pipeline challenge in California, particularly for underrepresented minorities. Out of a base of nearly 314,000 URM public high school ninth graders, less than two thirds graduated from California high schools in 2010, and among those URM students who did graduate from high school,

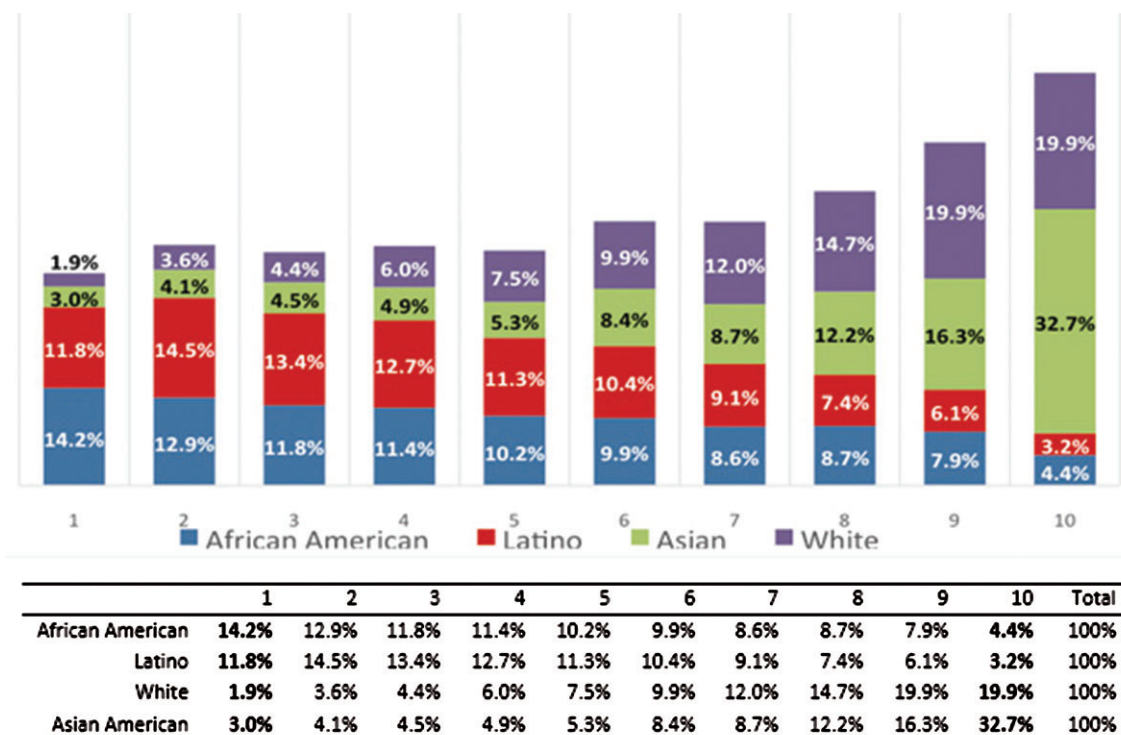


Figure 3.2 Distribution of racial/ethnic groups among California's K-12 public schools by API decile, 2011–2012.

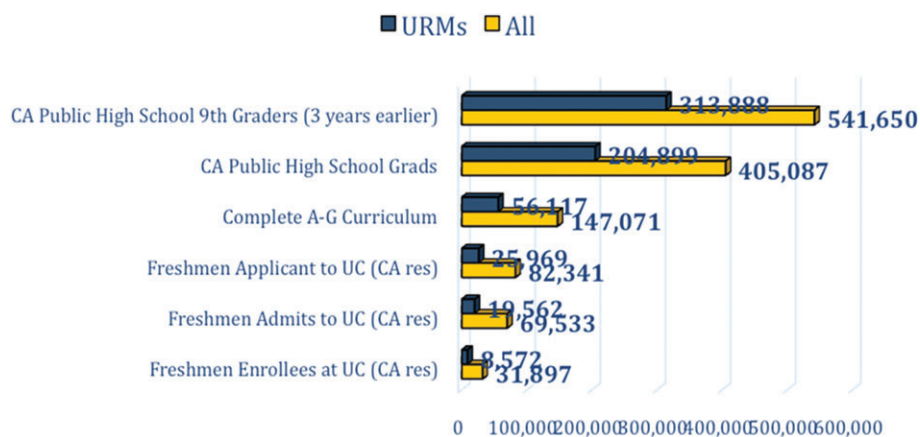


Figure 3.3 California's K-12 to college pipeline, 2010. CA = California, res = resident, UC = University of California, URM = underrepresented minority.

only 27% had completed the A-G college-prep curriculum required at UC and Cal State campuses. Among those URM students completing A-G courses in California, only 15% enrolled as freshmen on a UC campus. All told, out of every 100 African American, Latino, and American Indian public high school ninth graders in California in 2007, only 2.7 eventually enrolled as UC freshmen in 2010. Figures in the 1990s era were similar (Allen, Bonous-Hammarth, & Teranishi, 2002, Figure 2), hence the dramatic need for programs, procedures, and policies that help level the academic playing field for underrepresented students in California.

### Academic Preparation Programs

The UC operates three primary SAPEP programs at the system-wide level: Early Academic Outreach Program (EAOP), the largest of the three programs, which served more than 37,000 students in 2013–2014; Math, Engineering, and Science

Achievement (MESA), which served slightly more than 17,000 students in 2013–2014; and Puente, which served a little more than 5,000 students in the same year. Combined, the programs served a little more than 59,000 students in 2013–2014.

An important limitation regarding the discussion of EAOP, MESA, and Puente below is the general paucity (with limited exceptions, e.g., Grumbach & Chen, 2006; Quigley 2003a) of available studies adopting quasi-experimental designs or other robust matching techniques so that participants and nonparticipants (at the individual and school level) are truly comparable with regard to background characteristics (which would support causal inferences about program efficacy). As many academic and out-of-school factors affect academic performance, and students often experience more than one intervention, such research is extremely complicated and very expensive to conduct; it is rare that funders are willing to support such studies, especially in the face of inadequate funds to deliver the program.

### ***Early Academic Outreach Program***

EAOP was established in 1976 to help underrepresented students navigate the college-going process and better prepare for postsecondary education; it has a presence at all 10 UC campuses and currently partners with 194 schools, approximately half of which are middle schools and half high schools. EAOP focuses on four broad program areas—academic advising, academic enrichment (e.g., tutoring, summer classes), college entrance exams (e.g., orientation and preparation programs), and college knowledge (e.g., informational workshops and programs geared to parents). All campuses provide academic advising, and most campuses provide some form of the other three program areas, although the nature and content of these programs varies by campus. Given that California has one of the highest K-12 student to counselor ratios in the nation—approximately one counselor for every 800 students (Frey, 2012)—and that too few of these counselors actually have any knowledge of college counseling (McDonough, 2005; Oakes et al., 2006), this advising function fills a critical void in the schools that are served. Nonetheless, no more than 8% of the high schools in the state are touched by EAOP, and that number is declining. Over the 5 years, from 2007–2008 to 2011–2012, the number of EAOP partner schools statewide decreased by over 40%, and the number of students served decreased by nearly 30%, from 43,000 to about 30,000 (Caspary, Bland, Aladjem, Miller, & Biscocho, 2013), although the university reported an increase in students served in 2013–2014, to 35,000, as the state’s economy began to pick up (UCOP, Institutional Research and Academic Planning, 2015). Nonetheless, EAOP has had to cut back on the suite of services provided and the amount of time that staff have to work with students.

EAOP recruits students somewhat differently at each campus, but overall, the emphasis is on recruiting students who are on track to be eligible for admission to the UC. Most of these students will not ultimately enroll at a UC campus, but most students in the program will be performing well (average of 3.2 GPA) in school (UCOP, Institutional Research and Academic Planning, 2015). The program has shied away from taking on students who are performing at levels that would not qualify them for four-year college admission in an attempt to focus its limited resources on those students who are most likely to become eligible. Thus, EAOP students are different from the average California high school graduate.

The most recent external evaluation of EAOP shows that the program is meeting most of its goals and may have an impact on the completion of college preparatory courses, college-entrance exam taking, and—most importantly—matriculation in college compared to non-EAOP students with similar grades and students statewide (Caspary et al., 2013). While this study attempted to match EAOP students with non-EAOP students in the same schools that had similar ninth-grade course-taking patterns and grades overall and in college preparatory courses and also matched to similar students at non-EAOP schools (see Appendix A), there are limits to these approaches because the groups can potentially be dissimilar in unmeasured characteristics such as motivation (see also Quigley, 2003b). Because students who are selected for the program tend to be the neediest and can differ in important ways from all students, the evaluation was not able to determine with certainty what the specific impact of EAOP was on its participants. However, EAOP has experienced a modest increase in its success in getting students to enroll in postsecondary institutions since its baseline year 2004–2005 when 67% of participants matriculated to college. In 2014, 69% of EAOP students entered a state two- or four-year college after graduating high school (UCOP, Institutional Research and Academic Planning, 2015). Of course, it is important to note that most EAOP students are selected on the basis of meeting fairly high standards of academic achievement *prior* to being enrolled in the program. Current estimated per-student costs of the EAOP program are \$197 (UCOP, Institutional Research and Academic Planning, 2015).

### ***Mathematics, Engineering, Science Achievement (MESA)***

MESA, like EAOP, seeks to help students prepare to go to college but with a special emphasis on math/science. MESA first began in California but has expanded to separately run MESA programs in eight states, mostly in the west (Contreras, 2011). MESA has seen a significant decline in the students it is able to serve, from more than 20,000 in 2012 to just over 17,000 in 2013–2014 (UCOP, Institutional Research and Academic Planning, 2015). Five UC campuses currently participate in MESA, and the UC Office of the President hosts the statewide MESA office. The numbers of students served and the types of services provided vary widely across the school programs, but in order to be selected for the program, MESA students should show an aptitude and interest in science and mathematics. One third of its participants are not underrepresented students, and participants tend to come from a wider range of schools than EAOP, including some high-performing schools with lower percentages of underrepresented students UCOP (2013). There has been no recent external evaluation of the MESA program, so outcomes for MESA are limited to a tracking of the goals that the program has set out for itself in coordination with the SAPEP framework and UC's reporting to the California legislature.

In collaboration with industry partners, MESA provides rigorous academic development that includes mathematics and science curriculum based on the California mathematics and science standards as well as individualized academic planning, study-skills training, career exploration, parent involvement, and professional development for mathematics and science teachers. It sponsors statewide competitions and closely monitors students' course taking and preparation for college. MESA has also experienced budget cuts over the last decade but has continued to meet most of its goals and reports strong program outcomes. For example, while the program has a goal that 67% of 10th graders in the program will have successfully completed Algebra 1, in 2014, 92% had completed this course. Similarly, the baseline (at 2004–2005) percentage of 12th grade completers among MESA students with all required college preparatory courses was 54%, but by 2014, that percentage had risen to 77% (UCOP, Institutional Research and Academic Planning, 2015). MESA students have twice the level of completion of the required courses for university admission than the statewide average for all students (California Department of Education, 2014), but it must be kept in mind that participants are carefully selected to be on track for science, technology, engineering, and mathematics (STEM) enrollment in colleges, and outcomes are reported for those students who are still in the program in Grade 12. That is, students who have fallen by the wayside are not counted in these numbers.

MESA reports that 72% of its participants in 2013–2014 went directly to college after high school graduation, and it has the highest percentage of students in all the SAPEP who matriculate into the UC, about 23% (UCOP, 2015, Figure 10).<sup>8</sup> Of MESA high school graduates, 53% chose STEM college majors in 2012, the last year for which we have these data.<sup>9</sup> The UC Office of the President has calculated the per-student cost of MESA to be \$141 (UCOP, Institutional Research and Academic Planning, 2015).

MESA also operates a relatively small community college program, which operates in 34 community colleges and targets STEM majors and helps them to transfer to four-year colleges and universities. Of the more than 4,300 students served by the program, 726 transferred to a four-year college or university in 2012, almost half (45%) to the UC (and 46% to Cal State), and virtually all transferred as math/science/engineering majors.

### ***Puente***

Puente actually operates two programs: the high school program serves 34 high schools and about 5,000 students in California, and the community college program serves 62 community colleges (more than half of the state's 112 community colleges) and almost 8,000 students. The program, first established in 1981 at the community college level, expanded to high schools in 1983 using the same basic model. Puente focuses on English language arts skills, particularly reading comprehension and writing—two skills that were identified by its creators as key to college success, but often underdeveloped in Latino students. It also incorporates a strong counseling component. Puente originally targeted Latino students, but with the passage of Prop 209 in California, it was required to open the program to all students. Still upwards of 80% of the enrollees are Latinos as the program also focuses on Latino literature and local cultural resources in its curriculum. Puente also assigns a specific counselor to its cohorts of students, and the counseling component is as equally important as the classroom instruction. Puente consciously selects its participants from a broad range of achievement levels, operating on the philosophy that the weaker students will be brought up by the stronger ones. It only asks that counselors



select students who demonstrate a real desire to go to college. Of course, as students are selected independently at each individual site, it is difficult to know how stringently the criteria for acceptance are adhered to.

The high school Puente program was evaluated between 1994 and 1998 in an attempt to ascertain if the community college model was, in fact, transferable to the high school setting and if Puente students would outperform similar students who had not been enrolled in the program with respect to college going. This study found that Puente effectively doubled the college-going rate for its participants compared to a matched group of students from the same schools; however, potential sampling bias and small sample size also limit the firm conclusions that can be drawn from this study (Gándara, 2002).<sup>10</sup>

In 2014, Puente reported that 69% of its approximately 1,000 high school graduates went on to a four-year college (approximately 25% to CSU, 10% to UC, and nearly 30% to the community colleges). The balance went to private/out-of-state colleges (UCOP, 2015). Puente also met all its target goals with respect to ensuring students took the necessary college preparatory courses and entrance exams. The enrollment rates to UC for Puente high school participants have been generally consistent in the years since 2005 (10–12%). For community college students, Puente argues that it strengthens notoriously low persistence rates in community college, with 83% of Puente students continuing after one year in the program, compared to 71% who were nonparticipants, as reported by the state's community college system. In 2012, 418 Puente students transferred to four-year colleges.<sup>11</sup> State officials were unable to provide any information on the race of these students. The Office of the UC President puts the annual cost of Puente at about \$157 per student (Blumenstyk, 2015).

### ***Other Student Academic Preparation and Education Partnership Programs (SAPEP)<sup>12</sup>***

There are several other smaller programs that operate under the auspices of the UC and that it considers in its SAPEP family. Declining state general funds for SAPEP programs means that the ensemble of smaller programs receiving funding has evolved considerably over the last decade or so.<sup>13</sup> A total of 15 programs are listed under SAPEP, and these programs provide various services but do not directly assist high school or community college students in matriculating to the UC. These additional programs also include Student Initiated Programs (SIP) in which UC students work with K-12 students in a variety of ways, including academic workshops, campus tours, and tutoring; online courses; after-school programs; and school partnership activities. About \$6 million is spent annually on SIP across the 10 UC campuses. In sum, all of the SAPEP programs endeavor to help students prepare for postsecondary or graduate education, but it is impossible to know how many of those students ever find their way into the UC or if the program played any significant role in the cases where students did successfully matriculate into a UC school. It is also worth noting that trying to disentangle the particular effects of any of the SAPEP programs on student outcomes is especially challenging. Because of the way the programs are structured, random assignment of students is rarely possible or desirable, and it is difficult, if not impossible, to determine what other influences or interventions the nonparticipant control students may have experienced.

### ***Issues in Assessing Costs and Benefits of Student Academic Preparation and Educational Partnerships (SAPEP)***

A persistent problem with data collection on intervention programs nationally—and UC programs are not an exception—is the lack of consistent data on *dosage* or *how much* of the program any individual student SAPEP receives (Gándara & Bial, 2001). Thus, numbers of students reported as *served* do not tell us just how much of the intervention the students were exposed to or how much staff time or other resources were dedicated to each of the participants or how much intervention is optimal within a range of program and fiscal constraints (i.e., the dose–response curve). Likewise, per-student costs of programs that are calculated with the total number of participants as the denominator may actually underestimate real costs if some portion of those students does not actually utilize many of the resources or does so for a very short period of time. Additionally, many programs rely on in-kind and other partner resources, such as contributions from the schools and colleges that are served by these programs and federal grants that are not calculated into the program costs. Thus, per-student cost figures cited should be considered to be a lower bound.

It is also notable that with the decline in resources over the years, the per-student costs have also declined, reflecting a declining dosage of the interventions. While the college-going yield has remained relatively stable over this period of resource decline, it is not known in what ways the contraction of resources has affected the longer-term outcomes for



students, the selection of participants, or the viability of programs. Getting any definitive answers to these questions would involve huge experiments carried out over years and controlling many other aspects of student experiences. No institution has the resources or the desire to run such programs as experiments, giving them to some randomly and denying them to many others who are otherwise similar. What we see is a combination of practical judgment and the realities of university budgets and state policies.

Because the UC is not allowed by Prop 209 to target underrepresented students through its SAPEP programs, it must cast a wider net. There is, of course, a certain irony in the fact that the programs were developed primarily to increase the diversity of the university, but it is not allowed to target the most underrepresented students.<sup>14</sup> Nonetheless, research over time has shown that by targeting the lowest-performing schools in the state, due to segregation patterns and clustering of disadvantages, one is to some extent able to capture students disproportionately from the most underrepresented groups. But these are rarely the schools that serve the students of color most likely to succeed at, or go to, UC. And there are particular challenges surrounding the use of race-neutral targeting factors for Native American students for reasons related to their geographic dispersion.<sup>15</sup> In the EAOP, MESA, and Puente programs combined, during 2011–2012, only 0.59% of students served were Native American, slightly *below* the proportion of Native Americans among public high school graduates in California (UCOP, Budget and Capital Resources, 2013). As the Court noted in *Fisher*, a consideration with evaluating race-neutral alternatives is whether such means can be implemented at a “tolerable administrative expense” (*Wygant v. Jackson Bd. of Ed.*, 1986, as quoted by *Fisher v. University of Texas at Austin*, 2013, p. 11). From the perspective of evaluating race-neutral alternatives in terms of efficacy in increasing the share of students of color enrollment and bang for the buck, SAPEP programs are not an efficient enough way to increase African American, Latino, and Native American student representation, notwithstanding the fact that these programs’ goals are valuable for their own sake.

Because the university cannot directly target students but only schools, many of the students who find their way into the programs are not underrepresented minorities, although this varies greatly by program and UC campus. For example, nearly one third of participants in the MESA program statewide are not underrepresented students, and only half of the nearly 2,400 students in UC Berkeley’s EAOP program are underrepresented (personal communication, UCOP, August 2013). For EAOP, almost one fourth (23%) of participants are not URM; Puente has the highest representation of URM students, with 87% in 2013–2014. Still, some 12% are not URM students (UCOP, 2015). Moreover, most students served by the university through its SAPEP programs will not apply to or enroll in the UC (enrollment rates to UC in 2011–2012 ranged from 10% to 23% for Puente, EAOP, and MESA, and it is not known what percentage of these were URM students). In fact, most students served by the university’s SAPEP will attend California community colleges where studies have shown that they are significantly less likely to obtain a BA degree (Gándara et al., 2012). Targeting segregated and impoverished schools that offer more limited opportunities on many dimensions means targeting students who are most likely to need intensive academic and financial support and least likely to be prepared for the challenges and costs at UC.

By implication, even though there is decent evidence that SAPEP programs are effective, it is also the case that SAPEP programs do not represent a satisfactory race-neutral alternative to affirmative action. Best estimates are that they touch less than 10% of the students who need or could profit from the programs and that the race-neutral selection mechanisms have required that programs serve many students who, for a variety of reasons, are not candidates for UC. Changing the mammoth scale of the higher education pipeline predicament in California—with the Golden State ranking 48th or 49th among the states in the proportion of high school graduates who enroll as freshmen at four-year colleges and universities—would require massive efforts (M. Brown et al., 2006; Geiser & Atkinson, 2013). Such efforts are clearly beyond the scope of any single institution.

