

For my replication project, I selected the paper, “Do Affirmative Action Bans Lower Minority College Enrollment and Attainment? Evidence from Statewide Bans,” which was first published in *The Journal of Human Resources* in 2012. In this paper, Ben Backes uses institution-level data from the Integrated Postsecondary Education Data System (IPEDS) to measure the impact of statewide affirmative action bans on minority enrollment and graduation rates at public 4-year institutions.

Why Affirmative Action?

According to the National Center for Education Statistics (NCES), minority students enroll in postsecondary institutions at lower rates than their White peers (Musu-Gillette, Robinson, McFarland, KewalRamani, Zhang, & Wilkinson-Flicker, 2016). Furthermore, previous studies have shown that racial disparities are particularly prevalent at highly-selective institutions (Reardon, Baker, & Klasik, 2012). Yet at the same time, a postsecondary education is more important than ever before—individuals with a bachelor’s degree have higher earnings and lower unemployment rates, on average, than those who only complete high school (Kena et al., 2016). Given the economic importance of a postsecondary degree, the underrepresentation of minority students at postsecondary institutions exacerbates existing economic disparities. To address this issue, some postsecondary institutions have implemented affirmative action policies, meaning the institution considers an applicant’s race as a factor in its admissions decision.

Previous research on whether affirmative action policies in college admissions have successfully achieved their goal is mixed. For example, in their examination of statewide affirmative action bans in California and Texas, Card and Krueger (2004) find no evidence that minority students changed their SAT-behavior as a result of the states’ affirmative action bans. Meanwhile, Arcidiacono (2005) finds that removing preference in college admissions does reduce Black enrollment at postsecondary institutions. Furthermore, affirmative action policies remain politically controversial. There have been several prominent legal challenges to affirmative action policies in college admissions, most notably involving the University of Michigan, University of Texas at Austin, and the University of California. In response

to opponents' claims that affirmative action policies create "reverse discrimination" against White students, ten states have banned the use of affirmative action in college admissions over the last 20 years.

Research Questions

As the intent of affirmative action policies in college admissions is to increase representation of minority groups at postsecondary institutions, it is plausible that banning institutions from implementing these policies would reduce minority representation. Thus, in his paper, Backes examines whether statewide bans on the use of affirmative action policies in college admissions reduce minority enrollment and attainment. His paper, and thus also my replication, focuses on three key research questions:

- **RQ1.** Do statewide affirmative action bans reduce the share of minority (i.e., Black and Hispanic) enrollment at public 4-year institutions in the years after the ban is implemented?
- **RQ2.** Do statewide affirmative action bans reduce the share of minority enrollment at *highly selective* public 4-year institutions in the years after the ban is implemented?
- **RQ3.** Do statewide affirmative action bans reduce minority graduation rates at public 4-year institutions in the years after the ban is implemented?

Causality Problem and Empirical Strategy

Unfortunately, isolating the effect of affirmative action policies on minority enrollment and attainment rates is challenging. First of all, postsecondary institutions have autonomy over their own admissions, but bans on the use of affirmative action in college admissions are implemented at the state level. Secondly, institutions may possess unobserved characteristics which make them more or less likely to admit students of a certain racial or ethnic identity, regardless of an affirmative action ban.

To obtain a causal estimate of the effect of a statewide affirmative action ban on minority enrollment and attainment, we would like to observe two states of the world: (1) a world in which a state *does* implement a statewide ban on affirmative action and (2) a world in which the same state *does not* implement a statewide ban on affirmative action. If we were able to observe both states of the world, then we could simply compare minority enrollment and graduation rates at postsecondary institutions in both worlds; any differences could be directly attributed to the presence of a statewide affirmative action ban.

Since it is impossible to observe both states of the world, we must settle for comparing minority enrollment and graduation rates in "treatment" states (i.e., states that have implemented an affirmative

action ban) with control states (i.e., states that have not implemented an affirmative action ban) as a proxy of the policy effect. However, states and individual institutions differ in many ways, and these characteristics may shift over time. If we could observe all of the ways in which states and institutions differed, we could simply control for these factors. However, it is likely states and institutions differ in ways that are unobservable or impossible to measure. For example, postsecondary institutions may have a climate that is more welcoming to minority students in some intangible way.

To overcome these problems, Backes employs a difference-in-difference model with institution and year fixed effects (Backes, 2012). The difference-in-difference model controls for two sets of factors: (1) things that change for both the treatment and control states between the pre-policy and post-policy years and (2) differences between the treatment and control states that are constant over time. Difference-in-difference models do not hold constant things that change differently for treatment and control states between the pre-policy and post-policy years. The author addresses this by adding in various time trends. Backes employs institution fixed effects to control for differences across institutions that are consistent over time and year fixed effects control for national changes each year that affect all states similarly.

In the original paper, the author does express concern regarding an endogeneity problem. Backes notes that institutions in three states (California, Texas, and Florida) implemented top x-percent programs¹ near the time that the same states implemented statewide affirmative action bans. These top x-percent programs may have shifted how minority students apply for and attend college; they may also have changed the way institutions review applications and admit minority students. To address this endogeneity concern, the author (and I) uses the presence of a top x-percent program as a control variable.

Regression Model

To estimate the share of Black students enrolled j in institution i in state s at time t , Backes (2012) estimates the following regression model:

$$shareblack_{jist} = \beta_0 + \beta_1 X_{st} + \theta ban_{st} + \gamma_i + \gamma_t + \epsilon_{ist}$$

¹ Top x-percent programs guarantee students graduating in the top “x” percent of their high school class admission to a public university in the state.

- X is a vector of economic and education policy control variables in state s at time t
- $\text{ban}=1$ if a statewide affirmative action ban is active in state s at time t
- θ is the effect of the affirmative action ban
- γ_i are institution fixed effects
- γ_t are year fixed effects

In this basic regression model, the unit of analysis is the institution-year. To test whether the findings are robust, the author uses several variations of this model, including adding linear time trends, quadratic time trends, and restricting the model to include only key years. I estimate the same regressions as the author; comparisons of our findings are presented in Tables 5, 6, and 7. At various points in the paper, the author revises the dependent variable to be the share of Hispanic enrollment or the share of Black graduates; however, the basic format of the regression model remains the same.

Data Sources

The main data source for this paper is the Integrated Postsecondary Education Data System (IPEDS). IPEDS is composed of a series of rotating supplements administered to all postsecondary institutions that receive Title IV federal student financial aid. The institution-level data used in the author's analysis as well as my own is composed of data pulled from several IPEDS supplements. Like the original author, I use the 1990 Institutional Characteristics supplement to obtain information on the institution's name, state, unique ID, and sector (e.g., public 4-year, for-profit 2-year). To obtain data on the number of students enrolled and graduated from in each institution disaggregated by race/ethnicity, I use the Fall Enrollment supplements from 1990 through 2009, and the Graduation Rates supplements from 2002 to 2009. For 4-year institutions, IPEDS reports 6-year graduation rates (i.e., the percent of students who graduate within 150% of normal time); thus, the 2002 data file provides completion data on students who began a degree at a 4-year institution in 1996. I downloaded all public-use data files directly from the NCES website. As per the author, I retain only first-time, full-time students, and I restrict my analysis to include only public 4-year institutions that have enrollment data available for every year between 1990 and 2009. This process leaves me with 10,460 observations, covering 20 years of data for 523 institutions compared with 526 institutions for the original author.

Obtaining data for all necessary control variables was more challenging, as the author did not provide sufficient detail regarding these variables. I extracted data on states' unemployment rates by year from the Labor Force Statistics data tool on the Bureau of Labor Statistics' website. For the other economic controls (i.e., fraction of individuals with a high school degree, fraction of individuals with a college degree, and income), I used extractions from IPUMS; data for each extract are from the Annual Social and Economic supplement of the Current Population Survey. Using the Consumer Price Index, I convert income to 1990 current dollars to adjust for inflation.

To compile data on the three education policy control variables (a statewide accountability system, a statewide exit exam required for high school graduation, and a top x-percent program), I use the same data source as the author. For the statewide accountability system variable, the author used a table from an unpublished working paper. I found a published version of this paper and used data from the same table. However, it is clear revisions were made to the working paper before publication, and I don't know whether the data I used match with the data in the original working paper. To obtain data on whether a state requires students to pass an exit exam to complete high school, I use a data table on the Education Commission of the States website. As the author notes that he added dummies for top x-percent programs in Florida, California, and Texas, I do the same (Backes, 2012).

To sort institutions by selectivity, the author uses the 2007 IPEDS Admissions and Test Scores supplement. In this supplement, institutions are required to report, at both the 25th and 75th percentiles, SAT and ACT scores for incoming students.² The author categorizes institutions based on the 75th percentile math SAT score, and only relies on the 75th percentile composite ACT score for institutions that do not report SAT scores (Backes, 2012). The author does not clearly articulate how he sorts institutions into selectivity levels, indicating only that institutions in the top most decile are coded as "high selectivity", institutions in the next two deciles are coded as "medium selectivity", and the remaining institutions are coded as "low selectivity." I first attempted to sort institutions using the method

² Institutions can choose to report SAT scores, ACT scores, or both.

indicated by the author; however, my result is an under-sorting of institutions into the “medium selectivity” category. Since the subsequent analysis is particularly sensitive to which institutions are included in each selectivity level, I adjust the sorting based on the author’s counts of how many high, medium, and low selectivity institutions are in ban states. I present descriptive statistics using both the “unadjusted” and “adjusted” selectivity levels in Table 4. As the descriptive statistics using the “adjusted” selectivity levels better align with the authors, I use the “adjusted” selectivity levels in all regressions.

As noted above, the key independent variable is the “statewide affirmative action ban” variable. Like the author, I make a dummy variable equal to 1 if an affirmative action ban is in place in that state in that year. In the original paper, six states (Texas, California, Washington, Florida, Georgia, and Michigan) are coded as affected by an affirmative action ban (Backes, 2012). To identify the year in which institutions are first affected by the statewide bans, I use the same years as the original author (Backes, 2012). As seen in Figure 1, a statewide affirmative action ban is enacted in Texas in 1997, California in 1998, Washington in 1999, Florida in 2001, Georgia in 2002, and Michigan in 2004.

Key Assumptions for Difference-in-Difference Estimator

There are two key assumptions which should be met before employing a difference-in-difference estimator: the treatment and control units should have similar characteristics in the pre-policy period and should have parallel trends until the introduction of the policy.

Descriptive Statistics for Treatment and Control States in the “Pre-Policy” Years

To address the first condition, I report summary statistics for ban and non-ban states in Table 1. This table includes data for the pre-policy years (i.e., the three years before implementation of the statewide affirmative action ban) for treatment (ban) states and 1994–1996 for the remaining 44 control states.³ I include the author’s summary statistics for comparison. Backes does not include 1999 data in the original paper as it was not available (Backes, 2012); however, as seen in Figure 1, 1999 is a key data

³ The author notes that he chose this time period because it is a period in which several states became affected by the treatment (Backes, 2012). For consistency, I use the same period.

year for several treatment states. Therefore, in Table 1, I present my replication both with and without the 1999 data.

