

HISPANICS IN HIGHER EDUCATION AND THE TEXAS TOP TEN PERCENT LAW*

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***Abstract:** This paper examines the consequences of changes in Hispanic college enrollment after affirmative action was banned and replaced by an admission guarantee for students who graduate in the top 10% of their high school class. We use administrative data on applicants, admittees and enrollees from the two most selective public institutions and TEA data about high schools to evaluate whether and how application, admission and enrollment rates changed under three admission regimes. Disputing popular claims that the top 10% law has improved diversification of Texas's public flagships, analyses that consider changes in the size of graduation cohorts show that Hispanics are more disadvantaged relative to whites under the top 10% admission regime at both UT and TAMU. Simulations of Hispanics' gains and losses at each stage of the college pipeline across admission regimes confirms that affirmative action is the most efficient policy to diversify college campuses, even in highly segregated states like Texas.*

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Introduction

Texas higher education has been in the spotlight since the 1996 *Hopwood* decision¹ outlawed the use of race and national origin in college admissions throughout the Fifth Circuit. The following year several campuses, including the University of Texas at Austin (UT) and Texas A&M University (TAMU), registered sharp declines in the number of black and Hispanic first time freshmen (Barr, 2002).² In response to the judicial ban imposed by *Hopwood*, the 75th Texas legislature passed H.B.588—the uniform admission law—which guarantees admission to any Texas public university to seniors who graduate in the top decile of their class. Popularly known as the top 10% law, H.B.588 also specified 18 factors that universities should consider in admitting students who do not qualify for automatic admission, including socioeconomic status, second language ability, and indications that the student overcame adversity (see Long and Tienda, 2008a). The uniform admission law was fully in force for the fall, 1998 admission cohort.

Spearheaded by the late Congresswoman Irma Rangel, H.B.588 was intended to increase college access to a wide spectrum of the Texas population by attracting the very best students of every high school to the State's flagship universities (Holley and Spencer, 1999; Montejano, 2001). Initially the law was praised as a race-neutral alternative to affirmative action that both rewarded merit and broadened college access (Tienda and Sullivan, 2008). Supporters claimed that the percent plan helped restore diversity to the flagship campuses, partly by capitalizing on segregation (Tienda and Niu, 2006) and partly by removing the standardized test score barrier (Alon and Tienda, 2007). Over time, however, the top 10% law has become as controversial as the affirmative action regime it replaced. Opponents argue that percent-based admission regimes

¹ *Hopwood v Texas*, 78 F.3d 932 (5th Cir. 1996), *cert. denied*, 518 U.S. 1033 (1996).

² UT-Dallas and Texas Tech University also reported sharp declines in the number of minority first time freshmen, as did professional schools.

not only are a disguised form of affirmative action, but that they also are unfair to high achieving students ranked below the 90th percentile who graduate from competitive high schools. Although the landmark 2003 *Grutter*³ decision reversed *Hopwood*, the top 10% law remains in force until repealed by the Texas legislature. In effect, between the early 1990s and the present, judicial and statutory decisions produced four different college admission regimes in Texas:

- *Pre-Hopwood*: affirmative action permitted (pre-1996);⁴
- *Hopwood*: Judicial ban on affirmative action (1997);
- Top 10% law with continued judicial ban (1998-2003);
- *Post-Grutter*: affirmative action permitted, top 10% law remains in effect (2004 – present).⁵

Because college admissions are highly scrutinized, researchers have focused on this aspect of post-secondary decisions, especially on the admission advantage enjoyed by minority applicants (Bowen and Bok, 1998; Long and Tienda, 2008b). College administrators and legislators measure success in achieving campus diversity based on freshman enrollment, and to a lesser extent, graduation rates. Despite their centrality in shaping the composition of entering classes, with few exceptions (e.g., Brown and Hirschman, 2006; Long and Tienda, 2008a; Koffman and Tienda, 2008), application rates have been relatively ignored as a focus of inquiry. Partly this reflects data constraints and partly the fact that litigation largely focuses on institutional admissions decisions, not individual decisions to apply or enroll, conditional on acceptance.

