

Long-run Changes in Underrepresentation After Affirmative Action Bans in Public Universities

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Abstract

During the mid- to late-1990s, affirmative action was banned in several states, including California, Texas, Florida, and Washington. Following this early wave, several additional states have banned the practice, including Arizona, Georgia, Michigan, Nebraska, New Hampshire, and Oklahoma. In response to concerns about underrepresented minorities' falling college enrollment in flagship public universities, university administrators and state policymakers have taken a variety of steps to mitigate these declines. This paper assesses the long-run changes in the racial and ethnic composition of flagship universities after these affirmative action bans. We find that the elimination of affirmative action has led to persistent declines in the share of underrepresented minorities among students admitted to and enrolling in public flagship universities in these states. These results imply that alternative policies and administrative decisions were unable to fully replace traditional, race-based affirmative action. Further, we show that the antecedent conditions (e.g., household income, test scores) have only modestly improved in recent decades, suggesting that policymakers and administrators seeking improvement in minority representation within public universities need to focus on improving these conditions.

Keywords

Race/Ethnicity, Underrepresentation, Affirmative Action, Universities, Educational Attainment

*This paper is a first draft and, as such, is preliminary, incomplete, and should not be cited.
Thanks.*

Introduction

Affirmative action as a public policy response to racial inequality has been highly contentious since its inception in 1961 by President Kennedy. Beginning in the mid-1990s, a number of states banned affirmative action in public employment, contracting, and education. These bans emerged from a combination of voter referenda, court decisions, and actions by legislatures, governors, and university regents. The immediate negative impacts of these policies on enrollment in elite public universities by Black, Hispanic, and Native American youth (i.e., underrepresented minorities or URM) has been evaluated thoroughly in the literature (Brown and Hirschman, 2006; Long, 2007; Long and Tienda, 2008; Hinrichs, 2012).

In response to immediate declines in representation by these students, university administrators and legislators tried a variety of approaches as alternatives to race-based affirmative action. Yet, the immediate efficacy of these programs was not particularly successful. Long (2007) concludes “(t)he evidence shows a decline in minorities’ relative share of enrollment at flagship public universities after affirmative action was eliminated in several states, and the alternative strategies used by these universities have not offset these declines” (p. 315). Now, twelve years hence, this paper evaluates the *long-run* effects of these affirmative action ban on URM representation in public universities. The central question that we answer is: have the collection of policies introduced by university administrators and legislators succeeded in improving the long-run representation of Black, Hispanic, and Native American students among those enrolled in flagship and elite public universities after the elimination of affirmative action?

In the next section of this paper, we briefly discuss the history of affirmative action in university admissions and summarize the strategies implemented by public administrators in more recent years using the University of California at Berkeley as a case study. We then discuss our methods for measuring and evaluating long-run change in URM representation among applicants, admittees, and enrollees. In the fourth section, we show evidence that these policy and administrative responses were insufficient. Finally, we take a broader view of the issue and note the challenges faced by public administrators given persistent racial inequality observed throughout childhood.

Policy Change and Administrative Response: UC-Berkeley as a Case Study

The more famous *Brown v. Board of Education* case of 1954, which challenged the “Separate but Equal” doctrine that was established in 1896 by the notorious *Plessy v. Ferguson* decision, was preceded by the equally important *Sweatt v. Painter* decision of 1950. In *Sweatt*, the Supreme Court found “that a law school established by the state of Texas for black students was not equal to the white-only University of Texas Law School and that barring black students from the latter violated the equal protection clause of the Fourteenth Amendment” (Long, 2007, p. 315). Following these decisions and inspired by the Civil Rights Movement and the affirmative action initiatives of the Kennedy and Johnson administration, universities began to implement affirmative action practices to boost the enrollment of minority youth, with a particular focus on Black students.¹ These practices included giving minority youth preferences in admission and financial aid and reserving some admissions slots for minorities.

These early affirmative action practices faced court challenges resulting in the *Regents of the University of California v. Bakke* decision in 1978. The Supreme Court’s verdict in this case was a 4-1-4 split decision with Justice Powell siding with portions of the arguments of the four justices to either side of him. “Powell voted to affirm the part of the decision stating that an admissions system that reserved places for minority applicants was unconstitutional but rejected the part that barred the consideration of race. Instead, in Powell’s opinion, a university could use a student’s race or ethnicity as one factor among many in the interest of maintaining a diverse student body” (Long, 2007, p. 315). This opinion by Powell has been durable and largely was upheld by the subsequent decisions in *Grutter v. Bollinger* (2003), *Gratz v. Bollinger* (2003), and *Fisher v. University of Texas* (2013 and 2016).

Nonetheless, affirmative action challenges have found more success in lower courts and

¹ Throughout this paper, we use the succinct terms “Black” to denote individuals who are “Black or African American,” “Native American” to denote those who are “American Indian or Alaska Native,” and “Asian” or “Asian American” to denote those who are “Asian, Native Hawaiian, or Other Pacific Islander” following the racial categorization used by the U.S. Census Bureau (2011). Some of the data sources we use below separate Hispanics from these racial groups (e.g., non-Hispanic White, non-Hispanic Black), but others do not. Also, some of the data sources allow individuals to be denoted of multiple races (consistent with the Census Bureau), but others do not.

in state-level decisions by voters, legislators, and public executives. The early wave of affirmative action bans began in 1995 with a resolution by the Board of Regents of the University of California (SP-1), spurred by Governor Pete Wilson and Regent Ward Connerly (Wallace and Leshner, 1995). This was followed shortly in 1996 by the passage of the voter referenda known as the “California Civil Rights Initiative” (i.e., Proposition 209), which banned the use of race, ethnicity, national origin, and sex in university admissions, beginning with fall entrants in 1998. This initiative was the model for the parallel initiative in Washington State, I-200, which passed that fall, affecting fall entrants in 1999. Also, in 1999, Governor Jeb Bush introduced the “One Florida” policy, eliminating affirmative action in admissions at Florida’s public universities. This policy, which affected entrants to Florida State University in the fall of 2000, was delayed for one year at the University of Florida by an unsuccessful court challenge.