As seen in Table 1, my estimates are fairly close to those published in the original paper. When I omit the 1999 data, my estimates of the shares of enrollment for ban and non-ban states by race/ethnicity are within 2 percentage points of the original author's, with several estimates matching almost exactly. My estimates of the shares of graduates for ban and non-ban states by race/ethnicity differ more than my estimates of the shares of enrollment, but my estimates are in the general vicinity of the author's. For the control variables, my income variable is off by several thousand dollars. I report income for all data years in constant 1990 dollars. As the author does not specify a current dollar year or even if he adjusts for inflation, this may be causing the discrepancy. My 75th percentile SAT variable also differs by several points, particularly for highly selective institutions in ban states. This could be an indication that I sorted institutions into different selectivity categories than the original author. This is particularly concerning since the sorting of institutions into selectivity levels directly impacts the results as is discussed in more detail below. When I add in the 1999 data, the estimates for the shares of enrollment by race/ethnicity change slightly. In fact, when I include the 1999 data, some estimates, including for the control variables, are closer to the original author's, which is counter to what would be expected.

Overall, there are some reasons to be skeptical that ban states and non-ban states are similar in the pre-policy years. Institutions in ban states have, on average, higher shares of Hispanic enrollment than non-ban states and lower shares of White enrollment. Institutions in ban states are also nearly twice as large, on average, as institutions in non-ban states. There is also some evidence that institutions in ban states may be of higher quality than institutions in non-ban states. Institutions in ban states have a 75th percentile SAT score that is about 10 points higher than institutions in non-ban states, and institutions in ban states produce nearly twice as many graduates.

Furthermore, as seen in Table 2, institutions, particularly highly-selective institutions, are not evenly distributed between ban and non-ban states. Of the 45 highly-selective institutions in the United States, 12 (or 27 percent) are located in the six ban states. Five of these 12 institutions are located in

California, and three of the original six ban states (Florida, Georgia, and Washington) only have one highly-selective public institution each. Therefore, when the author presents the change in the shares of enrollment from the pre-policy and post-policy years by state and selectivity level in Tables 3 and 4, he is essentially presenting actual changes in enrollment at these specific institutions as opposed to the average change in the shares of enrollment at highly-selective institutions in Florida, Georgia, and Washington.

“Parallel Trends Assumption”

To address the parallel trends assumption, Backes includes a set of figures that show trends in the share of Black and Hispanic enrollment at high selectivity, medium selectivity, and low selectivity institutions in each state (Backes, 2012). I assume Backes presents trends for institutions of each selectivity level in each ban state separately because states implemented statewide affirmative action bans in different years and because the various institution selectivity levels are a key aspect of his analysis. Consistent with the windows shown for each state in Figure 1, each chart in Figure 2 includes the three pre-policy years and continues through the three post-policy years. My replicated figures, also shown in Figure 2, are fairly close to the original author’s. I match the authors’ trends particularly well in California and Texas. For ease of comparison across states, I use a consistent y-axis in all figures. As is evidenced by both the original author’s figures as well as my own, trends in the share of Black and Hispanic enrollment differ significantly by state and by institution selectivity level. In an effort to address the “parallel trends assumption,” the author includes various time trends in his regressions.

Descriptive Statistics for Treatment and Control States in Pre-Policy and Post-Policy Years

Backes includes a second summary statistics table to illustrate how the share of Black and Hispanic enrollment changed from the pre-policy to post-policy years in institutions of each selectivity level in treatment and control states. I report the author’s estimates as well as my own in Table 3. Using the original author’s estimates, Table 3 shows that decreases in the share of Black and Hispanic enrollment from the pre-policy to the post-policy years were concentrated in Texas, California, and Washington as well as in highly-selective public institutions.

My replication yields similar results. Omitting the 1999 data to align with the original author, I also find that decreases in the share of Black and Hispanic enrollment from the pre-policy to the post-policy years were concentrated in Texas, California, and Washington as well as in highly-selective public institutions. Overall, my share estimates are fairly close, with the notable exceptions of the share of Black enrollment in low selectivity institutions in Texas and Florida. Adding in the 1999 data does not result in large shifts generally. I still find that decreases in the share of Black and Hispanic enrollment from the pre-policy to the post-policy years were concentrated in Texas, California, and Washington as well as in highly-selective public institutions. However, the inclusion of 1999 data particularly impacts the share of Black enrollment estimates for low selectivity institutions in Florida—a difference of more than 20 percentage points.

As noted previously, when I attempted to follow the author’s methodology for sorting institutions into each selectivity level as described in the paper, I ended up with a large undercount of medium selectivity institutions. Thus, I make manual adjustments to the sorting, moving several low selectivity institutions with high SAT scores into the medium selectivity category. Table 4 shows the change in share of Black and Hispanic enrollment from the pre-policy to post-policy years; the top panel of the table reports shares of enrollment using the “adjusted” selectivity levels while the bottom panel uses the “unadjusted” selectivity levels. The “adjusted” selectivity levels produce shares of Black and Hispanic enrollment that are most closely aligned with the original author’s, particularly in Texas, California, and Washington. Therefore, I use the “adjusted” selectivity levels in my regressions, the results of which are presented in Tables 5, 6, 7, 9, and 10.

Results: The Effect of Affirmative Action Bans on Minority Enrollment Rates

To estimate the effect of statewide affirmative action bans on minority enrollment at public 4-year institutions, the author runs several regressions. He first estimates the effect of statewide affirmative action bans on all public 4-year institutions and then conducts separate regressions for institutions of each selectivity level (Backes, 2012). To test whether the results are sensitive to the regression specification used, the author uses seven specifications. In Table 5, the regression in column 1 contains only year

dummies; Backes incorporates state trends in column 2, university trends in column 3, and university-squared trends in column 4 (Backes, 2012). In column 5, the author restricts the regression to include only 1995–2001, the period in which most policy changes occurred (Backes, 2012). In column 6, the author reduces the control group to include only states adjacent to treatment states⁴, and in Column 7, he adds back in state trends. Due to the large number of regressions, the author displays only the coefficient of the treatment effect. As shown in Table 5, overall, the author does not find strong evidence of a statistically significant decrease in the share of Black enrollment as a result of a statewide affirmative action ban at all public 4-year institutions (Backes, 2012).⁵ However, he does consistently observe about a 1.6 percentage point decrease in the share of Black enrollment at highly selective institutions (Backes, 2012). The author also finds some evidence of a statistically significant increase in the share of Black enrollment at medium selectivity institutions, although this finding is sensitive to the regression specification used (Backes, 2012). This is important because a statistically significant increase in the medium selectivity institutions suggests these institutions are picking up Black students who would attend a highly selective institution in the absence of a ban.

For my replication, I use my “adjusted” selectivity levels for all regressions. Like the author, I cluster my standards errors at the state level and weight all regressions by the number of students enrolled in the institution in 1996. As shown in Table 5, when I omit the 1999 data, I also find no statistically significant change in the share of Black enrollment at all public 4-year institutions; my coefficient for all public 4-year institutions is similar in magnitude to the original author’s, but in the opposite direction. Furthermore, I find a slightly larger decrease in the share of Black enrollment at highly selective public 4-year institutions (around 3.2 percentage points). For the medium selectivity institutions, I estimate about a 1.0 percentage point decrease in the share of Black enrollment as a result of the affirmative action ban,

⁴ Affirmative action bans may drive cause minority students to apply to and enroll in institutions in other states. Thus, neighboring states might absorb minority students in the students’ home state has an affirmative action ban.

⁵ It is clear to me there is something strange going on with the regression model with the years restricted. As I was unable to determine the source of error, I do not consider these regressions when reporting my results.

although the finding is not statistically significant. This finding contradicts the original author, and may be the result of sorting different institutions into the medium selectivity level.

When I add in the 1999 data in Table 6, I observe some interesting changes in my results. My coefficients for all institutions change signs; the coefficients are now in the same direction as the original author's, although they are larger in magnitude and remain not statistically significant. For highly selective institutions, my estimate of the policy change on the share of Black enrollment increases to about 3.6 percentage points. While this may appear to be a marginal change, as seen in Table 1, only 5 percent of students in highly selective institutions in ban states in the pre-policy years are Black. Thus, the fact that I estimate an effect that is twice as large as the original author's is a meaningful difference.

In Table 7, I change the dependent variable to the share of Hispanic students rather than the share of Black students. The findings for Hispanic students are less compelling than the findings for Black students. I find some evidence of a statistically significant decrease (about 1.5 percentage points) in the share of Hispanic students enrolled in highly selective institutions as a result of the policy change, although this finding is not statistically significant in all model specifications. It is noteworthy that including only the adjacent states appears to impact the regression coefficients. For example, the coefficient for all institutions switches signs when the control group includes only adjacent states.

Extension

As mentioned in the introduction, affirmative action programs remain a politically controversial issue. According to the Pew Research Center (2014), some 43 percent of Republicans versus 78 percent of Democrats supported affirmative action policies in college admissions. As discussed in a recent article in *The New York Times* (2016), the U.S. Supreme Court ruled on the legality of the top x-percent program at the University of Texas at Austin as recently as last year. The continued relevance of affirmative action programs is evidenced by the fact that four states (Nebraska, Arizona, New Hampshire, and Oklahoma) passed statewide affirmative action bans in the years since this paper was published.

For my extension, I switch these four states to be treatment states and analyze whether the original author's findings hold true when these new treatment states are included. As illustrated in Figure 3, I also adjust the window for the control group so that the pre-policy and post-policy years for the control group bridge the windows of the original and new treatment states. I download additional IPEDS data files for 2010–2014, and I keep only institutions that have data for the full 25 years. As illustrated in Figure 3, I code Nebraska as first affected by a statewide affirmative action ban in 2008, Arizona in 2010, New Hampshire in 2011, and Oklahoma in 2012. As shown in Table 2, of the four new treatment states, only Nebraska is home to a highly selective institution.

Addressing the “parallel trends assumption” was more challenging with these four states due to the small number of postsecondary institutions of each selectivity type in each state. Thus, Figure 5 presents trends in the share of Black enrollment by selectivity level for the original six treatment states and then for all ten treatment states. As shown in the figure, enrollment trends in the original six treatment states and in the control states are very similar over time. When the four new treatment states are added, the enrollment trends for the high and medium selectivity institutions remain similar. When I add in the new treatment states for institutions in the lowest selectivity level, the share of Black enrollment drops for both the treatment and control states, although the trends remain parallel. While this figure provides evidence of the “parallel trends assumption,” it is also difficult to determine how to interpret the trends, given that states implemented affirmative action bans in different years.

In Table 8, I show the change in the share of Black and Hispanic enrollment from the pre-policy to post-policy years in institutions of each selectivity level in the new treatment and control states. I only observe decreases in the share of Black enrollment in the sole high selectivity institution in Nebraska and at medium selectivity institutions in New Hampshire and Oklahoma. I observe no evidence of decreases in the share of Hispanic enrollment for institutions of any selectivity level in any of the new treatment states. In the second panel, I show how shifting these four states from the control group to the treatment group impacts the share of Black and Hispanic enrollment by state and institution selectivity level. With

all ten treatment states included, these summary statistics suggest evidence of a decrease in the share of Black and Hispanic enrollment at highly selective institutions.