The big three SAPEP programs—EAOP, MESA, and Puente—track specific numbers of students who enroll in post-secondary education directly from their high schools and the percentage of these that enroll in the UC system. EAOP estimates that about 1,050, or 17%, of graduating seniors who participated in EAOP in 2012 enrolled in a UC school; MESA estimates that 418, or 23%, of its graduating seniors found a place at a UC campus, and Puente reports that 95, or about 10%, of their graduating seniors entered a UC school in 2012. That is about 1,560 entering freshmen, and it includes some unknown number of non-URM students. Moreover, some undetermined subset of these students presumably still would have enrolled at UC without SAPEP.<sup>16</sup> These are extremely modest totals relative to the almost 39,000 freshmen who enrolled in UC schools in 2012 (see UCOP, Institutional Research and Academic Planning, 2015).

Many students who participate in these programs testify to the programs’ powerful impact, and there is little doubt that they play a very important role in the lives of many students. However, the impact of these programs on the diversity of

the freshman class across the UC system is harshly limited by larger realities in California's educational pipeline. Without these programs, the situation in the state's selective campuses would no doubt be even worse.

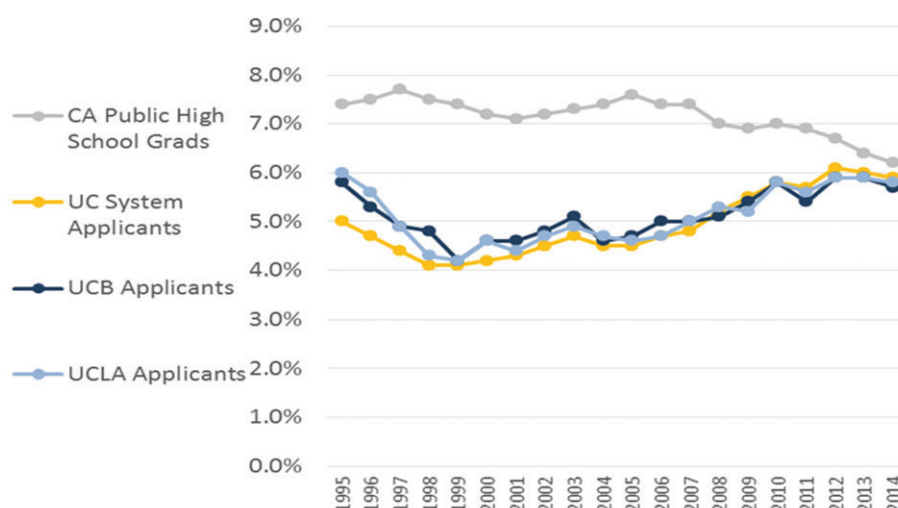
One of the tendencies in race-neutral programs, unsurprisingly, is a greatly diminished focus on race because it cannot be considered in admission. Increasing shares of students, mostly White, simply refuse to state their race in official papers, and the programs do not tend to report, or sometimes even to keep track of, their impacts by race. Ultimately, such trends could mean that programs designed to use race-neutral means to achieve the goal of racial diversity become so unfocused that it will be difficult or impossible to know their impact or to improve what is already an inefficient, complex, and costly way to pursue that goal. Ultimately, a program created to be a nonracial way to achieve diversity is undermined by the view that considering race in any way is illegitimate and can simply become a program in which no one keeps track of race. To some extent, this appears to be the case in the UC as no one appears to be keeping track of the race or ethnicity of SAPEP participants who go on to college. It is simply not known if the programs are disproportionately sending students onto UC who are from non-URM backgrounds, thus further advantaging the advantaged. It is hard to have a nonracial solution to a racial problem that starts with the policy that it is illegal to consider race as part of the process in selecting students. The many programs the UC has operated clearly have had this as the original goal, but the focus and accountability for attaining that goal have evidently diminished over time.

### Applications Have Soared After an Initial Collapse Among Underrepresented Minority Students

The research literature tends to find, although not unequivocally, that affirmative action bans decrease application patterns of underrepresented minorities. Two studies focusing on UC in the years immediately after Prop 209 reached divergent conclusions, with Long (2004a) finding there was a decline in application rates while Card and Krueger (2005) finding application patterns among high-credential URM students to be unchanged. Those two studies, while in respected journals, may be limited by reliance upon proxy data (data on where SAT scores were sent) instead of actual applications. The UC Outreach Task Force commissioned focus group research on college-bound high school seniors shortly after the UC regents' 1995 SP-1 resolution banning affirmative action and found that some URM students did not apply to UC because they perceived the ban as a signal they were no longer welcome at the university (Gándara, 2012; Geiser et al., 2000). Two other studies found that affirmative action bans depressed URM students' applications in Texas (Dickson, 2006) and in Washington (S. K. Brown & Hirschman, 2006). Consistent with earlier scholarship in the late 1990s about *chilling effects* (i.e., dampening of students' motivation to apply to institutions such as UC; Finnel, 1998; Karabel, 1998; Orfield, 1998), immediately after the bans were enacted but had not taken effect between 1995 and 1997, freshman applications to the UC system declined for African Americans (−7%), American Indians (−22%), Chicanos (−6%), and other Latinos (−5%) at the same time there were application increases for Whites (+13%) and Asian Americans (+11%; UCOP, 2014). At six of the eight UC campuses (including UC Berkeley and UCLA), there were what one might term *anticipatory chilling effects* in terms of relative freshmen application declines for underrepresented minorities in 1997 compared to a baseline of 1995.

Across this 17-year span (Figure 3.4), the first years after Prop 209 took effect (1998 and 1999) brought the nadir in terms of African Americans' proportion of the freshman applicants across the UC system. At UC, applicant proportions of African American students returned to 1995 (pre-209 and SP-1) levels. We believe these findings for African Americans are consistent with the chilling effect phenomenon documented in several studies. Chang and Rose (2010) have emphasized that URM applications to UC grew faster than non-URM applications in the decade after Prop 209; however, this is more likely a product of the surging proportion of Latino high school graduates and the declining proportion of White high school graduates in California (Marin & Yun, 2011).

Since the mid-1990s, all UC campuses have had rather dramatic increases in freshmen applications (see Appendix A for trends on each UC campus between 1995 and 2012). A portion of these increases are attributable to the fact that UC applications per resident have increased in part due to the ease of the online application. It is now very easy to apply to multiple campuses. UCLA currently receives more freshmen applications than any college or university in America. UC Riverside was described only a few years ago as nonselective and a safety net school (Chacón, 2008, p. 1227), yet because of the rise in applications and selectivity, by 2012, UC Riverside denied freshmen admission to approximately 10,800 California residents, close to the number rejected at the most selective campus, UC Berkeley, back in 1995 (11,700) on the eve of the affirmative action ban.<sup>17</sup> The rising California population and the failure to build more UC campuses<sup>18</sup> or to expand enrollment substantially has created enormous admissions competition.



**Figure 3.4** Proportion of African Americans: California public high school graduates and freshmen applicants (California residents) the University of California (UC) system, University of California Berkeley (UCB), and University of California Los Angeles (UCLA), 1995 to 2014.

### A Widening Gap in Admissions Rates

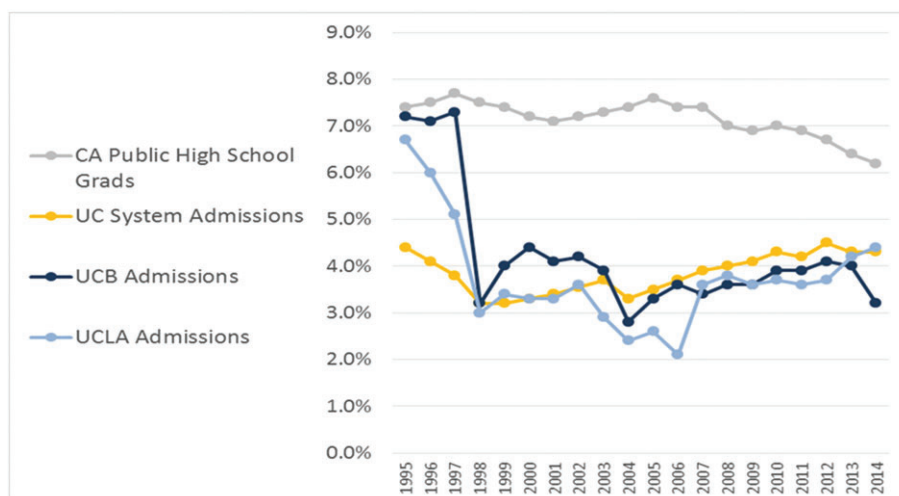
Across 16 years, for the UC system as a whole, the nadir (3.2%) in terms of African Americans' proportion of the freshman offered admission came in the first years of the ban. At UC Berkeley and UCLA, there were dramatic declines of 55% in admission offers to African Americans between the pre-Prop 209 baseline of 1995 and 1998 when Prop 209 was implemented (Gándara, 2012; Grodsky & Kurlaender, 2010a, 2010b). The low point for UC Berkeley was 2004 (2.8%)—the earlier chart also shows African American applications dipped in 2004 too—which may have been partly related to chilling effects stemming from the then-UC regents chairman's intense public criticism of UC Berkeley's admissions policy (Kidder, Serrano, & Ancheta, 2004).

For UCLA, the post-209 low point was reached in 2006, when the campus actually had the fewest African American incoming freshmen of any year since the early 1970s (Marin & Yun, 2011, p. 133; UC Study Group on University Diversity, 2007, p. 35).

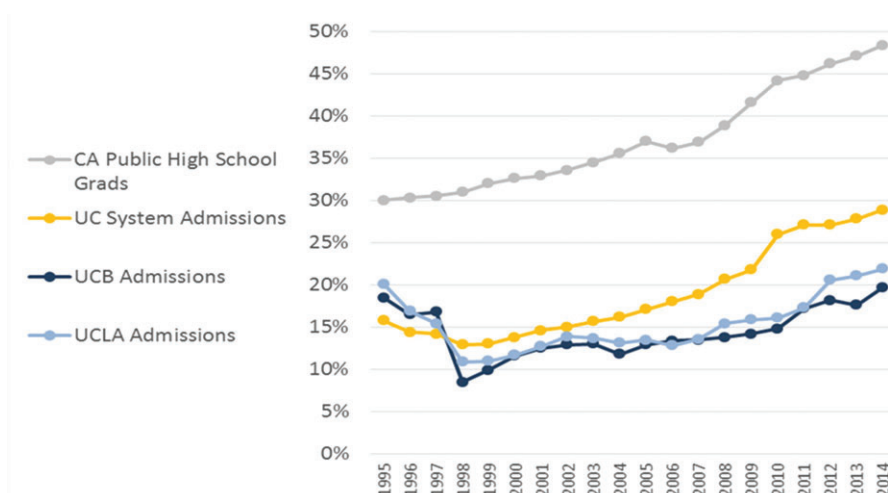
As a consequence of its discouraging outcomes in admissions, in 2007, UCLA adopted a more holistic approach to comprehensive review; that is, the admissions process began to take into account the greater context in which students were prepared—or not—for the university. The fact that UC Berkeley (which already employed holistic review) had slightly better African American admission numbers than UCLA for eight years (1999–2006) and that UCLA and UC Berkeley then had near-identical results in the years since 2007 (see Figure 3.5) provides natural experiment evidence that holistic review can make a modest positive contribution to diversity relative to other options that rely on a more formulaic use of test scores, grades, and other factors. This is not the same, however, as concluding that holistic admissions are a sufficient race-neutral alternative. Indeed, the data show that even all these years later and despite many robust efforts, at UC Berkeley and UCLA, the proportion of California-resident African Americans given freshmen offers of admission in 2011 was still 46% lower than 1995 levels.

The results for Latinos reveal some commonalities and some differences as compared to the patterns for African Americans. Figure 3.6 displays the percentage of Latinos among California public high school graduates and among freshmen admits to the UC system, UC Berkeley, and UCLA. The first year under Prop 209, 1998, marked the low point in Latino freshmen admission offers to the UC system (12.9%), UC Berkeley (8.5%), and UCLA (10.9%). Compared to the pre-Prop 209 baseline of 1995, by 1998, Latino admissions dropped by 54% at UC Berkeley and by 46% at UCLA. Moreover, over the decade and a half since Prop 209, Latino freshmen admission chances at UC Berkeley and UCLA were still below 1995 levels and only eclipsed 1995 levels in 2014.

For the UC system as a whole, the decline in Latino admissions between 1995 and 1998 was more modest (an 18% drop), and Latino representation returned to 1995 levels a decade later (2004). However, this gradual rise in Latino freshmen admissions on several UC campuses must be evaluated against the backdrop of California's distinctive and rapidly



**Figure 3.5** Proportion of African American students: California public high school graduates and freshmen admits (California residents) to the University of California (UC) system, University of California Berkeley (UCB), and University of California Los Angeles (UCLA), 1995 to 2014. (Data for the UC system, UC Berkeley, and UCLA are from UCOP [2012]. Data on California public high school graduates are from the California Department of Finance’s estimates [provided via UCOP]. High school graduate numbers for 2010 and 2011 are estimated.)



**Figure 3.6** Proportion of Latinos: California public high school graduates and freshman admits (California residents) to the University of California (UC) system, University of California Berkeley (UCB), and University of California Los Angeles (UCLA), 1995 to 2011. (See Figure 3.5 regarding data sources.)

changing demography. While advocates of affirmative action bans have used Latino numbers as proof of the efficacy of race-neutral alternatives,<sup>19</sup> such conclusions are spurious once one properly accounts for the profound growth in California’s pool of Latino high school graduates as the demography of the state rapidly changed (Gándara, 2012; Kidder, 2013b). Actually, the magnitude of the gap between Latinos’ proportion of public high school graduates and UC freshmen admission offers in 1995 was –14.2 points (30.0% vs. 15.8%) and widened to –23.9 points (48.3% vs. 24.4%) by 2014, including nonresident enrollees—an increasing phenomenon at the most competitive campuses. In fact, the gap has become a chasm. In a brief submitted by the university’s leaders in 2013, the officials noted that

... from 1995 to 2012, the percentage of public high school graduates who were Latino jumped from 30.0 to 46.2%. In other words, the growth in the number of Latino students, while substantial, is still far lower than one would

expect based on the number of Latino high school graduates in California (Brief of University of California President and Chancellors, 2013, p. 22).

This, of course, is truer than ever in 2015.

### Have Enrollment Outcomes Recovered?<sup>20</sup>

Figure 3.7 provides incoming freshmen enrollment proportions for African Americans, American Indians, and Latinos for each of the UC general campuses at intervals between 1995 and 2012. The data we present are descriptive statistics, not a causal model extracting the impact of Prop 209 from other concomitant trends at UC and nationwide. A couple of introductory points are worthy of mention prior to the analysis of the UC campus enrollment outcomes.

First, the gradual rise in Latino freshmen admissions and enrollments evident on several UC campuses must be understood in the context of robust growth in California's pool of Latino high school graduates, increasing from 31% of graduates in 1998 when Prop 209 first took effect to over 48% by 2014 (Gándara, 2012; Kidder, 2013b). California has now reached a watershed moment: Within the next few years, Latinos are expected to comprise the majority of graduates coming out of California public high schools. Access must be judged in relation to the state's changing population.

Second, there is a very recent (and relatively substantial) rise in the enrollment of international freshmen (and transfer students) on most UC campuses, which is particularly evident in the 2014 data. For example, in 2014, freshmen applications to UC from international students increased 62% from two years prior, which is part of a larger trend in American higher education that has both demand-side and supply-side dimensions (Choudaha & Chang, 2012). University officials acknowledge that while this shift has potential educational benefits in bringing more diverse international perspectives into the classroom environment, the primary driver of this phenomenon is the nonresident tuition paid by international students' families who pay much higher tuition. Domestic out-of-state students pay the same nonresident tuition at UC as international students, and there is an upward trend line on most UC campuses with domestic out-of-state students too (such students tend to be more affluent and less racially diverse than California resident students enrolling at UC) because of the same underlying financial dynamic (see e.g., Gordon, 2015).

In 2012 (the last year displayed in our charts below), it is estimated that about 25,000 (nearly one in 10) of the California residents enrolled at UC were *unfunded*, meaning that the State of California was not providing enrollment funding for such students (University of California [UC] Budget Office, 2012). This is a problem common across the United States. Faced with long-term disinvestment by the State of California, UC leaders have looked to enhanced enrollment of international undergraduates and domestic out-of-state students as a revenue strategy that is viewed as a more attractive path—at least compared to other bad options such as significantly tapering UC's institutional financial aid commitment to low-income California residents or seriously degrading its academic quality, or by lowering the costs and quality of undergraduate instruction through other means, such as fewer classes taught by ladder rank faculty, larger classes and discussion sections, or fewer faculty hired. While UC leaders have pledged to maintain enrollment commitments to *funded* state resident students, several campuses have decreased their unfunded California resident enrollment in recent years and swapped out these students with more international and domestic out-of-state students. This is, in essence, affirmative action for non-California students who pay much more and are ineligible for state aid. This dynamic has indirect and long-term implications for domestic racial diversity. Among all enrolled UC freshmen in 2014, underrepresented minorities represented 34% of California residents but only 6.3% of out-of-state students (UCOP, Institutional Research and Academic Planning, 2015). This shift to increasing the number of out-of-state students is driven by the state's much reduced share of per-student costs. Given the unequal distribution of income and wealth by race, these changes have significant negative impacts on overall racial and ethnic diversity. In fact, by taking into account the numbers of out-of-state and international students enrolled at UC in 2014, the percentage of URM students in the freshman class is reduced from approximately 34% to just 28.9%. This must be viewed in the context of a state in which more than 55% of its high schools graduates were URM in the same year (California Department of Education, 2014).

The most selective UC campuses are key examples of the importance of what the Supreme Court in *Grutter* described as the “path to leadership” (539 U.S. at 332) in American society. The most selective UC campuses are national leaders in producing the most BS/BA graduates who later earn science and engineering doctorates, including UC Berkeley (first in the nation), UCLA (10th), UC Davis (11th), and UC San Diego (13th; Burrelli, Rapoport, & Lehming, 2008, Table 3). UCLA and UC Berkeley are among the top handful of universities in the country producing the most applicants to U.S.



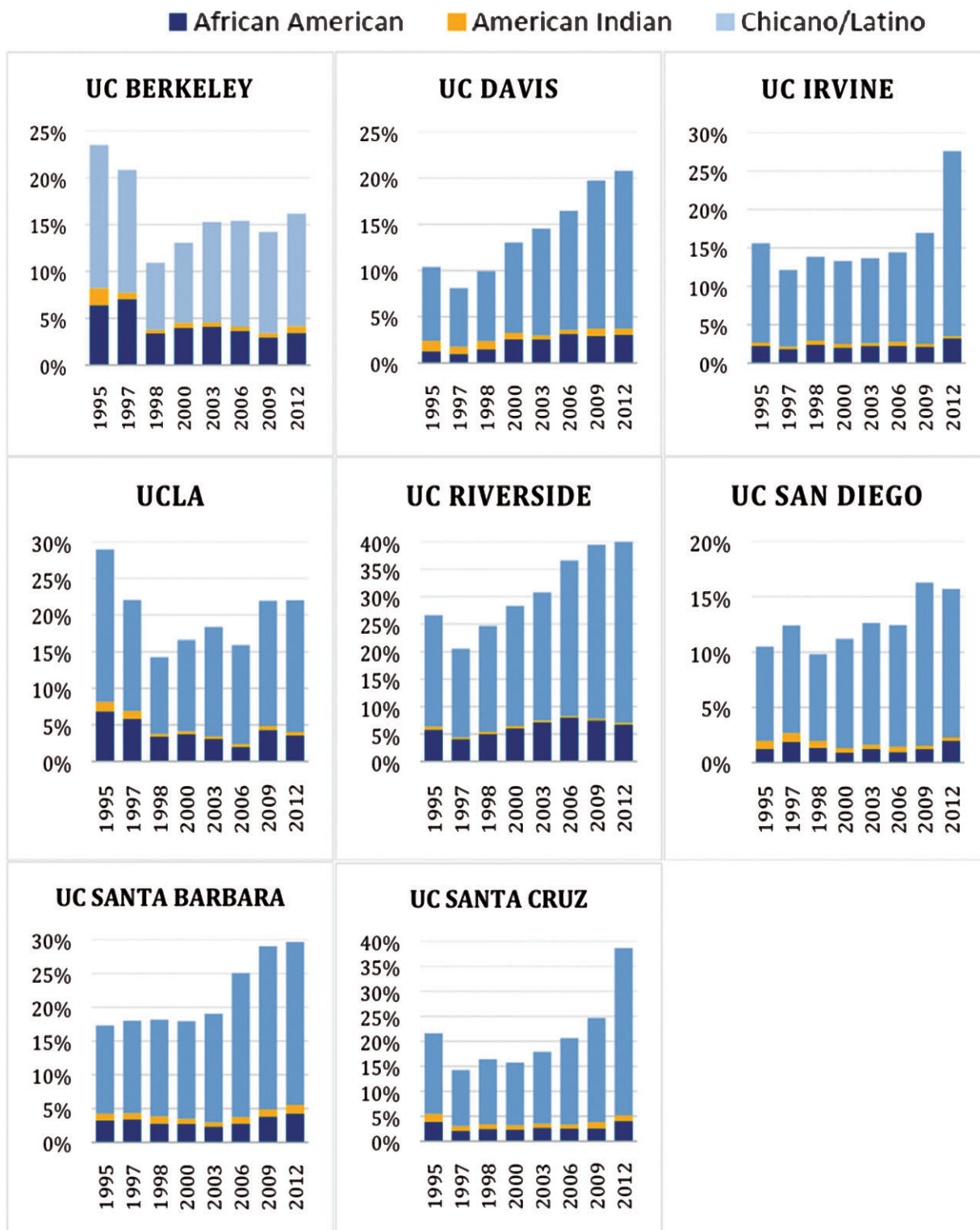


Figure 3.7 Underrepresented minority freshman enrollment at eight University of California (UC) campuses, 1995 to 2012 (note scale differences between UC campuses). Data from UCOP (n.d., 2013).

