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# The Clarification of Proposition 209: Gauging the Impact on Native Americans at the University of California

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# The Clarification of Proposition 209:

# Gauging the Impact on Native Americans at the University of California

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Pomona College Class of 2014

A thesis submitted in partial fulfillment of the requirements for the degree of Bachelor of Arts in Public Policy Analysis – Sociology

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#### Abstract

Proposition 209 banned the consideration of race or ethnicity in admission decisions to the University of California (UC). The UC "clarified" their policy in 2008, recognizing that Native Americans enrolled in a federally recognized tribe enjoy a political status that enables them to be offered affirmative action, even when the consideration of race or ethnicity is banned. The Clarification led to a statistically significant surge in the Native American applicant share, acceptance rate, admit share, and enrollment share. Enrollment share increased by 56% from 2008 to 2010 at the UC, even as the three-tiered California system of higher education saw a 40% drop in Native American enrollment. The study also finds that Prop 209 shifted Native American students from the more selective to the less selective campuses. The results suggest that affirmative action is a strong determinant of both the number and the location of Native Americans at the UC.

# Acknowledgements

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## Introduction

Proposition 209 (Prop 209) banned the consideration of race or ethnicity in admission decisions to any California institution of higher learning. Taking effect in 1998, the University of California (UC) saw a large decrease in the enrollment numbers of underrepresented minorities (URMs). The late '90s and early 2000s saw a number of other state bans on the use of race or ethnicity in admission decisions and these bans had a disparate effect on Native Americans. A 2012 study found that schools among the top fifty public universities that no longer offered affirmative action saw a 92 percent drop in Native American enrollment share.<sup>1</sup> This in and of itself points to a need for studies to explicitly examine and acknowledge Native Americans when studying affirmative action at the UC. The need for a comprehensive study becomes even more apparent when the "Clarification" of 2008 is accounted for.

The Clarification was contained in a letter released by the UC Academic Council. It "clarifies" that considering enrollment in a federally recognized tribe can be considered as a "plus factor" in admissions.<sup>2</sup> This is because Native Americans enrolled in federally recognized tribes enjoy a political status that sets them apart from other applicants.<sup>3</sup> The reinstatement of affirmative action for a certain portion of Native Americans had a pronounced affect on Native American representation at the UC. Currently, no study has examined the effects of the Clarification. This study aims to advance our understanding of affirmative action by empirically studying the impact of the Clarification on the Native American population at the University of California, as well as considering the effects of Prop 209.

My findings strongly suggest that the Clarification significantly affected behavior and representation of Native American students. I find that the Clarification increased the percentage of Native American applicants as a share of total applicants by 36%, stabilized the Native American acceptance rate while the rate for other URMs plummeted, and resulted in a 57%

<sup>&</sup>lt;sup>1</sup> Peter Hinrichs, "The Effects of Affirmative Action Bans on College Enrollment, Educational Attainment, and the Demographic Composition of Universities," *The Review of Economics and Statistics* 94, no. 3 (August 2012): 712.

<sup>&</sup>lt;sup>2</sup> Michael Brown, "Re: Results American Indian Tribal Affiliation as a Factor in Undergraduate Admissions" (University of California, Academic Senate, August 14, 2008),

http://senate.universityofcalifornia.edu/reports/MTB2Sakaki\_Tribal\_Affiliation\_final.pdf.

<sup>&</sup>lt;sup>3</sup> Cruz Reynoso and William C. Kidder, "Tribal Membership and State Law Affirmative Action Bans: Can Membership in a Federally Recognized American Indian Tribe Be a Plus Factor in Admissions at Public Universities in California and Washington," *Chicano-Latino Law Review* 27 (2008): 29.

increase in Native American enrollment share.<sup>4</sup> Predictive modeling, one-way ANOVAs, and ttesting find all of these to be statistically significant.

In this paper, I provide background on affirmative action and Native Americans in California in order to contextualize the study, summarize the relevant literature, graphically visualize and analyze the data, and offer concluding thoughts.

# **Background: The Rise and Demise of Affirmative Action**

"It shall be the duty of the Regents, according to population, to so apportion the representation of students, when necessary, that all portions of the State shall enjoy equal privilege therein."

-- The 1868 Organic Act establishing the University of California<sup>5</sup>

In 1965, President Lyndon Johnson issued Executive Order 11246, ordering contractors to, "take affirmative action," in order to ensure, "equal employment opportunity."<sup>6</sup> This led to the institutionalization of affirmative action by many public entities over the next thirty years. Affirmative action allowed institutions of higher learning to begin to bridge the enrollment gap between whites and underrepresented minorities (URMs) in public universities, a gap that still exists today. Affirmative action has taken a variety of forms throughout the years. In its present form, it generally provides a "plus factor" in admission decisions. A 1978 suit brought against the University of California that saw the use of a quota system outlawed is largely responsible for this form.<sup>7</sup> The fight against affirmative action has gained even more traction since the ruling against quotas. Many legislative, judicial, and voter initiated bans on affirmative action were put into place throughout the '90s, including Prop 209.<sup>8</sup> Of particular importance to understanding the effects of affirmative action is the case of the University of California.

<sup>&</sup>lt;sup>4</sup> Enrollment share is found by taking the number of Native American applicants divided by the total number of applicants.

<sup>&</sup>lt;sup>5</sup> California Assembly Bill 583. An Act introduced by Mr. Dwinelle, March 5, 1868 to create and organize the University of California. http://bancroft.berkeley.edu/CalHistory/charter.html

<sup>&</sup>lt;sup>6</sup> Lyndon Johnson, Equal Employment Opportunity, Executive Order No. 11246, 1965, http://www.eeoc.gov/eeoc/history/35th/thelaw/eo-11246.html.

<sup>&</sup>lt;sup>7</sup> Lewis Powell, Regents of the University of California v. Bakke, 438 265 (Supreme Court of the United States of America 1978).

<sup>&</sup>lt;sup>8</sup> Susan W. Kaufmann, "The History and Impact of State Initiatives to Eliminate Affirmative Action," New Directions for Teaching & Learning, no. 111 (Fall 2007): 3–9, doi:10.1002/tl.280.

The University of California, as of Fall 2012, had an undergraduate enrollment of 238,286, making it one of the largest university systems in the country, while also one of the more competitive.<sup>9</sup> This means admissions decisions affect a large swath of people and highlights the importance of studying the system. In 1995, the UC Board of Regents passed Special Policy 1 (SP-1), which ended the use of race, ethnicity, and gender in admissions decisions.<sup>10</sup> SP-1 quickly became moot, as voters passed Prop 209 before it could take effect. Prop 209, passed in 1996 and dubbed, "the California Civil Rights Initiative," amended the California State Constitution to read, "The State shall not discriminate against, or grant preferential treatment to, any individual or group on the basis of race, sex, color, ethnicity, or national origin in the operation of public employment, public education, or public contracting."<sup>11</sup> Though the language of the proposition seems to explicitly ban all types of affirmative action, the special status of federally recognized Native Americans was explicitly acknowledged and accepted by proponents of Prop 209.

Eugene Volkh, a UCLA law professor and legal advisor to the "Yes on 209" campaign, published a guide to interpreting Prop 209 in a 1997 edition of the UCLA Law Review.<sup>12</sup> In the guide, he states:

Tribal Indians, unlike other Californians, belong to a political group that's specifically recognized by federal law and the U.S. Constitution, not merely to an ethnic group that has no independent legal standing...