In 1996, *Hopwood v. Texas* was decided by the U.S. Court of Appeals for the Fifth Circuit. The *Hopwood* case involved four white plaintiffs who had been rejected from University of Texas at Austin's School of Law (i.e., the same institution at the heart of *Sweatt v. Painter* nearly 50 years earlier). The court held that “the University of Texas School of Law may not use race as a factor in deciding which applicants to admit in order to achieve a diverse student body, to combat the perceived effects of a hostile environment at the law school, to alleviate the law school's poor reputation in the minority community, or to eliminate any present effects of past discrimination by actors other than the law school.” The U.S. Supreme Court declined to review the case creating confusion as, in effect, the *Hopwood* decision pertained only to the states in the Fifth Circuit (i.e., Texas, Louisiana, and Mississippi), while the *Bakke* decision still held sway in the rest of the United States. The confusion was clarified by the 2003 Supreme Court decisions in the *Grutter* and *Gratz* cases, which abrogated the *Hopwood* decision. However, in the interim the “attorney general of Texas interpreted the *Hopwood* decision as a ban on race-based admissions, financial aid, and recruiting policies at public and private institutions in the state” (Long, 2017, p. 317). In 2001, the University of Georgia’s freshman admissions policy was found to be unconstitutional by the Eleventh Circuit Court of Appeals in *Johnson v. Board of Regents of Univ. of Georgia*, and the University dropped its affirmative action admission policy for fall 2002 entrants. After the *Grutter* and *Gratz* decisions in 2003, UT-Austin announced it would return to using affirmative action in admissions beginning with entrants in fall 2005, while Texas A&M University announced that it would not do so (University of Texas at Austin 2003;

Gates 2003). UT-Austin was challenged again in the largely unsuccessful *Fisher* cases of 2013 and 2016.

In light of the *Grutter* and *Gratz* decisions it became clear that court challenges were a less successful vehicle for compelling affirmative action bans. By contrast, voter initiatives paralleling Prop. 209 and I-200 found more success, with initiatives passed in Michigan (2006), Nebraska (2006), Arizona (2010), and Oklahoma (2012), while failing to pass in Colorado (2008). Finally, in 2011, New Hampshire's state legislature passed House Bill 0623 banning affirmative action.

These initiative and legislative efforts may have been successful in passing due to perception that alternative efforts by universities could be as efficacious as traditional, race-based affirmative action. Such alternate policies are summarized by Potter (2014) and include adding socioeconomic factors to the admissions decisions, increased outreach and financial support for low-income students, and dropping the practice of giving preference to "legacies" (e.g., relative of alumni).

Additionally, a popular conception emerged that universities could effectively leverage *de facto* segregation in high schools and diversify their college campuses by automatically admitting the top students from each high school in its state. Texas was the first to try this strategy in 1998 when they began automatically admitting to any Texas public university the top-10% of graduating classes at each high school in Texas. The popular perception of this program's efficacy can be summarized by this passage from Yardley (2002) in the *New York Times*:

Does the plan restore minority enrollment and improve access to the state system? ... The answer ... is a qualified yes. Before Hopwood, enrollment never reflected the diversity of the state, but the decision damaged many of the gains that had been achieved by Hispanics and blacks. The success of the 10 percent law has been in reversing that trend...

Florida implemented the "Talented 20" plan coincident with the "One Florida" policy, but this plan, which guarantees admission for students in the top-20% of each high school to a Florida public university although not necessarily the campus most preferred by the student, is effectively meaningless as many of these public universities are not very selective and thus nearly certain to admit such students regardless (Long, 2004).

California instituted its own top-X% plan in 1999, called "Eligibility in the Local Context" (ELC), which guarantees admission for students in the top-4% of each high school to a

UC campus, albeit not the campus of their choice, beginning with the fall class of 2001. ELC was expanded in 2001 with the introduction of the Dual Admissions Program (DAP). Students “who fell below the top four percent but within the top 12-1/2 percent of each California high school graduating class” were “eligible for DAP” and “were offered simultaneous admission to a community college and a specific UC campus, with the proviso that they must fulfill their freshman and sophomore requirements at the community college with a solid grade-point average before transferring to a UC campus” (Atkinson and Pelfrey, 2004, pp. 5-6). DAP was eliminated in 2011 (Selingo, 2011) and replaced, for the fall of 2012, by a plan offering admission to a UC campus to students who are in the top-9% of all high school graduates statewide.

Other actions were taken by the UC system that might have affected the application decisions of underrepresented minorities. In 2001, the UC Regents overturned their earlier decision in SP-1. Yet, this policy change was largely symbolic as the UC campuses were still bound by Prop. 209 (Schevitz, 2001). Additionally, in 2009, the University of California system initiated the Blue and Gold Opportunity Plan which is “a guarantee that if an undergraduate student’s family income is less than \$80,000, tuition will be covered through a combination of scholarships and state and national grants” (Kohli, 2012).

We now turn to examine UC-Berkeley as a case study and evaluate the efficacy of these strategies. Figure 1 shows that the collection of policies adopted by the state of California have not been sufficient to maintain representation of Black, Hispanic, and Native American students at UC-Berkeley. This figure illustrates several common trends that are repeated across many of the universities we study included in our study.

First, note that URM’s share of California’s high school graduates steadily rose from 36.9% to 54.5% between 1994 and 2015 as shown by the blue line. *Ceteris paribus*, we would expect this demographic change to lead to an increase in underrepresented minority students’ share of domestic students applying to UC campuses. Instead, URM’s share of domestic applicants has not increased commensurately and remained fairly flat.

Second, as more than two-thirds of UC-Berkeley’s domestic applicants come from California² and given the University of California’s mission to provide undergraduate education

² <https://www.collegecrane.com/en/blog/uc-berkeley-admission-statistics>

to “all eligible California high-school graduates”³, it would be reasonable to expect UC-Berkeley’s racial composition of domestic applicants to be *roughly* similar to California’s high school graduates. But, of course, given racial inequality in opportunities amongst youth, we find a large disparity between the racial composition of students graduating from high school in California and those domestic applicants who apply to UC-Berkeley (shown by the brown line). The difference between these two is shown by the brown line with open circles. This “gap” has hovered around 20-percentage points throughout this period. Interestingly, we do not find a substantial change in this applicant gap immediately upon the implementation of the affirmative action ban in 1998, but we do find it slightly declined in the years leading up to this policy change, which is not surprising given the initial announcement of the upcoming policy change in 1995. These patterns are observed in other universities as well.

Third, we observe a *large* decline in URM’s share of students admitted to (green line) and enrolling in (black line) UC-Berkeley immediately upon the elimination of affirmative action in 1998. Note that prior to this ban, URM’s were more represented among admittees than among applicants, and this pattern reversed immediately after the ban, thus revealing the importance of affirmative action to the admissions decisions. Among enrollees, the “gap” was 11-percentage points in 1995 and soared to 25-percentage points in 1998.

Fourth, we find that underrepresentation among students admitted to and enrolling in UC-Berkeley *substantially* widened in the two decades after the affirmative action ban. The enrollment gap was at 34-percentage points in 2015. As we show below, this pattern is common among elite public universities, like UC-Berkeley, and suggests that underrepresentation will persist indefinitely without policy change.