In Table 9, I compare the results of my initial regressions with the six treatment states to my regressions with all ten treatment states.⁶ Shifting Nebraska, Arizona, New Hampshire, and Oklahoma from the control group to the treatment group has a limited impact on the regression coefficients. I still find no evidence of a statistically significant decrease in the share of Black enrollment at all public 4-year institutions. I find a slightly smaller effect of the policy change on the share of Black enrollment (around 3.0 percentage points) in high selectivity institutions and little change in the coefficients for the medium selectivity institutions. When the new treatment states are included, the regression coefficients for the low selectivity institutions switch signs although they remain not statistically significant.

Results: The Effect of Affirmative Action Bans on Minority Graduation Rates

To address the author's third research question, I conduct some preliminary analyses that examine the effect of statewide affirmative action bans on minority graduation rates. Since IPEDS only publishes six-year graduation rates, I focus on graduation rates for the 1996–2003 cohorts using the original six treatment states as shown in Figure 5. I present my results in Table 10, comparing them to the results of the original author.⁷ As the author indicates he used the state trend specification for the regressions in this table, I do the same (Backes, 2012). My findings do not confirm the original author's. I find a statistically significant decrease of 2.3 percentage points in the share of Black graduates at high and medium selectivity institutions; I do not find a statistically significant decrease in the share of Hispanic graduates at highly selective institutions, although my coefficient is similar in magnitude and sign (Backes, 2012).

Are Private 4-year Institutions Absorbing Minority Students?

In response to a comment I received on my presentation, I examine whether 4-year private institutions are absorbing minority students who would attend a 4-year public institution in the absence of

⁶ With the inclusion of the new treatment states, there is no longer one period that captures the majority of policy changes. Therefore, I do not report results for the model specification with the years restricted.

⁷ Note that the results for the "Enroll public" column matches those presented in Tables 5, 6, and 7. They are included again here only as a point of reference.

an affirmative action. The original author briefly considers this question as well, and I present a brief comparison of our findings in Table 10. If private universities are absorbing students who would attend a public institution in the absence of an affirmative action ban, we would expect the share of minority enrollment at 4-year private institutions to increase in the years following the implementation of an affirmative action ban. I find some evidence of this—the majority of my coefficients for both Black and Hispanic enrollment are in the expected direction, although they are not statistically significant.

How Successful was my Replication: Why Didn't I Match?

Overall, I think my replication effort was fairly successful. I was able to use the same data sources and methodology as the original author. My descriptive statistics are in line with those reported in the original paper. While my regression coefficients differed from those reported by the original author, like the author, I also only find a statistically significant effect of statewide affirmative action bans on the share of Black enrollment at highly selective institutions.

There are a couple of factors which may be contributing to my inability to match the author's results exactly. First, postsecondary institutions periodically resubmit IPEDS data to make corrections; therefore, NCES periodically posts revised IPEDS data files on its website. It is possible some of my IPEDS data files are more recent versions than the author's, affecting the results to an unknown degree (although revisions are likely to be concentrated in later years). Secondly, the author did not provide sufficient information about how he constructed the selectivity levels. This analysis is extremely sensitive to which institutions are sorted into each selectivity category, as there only a handful of institutions in each selectivity category in each state. Therefore, even though my counts differ only slightly from the author's, the inclusion or exclusion of one or two institutions can significantly impact the results.

Critique

While this is an interesting paper and certainly a topic that merits an additional research, I do have a number of concerns regarding the empirical framework of this paper. First, as noted above, a qualifying condition of a difference-in-difference estimator is that treatment and non-treatment units should be similar in the pre-treatment time period. As noted above, there is some reason to believe that

the original treatment and non-treatment states are different in ways that might be impacting the results of this analysis. If the treatment and non-treatment states differ systematically, there may be some underlying factor that is causing any observed differences in minority enrollment and graduation rates in treatment and non-treatment states. Secondly, as the author created the selectivity categories himself and are not based upon any theoretical framework, he may have sorted institutions into selectivity categories based on what sorting provided the most compelling result. The omission of the 1999 data in the original paper is also troubling given the critical nature of this data year. While the inclusion of the 1999 data does not impact the statistical significance of the treatment coefficient, it does change the direction of the effect for all 4-year institutions and low selectivity institutions (see Table 6).

However, my strongest critique of this paper is the author's analysis of the impact of statewide affirmative action bans on minority graduation rates. Enrollment is plausibly directly affected by the presence of a statewide affirmative action ban since enrollment in a postsecondary institution is closely tied with one's admission decision. However, this is less true for postsecondary attainment. According to official government statistics, it is true that minority students graduate in fewer numbers than their White peers (Musu-Gillette, Robinson, McFarland, KewalRamani, Zhang, & Wilkinson-Flicker, 2016). However, it is difficult to believe that we can plausibly trace any change in minority graduation rates directly back to the presence of a statewide affirmative action ban. First of all, there is a six-year lag between implementation of the policy and the graduation rate for the first cohort affected by the policy change, making it difficult to isolate the effect of the policy change. Second, why should the presence of a statewide affirmative ban action affect minority students' ability to graduate? Presumably once a minority student is enrolled in a postsecondary institution, the presence of an affirmative action ban does not directly impact his or her ability to graduate.

While I agree with the original author that the presence of statewide affirmative action bans might be indirectly related to postsecondary attainment rates, the policy change likely only affects the minority graduate rate *through the enrollment rate*. Affirmative action bans presumably change a minority student's likelihood of being accepted into a postsecondary institution; it's a whole different ball game

once the student enrolls. The question of why minority students have lower educational attainment than their White peers is certainly worth further study; however, this estimation technique is not the best method to address this research question.

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Figure 1. "Pre-" and "Post-Policy" Data Years Used in Summary Statistics Tables