[A] person's membership in an Indian tribe will necessarily (and properly) remain relevant in at least some ways, just as a person's being a Californian or an American will remain relevant. The state may therefore legitimately want to consider a prospective employee's, student's, or contractor's Indian-tribe affiliation in seeking to better serve the needs of this separate political community.<sup>13</sup>

The University of California: Statistical Summary of Students and Staff (University of California Office of the President, Fall 2012), http://legacy-its.ucop.edu/uwnews/stat/statsum/fall2012/statsumm2012.pdf.

<sup>&</sup>lt;sup>10</sup> John Douglass, A Brief on the Events Leading to SP1 (Universitywide Office of the Academic Senate, February 28, 1997), http://senate.universityofcalifornia.edu/reports/sp1rev.pdf.

<sup>&</sup>lt;sup>11</sup> California Constitution, Article 1, Sec 31 (a), n.d., http://www.leginfo.ca.gov/.const/.article 1.

 <sup>&</sup>lt;sup>12</sup> Reynoso and Kidder, "Tribal Membership and State Law Affirmative Action Bans."
 <sup>13</sup> Eugene Volokh, "The California Civil Rights Initiative: An Interpretive Guide," UCLA Law Review 44, no. 1335 (1997), http://www2.law.ucla.edu/volokh/ccri.htm#IF4.

Though acknowledged at the time that Prop 209 was passed in 1996, the UC did not recognize the unique political status of federally enrolled Native Americans for another ten years.

In 2008, a law review article arguing that tribal enrollment status should be considered revived the issue.<sup>14</sup> Soon after, the UC Board of Admissions and Relations with Schools (BOARS) passed a resolution stating that the Board, "affirms that it is consistent with Selection Criterion #13 to include an applicant's membership in a federally recognized American Indian tribe as one of many considerations in undergraduate admissions."<sup>15</sup> In August of 2008, the Chair of the Academic Council sent out a memo agreeing with BOARS, though making sure to note that their, "endorsement represents a clarification of, rather than a change to, UC admission policy."<sup>16</sup> The Clarification officially reinstated affirmative action for federally recognized Native Americans at the University of California. The UC is an important case study for Native American admissions, as California has the highest number of Native Americans in the United States.<sup>17</sup>

#### Native Americans in California

According to the 2010 United States Census, 723,225 California residents identify as American Indian or Alaska Native alone or in combination.<sup>18</sup> This represents 13.9% of the total United States' American Indian and Alaska Native population and puts American Indians and Alaska Natives at 1.94% of the total population of California.<sup>19</sup> American Indian and Alaska Native population growth in the 1980's, while faster than the average, did not nearly match the

<sup>&</sup>lt;sup>14</sup> Reynoso and Kidder, "Tribal Membership and State Law Affirmative Action Bans." Article also affirms that no undergraduate UC was offering affirmative action to Native Americans. "Tribal membership is not a factor in undergraduate admissions at the UC." p. 32

<sup>&</sup>lt;sup>15</sup> "Position Statement on Admissions Selection Criterion 13 and Membership in a Federally Recognized American Indian Tribe" (Board of Admissions and Relations with Schools - University of California, February 8, 2013), http://senate.universityofcalifornia.edu/reports/MTB2Sakaki Tribal Affiliation final.pdf.

<sup>&</sup>lt;sup>16</sup> Michael Brown, "Re: Results American Indian Tribal Affiliation as a Factor in Undergraduate Admissions" (University of California, Academic Senate, August 14, 2008),

http://senate.universityofcalifornia.edu/reports/MTB2Sakaki\_Tribal\_Affiliation\_final.pdf.

<sup>&</sup>lt;sup>17</sup> Tina Norris, Paula Vines, and Elizabeth Hoeffel, *The American Indian and Alaska Native Population: 2010*, 2010 Census Briefs (United States Census Bureau, January 2012), http://www.census.gov/prod/cen2010/briefs/c2010br-10.pdf.

<sup>&</sup>lt;sup>18</sup> 2010 Census CPH-T-6. American Indian and Alaska Native Tribes in the United States and Puerto Rico: 2010 (United States Census Bureau, n.d.), http://www.census.gov/population/www/cen2010/cph-t/t-6tables/TABLE%20(19).pdf.

<sup>&</sup>lt;sup>19</sup> Norris, Vines, and Hoeffel, *The American Indian and Alaska Native Population: 2010.* 

growth of the Chican@/Latin@ population.<sup>20</sup> There is also a mismatch between the percentage of the population and the percentage of American Indian and Alaska Native high school graduates. In 2008, there were 3,071 graduates, which constitutes about 0.8% of all high school graduates in California. All of this demographic data raises the complications associated with indigenous identities.

The politics of identification for indigenous peoples is complicated. For the purpose of this study, I use the term "Native Americans" to refer to American Indians and Alaska Natives. I understand that many Alaska Natives do not identify as Native American. However, I have decided to refer to them as such within this study, following the lead of both the UC and the Bureau of Indian Affairs. The nature of identification also complicates the data.

The federal government recognizes 564 tribes, with 109 of those located within California.<sup>21</sup> However, there are currently 78 "entities" in California petitioning for federal recognition. Of these, many are recognized by the State government, but have yet to attain federal recognition. There are also a multitude of individuals who identify as Native American, but are not able to prove affiliation with a federally recognized tribe. Though information on the number of federally recognized Native Americans in California is not available publicly, it is widely known that a large portion of those who identify as Native American are not enrolled in a federally recognized tribe.

This distinction is crucial to understand for the purposes of this study. The demographic data analyzed does not distinguish between those who are federally recognized and those who merely self-identify. This creates a situation where an unknown portion of those reported as Native American is actually receiving affirmative action. The publicly available data on Native Americans at the UC does not allow me to parse out these differences and the possibility remains that the Clarification resulted in a shift in the way applicants *identified*, and not in the actual makeup of applicants. I am operating under the assumption that this did not occur, though future studies should account for this. Next I present the research question guiding this study.

<sup>&</sup>lt;sup>20</sup> A Portrait of Race and Ethnicity in California: An Assessment of Social and Economic Well-Being (Public Policy Institute of California, 2001), http://www.ppic.org/content/pubs/report/R\_201BRR.pdf.

<sup>&</sup>lt;sup>21</sup> "Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs" (Bureau of Indian Affairs, n.d.), http://www.bia.gov/idc/groups/xofa/documents/document/idc012038.pdf. &

<sup>&</sup>quot;California Tribal Communities," *California Courts: The Judicial Branch of California*, n.d., http://www.courts.ca.gov/3066.htm.

## **Research Question**

The Clarification lends itself to a straightforward research question:

*RQ*: What effect did the Clarification have on Native Americans in relation to the University of California?

I explore this by examining demographic numbers from the UC encapsulating applicant share, acceptance rate, admit share, yield, and enrollment share and testing for the statistical significance of these metrics. I also explore change occurring around Prop 209 to add context to the study. The data is compared to the current literature and informs my policy recommendations. Said literature is presented in the next section.

## The Effects of Affirmative Action Bans on URMs: A Literature Review

Scholars have scrutinized California's Proposition 209 and the 5<sup>th</sup> Circuit Court decision in *Hopwood v. University of Texas*, which eliminated affirmative action in Texas in 1996, extensively.<sup>22</sup> The literature approaches the topic from a variety of angles. Though disparate, it is possible to get a holistic view by piecing together the findings. The scholarship reviewed presents five different points that can be studied and a variety of ways to study them. While the steps seem to be split into clear-cut categories, each step influences the other steps, including influence on earlier steps by later steps.<sup>23</sup> I detail the process of college admission, and how each step can be measured, and delve into the literature for each step.

