“Freedom Is Not Enough…”¹: Affirmative Action and J.D. Completion Among Underrepresented People of Color

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WORKING PAPER

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¹ In reference to the commencement address given by President Lyndon B. Johnson at Howard University (June 4, 1965): “[F]reedom is not enough…You do not take a person who, for years, has been hobbled by chains and liberate him, bring him up to the starting line of a race and then say, ‘you are free to compete with all the others,’ and still justly believe that you have been completely fair. Thus, it is not enough just to open the gates of opportunity” (Johnson, 1966, p. 636).

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Abstract

In fall 2022, the Supreme Court heard arguments regarding the future of race-conscious affirmative action in higher education. Initially, these policies were adopted to give equal opportunity to communities who have been and continue to be excluded and marginalized by discriminatory systems and practices. As we await the Court’s decision, it is crucial to understand the extent to which existing statewide affirmative action bans affect underrepresented people of color’s (uPOC) graduate/professional degree attainment. To this end, we use publicly available data and a staggered difference-in-difference estimation method to compare pre- and post-ban rates of J.D. completion (and graduate school enrollment, where applicable) in states that implemented a ban on race-conscious affirmative action in college admissions to those without such a ban. Using this technique, we find that the implementation of a ban decreases the proportion of uPOC completing their law degrees and enrolling in graduate programs. These effects are both practically and statistically significant. Despite the partisan controversy surrounding race-conscious admissions, our findings add to empirical research demonstrating the detrimental impact of eliminating affirmative action in college and university admissions.

Keywords: affirmative action, diversity, race-conscious admissions, higher education, law schools
Nearly 60 years after President Lyndon B. Johnson’s commencement address, the Supreme Court will release its decision on the future of race-based affirmative action policies in college admissions, a policy that was implicitly, if not explicitly, endorsed by President Johnson’s remarks. Many experts agree that the Court’s decision will reverse the decision in *Grutter v. Bollinger*, thereby disallowing the use of race in admission decisions. During oral arguments in the two cases awaiting decisions, several of the justices questioned the current necessity of using race to produce racially diverse student bodies, as opposed to race-neutral alternatives. According to SCOTUSblog, Justice Kavanaugh suggested the examples for the states that barred consideration of race in the admissions process for public universities had satisfactorily demonstrated that race-neutral programs in fact “produce significant numbers of minority students on campus” (Howe, 2022). Lawyers on behalf of Harvard and the University of North Carolina pushed back, arguing that no race neutral program works as well to create a diverse student body. This study seeks to further add to the knowledge base surrounding the extent to which these policies succeed in their goal of achieving more racially diverse classes.

While prior research has examined the impact of affirmative action bans on graduate school admission of students of color across various disciplines, to our knowledge none of these studies investigate these effects within legal education, or on law degree completion in the past 15 years. This paper aims to fill this void. We explore to what extent race-conscious affirmative action still serves its purpose in diversifying law school campuses via J.D. completion (and, for those states that implemented bans before 2000, enrollment of underrepresented people of color
in broader graduate school programs). We do so by utilizing a staggered differences-in-differences (DiD) estimation method, which compares pre- and post-ban rates of degree completion (and graduate school enrollment, where applicable) in states that implemented a ban on race-conscious affirmative action policies to those states without one.

**Background**

Although greater educational attainment is considered a way out of poverty and a gateway toward a more equitable society, people of color—specifically those identifying as Black, Hispanic, Native American (American Indian or Alaska Native), and Native Hawaiian or Pacific Islander (hereafter referred to as “underrepresented people of color,” or “uPOC”)—remain underrepresented in higher education (Long & Bateman, 2020; *Regents of the University of California v. Bakke*, 1978). These disparities are accentuated in law school applications, borrowing, and enrollment, bar passage rates, and representation within the legal profession overall (American Bar Association [ABA], 2020a; National Association for Law Placement [NALP], 2023; Quintanilla et al., 2020; Taylor, 2018, 2019; Wightman, 1998; Williams, 2021).

uPOC face many hurdles to college and graduate school admission, disproportionately limiting their enrollment in higher education (e.g., Carter & Welner, 2013; Chetty & Hendren, 2018; Gaertner & Hart, 2013, 2015; Parrish & Hikido, 1998; Reardon & Owens, 2014; Quillian, 2017). This lack of representation on campuses can lead admitted uPOC to experience tokenism or stereotype threat that may damage their sense of belonging (Lancaster et al., 2019; Law School Survey of Student Engagement [LSSSE], 2020; Robbins, 2020; Rocconi et al., 2019).

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1 As an institution supporting law schools and law students (both current and prospective), AccessLex Institute is committed to understanding barriers to law school for uPOC and improving access to legal education for all. We therefore are specifically interested in disparities in law schools for uPOC in terms of admissions and attrition rates, in addition to our interest in broader graduate school admissions.
They may also suffer from imposter syndrome, in which individuals feel out of place and doubt their capabilities (Bravata et al., 2020). Collectively, these “othering” experiences can lead uPOC to attrite at higher rates than students from other racial and ethnic backgrounds (e.g., Jones & Watson, 1990; Scott et al., 2023). Data on law school attrition support these findings; uPOC represent approximately 30% of first-year law school enrollment but 44% of those who drop out (ABA, 2022a; Thomas & Cochran, 2018). By comparison, White students comprise approximately 62% of first-year law students but only 49% of dropouts.

The systemic marginalization of uPOC in higher education is not only unjust; it is costly. Exclusion from higher education means reduced lifetime earnings potential given that professional degree attainment is generally accepted as being positively associated with earnings: Carnevale et al. (2013) find that professional degree holders have nearly triple the average lifetime earnings of high school graduates ($3.6 million versus $1.3 million) and one-and-a-half times that of bachelor’s graduates ($3.6 million versus $2.3 million). Moreover, graduate education is a path toward greater political input and power. Hersh (2021) reports that the majority of our nation’s leaders hold graduate degrees, meaning that graduate education is a gateway to empowerment and greater voice in governance.

**Race-Conscious Affirmative Action**

By executive order, Presidents John F. Kennedy and Lyndon B. Johnson implemented affirmative action policies to combat racial discrimination in hiring practices. Selective colleges and universities later followed suit, adopting race-conscious admission practices to promote greater access to and opportunity in higher education for uPOC which would, by extension, lead to higher rates of college and graduate degree completion and ultimately greater lifetime earning potential among uPOC (Bonadies Torres, 2020; *Grutter v. Bollinger*, 2003). Research has also
found that greater levels of educational attainment are associated with greater health and mental well-being outcomes (e.g., Raghupathi & Raghupathi, 2020; Zajacova & Lawrence, 2018).