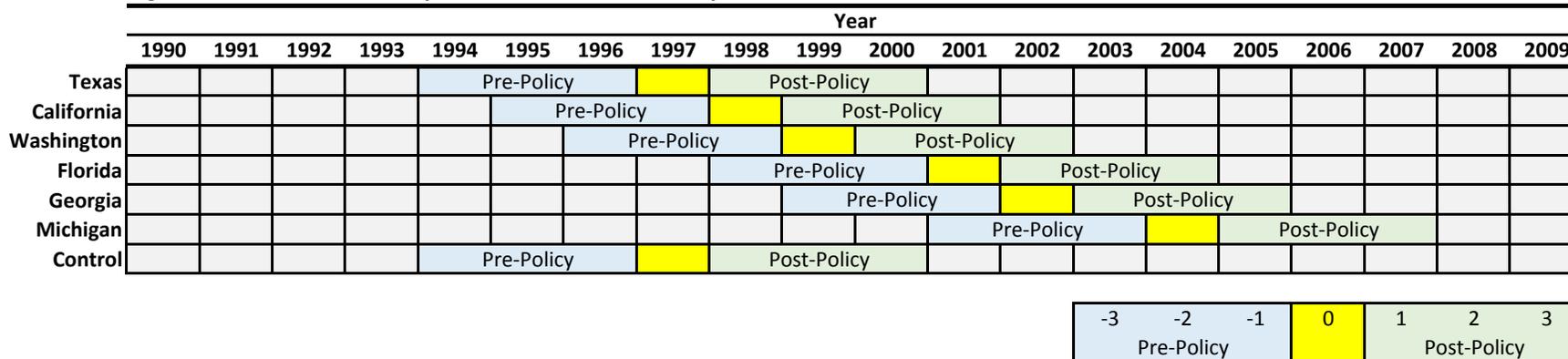


Table 1: Summary Statistics for Ban and Non-Ban States in the "Pre-Policy" Years

Original Author						MKD Replication (without 1999 data)						MKD Replication (with 1999 data)								
By State			By Selectivity			By State			By Selectivity			By State			By Selectivity					
All States	Ban States	Nonban States	Low Selectivity	Medium Selectivity	High Selectivity	All States	Ban States	Nonban States	Low Selectivity	Medium Selectivity	High Selectivity	All States	Ban States	Nonban States	Low Selectivity	Medium Selectivity	High Selectivity			
Enrollment, all	1321 (1153)	1848 (1454)	1195 (1031)	1241 (752)	2750 (1655)	3835 (1699)	Enrollment, all	1310 (1148)	1856 (1450)	1190 (1033)	1260 (767)	2875 (1629)	3819 (1653)	Enrollment, all	1317 (1155)	1845 (1454)	1190 (1033)	1295 (846)	2874 (1660)	3821 (1648)
Black enrollment, percent	14.2 (23.20)	14.6 (21.70)	14.1 (23.60)	18.8 (25.10)	6.2 (3.80)	4.8 (2.70)	Black enrollment, percent	13.9 (22.98)	13.4 (20.22)	14.1 (23.54)	17.0 (23.15)	5.3 (3.33)	4.6 (2.59)	Black enrollment, percent	14.2 (23.18)	14.7 (21.65)	14.1 (23.54)	18.2 (24.51)	6.0 (3.69)	4.8 (2.70)
Hispanic enrollment, percent	5.9 (11.00)	13.8 (17.30)	4.0 (7.70)	16.5 (20.10)	6.5 (5.30)	10.3 (5.80)	Hispanic enrollment, percent	5.9 (10.98)	14.6 (17.62)	4.1 (7.71)	17.2 (20.11)	6.8 (5.61)	10.5 (5.78)	Hispanic enrollment, percent	5.9 (10.98)	13.8 (17.35)	4.1 (7.71)	15.7 (19.76)	7.4 (5.39)	10.3 (5.79)
White enrollment, percent	72.6 (27.10)	58.3 (27.30)	76.0 (25.90)	53.7 (29.60)	74.2 (14.40)	58.2 (20.70)	White enrollment, percent	71.6 (27.56)	61.0 (27.35)	76.6 (26.23)	56.6 (29.43)	76.2 (16.47)	58.6 (21.66)	White enrollment, percent	72.4 (27.16)	58.3 (27.26)	75.8 (26.03)	55.1 (29.25)	72.9 (15.35)	58.2 (20.24)
Asian enrollment, percent	4.7 (8.80)	10.1 (13.20)	3.4 (6.80)	8.0 (11.10)	9.6 (12.00)	23.1 (19.10)	Asian enrollment, percent	4.7 (8.94)	10.7 (13.64)	3.4 (6.89)	8.4 (11.30)	10.8 (12.97)	23.8 (18.88)	Asian enrollment, percent	4.7 (8.88)	10.0 (13.21)	3.4 (6.89)	7.6 (10.85)	11.2 (12.68)	23.0 (18.63)
Unknown enrollment, percent	1.8 (3.50)	3.2 (4.00)	1.5 (3.20)	3.3 (4.40)	2.8 (3.20)	3.9 (3.20)	Unknown enrollment, percent	1.9 (4.07)	3.5 (4.33)	1.5 (3.93)	3.6 (4.71)	2.9 (3.22)	4.1 (3.30)	Unknown enrollment, percent	1.9 (4.05)	3.2 (4.24)	1.5 (3.93)	3.2 (4.56)	2.8 (3.25)	3.9 (3.32)
Graduates, all	685 (856)	1035 (1189)	601 (732)	476 (366)	1743 (1239)	3070 (1407)	Graduates, all	760 (944)	1099 (1214)	599 (732)	505 (396)	1868 (1292)	2919 (1412)	Graduates, all	768 (956)	1082 (1211)	599 (732)	533 (466)	1923 (1323)	2945 (1425)
Black graduates, percent	12.5 (23.40)	13 (22.40)	12.4 (23.70)	16.7 (26.20)	5.5 (4.20)	3.8 (2.40)	Black graduates, percent	12.3 (22.87)	11.8 (21.05)	12.5 (23.71)	15.5 (24.98)	4.8 (3.71)	3.9 (2.51)	Black graduates, percent	12.9 (23.46)	13.6 (23.01)	12.5 (23.71)	17.2 (26.72)	6.0 (4.63)	4.1 (2.56)
Hispanic graduates, percent	5.2 (10.50)	12.3 (17.00)	3.5 (7.30)	14.9 (19.80)	5.9 (4.90)	8.5 (4.60)	Hispanic graduates, percent	5.7 (10.82)	10.2 (14.86)	3.5 (7.34)	12.3 (17.59)	5.2 (4.85)	7.7 (4.70)	Hispanic graduates, percent	5.7 (10.88)	9.7 (14.61)	3.5 (7.34)	11.0 (17.11)	6.0 (4.74)	7.6 (4.71)
White graduates, percent	73.2 (27.50)	58.4 (28.20)	76.7 (26.20)	53.8 (30.40)	74 (16.10)	58.4 (22.20)	White graduates, percent	71.6 (27.56)	61.0 (27.35)	76.6 (26.23)	56.6 (29.43)	76.2 (16.47)	58.6 (21.66)	White graduates, percent	71.1 (27.72)	61.0 (27.58)	76.6 (26.23)	57.8 (30.10)	73.7 (15.54)	59.7 (21.15)
Asian graduates, percent	4.7 (8.90)	10 (13.30)	3.4 (6.90)	8.0 (11.50)	9.2 (12.00)	22.5 (18.70)	Asian graduates, percent	5.5 (9.97)	10.0 (13.33)	3.4 (6.96)	7.9 (11.50)	9.2 (11.64)	22.5 (17.99)	Asian graduates, percent	5.4 (9.80)	9.3 (12.74)	3.4 (6.96)	7.0 (10.83)	9.8 (11.28)	21.6 (17.61)
Unknown graduates, percent	2.2 (4.60)	3.7 (4.80)	1.8 (4.50)	3.8 (5.30)	2.9 (3.30)	4.3 (3.80)	Unknown graduates, percent	2.6 (4.81)	4.2 (4.84)	1.8 (4.60)	4.6 (5.43)	2.9 (2.96)	4.7 (3.69)	Unknown graduates, percent	2.5 (4.73)	3.7 (4.73)	1.8 (4.60)	3.9 (5.23)	2.8 (2.99)	4.4 (3.66)
75th percentile SAT math	582 (63)	589 (63)	580 (63)	553 (36)	633 (19)	702 (29)	75th percentile SAT math	580 (59)	586 (61)	578 (59)	554 (35)	629 (19)	696 (27)	75th percentile SAT math	576 (57)	585 (59)	574 (56)	555 (34)	629 (19)	696 (26)
Income (in dollars)	16,710 (1951)	17,986 (1503)	16,402 (1923)				Income (in 1990 constant dollars)	20,580 (2913)	20,886 (1953)	20,507 (3095)				Income (in 1990 constant dollars)	20,533 (2938)	20,854 (2024)	20,456 (3113)			
School accountability	0.20 (0.37)	0.57 (0.43)	0.11 (0.29)				School accountability	0.44 (0.48)	0.64 (0.24)	0.39 (0.49)				School accountability	0.40 (0.48)	0.58 (0.24)	0.35 (0.49)			
Share over high school	0.87 (0.04)	0.86 (0.04)	0.88 (0.04)				Share over high school	0.84 (0.05)	0.82 (0.05)	0.85 (0.05)				Share over high school	0.83 (0.05)	0.81 (0.04)	0.84 (0.05)			
Share over college	0.25 (0.04)	0.25 (0.02)	0.25 (0.05)				Share over college	0.26 (0.06)	0.26 (0.04)	0.26 (0.06)				Share over college	0.25 (0.05)	0.25 (0.03)	0.25 (0.06)			
Unemployment rate	0.04 (0.01)	0.04 (0.01)	0.04 (0.01)				Unemployment rate	0.06 (0.02)	0.07 (0.02)	0.06 (0.02)				Unemployment rate	0.06 (0.02)	0.06 (0.02)	0.05 (0.02)			
Number of Institutions	526	101	425	69	20	12	Number of Institutions	523	101	422	71	18	12	Number of Institutions	523	101	422	71	18	12

NOTE: Standard deviation in parentheses. The "by selectivity" columns contain only institutions in states that had banned affirmative action as of 2007 (i.e., the original six treatment states). This table uses the "adjusted" selectivity levels; see paper for description. Per the author's original description, the enrollment and graduation rows are restricted to include data for only the "pre-policy" data years. The "pre-policy" period includes data from three years prior to the implementation of a statewide affirmative action ban. Please see Figure 1 for additional information about the data years for each ban state.

Table 2. Number of 4-year public institutions, by selectivity level and state

State	Low Selectivity	Medium Selectivity	High Selectivity	Total
Alabama	9	4	0	13
Alaska	3	0	0	3
Arizona	1	2	0	3
Arkansas	6	3	0	9
California	19	4	5	28
Georgia	9	2	2	13
Connecticut	4	1	1	6
Delaware	1	1	0	2
District of Columbia	1	0	0	1
Florida	4	4	1	9
Georgia	15	2	1	18
Hawaii	1	1	0	2
Idaho	4	0	0	4
Illinois	5	2	3	10
Indiana	12	2	0	14
Iowa	0	1	2	3
Kansas	3	3	1	7
Kentucky	5	3	0	8
Louisiana	9	3	0	12
Maine	8	0	0	8
Maryland	7	3	2	12
Massachusetts	11	2	0	13
Michigan	8	5	2	15
Minnesota	5	2	2	9
Mississippi	7	0	1	8
Missouri	6	4	3	13
Montana	5	1	0	6
Nebraska	5	0	1	6
Nevada	2	0	0	2
New Hampshire	2	1	0	3
New Jersey	7	3	2	12
New Mexico	5	0	1	6
New York	27	5	3	35
North Carolina	11	4	1	16
North Dakota	5	1	0	6
Ohio	20	2	1	23
Oklahoma	9	3	0	12
Oregon	5	2	0	7
Pennsylvania	37	2	0	39
Rhode Island	2	0	0	2
South Carolina	7	3	1	11
South Dakota	4	3	0	7
Tennessee	7	2	0	9
Texas	22	1	2	25
Utah	2	2	0	4
Vermont	3	1	0	4
Virginia	7	5	3	15
Washington	3	2	1	6
West Virginia	10	0	0	10
Wisconsin	8	2	3	13
Wyoming	0	1	0	1
Total	378	100	45	523
Total Ban States (original six)	71	18	12	101
Total Control States (original six)	307	82	33	422
Total Ban States	88	24	13	125
Total Control States	290	76	32	398

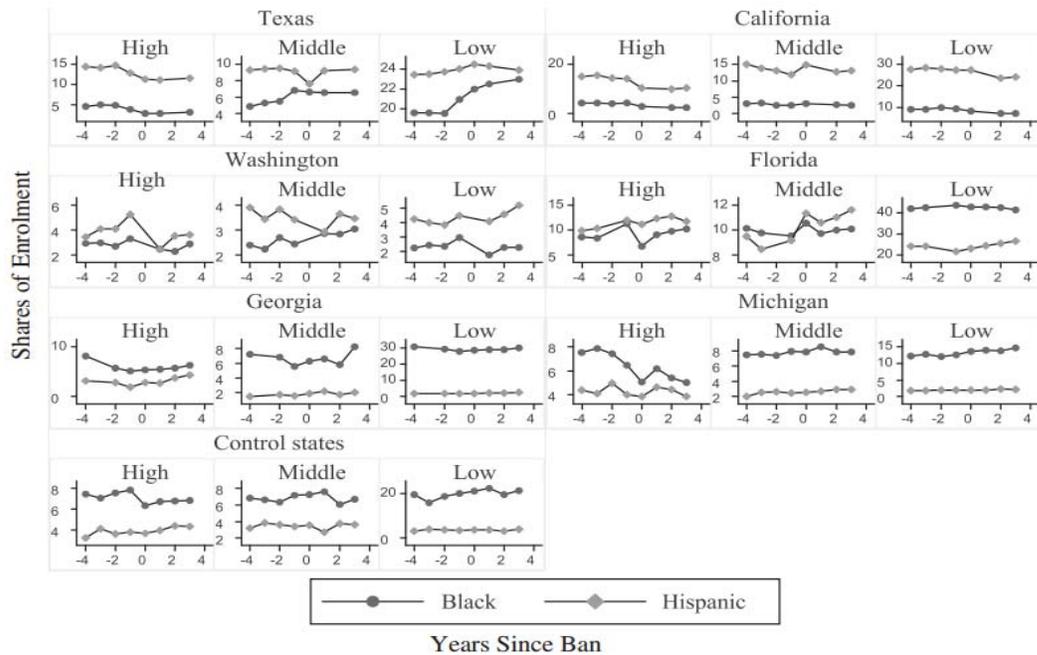
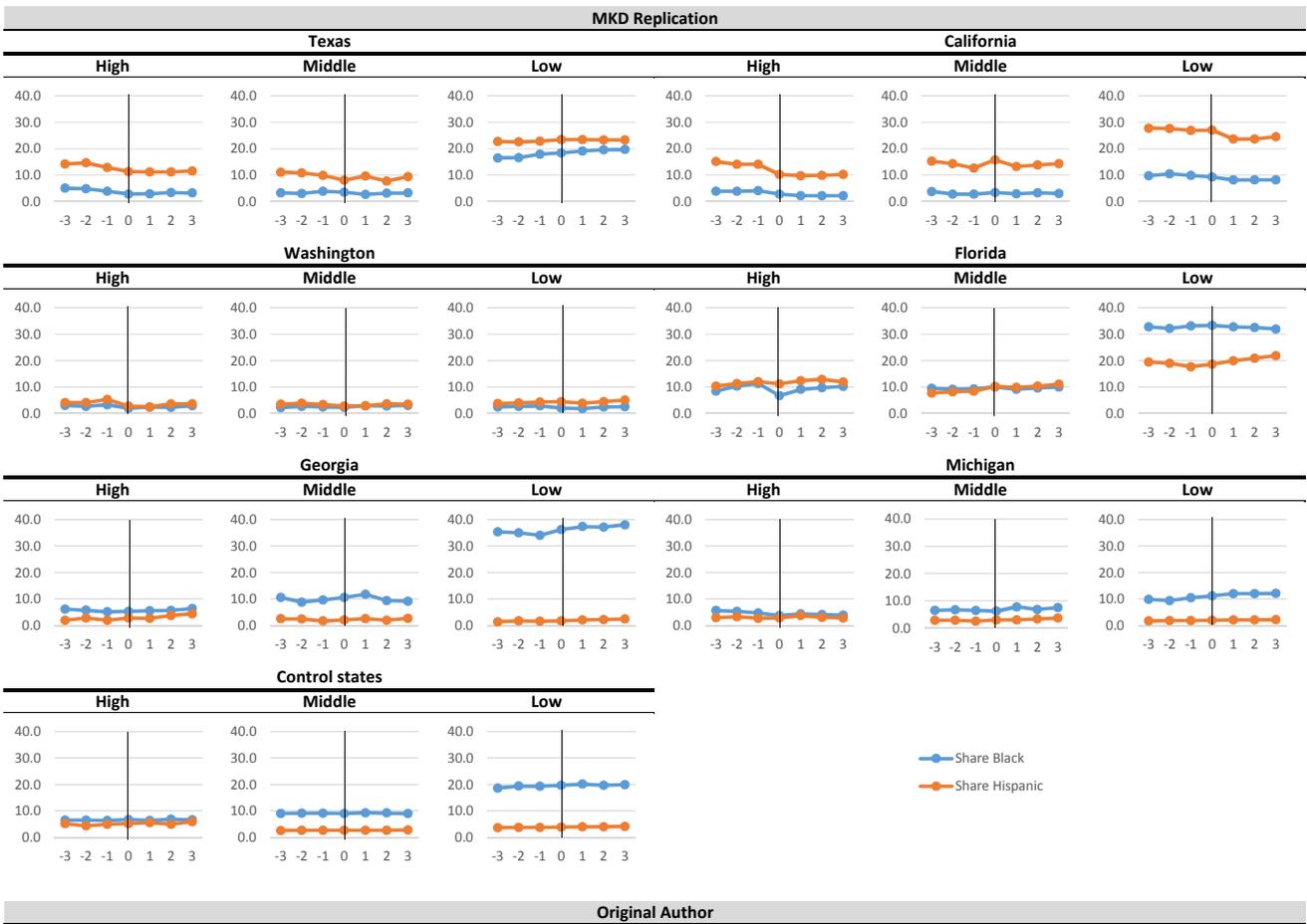