Finally, stepping back and taking a broader view of Figure 1, it is important to note that racial parity did not exist during the era of affirmative action policies at UC-Berkeley and most of the disparity has been generated by a lack of minority representation among applicants. The composition of a university’s enrollees is driven by the composition of its applicants, whether or not the university practices affirmative action. This fact is even more evident in modestly selective public universities where the magnitude of affirmative action preference is smaller (Kane, 1998; Long, 2004, 2010). This application disparity raises questions about the pre-college

³ <https://www.ucop.edu/uc-mission/index.html>

conditions that generate it and we return to this issue in the final section of the paper. .

Methods and Data

We conduct three separate analyses. In the first, we consider the trends in URM representation among applicants, admittees, and enrollees among all eighteen of these universities. In the second, we consider separately a subset of these universities we call the “flagship” university of their respective state. The flagship is either the most selective in admissions or the sole representative of the state among our eighteen institutions. These flagships include UC-Berkeley, UT-Austin, U. Florida, and the universities that are the sole representative of the state in Table 1. Our third analysis examines “elite” public universities, defined as those ranked “most competitive,” “highly competitive plus,” “highly competitive,” or “very competitive plus” by *2009 Barron's Profiles of American Colleges*. This list includes UT-Austin, Texas A&M, U. Florida, U. Georgia, U. Michigan, and the UC campuses at Berkeley, Irvine, Los Angeles, Santa Barbara, and San Diego.

For these eighteen universities, we compiled data on the number of applicants, admittees, and enrollees by race/ethnicity. These data were obtained by a combination of searches of publicly-available data listed on university websites, direct correspondence with university administrators, and, in some cases, Freedom of Information Act or state-specific Open Records requests.⁴ Most of the universities did not collect data on the number of multi-racial students, or began doing so very recently. As a result, we compute URM’s shares omitting identified multi-racial students from both the numerator and the denominator. That is, we compute URM’s share as equal to the number of students identified as Black, Hispanic, or Native American solely divided by the number of students identified as Black, Hispanic, Native American, Asian American, or White solely.

We estimate URM’s share of high school graduates by first collecting data on the number of public school graduates in each state by race/ethnicity. These data came from the U.S. Department of Education’s, Common Core of Data, “State Dropout and Completion Data File” for years through 2011 and directly from state websites for more recent years. We compute the

⁴ Note that the U.S. Department of Education’s Integrated Postsecondary Education Data System (IPEDS) collects data on the race/ethnicity of enrollees, but does not collect information on the race/ethnicity of applicants or admittees. For consistency in measures, we favored obtaining data on each of the three categories directly from these universities.

sum of public high school graduates that were Black, Hispanic, or Native American and the sum that were White or Asian American. We then inflate these sums to account for private high school graduates. We estimate private high school graduates by state, race (URM and non-URM), and year using a combination of data from the 2000 Census (Summary File 4) and 2004 through 2015 American Community Survey (1-year public use microdata sample).

Table 2 shows that across all of the states in which affirmative action was banned, URM's shares of the state's high school graduates rapidly increased. Thus, for these states, *ceteris paribus*, we should expect growth in the URM share of applicants, admittees, and enrollees. Interestingly, states with low initial levels of URM representation among graduates experienced the largest growth rates in their shares. For example, New Hampshire's URM share of high school graduates more than doubled from 2.1% to 5.2%, and this is consistent with an annual growth rate in the share of 6.2%. At the other extreme, Texas saw their URM share of graduates increase from 40.5% to 59.2%, which was the largest absolute gain during this period, although a lower rate of growth in the share.

We seek to assess whether the trends observed for UC-Berkeley are a general phenomenon. To do so, we compute the extent of underrepresentation for each university relative to their state's high school graduates (i.e., the "gap"). We plot multiple institutions on the same figure by defining the x -axis as the years before or after affirmative action is banned. More specifically, we set the fall entering cohort just before the ban to $Year_t = -0.5$ and the cohort just after the ban to $Year_t = 0.5$. For each university, i , we run the following regressions where t indexes years:

$$Gap_{it} = \beta_{0i} + \beta_{1i}Year_t + \varepsilon_{it} \text{ using data from pre-ban years.}$$

$$Gap_{it} = \gamma_{0i} + \gamma_{1i}Year_t + \varepsilon_{it} \text{ using data from post-ban years.}$$

Note that that regression for the pre-ban years does not include UT-Austin and Texas A&M as they have only one-year of data available before the affirmative action ban and it does not include UC-Merced as that campus was formed after California's ban. We then compute the weighted average slopes for the pre- and post-ban years as follows, where the weight for each campus is proportional to the number of pre-ban years during which the university has data available, T_i :

$$\hat{\beta}_1 = \frac{\sum_{i=1}^{15} T_i \hat{\beta}_{1i}}{\sum_{i=1}^{15} T_i}, \hat{\gamma}_1 = \frac{\sum_{i=1}^{18} T_i \hat{\gamma}_{1i}}{\sum_{i=1}^{18} T_i}$$

Next, we compute the average intercepts. While we could use the same procedure as was done to compute the average slopes, we take a different approach. For the purposes of plotting the “average intercepts” from the pre- and post-ban years we want to account for UT-Austin and Texas A&M, for whom we have data on both sides of the ban. We compute the following:

$$\hat{\beta}_0 = \frac{1}{17} \sum_{i=1}^{17} Gap_{i,t=-0.5} + 0.5\hat{\beta}_1, \hat{\gamma}_0 = \frac{1}{17} \sum_{i=1}^{17} Gap_{i,t=0.5} - 0.5\hat{\gamma}_1$$

That is, we compute the average gap just before the affirmative action ban (i.e., at $Year_t = -0.5$) and project it forwards to $Year_t = 0$ using the weighted average pre-policy slope and we compute the average gap just after the affirmative action ban (i.e., at $Year_t = 0.5$) and project it backwards to $Year_t = 0$ using the weighted average post-policy slope. Using these estimated parameters, we generate the following lines that are plotted below:

$$PRE_t = \hat{\beta}_0 + \hat{\beta}_1 Year_t$$

$$POST_t = \hat{\gamma}_0 + \hat{\gamma}_1 Year_t$$

The immediate effect of the affirmative action ban is captured by the difference in the intercepts, $\hat{\gamma}_0 - \hat{\beta}_0$, and we expect this difference to be negative. If alternative methods are successful, we would expect $\hat{\gamma}_1$ to be positive. In this case, we could estimate the years until the immediate effect is offset by computing the following ratio: $-(\hat{\gamma}_0 - \hat{\beta}_0)/\hat{\gamma}_1$. However, if $\hat{\gamma}_1$ is negative (as we show to be the case for admittees and enrollees), then the increased underrepresentation caused by the affirmative action ban would go on indefinitely.