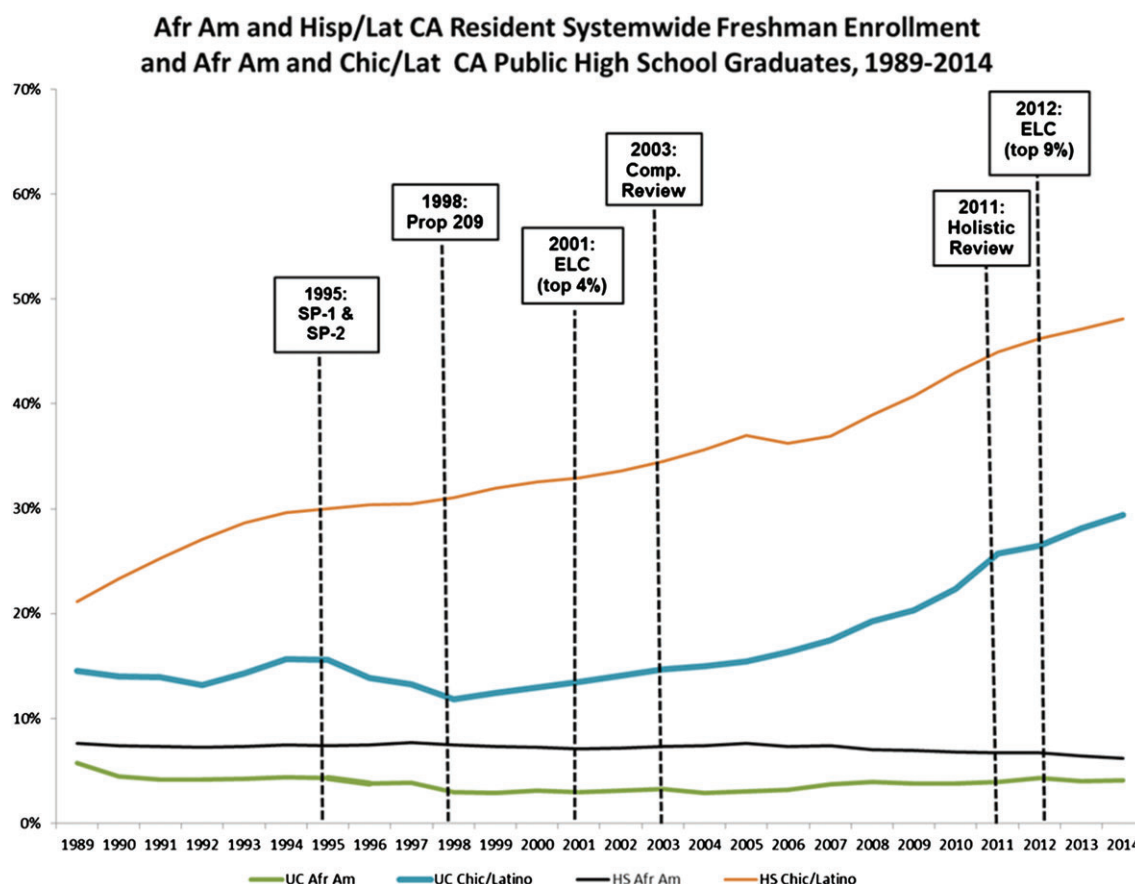
law schools (between 2008 and 2012, these two campuses together produced more law school applicants than the next four UC campuses—Irvine, Santa Barbara, San Diego, and Davis—combined; Law School Admission Council, 2013). Thus, for African American, Latino, and Native American students, the strong weight of social science evidence corroborates that access to America's most selective public research universities carries a host of long-term benefits, including higher graduation rates, better labor market success (earnings), increased likelihood of progressing to graduate or professional school, and leadership service.<sup>21</sup> A large body of educational research shows that affirmative action has a positive role in boosting African American and Latino college graduation by keeping open access to the most elite schools. (For a summary of this literature including UC graduation rates, see e.g., Alon & Tienda, 2005; Bowen & Bok, 1998; Kidder & Lempert, 2015; Kidder & Onwuachi-Willig, 2014; Kurlaender & Grodsky, 2013.)

The most negative impact of Prop 209 was at UC Berkeley and UCLA. At UC Berkeley and UCLA, the proportion of URM freshmen dropped by half in the wake of the passage of Prop 209. At Berkeley, it went from about 23% in 1995 to 11% in 1998—and even in 2012, the proportion of URM freshmen (16%) was still well below pre-Prop 209 levels. At UCLA, the proportion of URM freshmen went from about 28% in 1995 to 14% in 1998—and in 2012, UCLA's proportion of URM freshmen (22%) was still well below pre-Prop 209 levels. At UCLA, 2006 marked the lowest point regarding African American freshmen enrollment since the 1970s (in absolute numbers, not simply in the proportion of the entering class). Under such conditions, there is a heightened risk of racial isolation, tokenism, and negative stereotyping (e.g., in 2006 over half—17 of 35—of the African American male freshmen on the UCLA campus were scholarship athletes, National Collegiate Athletics Association, 2014). Before Prop 209, UC Berkeley, UCLA, and UC Davis enrolled the most American Indian students, and American Indian enrollments have never recovered in the many years since Prop 209 (see further discussion below regarding BA degrees for the UC system).

African American freshman enrollment levels at several UC campuses were already quite low before Prop 209 and have stayed low (or in some cases marginally improved) in the years since Prop 209—this pattern characterizes UC San Diego, UC Davis, UC Santa Barbara, and UC Santa Cruz. With respect to African American undergraduate enrollment levels, UC campuses are generally well below their peers in the Association of American Universities (AAU).<sup>22</sup> These AAU campuses (see Appendix A) have received the most attention in the affirmative action debate because of the key role they play in educating American leaders and the intense competition for admissions. UC San Diego (1.5%) is below 53 of 54 in African American enrollment among non-UC members of the AAU (Caltech, a unique institution at the extreme edge of selectivity with very demanding science-related requirements, is the only exception). UC Berkeley (2.7%) is below 50 of 56 AAU peers, and UCLA is below 46 of the 54 non-UC members of the AAU. Because many other states have significantly larger proportions of African Americans than California,<sup>23</sup> one should not overinterpret these comparisons. But it is true that UC Berkeley and UCLA met or exceeded the AAU's enrollment averages for African Americans before the ban. With the very small shares of African Americans on most UC campuses, students of other races have little opportunity for contact with African American students and their views in classes and dorms—key educational gains from diversity.

Our freshman enrollment charts above do indicate Latino gains on several UC campuses (e.g., UC Santa Cruz, UC Irvine, UC Santa Barbara), and more so in recent years (2009–2012) than in the years right after Prop 209. But the critical driver behind this upward trend is that in California, in a few years, Latinos will represent half of all public high school graduates, so even a declining chance for Latino students can produce a rising number on campus as so many more are graduating high school over time (Gándara, 2012). This is similar to Texas (Long & Tienda, 2008), another Sunbelt state with similarly unequal access to higher education. These two states have by far the largest Latino enrollments.

Because California is the most populous state, and the Golden State also includes the largest American Indian population of any state (U.S. Census Bureau, 2012, Table 2), how American Indians fared at UC after Prop 209 is an important and usually ignored question for policymakers evaluating race-neutral alternatives (Reynoso & Kidder, 2008).<sup>24</sup> The data in our charts above are consistent with national admission findings (Hinrichs, 2012)<sup>25</sup> regarding the negative impact of the affirmative action ban on American Indian freshman enrollment at selective universities. Perhaps the most troubling bottom line statistic for policymakers is that for pre-Prop 209 graduating classes in 1996–1999, the UC campuses combined to award 282 bachelor's degrees annually to American Indians (California Postsecondary Education Commission [CPEC], 2012).<sup>26</sup> A decade after Prop 209 (2007–2010), the UC system annually awarded an average of only 233 bachelor's degrees to American Indians, and that was despite the fact that the total number of UC's BA graduates grew by 43% from 1996 to the 2007–2010 period (CPEC, 2012). In summary, American Indians, as a percentage of all UC students earning BA degrees, declined by more than two fifths to one half of 1% of graduates over that span. One of the great dilemmas that



**Figure 3.8** Timeline with University of California (UC) resident freshman enrollment, high school graduates, and significant changes to UC admissions policy. Afr AM = African American, CA = California, Chic = Chicano, Comp = comprehensive, ELC = eligibility in local context, HS = high school, Lat = Latino.

universities face in finding these students is that most live off reservation but not in segregated areas where recruitment efforts can focus. As a result, too often, they are forgotten.

Finally, Figure 3.8 provides a timeline since the 1990s with UC systemwide freshman enrollment (and high school graduate) proportions for African Americans and Latinos. As displayed in Figure 3.8, in 2014, there was an 18-point gap between Latinos' proportion of California public high school graduates versus the proportion of UC freshmen, and the size of this gap has been fairly constant in the post-Prop 209 era even as Latino enrollments have climbed. There has been some progress with respect to the corresponding gap for African American freshman, but it is very recent, within the last 3 or 4 years. Finally, Figure 3.8 is intended to further help situate our discussion regarding various changes to UC's undergraduate admissions policy.

### Eligibility in Local Context: California's Percent Plan Experience

In 1996, the Fifth Circuit Court of Appeals ruled against the University of Texas's use of affirmative action in a case known as *1996bHopwood v. Texas*. In response to the loss of affirmative action, pursuant to legislation enacted in 1997 (Texas House Bill 588), the University of Texas instituted what became known as the Top Ten Percent Plan. This allowed the top 10% of students from each high school in the state to gain admission to their top choice public university, including the two most selective flagship campuses of University of Texas (UT) Austin and Texas A&M.<sup>27</sup> Because Texas has many highly segregated schools, with nearly all Latino and African American students, the Top Ten Percent Plan had an immediate impact on increasing the diversity of the undergraduate student body at UT Austin. Seeing the impact in Texas, policymakers in California began to fashion proposals for a similar strategy in that state. However, California, with a much larger population and therefore higher demand for limited seats, did not have the capacity to increase its enrollments to

meet a 10% benchmark, and with a charge of admitting the top 12.5% across the state (a more rigorous standard than UT Austin), it could not reconcile admitting the top 10% of every school. Ultimately, a compromise 4% plan was initiated, granting the top 4% of all high schools admission to a UC campus, although not necessarily the campus of their choice. Thus, while the university contends that the Four Percent Plan has increased applications from schools that traditionally sent few students to the UC, it did not increase diversity by any discernible amount. Most students in the top 4% of their graduating classes were already eligible to attend UC, and the Plan did not increase their chances of gaining access to their first-choice campus.

Following the anemic outcomes of the Four Percent Plan, the university instituted the Nine Percent Plan (to the UC system, not necessarily to the student's first-choice campus) in 2012, which became the 9-by-9 plan (the top 9% of each school and the top 9% of all students in the state). This was calculated to yield an automatic acceptance rate of 10–12% overall because these two criteria exhibit considerable overlap.<sup>28</sup> However, the 9-by-9 Plan does not appear to have been much more successful than the Four Percent Plan (see Figure 3.8). Only 35% of the ELC (top 9%) applicants for the 2012 entering class were underrepresented minorities compared to 37% of the overall pool of applicants (UC Office of Institutional Research, 2012). Analyses are not yet available as to why the Nine Percent Plan has had so little effect on diversity, but many of the schools from which UC would hope to draw a more diverse pool of students neither prepare nor encourage their students to apply to the university, and most of these students have never known anyone who has attended UC.

Finally, UC's initial calculation that the 9-by-9 plan would result in admitting a tenth of California high school graduates proved to be an underestimate, and the results from the initial 2012 cohort indicated that the 9-by-9 plan admitted about 12.1% of California's high school graduates (University of California Board of Admissions and Relations With Schools [UC BOARS], 2014). Because the 9-by-9 plan admitted too many students, there is a proposal under development by the faculty to scale it back to a 7-by-7 plan (UC BOARS, 2014, pp. 1–2). This will likely further weaken the already-modest diversity benefits of ELC.

### **Comprehensive Review: Holistic Review of Applications**

Comprehensive review was instituted at UC Berkeley in 1998<sup>29</sup> following the admission of the first class under Prop 209. However, that process has evolved over time, from a separate comprehensive score attached to the regular review of the application, which was meant to include additional information about a student's personal circumstances, to the practice followed today that results in a single holistic score, which incorporates the whole of a student's record in one number. UCLA adopted the comprehensive (reviewing the whole record) and holistic (assigning a single score) review of its freshmen applicants in 2007. Since 2012, all UC campuses have moved to comprehensive/holistic review in large part, although their procedures vary somewhat. Two detailed studies have been commissioned to validate the process and outcomes of comprehensive and holistic review. One was conducted at Berkeley (Hout, 2005) and another released at UCLA (Mare, 2012), based on two cohorts of freshman admissions—2007 and 2008. Thus, there is now considerable knowledge about the process and outcomes at the two most highly selective campuses of the UC.

Comprehensive review has been motivated by the knowledge that test scores and (to a somewhat lesser extent) GPA are highly correlated with socioeconomic status and social advantage (Alon & Tienda, 2007; Atkinson & Geiser, 2009; Rothstein, 2004) and have limited predictive power (Geiser, 2014), and thus, any system of admissions that relies solely or overwhelmingly on those quantifiable characteristics will inevitably select the already educationally advantaged over the disadvantaged, regardless of inherent ability or potential. And given that access to the state's most prestigious public universities confers many further advantages, including the highest likelihood of actually completing a degree and going on to graduate or to a professional school, a purely quantitative selection process reifies advantage over a lifetime. Yet, it seems that such quantifiable information as GPA and test scores are exceedingly difficult to overlook within the context of highly selective admissions, even with a comprehensive review. This is evident in the fact that the average GPA of the incoming freshman class at UCLA and UC Berkeley was about 4.25 on a four-point scale in 2013 (University of California Admissions, 2013).<sup>30</sup> It is exceedingly difficult for students from low-performing schools to compete in this environment (Martin et al., 2005). As noted by Mare in his 2012 report on comprehensive and holistic review at UCLA:

Academic performance in high school, as indicated most strongly by GPA percentile, passing AP tests, and taking college preparatory courses, have a very strong impact on holistic ranking. Likewise, readers also place considerable



weight on standardized tests, summarized as UC Scores in my analysis. Other personal characteristics that are markers of academic promise also have small beneficial effects on holistic ranking. There is little direct evidence that readers place much weight on limits to achievement and hardships in holistic scoring ... (pp. 63–64).

Both the UC Berkeley and UCLA studies of comprehensive review report no significant ethnic bias in the procedures or outcomes, although the process does operate as it is intended in the sense that low-income students and those from low-performing schools and with significant hardships are more likely to be referred to a supplemental review where their personal and educational circumstances are taken into greater consideration. Thus, approximately 85% of students admitted at UCLA are admitted through regular review, and this group is overrepresented by White and North Asian students, whereas the students granted admission through supplemental<sup>31</sup> review are somewhat overrepresented by African American and Latino students (by comparison to White and Asian students referred to this review), as would be expected given the differences in personal and educational circumstances (Mare, 2012).

The proof in the pudding, so to speak, is in the profiles of the freshman classes. At UCLA, the 2013 freshman class was composed of 43% Asian American, 26% White, 21% Chicano/Latino, and 4.2% African American. At UC Berkeley, the 2013 entering class was 45% Asian American, 32% White, 14% Chicano/Latino, and 3.5% African American. By contrast, the high school graduating class of 2013 in California was approximately 10% Asian, 30% White, 47% Chicano/Latino, and 6.7% African American. In other words, the total underrepresented minorities in the high school graduation class was approximately 55%,<sup>32</sup> while the average percentage of underrepresented minorities at UCLA and UC Berkeley was 22%.

While the proportional underrepresentation of Chicano/Latino students is as great as that of African Americans, the small numbers of African American students at the most selective campuses raises alarm because of the extreme isolation that these students experience, creating a decreasing likelihood that URM students will want to attend those campuses in the future. (This point is reinforced in our discussion of freshman enrollment above and campus climate further below.) As the UC faculty admissions committee, the Board of Admissions and Relations With Schools (BOARS) concluded in a 2012 report:

African-American admit and yield numbers have not grown significantly over the past decade. BOARS should reconsider earlier studies and look at mechanisms to consider the impact that *bimodal educational environments*<sup>33</sup> [emphasis added] have on educational opportunity. (UC BOARS, 2012, p. 5)

In sum, comprehensive and holistic review adds a patina of greater fairness to the admissions process and no doubt increases the representation of underrepresented students *at the margins*, but it by no means equalizes access or even makes a significant difference for those groups that are traditionally excluded from access to the university because of what the BOARS report characterized as *bimodal educational environments* (UC BOARS, 2014). Researchers describe this as families and neighborhoods with fewer educational resources and schools with unequal teachers, courses, and peer groups.

## Changes in Standardized Test Requirements

For several decades, the UC has required that all applicants to UC take SAT I and SAT II tests,<sup>34</sup> although those tests have carried different weights and served different purposes over time. The SAT II subject matter tests requirement was first initiated at a time when the university was enrolling a considerably higher percentage of high school graduates than its 12.5% goal. While students were required to take the subject tests, scores were not computed in the eligibility index unless applicants failed to meet other admission criteria. The fact of having to take these tests, however, had the effect of reducing the size of the eligibility pool to be more in line with the California Master Plan for Higher Education. Unfortunately, those students who failed to take the additional SAT II tests were disproportionately URM students (M. T. Brown, Rashid, & Stern, 2010) who either did not realize they needed to take them because of the lack of adequate counseling or because the tests presented an additional cost.<sup>35</sup> Acknowledging this, the university dropped the requirement to take SAT II exams in 2012. It is not clear at this time if the reduction in the test requirements has had an appreciable effect on the applicant pool or if it has affected the percentage of underrepresented students actually admitted to the university. However, it is clear



that the diversity of the university continues to falter, and the data represented in Figure 3.8 makes clear that this has not had a major impact on improving diversity.

### Community College Transfers: An Elusive Diversity Payoff?

A significant portion of the university's undergraduate diversity comes through the transfer of students from community colleges in the junior year. California sends more of its undergraduates to two-year colleges than any other state, and the high ratio of enrollment in two-year versus four-year institutions is one of the principal reasons California's baccalaureate degree attainment rate ranks among the worst in the nation (i.e., the transfer rates and completion rates coming out of California community colleges are notoriously low) (M. Brown et al., 2006; Geiser & Atkinson, 2013). More broadly, the concentration of Latino students in the community colleges tends to work against their ultimate higher education attainment levels, and conversely, too many Latino students are undermatched by not attending highly selective four-year colleges and universities (Bowen, Chingos, & McPherson, 2009; Gándara et al., 2012; Melguizo, 2009). Best estimates are that about 17% of URM students who intend to transfer actually do so within six years of matriculating at a community college in California, and URM students tend to be more clustered at those California Community Colleges with lower transfer rates to UC (Gándara et al., 2012; UC President's Transfer Action Team, 2014). Nonetheless, as URM students disproportionately attend community colleges, they are potentially a rich source of these diverse students. As such, the UC operates transfer programs at 112 California community colleges to help prepare students to make the transfer to UC. In 2011–2012, UC community college transfer programs served almost 19,000 students. As with the other SAPEP programs, the vast majority of these students do not go on to attend UC, and since 2005, with declines in funding, there has been a significant *decrease*, from 52% to just 35% of program participants transferring to any four-year college.

