

The Effects Of Race-Based Affirmative Action In Texas

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What We Studied

Race-based affirmative action policies are widespread in higher education. Despite the prevalence of these policies, there is little consensus on how affirmative action policies affect students either before they reach college or after they matriculate into college. This study provides new evidence on the benefits of affirmative action policies for underrepresented minority students. The study uses Texas Education Agency data to measure the effects of the 2003 lifting of a ban on race-based affirmative action by public universities in Texas. Specifically, the study compares how secondary school attendance, college application behavior, and college graduation changed for minority students relative to white students between the periods before and after the ban was lifted. Lifting the ban increased minorities' probability of applying to at least one college relative to whites' by 3 percentage points (16%) and the average number of selective Texas colleges applied to by 0.02 (32%). Lifting the ban also decreased minorities' percent of school days absent in 11th grade by 0.2 percentage points (3%). The effects are concentrated among students who had higher test scores prior to the lifting of the ban. Among minority students in the top 20% of the state according to their 6th grade scores on the TAAS/TAKS tests, lifting the ban increased applications to at least one college by 5 percentage points, the average number of selective schools to which they applied by 0.04, and graduation from a 4-year Texas university by 1.5 percentage points. It also decreased absences by 0.4 percentage points.

Affirmative action policies that weigh race or ethnicity as one factor in the college admissions process are widespread in higher education in numerous countries, including the United States, Brazil, and India. In the U.S., affirmative action policies in public universities have repeatedly been challenged by court cases at the sub-national and national level,¹ and eight states have banned race-based affirmative action at all public universities. These policies are also currently an important lever to increase diversity on elite college campuses (Kane, 1998). Therefore, understanding the costs and benefits of affirmative action policies is necessary for voters and policymakers to make informed decisions about whether or not these policies should continue or be expanded.

This study takes advantage of the fact that the Supreme Court ruling in *Grutter v. Bollinger* in 2003 reversed the 1996 elimination of race-based affirmative action in Texas public universities.² By analyzing the effects of this policy change on students' secondary school attendance, college application behavior, and college graduation, the study provides new evidence on the effects of affirmative action policies on minority students' outcomes both before and after they matriculate to college.

¹ Such cases include: *Regents of the University of California v. Bakke* in 1979, *Hopwood v. Texas* in 1996, *Grutter v. Bollinger* and *Gratz v. Bollinger* in 2003, *Fisher v. University of Texas* in 2013, *Schuette v. Coalition to Defend Affirmative Action* in 2014, and, most recently, *Fisher v. University of Texas* in 2015.

² In 1996, the U.S. Court of Appeals for the Fifth Circuit ruled in *Hopwood v. Texas* that public universities could not use race as a factor in deciding which applicants to admit. In 2003, the U.S. Supreme Court ruling in *Grutter v. Bollinger* abrogated the U.S. Court of Appeals for the Fifth Circuit's ruling.

Despite the importance of race-based affirmative action policies, and the controversy surrounding them, there is still little consensus on whether or how affirmative action policies directly affect the outcomes of the students that they are intended to help. In terms of students' outcomes in college, some scholars argue for a "mismatch hypothesis," suggesting that affirmative action policies harm students by placing them in programs that are not well-matched to their level of preparation (Sander, 2004 on law school admissions and Arcidiacono et al., 2016 on college major choice). But others argue that there is little evidence for the mismatch hypothesis (Rothstein and Yoon, 2008 on law school admissions) and that by enabling students to attend elite colleges, affirmative action policies increase graduation rates (Bowen and Bok, 1998). By measuring the effect of affirmative action on college graduation in Texas, this study contributes to this debate.

Additionally, much of the existing scholarly work has focused on the effects of affirmative action policies *after* students matriculate into college. In fact, affirmative action may have important effects on student effort or application behavior in secondary school. Theoretically, the effects of affirmative action policies that favor minority students in the college admissions process on human capital investment prior to college entry are ambiguous. On the one hand, affirmative action policies may lead secondary school minority students to invest less in their human capital by lowering the threshold for college admissions (Coate and Loury, 1993). On the other hand, affirmative action policies may incentivize minority students to work harder by increasing the probability that their hard work will translate into college admission (Fryer and Loury, 2005). Cotton et al. (2015) and Hickman (2013) provide evidence in favor of the latter mechanism.³ However, Antonovics and Backes (2014) find little evidence that the California affirmative action ban affected students' human capital investments, and Card and Krueger (2005) find no evidence that highly qualified minorities were less likely to send their SAT scores to selective universities after the elimination of affirmative action in Texas and California. Contributing to this debate, this study also provides new evidence on the benefits from affirmative action for students' pre-college outcomes.