Results

Figure 2 shows the extent of URM’s underrepresentation in each of the eighteen universities among applicants (top-left), admittees (top-right), and enrollees (bottom-right). Among applicants, we find essentially no immediate effect, on average, as the PRE_t and $POST_t$ lines meet at $Year_t = 0$. In the years after the ban, we find a *modest* amount of improvement in URM’s share of applicants, however, this slope is somewhat pulled upwards by the introduction of UC-Merced, at which Black, Hispanic, and Native American students are *overrepresented* among domestic applicants.

This positive news is not maintained when we look at admittees. Here, not surprisingly, we find a sizable decrease in URM’s share of admittees immediately following the affirmative action bans. Of more concern, the trends in nearly all of these universities are negative in the following years. Thus, it appears that *subsequent* changes in admissions systems or, perhaps,

declining relative merits of URM applicants are making it relatively harder for URM's to be admitted compared to their White and Asian American peers.

The third panel shows the effects on enrollees. Here we find a modest immediate negative effect followed by a modestly negative slope. Relative to the results for admittees, these results suggest that some other mechanism or policy changes must be at play (e.g., changes in financial aid) that are helping modestly offset the negative effect of admission changes. Nonetheless, these results show no promise for ameliorating long-term underrepresentation. Finally, we want to draw your attention to the effects observed at the University of Washington. In many respects, UW is a relative success story in that the extent of URM underrepresentation is smaller than at other public universities. However, like the others shown in Figure 2, UW's underrepresentation in enrollees grew after the ban on affirmative action, and has worsened in subsequent years. UW however, like many other universities, touts their diversity. For example, in the fall of 2016, UW released a press release titled "University of Washington fall 2016 entering class its most diverse ever." *All* of the credit for this supposed accomplishment can be attributed to changing demography among the state's high school graduates rather than any particular efforts of the University.

Figures 3 and 4 replicate the analysis shown in Figure 2, but with the set of universities restricted to "flagship" and "elite" public universities, respectively. The results are largely consistent with the results shown in Figure 2, however, for these restricted sets, we observe larger immediate negative effects and more negative post-ban slopes. These results show that the adverse effects on representation in these socially important "flagship" and "elite" public universities has not been ameliorated by subsequent actions at these universities.

Table 3 summarizes the information included in Figures 2-4 by showing the estimated parameters of the PRE_t and $POST_t$ equations. In the top-panel, we show that the very modest increase in underrepresentation among applicants to elite public universities (going from -18.45% to -18.54%) was offset in a mere 1.8 years given the positive post-ban slope of 0.05%. Yet, as shown in the second and third panels, the immediate adverse effects on URM's share of those students who are admitted to and enroll in these universities are not being offset and will persist indefinitely.

Conclusion: What Drives Persistent Underrepresentation in Public Universities

In Supreme Court Justice Sandra Day O'Connor's 2003 majority opinion in the *Grutter* case, she noted, "(w)e expect that 25 years from now, the use of racial preferences will no longer be necessary to further the interest approved today." This reference to "25 years" reflected the 25-year gap between the *Grutter* and *Bakke* decisions rather than some systematic analysis and forecast. Krueger, Rothstein, and Turner (2006) provide such a systematic analysis and conclude:

Economic progress alone is unlikely to narrow the achievement gap enough in 25 years to produce today's racial diversity levels with race-blind admissions. A return to the rapid black-white test score convergence of the 1980s could plausibly cause black representation to approach current levels at moderately selective schools, but not at the most selective schools. (p. 232)

Given that we have shown that Black, Hispanic, and Native American students' underrepresentation among applicants is the most important factor explaining their underrepresentation among enrollees, in this section, we evaluate the antecedent conditions that are likely to produce URMs that are either not ready to apply to these selective public universities or are discouraged from doing so leading to so-called "undermatching" (Griffith and Rothstein, 2009; Smith, Pender, and Howell, 2013; Dillon and Smith, 2013; Hoxby and Avery 2013; Black, Cortes, and Lincove, 2015).

We have collected a set of statistics from diverse sources that reflect the economic conditions and test scores of URMs and their White and Asian American peers, focusing on changes between roughly 1996 and 2016 (with variations in these years depending on data availability). These statistics are shown in Table 4 and reveal that most gaps in these precursor conditions are either narrowing slowly or diverging.

We begin with incarceration in state or federal correctional facilities. Carson (2016) finds that 2.2% of Black U.S. residents age 18 or older were incarcerated compared to 0.3% of Whites. The ratio between these share is 6.98, far about the 1.0 ratio that would imply equality. By 2016, this ratio had fallen to 5.87, suggesting some degree of convergence between imprisonment rates of Blacks and Whites across these 10 years. Assuming that this convergence continues linearly, we estimate that it will take 44 years for this ratio to converge to 1.0 (i.e., $10 \times (5.87 - 1.0) / (6.98 - 5.87)$). For Hispanics, 1.1% were imprisoned in 2006, which is 3.31 times the White imprisonment rate in this year. This ratio fell, modestly, to 3.13 by 2016 and we estimate it will take 116 years to fully converge, assuming continuation of this trend.

The next four outcomes show disparities in labor force participation rates and employment rates among the non-institutionalized civilian population (e.g., omitting those incarcerated and in the armed forces). We find Black male's labor force participation and employment rates were 91% and 86% of that for White males, respectively. These rates are converging ever so slightly in the third decimal places and imply convergence in 431 and 606 years respectively. Hispanic males have higher rates of labor force participation and employment than white males in 2016. Finally, Black, Hispanic, and White females have roughly comparable employment rates in 2016.

The lack of progress in the Black-White gap in household income mirrors the lack of progress in the Black-White gap in employment among men; Black households' median income was 63% of the median income for White households in 1996 and 64% in 2016. At this rate of progress, it will take 617 years until there is Black-White parity in median income. Moreover, the Black-Asian gap in income widened from 55% in 1996 to 48% in 2016. In contrast, Hispanics gained relative to Whites such that the Hispanic-White gap in income is projected to be closed in 37 years.

Blacks were 2.6 times more likely to be poor than Whites in 1995, and this ratio improved to 2.0 by 2016, implying 34 more years to convergence. Similarly, the Hispanic-White gap in poverty improved from 2.7 to 1.8, suggesting 17 years to convergence. Data from Brandeis University's Institute on Assets and Social Policy suggest a dramatic widening in Black-White wealth inequality from 1994 to 2013, which was likely caused by strong declines in home equity wealth for Blacks during the Great Recession (Shapiro, Tatjana, and Osoro, 2013). Pfeffer, Danziger, and Schoeni (2013) conclude that, "the Great Recession altered the distribution of wealth through 2011" (p. 99) such that "...whites and Asians were much less likely to have lost significant wealth than African Americans, Hispanics, Native Americans and others: 30 percent less likely to have lost any wealth, 37.5 percent less likely to have fallen into debt, and 74 percent less likely to have lost at least \$250,000" (p. 111).