In sum, apart from the fact that community college transfer students cannot contribute to the diversity of the student body during the critical first two years of college when most students who are going to drop out do so, URM students also make up a disproportionately smaller percentage of the students who transfer into the UC. Just over \$4 million was spent on these programs by the university in 2012–2013, and while they almost certainly make important differences in the lives of the students they touch, and make a significant contribution to the overall welfare of the state, their ability to contribute to the diversity of the undergraduate population at UC is seriously limited. UC's 2013 Accountability Report concludes that “entering freshmen are more diverse than entering transfer students” (UC Accountability Report 2013, p. 86), and former UC President Yudof made a similar statement at the July 2013 regents meeting when this report was presented (UC Board of Regents, 2013).

### University of California's Need-Based Financial Aid Compared to Peer Universities

Admissions and financial aid in higher education are fundamentally mission-driven (Coleman & Palmer, 2006; Guinier, 2003), and it is therefore not surprising that universities vary in their appetite to cross-subsidize socioeconomic diversity through financial aid and other policies (Bowen, Kurzweil, Tobin, & Pichler, 2005). For example, the level of commitment in California—where UC returns about one-third of tuition to need-based financial aid and where the State contributes substantially to need-based aid through Cal Grants—contrasts with priorities in several other states, such as the HOPE Scholarships in Georgia that, in effect, displaces need-based aid with merit-based scholarships that disproportionately assist White students (Heller & Marin, 2004; Marin & Flores, 2008). Because the California aid system is much more need-based and extensive than those of many other states, the financial barriers elsewhere might well be even more serious after the end of affirmative action admissions packages.

One consideration the Court noted in *Fisher I* is whether a race-neutral alternative can be achieved with “tolerable administrative expense” (133 S. Ct. at 2420). The vast majority of highly selective American universities and state lawmakers do not have the stomach to financially tolerate the UC's level of institutional commitment to low-income students. Among the 60 elite U.S. institutions in the AAU, there are six UC campuses (UC Berkeley, UCLA, UC San Diego, UC Davis, UC Irvine, UC Santa Barbara). When ranking all 60 AAUs based on the proportion of undergraduates who are Pell Grant recipients in 2013 (i.e., low-income), the UC campuses rank 1st, 2nd, 3rd, 4th, 5th, and 8th (Institute of Education Sciences, 2015). Among the public universities in the AAU, only Arizona and Michigan have per capita institutional gift aid on par with UC campuses.<sup>36</sup> Moreover, state gift aid is another important component, and students at the UC campuses in the AAU receive several times more per capita state gift aid as do the students at the other 28 public AAU universities. At

UT Austin, for example, the combination of state aid and institutional gift aid per freshmen (\$4,139) is above the average for AAU public universities, but it is less than half of what is provided on a per capita basis to freshmen in the UC system (\$9,623; UCOP, 2015). In light of all of the above factors in combination, UC effectively represents an upper-bound limit on commitment to class-based alternatives to affirmative action at highly selective American universities (Kidder, 2013b).

### **University of California *Financial Support, Price Sensitivity, and Recruitment of Underrepresented Minority Students***

In 2001, not too long after Prop 209 took effect, among those offered admission at UC campuses, the UC averaged an overall net *price advantage* over non-UC schools (where the same students were also offered admission) of \$5,200 for White admits and \$5,600 for Asian American admits, compared to a lesser price advantage of \$4,300 for African American admits, \$2,100 for Chicano admits, and \$2,800 for other Latino admits (UCOP, Student Services, 2001 p. 15). Part of the reason for that price advantage was the underappreciated (and unusual) fact that UC's in-state resident undergraduate tuition actually dropped from \$3,100 in the four years before Prop 209 (1994–1997) to \$2,900 in 1998 and then to \$2,700 in 1999–2001 (UC Budget Office, 2015). Relevant to questions around the efficacy of race-neutral alternatives, even with UC's price advantage of several thousand dollars in 2001, at that time, underrepresented minorities were (especially in the top third of the admit pool) less likely than White and Asian American students to accept admission offers to UC (Geiser & Caspary, 2005, pp. 408–410; Kidder, 2012). Rather, top African American and Latino freshman offered admission at UC were proportionally more likely to accept offers from private selective institutions like Stanford, USC, and Ivy League schools (which could use race-conscious affirmative action; Geiser & Caspary, 2005; Kidder, 2012).

Reviewing the same 2001 financial competitiveness data, the UC Undergraduate Work Team of the Study Group on University Diversity (2007, p. 47) concluded:

UC is at a triple disadvantage in offering competitive financial aid packages to underrepresented minority students. These students may be more price-sensitive than other students (*viz.* sticker shock). The financial need analysis leaves needy underrepresented minority families with too great a burden. Finally, with certain other institutions targeting aid at underrepresented minority students, UC's overall net cost advantage is at its narrowest margin for these students.

Unfortunately, a similar price analysis survey has not been completed by UC in the years since, but other data suggest that UC's price advantage for talented URM admits has eroded further in recent years for reasons related to declining state support (see earlier chart, p. 5 ) and concomitant increases in student tuition and fees (from \$2,896 for in-state tuition the first year Prop 209 took effect, 1998, to \$15,500 for 2015, not including mandatory health fees of \$2,100 or books, transportation or living expenses—not inflation adjusted). Our findings are consistent with prior research outside the UC context, indicating that African American and Latino students are more sensitive to financial aid as a determinant of enrollment choice and persistence (De La Rosa, 2006; St. John, Paulsen, & Carter, 2005).

### **Critical Mass and Comparative Racial Climate**

As some of the campuses re-segregated after the affirmative action ban, particularly in terms of African American students, the process began to feed upon itself. Smaller groups generate more isolation and less opportunity to have a major on-campus impact and more feelings that students of color are not welcome on campus. Enrollment numbers—at UC, UT-Austin, and other colleges and universities—are not simply abstract data points. Rather, low representation of URM students in the student body (*i.e.*, lack of critical mass) matters because it can threaten the educational benefits of diversity and exacerbate the harms of racial isolation. There is survey evidence showing such patterns. Research shows that on large-sample undergraduate surveys in 2008–2012, at the seven UC campuses (UCB, UCD, UCI, UCLA, UCSB, UCSD, UCSC) where African Americans are approximately 4% or less of the student body, only 59% of African Americans either strongly agree, agree, or even somewhat agree that students of their race are respected on campus (Kidder & Onwuachi-Willig, 2014, p. 930; see *also* Kidder, 2012; Brief of Civil Rights Project, 2013). On campuses like UT Austin, UC Riverside, and other leading public and private universities where there are a higher

proportion of African Americans in the student body (5–10%), the same surveys show that 80% of African Americans feel respected (Kidder & Onwuachi-Willig, 2014, p. 930). Comparing these same lower diversity UC campuses versus UT Austin and some other leading universities shows a similar pattern in the different levels of Latinos feeling respected (78% vs. 92%).<sup>37</sup> These data lend support to the concept of *critical mass* at research universities, although we do *not* mean to imply there is a simple mechanical formula for critical mass in U.S. higher education. These recent survey findings are consistent with Hurtado's study of a broader group of 31 U.S. colleges and universities, finding that African Americans and Latinos are less likely to experience exclusion on campuses with higher levels of student body diversity (Hurtado & Guillermo-Wann, 2013).<sup>38</sup> Campuses with affirmative action bans and the perception of being unwelcome can face a downward spiral recruitment dilemma. At UC campuses, African Americans and Latinos in the top third of the campus admit pools (defined by grades and test scores) consistently had higher average yield rates (percentage of students accepting admissions offers) in the four years before Prop 209 (1994–1997) compared to the many years since (1998–2011; Kidder, 2012, pp. 24–25). The most pronounced case was UCLA, where the African American freshman yield rate in the top portion of UCLA's admit pool dropped by two-thirds after Prop 209, from 24% to 8% (Kidder, 2012, p. 25). Breaking this cycle without any consideration of race of applicants is an enormous challenge.

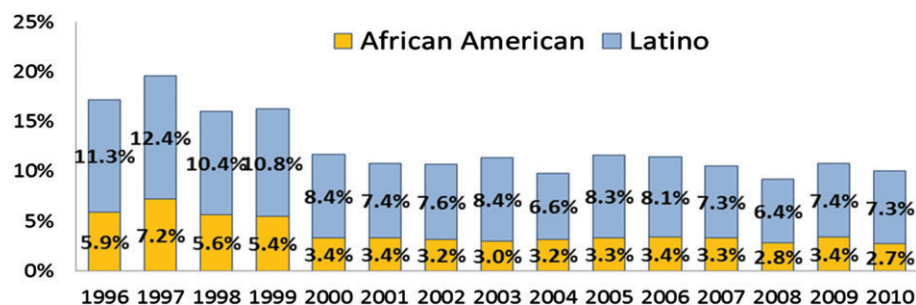
### The Negative Impact at University of California Professional Schools

Most attention has focused on undergraduate admissions, but of course, highly selective research universities have a decisively important role in graduate and professional school programs that train many of the leading members of key professions. As noted at the outset of this paper, in *Grutter*, the Court declared, "In order to cultivate a set of leaders with legitimacy in the eyes of the citizenry, it is necessary that the path to leadership be visibly open to talented and qualified individuals of every race and ethnicity" (539 U.S. at 332). The negative impact of Prop 209 and other state affirmative action bans has been documented with respect to graduate school programs (Garces, 2013) as well as professional school programs like law and business (Kidder, 2013b). For example, in *Schuetz v. BAMN* (2012, 2014), the president and chancellors of UC filed a brief stating, "UC's business schools, which play a crucial role in educating California's economic leaders, are consistently unable to enroll racially and ethnically diverse classes" (Brief of University of California President and Chancellors, 2013). African American, Latino, and American Indian students *combined* were only 5.3% of MBA students at UC in 2014, less than half of the national average at comparable U.S. business schools (Brief of University of California President and Chancellors, 2013).

The Supreme Court in *Grutter* recognized that leading institutions like the University of Michigan Law School "represent the training ground for a large number of our Nation's leaders" and that "the pattern is even more striking when it comes to highly selective law schools" (*Grutter*, 539 U.S. at 332). In the area of medicine, there is an additional policy concern that ending affirmative action threatens the diversity of the physician workforce and thus the health of medically underserved communities (U.S. Dept. of Health and Human Services, 2006).

In the years prior to Prop 209, UC Berkeley law and UCLA law schools were routinely well above the national average in enrollment of African American law students—indeed, these two UC law schools were national leaders in awarding (combined) approximately 600 law degrees to African Americans and 800 to Latinos in the decade before Prop 209 (Lawrence, 2001, p. 930). In the 1985–1996 period, 9.8% of the entering students at UCLA Law and 8.5% at UC Berkeley Law were African American. Since the affirmative action ban (1997–2011), African American enrollments at UCLA law declined by over three fifths (3.6% average), and at UC Berkeley Law, there was a decline by nearly half (4.5% average), although with upward trend lines (more so at UC Berkeley). As the state was becoming predominantly non-White, these key institutions for training leaders in law and political life were doing much less (American Bar Association, 2013; Kidder, 2013b; Karabel, 1999; Law School Admissions Council, n.d.; UCOP, 2011).

In the decades prior to Prop 209, the UC San Francisco Medical School (frequently ranked as America's top public medical school) had one of the best records of enrolling URM students in the nation (Grumbach & Mendoza, 2008). A 2008 study estimated that there were only 2,000 African American and 2,500–3,200 Latino physicians in active patient care in the state of California, representing a severe shortage relative to the needs of California's diverse population (Grumbach et al., 2008). In terms of health policy and UC's mission to produce long-term benefits to society, these statistics signal a major concern because African American and Latino physicians in California are more likely (net of other characteristics) to practice in medically underserved areas and in areas with



**Figure 3.9** African Americans and Latinos as percentages of all UC professional school degrees awarded, 1996–2010 (The latest year available from CPEC was 2010. American Indians are not displayed in this chart due to low sample numbers and high fluctuations from year to year, but overall American Indian UC professional school graduates declined from 0.99% of the degree recipients in 1996–1999 to 0.69% in 2000–2010.). By 2000, most graduates were from post-Prop 209 cohorts, and virtually all were by 2001. Data from CPEC (2012).

shortages of primary care physicians (Walker, Moreno, & Grumbach, 2012). In short, affirmative action bans like Prop 209 worsen an already very difficult physician supply policy challenge that disproportionately threatens the long-term medical care of communities of color in the United States (Garces & Mickey-Pabello, 2015; Saha & Shipman, 2008).<sup>39</sup>

Figure 3.9 attempts to succinctly capture the overall trend in first-time professional degrees (law, medicine, pharmacy, business, public policy, architecture, etc.) awarded to African Americans and Latinos at all UC campuses combined since the late 1990s. African Americans and Latinos comprised nearly 20% of the degrees granted at UC professional schools in the pre-Prop 209 graduating class of 1997, compared to only 10% of UC's professional school graduates in 2010. The proportion of African American graduates has hovered around 3% during the decade when post-Prop 209 cohorts were graduating, a decline of approximately half compared to the late 1990s. These figures were obtained despite many robust good faith efforts by these UC professional schools to use race-neutral alternatives, and despite the fact that in the national pipeline, the number of bachelor's degrees earned by African American and Latinos in the United States grew by 53% and 87% between 1999 and 2009 (significantly outpacing other groups and the overall nationwide 33% increase in BA degrees awarded; National Center for Education Statistics, 2012, p. 112).

The descriptive statistics we review above, documenting the long-term impact at highly selective UC law and medical schools, are consistent with the social science research using more refined difference-in-difference comparisons that support the inference of a causal relationship between affirmative action bans in several states and URM enrollment declines in medical schools (Garces & Mickey-Pabello, 2015) and in graduate fields of study (Garces, 2012, 2013).

### How A Lack of Faculty Affirmative Action Narrows the Pipeline to the Professoriate

Campus climate and the quality of participation in classroom discussions as it affects URM students is related to the presence of URM faculty (Milem, 2003; Umbach, 2006)—and URM faculty, especially at highly selective institutions, influence the capacity of those institutions to prepare and graduate URM students from their graduate schools. Keep in mind that the benefits work in the other direction too as research shows that faculty who observe there to be a positive racial climate on their campus exhibit higher job satisfaction and retention levels than their faculty peers who do not (Jayakumar, Howard, Allen, & Han, 2009; Victorino, Nylund-Gibson, & Conley, 2013). The UC has long been the single most important source of Latino graduates of graduate school programs in the nation (Chapa, 2006). Among all Ph.D. degrees granted during the last quarter of the 20th century (1975–1999), UCLA and UC Berkeley ranked second and third in the nation, respectively, in producing the highest number of Latino doctorates, with five other UC campuses (Santa Barbara, Davis, San Diego, Riverside, and Irvine) also making the top 50 list of universities producing Latino doctorates (Thurgood, Golladay, & Hill, 2006, p. 112). While UC campuses have maintained a roughly similar profile in the doctoral production of Latinos in 2008–2012<sup>40</sup> (however, increasingly underrepresenting the actual population numbers), for African Americans, UC Berkeley was a top 15 institution awarding doctorates in 1975–1999, and



UCLA was ranked 22nd (UCLA was in the top 20 for 1995–1999 specifically). NSF data for 2008–2012 indicate that there are no longer any UC campuses in the top 20 doctoral degree-granting institutions in the United States for African Americans.

Clearly, the pipeline of UC undergraduates to graduate school and on to faculty positions in the nation's most selective colleges and universities is of critical importance to the country as a whole and to the ability of campuses nationwide to be able to provide a welcoming environment for diversity to thrive. Yet that pipeline is extraordinarily leaky and in need of urgent repair (e.g., Chapa, 2006). In 2012, only 2.6% of all UC faculty across all disciplines were African American, and only 5.7% of all faculty were Latino (UCOP, 2013). Percentages of untenured URM faculty—those professors, usually in the earlier stages of their career—were almost identical, suggesting that an increase in the numbers is not to be expected any time soon. In 2013, Whites and Latinos each represented 39% of the state's population, yet Whites comprised 76% of the UC's faculty and Latinos less than 6%.<sup>41</sup> Both Latino and African American students (and students from other backgrounds) are very unlikely to encounter a URM faculty member in many of their classes, and the low production of URM UC graduates is a factor in this dearth. In the absence of affirmative action in California's selective campuses, the state's supply of future leaders has been badly damaged, and because of the extraordinary role these institutions play nationally, the national training of diverse future faculty and leaders in many key professions has been diminished in spite of all the efforts the university has made over two decades to find other ways to attain the educational values of diversity.

### Why Class-Based Approaches Are Not Enough

The California experience is consistent with a long line of social science research over the past 15 years finding that class-based admission and financial aid policies are not a sufficient substitute for race-conscious policies (Bowen et al., 2005; Holzer & Neumark, 2006; Kane, 1998; Krueger, Rothstein, & Turner, 2006; Long, 2007). Our findings are in accordance with Carnevale and Strohl (2013), who using national data concluded, "While politically attractive, the direct substitution of class for race-based preferences does not yield the same numbers of African-American and Hispanic candidates as a more direct reliance on race-based admissions" (p. 37). There are several reasons for this. Low-income status is fluid and imperfectly defined. For example, many people who qualify for this category may only temporarily be low income as they transition, for example, through divorce or immigrant status, even though their education level and long-term earnings potential would otherwise qualify them as middle class. California's college applicants include an unusually large number of high-scoring, low-income students. On the UC campuses, students in the bottom and top quartiles of income distribution tend to have gaps in six-year freshmen graduation rates that are half as large as those at other AAUs (6 points vs. 13 points).<sup>42</sup> This suggests that the pipeline of talented low-income students may reflect the state's concentration of children of relatively well-educated immigrants who nonetheless meet the federal/state low-income threshold due to the nature of immigrant transitions (see Hernandez, Denton, & Macartney, 2009). A diversity strategy combining poverty and California's high academic standards may sweep in many immigrants from educated families who are only temporarily poor and fewer African Americans and Latinos living in long-term disadvantage with poorly educated parents. The net effect then fails to achieve diversity among underrepresented students. That there may be less bang for the buck, with enrollment of low-income students outside of California paralleling the studies concluding that race-conscious affirmative action programs are often a more efficient means of enrolling high-achieving URM students compared to a range of nominally race-neutral proxy measures (Chan & Eyster, 2003; Fryer, Loury, & Yurek, 2008; Long, 2015; Long & Tienda, 2008).

### Conclusion

California's experience shows that race-neutral alternatives are costly, inefficient, and do not work at highly selective campuses. When colleges attempt to achieve a level of diversity reasonably likely to produce compelling educational benefits by using means that do not consider race, they are, in their nature, going to be less efficient and more expensive than a more direct method. Virtually all alternatives involve additional kinds of outreach and support, and any truly nonracial policy is going to devote a substantial part of the effort to producing students who do not add to racial diversity. A college can target areas with substantial numbers of Latino students only to find that the top students in this largely Latino area



are, for example, new immigrants from Asia whose parents are temporarily low income while their highly educated parents get their credentials and connect with skilled jobs. Since such students are already well represented in the university, they do not add to its diversity.

Depending on the strategy, it may cost several times more to recruit a student indirectly using a race-neutral alternative and that student may be far less prepared for the university. We have shown that with the major efforts made by the UC over the last two decades, and the enormous costs involved, *the great majority of students touched by the SAPEP programs do not ever enroll in the university*. Many fail to come because they are not competitive for admission, in spite of sometimes years of academic interventions, and many others do not come because they cannot afford to. Needless to say, if a state does not have a strong need-based financial aid policy, nothing will succeed in bringing substantial numbers of students from poor families to college and keeping them there. Although California has a robust program, most states do not, and even California's program leaves gaps that many low-income families cannot close. One recent estimate for fall 2016 is that the cost after all tuition and grant aid is subtracted will be \$13,700 per year at UCLA and \$16,600 at UC Berkeley (CollegeCalc, 2015). Since African American and Latino families, on average, have less than a tenth of the wealth of White families, this gap is often a fatal barrier. Being able to better target financial aid to these diversity candidates would help close that gap.