Figure 1
Enrollment Share by State and Selectivity Group

NOTE: Unlike the original author, I use a consistent scale on the y-axis for ease of comparison across figures. Figures include data from 1999 and reflect the "adjusted" selectivity levels; see paper for details. Per the original author, the "pre-policy" data years for the control states are 1994–1997. Please see Figure 1 for additional information about the data years for each ban state.

Table 3: Sample averages of enrollment share, by state and selectivity

	Original Author						MKD Replication (without 1999 data)						MKD Replication (with 1999 data)							
	Blacks			Hispanics			Blacks			Hispanics			Blacks			Hispanics				
	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low		
Texas							Texas							Texas						
Preban	4.6 (0.59)	5.9 (3.60)	20.0 (29.00)	14.0 (1.30)	9.4 (1.80)	24.0 (27.00)	Preban	4.6 (0.54)	3.4 (0.37)	13.9 (20.27)	13.8 (1.17)	10.6 (0.55)	24.9 (26.50)	Preban	4.6 (0.59)	3.4 (0.45)	17.0 (24.64)	13.8 (1.28)	10.6 (0.67)	22.7 (25.35)
Postban	2.8 (0.13)	6.6 (5.20)	22.0 (30.00)	11.0 (1.90)	8.4 (1.10)	24.0 (27.00)	Postban	3.0 (0.40)	3.1 (0.36)	16.1 (21.35)	11.3 (1.59)	9.0 (0.72)	25.5 (25.29)	Postban	3.1 (0.55)	3.1 (0.36)	19.2 (25.78)	11.3 (2.05)	8.7 (0.98)	23.4 (24.25)
California							California							California						
Preban	4.2 (2.50)	2.8 (1.30)	9.5 (5.90)	15.0 (3.60)	13.0 (4.40)	28.0 (12.00)	Preban	4.3 (2.41)	2.8 (1.30)	9.4 (5.45)	14.6 (3.63)	12.9 (4.25)	27.8 (11.75)	Preban	3.9 (2.44)	3.1 (1.52)	10.0 (8.02)	14.4 (3.64)	14.0 (4.78)	27.4 (13.15)
Postban	2.6 (1.30)	2.9 (1.30)	7.8 (5.70)	10.0 (1.60)	14.0 (4.90)	25.0 (12.00)	Postban	2.6 (1.23)	2.8 (1.21)	7.5 (4.97)	10.3 (1.79)	13.5 (4.57)	24.9 (11.67)	Postban	2.3 (1.28)	3.1 (1.62)	8.4 (7.98)	10.0 (1.77)	14.3 (5.14)	24.7 (13.33)
Washington							Washington							Washington						
Preban	3.0 (0.30)	2.5 (0.49)	2.6 (1.10)	4.5 (0.66)	3.6 (0.46)	4.1 (0.83)	Preban	3.0 (0.25)	2.6 (0.42)	2.7 (1.04)	4.5 (0.54)	3.7 (0.41)	4.2 (0.72)	Preban	3.0 (0.30)	2.4 (0.50)	2.6 (1.16)	4.5 (0.66)	3.6 (0.46)	4.0 (0.93)
Postban	2.4 (0.12)	2.9 (1.00)	2.0 (0.63)	3.0 (0.78)	3.3 (0.55)	4.3 (0.68)	Postban	2.6 (0.26)	3.1 (0.71)	2.0 (0.78)	3.2 (0.54)	3.4 (0.39)	4.7 (0.77)	Postban	2.4 (0.40)	2.7 (0.80)	2.2 (0.94)	3.1 (0.58)	3.2 (0.47)	4.5 (0.80)
Florida							Florida							Florida						
Preban	9.9 (2.10)	9.7 (2.20)	43.0 (44.00)	11.0 (1.20)	8.8 (2.20)	23.0 (27.00)	Preban	9.9 (1.46)	10.0 (1.99)	55.6 (43.32)	11.2 (0.85)	9.0 (1.56)	17.1 (24.03)	Preban	10.0 (1.48)	9.3 (1.94)	32.7 (39.66)	11.3 (0.85)	8.1 (2.96)	18.7 (24.21)
Postban	8.5 (1.60)	10.0 (2.10)	43.0 (43.00)	12.0 (0.88)	11.0 (2.00)	24.0 (27.00)	Postban	9.0 (1.35)	10.5 (1.75)	54.8 (42.63)	12.1 (0.63)	11.4 (1.45)	18.6 (25.16)	Postban	9.0 (1.56)	9.7 (2.08)	32.7 (38.39)	12.1 (0.73)	10.4 (2.74)	20.3 (24.43)
Georgia							Georgia							Georgia						
Preban	5.4 (0.42)	6.2 (2.90)	28.0 (24.00)	2.4 (0.62)	1.7 (0.45)	1.8 (1.10)	Preban	5.4 (0.30)	6.2 (2.42)	30.9 (26.65)	2.4 (0.44)	1.6 (0.38)	1.6 (1.05)	Preban	5.7 (0.49)	9.7 (4.75)	34.8 (32.09)	2.2 (0.49)	2.2 (0.87)	1.6 (1.15)
Postban	5.5 (0.17)	6.2 (3.70)	29.0 (25.00)	3.1 (0.58)	1.9 (0.32)	2.1 (1.10)	Postban	5.7 (0.38)	6.7 (2.98)	31.7 (27.68)	3.4 (0.70)	1.9 (0.35)	2.1 (1.22)	Postban	5.7 (0.44)	10.2 (5.28)	37.3 (32.64)	3.4 (0.80)	2.3 (0.63)	2.1 (1.37)
Michigan							Michigan							Michigan						
Preban	7.3 (2.60)	7.6 (3.20)	13.0 (9.50)	4.3 (1.80)	2.6 (0.81)	1.9 (0.68)	Preban	7.1 (2.56)	7.2 (2.81)	13.3 (8.73)	4.2 (1.77)	2.6 (0.78)	1.9 (0.66)	Preban	5.2 (3.44)	6.5 (2.53)	9.9 (8.63)	2.9 (2.37)	2.7 (0.52)	1.8 (0.74)
Postban	5.5 (2.00)	8.1 (2.70)	14.0 (12.00)	4.3 (1.50)	2.7 (0.63)	2.1 (0.75)	Postban	5.3 (1.80)	7.2 (2.09)	14.8 (11.59)	4.1 (1.40)	2.8 (0.62)	2.1 (0.70)	Postban	4.0 (2.34)	7.1 (1.54)	11.8 (10.83)	3.1 (1.85)	3.2 (0.47)	2.1 (0.83)
Control							Control							Control (Original Group)						
Preban	7.5 (3.40)	6.8 (5.80)	18.0 (25.00)	3.8 (2.60)	3.6 (4.20)	3.6 (7.50)	Preban	6.8 (4.42)	6.7 (5.79)	15.8 (24.62)	3.8 (3.98)	3.2 (3.70)	4.2 (7.97)	Preban	5.8 (3.81)	7.7 (6.58)	16.2 (26.38)	4.5 (3.68)	3.3 (4.05)	4.2 (8.54)
Postban	6.6 (2.90)	7.0 (5.90)	21.0 (26.00)	4.0 (2.50)	3.3 (3.90)	3.5 (6.80)	Postban	6.6 (4.26)	6.6 (5.73)	16.2 (24.53)	3.8 (3.58)	3.1 (3.20)	4.4 (8.17)	Postban	5.8 (3.51)	7.1 (6.32)	16.5 (26.32)	4.5 (3.81)	3.2 (3.32)	4.3 (8.58)

NOTE: Table includes data for only the "pre-policy" and "post-policy" data years. The "pre-policy" period includes data from three years prior to the implementation of a statewide affirmative action ban. The "post-policy" period includes the implementation year as well as three data years following implementation. Please see Figure 1 for additional information about the data years for each ban state.