The common methods for affirmative action today involve the targeted recruitment of uPOC, a holistic review process that includes considerations of race, or a combination of the two (Jones & Nichols, 2020; Kent & McCarthy, 2016). Yet, despite being upheld by the Supreme Court in 2003, affirmative action policies in postsecondary education have been repeatedly challenged. In response to public criticisms, 12 states currently ban or previously banned race-conscious admission practices. Chronologically, they are California (banned in 1996); Louisiana, Mississippi, and Texas (1996–2003); Washington (1998); Florida (1999); Michigan (2006); Nebraska (2008); Arizona (2010), New Hampshire, and Oklahoma (2012); and Idaho (2020). The ban in Louisiana, Mississippi, and Texas was decided in the case *Hopwood v. Texas* (1996) but was overturned by *Grutter v. Bollinger* (2003). Twenty years after this landmark decision, in Fall 2022, the U.S. Supreme Court heard challenges to the affirmative action policies at Harvard University and the University of North Carolina. At stake is whether the Court will overturn its decision in *Grutter v. Bollinger*, thereby prohibiting narrowly tailored use of race in admissions decisions.

**The Effects of Affirmative Action**

Supporters of affirmative action and race-conscious admissions policies argue that, thus far, these policies have increased access to higher education for uPOC (Civil Rights Act, 1964; Hoover, 2022). Data support these arguments. For example, in 1976–77, 89% of master’s degrees and 92% of doctoral/professional degrees were awarded to White graduates of non-Hispanic origin, but more recently, only 64 and 66% of master’s and doctoral/professional degrees were awarded to White graduates (NCES, 2020). However, this increased diversity
could be due, in part, to the changing demography of the country (see Vespa et al., 2018). And despite the seeming progress toward diversifying advanced degree attainment, some proponents of affirmative action believe it has not done enough or has not finished its work to correct historical bias against uPOC in higher education (Mottley, 2015), arguing that efforts to ban it would be pulling the plug prematurely (Hersh, 2021; Jones & Nichols, 2020).

Research on affirmative action often supports the supposition that it has helped uPOC (Jones & Nichols, 2020; Kidder, 2003). Fischer and Massey (2007), for example, provided an analysis of data from the National Longitudinal Survey of Freshmen to understand how affirmative action affected grades, college satisfaction, and persistence for Black and Hispanic students at selective institutions. To determine which students benefitted from affirmative action, the authors calculated the difference between Hispanic and Black freshmen’s SAT score and the institutional average SAT score. Students who scored above the institutional average had a score of 0 indicating that they did not ostensibly benefit from affirmative action. After controlling for a host of covariates, Fischer and Massey (2007) found that the more a student purportedly benefitted from affirmative action policies, the more their average GPA increased and the more their likelihood of dropping out decreased.

**Opposition to Affirmative Action**

On the other hand, there are many critiques and opponents of affirmative action policies. Proponents of race-neutral admissions argue that students should be evaluated on merit alone, or partially on other demographic factors such as socioeconomic status (Museus et al., 2019; Pruitt, 2015; Sander, 2004; Schmidt, 2008). The desire to implement race-neutral admissions policies often centers on criticisms that affirmative action denies opportunities to non-uPOC candidates.
(particularly those from families of limited means) or that it actually harms enrolled uPOC students and the institutions that admit them (Nadel, 2006).

Criticism of affirmative action is largely framed as a merit issue. One component of this argument is that opponents to affirmative action believe it constitutes “reverse discrimination” against White and Asian/Asian American students by valuing certain racial identities over others (Museus et al., 2019; Schmidt, 2008). Supporters of race-neutral admissions tend to believe that it is unfair that otherwise qualified White or Asian applicants “lose” their seats to ostensibly less qualified uPOC applicants. Another component is the supposition that admitted uPOC students are harmed by a mismatch between their abilities and the rigor of the admitting institution (Sander, 2004). From the institutional perspective, opponents argue that admitting underqualified applicants damages the overall educational quality of an institution (Chan & Eyster, 2003).

Several studies have attempted to refute these concerns about affirmative action. Regarding reverse discrimination, researchers contend that this argument fails to acknowledge that Asian American students do, in fact, benefit from affirmative action policies (Museus et al., 2019; Schmidt, 2008), though the extent to which affirmative action constitutes reverse discrimination is difficult to support or refute since it is largely based on political disagreement. Contrary to the mismatch hypothesis, Fischer and Massey (2007; as discussed earlier) found that students who benefitted more from affirmative action had improved outcomes compared to those who did not ostensibly benefit from affirmative action. Tienda and Zhao (2017) similarly determined that graduate students across different programs who benefitted from affirmative action had a high likelihood of success in attaining their degrees. Regarding the lowering of institutional quality, some have argued that banning race-conscious admissions itself results in lower quality. If an institution has diversity goals and is barred from considering race, it must
turn to other metrics to ensure a suitably diverse class (Antonovics & Backes, 2014; Chan & Eyster, 2003). Rather than considering traditional metrics in conjunction with applicant race, admissions officers must focus on less objective and more subjective metrics which, in the case of undergraduate admissions, results in lower average SAT math and verbal scores among admitted students (Antonovics & Backes, 2014).

As an alternative to affirmative action policies, some have proposed race-neutral admissions that use alternative diversity metrics to equitably admit students. Opponents to affirmative action argue that focusing solely on race is detrimental to and ignores disadvantages that stem from low socioeconomic status (Pruitt, 2015; Reardon et al., 2017). It is unclear whether socioeconomic status (SES) has been successfully implemented as a substitute for race in admissions, but several scholars have projected that SES on its own is a poor substitute for race. Reardon et al. (2017), for example, used simulations that predicted decreased diversity under SES-based policies compared to race-based policies. These findings support Wightman’s (1997) earlier projections that no alternative admissions factors (including SES) would result in the same level of diversity as race-conscious policies. Xiang and Rubin’s (2015) simulation study similarly predicts that SES would be a poor substitute for race. In general, the lesson from these studies is that although there is some correlation between race and SES, the two are distinct concepts that yield admission outcomes that are quite different for uPOC applicants.

Notably, Pruitt (2015) calls for consideration of race with SES as a way to save affirmative action from a bipartisan standpoint, which could be a future route for policy changes. Other attempts to implement admissions plans that satisfy opponents and proponents of affirmative action have been made as well.
An example of a race-neutral, but purportedly equitable merit-based admissions policy is the Texas Top Ten Percent (TTTP) Plan. Under the plan, any student in the top 10% of their high school class who applied to a selective public higher education institution in Texas would be guaranteed admission (James-Gallaway & James-Gallaway, 2022). In theory, this would address the above merit-based criticisms by admitting the most meritorious candidates from all high schools, irrespective of the characteristics of the high school or the applicant. A similar plan was implemented for University of California institutions (Antonovics & Backes, 2014; Garces, 2012a). These policies, however, would have no effect on applicants to law schools or to graduate education programs more broadly.