The first step is the decision to apply to college. This is indirectly measured by looking at the number of students taking a college entrance exam, such as the SAT or ACT. The SAT and ACT are also utilized to determine the application behavior of students, as it is assumed that students send their scores to the schools where they are applying. Studying the UC with this method is no longer possible, as applicants are able to send their scores once and have the information disseminated to all the schools. Applicant share is less common, but is utilized by

<sup>&</sup>lt;sup>22</sup> See: Hopwood v. University of Texas (5th Circuit 1996).

<sup>&</sup>lt;sup>23</sup> For example: The literature suggests that a ban on affirmative action will affect a URMs chance of admission, which will in turn influence their decision to apply.

Antonovics and Sander in their extensive study of Prop 209.<sup>24</sup> Applicant share represents the percentage of applicants that are of a given demographic out of the total applicant pool. Applicant share is telling of the reaction of applicants to a policy change. While these steps gauge the actions of applicants, the process of admissions provides insight into the UC as an institution.

The literature primarily measures admissions by looking at the acceptance rate. The acceptance rate represents the percentage of people who apply that are offered admission. This information is supplemented in this study be scrutinizing the "admit share," alongside the acceptance rate. The admit share, similar to the applicant share, represents the percentage of admitted students from a certain demographic. Institutions relinquish control back to the applicants for the decision of where to enroll.

The step of enrolling in college is measured in two ways. The first is called "yield," and is the percentage of accepted students that enroll. The other metric is the "enrollment share." Enrollment share is prevalent in the literature and is the most important metric for this study. As enrollment share is the percentage of enrolling students that are from a given demographic, it represents the culmination of all the other steps and gauges who is being educated. This is the most important metric for this study only because not enough data is available to analyze graduation metrics.

Graduation is measured in two ways that should seem fairly familiar by now. The first is the graduation rate, which is the percentage of students who enroll that graduate. This is often used to infer whether enrolling students were adequately prepared for their institution of higher learning. The second is the "graduation share." As the percentage of graduating students that are from a given demographic, graduation share paints a different picture than the graduation rate. Both metrics are crucial to understanding the effects of policies governing institutions of higher learning, though the latter is much less common in the literature. Graduation is the ultimate goal for those attending institutions of higher learning, but is not, by any means, the only metric worth examining. All of the steps in the college process are reviewed in the context of Prop 209 and other bans on affirmative action.

<sup>&</sup>lt;sup>24</sup> Kate L. Antonovics and Richard H. Sander, "Affirmative Action Bans and the 'Chilling Effect," American Law and Economics Review 15, no. 1 (March 1, 2013): 252–99, doi:10.1093/aler/ahs020.

Specifically analyzing the broad decision to apply to college is not prevalent in the literature, likely because the data is so broad that it does not lend itself to being easily interpreted. One scholar, however, focuses on this. Dickson finds that the end of affirmative action in Texas saw a significant drop in the number of URMs taking a college entrance exam.<sup>25</sup> The number of Chicano/Latino students taking the SAT dropped by 1.9 percentage points, or 3.9 percent, and the number of African American students also fell by 1.9 percentage points, or 3.2 percent. Notably, the number of white high school graduates taking a college entrance exam fell by half a percentage point, or 0.7 percent. While this data is found to be statistically significant, it is difficult to parse out exactly what the end of affirmative action meant, as the following year the state of Texas implemented a percent plan. Under Texas' percent plan, the top ten percent of each high school's graduating class are guaranteed admission to a public university. Dickson only had one year where a change in behavior can be attributed to the ban, and thus the data is limited in what it can tell us. No studies involving the UC involved this method. Utilizing SAT scores in a different context is applied to the UC.

Antonovics and Backes examine score-sending in the context of the UC and find that, "The relative decline in URM score-sending... was small and concentrated at Berkeley and UCLA."<sup>26</sup> They assert that application behavior is "stable" across campuses after Prop 209. The finding that there was a drop in score sending to the most selective institutions, but not overall, is semi-consistent with a model proposed by Long.<sup>27</sup> Long predicts a large decrease in URM scoresending to selective institutions. Card and Krueger clarify the issue, asserting that while it may cause a drop in score-sending to selective institutions, data from California and Texas suggest that ending affirmative action does not affect the score-sending of "highly qualified" applicants.<sup>28</sup>

<sup>&</sup>lt;sup>25</sup> Lisa M. Dickson, "Does Ending Affirmative Action in College Admissions Lower the Percent of Minority Students Applying to College?," *Economics of Education Review* 25, no. 1 (2004): 109–19, doi:10.1016/j.econedurev.2004.11.005.

<sup>&</sup>lt;sup>26</sup> Kate Antonovics and Ben Backes, "Were Minority Students Discouraged from Applying to University of California Campuses after the Affirmative Action Ban?," *Education Finance and Policy* 8, no. 2 (February 20, 2013): 208–50, doi:10.1162/EDFP\_a\_00090.

<sup>&</sup>lt;sup>27</sup> Mark C. Long, "College Applications and the Effect of Affirmative Action," *Journal of Econometrics* 121, no. 1/2 (July 6, 2004): 319–42, doi:10.1016/j.jeconom.2003.10.001.

<sup>&</sup>lt;sup>28</sup> David Card and Alan B. Krueger, "Would the Elimination of Affirmative Action Affect Highly Qualified Minority Applicants? Evidence from California and Texas.," *Industrial & Labor Relations Review* 58, no. 3 (April 2005): 416–34.

The fact that the behavior of "highly qualified" candidates was not affected by the affirmative action ban likely contributes to the finding that, "Prop 209's effect on URM enrollment came largely through admissions probabilities rather than application rates."<sup>29</sup> This indicates that those unlikely to get in, even when affirmative action was in place, were the majority of those who changed their score-sending behavior. It is unclear whether applicants only having to send their scores to one centralized UC location is a recent development, but utilizing applicant share as a metric fills this void. Antonovics and Sander find that the applicant share of URMs was stable for the UC as a whole, though applications to the more selective campuses dropped while those to the less selective campuses rose.<sup>30</sup> While studying applicants is important, the literature points to the primacy of admissions decisions and acceptance rates.

Antonovics and Backes delve into the effects of Prop 209 on acceptance rates for URMs at the UC. They find that the largest decline in chance of admission was at the most selective UC schools, with the pre-Prop 209 admissions rates for URMs at selective institutions hovering at about 50 percent, but then dropping to 20 percent at Berkeley and 25 percent at UCLA post-Prop 209.<sup>31</sup> They find that all URMs experienced a decline in probability of admissions at their respective UC campus of choice, though even post-Prop 209, URMs maintained a slight admissions advantage over non-URMs when accounting for GPAs and test scores. This is likely because race is highly correlated to poverty, being raised by a single-parent, and being a first-generation student; all of which give applicants an admissions boost.<sup>32</sup> After acceptance letters are mailed, students must decide on which college they are to attend.

Yield indicates the percentage of students accepted who choose to enroll and is widely accepted as an indication of institutional prestige and/or campus climate.<sup>33</sup> The prevailing wisdom is that Prop 209, and the debate surrounding it, made URMs feel uncomfortable and thus lowered their yield. Santos, Cabrera, and Fosnacht support this, asserting, "Those URMs who did

<sup>&</sup>lt;sup>29</sup> Antonovics and Backes, "Were Minority Students Discouraged from Applying to University of California Campuses after the Affirmative Action Ban?"

<sup>&</sup>lt;sup>30</sup> Antonovics and Sander, "Affirmative Action Bans and the 'Chilling Effect.""

<sup>&</sup>lt;sup>31</sup> Antonovics and Backes, "Were Minority Students Discouraged from Applying to University of California Campuses after the Affirmative Action Ban?"

See also: José L. Santos, Nolan L. Cabrera, and Kevin J. Fosnacht, "Is 'Race-Neutral' Really Race-Neutral?: Disparate Impact Towards Underrepresented Minorities in Post-209 UC System Admissions," *Journal of Higher Education* 81, no. 6 (December 11, 2010): 605–31.