As the Court acknowledged in *Fisher*, in evaluating race-neutral alternatives, the courts should consider whether such means can be implemented at a "tolerable administrative expense" (133 S. Ct. at 2420; quoting *Wygant*, 476 U.S. at 280 n.6.). An alternative is actually realistic only if the expense is tolerable, and any solution that requires a level of resources in general—financial aid, for example, that none of the 50 states has been able to provide—is not tolerable. Nor is it tolerable if a university must invest tens of millions of dollars to attract a fraction of 1% of its freshman class that represents increased diversity. California has made a long, expensive, creative, and multidimensional effort to make up for the losses in diversity caused by the affirmative action ban nearly two decades ago. It has tried all of the major alternatives and even actively encouraged private philanthropy to reach out directly to students of color. Given the cost and the unusually positive financial aid system and the strong support from many system leaders for these alternatives, it is unlikely that any state will be able to do more. Yet the effort has fallen far short; the level of access for African Americans, American Indians, and Latinos who meet all the UC requirements has declined relative to Whites and Asians. The lessons from the California experiment with alternatives to affirmative action are clear: billions of dollars spent in programs and practices to help diversify the university have no doubt benefited some students, but overwhelmingly, those students do not go on to attend UC, and so, they do not increase the diversity of the university.

We have also shown that the lack of adequate diversity in the university comes at a high price: the opportunity to make significant inroads to increasing the degree completion of underrepresented minorities, who now comprise the majority of young people entering the labor market, is foregone. This will have a significantly negative impact on the state as estimates are that within the decade, California will be one million BA degrees short of those needed to meet labor market demands (Johnson & Sengupta, 2009). Those billions of dollars could have been spent targeting the students most likely to gain admission and attend the university, adding to its diversity, increasing the tax base of the state, and helping California become a successful multiracial society.

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#### 4. The Promise and Peril for Universities Using Correlates of Race in Admissions in Response to the *Grutter* and *Fisher* Decisions

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This paper examines using correlated indicators for a student's race, rather than using the student's actual race, in admission decisions for universities. The goal is to determine whether this method will permit universities to broaden admissions criteria to promote diversity without using race or ethnicity. Also addressed in this paper is whether the use of correlates of race is workable and race neutral from a legal, political, and university perspective.

**Keywords** Admission decisions; race; ethnicity; correlated indicators; diversity; *Fisher* decision; *Grutter* decision

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In the case of *Fisher v. University of Texas at Austin*, the U.S. Supreme Court concluded that the

University must prove [to the reviewing court] that the means it chose to attain that diversity are narrowly tailored to its goal. On this point, the University receives no deference . . . . The reviewing court must ultimately be satisfied that no workable race-neutral alternatives would produce the educational benefits of diversity. (p. 10)

In this paper, I discuss the potential promise and peril for universities using correlated indicators for a student's race, rather than using the student's actual race, in their admissions decisions. Using a variety of data sources (including university admissions records and other more detailed surveys from the U.S. Census Bureau and U.S. Department of Education [ED]), I answer the following question: Can universities broaden admissions criteria to promote diversity without using race or ethnicity per se? More specifically, if university admissions offices used all of the information that they could obtain on an applicant (aside from the student's race), how well would that information correlate with the student's race (and thus promote diversity in admissions)? Subsequently, I address the following question: Is the use of correlates of race *workable* and *race neutral* from a legal, political, and university perspective?

Universities explicitly or implicitly score applicants based on observable characteristics and admit those students whose scores are above a threshold. For example, a university may observe a set of characteristics for student  $i$  (denoted by the vector  $X_i$ ) and give positive or negative weight to each characteristic (with the group of weights denoted by the vector  $\omega$ ) and admit student  $i$  if the weighted sum is above a given threshold (i.e., in matrix notation, the university would admit student  $i$  if  $X_i' \omega > \text{threshold}$ ). Prior to the *Gratz v. Bollinger* and *Grutter v. Bollinger* rulings, the University of Michigan (UM) used an explicit scoring system that gave a fixed number of points to URM applicants. While the *Gratz* decision found UM's undergraduate admissions system to be unconstitutional as it gave a *fixed* amount of weight to an applicant's race, the *Grutter* decision found UM's Law School admissions system to be constitutional as it gave positive weight (but not a fixed weight) to the applicant's race. My assumption is that universities are complying with these rulings, and thus, their scoring of applicants, at least as it pertains to race, is now implicit rather than explicit. That is to say, racial minorities are still more likely to be admitted than other observably similar applicants (Blume & Long, 2014), but the weight placed on race is no longer fixed.

I am assuming that universities would like to give positive weight for applicants who are URMs (i.e., Black, Hispanic, or Native American).<sup>43</sup> However, the *Grutter* and *Fisher* decisions make it more difficult for universities to directly give an advantage to URMs in their admissions decisions. These decisions clarified the legality of the use of affirmative action in admissions but limited the mechanisms by which colleges could advantage minority applicants in admissions decisions. The *Grutter* decision concluded that race can be used as one factor among many in an admissions decision so long as it is part of a holistic review of an applicant and so long as race does not have a uniform impact (as would follow from a point system). Moreover, the *Grutter* ruling held that for the use of an applicant's race to be permissible, the college needs to give "serious good faith" consideration to workable nonrace-based alternatives that increase diversity. (This question of serious good faith effort was at the heart of the *Fisher* case.) The Court's ruling on *Fisher* means universities now have a

greater burden of proof that there was no workable race-neutral alternatives should their race-based admissions program be challenged in court.

Chan and Eyster (2003) developed a theoretical model that showed that in response to bans on affirmative action, universities that value both the academic qualifications and the ethnic and racial diversity of their student bodies will react by adopting “an admissions rule that partially ignores standardized-test scores and other traditional measures of academic ability” (p. 868). Long and Tienda (2008) showed that this prediction held true for the University of Texas at Austin (UT Austin) and Texas A&M University in the years after the 1996 *Hopwood v. Texas* decision. Long and Tienda found that the direct advantages given to Black and Hispanic applicants at these universities disappeared post-*Hopwood*. Furthermore, both universities changed the weights they placed on applicant characteristics in ways that increased the likelihood that URM students would be accepted. Yet, these changes in weights (combined with Texas’s top 10% policy, which required the automatic admission of students who graduated in the top 10% of their high school classes) were insufficient to restore URM students’ share of admitted students. Long and Tienda simulated the extent to which URM students’ share of admitted students would have fallen if these universities had responded to the *Hopwood* ruling by holding the weights placed on applicant characteristics constant, set the weight on URM to zero, and did not have the top 10% policy. The URM share was then simulated with the new weights (and the new weights plus the top 10% policy) to see how much the URM share rebounds owing to these policy changes. The following rebounds were found: for UT Austin, 33% rebound due to the change in weights and 61% rebound due to the change in weights + the top 10% policy, and for Texas A&M, 19% rebound due to the change in weights and 29% rebound due to the change in weights + top 10% policy. Antonovics and Backes (2014) found similar results for the University of California (UC) campuses. They found that

UC campuses changed the weight given to SAT scores, high school [grade point average] and family background in response to California’s ban on race-based affirmative action, and that these changes were able to substantially (though far from completely) offset the fall in minority admissions rates. (p. 295)

Furthermore, they found that “Berkeley was able to restore roughly 16–26 percent of the 31 percentage point direct fall in URM students’ relative chances of admission” (p. 16). Thus, Long and Tienda (2008) and Antonovics and Backes (2014) each found that the re-weighting of applicant characteristics led to rebounds in URM students’ share in the range of 16–33% at various flagship campuses.

In response to the *Grutter* and *Fisher* decisions, I am assuming that universities will seek a variety of alternatives, one of which is to place more positive weight on observable characteristics that are positively correlated with URM. A more straightforward way to achieve the same result would be to replace the indicator for being a URM student (i.e.,  $URM_i = 0$  or  $1$ ) in a university’s old admissions formula with the student’s predicted likelihood of being a URM student ( $URM_i$ , which ranges from 0 to 1). If a university were able to *perfectly* predict a student’s URM status (i.e.,  $\widehat{URM}_i = URM_i$ ), then the university would admit the same students that it would have admitted using traditional affirmative action, leading to the same diversity that would have been had under traditional affirmative action. Note that using an admissions system where URM status is replaced by the student’s likelihood of being a minority might not be considered a race-neutral alternative. I discuss this issue in the last section of the paper. Before I get to that discussion, the goal in the next three sections of this paper is to empirically evaluate how close the university could come to such a perfect prediction.

I should emphasize that I am not suggesting that universities *should* give weight to the student’s predicted likelihood of being a minority student. The intent is not to provide an admissions formula that universities could use to improve their diversity nor to demonstrate how universities could circumvent the law. Rather, I am attempting to illustrate whether and to what extent such an admissions policy, if used, could be a successful alternative strategy for improving the diversity of the admitted class. As I illustrate in this paper, the efficacy of such an alternative policy has substantial limitations.

## Methods

First, using existing data collected in university admissions records (from UT Austin), I estimate the probability that a student is a URM based on student characteristics that are already observable to UT Austin ( $Z$ ) using a probit regression as shown in Equation 4.1:

$$\text{PROB} (URM_i = 1) = \Phi (Z_i' \beta + \epsilon_i) . \quad (4.1)$$

Second, I re-estimate Equation 4.1 using data from two additional data sources: (a) the American Community Survey (ACS) collected by the U.S. Census Bureau and (b) the Education Longitudinal Study of 2002 (ELS) collected by the ED. The purpose of using these data will be to assess the extent to which colleges could collect additional data that would most enhance the predictive power of Equation 4.1 (i.e., in more successfully finding correlates of race).

Prior to estimating Equation 4.1 with the full set of available variables, I use an iterative procedure to evaluate (a) the extent to which adding additional variables raises the predictive power of Equation 4.1 and (b) the nature of the most predictive variables. This iterative procedure is as follows:

Step 1: Find the variable with the largest correlation with URM.

Step 2: Enter this variable into the  $Z$  vector.

Step 3: Estimate Equation 4.1.

Step 4: Measure the predictive power of Equation 4.1 in two ways:

Method 1: Compute McFadden's pseudo- $R^2$ .<sup>44</sup>

Method 2: Rank order the observations from the most to the least likely to be a URM based on  $\widehat{URM}_i = \Phi(Z_i' \hat{\beta})$ . Assume that the top  $N$  observations are URMs, where  $N$  is the actual number of URMs in the data set. Compute the share of those who are tagged as a URM who are correctly identified as URMs.

Compute the following ratio: Incorrectly tagged as a URM/Correctly tagged as a URM.

Step 5: Find the prediction error:  $\hat{\varepsilon}_i = URM_i - \widehat{URM}_i = URM_i - \Phi(Z_i' \hat{\beta})$ .

Step 6: Find the unused variable with the largest correlation with the prediction error.

Step 7: Repeat Steps 2–6 until all of the variables are used. Along the way, chart the increase in the predictive power of Equation 4.1 and note the order in which variables are added to  $Z$ .

## Data

The first source of data includes the census of applicants to UT Austin in the years 1998, 1999, and 2000. These data were compiled by the Texas Higher Education Opportunity Project (<http://theop.princeton.edu>) and include a total of 50,705 students.<sup>45</sup> Table 4.1 lists all of the variables included. Broadly speaking, these variables represent the kind of information that universities may readily have on hand under their current, typical admissions processes. Note that some variables are missing for some applicants. I impute all missing variables using the best available subset of nonmissing  $Z$  variables.<sup>46</sup>

The second source of data is the ACS of 2011 (public use microdata sample). ACS is nationally representative of the U.S. population. I restrict the analysis to those individuals aged 15–17 years who are not institutionalized. This analysis includes 119,879 youths. Table 4.2 lists all of the variables included. These variables mostly include measures of family resources, family structure (interacted with parents' nativity and parents' labor force participation), and youths' nativity. These variables could be easily collected by universities during their admissions processes (and many of these kinds of variables are collected by universities).<sup>47</sup>

The third source of data is the ELS (restricted use data), which is nationally representative of 10th graders in 2002 and includes 15,240 students.<sup>48</sup> ELS is a remarkably rich data set that includes students' academic records, achievement scores, attitudes and beliefs, and participation in sports and other activities; hours spent on TV, computers, video games, and homework; characteristics of the students' friends; family structure and resources; parents' expectations and other views; and characteristics of the students' school, administrator, and teachers' views. I again impute missing variables.<sup>49</sup> Because it may be more difficult to predict the URM status of students who apply to very competitive colleges than for all 10th graders, I evaluate the sensitivity of the results by further restricting the ELS data to the 4,770 students who submitted at least one application to one of the 456 colleges rated by Barron's (2004) as very, highly, or most selective. I further evaluate whether the set of most predictive variables is different for these students than for all 10th graders.

For each data set, I also include the squares of all continuous variables in  $Z$  (e.g., grade point average squared). The three data sets contain 33, 35, and 195 variables, respectively. For reasons I discuss later, some of the ELS variables would be difficult for colleges to obtain or use as they may be more likely to provoke legal challenges, be more politically unattractive, or be administratively infeasible to accurately obtain. I conduct a further analysis restricting myself to the 171 ELS variables that I expect would cause fewer such problems. See Appendix B, where problematic variables, which are excluded from this analysis, are italicized.

**Table 4.1** University of Texas at Austin (UT Austin) Data: List of Variables and Pre- and Postimputation Means

Variable	Number of nonmissing observations	Preimputation mean	Postimputation mean
Student is			
an underrepresented minority	50,705	19.0%	19.0%
Female	50,672	49.9%	49.9%
a U.S. citizen	50,705	89.1%	89.1%
Student's academic achievement measures			
SAT/ACT score (in SAT points)	48,907	1,192	1,191
Texas Academic Skills Program score	31,122	0.747	0.689
Class rank percentile (0–100, with 100 = top of class)	40,186	80.9	79.4
In top 10% of HS class	40,189	41.2%	37.5%
Took <i>Advanced Placement</i> <sup>®</sup> ( <i>AP</i> <sup>®</sup> ) test	50,705	24.4%	24.4%
Scored 3+ on AP math test	50,705	8.8%	8.8%
Scored 3+ on AP science test	50,705	4.3%	4.3%
Scored 3+ on AP foreign language test	50,705	4.1%	4.1%
Scored 3+ on AP social science test	50,705	7.2%	7.2%
Scored 3+ on other AP test	50,705	14.4%	14.4%
Parents' highest level of education is			
No high school	45,198	1.2%	1.3%
Some high school	45,198	1.4%	1.6%
High school graduate	45,198	5.7%	5.6%
Some college	45,198	15.2%	14.4%
College graduate	45,198	43.5%	44.6%
Father's income is			
\$20,000–\$39,999	42,326	14.4%	14.7%
\$40,000–\$59,999	42,326	15.9%	15.6%
\$60,000–\$79,999	42,326	15.4%	15.1%
≥ \$80,000	42,326	47.4%	47.4%
Single parent family	50,705	14.5%	14.5%
Student's high school's characteristics			
Average SAT/ACT score of students (in ACT points)	47,864	21.8	21.9
Share of students who took the SAT or ACT	39,626	0.839	0.866
School is a UT feeder (as defined by Tienda & Niu, 2006)	50,701	21.7%	21.7%
School is a recipient of Longhorn Opportunity scholarships	50,705	2.6%	2.6%
School is a recipient of Century Scholars scholarships	50,705	2.2%	2.2%
School is a private high school	45,446	11.2%	12.7%
School is in Texas	50,577	81.2%	81.3%

*Note.* Squares of all continuous variables (i.e., those not listed above with “%” symbols) are included as well. HS = high school, UT = University of Texas.

## Results

Figure 4.1 shows the results using the UT Austin data. A total of 19% of applicants to UT Austin (9,644 out of 50,705) in these three years were URMs. Thus, if one were to randomly tag 9,644 applicants as being URMs, one would get it right by dumb luck 19% of the time. As we add variables to  $Z$ , our ability to correctly identify students as URMs increases. However, even with all 33 variables included, one can correctly identify students as URMs only 53.9% of the time. That is, out of the 9,644 applicants with the highest likelihood of being URMs (i.e., the highest value of  $\widehat{URM}_i$ ), only 53.9% of them are in fact URMs. Another way to understand this inability to accurately predict is shown in Figure 4.2. Here, with 33 variables in the model, 0.9 students who are not URMs were incorrectly tagged for every student who was correctly tagged as being a URM.<sup>50</sup>

Figure 4.3 shows the results using the ACS data. URMs comprise a higher share of youths in the ACS data (34.7%; 41,568 out of 119,879) than among the UT Austin applicants. As a result, at base, one can correctly tag (by dumb luck) a higher share of students as URMs. As the number of variables included in the prediction model is increased, the share that is correctly identified as URMs rises from 34.7% to 64.1%. (Correspondingly, one would incorrectly tag 0.6 non-URMs for every URM correctly identified.) Although one can correctly identify a higher share of students, this better performance is due to the higher baseline share of URMs in the ACS data. In fact, the pseudo- $R^2$  measure of how well one has predicted



**Table 4.2** American Community Survey (ACS) Data: List of Variables and Pre- and Postimputation Means

Variable	Number of observations	Mean
Youth is an underrepresented minority	119,879	34.7%
Household size	119,879	4.37
Household rent	119,879	\$284
Household income	119,879	\$84,721
Number of bedrooms in household/persons in household	119,879	0.854
Household receives SNAP	119,879	19.3%
Household receives SSI/AFDC/other welfare income	119,879	5.0%
Not living with parents (or missing)	119,879	6.8%
Living with two parents who are both U.S. natives	119,879	47.9%
Living with two parents; father only foreign born	119,879	2.1%
Living with two parents; mother only foreign born	119,879	2.2%
Living with two parents who are both foreign born	119,879	10.7%
Living with father only who is a U.S. native	119,879	5.4%
Living with father only who is foreign born	119,879	1.1%
Living with mother only who is a U.S. native	119,879	19.8%
Living with mother only who is a foreign born	119,879	3.9%
Living with two parents who are both in the labor force	119,879	43.3%
Living with two parents; father only in the labor force	119,879	14.9%
Living with two parents; mother only in the labor force	119,879	3.1%
Living with two parents who are neither in the labor force	119,879	1.6%
Living with father only who is in the labor force	119,879	5.6%
Living with father only who is not in the labor force	119,879	0.9%
Living with mother only who is in the labor force	119,879	19.0%
Living with mother only who is not in the labor force	119,879	4.7%
Born in the United States	119,879	92.8%
Born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas	119,879	0.3%
Born abroad of American parent(s)	119,879	0.9%
U.S. citizen by naturalization	119,879	1.6%
Not a citizen of the United States	119,879	4.3%
Language other than English by adults	119,879	1.8%
Grandparents living with grandchildren present in the household	119,879	11.6%

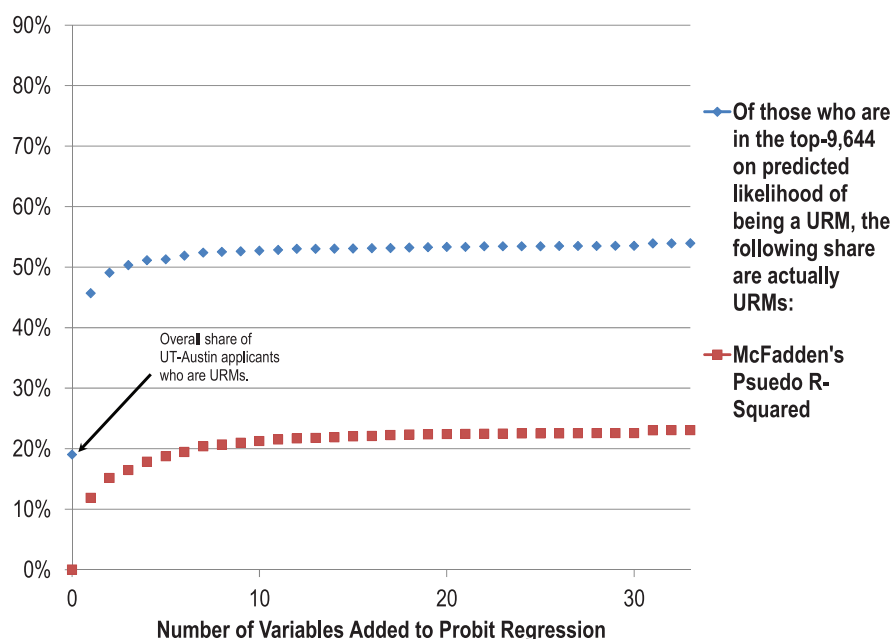
*Note.* Squares of all continuous variables (i.e., those not listed above with "%" symbols) are included as well. AFDC = Aid to Families with Dependent Children, SNAP = Supplemental Nutrition Assistance Program, SSI = Supplemental Security Income.