These changes in racial and ethnic economic inequality are likely to affect test scores gaps. The next set of results show gaps in 4th and 8th grade math and reading exams from the National Assessment of Educational Progress and Kindergarten readiness, as reported in Reardon and Portilla (2016). These results show consistent patterns. We show that Black-White and Hispanic-White test score gaps are narrowing slowly, with convergence predicted in 39 to 85

years for each outcome with one exception (Black-White gaps in 8th grade reading are on page to converge in 1,147 years). However, in contrast, we find that Black-Asian and Hispanic-Asian gaps are widening during the periods in which data are available.

Putting these results together we find that Black and Hispanic youth are projected to converge with their White peers, but only very slowly and in most cases in around 50 years. There is little evidence that Black and Hispanic youth will catch-up to their Asian American peers given continuation of current trends.

These results present some important lessons for public administrators and policymakers. First, for university administrators the results shown here should challenge assertions commonly made about improvements in “diversity.” Such administrators should be aware that gains made in underrepresented minority groups’ share of enrollees is likely due to demographic change rather than successful interventions. What these university administrators have attempted to date have been insufficient to ameliorate the extent of underrepresentation which has in fact widened over the past decades. Such administrators should be challenged to do more and do better. They should be challenged with a goal of truly reflecting the racial and ethnic composition of their high school graduates. For state policymakers, these results show that university administrators cannot do this job alone. While some progress has been made in narrowing economic and K-12 educational disparities, such disparities are still large and will take decades to improve. If we expect flagship public universities to reflect the racial and ethnic diversity of their states, then policymakers must work harder and better to alleviate these pre-college disparities and thereby improve the college readiness of Black, Hispanic, and Native American students.

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Table 1: Selected Public Universities' Characteristics and Data Availability

State	Institution	Acronym	Affirmative Action	Data Available on URM Representation Among:			
			Ban Years	State's HS Graduates	Applicants	Admittees	Enrollees
TX	University of Texas at Austin	UT	1997-*	1996-2015	1996-2015	1996-2015	1996-2015
TX	Texas A&M University	TAMU	1997-*	1996-2015	1996-2015	1996-2015	1996-2015
CA	University of California, Berkeley	UCB	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, Davis	UCD	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, Irvine	UCI	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, Los Angeles	UCLA	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, Merced	UCM	1998-	2005-2015	2005-2015	2005-2015	2005-2015
CA	University of California, Riverside	UCR	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, Santa Barbara	UCSB	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, Santa Cruz	UCSC	1998-	1994-2015	1994-2015	1994-2015	1994-2015
CA	University of California, San Diego	UCSD	1998-	1994-2015	1994-2015	1994-2015	1994-2015
WA	University of Washington	UW	1999-	1994-2015	1994-2016	1994-2016	1994-2016
FL	Florida State University	FSU	2000-	1992-2015	1990-2004	1990-2004	1990-2015
FL	University of Florida	UF	2001-	1992-2015	1990-2015 **	1990-2015 **	1990-2015
GA	University of Georgia	UGA	2002-	1999-2015	1998-2015	1998-2015	1998-2015
MI	University of Michigan	UM	2008-	1999-2015	1999-2015	1999-2015	1999-2015
NE	University of Nebraska-Lincoln	UNL	2009-	2006-2015	2006-2015	2006-2015	2006-2015
AZ	University of Arizona	UA	2011-	1999-2015 ***	NA	NA	1999-2015 ***
OK	University of Oklahoma	OU	2013-	NA	NA	NA	NA
NH	University of New Hampshire	UNH	2013-	2000-2015	2000-2015	2000-2015	2001-2015

Notes:

"Affirmative Action Ban Years" provides the first year during which affirmative action was banned for the cohort of fall entrants.

"NA" denotes data that were either unavailable or not collected for this paper.

* Affirmative action was banned in Texas due to the 1996 *Hopwood* ruling which was overturned by the 2003 *Grutter* ruling.

** Data not available in 2005 or 2008.

*** Data not available in 2000.

Table 2: Growth in URM's Share of State's High School Graduates

State	Years of Data	Beginning Year	Ending Year	Average Annual Growth	Annual Growth Rate
NH	15	2.1%	5.2%	0.2%	6.2%
WA	21	9.5%	21.4%	0.6%	3.9%
NE	9	12.0%	19.7%	0.9%	5.7%
MI	16	15.1%	20.6%	0.3%	2.0%
GA	16	32.0%	45.3%	0.8%	2.2%
FL	23	32.0%	48.1%	0.7%	1.8%
AZ	16	35.1%	46.5%	0.7%	1.8%
CA	21	36.9%	54.5%	0.8%	1.9%
TX	19	40.5%	59.2%	1.0%	2.0%

Notes:

States are sorted by URM's share in beginning year.

Average annual growth = beginning-to-end-year change in URM share divided by years of data.

Annual growth rate is the rate, r , that solves the following equation:

beginning-year URM share $\times (1+r)^{\text{years of data}} = \text{ending-year URM share}$.

Table 3: Immediate Effect of Affirmative Action Ban and Long-Run Changes in Underrepresentation of Black, Hispanic, and Native American Students

		<u>Selected Public Universities</u>		<u>Flagship Public Universities</u>		<u>Elite Public Universities</u>	
		Intercept	Slope	Intercept	Slope	Intercept	Slope
Applied	Pre-Policy	-14.6%	-0.36%	-9.8%	-0.11%	-18.45%	-0.67%
	Post-Policy	-14.4%	0.14%	-10.6%	-0.03%	-18.54%	0.05%
	Immediate Effect of AA Ban	0.2%		-0.9%		-0.09%	
	Years Until Immediate Effect is Offset		NA		∞		1.8
Admitted	Pre-Policy	-14.5%	-0.43%	-9.6%	-0.16%	-17.6%	-0.67%
	Post-Policy	-16.8%	-0.21%	-12.7%	-0.35%	-21.0%	-0.30%
	Immediate Effect of AA Ban	-2.3%		-3.1%		-3.5%	
	Years Until Immediate Effect is Offset		∞		∞		∞
Enrolled	Pre-Policy	-16.0%	-0.67%	-11.3%	-0.22%	-19.1%	-0.75%
	Post-Policy	-16.8%	-0.03%	-13.8%	-0.29%	-21.6%	-0.15%
	Immediate Effect of AA Ban	-0.8%		-2.5%		-2.5%	
	Years Until Immediate Effect is Offset		∞		∞		∞

Notes:

Immediate effect of affirmative action ban is computed as the pre- to post-policy change in the intercept.