Notwithstanding, empirical findings demonstrate a critical problem with these plans: they do not account for bias within high school performance metrics and thus fail to consider cumulative disadvantages of uPOC. Those in the top of their classes are more likely to be the most socioeconomically advantaged students at that school (Chetty & Hendren, 2018; Museus et al., 2019). Due to racial segregation in neighborhoods, which results in better opportunities, the most advantaged students in impoverished districts are more likely to be White (Carter & Welner, 2013; Parrish & Hikido, 1998; Reardon & Owens, 2014; Quillian, 2017). Thus, even in these school districts, the TTTP plan may exclude uPOC students who would likely succeed if given equal opportunity and resources (Gaertner & Hart, 2013, 2015; Tienda & Zhao, 2017; Wightman, 1997).

Effects of Affirmative Action Bans

Previous research on the effects of affirmative action bans in undergraduate and graduate admissions largely finds that in both contexts, the enrollment of uPOC is adversely impacted. At the undergraduate level, multiple studies have found associations between affirmative action...
bans and lower enrollment and admission of uPOC across different institutions (Antonovics & Backes, 2014; Backes, 2012; Elias & Perez, 2022; Long & Bateman, 2020; Wightman, 1997). Others have found that even where enrollment rates for uPOC increased post-ban, the increases are not proportional with population changes (Elias & Perez, 2022), meaning that race-neutral admission practices are not likely to maintain or improve student diversity in states where race-conscious admissions are not permitted.

Similar results have been found within graduate education. Notably, scholars Garces and Mickey-Pabello have conducted multiple studies using an approach similar to our own. Across their studies, Garces and Mickey-Pabello used a differences-in-differences technique to measure pre- and post-affirmative action ban enrollment of uPOC in graduate programs and medical schools, specifically (Garces, 2012a, 2012b, 2013; Garces & Mickey-Pabello, 2015; Mickey-Pabello & Garces, 2018). They include sensitivity analyses and a host of control variables where possible, increasing the rigor of their findings. The cumulative results indicate that uPOC enrollment in graduate school declined between 12 and 26% (depending on the field of study) after race-conscious admission practices were disallowed. The effects were largest in STEM fields (Garces, 2012a, 2013) and selective public institutions (Garces, 2013; Mickey-Pabello & Garces, 2018).

Although law schools were central to two Supreme Court cases on affirmative action in admissions, including the landmark Grutter v. Bollinger case, empirical research on the impact of affirmative action bans on law school admissions is limited. To the best of our knowledge, only one study has considered the impact of affirmative action on uPOC law school enrollment. Rothstein and Yoon (2008) used Law School Admissions Council and Bar Passage Study data to compare Black and White law student enrollment using grid data analysis. They find that without
affirmative action, we could conservatively expect an average 60% reduction in the number of Black first-year students. This disparity sharply increases with institutional selectivity, with Rothstein and Yoon estimating a 90% enrollment reduction at the most selective institutions. Notably, the authors project “…that affirmative action is responsible for nearly all of the diversity currently seen in the law student population generally and at every law school of even moderate selectivity,” (p. 52). However, this study does not control for several outside variables, such as proportion of uPOC in the same state as a school and may therefore under- or over-estimate decreases in enrolled students. Moreover, the study does not take into account the six states that implemented affirmative action bans after it was completed.

Scott, Wilson, Cochran, and Pals (2023) find that greater campus racial diversity is associated with positive student outcomes (attrition, law school GPA, and bar passage) among uPOC at selective law schools. Given these findings, it seems reasonable to assume that if the Supreme Court strikes down narrowly tailored race-conscious admission practices, leading to lower representation of uPOC in law and other graduate programs, uPOC enrolled in such programs may face additional struggles in their studies.

As noted earlier, uPOC comprise approximately 30% of first-year law students, but 44% of those who drop out of law school (ABA, 2022a; Thomas & Cochran, 2018). It is unclear how these non-transfer attrition rates are affected by affirmative action bans. It is possible that affirmative action would result in issues with stereotype threat or imposter syndrome for uPOC, but it is also possible that bans result in “othering” by making uPOC students feel unsupported by the state at large, affecting their desire to persist in legal education (Allen & Solorzano, 2001). Williams (2021) agrees that bans likely caused attrition problems with uPOC enrolled in law school.
Given this theory and the limited availability of J.D. enrollment data disaggregated by race and ethnicity, we focus our analysis on estimating the extent to which the implementation of a statewide affirmative action ban impacts the proportion of uPOC who complete their juris doctor (J.D.) degree at public law schools. We predict that the implementation of an affirmative action ban significantly decreases the proportion of uPOC completing their law degrees (or enrolling in graduate school).

Method

Data

For our analyses, we consider uPOC students to be those identifying as Black, Hispanic/Latine, Native American, and Native Hawaiian or Pacific Islander, based on the U.S. Census Bureau’s race/ethnicity definitions. (These groups are historically underrepresented on law school campuses, relative to their representation in the U.S. population.) To understand the effects of affirmative action bans on J.D. completion, we first identify those states that implemented bans on affirmative action in higher education admission decisions. For each state, we reference the relevant legislation that codified the ban, identifying the years in which the legislation was introduced and in which the law went into effect. Table 1 lists the data sources for our study variables.

We utilize publicly available data from the Integrated Postsecondary Education Data System (IPEDS) to estimate the number of students completing J.D. programs at each public law school in every state. These data are aggregated at the institutional level based on surveys conducted by the U.S. Department of Education’s National Center for Educational Statistics (NCES) and include information regarding institutional characteristics, cost, admissions, enrollment, student financial aid, degree and certificate completions, student persistence (e.g.,
first-year retention rates), and institutional resources (IPEDS, n.d.). Surveys are conducted in the fall, winter, and spring each year.

[INSERT TABLE 1 HERE]

The most recently available data on J.D. completion covers the period 2020–2022, but due to the varied responses across states to the COVID-19 pandemic, we dropped these years from the analysis. Consequently, the available data ranges from 2011 to 2019. (We refer to states in the J.D. completion analysis as “late adopters.”) Given the recency of IPEDS data on J.D. completions, pre-ban data on J.D. attainment among uPOC in California, Florida, Louisiana, Michigan, Mississippi, Texas, and Washington are not available. Idaho implemented a ban in 2020, and therefore there is no available data on J.D. completion post implementation. Since the difference-in-differences approach requires measurement of the outcome both prior to and following treatment, these eight states are excluded from our analysis of J.D. completion.

Rather than completely exclude from the study those states that implemented bans before 2011, we use IPEDS data on graduate school enrollment to study how the implementation of an affirmative action ban impacted the enrollment of uPOC in California, Florida, Louisiana, Mississippi, Texas, and Washington (hereafter “early adopters”). These data are available prior to 2008; however, there is inconsistency in the reporting of race in the period 2007–2009, due to changes in the IPEDS race/ethnicity reporting requirements. Thus, we restrict our analyses to the years preceding 2007. Additionally, because of the timing of Michigan’s affirmative action ban (2006), we were unable to include it in either analysis.