<sup>&</sup>lt;sup>32</sup> Antonovics and Backes, "Were Minority Students Discouraged from Applying to University of California Campuses after the Affirmative Action Ban?"

<sup>&</sup>lt;sup>33</sup> Financial aid is another clear factor. I have left it out in this discussion because costs and financial aid are similar at all UC campuses.

gain UC admissions attended other institutions at significantly higher rates than their majority counterparts."<sup>34</sup> Evidence given by Patricia Gandara from the UCLA Civil Rights project supports this. She notes that there was a decline in yield of 22% for African American students and 15% for Chican@/Latin@ students between 1995 and 1998.<sup>35</sup> This is particularly striking because it occurs before Prop 209 took effect and is thus purported to reveal the power of campus climate. Gandara claims the debate surrounding Prop 209 and SP-1 caused the drop by signaling to URMs that they were not welcome. Antonovics and Sander found the exact opposite result.<sup>36</sup>

Antonovics and Sander, when running a simple difference-in-difference model, also found a decrease in yield for the UC system. However, when looking at each UC individually, the data shows the yield decreased for every school except for UC Berkeley. Applying a more complex model that takes into account where students were admitted and their academic credentials actually suggests the Prop 209 had a "warming effect" for URMs. This decrease in yield on a broad level is explained by the fact that highly qualified applicants became a greater percentage of the total URMs admitted, as less qualified applicants were no longer being accepted. This decreases yield because highly qualified applicants are more likely to have choices outside of the UC and thus have a lower yield rate in general. By controlling for this, they find that the yield for those highly qualified students actually increases. They assert that this is because Prop 209 increased the signaling value of the UC. The study aptly dissects the argument that Prop 209 decreases yield and reveals the limitations of analyzing yield with limited data, such as the one this study is analyzing. This limitation amplifies the importance of enrollment share for this study.

In an attempt to predict the movement of enrollment share, Hicklin, using rational choice theory, proposes the formula: EU = P (B - C). Where EU is Expected Utility, P is probability of admission, B is perceived benefits, and C is cost of attendance.<sup>37</sup> This equation predicts that as the probability of admission goes down, students at the UC will be shifted from more selective to less selective institutions. Hinrichs' results support this model, as he finds that post-Prop 209,

<sup>&</sup>lt;sup>34</sup> Santos, Cabrera, and Fosnacht, "Is 'Race-Neutral' Really Race-Neutral?"

<sup>&</sup>lt;sup>35</sup> Patricia Gandara, *California: A Case Study in the Loss of Affirmative Action* (Civil Rights Project / Proyecto Derechos Civiles, August 1, 2012).

<sup>&</sup>lt;sup>36</sup> Antonovics and Sander, "Affirmative Action Bans and the 'Chilling Effect.""

<sup>&</sup>lt;sup>37</sup> Alisa Hicklin, "The Effect of Race-Based Admissions in Public Universities: Debunking the Myths about Hopwood and Proposition 209," *Public Administration Review* 67, no. 2 (2007): 331–40, doi:10.1111/j.1540-6210.2007.00716.x.

URMs slid from more selective to less selective campuses at the UC.<sup>38</sup> His model, however, split the UC into two categories, selective and non-selective, and thus may miss an important result found by Backes.

Backes, utilizing data from all states with a ban on affirmative action, finds that the most selective universities saw a drop in URM enrollment share, moderately selective institutions actually saw a slight bump, and the least selective saw a drop.<sup>39</sup> In Hinrichs' favor, he is one of the only researchers to include Native American as a category separate from African-American and Chican@/Latin@. He finds a statistically significant decrease of 0.47 percentage points, out of a pre-ban 0.51 percent, in Native American representation at the top fifty public universities in states where a ban was implemented.<sup>40</sup> This suggests that banning affirmative action resulted in a 92% decrease in Native American enrollment share. The effect of the bans on non-selective public universities is not studied. The final step in the college process is graduation.

Graduation is measured either by looking at the graduation rate or the graduation share. These metrics generate a number of theories. Arcidiacono, Aucejo, and Coate, in a non-peer reviewed publication, set out to test the *mismatch hypothesis*.<sup>41</sup> The *mismatch hypothesis* holds that affirmative action harms URMs by sending them to schools that are more rigorous than they are prepared for, thus leading to a drop in graduation rates. The counter-argument to this is that, as Gandara puts it, "The issue is not one of separating ineligible and under-qualified students from those who are indeed qualified. Rather it is making selections from among a very highly qualified pool in each of the ethnic groups."<sup>42</sup> Arcidiacono et al. find limited support for the *mismatch hypothesis*. They find that post-Prop 209, URM's graduation rate went up by 4.4 percent. Though they themselves call this "relatively small," they assert that Prop 209 led to, "more efficient sorting of minority students."<sup>43</sup> Backes data supports the *mismatch hypothesis* as well.<sup>44</sup>

<sup>&</sup>lt;sup>38</sup> Hinrichs, "The Effects of Affirmative Action Bans on College Enrollment, Educational Attainment, and the Demographic Composition of Universities."

<sup>&</sup>lt;sup>39</sup> Ben Backes, "Do Affirmative Action Bans Lower Minority College Enrollment and Attainment? Evidence from Statewide Bans," *Journal of Human Resources* Vol. 47, no. Issue 2 (March 1, 2012): 435–55.

<sup>&</sup>lt;sup>40</sup> As ranked by U.S. News & World Report

<sup>&</sup>lt;sup>41</sup> Peter Arcidiacono et al., *Affirmative Action and University Fit: Evidence from Proposition 209*, Working Paper (National Bureau of Economic Research, November 2012), http://www.nber.org/papers/w18523.

<sup>&</sup>lt;sup>42</sup> Gandara, California: A Case Study in the Loss of Affirmative Action.

<sup>&</sup>lt;sup>43</sup> Arcidiacono et al., Affirmative Action and University Fit.

<sup>&</sup>lt;sup>44</sup> Backes, "Do Affirmative Action Bans Lower Minority College Enrollment and Attainment? Evidence from Statewide Bans."

Backes finds that Chican@/Latin@ students saw increased graduation rates in all-tiers of public universities across the nation, while African-American students had an increased graduation rate in all but the lowest tier. A non-critical perspective of these findings suggests that Prop 209 was a good thing for URMs. However, this fails to take into account two issues. The first is the well-documented benefits of attending a selective school.<sup>45</sup> While the graduation rate may increase under Prop 209, the already reviewed literature, and the *mismatch hypothesis* itself, suggest that they will be graduating from much less-selective institutions. The second is that simply calculating graduation rates ignores the fact that there may be less URMs graduating overall. This is what the next section aims to address.

Backes accounts for graduation share as well as graduation rates. He finds that after affirmative action bans, though "the effect sizes were modest," less African-American and Chican@/Latin@ students graduated from public universities and those that did were from less selective institutions.<sup>46</sup> Looking at the share of URMs in the graduating class seems to be the best way to measure the overall effects of Prop 209. While it does not allow a study to parse out which steps a policy change affects, it provides the clearest overall picture. Sadly, data limitations do not allow graduation share to be studied in this paper.

The literature suggests that bans on affirmative action result in a major drop of URM representation at selective universities, especially for Native Americans. However, on a broad level, applications and enrollment shares are found to only drop slightly. The data also suggests that graduation rates increase, but URM graduation share decreases. Yield is much more complex, but the most compelling study suggests that bans actually increase yield for URMs. The primary effect of affirmative action bans, as seen across the studies, is on the acceptance rate, which plummets in response to bans. In the next section, I detail the data set I analyze.