URM status is lower for the ACS data (.20 with all 35 variables included) than for the UT Austin data (.23 with all 33 variables included).

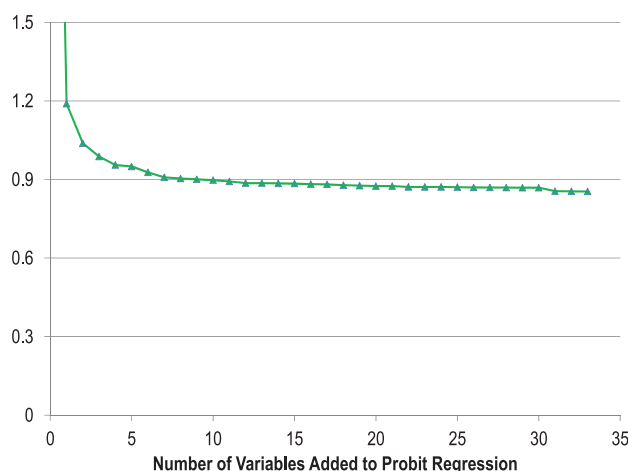
In contrast, one can do *remarkably* better at predicting URM status for the ELS data using the full set of 195 variables, as shown in Figure 4.4. The share correctly identified as URMs rises from 28.6% at base to 82.3% with all variables included (and, correspondingly, only 0.22 non-URMs are incorrectly tagged for every URM correctly identified). Amazingly, almost all of this gain in predictive power comes from the first four variables that are entered into the probit regression.

To understand what variables are leading our ability to predict URM status, Table 4.3 lists the first 10 variables added to the models. I begin my discussion with the third column for the ELS data. Note that the first four variables entered are indicators for whether the student's three best friends are URMs and whether the student's native language is Spanish. Just using the first of these indicators (whether the best friend is a URM) is able to raise the share correctly identified as URMs from 28.6% at base to 74.5%. (Appallingly, but not surprisingly, 75% of URM students' best friends are URMs, while only 9% of non-URM students' best friends are URMs.)

Further note that school attributes show up prominently in these lists. For UT Austin, a high school's average score on the SAT<sup>®</sup> test or ACT test, being a Longhorn Opportunity School and being a private school, are each highly predictive. After the *Hopwood* decision led to a ban on affirmative action in Texas, UT Austin named a set of schools to be Longhorn Opportunity Schools. This set of schools includes those with high shares of low-income students and that have historically low rates of sending students to UT Austin.<sup>51</sup> These schools, as one would expect, also have high shares of students who are URMs. Although not included in the model for UT Austin, it would be easy to add the direct measure of the high schools' percentages of students who are URMs (derived from the ED's Common Core of Data and Private School Survey), as I



**Figure 4.1** University of Texas (UT) at Austin data: Correspondence of students' actual underrepresented minority (URM) status with predicted URM status.



**Figure 4.2** University of Texas (UT) at Austin data: Ratio of students incorrectly identified as underrepresented minorities (URMs) to those correctly identified as URMs.

have done in the third column using the ELS data. Note that a *high school's percent of students who are minorities* was the sixth most important variable in predicting URM status for the ELS data, and this suggests that the power of prediction might have been somewhat improved for UT Austin had I included this measure.

When I restrict the ELS data to the students who submitted at least one application to a very competitive college, I find similar results. Using the full set of 195 variables, the pseudo- $R^2$  is 54.4% (as compared to 56.6% using all 10th graders), and the rate of correctly tagging URMs rises from 18.7% at base using blind luck to 76.5% for the full model (as compared to 28.6% [blind luck] rising to 82.3% [full model] using all 10th graders).

As discussed in the next section, the use of some applicant characteristics (such as the race or ethnicity of the applicant's friends and participation in a college preparation program for disadvantaged students, many of which are specifically targeted to racial minorities) might prompt legal challenge because such characteristics would appear to be too nakedly an attempt to create a proxy for the applicant's race. Other variables that are included in ELS based on parental surveys would be problematic. *How often the parent knows 10th grader's whereabouts* would be nearly impossible to accurately

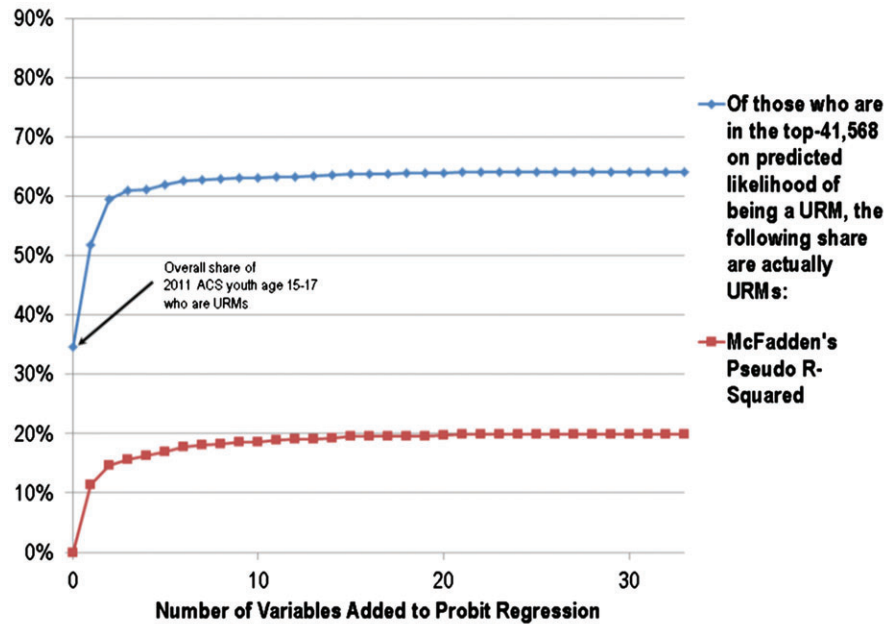


Figure 4.3 Same as Figure 4.1, but for American Community Survey (ACS) data. URM = underrepresented minority.

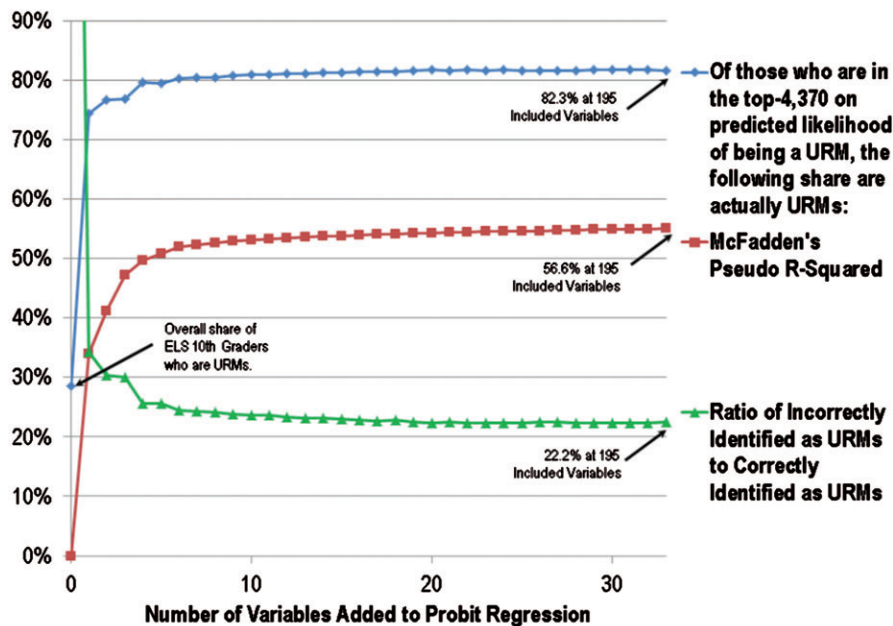


Figure 4.4 Same as Figure 4.2, but for Education Longitudinal Study (ELS) data. URM = underrepresented minority.

collect from the applicant, whereas the parents' frequency of attending religious services with the 10th grader would draw political and legal challenge. Most of the variables that are included in ELS based on administrator surveys would be unavailable in administrative databases or in other surveys (e.g., ED's Common Core of Data and Private School Survey). In Figure 4.5, I show the effect of eliminating problematic variables from Z. As shown, using the reduced set of variables modestly reduces the accuracy of the prediction of the student's URM status. When using the full set of 171 nonproblematic variables, the rate of correctly tagging URMs is 75.7% (as opposed to 82.3% when using all 195 variables), and correspondingly, one incorrectly tags 0.32 students who are not underrepresented minorities for every student whom one correctly tags as a URM (rather than 0.22 when using all 195 variables).<sup>52</sup>

**Table 4.3** First 10 Variables Entered Into Probit Regression

No.	UT-Austin	ACS	ELS
1	High school's average SAT/ACT score	Living with two parents who are both U.S. natives	Best friend #1 is a URM
2	Student's SAT/ACT score	Number of bedrooms in household/persons in household	Native language is Spanish
3	Father's income is $\geq \$80,000$	Household receives SNAP	Best friend #2 is a URM
4	U.S. citizen	Living with father only who is a U.S. native	Best friend #3 is a URM
5	Longhorn Opportunity Scholarship high school	Household rent	ELS 10th grade math test score squared
6	Passed AP foreign language test	Household income	High school's percent of students who are minorities
7	Private high school	Living with mother only who is a foreign born	Live with two parents/guardians
8	Neither parent attended high school	Living with two parents who are both foreign born	Parents expect student to earn a graduate degree
9	$\$60,000 \leq \text{father's income} < \$80,000$	Born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas	Born in the United States
10	$\$40,000 \leq \text{father's income} < \$60,000$	Living with father only who is foreign born	Student participated in interscholastic football

Note. ACS = American Community Survey, AP = advanced placement, ELS = Education Longitudinal Study, SNAP = Supplemental Nutrition Assistance Program, URM = underrepresented minority, UT = University of Texas.

### Discussion: Is the Use of Correlates of Race Workable and Race Neutral?

Replacing URM status with the predicted likelihood of being a URM in the university's admissions decisions has serious limitations that challenge its workability and might not be deemed race neutral by the courts.

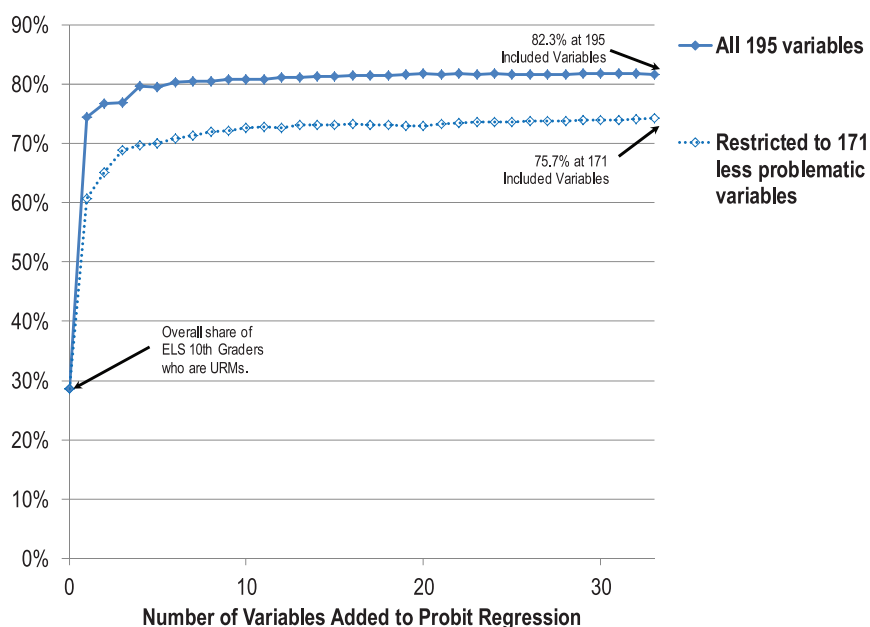
First, let us evaluate whether it is workable. If URM status cannot be perfectly predicted, then to maintain the same racial composition of admitted students, universities would need to put more weight on  $\widehat{URM}_i$  than they formerly put on  $URM_i$ . This shifting weight will likely reduce the quality of admitted students, where *quality* means the multidimensional desirability of the class of admitted students from the perspective of the university. To illustrate this concept, consider two admissions systems:

$$\text{Admit} = 1 \text{ if } [\mu_1 URM_i + X_i' \omega > \text{threshold}] . \quad (4.2)$$

$$\text{Admit} = 1 \text{ if } [\mu_2 \widehat{URM}_i + X_i' \omega = \mu_2 \Phi(Z_i' \hat{\beta}) + X_i' \omega > \text{threshold}] . \quad (4.3)$$

Suppose that Equation 4.2 represents the university's ideal admissions system (i.e., the admissions system that will yield the most desirable class of admitted students). If the university could perfectly predict URM status, then  $URM_i = \widehat{URM}_i$ , and Equation 4.3 would yield the exact same group of admitted students. Given the challenges in perfectly predicting URM status that this paper has illustrated,  $\mu_2$  would need to be made larger than  $\mu_1$  to yield the same number of admitted URMs as a certain number of non-URMs would incorrectly receive the advantage conferred by  $\mu_2 \widehat{URM}_i$  and thus would be more likely to be admitted than they would have been under Equation 4.2. Making  $\mu_2 > \mu_1$  results in a shift of emphasis in admissions from  $X_i' \omega$  toward  $Z_i' \hat{\beta}$  and thus distorts the university's optimal admitted class. Simulations conducted by Fryer, Loury, and Yurek (2008) and Long (2015) have demonstrated that such alternative admissions systems are inefficient relative to traditional affirmative action.

To ward off the adverse effects of using an imperfect predictor of race, the university could seek to obtain additional information on students to help predict their URM status. The university may want to go to great lengths and follow the path of private businesses that try to predict the characteristics of their customers. For example, as Duhigg (2012, para 7) noted,



**Figure 4.5** Education Longitudinal Study of 2002 data: Effect of excluding more problematic variables. ELS = English as a second language, URM = underrepresented minority.

Target can buy data about your ethnicity, job history, the magazines you read, if you've ever declared bankruptcy or got divorced, the year you bought (or lost) your house, where you went to college, what kinds of topics you talk about online, whether you prefer certain brands of coffee, paper towels, cereal or applesauce, your political leanings, reading habits, charitable giving and the number of cars you own.

Although universities may want to go down this path, they may be thwarted by the monetary cost of purchasing such information, the political challenge that would be likely to follow from such privacy invasion, and the distaste it would engender in applicants.

An additional concern is that using correlates of minority status will invite adverse behavioral responses on the part of students (and possibly parents and school administrators). If students become aware that the predicted likelihood of being a URM is a factor in admissions, they will be incentivized to “invest” in those characteristics in  $Z$  that are positively weighted. For example, Cullen, Long, and Reback (2013) investigated whether Texas's top 10% policy led students to strategically enroll in high schools that would increase their chances of being in the top 10% by choosing a high school with lower-achieving peers. Cullen et al. found that

among the subset of students with both motive and opportunity for strategic high school choice, at least 5% enroll in a different high school to improve the chances of being in the top 10%. These students tend to choose the neighborhood high school in lieu of transferring to more competitive schools and, regardless of own race, typically displace minority students from the top 10% pool. (Cullen et al., 2013, p. 32)

Thus, students are engaging in costly behavior that has no productive rationale other than to effectively undo the reweighting of applicant characteristics that is generated by the top 10% policy. One should expect such undesirable responses in reaction to the use of a URM proxy. Additionally, one should expect some degree of lying on admissions forms with respect to questions that are hard to verify. For example, if universities followed the ELS lead in asking for the race or ethnicity of the applicant's best friend, there would be no way to confirm or refute the applicant's claim. Conversely, if universities only used existing information from their current application forms to create  $\widehat{URM}_i$ , doing so would reduce adverse behavioral responses, yet the poor results using the UT Austin data suggest that such a strategy is not workable given the high number of non-URMs who would be incorrectly tagged and thus given weight in the admissions decision.

Next, let us evaluate whether using Equation 4.3 is race neutral from a legal perspective. The short answer is probably not. A cogent discussion of the definition of *race neutral* is found in a College Board report by Coleman, Palmer, and



Winnick (2008). They noted that “policies that are neutral on their face but that are motivated by a racially discriminatory purpose, resulting in racially discriminatory effects” are deemed “race-conscious policies” and “trigger ‘strict scrutiny’ review” (p. 4). They further noted that

as the term [*proxy*] is frequently used, it can literally refer to a substitute for a race-conscious policy or program, where the racial diversity goal is precisely the same. In that circumstance, the mere shift to a potentially viable “proxy” for race may mitigate some risk of being sued (nothing on the face of the policy would indicate that race was a factor in relevant decisions)—but, with evidence that racial goals were driving the development and implementation of the policy, such a shift would not likely insulate the “proxy” policy from strict scrutiny review. (Coleman et al., 2008, p. 7)

Thus, if the *intent* of the university’s new admissions system, as given in Equation 4.3, is to confer advantage to URMs, it might not be considered race neutral based on the analysis by Coleman et al. (2008). To further illustrate this point, Coleman et al. cited a case decided by the ED’s Office of Civil Rights:

If the evidence shows a deliberate use of race-neutral criteria as proxies for race ... OCR would then apply Title VI strict scrutiny standards ... Proxy allegations raise issues of intentional discrimination, [for which certain] ... factors may be evidence of intent to discriminate, [including] the impact of the official action (i.e., whether it impacts more heavily upon one racial group than another); a pattern of discrimination unexplainable on grounds other than race; the historical background of a decision, particularly the specific sequence of events leading to the challenged policy; departure from the normal procedural sequence; and the legislative or administrative history, particularly contemporaneous statements of members of the decision-making body. (Coleman et al., 2008, p. 7)

To make this idea concrete, suppose a university had a simple admissions rule before the *Gratz* and *Grutter* rulings:

$$\text{Admit} = 1 \text{ if } [\text{URM}_i + \text{GPA}_i > 4] . \quad (4.4)$$

After these rulings, suppose the university instituted the following new admissions rule, where SES reflects the student’s socioeconomic status (measured continuously from 0 = highest SES to 1 = lowest SES), and FRPL is the percentage of the student’s high school’s students who received free or reduced-price lunch:

$$\text{Admit} = 1 \text{ if } [0.5 \times \text{SES}_i + 0.5 \times \text{FRPL}_i + \text{GPA}_i > 4] . \quad (4.5)$$

Whether courts deem Equation 4.5 to be race neutral may depend on the intent of the university in using this admissions system. If the university became motivated to care about low-income students and students from low-income backgrounds, and it instituted Equation 4.5 for the purpose of utilizing so-called class-based affirmative action, then Equation 4.5 would likely be deemed race neutral, even if such an admissions system yielded the side benefit of increasing racial diversity of the admitted class. The U.S. Supreme Court appears to be hoping that universities will become inspired in this manner and that utilizing such admissions systems will serve as one possible workable race-neutral alternative that would produce the educational benefits of diversity.

Now, suppose instead that prior to implementing Equation 4.5, the university had undertaken a linear probability model approach to estimate Equation 4.1 using only SES and FRPL as predictors of URM status and found that  $\beta_{\text{SES}} = \beta_{\text{FRPL}} = 0.5$ , and thus,  $\widehat{\text{URM}}_i = 0.5 \times \text{SES}_i + 0.5 \times \text{FRPL}_i$ , and thus used  $0.5 \times \text{SES}_i + 0.5 \times \text{FRPL}_i$  as a proxy for  $\text{URM}_i$ , yielding Equation 4.5. The development of this proxy indicator might not be deemed race neutral by a reviewing court as the intent is to confer advantage to URMs.<sup>53</sup> That is, it is not the form of the admissions system that determines whether it is race neutral; rather, it is the intent of university officials that may matter.<sup>57</sup>

So, if running a regression to predict URM status and then using the resulting prediction in an admissions system like Equation 4.3 may not be deemed by the courts to be race neutral, then what is to be gained by the exercise conducted in this paper? The aim of this paper is not to show universities how to implement such a system; rather, the aim is to illustrate both the promise that is suggested by using correlates of race and the legal, political, and educational peril in doing so. The promise is illustrated by the relatively successful results illustrated when using 195 characteristics of ELS students and correctly predicting the student’s URM status 82% of the time. If one were to obtain additional information on an applicant (perhaps by buying information on household purchasing habits), one could probably do even better in correctly predicting URM status. However, doing so nakedly may not be deemed race neutral, would add cost to the

university's applicant review, would engender adverse behavioral responses, and would invite political challenge. Thus, instead, the university is invited by the courts to think about other goals (e.g., improving access for low-income students) and hope that such efforts will yield side benefits to racial and ethnic diversity. Pursuing these approaches would not yield as many admitted URMs as would be achieved by the direct approach shown in Equation 4.3, which draws into question the extent to which such indirect so-called race-neutral approaches are workable.