[INSERT TABLE 2 HERE]
Analytical Approach

We first examine the extent to which the proportion of uPOC J.D. completers (or uPOC enrollment in graduate programs for early-adopter states) changed pre-ban to post-ban. (See Figures 1 and 2.) However, this comparison does not account for confounding effects due to time (see Figure 3a).

**Figure 1**
*Comparison of Percentage of uPOC J.D. Completers and uPOC in State Population (Late-Adopter States)*

Note: The vertical dashed lines indicate the first post-treatment year for that state.
Figure 2
Comparison of Percentage of uPOC Graduate School Enrollees and uPOC in State Population (Early-Adopter States)

Note: The vertical dashed lines indicate the first post-treatment year for that state. Affirmative action was banned in Texas via court case in 1996, but was overturned in 2003. This was the same for Louisiana and Mississippi, which were also affected by the same case decision. Thus, in the images for Louisiana, Mississippi, and Texas the first dashed line represents the first post-treatment year, and the second line represents when the affirmative action ban was overturned.
To address confounding effects related to time, we utilize a staggered treatment difference-in-differences (DiD) method (Callaway & Sant’Anna, 2021; Sant’Anna & Zhao, 2020) to estimate the extent to which variation in the proportion of uPOC J.D. completers at public law schools was explained by the implementation of a state-level ban on race-conscious admission. The DiD approach matches a treatment group to a control group. However, to do so, it introduces a second possible confound, which is related to the group (i.e., state: see Figure 3b). We are able to address both time and state confounds by focusing on the within variation of the treatment and control groups and then comparing the within variation in the treatment group to that of the control group.

**Figure 3**
*Causal Pathway Diagram*

![Causal Pathway Diagram](image)

*Note: Adapted from Huntington-Klein, 2022*

The staggered DiD extends this method to multiple time periods (Callaway & Sant’Anna, 2021) and allows us to estimate group-time treatment effects. There are still two critical
assumptions to this extension of the DiD method. The first is the assumption of parallel trends; namely, that the trend of the treatment group would have followed the same path as the control group absent the intervention. Although by its definition, this assumption cannot be explicitly tested (we cannot know what would have happened if the treatment group had not gotten the treatment), we can examine whether the trends prior to the intervention are similar. This does not conclusively prove or disprove parallel trends—prior trends might be similar but parallel trends might still be violated, and vice versa (Huntington-Klein, 2022). To check for similarity in prior trends, we report dynamic treatment effects in the following section and explain what they mean regarding prior trends.

To reduce the risk of violating the parallel trends assumption, we apply an inverse probability weighting approach (Sant’Anna & Zhao, 2020). We do this by, for each state in the J.D. completion analysis, estimating its propensity to adopt an affirmative action ban using the following characteristics: Census-designated region of the United States, state GDP, state unemployment, population of uPOC as a percentage of the state’s population, percentage of law schools that are public (and therefore affected by a state-level ban), and likelihood of limiting abortion access (a proxy for the state’s political environment). For the graduate enrollment analysis, we estimate propensity to adopt an affirmative action ban using the census-region, state GDP, state proportion of uPOC, percentage of public law schools, and likelihood of limiting abortion access. There are fewer covariates included in the graduate enrollment model because we allow model fit in prior trends guide our final models, and the parsimonious route is the most successful in this instance. For each treatment state, we use these propensity scores to create a weighted comparison group from the remaining untreated states. We do this by adjusting each control state by its inverse probability weight, giving greater weight to those control states with
the most similar propensity scores to the treatment state and incrementally less weight to those with less similar propensity scores. As a result, each treatment state is compared to the weighted average of its control group. We perform an analysis for each treatment state/control pairing and then aggregate the results and adjust the standard errors using the *did* package in R (Callaway & Sant’Anna, 2021).

The second critical assumption of DiD (whether staggered or not) is that anticipation of the policy should not alter behavior prior to the treatment (in this case, the effective date of the ban). Using the staggered DiD approach, we are able to avoid anticipation issues by selecting the first “pre-anticipation” period. In most cases, the legislation or the voter referendum banning affirmative action began one year prior to the codification of the ban. Thus, we assume that the students completing their J.D. studies two years after the ban are the last group to have been admitted to law school where the assumption of no anticipation still holds. Therefore, our analysis excludes the second year following ban implementation for each of the treated schools. Consequently, we estimate the effect of the affirmative action ban to be the difference between the proportion of J.D. degrees awarded to uPOC up to two years after the ban and the proportion awarded four years or more after the ban for each state. For the six early-adopter states, we utilize the year before the ban was implemented as the last pre-anticipation year and the year after the ban was implemented as the first post-treatment year.

Following the DiD analyses, we conduct sensitivity analyses using the *konfound* package in R (Rosenberg et al., 2018). A sensitivity analysis quantifies the amount of bias in the sample that would be necessary to change the interpretation of inferential findings or the direction of the relationships under study. Additionally, this technique determines the robustness of the findings.
against potentially confounding variables that were not measured or included in the statistical models.

**Results**

**J.D. Completion in Late Adopter States**

Figure 4 shows the dynamic effects of adopting an affirmative action ban, with the gray lines indicating pre-treatment effects—which, in a DiD model, should approximate zero—and the dark blue lines indicating post-treatment effects. As shown in Figure 4, our model appears to satisfy the prior trends assumption; each of the effects in the pre-treatment period are virtually zero, have confidence intervals that include zero, and are no larger in absolute magnitude that the smallest post-treatment effect. This indicates that the trends between the states with affirmative action bans and those without were sufficiently similar prior to the implementation of the ban and therefore that any post-treatment effects can reasonably be attributed to the ban. On average, across all states and time periods, we find that adopting an affirmative action ban leads to a 5 percentage-point decrease in the proportion of uPOC completing their law degrees (or a decrease from 20 to 13 students per cohort per state, using J.D. completion data for 2011—the only year in the dataset which predates the effect of the ban for all treatment states). The effect increases in magnitude over time, from an average decrease of 4 percentage points one year after the ban to 12 percentage points 6 years later. These decreases translate to an average of 5 and 16 fewer uPOC students in a state per cohort, respectively. The average effect, as well as five of the seven post-treatment estimates are statistically significant ($p < 0.05$).