How We Analyzed the Data

This study examines the effect of the 2003 elimination of the ban on race-based affirmative action in Texas on students' secondary school attendance, application behavior, and college graduation. The study uses data from the Texas Education Agency. To measure the effects of the elimination of the ban, the study uses regression analysis to compare how black and Hispanic students' outcomes changed between the pre- and post-elimination period relative to white students' outcomes. The study sample consists of black, Hispanic, and white students who were enrolled in 9th grade in Texas from 1997 to 2010. This study period was chosen both due to limitations on the availability of data on college applications and because this is the relevant study period. Since affirmative action was not eliminated in Texas prior to 1996, we do not include students who attended secondary school prior to 1996. Furthermore, to measure the effects of the elimination of the ban on students with different ability levels, as measured by their pre-treatment test scores, we separate students into 5 quintiles based on their 6th grade test scores. Then, we compare changes in the outcomes of minorities to whites between the pre- and post-period in each of these quintiles to arrive at different treatment effects by ability.

By comparing changes in cohorts' outcomes between the pre- and post-period, the study eliminates two important potential sources of bias. First, measures of the effect of affirmative action will not be biased by any changes that are happening in both whites' and minorities' outcomes over time. Such changes might occur if educational policies cause both types of students to improve or if changes in the school system affect students' outcomes. The study accounts for

³ Cotton et al. (2015) conduct a field experiment to simulate the effects of affirmative action. They pay middle school students based on their relative performance on a national math exam. Under the "affirmative action policy," younger students, who are disadvantaged on the exam, do not require as high scores as older students to receive payments. The authors find that affirmative action increases effort and exam performance by the disadvantaged group. Hickman (2013) estimates a model of the college admissions market, where students invest in their human capital pre-college based on their probabilities of college admissions. Using this model, he shows that eliminating race-based affirmative action would greatly reduce human capital investments by minorities.

this by only attributing the difference between changes in minorities' and whites' outcomes to the policy change. Second, the study will not be biased by any baseline differences in whites' and minorities' schools or socioeconomic status, since these baseline differences do not affect the *change* in cohorts' outcomes between the pre- and post-periods.

What We Discovered

The key findings of the study are documented by Figures 1-4. The findings are summarized in 3 areas – college applications, attendance, and college graduation – below.

College Applications

Figure 1 reports the estimated effect of the policy on the probability a minority student applies to any Texas college. The blue bar denotes the effect for all the students, the red bars denote effects that are estimated separately for students of each ability quintile, and the black dotted lines denote 95% confidence intervals. Across all students, the policy raised the probability of applying to at least one Texas college by 3 percentage points (16%). As one would expect, the largest effects are among the highest ability students (the fifth quintile), with the likelihood of applying increasing by 5 percentage points for these students.

Figure 1: Effect of Affirmative Action on Minorities' Probability of Applying to at Least One College

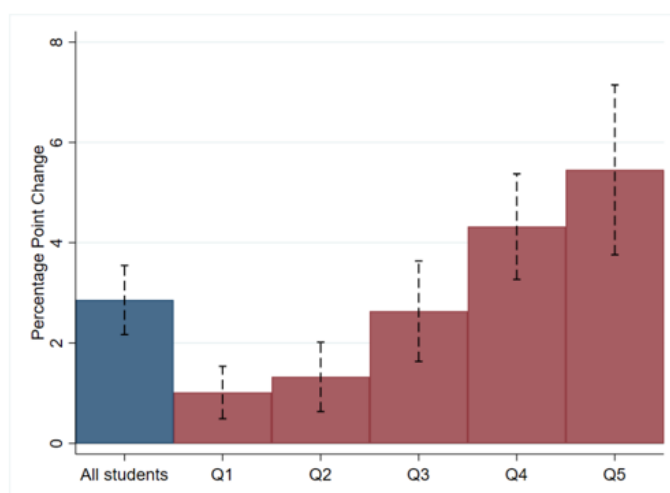
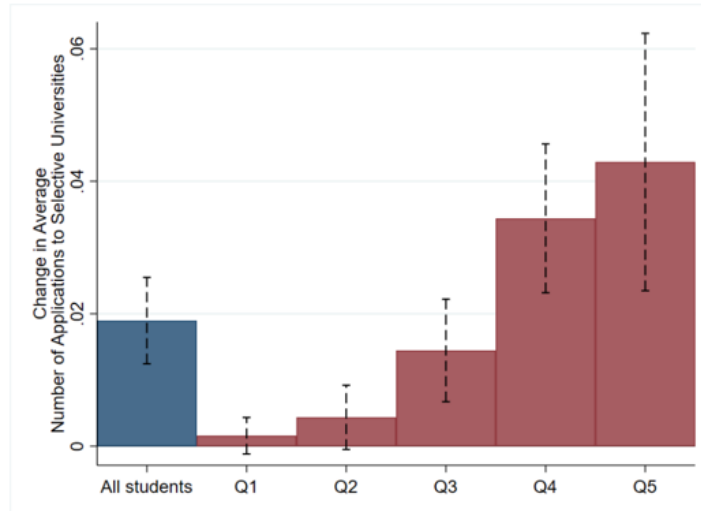