Table 4: Sample averages of enrollment share, by state and selectivity

	Original Author						MKD Replication (with "adjusted" selectivity levels)						Comparison (absolute value)					
	Blacks			Hispanics			Blacks			Hispanics			Blacks			Hispanics		
	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Med	Low	High	Med	Low
Texas																		
Preban	4.6	5.9	20.0	14.0	9.4	24.0	4.6	3.4	13.9	13.8	10.6	24.9	0.0	2.5	6.1	0.2	1.2	0.9
	(0.59)	(3.60)	(29.00)	(1.30)	(1.80)	(27.00)	(0.54)	(0.37)	(20.27)	(1.17)	(0.55)	(26.50)	0.1	3.2	8.7	0.1	1.3	0.5
Postban	2.8	6.6	22.0	11.0	8.4	24.0	3.0	3.1	16.1	11.3	9.0	25.5	0.2	3.5	5.9	0.3	0.6	1.5
	(0.13)	(5.20)	(30.00)	(1.90)	(1.10)	(27.00)	(0.40)	(0.36)	(21.35)	(1.59)	(0.72)	(25.29)	0.3	4.8	8.6	0.3	0.4	1.7
California																		
Preban	4.2	2.8	9.5	15.0	13.0	28.0	4.3	2.8	9.4	14.6	12.9	27.8	0.1	0.0	0.1	0.4	0.1	0.2
	(2.50)	(1.30)	(5.90)	(3.60)	(4.40)	(12.00)	(2.41)	(1.30)	(5.45)	(3.63)	(4.25)	(11.75)	0.1	0.0	0.4	0.0	0.1	0.2
Postban	2.6	2.9	7.8	10.0	14.0	25.0	2.6	2.8	7.5	10.3	13.5	24.9	0.0	0.1	0.3	0.3	0.5	0.1
	(1.30)	(1.30)	(5.70)	(1.60)	(4.90)	(12.00)	(1.23)	(1.21)	(4.97)	(1.79)	(4.57)	(11.67)	0.1	0.1	0.7	0.2	0.3	0.3
Washington																		
Preban	3.0	2.5	2.6	4.5	3.6	4.1	3.0	2.6	2.7	4.5	3.7	4.2	0.0	0.1	0.1	0.0	0.1	0.1
	(0.30)	(0.49)	(1.10)	(0.66)	(0.46)	(0.83)	(0.25)	(0.42)	(1.04)	(0.54)	(0.41)	(0.72)	0.1	0.1	0.1	0.1	0.0	0.1
Postban	2.4	2.9	2.0	3.0	3.3	4.3	2.6	3.1	2.0	3.2	3.4	4.7	0.2	0.2	0.0	0.2	0.1	0.4
	(0.12)	(1.00)	(0.63)	(0.78)	(0.55)	(0.68)	(0.26)	(0.71)	(0.78)	(0.54)	(0.39)	(0.77)	0.1	0.3	0.2	0.2	0.2	0.1
Florida																		
Preban	9.9	9.7	43.0	11.0	8.8	23.0	9.9	10.0	55.6	11.2	9.0	17.1	0.0	0.3	12.6	0.2	0.2	5.9
	(2.10)	(2.20)	(44.00)	(1.20)	(2.20)	(27.00)	(1.46)	(1.99)	(43.32)	(0.85)	(1.56)	(24.03)	0.6	0.2	0.7	0.4	0.6	3.0
Postban	8.5	10.0	43.0	12.0	11.0	24.0	9.0	10.5	54.8	12.1	11.4	18.6	0.5	0.5	11.8	0.1	0.4	5.4
	(1.60)	(2.10)	(43.00)	(0.88)	(2.00)	(27.00)	(1.35)	(1.75)	(42.63)	(0.63)	(1.45)	(25.16)	0.2	0.3	0.4	0.2	0.5	1.8
Georgia																		
Preban	5.4	6.2	28.0	2.4	1.7	1.8	5.4	6.2	30.9	2.4	1.6	1.6	0.0	0.0	2.9	0.0	0.1	0.2
	(0.42)	(2.90)	(24.00)	(2.60)	(0.45)	(1.10)	(0.30)	(2.42)	(26.65)	(0.44)	(0.38)	(1.05)	0.1	0.5	2.7	0.2	0.1	0.1
Postban	5.5	6.2	29.0	3.1	1.9	2.1	5.7	6.7	31.7	3.4	1.9	2.1	0.2	0.5	2.7	0.3	0.0	0.0
	(0.17)	(3.70)	(25.00)	(0.58)	(0.32)	(1.10)	(0.38)	(2.98)	(27.68)	(0.70)	(0.35)	(1.22)	0.2	0.7	2.7	0.1	0.0	0.1
Michigan																		
Preban	7.3	7.6	13.0	4.3	2.6	1.9	7.1	7.2	13.3	4.2	2.6	1.9	0.2	0.4	0.3	0.1	0.0	0.0
	(2.60)	(3.20)	(9.50)	(1.80)	(0.81)	(0.68)	(2.56)	(2.81)	(8.73)	(1.77)	(0.78)	(0.66)	0.0	0.4	0.8	0.0	0.0	0.0
Postban	5.5	8.1	14.0	4.3	2.7	2.1	5.3	7.2	14.8	4.1	2.8	2.1	0.2	0.9	0.8	0.2	0.1	0.0
	(2.00)	(2.70)	(12.00)	(1.50)	(0.63)	(0.75)	(1.80)	(2.09)	(11.59)	(1.40)	(0.62)	(0.70)	0.2	0.6	0.4	0.1	0.0	0.0
Control																		
Preban	7.5	6.8	18.0	3.8	3.6	3.6	6.8	6.7	15.8	3.8	3.2	4.2	0.7	0.1	2.2	0.0	0.4	0.6
	(3.40)	(5.80)	(25.00)	(2.60)	(4.20)	(7.50)	(4.42)	(5.79)	(24.62)	(3.98)	(3.70)	(7.97)	1.0	0.0	0.4	1.4	0.5	0.5
Postban	6.6	7.0	21.0	4.0	3.3	3.5	6.6	6.6	16.2	3.8	3.1	4.4	0.0	0.4	4.8	0.2	0.2	0.9
	(2.90)	(5.90)	(26.00)	(2.50)	(3.90)	(6.80)	(4.26)	(5.73)	(24.53)	(3.58)	(3.20)	(8.17)	1.4	0.2	1.5	1.1	0.7	1.4

	Original Author						MKD Replication (without "adjusted" selectivity levels)						Comparison (absolute value)					
	Blacks			Hispanics			Blacks			Hispanics			Blacks			Hispanics		
	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Med	Low	High	Med	Low
Texas																		
Preban	4.6	5.9	20.0	14.0	9.4	24.0	4.6	0.0	12.7	13.8	0.0	23.3	0.0	5.9	7.3	0.2	9.4	0.7
	(0.59)	(3.60)	(29.00)	(1.30)	(1.80)	(27.00)	(0.54)	(0.00)	(19.39)	(1.17)	(0.00)	(25.39)	0.1	3.6	9.6	0.1	1.8	1.6
Postban	2.8	6.6	22.0	11.0	8.4	24.0	3.0	0.0	14.7	11.3	0.0	23.7	0.2	6.6	7.3	0.3	8.4	0.3
	(0.13)	(5.20)	(30.00)	(1.90)	(1.10)	(27.00)	(0.40)	(0.00)	(20.54)	(1.59)	(0.00)	(24.40)	0.3	5.2	9.5	0.3	1.1	2.6
California																		
Preban	4.2	2.8	9.5	15.0	13.0	28.0	4.3	2.5	9.2	14.6	12.0	27.5	0.1	0.3	0.3	0.4	1.0	0.5
	(2.50)	(1.30)	(5.90)	(3.60)	(4.40)	(12.00)	(2.41)	(1.03)	(5.42)	(3.63)	(3.63)	(11.64)	0.1	0.3	0.5	0.0	0.8	0.4
Postban	2.6	2.9	7.8	10.0	14.0	25.0	2.6	2.4	7.4	10.3	12.4	24.8	0.0	0.5	0.4	0.3	1.6	0.2
	(1.30)	(1.30)	(5.70)	(1.60)	(4.90)	(12.00)	(1.23)	(0.60)	(4.89)	(1.79)	(3.80)	(11.46)	0.1	0.7	0.8	0.2	1.1	0.5
Washington																		
Preban	3.0	2.5	2.6	4.5	3.6	4.1	3.0	0.0	2.6	4.5	0.0	3.9	0.0	2.5	0.0	0.0	3.6	0.2
	(0.30)	(0.49)	(1.10)	(0.66)	(0.46)	(0.83)	(0.25)	(0.00)	(0.72)	(0.54)	(0.00)	(0.61)	0.1	0.5	0.4	0.1	0.5	0.2
Postban	2.4	2.9	2.0	3.0	3.3	4.3	2.6	0.0	2.7	3.2	0.0	3.9	0.2	2.9	0.7	0.2	3.3	0.4
	(0.12)	(1.00)	(0.63)	(0.78)	(0.55)	(0.68)	(0.26)	(0.00)	(0.90)	(0.54)	(0.00)	(0.83)	0.1	1.0	0.3	0.2	0.6	0.1
Florida																		
Preban	9.9	9.7	43.0	11.0	8.8	23.0	9.9	10.1	52.5	11.2	9.3	16.2	0.0	0.4	9.5	0.2	0.5	6.8
	(2.10)	(2.20)	(44.00)	(1.20)	(2.20)	(27.00)	(1.46)	(2.02)	(43.43)	(0.85)	(1.05)	(23.46)	0.6	0.2	0.6	0.4	1.2	3.5
Postban	8.5	10.0	43.0	12.0	11.0	24.0	9.0	10.6	51.6	12.1	11.7	17.7	0.5	0.6	8.6	0.1	0.7	6.3
	(1.60)	(2.10)	(43.00)	(0.88)	(2.00)	(27.00)	(1.35)	(1.69)	(42.81)	(0.63)	(0.93)	(24.50)	0.2	0.4	0.2	0.2	1.1	2.5
Georgia																		
Preban	5.4	6.2	28.0	2.4	1.7	1.8	5.4	6.2	30.9	2.4	1.6	1.6	0.0	0.0	2.9	0.0	0.1	0.2
	(0.42)	(2.90)	(24.00)	(2.62)	(0.45)	(1.10)	(0.30)	(2.42)	(26.65)	(0.44)	(0.38)	(1.05)	0.1	0.5	2.7	0.2	0.1	0.1
Postban	5.5	6.2	29.0	3.1	1.9	2.1	5.7	6.7	31.7	3.4	1.9	2.1	0.2	0.5	2.7	0.3	0.0	0.0
	(0.17)	(3.70)	(25.00)	(0.58)	(0.32)	(1.10)	(0.38)	(2.98)	(27.68)	(0.70)	(2.98)	(1.22)	0.2	0.7	2.7	0.1	2.7	0.1
Michigan																		
Preban	7.3	7.6	13.0	4.3	2.6	1.9	7.1	7.5	12.4	4.2	2.6	2.0	0.2	0.1	0.6	0.1	0.0	0.1
	(2.60)	(3.20)	(9.50)	(1.80)	(0.81)	(0.68)	(2.56)	(2.86)	(8.65)	(1.77)	(0.83)	(0.66)	0.0	0.3	0.9	0.0	0.0	0.0
Postban	5.5	8.1	14.0	4.3	2.7	2.1	5.3	7.4	13.9	4.1	2.7	2.3	0.2	0.7	0.1	0.2	0.0	0.2
	(2.00)	(2.70)	(12.00)	(1.50)	(0.63)	(0.75)	(1.80)	(2.17)	(11.27)	(1.40)	(0.58)	(0.81)	0.2	0.5	0.7	0.1	0.0	0.1
Control																		
Preban	7.5	6.8	18.0	3.8	3.6	3.6	6.8	6.9	15.4	3.8	3.1	4.2	0.7	0.1	2.6	0.0	0.5	0.6
	(3.40)	(5.80)	(25.00)	(2.60)	(4.20)	(7.50)	(4.42)	(5.90)	(24.24)	(3.98)	(3.75)	(7.83)	1.0	0.1	0.8	1.4	0.4	0.3
Postban	6.6	7.0	21.0	4.0	3.3	3.5	6.6	6.8	15.8	3.8	3.0	4.4	0.0	0.2	5.2	0.2	0.3	0.9
	(2.90)	(5.90)	(26.00)	(2.50)	(3.90)	(6.80)	(4.26)	(5.82)	(24.16)	(3.58)	(3.23)	(8.02)	1.4	0.1	1.8	1.1	0.7	1.2

NOTE: Table includes data for only the "pre-policy" and "post-policy" data years. The "pre-policy" period includes data from three years prior to the implementation of a statewide affirmative action ban. The "post-policy" period includes the implementation year as well as three data years following implementation. Please see Figure 1 for additional information about the data years for each ban state. Table does not include 1999 data.