<sup>&</sup>lt;sup>45</sup> See: William G. Bowen, Matthew M. Chingos, and Michael S. McPherson, *Crossing the Finish Line: Completing College at America's Public Universities* (Princeton University Press, 2009). &

Tatiana Melguizo, "Quality Matters: Assessing the Impact of Attending More Selective Institutions on College Completion Rates of Minorities," *Research in Higher Education* 49 (2008): 214–28.

<sup>&</sup>lt;sup>46</sup> Backes, "Do Affirmative Action Bans Lower Minority College Enrollment and Attainment? Evidence from Statewide Bans."

## Data on Native Americans at the University of California

The data comes from the data set, "Freshmen Admissions by Campus, Ethnicity Fall 1994-2010," as prepared by the Institutional Research arm of the University of California Office of the President (UCOP) and posted on the University of California InfoCenter website.<sup>47</sup> The data includes information on all of the UC campuses and aggregate data for the system. It is important to note that the aggregate data treats the system as one institution and is not simply the data for each campus added together. The data is split up into eight categories: African American, American Indian, Asian American, Chicano/Latino, White, Other, Unknown, and International. The number of applicants, admits, enrollees, as well as admit<sup>48</sup> and yield rates are provided.

The UC collects the data at the time of application for its own purposes, though it makes certain sets public. A page on the undergraduate application prompts the student to select which categories describe their racial and ethnic backgrounds. The hierarchy for reporting is: African American, Chicano/Latino, Native American, Asian/Pacific Islander, White, Other, Missing/Unknown.<sup>49</sup> This means that if an applicant checks both African American and Asian, they are reported as African American. This has obvious drawbacks for purposes of analysis, but, as the method has remained the same over time, should not present major problems. Those who select "American Indian/Alaska Native" are prompted to a greater extent than any other selection.

If the "American Indian/Alaska Native" box is checked, the applicant is given three options. They can identify as a member of a federally recognized tribe, in which case they have to provide their federal tribal enrollment number and are given an admissions boost. They can identify as a member of a tribe recognized by the state, but not the federal government, for which they are not offered affirmative action. The third option is for those who are a member, or believe they are a member, of an American Indian or Alaska Native tribe that is not recognized by the state or federal government. They are prompted to provide the name of their tribe if they know it, but are not given a boost in admissions. While only those who can provide a federal

<sup>&</sup>lt;sup>47</sup> As of March 19, 2014, the data is available under "Data Tables" here:

http://data.universityofcalifornia.edu/student/stu-admissions-enrollment.html

<sup>&</sup>lt;sup>48</sup> Referred to in this paper as acceptance rate

<sup>&</sup>lt;sup>49</sup> "Fact Sheet Regarding Race and Ethnicity" (University of California, Office of the President, Fall 2013), http://www.ucop.edu/news/factsheets/2013/fall\_2013\_admissions\_notes.pdf.

enrollment number receive a boost for admissions, all are reported under the same category. See the Appendix for a copy of this section of the application that was provided by UCOP upon my request. The next section explains the empirical methods used in this study.

# Empirical Strategy for Determining the Effects of the Clarification

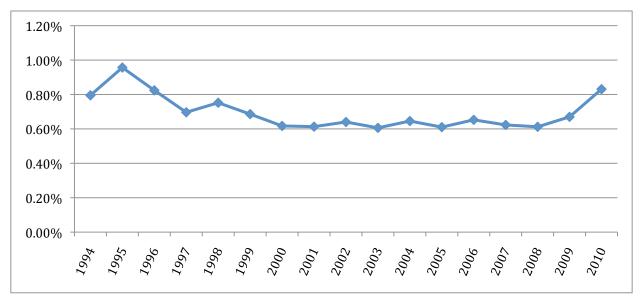
The data is split into three time periods in order to gauge the effects of the Clarification. The first ranges from 1994 to 1997 and represents the UC before Prop 209 was implemented. The second is post-Prop 209 and covers 1998 to 2008. The third is post-Clarification and begins in 2009 and stretches to the end of the data set, which is 2010. A one-way ANOVA tests for significance among all metrics across the three periods. It tests for a difference in the means and is a simple way to tell if affirmative action is correlated with a noticeable change in the metrics. An independent samples t-test tests for differences in means that may by influenced by the Clarification. The t-test looks for differences in means between the post-Prop 209 time frame and post-Clarification. Each campus in each year is taken as a specific data point in order to increase statistical power for both the ANOVA and t-test. This means that the averages computed for significance testing differ from the aggregate data presented in the graphs. The aggregate data is used in a more sophisticated model to test for a statistically significant change in the acceptance rate.

I use a regression as a predictive model to test for a difference in the Native American acceptance rate after the Clarification. The model finds that the Chican@/Latin@ acceptance rate is a statistically significant predictor of the Native American acceptance rate after controlling for trends over time. The Chican@/Latin@ acceptance rate is used to predict the Native American rate in 2009 and 2010 and shows the actual rate is statistically significantly different. In the next section, I present the results of my analysis.

## Gauging the Impact of the Clarification

In this section I present the results of my analysis of applicant share, acceptance rate, yield, admit share, and enrollment share. I then present the results of the ANOVA and independent samples t-test. I do not cover metrics that need information on standardized testing or graduation numbers due to the limitations of the data set. I start by examining applicant share.





Applicant Share = (Number of Native American applicants / total number of applicants) \* 100

Figure 1 displays the percentage of applicants that identified as Native American from 1994 to 2010. Applicant share remains relatively stable from about 2000 to 2008, but begins to trend upwards in 2009, right when the Clarification took effect. Native American applicant share rose from 0.61% in 2008 to 0.83% in 2010. This 36% gain stands out in comparison to the 13% growth in African American applicant share and 10% increase in Chican@/Latin@ share in that same time frame. Chican@/Latin@s have seen a steady growth in applicant share since 2000 and this is most readily explained by the fact that they are the fastest growing demographic population in California.<sup>50</sup> The stability of the Native American applicant share until 2009, on the other hand, makes the surge unexpected. The ascent in applicant share beginning in 2009 and increasing into 2010 strongly suggests that the Clarification affected the application behavior of

<sup>&</sup>lt;sup>50</sup> A Portrait of Race and Ethnicity in California: An Assessment of Social and Economic Well-Being.

Native Americans. It also suggests that they are highly attuned to changes in policy.

Considering that previous studies find that application rates for URMs stayed relatively stable after the ban of affirmative action, this large increase is rather surprising. It is notable that Native American applicant share dropped in similar proportions to the 2009 to 2010 rise from 1995 to 1997. Though Prop 209 did not affect admissions until 1998, it is argued by many that the debate surrounding Prop 209 and SP-1 made the UC feel hostile to prospective students.<sup>51</sup> This would explain the decline in applicant share before Prop 209 went into effect and may partially explain the concurrent rise in share post-Clarification. While I find this explanation plausible in the context of the 1995 to 1997 downturn, I am partial to the theory that the increase in probability of admission is the prime cause of the rise post-Clarification, as it is doubtful that it led to a significant change in the climate of the UC. It is also possible Native American applicants believed that SP-1 took effect when it was passed and reacted to what they thought was going to be a decrease in their probability of admissions.

The connection between probability of admission and application behavior is well established and the surge in applications after the Clarification reinforces this theory.<sup>52</sup> While it is only necessary for applicants to *believe* they have a greater probability of admission, I show that the acceptance rate for Native American applicants increased post-Clarification.

<sup>&</sup>lt;sup>51</sup> Gandara, California: A Case Study in the Loss of Affirmative Action.

<sup>&</sup>lt;sup>52</sup> Long, "College Applications and the Effect of Affirmative Action."