Figure 2 reports the effect of the policy on the average number of selective Texas universities to which a minority student applies. The results are similar, with the number of selective schools increasing for the average minority student by 0.02, representing a 32% increase. As before, the effect is concentrated among students at the top of the ability distribution, with those in the top 20% increasing the number of selective schools they apply to by 0.04.

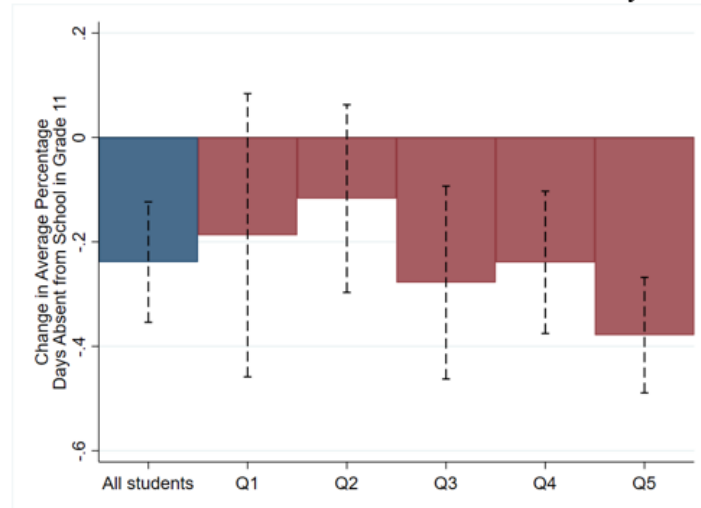
Figure 2: Effect of Affirmative Action on Number of Selective TX Colleges to Which Minorities Applied



Attendance

Figure 3 reports the effect of the policy on attendance for 11th grade students. The effects are again similar, with percent of days absent decreasing by 0.2 percentage points (3%). The largest effects are again for the highest ability students. When we focus on 10th grade attendance, the results (available on request) are similar.

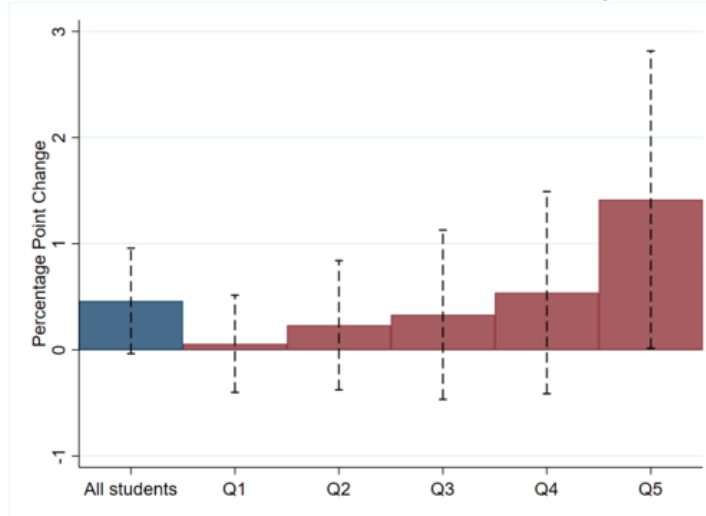
Figure 3: Effect of Affirmative Action on Minorities' Percent of Days Absent in 11th Grade



College Graduation

Figure 4 reports the estimated effects of the policy on minority students' probability of college graduation. The estimated effect for all students is positive, though statistically insignificant, indicating that we cannot reject that it is equal to 0. However, when we focus on the higher ability students, the effect is a significant 1.5 percentage points (5%).

Figure 4: Effect of Affirmative Action on Minorities' Probability of College Graduation



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