Years until immediate effect is offset is: not applicable if the immediate effect is positive; else computed as the immediate effect divided by the post-policy slope if the post-policy slope is positive; else infinite if both the immediate effect and post-policy slope are negative.

Table 4: Changes in Racial/Ethnic Inequality Across Two Decades

Characteristic	Year	Ratios			
		Black / White	Black / Asian	Hispanic / White	Hispanic / Asian
Share Imprisoned	2006	6.98		3.31	
	2016	5.87		3.13	
	Years to Converge	44		116	
Males: Share in the Labor Force (Non-Institutionalized Civilians, Age 16+)	1996	0.91		1.05	
	2016	0.91	0.89	1.09	1.07
	Years to Converge	431		∞	
Males: Share Employed (Non-Institutionalized Civilians, Age 16+)	1996	0.86		1.00	
	2016	0.86	0.83	1.07	1.04
	Years to Converge	606		∞	
Females: Share in the Labor Force (Non-Institutionalized Civilians, Age 16+)	1996	1.01		0.89	
	2016	1.06	1.08	0.99	1.01
	Years to Converge	∞		2	
Females: Share Employed (Non-Institutionalized Civilians, Age 16+)	1996	0.95		0.84	
	2016	1.01	1.02	0.96	0.97
	Years to Converge	NA		6	
Median Household Income	1995	0.63	0.55	0.64	0.56
	2016	0.64	0.48	0.77	0.59
	Years to Converge	617	∞	37	385
Share Poor	1995	2.62		2.71	
	2016	2.00	2.18	1.76	1.92
	Years to Converge	34		17	
Wealth Including Home Equity	1994	0.31			
	2013	0.07			
	Years to Converge	∞			

(Table 4 is continued on next page)

Table 4: Changes in Racial/Ethnic Inequality Across Two Decades (Continued)

Characteristic	Year	Ratios			
		Black / White	Black / Asian	Hispanic / White	Hispanic / Asian
NAEP 8th Grade Math Test Score	1996	0.85		0.89	
	2015	0.89	0.85	0.92	0.88
	Years to Converge	57		46	
NAEP 8th Grade Reading Test Score	1998	0.90	0.92	0.90	0.92
	2015	0.91	0.89	0.92	0.90
	Years to Converge	1,147	∞	56	∞
NAEP 4th Grade Math Test Score	1996	0.86	0.87	0.89	0.90
	2015	0.90	0.87	0.93	0.89
	Years to Converge	40	∞	39	∞
NAEP 4th Grade Reading Test Score	1998	0.86	0.90	0.86	0.90
	2015	0.89	0.86	0.90	0.87
	Years to Converge	63	∞	45	∞
		Standard Deviation Gap			
Kindergarten Readiness: Math	1998	-0.62		-0.78	
	2010	-0.55		-0.67	
	Years to Converge	85		73	
Kindergarten Readiness: Reading	1998	-0.39			
	2010	-0.32		-0.56	
	Years to Converge	52			

Notes:

Imprisonment inequality computed by the authors using statistics in Carson (2016).

Employment inequality computed by the authors using statistics posted by the U.S. Bureau of Labor Statistics,

<https://www.bls.gov/cps/aa1995/aat5.txt> and <https://www.bls.gov/cps/aa2015/cpsaat04.htm>, accessed on March 14, 2019

Household Income and share poor based on authors computations using statistics from Current Population Survey as reported in Census Bureau (1997) and Fontenot, Semega, and Kollar (2017).

Wealth inequality computed by the authors based on statistics posted by Brandeis University's Institute on Assets and Social Policy, <https://heller.brandeis.edu/iasp/index.html>, accessed on March 13, 2019.

NAEP = National Assessment of Educational Progress. Inequality in NAEP scores computed by authors based on statistics posted at https://www.nationsreportcard.gov/reading_2017/nation/gaps and

https://www.nationsreportcard.gov/math_2017/nation/gaps, accessed on March 13, 2019.

Kindergarten Readiness inequality come from Reardon and Portilla (2016).

Figure 1: Underrepresentation of Black, Hispanic, and Native American Students (URMs) at UC-Berkeley