### Suggested citation:

Long, M. C. (2017). The promise and peril for universities using correlates of race in admissions in response to the *Grutter* and *Fisher* decisions. In G. Orfield (Ed.), *Alternative paths to diversity: Exploring and implementing effective college admissions policies* (Research Report No. RR-17-40, pp. 49–59). Princeton, NJ: Educational Testing Service. <https://doi.org/10.1002/ets2.12121>

### Notes

- 1 The 2009 revisions to the original Texas HB 588 legislation (i.e., TEC, 2009, §51.803) set a by-campus cap of 75% on the required proportion of entering students composed of percent plan beneficiaries. The practical result has been a shift in the required rank to gain admission to the University of Texas at Austin. For example, students applying to University of Texas had to be in the top 7% of their high school classes to be eligible for automatic admission for the 2014–2015 academic year (University of Texas at Austin, 2014–2015).
- 2 The A-G courses are UC- and California State University (CSU)-approved courses that students are required to complete in high school in order to be eligible for admission consideration. Each course is assigned a letter from A through G. See [http://collegetools.berkeley.edu/resources.php?cat\\_id=22#resource](http://collegetools.berkeley.edu/resources.php?cat_id=22#resource)
- 3 The regents went on to rescind SP-1 in 2001; however, by that time, it was state law, and so, this action was largely symbolic.
- 4 The regents' ban took effect at UC graduate and professional schools a year earlier, in 1997.
- 5 The Organic Act (1868) was later superseded by state constitutional amendments in 1879 and 1918, although some of the original language was retained, and it is still looked to as the charter document for UC.
- 6 More than a century after the Organic Act (1868), in 1974, the California Assembly passed a resolution that, while not constitutionally binding on UC, stated, "Each segment of California public higher education shall strive to approximate ... the general ethnic, sexual and economic composition of the recent high school graduates" (UCOP Outreach Task Force, 1997, p. 6).
- 7 Even after several years of recovery from the Great Recession, per-student state funding nationally was down 19% in constant value dollars, and only three states were spending more per student (Blumenstyk, 2015, p. A12).
- 8 This report notes that there is more unevenness in the MESA college destination data due to their information systems prior to 2009–2010.
- 9 Unfortunately, these students are not tracked after they enroll in college, so it is not possible to know to what extent they continue in STEM majors in college.
- 10 This study was accompanied by other qualitative studies of Puente in the same journal issue.
- 11 Race/ethnicity was not reported for the 418 Puente students who transferred to four-year colleges; however, the Puente program, while open to all students, is very heavily Latino given that its focus is on this group.
- 12 The 15 SAPEP programs include: ArtsBridge (to increase education professionals), Community College Transfer (to increase transfer from the community colleges), Community College Articulation (maintain 2- and 4-year articulation agreements), Community College Assist (track articulation), EAOP, Graduate and Professional School Programs (increase graduate enrollment), K-20 Intersegmental Alliances (increase capacity of schools to offer college preparatory curricula), MESA Community College, MESA Schools program, Puente High School, Puente Community College, Student Initiated Programs (university student-based outreach to schools), UC Scout (online college preparatory curricula), UC Links (university students help prepare K-12 students in college preparatory courses and information on graduate education), and University-Community Engagement (information and support for high school college preparatory course completion and passage of exit exams). Full explanation of the programs and numbers of students served are found in UCOP (2013).
- 13 Most SAPEP programs have modest per-pupil costs. An exception was the Preuss Charter School at UCSD (enrolling up to 800 students, about two thirds of whom were Latino), which received \$1 million annually in state/UC funds in the 2000s, but its SAPEP funding was eliminated in 2011, and it now relies on other funding sources.
- 14 We note the following nuances in a guideline document prepared by UC's Office of General Counsel (2007):  
**Outreach.** Proposition 209 prohibits outreach programs that are targeted exclusively to or available exclusively for one gender or one or more particular racial group, when such efforts provide informational or other advantages to candidates who have access to them. Nevertheless, the University may, as part of a comprehensive program of outreach, target or increase specific efforts

within that program to reach particular groups where the program's benefits are available broadly to other groups, and the special efforts are necessary to reach the targeted group's members effectively and therefore to "level the informational playing field."

**Programs of Particular Interest to Particular Groups.** The University may lawfully sponsor programs, such as outreach programs and informational events, that may, because of their content, be of particular interest to members of particular racial groups or one gender.

- 15 In California, Native Americans tend to be widely dispersed in mostly urban areas so that there are few clusters of these students that can be targeted by school or community.
- 16 When a high school student in a SAPEP program ends up enrolling at a CU campus or community college and otherwise would not have progressed to higher education, we are not dismissive of the important social good at play in such circumstances. Rather, we simply mean to emphasize in this paper that such important matters/questions are beyond the scope of our inquiry into UC and race-neutral alternatives.
- 17 Selectivity has several dimensions, and this figure is not intended to suggest that selectivity at UC Riverside has now reached the same level as UC Berkeley in the mid-1990s.
- 18 UC Merced was opened in 2005, although as of 2014, it has enrolled only 5,900 undergraduate students.
- 19 A key example is the *Schuetz* merit brief by Michigan's Attorney Bill Schuetz (Brief for Petitioner at *Schuetz v. BAMN*, 2012). As noted earlier, this brief was strongly criticized in Justice Sotomayor's dissenting opinion (*Schuetz v. BAMN*, 2014 [Sotomayor, J., dissenting]; see also Brief of Civil Rights Project/Proyecto Derechos Civiles, 2013; Kidder, 2013a).
- 20 Between the admissions stage and the enrollment stage is the important issue of yield rates—the proportion of students who choose to accept an admission offer. Yield rates represent a rather complex topic (Long, 2007, p. 318 [reporting that initial studies of affirmative action bans showed a mixture of declines and increases in yield rates at selective universities]). One of us has written elsewhere about the negative impact of Prop 209 on URM yield rates (Kidder, 2012; Kidder & Onwuachi-Willig, 2014). In an earlier peer-reviewed study, Geiser and Caspary (2005) likewise found that Prop 209 was associated with a drop in UC yield rates for the most competitive URM candidates. There is one study by Antonovics and Sander (2013) claiming that Prop 209 resulted in a *warming effect* on URM yield rates. However, this claim has been criticized as resulting from several methodological confounders, including a once-in-a-lifetime *drop* in UC tuition costs that occurred in 1998 and 1999 when Prop 209 coincidentally took effect (see Kidder, 2012; Kidder & Onwuachi-Willig, 2014).
- 21 For amici briefs reviewing this literature, see Brief for Civil Rights Project/Proyecto Derechos Civiles (2013) and Brief for Association of American Medical Colleges et al. (2013).
- 22 The AAU represents 60 of the most prestigious research universities in the United States, split between 34 publics and 26 privates (AAU, n.d.). The AAU also includes two Canadian universities not included in the comparisons in this paper.
- 23 California's population of African American public high school graduates (7.0%) is lower than the national average (14.9%) and is projected to stay that way (Western Interstate Commission for Higher Education, 2012).
- 24 Although beyond the scope of our present paper, affirmative action programs for Native American communities can have different conceptual and historical moorings, including that programs initiated on the basis of the political classification of membership in a federally recognized tribe is potentially legally distinct from programs based on racial and ethnic categories (see Goldberg, 2002; Reynoso & Kidder, 2008; Rolnick, 2011).
- 25 Too often, the umbrella IRM category is the primary means by which American Indian students are discussed in the social science literature about affirmative action and race-neutral alternatives, for multiple reasons including small sample sizes at individual campuses American Indians are not always analyzed separately in the literature. An exception is Hinrichs (2012, Tables 4–5), who conducted disaggregated analyses and found that American Indian access would decline substantially for American Indian freshmen at *U.S. News* top 50 universities (especially top 50 publics) under race-blind admission simulations.
- 26 The last year these data were available from CPEC is 2012. The CPEC was closed down by the governor, and this is an estimate about when these data were last updated.
- 27 One notable difference is that UT Austin and Texas A&M are among the largest public institutions in the United States, with a combined current undergraduate enrollment of 84,051, whereas UC Berkeley and UCLA (the two most selective publics in California) have a combined undergraduate enrollment of 54,625. This fact, combined with California having a much larger base of high school graduates, helps to explain why there was never the carrying capacity in California to allow students ranked in the top 10% to be guaranteed admission to the UC campus of their choice.
- 28 Somewhat different from the Texas Top Ten Percent Plan, under ELC students still must complete at least 15 UC-approved college preparatory classes (called *A-G courses*) by the time they graduate from high school. A student with a high class rank but insufficient A-G courses will not be eligible for ELC.
- 29 The regents instituted policy regarding comprehensive review in 2001 after what was viewed as a successful experiment by the UC Berkeley campus, which began in 1998.

- 30 Additional grade points are awarded for AP and honors courses, classes that are often less (or not) available in low-performing schools. See University of California Admissions (n.d.). It should be noted, however, that the individual campuses post somewhat different, and higher, freshman admit GPAs than the systemwide website.
- 31 Approximately 6% of applicants were referred to supplemental review.
- 32 We add 0.8% Native American, which we did not routinely include in analyses because of small numbers.
- 33 BOARS defines bimodal educational environments as “those where there are two populations in a school whose populations have different opportunities, typically because of the differences between feeder schools” (UC BOARS, 2014, p. 34).
- 34 Applicants could also take the ACT exam with writing in substitute for the SAT exams, but a very small percentage of applicants opted for the ACT exam.
- 35 Further discussion of the use of standardized tests to manipulate eligibility pools can found at UC BOARS (2003) and CPEC (1992).
- 36 And this is a charitable comparison, as the gulf between, for example, UCLA enrolling 36% Pell Grant students versus Michigan enrolling 16% suggests major differences also in the proportion of institutional gift aid that is earmarked for low-income students.
- 37 At the institutions in this study, the number of Latinos reporting feeling respected was likely higher across the board because Latinos were less likely than African Americans to encounter acute racial isolation, but these findings are skewed toward sunbelt universities and should not be presumed to generalize to other parts of the country where a college campus might have a larger African American population and a smaller Latino population.
- 38 These results are also consistent with an earlier qualitative study of racial climate at UC Berkeley by Solorzano, Allen, and Carroll (2002), who found that IRM students at UC Berkeley shortly after the implementation of Prop 209 felt marginalized, with harmful consequences in the classroom (e.g., URM students keeping silent in class discussions).
- 39 To close the loop on our earlier discussion of SAPEP (academic preparation) programs, UC’s post-baccalaureate premedical programs have been subject to significant budget cuts in the last decade notwithstanding the finding that these premed programs are effective in both boosting enrollment of diverse students in medical school and yielding physicians more likely to practice in high-Latino and high-African American communities. (Grumbach & Chen, 2006; Lupton, Vercammen-Grandjean, Forkin, Wilson, & Grumbach, 2012; UCOP, Budget and Capital Resources, 2011).
- 40 These comparisons are imprecise because current NSF data track the top 20 (not top 50) institutions and for multiple other reasons.
- 41 We are not suggesting that faculty should mirror state demographics as UC campuses compete for faculty from across the country and indeed the world. Our point relates to the students’ perspective and the world they encounter in the classroom versus the broader society.
- 42 Compare Bowen et al. (2009) with the essay “UC as an Engine of Social Mobility: Successes, Challenges and Concerns” in UCOP (2011).
- 43 I group Asian American students and White students together because affirmative action practices at colleges and universities in the United States have historically not given preference to Asian students (Bowen & Bok, 1998; Laird, 2005). Long (2004a) and Long and Tienda (2008) found no significant advantage or disadvantage given to Asian applicants relative to White applicants using, respectively, national college admissions data from 1992 and institutional admissions data from the University of Texas in pre-Hopwood years, yet Long and Tienda found a modest disadvantage given to Asian applicants at Texas A&M University in pre-Hopwood years.
- McFadden’s pseudo- $R^2$  is defined as  $1 - \log\text{-likelihood of a model predicting URM with } \widehat{URM}_i$  /  $\log\text{-likelihood of a model predicting URM with } \overline{URM}$ . If one could perfectly predict URM status, then McFadden’s pseudo- $R^2$  would equal 1. If one had no ability to improve on  $\overline{URM}$  as a predictor of  $URM_i$  for all students, then McFadden’s pseudo- $R^2$  would equal 0.
- 44 I drop all individuals who have missing indicators for race or ethnicity. The same restriction is placed on the other two sources of data.
- 45 This procedure is done using Stata’s impute command. Note that multiple imputation is unneeded in this context because I am not using Equation 4.1 for hypothesis testing and thus have no need to add uncertainty to our prediction of missing variables. Rather, I am simply trying to predict URM using available information as efficiently as possible.
- 46 Missing values in the ACS data were imputed by the U.S. Census Bureau.
- 47 Sample sizes are rounded to the nearest 10 owing to requirements of the ED for using restricted-access data.
- 48 Unlike for the UT Austin data, I impute each missing variable using only variables that have no missing values (instead of the best available subset of available nonmissing information using all variables), again using Stata’s impute command. I do this because Stata’s impute command has a limit of 31 variables in each imputation. The right side variables in these imputations included family’s socioeconomic status composite (Version 2); scores on ED-administered 10th-grade math and reading tests; 10th-grade enrollment; student lived with two parents; a set of indicators for parent’s highest level of education; and indicators for parent’s income (which was itself imputed by ED if missing).



- 49 Furthermore, even this low level of predictive validity might be somewhat optimistic if the university were to maintain its set of weights constant across years. What might be highly predictive of minority status for one cohort may not be as predictive for another cohort. To cross-validate the results and to get a sense of how accurate the predictions would be if the obtained equations were applied to another data set, I ran the probit regression on the 1998 cohort of applicants and applied the resulting weights to the 2000 cohort. In doing so, I found that with 33 variables in the model, I got close to the same performance as found using the full data (e.g., out of the 3,230 applicants in the 2000 cohort with the highest likelihood of being a URM, 52.4% of them are in fact URM). I get similar performance splitting the full sample in half, running the probit on one half of the data, and applying the results to the other half of the data.
- 50 Dickson (2006) described the early years of the program as follows: “This program offers scholarships of \$4000 each year to students who graduate from qualifying high schools. High schools qualify for the program if the average parental income at the high school is less than \$35,000 and if less than 35% of the high school graduates sent college admission test scores to the University of Texas in the previous year” (p. 110). Dickson listed 68 high schools as program recipients by 2000.
- 51 Following is the list of the top 10 variables entered using the nonproblematic variables in order: percentage of the school’s students who are minority students, native language is Spanish, score on ED-administered 10th-grade math test, two parents living with 10th grader, student participated in interscholastic basketball, parents expect student to earn a graduate degree, grade point average, born in the United States, hours per day spent watching TV/DVD on weekends, and family has access to the Internet.
- 52 See Jaschik (2006) for a discussion of a debate about whether a new admissions system at the law school at Wayne State University was serving as a proxy for race.
- 53 However, the university may be able to argue that it is intending to benefit all of its enrolled students by providing the educational benefits that flow from having a diverse student body. In this sense, the university’s intent is not to be racially discriminatory. There is doubt regarding how a court would view this argument. (I would like to thank Liliana Garces for suggesting this argument to me in a personal correspondence. I would also like to thank Judith Winston for providing very helpful feedback and references that helped me develop this section of the paper.)

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## Appendix A

### Students Applying to the University of California

**Table A1** California High School Graduates by Race/Ethnicity and Gender, Including Percentage Completing A–G Courses Required for University of California/California State University Entry, 2012–2013

Graduate race/ethnicity		Female	Male	Total
American Indian	# of graduates	1,558	1,441	2,999
	% A–G courses	30.7%	21.4%	26.2%
African American	# of graduates	13,968	13,104	27,072
	% A–G courses	33.9%	24.2%	29.2%
Asian American	# of graduates	20,513	21,384	41,897
	% A–G courses	72.9%	62.7%	67.7%
Pacific Islander	# of graduates	1,333	1,251	2,584
	% A–G courses	40.5 %	28.7 %	34.8 %
Filipino	# of graduates	6,384	6,802	13,186
	% A–G courses	62.0%	47.3%	54.4%
Latino	# of graduates	102,678	96,355	199,033
	% A–G courses	33.8 %	24.2 %	29.1 %
White	# of graduates	62,540	62,959	125,499
	% A–G courses	52.2%	42.0%	47.1%
Two or more races	# of graduates	4,077	3,854	7,931
	% A–G courses	51.7%	41.6%	46.8%
Total <sup>a</sup>	# of graduates	214,013	208,164	422,177
	% A–G courses	44.1%	34.6%	39.4%

*Note.* Data from California Department of Education (2014).

<sup>a</sup>The grand totals at the bottom also include fewer than 2,000 race/ethnicity not reported graduates.



### Freshmen Application Volume to UC Campuses, 1995 to 2012

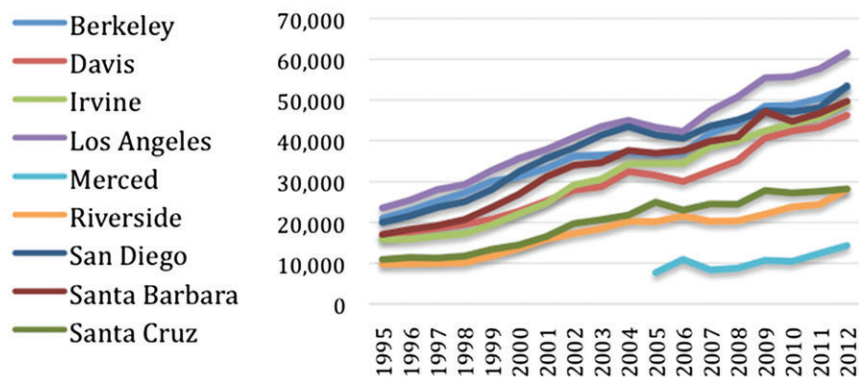


Figure A1 Freshmen application trends to University of California (UC) campuses since 1995.

### African American Percentage of Undergraduates at UCs and AAUs, Fall 2011

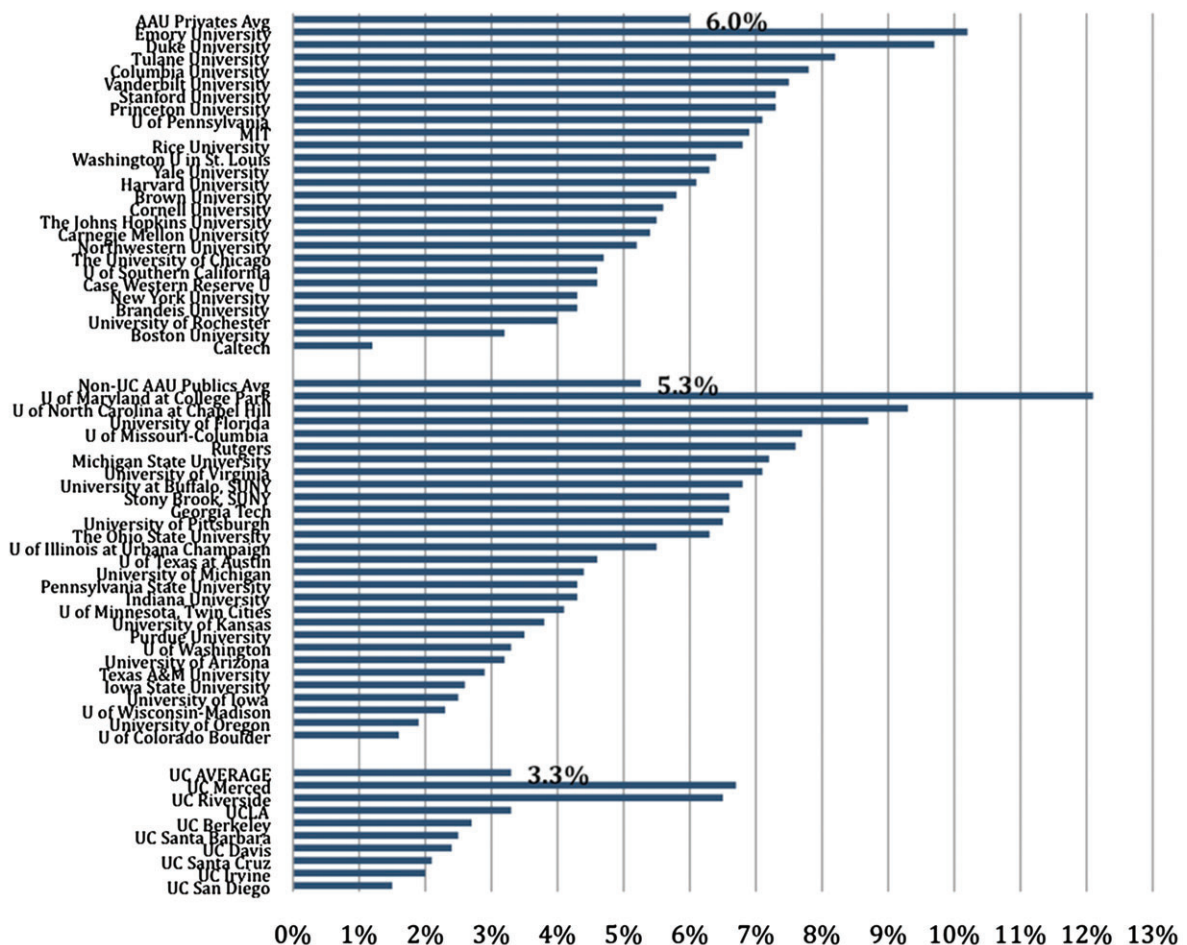


Figure A2 African American enrollment proportions at AAU universities, fall 2011. *Source:* Institute of Education Sciences (2015).