**Figure 4**

*Dynamic Effects of an Affirmative Action Bans on J.D. Completion*
We also examine the group effects for each of the four states that implemented affirmative action bans after 2008 (see Figure 5). We find that the average treatment effect on the treated (ATT) is a 4 percentage-point decrease in uPOC J.D completion (from 20 to 15 uPOC completers per state per cohort). The individual effects range from a half-percentage-point decrease in Oklahoma (a decline from 12 to 11 uPOC J.D. completers per year) to a decrease of 5 percentage points in Arizona (a decline from 32 to 23 completers annually) and New Hampshire (a decline from 12 to 5 completers annually), to a 6 percentage-point decrease in Nebraska (a decline from 12 to 4 completers annually) and New Hampshire (a decline from 12 to 5 completers annually). The ATT, as well as the individual effects for all but Oklahoma are statistically significant ($p < 0.05$). Oklahoma’s smaller and non-significant effect makes it unusual and deserving of additional consideration.

[INSERT TABLE 3 HERE]
Looking more closely at Oklahoma, only one of the three law schools (University of Oklahoma College of Law [OU Law]) is a public institution and therefore legally bound by its state’s ban. Since 2006, OU Law has boasted the highest Native American enrollment of any law school in the nation (OU Law, n.d.). The negative effect of affirmative action bans may be, at least partly, mitigated by OU Law’s close ties with its tribal neighbors, which creates access pipelines that might not otherwise exist for Native American applicants in Oklahoma. Furthermore, OU Law’s appeal, particularly to Native American applicants, extends well beyond its region due to a strong academic reputation, academic concentration in American Indian and Indigenous People Law, Federal Indian Law Externship, and Tribal Court Externship. OU Law is also home to the Center for the Study of American Indian Law and Policy and offers a Master of Legal Studies in Indigenous Peoples Law. Although these latter two factors are not directly applicable to J.D. completion, they do speak to the commitment of OU Law to prepare the next generation of lawyers who will focus on and advance issues of great importance to the Native American population—much of that work will require a new generation of lawyers who have shared experiences with those that they serve.
To assess the robustness of these results, we applied the Wooldridge extended two-way fixed effects approach to the data (Wooldridge, 2021) using the etwfe package in R (McDermott & Kluser, 2023). The Wooldridge method separates groups into treatment groups based on the year an intervention occurred and a control group using a series of interaction terms. For our analysis of J.D. completion, the effects of the affirmative action bans achieved using the Wooldridge method are very similar in size to those we report for Callaway and Sant’Anna approach, ranging between a decrease of 1.4 percentage points and an increase of 7.5 percentage points. The mean change is a decrease of approximately 3 percentage points.

[INSERT TABLE 4 HERE]

**Graduate Enrollment for Early Adopter States**

Figure 6 shows the dynamic effects of affirmative action ban adoption on graduate enrollment for the early adopter states, for which we do not have data on J.D. completion. As in
Figure 4, the gray lines represent the time periods prior to a ban on affirmative action and the dark blue lines represent the time periods following the ban’s implementation. Again, our results appear to sufficiently satisfy the prior trends assumption—the effects in the pre-treatment period are all virtually zero and their confidence intervals all include zero—and we can, therefore, reasonably assume that the post-treatment effects are the result of the affirmative action ban.

We find that, on average, an affirmative action ban results in a 4 percentage-point decrease in the proportion of uPOC graduate school enrollees across all states and years (from approximately 398 to 350 uPOC enrollees per state per year). The average dynamic effect is statistically significant ($p < 0.05$); however, only five of the ten post-treatment effects meet this threshold. Similar to J.D. completion, the effects of the ban are negative and increase in magnitude over time, from a decrease of 1 percentage-point one year after the ban (12 fewer uPOC students per state) to 11 percentage-points nine and ten years later (131 fewer uPOC students per state).
The trend in the early post-treatment period appears to be due to the varying degree to which affirmative action bans affected uPOC graduate enrollment in their respective implementation groups. (The Callaway and Sant’Anna approach assigns treatment states to a group, which is determined by the year in which a treatment took place.) As shown in Figure 7, states that implemented their bans in 1996 (California, Louisiana, Mississippi, and Texas) saw an average 5 percentage-point decrease in uPOC enrollment in graduate school (from 380 to 330 uPOC students per state on average; \( p < 0.05 \)). The declines are smaller in Florida (a 1 percentage points decrease; from 766 to 740 uPOC enrollees) and Washington (a 0.3 percentage-point decrease; from 99 to 96 uPOC enrollees).

In the early post-treatment periods, the change in uPOC enrollment is averaged across all three groups; however, beginning in Year 7, it is averaged across only the first two, and by Year
8, it is only averaged across the states within the 1998 implementation year. This is because we do not have data on graduate enrollment for Washington and Florida seven and eight years, respectively, post-ban (2007 and 2008). As we note in the Data section above, the reporting requirements surrounding race changed beginning in 2007, rendering the data incomparable to the data in earlier years.

[INSERT TABLE 5 HERE]

[INSERT TABLE 6 HERE]

The results in Washington and Florida are smaller and not statistically significant and warrant further consideration. We find that only 15% and 29% of Florida and Washington graduate schools, respectively, are public (i.e., affected by a state-level affirmative action ban). This works out to approximately 8 schools in Washington and 12 schools in Florida, which are relatively small samples compared to a combined 104 schools in California, Louisiana, Mississippi, and Texas. Additionally, data are unavailable from all the aforementioned public graduate institutions in these states.

Moreover, in Florida, the impact of affirmative action may be non-significant because 3 of the 10 graduate schools in our analysis are Minority Serving Institutions (MSIs). Of these, two enroll 50% or more uPOC: Florida Agricultural and Mechanical University (an HBCU) and Florida International University (79% and 50%, respectively). When these schools are removed from the counts used to estimate Florida’s average uPOC graduate enrollment, the average effect across all years and states grows to a 6 percentage-point reduction in uPOC graduate enrollment ($p < 0.05$). For state-specific effects, the removal of these two schools:
Florida: Slightly increases the effect of an affirmative action ban from a 1.0 to a 1.3 percentage-point decrease in uPOC graduate enrollment, and the result attains statistical significance ($p < 0.05$).

California, Louisiana, Mississippi, and Texas: Increases the effect of an affirmative action ban from a 5.0 to a 6.7 percentage-point decrease in uPOC graduate enrollment and the result retains its statistical significance ($p < 0.05$).

Washington: Negligibly increases the effect of an affirmative action ban, and the result is not statistically significant.