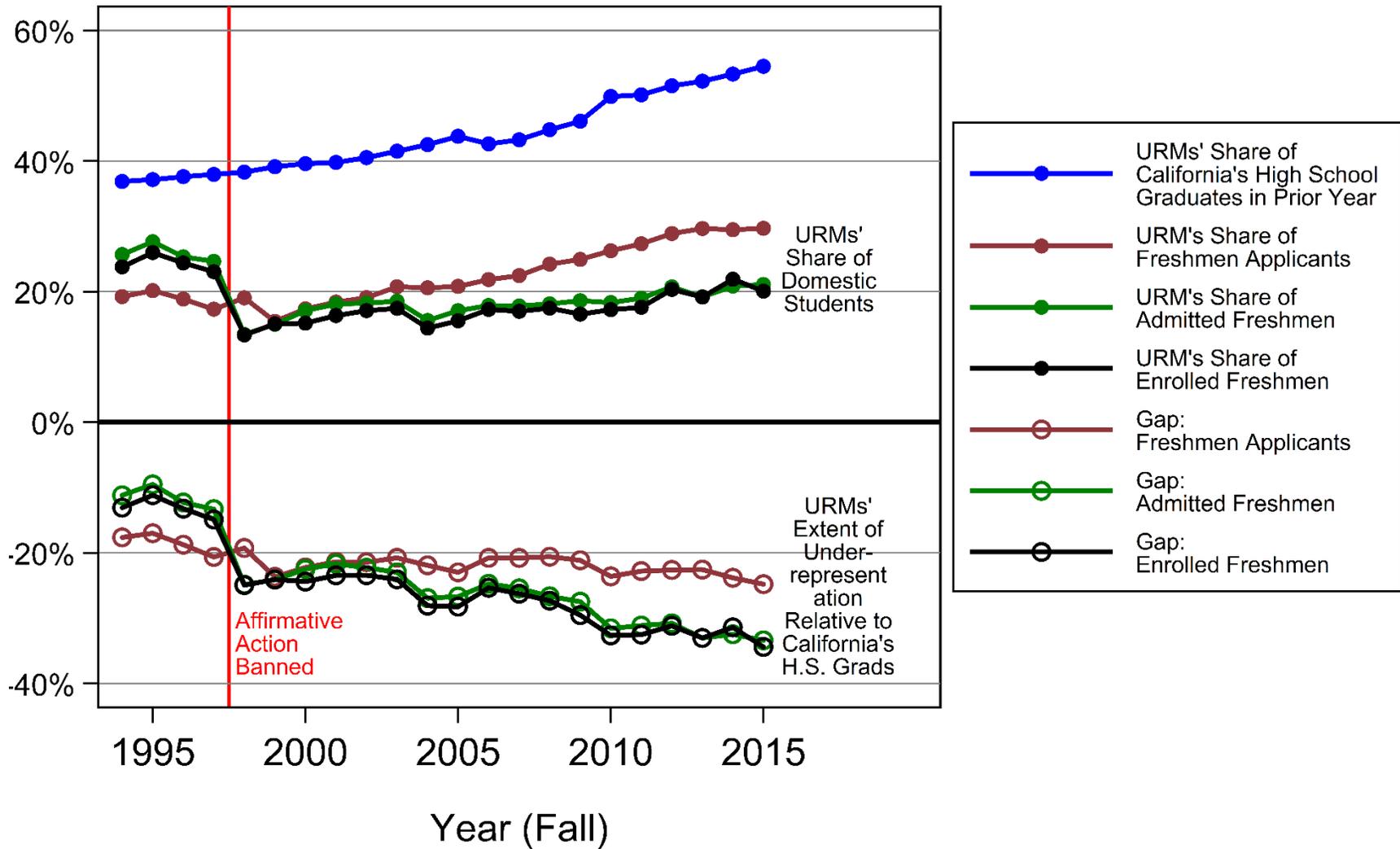
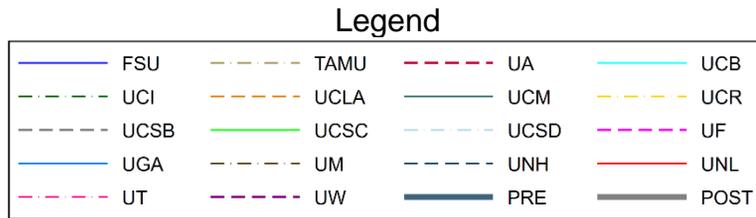
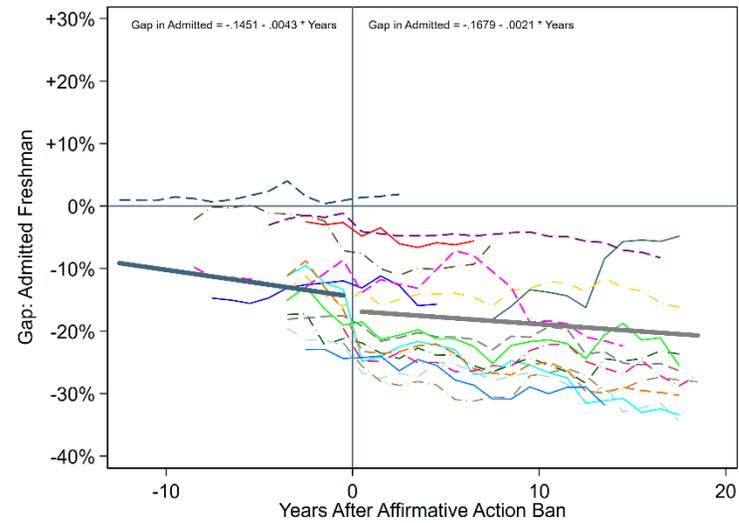
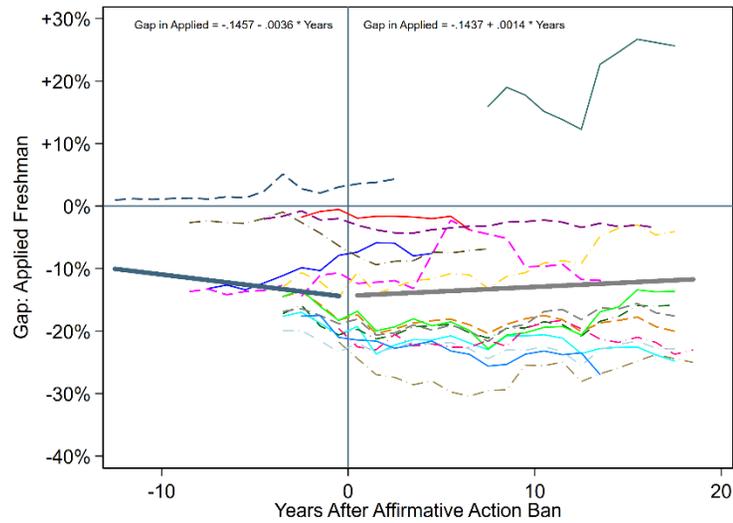


Figure 2: Selected Public Universities' Underrepresentation of Black, Hispanic, and Native American Students



Note: See Table 1 for definitions of acronyms.