Table 5. Effect of statewide affirmative action ban on the share of black enrollment using various specifications

Author's Original							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	-0.03 (0.34)	-0.38* (0.19)	-0.38 (0.19)	-0.33 (0.26)	-0.45 (0.27)	-0.45 (0.30)	-0.36* (0.17)
Number	526	526	526	526	526	265	265
R-squared	0.031	0.11	0.53	0.65	0.022	0.045	0.089
High-selectivity institutions	-1.01** (0.32)	-1.65*** (0.25)	-1.65*** (0.25)	-1.49*** (0.35)	-1.52*** (0.40)	-1.08* (0.43)	-1.69*** (0.25)
Number	46	46	46	46	46	19	19
R-squared	0.100	0.350	0.440	0.520	0.180	0.180	0.530
Medium-selectivity institutions	0.61 (0.34)	0.42* (0.17)	0.42* (0.18)	0.36* (0.15)	0.68*** (0.17)	0.61 (0.46)	0.41 (0.26)
Number	116	116	116	116	116	60	60
R-squared	0.035	0.280	0.430	0.610	0.047	0.044	0.200
Low-selectivity institutions	0.19 (0.61)	-0.17 (0.49)	-0.18 (0.5)	-0.18 (0.6)	-0.48 (0.79)	-0.69 (0.57)	-0.11 (0.35)
Number	364	364	364	364	364	186	186
R-squared	0.089	0.190	0.570	0.670	0.049	0.140	0.200
MKD Replication (original states without 1999 data)							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	0.35 (3.03)	0.25 (2.86)	0.25 (2.87)	0.25 (2.84)	-11.02*** (2.46)	0.60 (2.84)	0.46 (2.62)
Number	523	523	523	523	523	265	265
R-squared	0.089	0.090	0.090	0.090	0.094	0.101	0.102
High-selectivity institutions	-3.23*** (0.94)	-3.13*** (1.07)	-3.16*** (1.05)	-3.20*** (1.10)	-6.04*** (1.37)	-3.21** (1.09)	-2.75* (1.19)
Number	45	45	45	45	45	22	22
R-squared	0.193	0.205	0.201	0.214	0.246	0.200	0.328
Medium-selectivity institutions	-1.03 (0.95)	-0.98 (0.93)	-1.00 (0.93)	-1.01 (0.92)	-5.53*** (1.40)	-0.84 (1.78)	-0.80 (1.69)
Number	100	100	100	100	100	52	52
R-squared	0.208	0.215	0.218	0.217	0.228	0.111	0.128
Low-selectivity institutions	1.70 (4.48)	1.03 (4.08)	1.15 (4.11)	0.79 (4.16)	-17.69*** (3.65)	1.50 (3.80)	0.75 (3.40)
Number	378	378	378	378	378	191	191
R-squared	0.110	0.111	0.110	0.111	0.121	0.131	0.133

NOTE: Results reflect the original six treatment states. 1999 data is excluded from this table. Results by selectivity level reflect the "adjusted" selectivity levels; see paper for details. * Statistically significant at 10 percent, **5 percent, and *** 1 percent.

Table 6. Effect of statewide affirmative action ban on the share of black enrollment using various specifications, with and without 1999 data

MKD Replication (original states without 1999 data)							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	0.35 (3.03)	0.25 (2.86)	0.25 (2.87)	0.25 (2.84)	-11.02*** (2.46)	0.60 (2.84)	0.46 (2.62)
Number	523	523	523	523	523	265	265
R-squared	0.089	0.090	0.090	0.090	0.094	0.101	0.102
High-selectivity institutions	-3.23*** (0.94)	-3.13*** (1.07)	-3.16*** (1.05)	-3.20*** (1.10)	-6.04*** (1.37)	-3.21** (1.09)	-2.75* (1.19)
Number	45	45	45	45	45	22	22
R-squared	0.193	0.205	0.201	0.214	0.246	0.200	0.328
Medium-selectivity institutions	-1.03 (0.95)	-0.98 (0.93)	-1.00 (0.93)	-1.01 (0.92)	-5.53*** (1.40)	-0.84 (1.78)	-0.80 (1.69)
Number	100	100	100	100	100	52	52
R-squared	0.208	0.215	0.218	0.217	0.228	0.111	0.128
Low-selectivity institutions	1.70 (4.48)	1.03 (4.08)	1.15 (4.11)	0.79 (4.16)	-17.69*** (3.65)	1.50 (3.80)	0.75 (3.40)
Number	378	378	378	378	378	191	191
R-squared	0.110	0.111	0.110	0.111	0.121	0.131	0.133
MKD Replication (original states with 1999 data)							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	-0.83 (3.46)	-0.93 (3.28)	-0.93 (3.29)	-0.92 (3.26)	-11.34*** (2.64)	-0.27 (2.94)	-0.41 (2.74)
Number	523	523	523	523	523	265	265
R-squared	0.089	0.089	0.089	0.089	0.096	0.100	0.101
High-selectivity institutions	-3.64*** (1.02)	-3.59*** (1.18)	-3.61*** (1.16)	-3.68*** (1.22)	-6.23*** (1.31)	-3.51*** (1.10)	-3.4** (1.20)
Number	45	45	45	45	45	22	22
R-squared	0.202	0.213	0.210	0.221	0.271	0.215	0.335
Medium-selectivity institutions	-1.42 (1.06)	-1.39 (1.08)	-1.41 (1.08)	-1.41 (1.07)	-5.78*** (1.50)	-1.20 (1.80)	-1.18 (1.74)
Number	100	100	100	100	100	52	52
R-squared	0.212	0.218	0.221	0.220	0.242	0.114	0.131
Low-selectivity institutions	-0.11 (5.34)	-0.80 (4.83)	-0.69 (4.87)	-1.05 (4.93)	-17.58*** (3.52)	0.14 (4.14)	-0.61 (3.62)
Number	378	378	378	378	378	191	191
R-squared	0.109	0.110	0.109	0.110	0.122	0.130	0.132

NOTE: Results reflect the original six treatment states. Results by selectivity level reflect the "adjusted" selectivity levels; see paper for details. * Statistically significant at 10 percent, **5 percent, and *** 1 percent.

Table 7. Effect of statewide affirmative action ban on the share of Black and Hispanic enrollment using various specifications

Share of Black enrollment							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	-0.83	-0.93	-0.93	-0.92	-11.34***	-0.27	-0.41
	(3.46)	(3.28)	(3.29)	(3.26)	(2.64)	(2.94)	(2.74)
Number	523	523	523	523	523	265	265
R-squared	0.089	0.089	0.089	0.089	0.096	0.100	0.101
High-selectivity institutions	-3.64***	-3.59***	-3.61***	-3.68***	-6.23***	-3.51***	-3.4**
	(1.02)	(1.18)	(1.16)	(1.22)	(1.31)	(1.10)	(1.20)
Number	45	45	45	45	45	22	22
R-squared	0.202	0.213	0.210	0.221	0.271	0.215	0.335
Medium-selectivity institutions	-1.42	-1.39	-1.41	-1.41	-5.78***	-1.20	-1.18
	(1.06)	(1.08)	(1.08)	(1.07)	(1.50)	(1.80)	(1.74)
Number	100	100	100	100	100	52	52
R-squared	0.212	0.218	0.221	0.220	0.242	0.114	0.131
Low-selectivity institutions	-0.11	-0.80	-0.69	-1.05	-17.58***	0.14	-0.61
	(5.34)	(4.83)	(4.87)	(4.93)	(3.52)	(4.14)	(3.62)
Number	378	378	378	378	378	191	191
R-squared	0.109	0.110	0.109	0.110	0.122	0.130	0.132
Share of Hispanic enrollment							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	0.21	0.20	0.16	0.18	5.12***	-1.14	-1.11
	(2.14)	(2.11)	(2.12)	(2.05)	(2.01)	(1.73)	(1.72)
Number	523	523	523	523	523	265	265
R-squared	0.270	0.270	0.271	0.270	0.266	0.295	0.295
High-selectivity institutions	-1.10	-1.08	-1.09	-1.38*	-0.62	-1.59*	-1.73**
	(0.92)	(0.87)	(0.88)	(0.74)	(1.19)	(0.80)	(0.70)
Number	45	45	45	45	45	22	22
R-squared	0.478	0.479	0.479	0.524	0.527	0.490	0.493
Medium-selectivity institutions	-0.05	0.03	-0.02	0.00	2.65	-0.89	-0.84
	(1.11)	(1.18)	(1.16)	(1.20)	(2.25)	(1.08)	(1.11)
Number	100	100	100	100	100	52	52
R-squared	0.456	0.491	0.505	0.495	0.415	0.557	0.619
Low-selectivity institutions	0.51	0.76	0.56	0.80	10.12***	-1.48	-1.35
	(3.97)	(3.78)	(3.81)	(3.67)	(2.17)	(3.28)	(3.15)
Number	378	378	378	378	378	191	191
R-squared	0.290	0.291	0.290	0.291	0.296	0.317	0.317

NOTE: Results reflect the original six treatment states. 1999 data are included, and results by selectivity level reflect the "adjusted" selectivity levels; see paper for details. * Statistically significant at 10 percent, **5 percent, and *** 1 percent.

Figure 3. "Pre-" and "Post-Policy" Data Years Used in Summary Statistics Tables for Extension

	Year																								
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Texas					Pre-Policy				Post-Policy																
California					Pre-Policy				Post-Policy																
Washington					Pre-Policy				Post-Policy																
Florida					Pre-Policy				Post-Policy																
Georgia					Pre-Policy				Post-Policy																
Michigan									Pre-Policy																
Nebraska*										Pre-Policy															
Arizona*																									
New Hampshire*																									
Oklahoma*																									
Control										Pre-Policy															

*State is a control state in the original paper, but changed to be a treatment state in my extension of the original author's work.