**Figure 7**

*Group Effects of an Affirmative Action Ban on Graduate Enrollment*

As we do with our J.D. completion analysis, we compare our results from the Callaway and Sant’Anna approach to those attained using the Wooldridge extended two-way fixed effects method. The effects of treatment are similar in size to those we report above 1992–1997, ranging
between a decrease of 11 percentage points and an increase of 2 percentage points. After 1997, however, the effects are considerably larger and positive, ranging from an increase of 16 to 27 percentage points. The overall mean change is an increase of approximately 11 percentage points for graduate enrollment in early adopter states. There are two possible explanations for the difference between our DiD findings and the two-way fixed effects findings, both are related to the differences in how the estimates are calculated. Unlike the staggered DiD approach, which only performs a regression analysis on the binary outcome of whether or not a ban was implemented in order to calculate propensity scores, the extended two-way fixed effects approach applies the more familiar regression approach of regressing the proportion of uPOC enrollees on a large number of interactions. The small sample sizes of Washington and Florida and the relatively skewed data from the MSIs in both states may be leading to biased results. Alternatively, the Wooldridge approach is limited to ordinary least squares regression and, unlike the Callaway and Sant’Anna approach, is sensitive to applying the correct functional form (i.e., a linear relationship). The distribution of the proportions of uPOC enrollment may be better suited to logistic regression, Poisson regression, or negative binomial regression. Currently, however, the etwfe package only applies ordinary least squares methods and the cost to extend the method to one of the aforementioned generalized linear models outweighs its benefit as a robustness check for this study.

**Sensitivity Analyses**

Following our DiD analysis, we conducted sensitivity analyses to test the robustness of our findings (Rosenberg et al., 2018). To invalidate our findings regarding J.D. completion dynamic and group effects, an unmeasured confounding variable would have to be correlated at \( r = |0.85| \) or \( r = |0.91| \) respectively (both strong correlations) with both the predictor and outcome.
variables. To invalidate our findings regarding graduate enrollment dynamic and group effects, an unmeasured confounding variable would have to be correlated at $r = |0.52|$ or $r = |0.18|$ respectively with both the predictor and outcome variables. To further test the robustness of our results, we systematically conduct all of the DiD analyses described above multiple times, removing a different treatment state each time. Doing so diminishes the agreement in prior trends and results in more sensitive, and therefore more unreliable estimates. This is an indication that the models reported above are the best fit possible with the data. Lastly, we test the models with neighboring non-treated states as stand-ins for the treated states. This allows us to determine whether the relationships from our DiD analysis are spurious. The models with stand-in states are not significant and do not pass the sensitivity analyses.

In summation of the above results, we find that affirmative action bans are detrimental for uPOC hoping to complete their law degrees or enroll in a graduate-level program. The implementation of a state-level ban significantly decreases the proportion of uPOC in terms of both J.D. completion, and moderately decreases graduate enrollment (for early ban adoption states), with the effects on J.D. completion being greater in magnitude.

**Discussion**

In the literature review, we note the disparities between the proportion of uPOC in the United States and the proportion receiving graduate and professional degrees. When it comes to legal education and the legal profession, these disparities are more pronounced. Even while diversity is marginally improving in 1L cohorts (ABA, 2022a), it will take time for the proportionality to catch-up to our national demography. It will take even longer for those effects to trickle into the demography of practicing attorneys. For example, the ABA (2022a) recently reported that 61% of law students are White. This is a positive trend. But there are 1.3 million
active lawyers in the U.S., 81% of whom are White. On the other hand, law schools graduate approximately 39,000 students on average per year (ABA, 2022b). This means that systematic change in the demographic composition of practicing attorneys will take time and a consistent effort to increase the proportion of uPOC law school graduates.

Currently, 13% (approximately 169,000) of practicing attorneys are 65 years of age or older and likely nearing retirement. Considering the aging of the U.S. population in general, this segment of the legal profession is likely to grow. Given the increased racial and ethnic diversity of law school graduates over the last two decades, it is reasonable to assume that the vast majority of lawyers nearing retirement are White. This means that the next several years hold the potential to drastically alter the demographic composition of practicing attorneys if, as expected, predominantly White lawyers retire and are replaced at a greater rate by uPOC law school graduates and bar admittees.

On the other hand, any negative impact on enrollment among uPOC law students will have a lasting impact on the long-term objective of aligning the population of practicing attorneys with the U.S. population, particularly as the population itself is diversifying. Our findings suggest that, although the size of the effects varies, on average, affirmative action bans are having such an effect—these bans negatively affect the proportion of uPOC completing a J.D. and enrolling in graduate programs over time.

As the population of uPOC increases in the United States, we would expect to see steadily and proportionately increasing numbers in law school enrollment and completion. However, our findings indicate that despite increasing racial and ethnic diversity of the overall demography of the U.S., the proportion of advanced degrees awarded to uPOC students is declining in states with affirmative action bans. If this trend continues or is exacerbated by a
federal ban via the impending Supreme Court ruling, the equity gap between uPOC and non-uPOC at the graduate and professional level will only grow over time, making it difficult if not impossible to achieve racial diversity and representation in the profession.

Should the Supreme Court overturn Grutter, race-conscious affirmative action would likely be banned at both public and private institutions. We are unable to estimate the effect that such a ban would have on private schools but there are some reasons to believe that they might be more affected. Chief among these is that private schools operate with little public oversight and the policies they implement rarely take center stage in state politics. This might mean that private schools have historically relied upon race-conscious affirmative action more widely than public schools and therefore a ban might more negatively affect their enrollment and graduation of students identifying as uPOC.

Our findings support several previous studies on uPOC enrollment in graduate programs of study (see Garces, 2012a, 2012b, 2013; Garces & Mickey-Pabello, 2015; Mickey-Pabello & Garces, 2018). Affirmative action bans detrimentally affect the proportion of students of color who complete a J.D. or enroll in graduate study. We do not, however, find a decrease as large as the one suggested by Rothstein and Yoon (2008). In their study, Rothstein and Yoon estimated a 60% decline in the number of Black 1L students enrolled without affirmative action. We too estimate a decrease in uPOC law school graduates post-affirmative action ban, however, we observe a smaller decline. In part, the differences between our findings and Rothstein and Yoon’s (2008) may be due to our estimation techniques: where they used grid data analysis, we used difference-in-differences estimation. The benefit of DiD estimation is that we are able to control for more extraneous variables than feasible in a grid analysis.
Regardless of the magnitude of the decrease in uPOC graduate degree completion, there are consequences to decreased diversity. In a related study, Scott et al. (2023) examine how campus diversity affects student attrition, GPA, and bar passage for law students. By examining a school’s selectivity along with control variables, the authors find that greater campus diversity is associated with decreases in student attrition, generally higher final GPAs and first-time bar passage rates for uPOC students.

These educational benefits that are associated with greater campus diversity provide important context to those findings presented in this paper. We initially attributed the drop in the proportion of uPOC J.D. completed to a decrease in the number of uPOC enrollees. However, the findings in the above paragraph leads us to now believe that the effect of affirmative action bans on J.D. completion is a cumulative effect of both a decrease in enrollment, as well as an increase in uPOC attrition and a decrease in other academic indicators, which, as the literature suggests, may be due to a lessening sense of belonging and inclusion in law school. We are unable to disentangle the extent to which each of these two causes the decrease in uPOC J.D. completion; regardless, we contend that both should be considered the result of a state’s ban on race conscious affirmative action.