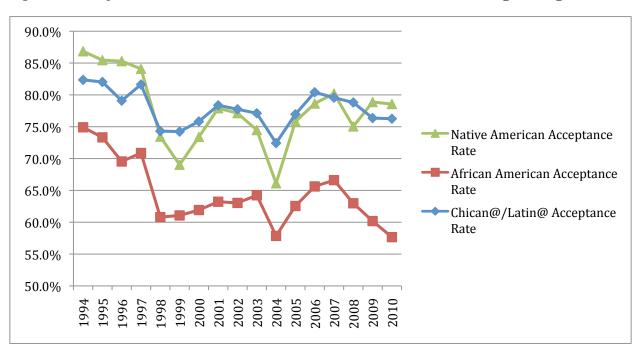


Figure 2: Acceptance Rate - Native American, African American, & Chican@/Latin@

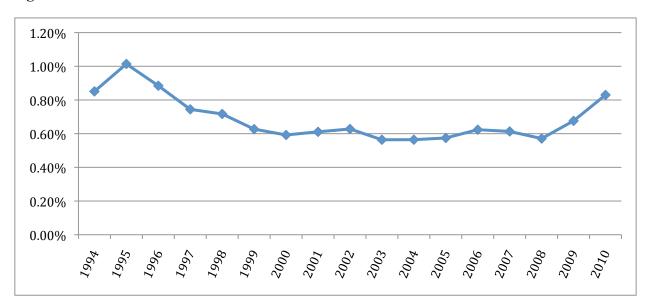
Acceptance Rate = (Number of students who applied / the number accepted) \* 100

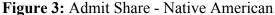
Figure 2 plots the aggregate acceptance rates for Native Americans, African Americans, and Chican@/Latin@ applicants to the UC from 1994 to 2010. The large drop in acceptance rates for all three categories following Prop 209 is evident, with the Native American rate dropping by 9.8 percentage points from 1997 to 1998 and then continuing to drop another 4.4 percentage points the next year. The acceptance rates for all three groups are rather volatile across time, making it difficult to determine whether the Clarification had a significant effect on the Native American acceptance rate, particularly since the rate only increases by 3.9 percentage points from 2008 to 2009. One striking aspect of the graph is how well the three lines track each other. When one line is rising, it appears that the other two lines are also rising. The similar movements point to the power of a predictive model for this situation.

A predictive model taking into account trends over time and utilizing the Chican@/Latin@ acceptance rate to model the Native American rate finds that the increase in the Native American acceptance rate is statistically significant. This means that the correlation between the two rates across the time periods is so strong that the fact that they diverge in 2008, with Chican@/Latin@ continuing to decline and Native American increasing, is enough to suggest that the Clarification significantly affected the acceptance rate for Native Americans. It

is important to note that the rise in acceptance rates is telling even without the predictive model.

The literature suggests that the surge in applications should result in a *decrease* in the acceptance rate, as the literature suggests that there is almost no noticeable change in application behavior among highly qualified applicants. This means that it is quite likely that a large portion of those deciding to apply post-Clarification would have been rejected pre-Clarification, thus there would have been a significant drop in acceptance rates if the Clarification did not offer a boost for federally recognized Native American applicants. The number of applicants and the acceptance rate combine to result in the admit share, which is presented next.





Admit Share = (Number of Native American admitted students / total number of admitted students) \* 100

Figure 3 presents the Native American admit share from 1994 to 2008. The sharp increase between 2008 and 2009 and continuing into 2010 suggests that the Clarification had a major impact on Native American admit share. This is compared to the Chican@/Latin@ and African American admits shares, which, unlike the Native American share, have both been steadily rising over time and did not see an unexpected shift in 2009.

The Native American share of admitted students rose from 0.57% in 2008 to 0.83% in 2010. This represents a 46% increase in the share of admitted students that are Native American. The rise in the Native American admit share can be directly linked to a combination of the

increase in applicant share and the increase in acceptance rate. The measure in and of itself is not crucial to studying the effects of the Clarification, however it is important to consider in the context of yield and enrollment share. I analyze yield next.

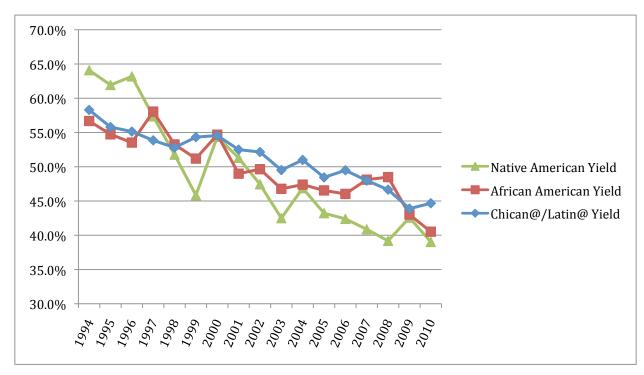


Figure 4: Yield - Native American, African American, & Chican@/Latin@

Yield = (The number of students of a given demographic who enroll / the number accepted) \* 100

Figure 4 charts the yield for Native Americans, African Americans, and Chican@/Latin@ admits to the UC from 1994 to 2010. All three see an overall downward trend, though the Native American rate is pretty volatile within that downward trend. Given that the Native American yield increases slightly from 2008 to 2009, but then drops again in 2010, it is difficult to draw any conclusions. This is particularly true given the difficulty previous studies have had in trying to determine yield and what it represents.<sup>53</sup> I recognize the importance of understanding the effect of affirmative action on yield in the broader debate, but to attempt to tease out the effects of the Clarification would require more detail and more years of data.

One aspect that is notable is the 17.4 percentage point drop for Native Americans from

<sup>&</sup>lt;sup>53</sup> Antonovics and Sander, "Affirmative Action Bans and the 'Chilling Effect.""

1996 to 1999, a much larger drop than other URMs. The fact that the decline began in 1996, two years before Prop 209 took effect, but the year it was voted in, suggests that the climate surrounding the policy change had a larger effect than the policy change itself. However, it is also quite possible that less qualified students stopped applying in 1995 and the plummeting yield is simply a function of a smaller sample consisting primarily of highly qualified applicants. Either way, the drop in yield, combined with the drop in applicant share, predicts the pre-Prop 209 drop in enrollment share analyzed in the following portion.

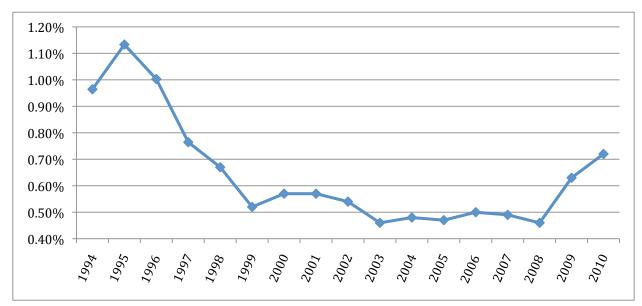


Figure 5: Enrollment Share – Native American

Enrollment Share = (Number of Native American enrollees / Total number of enrollees) \* 100

Figure 4 displays the Native American enrollment share from 1994 to 2010. Native American enrollment share dropped from a high of 1.13% in 1995 to 0.52% in 1999. The share remains relatively steady from 1999 to 2008, hovering between 0.57% and 0.46%, but then in 2009 jumps to 0.63% and then to 0.72% in 2010. The increase from 2008 to 2010 represents a 57% increase in the Native American enrollment share. As this correlates with the precise year that the Clarification was issued, it strongly suggests that the Clarification caused the surge. That part of the graph seems rather straightforward. The Clarification shifted the way that federally recognized Native Americans are treated in the admissions process and this sparked a series of events that conclude in a much higher number of Native Americans at the UC. The movement of

enrollment share around the time of Prop 209 is not nearly as clear.