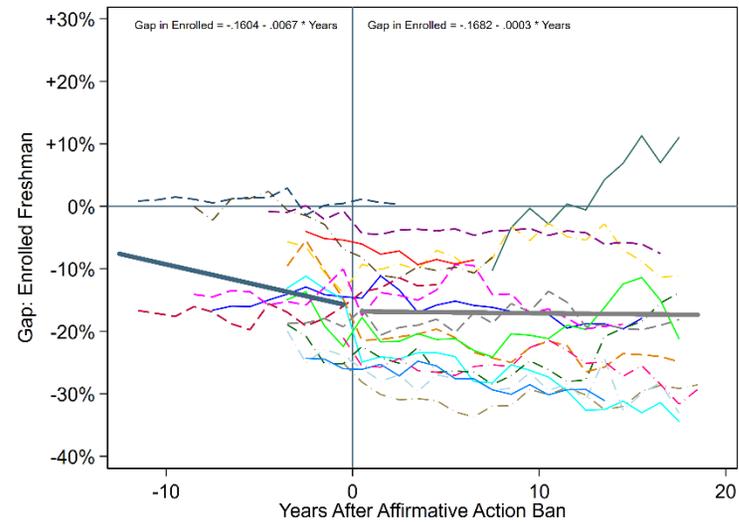
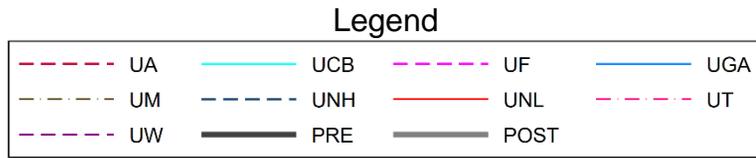
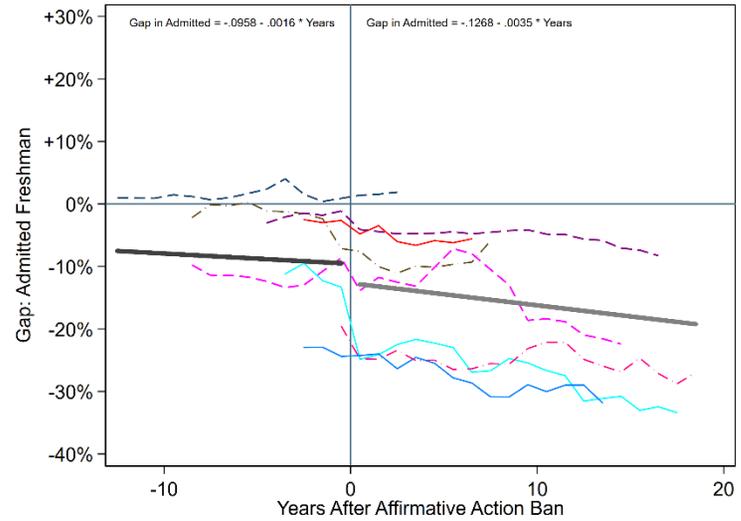
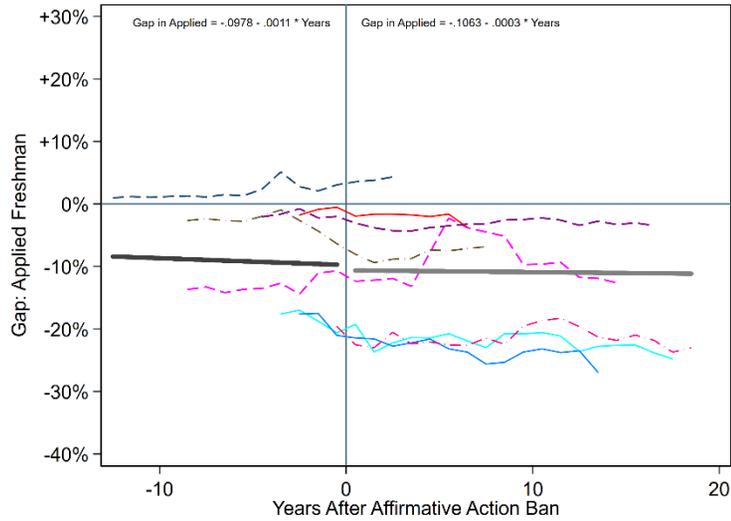


Figure 3: Flagship Public Universities' Underrepresentation of Black, Hispanic, and Native American Students



Note: See Table 1 for definitions of acronyms.

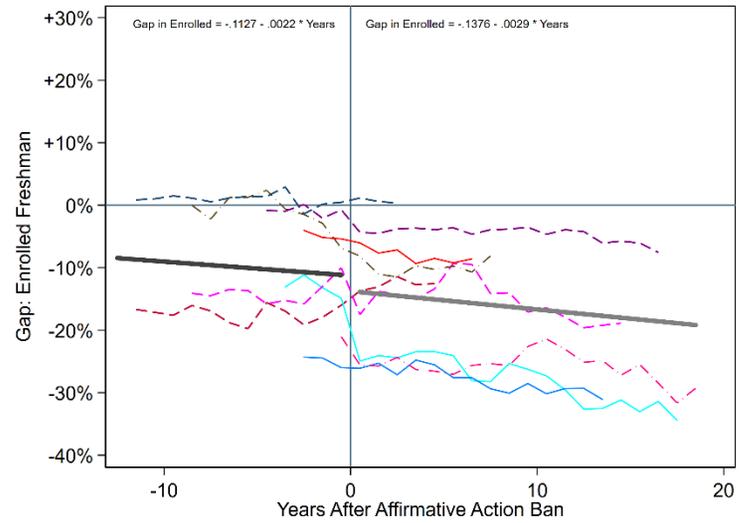
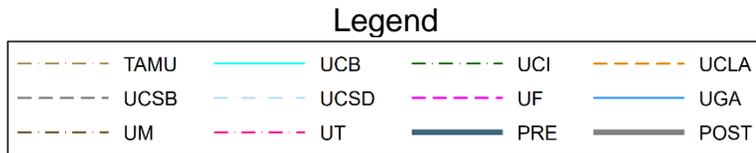
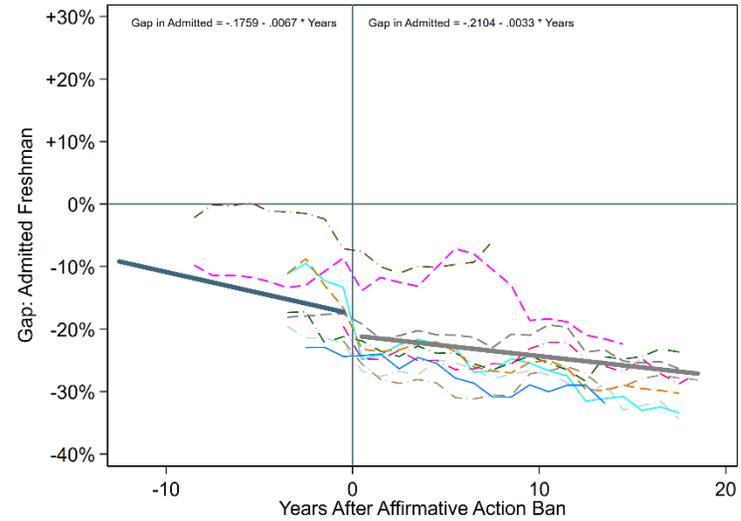
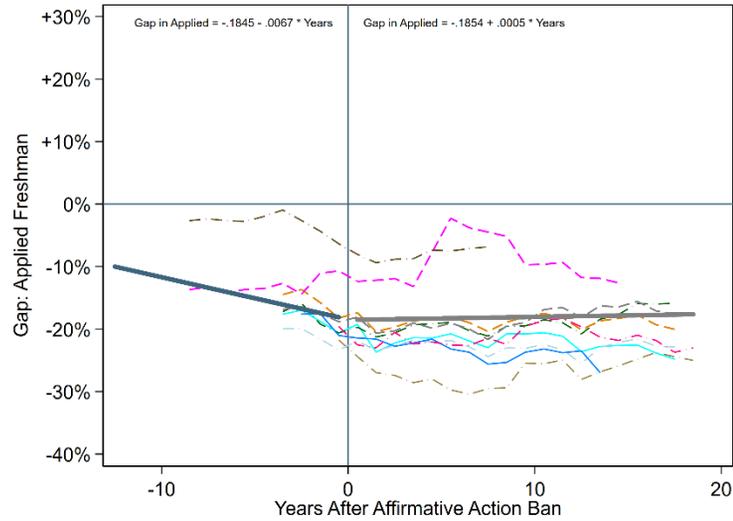


Figure 4: Elite Public Universities' Underrepresentation of Black, Hispanic, and Native American Students



Note: See Table 1 for definitions of acronyms.