**Recommendations**

As we await the Supreme Court’s decision, it is important to remember that these policies were adopted to give equal opportunity to communities who have been and, in many cases, continue to be harmed by discriminatory systems and practices. Additionally, studies that simulate the impact of race-neutral admission practices on uPOC enrollment find they do not yield the same level of racial and ethnic diversity achieved with race-conscious admission practices (e.g., Reardon et al., 2017; Wightman, 1997). Despite the partisan controversy
surrounding race-conscious admissions, our findings add to the existing body of empirical research demonstrating the detrimental impact of eliminating affirmative action in college and university admissions. Should the Supreme Court rule against race-conscious admissions, those seeking to diversify incoming classes of law and other graduate students will have to rethink their approaches in order to navigate the new legal landscape. In the meantime, it may be beneficial to include SES indicators as a component of affirmative action with race as Pruitt (2015) suggests. Further, it could allow for experimentation to examine how student characteristics other than race might continue to yield racial and ethnic diversity in an era of race-neutral admissions—an idea that Nelson et al. (2017) examined in their study. Likewise, we recommend that law and graduate admissions councils in states allowing race-conscious admissions continue to leverage these practices while they can.

Beyond affirmative action policies, there are several places in the admissions pipeline where other diversity-affirming techniques can be implemented. Many of the most effective techniques need to be implemented prior to undergraduate and law school admissions, so we will not discuss those in detail here (for a few examples, see Carter & Welner, 2013; Peters, 2022; Rodriguez, 2015). One possible intervention is relying not only on traditional admissions metrics (e.g., undergraduate GPA or LSAT score), but on applicant experiences and characteristics. Traditional metrics have been somewhat useful in the past but there is substantial evidence that they are biased against uPOC (see Jencks & Phillips, 2011). Additionally, extant research provides evidence that when academically struggling students are supported and appropriately challenged, they perform far better than the mismatch hypothesis would predict (Antonovics & Backes, 2014; Fischer & Massey, 2007; Sander, 2004; 2019; Tienda & Zhao, 2017). Instead of relying on traditional metrics, it would behoove the law school admissions community to work
on identifying what makes someone a successful lawyer down-the-line (e.g., Shultz & Zedeck, 2011), determining what characteristics or experiences align with those skills, and offering sufficient support to those students after admission.

Another possible intervention for law schools is to identify and utilize existing disparities between the different races/ethnicities. Nelson and colleagues (2017) find significant racial differences based on student and family background indices that could serve as application questions to that end. For example, there are significantly higher rates for Black and Hispanic students relative to White and Asian students in terms of financial needs (e.g., Pell grants, public assistance), first generation status, attendance at minority serving high schools or colleges, and experiences of family incarceration. Additionally, Black students were far more likely than others to report growing up in a single parent household. Probing for information in these areas might help identify uPOC applicants without blatantly considering race. This small sampling of techniques are tools that can be used to help in the presence or absence of race-conscious admissions, however, race-neutral techniques alone will likely never result in the same level of diversity as the consideration of race in admissions.

Limitations

As with any study, there are limitations to our findings. First, our analysis is limited to public law and graduate schools, which are legally bound by state-level affirmative action policy changes. Private schools are not bound by these laws. Consequently, states with a high proportion of public law schools (and graduate schools in general) will, presumably, be more affected than those with more private schools. In our analysis, our treated states consisted of 48% public schools overall, while nationally 43% of law schools are public schools. For the states
specifically included in our J.D. completion analysis, 62% of the law schools are public. Thirty-one percent of the schools included in our graduate enrollment analysis are public.

Moreover, schools set their own admissions policies and there is variation even within states regarding whether race is a consideration in admissions. This means that affirmative action bans would have a differential effect within states. For example, The University of Texas at Austin considers race in admissions, while Texas A&M University does not. We would expect that if Texas were to adopt an affirmative action ban, the effect would be more substantial at the University of Texas at Austin and essentially nonexistent at Texas A&M University. This would mean that our results likely underestimate the effects these bans would have on uPOC J.D. completion and graduate enrollment—our results should therefore be considered conservative estimates. Regrettably, data that are sufficiently granular to correct for this are unavailable.

Second, due to the 2007 change in the collection of race/ethnicity data and the subsequent impact on missing data in IPEDS, we are unable to provide a complete analysis of all states with an affirmative action ban for J.D. completion. For several of these states (the early adopters), we were able to supplement this data with graduate enrollment. Due to the data inconsistency, we are unable to compare the extent to which affirmative action bans affect graduate enrollment in early adopter states to those that implemented bans after 2007. Thus, our analyses of graduate enrollment are an imperfect proxy for J.D. completion. Finally, although we control for as much variation as possible in our analysis, the possibility of missing other influential variables is ever present. To sustain our conclusions, we conducted sensitivity analyses and robustness checks, which add support to our DiD models and conclusions. Despite these limitations, we consider our results to be a reasonable and conservative estimate of the negative effects of affirmative action bans on the J.D. completion (and graduate enrollment) of uPOC.
Conclusion

The present study establishes one primary conclusion: banning affirmative action has a negative impact on the J.D. completion and graduate school enrollment of uPOC. The decreases in J.D. completion and graduate school enrollment translate to, among a litany of consequences, wider educational and earnings disparities, lack of representation in the legal profession, and a further segregating of higher education. This is also detrimental for other students enrolled in graduate study or completing their J.D.s, as institutional diversity has educational benefits for all students (Denson & Chang, 2016; Gurin et al., 2002; Pettigrew & Tropp, 2006; Scott et al., 2023; Wolfe & Fletcher, 2013). Based on our findings, and those before us, we endorse the conclusion that affirmative action still serves its critical purpose and that banning it in all states would detrimentally affect the opportunities for uPOC in legal education specifically and graduate education broadly. In summation, a ban from the Supreme Court is likely to have a lasting negative impact on the racial/ethnic diversity of law school campuses and, ultimately, on the legal profession itself. To the extent that law schools and higher education institutions more broadly have not done so already, careful and urgent consideration of what else they can do to ensure the diversity of campuses is necessary.
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### Table 1
*Study Variables and Their Data Sources*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Data Source</th>
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</thead>
<tbody>
<tr>
<td>uPOC Graduate Enrollment</td>
<td>Outcome</td>
<td>IPEDS</td>
</tr>
<tr>
<td>uPOC J.D. Completion</td>
<td>Outcome</td>
<td>IPEDS</td>
</tr>
<tr>
<td>Ban Implementation</td>
<td>Predictor</td>
<td>Relevant State Legislation</td>
</tr>
<tr>
<td>State UPOC Proportion</td>
<td>Covariate</td>
<td>U.S. Census Bureau</td>
</tr>
<tr>
<td>State GDP</td>
<td>Covariate</td>
<td>U.S. Census Bureau</td>
</tr>
<tr>
<td>State Unemployment</td>
<td>Covariate</td>
<td>U.S. Census Bureau</td>
</tr>
<tr>
<td>Region</td>
<td>Covariate</td>
<td>U.S. Census Bureau</td>
</tr>
<tr>
<td>Percentage of Public Law Schools or Graduate</td>
<td>Covariate</td>
<td>IPEDS</td>
</tr>
<tr>
<td>Schools in the State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Percentage of the State That Voted</td>
<td>Covariate</td>
<td>University of California - Santa Barbara, The</td>
</tr>
<tr>
<td>Republican across the 2004, 2008, and 2012</td>
<td>1</td>
<td>American Presidency Project</td>
</tr>
<tr>
<td>Presidential Elections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Likelihood of Banning Abortion</td>
<td>Covariate</td>
<td>Center for Reproductive Rights</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