*Note.* Many of the institutions with similarly low African American enrollment are in states with low African American populations (Colorado, Iowa, Oregon) or are at institutions without race-conscious affirmative action (Texas A&M, University of Washington, and a ban at the University of Arizona that partly influenced 2011 figures).



## Appendix B

Education Longitudinal Study of 2002 (ELS) Data: List of Variables and Pre- and Postimputation Means

Variable	All 10th graders			10th graders who apply to very competitive or higher colleges		
	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean
Student is						
An underrepresented minority	15,240	28.6%	28.6%	4,770	18.7%	18.7%
Black (Non-Hispanic)	15,240	13.3%	13.3%	4,770	9.6%	9.6%
Native American (Non-Hispanic)	15,240	0.9%	0.9%	4,770	0.4%	0.4%
Hispanic	15,240	14.5%	14.5%	4,770	8.7%	8.7%
Student's academic achievement measures						
Score on ED-administered 10th grade math test	15,240	50.72	50.72	4,770	57.22	57.22
Score on ED-administered 10th grade reading test	15,240	50.55	50.55	4,770	56.56	56.56
Grade point average	13,980	2.72	2.71	4,430	3.23	3.21
Number of AP/IB courses by 10th grade	13,990	0.75	0.75	4,440	1.79	1.76
Number of AP exams with a 3+ score by 10th grade	15,240	0.28	0.28	4,770	0.77	0.77
How far student thinks he/she will get in school						
Some college	13,790	10.5%	10.8%	4,520	2.5%	2.7%
Bachelor's degree (but not higher)	13,790	39.3%	39.3%	4,520	33.9%	34.1%
Graduate degree	13,790	42.2%	41.5%	4,520	62.7%	62.1%
Student's views (1 = <i>strongly agree</i> , ... , 5 = <i>strongly disagree</i> ):						
Students at my school get along well with teachers	14,550	2.20	2.20	4,550	2.08	2.09
Students at my school are friendly with other racial groups	14,490	1.80	1.80	4,530	1.76	1.76
Other students at my school often disrupt class	14,470	2.11	2.11	4,530	2.22	2.22
The teaching is good at my school	14,390	2.06	2.06	4,500	1.95	1.95
Do not feel safe at my school	14,390	3.27	3.27	4,510	3.43	3.43
There are gangs in my school	14,340	2.94	2.94	4,490	3.12	3.11
The rules at my school are strictly enforced	14,420	2.23	2.23	4,500	2.22	2.22
Had something stolen at my school	14,560	1.46	1.46	4,540	1.42	1.42
Someone offered drugs at my school	14,540	1.32	1.32	4,550	1.22	1.23
Classes at my school are interesting and challenging	14,520	2.40	2.40	4,540	2.30	2.30
Education is important to get a job later	14,470	1.42	1.42	4,530	1.31	1.32
Teachers at my school expect success in school	14,460	2.31	2.31	4,520	2.26	2.27
Parents expect success in school	14,490	1.54	1.54	4,530	1.49	1.49
How much likes school	14,680	2.13	2.13	4,630	2.21	2.21
Thinks reading is fun	11,810	2.49	2.51	4,010	2.31	2.33
Thinks math is fun	11,670	2.79	2.79	3,970	2.66	2.68
Important to friends to go to parties	10,340	2.14	2.14	3,550	2.13	2.13
Student's reported importance of (1 = not; 2 = somewhat; 3 = very important)						
Having lots of money	14,590	2.33	2.33	4,650	2.27	2.27
Being able to find steady work	14,480	2.83	2.83	4,620	2.86	2.86
Working to correct inequalities	14,500	1.92	1.92	4,640	1.91	1.91

## Appendix B Continued

Variable	All 10th graders			10th graders who apply to very competitive or higher colleges		
	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean
Student's reported hours/week spent on						
homework						
In school	14,670	4.72	4.71	4,670	4.69	4.69
Out of school	14,790	6.08	6.03	4,710	8.21	8.20
Student's reported hours/day on						
Computer for school work	13,960	1.18	1.19	4,460	1.31	1.30
Computer other than for school	13,990	2.20	2.20	4,470	2.19	2.19
Watching TV/DVD on weekdays	14,050	2.97	2.98	4,460	2.51	2.52
Watching TV/DVD on weekends	14,070	4.00	4.01	4,480	3.85	3.85
Video/computer games on weekdays	14,000	1.09	1.09	4,450	0.80	0.81
Video/computer games on weekends	14,040	1.76	1.76	4,470	1.53	1.54
Student ever in/participated in						
Science/math fair at my school	14,490	14.0%	14.0%	4,530	17.9%	17.8%
Voc/tech skills competition at my school	14,470	7.9%	7.9%	4,530	6.3%	6.3%
ESL program	14,240	8.6%	8.7%	4,490	5.4%	5.4%
Dropout prevention program	14,330	2.9%	2.9%	4,510	1.2%	1.2%
Special education program	14,300	7.5%	7.6%	4,510	3.7%	3.8%
Program to help prepare for college	14,310	22.5%	22.5%	4,500	25.3%	25.1%
School band or chorus	14,890	22.0%	21.9%	4,700	27.2%	27.1%
School play or musical	14,890	12.2%	12.2%	4,700	15.1%	15.1%
Student government	14,840	7.2%	7.1%	4,680	12.1%	12.1%
Academic honor society	14,870	9.6%	9.5%	4,690	17.4%	17.4%
College preparation program for disadvantaged <sup>a</sup>	10,250	4.8%	5.3%	3,840	4.3%	4.2%
Student's interscholastic participation in						
Baseball	14,030	7.1%	7.1%	4,410	6.7%	6.7%
Softball	14,020	9.9%	9.9%	4,420	10.4%	10.4%
Basketball	14,030	13.8%	13.8%	4,440	15.3%	15.2%
Football	14,060	16.6%	16.7%	4,420	15.7%	15.7%
Soccer	13,900	9.7%	9.7%	4,380	13.4%	13.3%
Other team sport	13,940	24.6%	24.6%	4,400	33.4%	33.1%
Solo sport	13,980	14.2%	14.1%	4,420	20.4%	20.3%
Cheerleading	14,020	12.8%	12.8%	4,410	13.3%	13.3%
Student reports that family has						
Daily newspaper	13,390	64.7%	64.3%	4,430	71.6%	71.2%
Computer	13,390	88.8%	88.0%	4,430	96.7%	96.3%
Access to the Internet	13,420	82.8%	81.9%	4,440	93.2%	92.7%
More than 50 books	13,380	82.1%	81.2%	4,420	91.4%	90.9%
Other yes/no questions for student						
Recognized for good attendance at my school	14,480	21.9%	21.9%	4,530	21.1%	21.0%
School has library media/resource center	14,230	95.6%	95.6%	4,500	97.4%	97.3%
Did not participate in work-based learning experiences	13,000	57.4%	57.4%	4,290	50.7%	51.2%
Ever worked for pay not around house	13,110	58.7%	58.5%	4,300	58.0%	58.0%
Has own room	13,330	86.5%	86.0%	4,410	89.3%	89.1%
Observed students betting on sports	9,740	49.1%	49.1%	3,380	49.7%	49.6%
Native language is Spanish	14,850	7.0%	7.1%	4,710	3.5%	3.6%
Has an individualized education plan	7,980	11.9%	11.8%	2,480	2.9%	3.4%
1st friend is an underrepresented minority <sup>a</sup>	14,130	27.8%	28.1%	4,450	18.3%	18.3%
2nd friend is an underrepresented minority <sup>a</sup>	13,840	28.8%	29.2%	4,380	19.3%	19.3%
3rd friend is an underrepresented minority <sup>a</sup>	13,160	28.9%	29.5%	4,190	20.1%	20.2%
Student held job for pay during 2001 – 2002 school year	12,840	37.7%	37.6%	4,230	35.9%	36.0%

## Appendix B Continued

Variable	All 10th graders			10th graders who apply to very competitive or higher colleges		
	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean
Took or plans to take commercial SAT/ACT preparation course	10,150	13.9%	13.5%	3,840	22.5%	21.3%
Received or plans to receive private tutoring for SAT/ACT	10,130	9.7%	9.9%	3,820	12.6%	12.1%
Parent reported:						
# of dependents	12,420	2.67	2.69	4,200	2.59	2.60
<i>How often know 10th grader's whereabouts</i> (1 = never; 2 = seldom; 3 = usually; 4 = always) <sup>a</sup>	12,280	3.80	3.80	4,140	3.84	3.83
Provide 10th grader advice about applying to college/school after HS (1 = never; 2 = sometimes; 3 = often)	12,220	2.12	2.11	4,130	2.27	2.25
Provide 10th grader advice about jobs to apply for after high school (1 = never; 2 = sometimes; 3 = often)	12,230	2.15	2.15	4,140	2.10	2.11
<i>Attended religious services with 10th grader</i> (1 = never; 2 = rarely; 3 = sometimes; 4 = frequently) <sup>a</sup>	12,270	3.05	3.03	4,150	3.18	3.16
Went to restaurants with 10th grader (1 = never; 2 = rarely; 3 = sometimes; 4 = frequently)	12,310	3.39	3.38	4,160	3.45	3.44
Level of crime in neighborhood (1 = high; 2 = moderate; 3 = low)	12,240	2.87	2.86	4,140	2.91	2.90
How safe is neighborhood (1 = very safe; 2 = somewhat safe; 3 = somewhat unsafe; 4 = very unsafe)	12,250	1.37	1.38	4,130	1.28	1.29
Away from home while attending post-sec important to parent (1 = somewhat important; 2 = very important; 3 = not important)	11,650	2.12	2.12	4,060	2.05	2.06
Parents' highest level of education is						
HS dropout	15,240	6.1%	6.1%	4,770	1.9%	1.9%
HS graduate	15,240	19.8%	19.8%	4,770	10.0%	10.0%
Some college	15,240	32.9%	32.9%	4,770	24.5%	24.5%
Bachelor's degree (but not higher)	15,240	22.7%	22.7%	4,770	30.6%	30.6%
Family income is						
<= \$25,000	15,240	20.8%	20.8%	4,770	10.9%	10.9%
\$25,001-\$50,000	15,240	30.5%	30.5%	4,770	22.3%	22.3%
>=\$100,001	15,240	14.8%	14.8%	4,770	28.0%	28.0%
Family's socioeconomic status composite (Version 2)	15,240	0.04	0.04	4,770	0.45	0.45
How far in school wants 10th grader to go						
Some college	13,090	8.4%	8.8%	4,330	1.0%	1.4%
Bachelor's degree (but not higher)	13,090	44.1%	44.3%	4,330	37.0%	37.5%
Graduate degree	13,090	44.1%	43.3%	4,330	61.6%	60.4%
Other yes/no questions for parent						
English is parent respondent's native language	13,270	81.9%	81.6%	4,390	80.7%	80.9%
Belong to parent-teacher organization	12,190	26.2%	25.4%	4,110	38.4%	37.1%

## Appendix B Continued

Variable	All 10th graders			10th graders who apply to very competitive or higher colleges		
	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean
Attend parent-teacher organization meetings	12,210	36.6%	36.7%	4,120	39.7%	39.1%
Take part in parent-teacher organization activities	12,100	31.0%	30.3%	4,080	39.8%	38.6%
Act as a volunteer at the school	12,130	31.7%	30.7%	4,090	43.2%	41.8%
10th grader has biological/adoptive parent living outside home	12,230	29.4%	30.4%	4,150	19.9%	21.3%
Done something specific to have some money for 10th grader's education after HS	11,310	55.0%	52.5%	4,090	66.7%	65.1%
Two parents living with 10th grader	15,240	74.9%	74.9%	4,770	81.6%	81.6%
Mother was born in the United States	13,250	78.1%	77.8%	4,380	75.7%	75.9%
Father was born in the United States	13,110	78.1%	77.9%	4,330	76.5%	76.7%
10th grader was born in the United States	13,340	89.5%	89.4%	4,420	89.5%	89.6%
School is a						
Public magnet school	14,920	7.5%	7.5%	4,670	7.4%	7.4%
Area vocational school/center	14,940	38.8%	38.9%	4,670	31.6%	31.7%
Full-time technical/vocational school	15,000	4.4%	4.4%	4,700	3.4%	3.4%
Other technical or vocational school	14,960	3.0%	3.0%	4,690	3.0%	3.0%
Catholic diocesan school	14,890	7.8%	7.7%	4,660	12.9%	12.7%
Catholic parish school	14,920	1.0%	1.0%	4,660	1.3%	1.3%
Catholic religious order school	14,990	4.3%	4.3%	4,680	8.5%	8.5%
Catholic independent school	14,940	2.2%	2.2%	4,680	4.3%	4.3%
Other private school with religious affiliation	15,000	5.4%	5.3%	4,700	7.5%	7.4%
Private school without religious affiliation	14,930	4.2%	4.1%	4,670	7.6%	7.5%
Boarding school	14,920	1.8%	1.8%	4,670	3.5%	3.5%
Indian reservation school	14,940	0.2%	0.2%	4,680	0.0%	0.0%
Military academy	14,950	0.1%	0.1%	4,690	0.1%	0.1%
Alternative/dropout prevention/continuation school	14,940	2.9%	2.9%	4,690	2.9%	2.9%
Charter school	14,940	1.1%	1.1%	4,660	0.4%	0.4%
Grade 10 enrollment 2001 – 2002 school roster	15,240	318	318	4,770	302	302
Student/teacher ratio	14,790	16.56	16.55	4,670	15.84	15.85
Percent of the school's students that are minority students	14,960	33.78	33.78	4,720	28.99	28.98
Percent of your student body (or 10th graders) participated in/are						
Academic counseling program	12,690	79.18	79.31	4,030	81.95	81.77
Vocational counseling program	10,030	47.81	47.60	2,760	46.30	46.30
Dropout prevention program	7,300	19.49	19.14	1,820	18.13	17.85
Gang prevention program	3,510	23.43	24.05	940	22.62	22.29
Alcohol/drug prevention program	10,910	43.90	43.70	3,450	48.41	47.72
AIDS education program	9,310	42.53	42.54	2,940	46.42	45.61
Crisis prevention program	7,760	41.25	42.17	2,370	45.15	45.62
General HS program	12,360	45.03	45.48	3,880	34.93	36.13
College prep program	12,770	61.99	61.47	4,080	73.22	72.10
Other specialized programs	11,950	12.58	12.72	3,840	12.24	12.35
Voc/tech/business program	12,370	15.12	15.33	3,910	10.92	11.38
Special ed program	14,250	9.26	9.29	4,450	7.28	7.37

## Appendix B Continued

Variable	All 10th graders			10th graders who apply to very competitive or higher colleges		
	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean	Number of nonmissing observations	Pre-imputation mean	Post-imputation mean
Alternative program	12,180	1.92	1.97	3,850	1.47	1.52
Receive bilingual education	12,130	3.65	3.62	3,810	3.29	3.24
Receive ESL	12,380	3.60	3.81	3,900	3.16	3.30
Receive remedial reading	12,450	4.23	4.33	3,900	3.21	3.34
Receive remedial math	12,240	5.79	5.91	3,850	4.37	4.55
After school/summer outreach	12,140	3.81	3.89	3,850	2.95	3.05
LEP or non-English proficient	14,490	4.06	4.18	4,570	3.16	3.27
Receive free/reduced-price lunch	13,990	23.48	23.65	4,430	15.02	15.32
<i>Tardiness</i> <sup>a</sup>	12,720	1.15	1.14	4,060	1.22	1.21
Absenteeism	12,690	1.20	1.19	4,040	1.29	1.28
<i>Physical conflicts</i> <sup>a</sup>	12,720	3.60	3.57	4,070	3.76	3.73
<i>Robbery/theft</i> <sup>a</sup>	12,740	3.73	3.72	4,070	3.74	3.73
<i>Vandalism</i> <sup>a</sup>	12,730	3.89	3.88	4,070	3.95	3.93
<i>Alcohol</i> <sup>a</sup>	12,730	3.93	3.92	4,070	3.95	3.94
<i>Illegal drugs</i> <sup>a</sup>	12,710	3.87	3.86	4,060	3.90	3.89
<i>Gang activity</i> <sup>a</sup>	12,740	4.54	4.52	4,070	4.65	4.63
<i>Learning hindered by poor condition of buildings (1 = not at all; 2 = very little; 3 = to some extent; 4 = a lot)</i> <sup>a</sup>	12,690	1.54	1.54	4,050	1.45	1.46
How accurate is the following (1 = not at all; 2 = very little; 3 = to some extent; 4 = a lot)						
<i>Student morale is high</i> <sup>a</sup>	12,680	3.98	3.97	4,030	4.12	4.11
<i>Teacher morale is high</i> <sup>a</sup>	12,690	3.80	3.79	4,050	3.93	3.92
Lowest salary paid to full-time teachers	12,120	28,300	28,421	3,820	28,381	28,413
Percentage of your full-time teachers who						
Are certified	14,670	91.99	92.00	4,520	89.35	89.39
Teach out of field	12,420	4.25	4.18	3,900	4.11	4.11
Other yes/no questions for administrator						
<i>Good teachers receive higher pay</i> <sup>a</sup>	13,170	5.4%	5.3%	4,190	7.5%	7.3%
<i>Students must pass a test for high school diploma</i> <sup>a</sup>	13,320	57.0%	58.0%	4,200	48.1%	49.3%
<i>Require students pass through metal detector</i> <sup>a</sup>	13,400	2.4%	2.5%	4,230	1.1%	1.2%
<i>Require drug testing for any students</i> <sup>a</sup>	13,310	16.0%	15.9%	4,190	15.9%	15.8%
<i>Require students to wear uniforms</i> <sup>a</sup>	13,370	15.9%	15.4%	4,230	23.1%	22.1%
<i>Enforce strict dress code</i> <sup>a</sup>	13,260	56.7%	56.5%	4,180	57.1%	56.9%
<i>Emergency call button in classrooms</i> <sup>a</sup>	13,310	53.8%	54.2%	4,200	48.4%	49.2%
<i>Use paid security at any time during school hours</i> <sup>a</sup>	13,370	64.2%	65.7%	4,220	59.5%	60.8%

Note. Squares of all continuous variables (i.e., those not listed above with % symbols) are included as well. Sample sizes are rounded to the nearest 10 due to requirements of the U.S. Department of Education for using restricted-access data. AP = Advanced Placement, ED = U.S. Department of Education, ESL = English as a second language, HS = high school, IB = International Baccalaureate, LEP = limited English proficiency, post-sec = postsecondary; tech = technical, Voc = vocational.

<sup>a</sup>Italicized variables are those that would either invite legal or political challenge, or be difficult to obtain in an admissions application.



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