It appears that a significant turning point occurred in 1996. There is a 12% decrease in enrollment share from 1995 to 1996 and this trend continues all the way until 1999. While the Native American enrollment share begins to plummet in 1996, Prop 209 does not actually take effect as a policy until 1998. This suggests that, barring some factor that has been overlooked by every major study on Prop 209, the debate surrounding SP-1, passed in 1995, and then Prop 209, passed in 1996, affected the behavior of Native American students enough to spur such a precipitous decline. This is reinforced by the previous graphs. Figures 1 and 4 show both applicant share and yield started trending downward before Prop 209 took effect, while Figure 2 shows that there was no significant change in acceptance rate until 1998. This all suggests that Gandara's theory about campus climate holds weight.<sup>54</sup>

The data also directly contradicts Hinrichs, who purports that Prop 209 merely shifted URMs from more selective to less selective UC campuses without affecting overall enrollment.<sup>55</sup> If 1998 is considered the first class affected, then the data shows there was a 12% decrease from '97 to '98 and a 32% decrease from '97 to '99. If weight is given to the theory of campus climate and 1996 is considered the first class affected, then there was a 41% drop in enrollment share between '95 and '98 and a 61% decrease from '95 to '99. These trends, particularly when combined with the resurgence in enrollment share after the Clarification, strongly suggest that affirmative action is highly influential in determining the number of Native Americans at the University of California as a system and not just at the top campuses.

In order to put this into perspective, the percentages will be changed into real numbers. In 2010, 256 Native American students enrolled in the UC system. If the enrollment share for 2010 were the same as 2008, the number of entering Native American students would have been 163. Using this method to take a broader view shows the ramifications of the failure of the University of California to recognize that offering affirmative action to federally recognized Native Americans was legal from the time that Prop 209 was passed. From 1998 to 2008, 1,827 Native Americans enrolled at the UC. If the UC had issued the Clarification in 1998, in theory, there would have been 30% more Native Americans educated by the UC system. To calculate this, I took the average post-Clarification enrollment share (0.675%) and multiplied it by the total

<sup>&</sup>lt;sup>54</sup> Gandara, California: A Case Study in the Loss of Affirmative Action.

<sup>&</sup>lt;sup>55</sup> Hinrichs, "The Effects of Affirmative Action Bans on College Enrollment, Educational Attainment, and the Demographic Composition of Universities."

number of enrolling students at the UC from 1998 to 2008 (353,564), which results in an estimated 2,387 Native American students. On the other hand, if enrollment share had stayed equivalent to 1.05%, the average of 1994 and 1995, there would have been 3,712 Native American students educated. That is over twice as many Native American students than were actually educated.

The spike post-Clarification becomes even more striking when a broad view of the California education system is taken. According to the California Postsecondary Education Commission, the number of Native Americans enrolling for the first time as a full-time student to any of the three branches of the California system<sup>56</sup> was 1,050 in 2008, but plummeted to 628 in 2010.<sup>57</sup> It is likely that the Great Recession caused this drop, as the poverty rate for Native Americans in California was 19.5%,<sup>58</sup> as compared to the White poverty rate of 9.8%.<sup>59</sup> It is likely that some students who were attending a California State University were shifted to the UC by the Clarification, but the gain seen by the UC in the face of a 40% decrease in overall Native American enrollment indicates the importance of the Clarification. I next examine the theory that banning affirmative action shifts URMs from more selective to less selective campuses.

<sup>&</sup>lt;sup>56</sup> University of California, California State University, or a California Community College

<sup>&</sup>lt;sup>57</sup> The data mining tool, as of April 27, 2014, was available here: http://www.cpec.ca.gov/OnLineData/Mining.asp

<sup>&</sup>lt;sup>58</sup> Suzanne Macartney, Alemayehu Bishaw, and Kayla Fontenot, *Poverty Rates for Selected Detailed Race and Hispanic Groups by State and Place: 2007 - 2011* (United States Census Bureau, February 2013), http://www.census.gov/prod/2013pubs/acsbr11-17.pdf.

<sup>&</sup>lt;sup>59</sup> Sarah Bohn and Matt Levin, *Poverty in California* (Public Policy Institute of California), accessed April 27, 2014, http://www.ppic.org/main/publication\_show.asp?i=261.

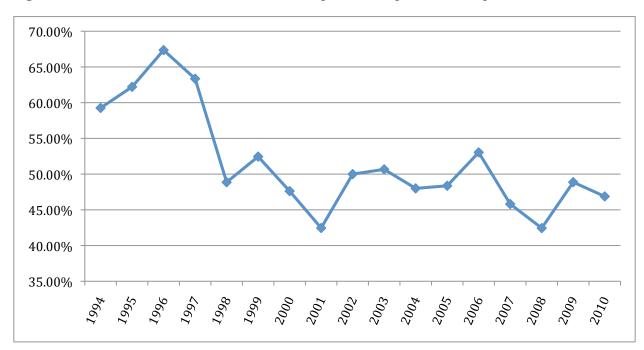


Figure 6: Percent of Native Americans Enrolling at the "Top 4" UC Campuses

The literature predicts that the Clarification should shift Native American students from less selective institutions to more selective institutions. To test this hypothesis, I split the UC campuses into two groups. The first, which will be called the "Top 4," consists of Berkeley, Los Angeles, San Diego, and Santa Barbara. The second group, dubbed the "Bottom 5," consists of Davis, Santa Cruz, Merced, Riverside, and Irvine. It should be noted the Merced did not open its doors until 2005 and it is likely that this affects the data immediately following. Figure 6 displays the results.

The sharp drop occurring around Prop 209 suggests that Prop 209 caused a shift of Native American students away from the Top 4, seeing only 48.86% of students at the top 4 in 1998, as compared to 63.35% the year before. Movement post-Clarification is less clear. The percent of Native Americans at the Top 4 campuses does jump over 6 percentage points from 2008 to 2009, yet remains within the range it fluctuated in from 1998 to 2008. The graph suggests that Prop 209 affected not only the number of Native American students being educated by the UC, but also shifted those who were attending to less selective campuses. The data will likely become clearer as more years become available. The following tables present the findings of the one-way ANOVA and the independent samples t-test.

Measurements	Comparison Groups	Mean	F – Statistic
Applicant Share	Pre-Prop 209 (1994 – 1997)	0.74	15.63***
	Post-Prop 209 (1998 – 2008)	0.59	
	Post-Clarification (2009 – 2010)	0.70	
Acceptance Rate	Pre-Prop 209 (1994 – 1997)	75.40	16.11***
	Post-Prop 209 (1998 – 2008)	51.88	
	Post-Clarification (2009 – 2010)	50.93	
Admit Share	Pre-Prop 209 (1994 – 1997)	0.90	52.86***
	Post-Prop 209 (1998 – 2008)	0.54	
	Post-Clarification (2009 – 2010)	0.69	
Yield	Pre-Prop 209 (1994 – 1997)	27.68	2.25
	Post-Prop 209 (1998 – 2008)	24.01	
	Post-Clarification (2009 – 2010)	22.46	
Enrollment Share	Pre-Prop 209 (1994 – 1997)	0.94	28.56***
	Post-Prop 209 (1998 – 2008)	0.53	
	Post-Clarification (2009 – 2010)	0.70	

**Table 1:** Comparison of Applicant Share, Acceptance Rate, Yield, Admit Share, and EnrollmentShare Across Three Time Periods (N = 142)