1 Variable serves as an estimate of the propensity of that state to ban affirmative action based on the political environment.
Table 2
*Treated States with Ban Implementation and Treatment Years Used in Analyses*

<table>
<thead>
<tr>
<th>Treated State</th>
<th>Year Ban Legislation Introduced</th>
<th>Year Ban was Enacted</th>
<th>Last No Anticipation Year</th>
<th>First Post-Treatment Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early Adopter States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas (and Louisiana and Mississippi)(^1)</td>
<td>-</td>
<td>1996</td>
<td>1995</td>
<td>1997</td>
</tr>
<tr>
<td><strong>Late Adopter States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michigan(^2)</td>
<td>2005</td>
<td>2006</td>
<td>2008</td>
<td>2010</td>
</tr>
<tr>
<td>Nebraska</td>
<td>2007</td>
<td>2008</td>
<td>2010</td>
<td>2012</td>
</tr>
<tr>
<td>Arizona</td>
<td>2009</td>
<td>2010</td>
<td>2012</td>
<td>2014</td>
</tr>
<tr>
<td>Idaho(^2)</td>
<td>2019</td>
<td>2020</td>
<td>2022</td>
<td>2024</td>
</tr>
</tbody>
</table>

*Note:* California, Florida, Texas, and Washington years refer to graduate enrollment analysis (early-adopter states). Arizona, Nebraska, New Hampshire, and Oklahoma years refer to the J.D. completion analysis (late-adopter states).

\(^1\) Texas’ affirmative action ban was decided by court case and does not have a legislation introduction year: this decision also affected Louisiana and Mississippi (see Footnote 5).

\(^2\) Michigan was not included due to the timing of its ban and inconsistencies in the data for that time period. Idaho was not included in any analysis due to its recency.
Table 3
Dynamic Effects of Ban Implementation on uPOC J.D. Completion by Event Time

<table>
<thead>
<tr>
<th>Event Time</th>
<th>Estimate</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td>-0.05*</td>
<td>[-0.07, -0.04]</td>
</tr>
<tr>
<td>-4 (4 years before ban)</td>
<td>-0.01</td>
<td>[-0.02, 0.01]</td>
</tr>
<tr>
<td>-3</td>
<td>0.02</td>
<td>[-0.01, 0.04]</td>
</tr>
<tr>
<td>-2 years</td>
<td>0.01</td>
<td>[-0.07, 0.05]</td>
</tr>
<tr>
<td>-1 year</td>
<td>-0.005</td>
<td>[-0.05, 0.06]</td>
</tr>
<tr>
<td>+1 year (1 year after ban)</td>
<td>-0.04*</td>
<td>[-0.07, -0.01]</td>
</tr>
<tr>
<td>+2 years</td>
<td>-0.04*</td>
<td>[-0.06, -0.01]</td>
</tr>
<tr>
<td>+3 years</td>
<td>-0.04</td>
<td>[-0.08, 0.003]</td>
</tr>
<tr>
<td>+4 years</td>
<td>-0.06*</td>
<td>[-0.10, -0.02]</td>
</tr>
<tr>
<td>+5 years</td>
<td>-0.02</td>
<td>[-0.05, 0.01]</td>
</tr>
<tr>
<td>+6 years</td>
<td>-0.12*</td>
<td>[-0.13, -0.12]</td>
</tr>
<tr>
<td>+7 years</td>
<td>-0.08*</td>
<td>[-0.10, -0.07]</td>
</tr>
</tbody>
</table>

*p < .05
**Table 4**  
*State Level Group Effects of Ban Implementation on uPOC J.D. Completion*

<table>
<thead>
<tr>
<th>Group/State</th>
<th>Estimate</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td>-0.04*</td>
<td>[-0.05, -0.03]</td>
</tr>
<tr>
<td>Nebraska</td>
<td>-0.06*</td>
<td>[-0.06, -0.05]</td>
</tr>
<tr>
<td>Arizona</td>
<td>-0.05*</td>
<td>[-0.07, -0.03]</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>-0.004</td>
<td>[-0.02, 0.01]</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>-0.05*</td>
<td>[-0.06, -0.04]</td>
</tr>
</tbody>
</table>

*p < .05
Table 5
Dynamic Effects of Ban Implementation on uPOC Graduate Enrollment by Event Time

<table>
<thead>
<tr>
<th>Event Time</th>
<th>Estimate</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td>-0.04*</td>
<td>[-0.06, -0.02]</td>
</tr>
<tr>
<td>-7 years (7 years before ban)</td>
<td>-0.004</td>
<td>[-0.01, 0.002]</td>
</tr>
<tr>
<td>-1 year</td>
<td>0.01</td>
<td>[-0.003, 0.02]</td>
</tr>
<tr>
<td>+1 year (1 year after ban)</td>
<td>-0.01*</td>
<td>[-0.02, -0.00]</td>
</tr>
<tr>
<td>+7 years</td>
<td>-0.08*</td>
<td>[-0.14, -0.01]</td>
</tr>
<tr>
<td>+8 years</td>
<td>-0.10*</td>
<td>[-0.17, -0.02]</td>
</tr>
<tr>
<td>+9 years</td>
<td>-0.11*</td>
<td>[-0.17, -0.04]</td>
</tr>
<tr>
<td>+10 years</td>
<td>-0.11*</td>
<td>[-0.19, -0.04]</td>
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</table>

*p < .05
Table 6
Overall and State Level Group Effects of Ban Implementation on uPOC Graduate Enrollment

<table>
<thead>
<tr>
<th>Group/State</th>
<th>Estimate</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td>-0.03*</td>
<td>[-0.07, -0.003]</td>
</tr>
<tr>
<td>California, Louisiana,</td>
<td>-0.05*</td>
<td>[-0.07, -0.03]</td>
</tr>
<tr>
<td>Mississippi, Texas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>-0.003</td>
<td>[-0.01, 0.004]</td>
</tr>
<tr>
<td>Florida</td>
<td>-0.01</td>
<td>[-0.03, 0.01]</td>
</tr>
</tbody>
</table>

*p < .05