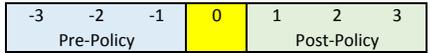


Figure 4. Share of black enrollment for the original six treatment states compared with all ten treatment states, by year and institution selectivity

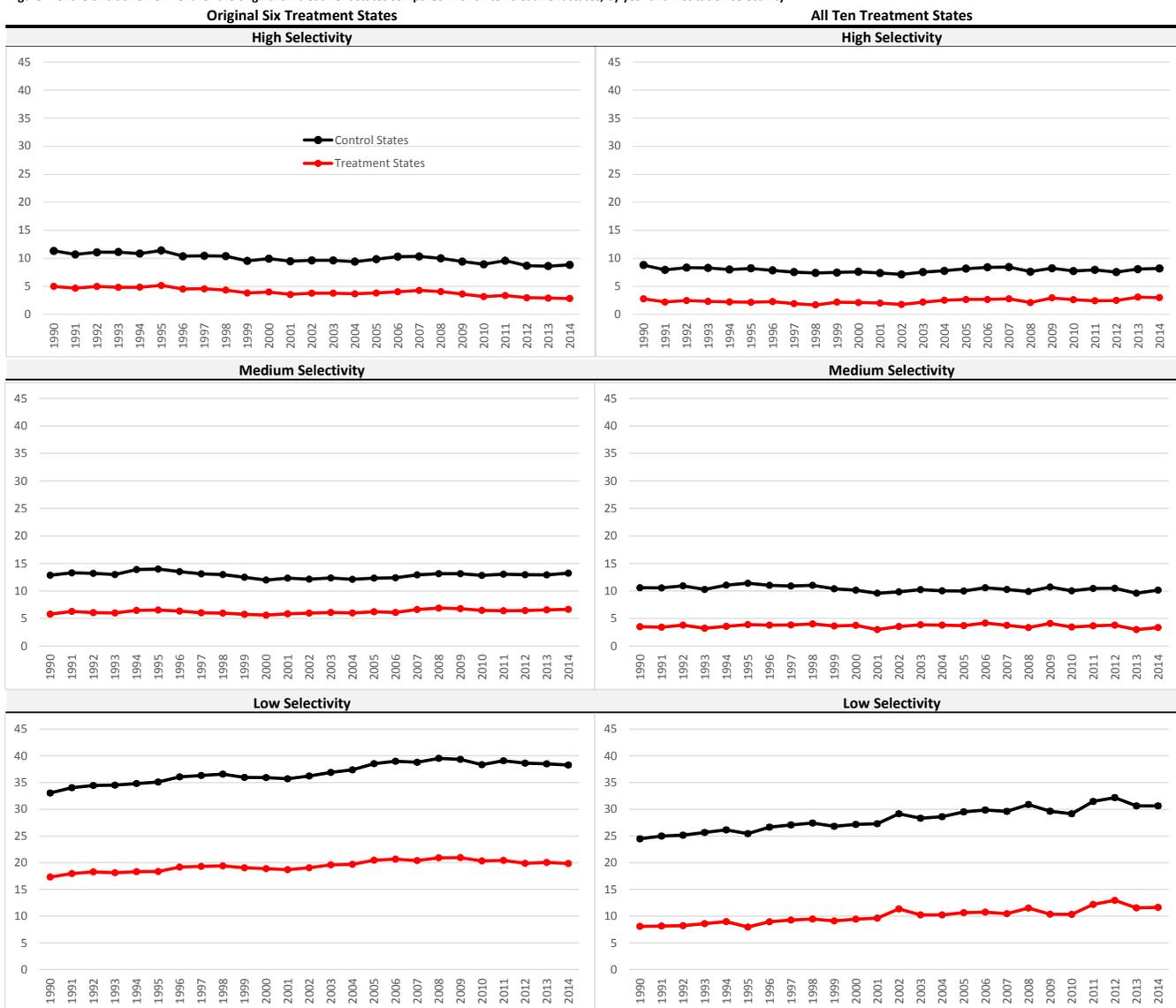


Table 8: Sample averages of enrollment share for new treatment states, by state and selectivity

	Blacks			Hispanics				Blacks			Hispanics		
	High	Medium	Low	High	Medium	Low		High	Medium	Low	High	Medium	Low
Nebraska							All-Ban States (original six treatment states)						
Preban	2.7	---	3.6	3.9	---	3.7	Preban	5.3	5.8	16.3	11.1	6.6	18.2
	(0.05)	---	(2.37)	(0.10)	---	(1.04)		(2.58)	(3.36)	(21.30)	(5.08)	(4.92)	(20.72)
Postban	2.5	---	4.0	4.5	---	6.5	Postban	3.9	5.9	16.7	8.9	6.9	17.5
	(0.30)	---	(2.53)	(0.55)	---	(2.41)		(2.28)	(3.32)	(22.10)	(3.67)	(5.13)	(19.76)
Arizona							All-Ban States (All ten treatment states)						
Preban	---	3.7	---	---	12.6	---	Preban	4.9	4.9	14.1	9.8	7.7	14.9
	---	(0.16)	---	---	(1.62)	---		(2.59)	(3.02)	(20.59)	(5.57)	(5.70)	(19.17)
Postban	---	3.7	---	---	19.5	---	Postban	3.6	5.0	14.5	8.0	8.4	14.9
	---	(0.22)	---	---	(1.38)	---		(2.18)	(3.04)	(21.25)	(4.01)	(6.67)	(18.26)
New Hampshire							Control (Original group and data years)						
Preban	---	1.5	0.5	---	2.5	1.2	Preban	5.8	7.7	16.2	4.5	3.3	4.2
	---	(0.19)	(0.27)	---	(0.03)	(0.89)		(3.81)	(6.58)	(26.38)	(3.68)	(4.05)	(8.54)
Postban	---	1.2	1.6	---	3.2	3.3	Postban	5.8	7.1	16.5	4.5	3.2	4.3
	---	(0.13)	(0.63)	---	(0.41)	(0.69)		(3.51)	(6.32)	(26.32)	(3.81)	(3.32)	(8.58)
Oklahoma							Control (Revised group and data years)						
Preban	---	4.8	14.6	---	6.0	5.7	Preban	6.7	6.5	16.5	4.0	2.8	4.4
	---	(0.57)	(23.65)	---	(2.95)	(3.80)		(3.87)	(5.61)	(24.58)	(3.37)	(2.46)	(8.22)
Postban	---	4.5	15.2	---	7.7	7.8	Postban	6.6	6.4	17.2	4.7	3.2	4.9
	---	(1.02)	23.3	---	2.0	3.7		(4.15)	(5.29)	(24.29)	(3.59)	(2.53)	(8.37)

NOTE: Table includes data for only the "pre-policy" and "post-policy" data years. The "pre-policy" period includes data from three years prior to the implementation of a statewide affirmative action ban. The "post-policy" period includes the implementation year as well as three data years following implementation. Please see Figures 1 and 3 for additional information about the data years for each ban state as well as for the control states. Table includes 1999 data and reflects "adjusted" selectivity levels.

Table 9. Effect of statewide affirmative action ban on the share of black enrollment using various specifications [EXTENSION]

MKD Replication (original six treatment states)							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	-0.83	-0.93	-0.93	-0.92	-11.34***	-0.27	-0.41
	(3.46)	(3.28)	(3.29)	(3.26)	(2.64)	(2.94)	(2.74)
Number	523	523	523	523	523	265	265
R-squared	0.089	0.089	0.089	0.089	0.096	0.100	0.101
High-selectivity institutions	-3.64***	-3.59***	-3.61***	-3.68***	-6.23***	-3.51***	-3.4**
	(1.02)	(1.18)	(1.16)	(1.22)	(1.31)	(1.10)	(1.20)
Number	45	45	45	45	45	22	22
R-squared	0.202	0.213	0.210	0.221	0.271	0.215	0.335
Medium-selectivity institutions	-1.42	-1.39	-1.41	-1.41	-5.78***	-1.20	-1.18
	(1.06)	(1.08)	(1.08)	(1.07)	(1.50)	(1.80)	(1.74)
Number	100	100	100	100	100	52	52
R-squared	0.212	0.218	0.221	0.220	0.242	0.114	0.131
Low-selectivity institutions	-0.11	-0.80	-0.69	-1.05	-17.58***	0.14	-0.61
	(5.34)	(4.83)	(4.87)	(4.93)	(3.52)	(4.14)	(3.62)
Number	378	378	378	378	378	191	191
R-squared	0.109	0.110	0.109	0.110	0.122	0.130	0.132
MKD Replication (all ten treatment states)							
	Year dummies	State trends	University trends	University-squared trends	Years restricted	Adjacent states	Adjacent and trend
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All institutions	-0.49	-0.57	-0.58	-0.57		0.36	0.32
	(3.03)	(2.88)	(2.89)	(2.88)		(3.27)	(3.13)
Number	518	518	518	518		333	333
R-squared	0.087	0.087	0.087	0.087		0.120	0.121
High-selectivity institutions	-3.09***	-3.02***	-3.03***	-3.11***		-2.74**	-2.40**
	(0.93)	(1.00)	(0.99)	(1.04)		(0.98)	(1.02)
Number	45	45	45	45		30	30
R-squared	0.206	0.217	0.214	0.224		0.181	0.202
Medium-selectivity institutions	-1.29	-1.30	-1.38	-1.37		-1.17	-1.21
	(1.09)	(1.10)	(1.11)	(1.11)		(1.39)	(1.40)
Number	99	99	99	99		70	70
R-squared	0.191	0.200	0.203	0.201		0.177	0.198
Low-selectivity institutions	1.54	0.98	1.10	0.65		2.55	2.13
	(4.93)	(4.49)	(4.56)	(4.53)		(4.87)	(4.35)
Number	374	374	374	374		233	233
R-squared	0.107	0.109	0.108	0.110		0.156	0.158

NOTE: 1999 data are included, and results by selectivity level reflect the "adjusted" selectivity levels; see paper for details. * Statistically significant at 10 percent, **5 percent, and *** 1 percent.

Figure 5. Graduation rates for specific cohorts mapped to corresponding data years

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Data Year
	1996	1997	1998	1999	2000	2001	2002	2003							Graduation Rate Cohort
Texas	Pre			Post-Policy											
California	Pre- Policy			Post-Policy											
Washington	Pre-Policy			Post-Policy											
Florida			Pre-Policy				Post-Policy								
Georgia				Pre-Policy				Post							
Michigan						Pre-Policy									

-3	-2	-1	0	1	2	3
Pre-Policy				Post-Policy		

Table 10. Effect of ban on Black and Hispanic enrollment and graduate shares

	Original Author			MKD Replication		
	Enroll Public	Graduate Public	Enroll Private	Enroll Public	Graduate Public	Enroll Private
Panel 1: Blacks						
All institutions	-0.38*	-0.62***	-0.52	-0.83	-2.72	5.01
	(0.19)	(0.16)	(0.28)	(3.46)	(2.16)	(6.00)
Number	526	520	1029	523	523	1016
High-selectivity institutions	-1.65***	-1.24**	0.17	-3.64***	-2.33**	1.13
	(0.25)	(0.44)	(0.49)	(1.02)	(0.87)	(1.03)
Number	46	46	65	45	45	74
Medium-selectivity institutions	0.42*	0.37	-0.69	-1.42	-2.32**	-3.01***
	(0.17)	(0.24)	(0.61)	(1.06)	(1.09)	(1.08)
Number	116	116	74	100	100	156
Low-selectivity institutions	-0.17	-0.54	-0.65*	-0.11	-4.28	9.06
	(0.49)	(0.35)	(0.28)	(5.34)	(4.44)	(6.23)
Number	364	358	890	378	378	786
Panel 2: Hispanics						
All institutions	-1.36*	-0.59	-0.72***	0.21	0.38	0.38
	(0.65)	(0.36)	(0.20)	(2.14)	(0.71)	(1.53)
Number	526	520	1029	523	523	1016
High-selectivity institutions	-2.87***	-1.81**	-1.33	-1.10	-1.04	0.58
	(0.55)	(0.59)	(1.00)	(0.92)	(0.69)	(1.55)
Number	46	46	65	45	45	74
Medium-selectivity institutions	-0.54	0.61	-0.52	-0.05	0.34	1.38
	(0.38)	(0.64)	(0.44)	(1.11)	(0.39)	(1.69)
Number	116	116	74	100	100	156
Low-selectivity institutions	-1.00	-0.03	-0.66**	0.51	-0.42	0.18
	(1.02)	(0.20)	(0.22)	(3.97)	(0.95)	(1.61)
Number	364	358	890	378	378	786

NOTE: "Enroll public" and "Enroll private" include 1999 data, and reflect the "adjusted" selectivity levels. "Graduate public" includes data from 2002–2009, which reflect graduation rates for the 1996–2003 cohorts. * Statistically significant at 10 percent, **5 percent, and *** 1 percent.