\*p < .05 \*\*p < .01 \*\*\*p < .001

Measurements	Comparison Groups	Mean	t – statistic
Applicant Share	Post-Prop 209 (1998 – 2008)	0.59	-3.6940***
	Post-Clarification (2009 – 2010)	0.70	
Acceptance Rate	Post-Prop 209 (1998 – 2008)	51.88	0.1608
	Post-Clarification (2009 – 2010)	50.93	
Admit Share	Post-Prop 209 (1998 – 2008)	0.54	-4.1722***
	Post-Clarification (2009 – 2010)	0.69	
Yield	Post-Prop 209 (1998 – 2008)	24.01	0.6200
	Post-Clarification (2009 – 2010)	22.46	
Enrollment Share	Post-Prop 209 (1998 – 2008)	0.53	-2.8727*
	Post-Clarification (2009 – 2010)	0.70	

**Table 2**: Comparison of Applicant Share, Acceptance Rate, Yield, Admit Share, and EnrollmentShare Before and After the Clarification (N = 110)

\*p < .05 \*\*p < .01 \*\*\*p < .001

Table 1 presents the findings of the ANOVA, which looks for variance over three time periods. The first period is called "Pre-Prop 209" and covers 1994 to 1997. The second is dubbed "Post-Prop 209" and spans 1998 to 2008, while the third is titled "Post-Clarification" and includes 2009 and 2010. The applicant shares, acceptance rates, admit shares, yields, and enrollment shares are all averages of all the institutions for each year. Though the numbers differ from the aggregate data used in the rest of the study, the direction of the movement stays the same. The ANOVA displayed in Table 1 suggests that a statistically significant difference in means occurs in applicant share (p < .001), acceptance rate (p < .001), admit share (p < .001), and enrollment share (p < .001). Yield is the only metric not affected in a statistically significant way by the changes in affirmative action policy.

Table 2 presents the findings of the independent samples t-test and specifically tests for significant changes that may have occurred because of the Clarification. Table 2 shows that the t-

test suggests that applicant share (p < .001), admit share (p < .001), and enrollment share (p < .05) all see statistically significant change post-Clarification. Acceptance rate is the only metric to lose significance once Prop 209 is eliminated from the test.

Applicant share drops from a pre-Prop 209 average of 0.74% to 0.59% post-Prop 209. After the Clarification, it jumps back up to an average of 0.70%. The acceptance rate drops from a mean of 75.40% to 51.88% after Prop 209 takes effect. Interestingly, the acceptance rate actually decreases after the Clarification is issued, though Table 2 shows that the post-Clarification movement is not statistically significant. The admit share drops from 0.90% to 0.54% following the implementation of Prop 209. It then rebounds a bit after the Clarification, rising to an average of 0.69%. Yield steadily decreases from 27.68% to 24.01% to 22.46% over the three time periods, though none of these changes are statistically significant. Enrollment share plummets 0.41 percentage points, or 44%, from 0.94% to 0.53% after the implementation of Prop 209. It then sees a statistically significant increase to 0.70% post-Clarification.

The ANOVA and independent samples t-test reinforce the earlier analyses by showing statistically significant changes in means across all metrics except acceptance rate for the Clarification, which is shown using predictive modeling, and yield, which is not crucial to my analysis. In the next section, I conclude.

## Conclusion

The data suggests that affirmative action has a significant effect on the total number of Native Americans attending the University of California, as well as which campuses they attend. Moreover, it points to the importance of affirmative action broadly, and quite possibly the discourse around it, as a crucial factor in determining the number of Native Americans at the UC. This is indicated by the plunge in applicant and enrollment share *before* the implementation of Proposition 209 and the subsequent spike after the implementation of the Clarification. Statistically significant increases are seen post-Clarification in the Native American applicant share, acceptance rate, admit share, and enrollment share. The data pushes back against the assertion that affirmative action only shifts which UC campus a student attends, not whether they attend.<sup>60</sup> The data suggests that banning affirmative action both shifts Native Americans to less

<sup>&</sup>lt;sup>60</sup> Read the following article for a solid example of this logic: David A. Lehrer and Joe R. Hicks, "UC Proves Prop. 209's Point," *Los Angeles Times*, July 12, 2010, http://articles.latimes.com/2010/jul/12/opinion/la-oe-lehreraffirmativeaction-20100712.

selective campuses and decreases the total number at the UC. The movement in enrollment share before the implementation of Prop 209 indicates that racial climate may be an important factor in the decision of Native American applicants and signals that repealing Prop 209 could still increase Native American representation at the UC, though further years of data may refute this.

The central role affirmative action plays in determining the representation and location of Native Americans at the University of California points to the power it holds as a deciding force in the fate of underrepresented minorities. It is clear that affirmative action is not going to singlehandedly solve the systemic problems creating the need for it. It is also clear that ignoring the power it has to determine the number of URMs graduating from institutions of higher learning is asinine.

# Appendix

# Review & Submit STEP 2 OF 7 (PAGE 2 OF 2)

#### Demographic

Any information you provide in this section will be used for statistical analysis only. It will not be used in your admission evaluation and will have no bearing on your eligibility for admission. Providing this information is optional.

#### Select Ethnicity/Ancestry (for UC)

To help us understand the diverse racial and ethnic backgrounds of our students, please tell us which of the following groups best describes your background. Check as many categories as may apply.

#### African American / Black

African American
 African
 Black Caribbean
 Other African American / Black

#### American Indian / Alaskan Native

American Indian / Alaskan Native

# Asian / Asian American

Asian Indian
Bangladeshi
Cambodian
Chinese / Chinese American (except Taiwanese)
Filipino / Filipino American
Hmong
Indonesian
Japanese / Japanese American
Korean / Korean American
Laotian
Malaysian
Pakistani
Sri Lankan
Taiwanese / Taiwanese American
Thai

#### **Inside This Section**

- > 1. Application Summary
- > 2. Demographic Information
- > 3. State of Legal Residence
- > 4. Review
- > 5. Affidavit
- > 6. Fee Payment
- > 7. Submit

#### Questions?

Why do you want to know my gender and ethnicity?

What if I am biracial or multi-ethnic?

Vietnamese / Vietnamese American
 Other Asian (not including Middle Eastern)

#### Hispanic / Latino

Cuban / Cuban American
 Latin American / Latino
 Mexican / Mexican American / Chicano
 Puerto Rican
 Other Hispanic, Latin American or of Spanish origin

#### Pacific Islander

Fijian
 Guamanian/Chamorro
 Hawaiian
 Samoan
 Tongan
 Other Pacific Islander

#### Southwest Asian and North African

🗌 Afghan 🗆 Algerian Armenian Assyrian/Chaldean 🗌 Azerbaijani Bahraini Berber Circassian Djiboutian Egyptian Emirati Georgian 🗌 Iranian 🗌 Iraqi Israeli Jordanian Kurdish 🗌 Kuwaiti Lebanese 🗌 Libyan 🗌 Mauritanian Moroccan 🗌 Omani

Palestinian
🔲 Qatari
🔲 Saudi Arabian
🗖 Somali
Sudanese
🔲 Syrian
Tunisian
Turkish
Vemeni Yemeni
Other North African
Other Southwest Asian
White/Caucasian
European / European descent
Other White / Caucasian
CLEAR

PREVIOUS

#### American Indian / Alaskan Native

🗹 American Indian / Alaskan Native

I want to receive information about American Indian support services at the University of California.

If you want to get more information online click here. [pdf]

Tribe or Nation Status

• Federally Recognized (U.S.)

Please specify tribal affiliation.

Enrollment number

Your official enrollment in an American Indian/Native American tribe may be considered in the comprehensive review of your application for admission.

I understand that this information is subject to verification.

O State Recognized

Other/Unknown

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