Several analysts have begun to fill this gap, including researchers interested in the Texas admission guarantee for top 10% graduates. For example, Long and Tienda (2008a) show that

³ *Grutter v. Bollinger*, 539 U.S. 306, 328 (2003)

⁴ Because the *Hopwood* decision was delivered on March 18, 1996, and applications for the entering class of the fall of 1996 were mostly adjudicated, the *Hopwood* decision took effect for the entering class of the fall of 1997.

⁵ Although *Grutter* permits narrowly tailored consideration of race in college admissions, the top 10% law explicitly required a full year advance notice before announced changes in admission criteria could take effect. Therefore, no Texas universities could restore affirmative action until fall 2005 admissions.

the elimination of affirmative action and implementation of a percent plan, which directly impacts the admissions systems only of the most selective institutions, also produces substantial indirect effects at other institutions. Using a variety of empirical methods, they find that average test scores of applicants to less selective institutions rose following the change in admission criteria, as students with high test scores who did not qualify for the admission guarantee applied to a broader set of institutions. Furthermore, as the share of top 10 % applicants at UT-Austin rose, the steady ascent in the test scores of their applicants stagnated.

Although highly informative, Long and Tienda (2008a) only consider the subset of students who actually applied to a post-secondary institution, independent of changes in the number of potential applicants (i.e., the size of high school graduation cohorts). To address this limitation, Koffman and Tienda (2008) analyze administrative records from UT and TAMU, making two important extensions. First, they compare changes in the applicant pools according to the economic status of their high school; and second, they evaluate application behavior relative to the number of high school graduates in specific years. Their results show that graduates from affluent schools are significantly more likely to seek admission at one of the public flagships compared with their cohorts who graduated from high schools that served students of low to moderate socioeconomic status. This generalization holds before and after the change in admission regime. More importantly, Koffman and Tienda show that the admission guarantee did little to raise flagship application rates from poor high schools.

Building on these insights, this study asks about the consequences of the changes in Texas college admission policies for Hispanics, the fastest growing segment of the college-age population. Specifically, using over a decade of administrative data for the two flagship campuses, we consider how Hispanic and white students fared across the three policy regimes in

force between 1992 and 2003.⁶ To motivate the empirical analysis, we provide a brief overview of the changing demography of Texas higher education. Following a discussion of data and methods, we report changes in Hispanic and white application, admission and enrollment rates across the three policy regimes. The conclusion reconciles our findings with those of other studies using similar methods and discusses the implications of dismantling the top 10% law for Hispanics.

Our analysis is novel in two ways: First, we compute application rates by merging school-specific data on high school graduates with college applicants from those schools. This is important in light of the rapid growth of the college-eligible population in Texas (WICHE, 2008). Second, we simulate Hispanics' gains and losses at each stage of the college pipeline under the three regimes analyzed. This exercise goes beyond conventional approaches that estimate admission and enrollment probabilities by quantifying the competition for seats at the Texas flagships. Despite popular claims that the top 10% law has restored diversity to UT and TAMU, our results show that Hispanics are worse off relative to whites than they were under affirmative action.

Demography of Texas Higher Education

Owing both to high levels of immigration and high immigrant fertility, Texas is one of the nation's fastest growing and most rapidly diversifying states. Between 1994 and 2004, the number of diploma recipients rose 50 percent, from 163 to 244 thousand (Tienda and Sullivan, 2008). High school graduation rates improved by almost 11 percentage points between 1994 (pre-*Hopwood*) and 2003 (pre-*Grutter*)—rising from 56 to 67 percent (Swanson, 2006)—but

⁶ Our data do not span the post-*Grutter* period, therefore we can not evaluate changes under the fourth regime that permits affirmative action with the percent plan.

large differences remain between whites and disadvantaged minorities.⁷ Many Hispanic students do not complete high school; nevertheless the number of Hispanic high school graduates rose 78 percent during this period, raising their share of Texas diploma recipients from 29 percent in 1994 to 35 percent by 2004 (Tienda and Sullivan, 2008). White students are more likely to graduate from high school than Hispanics, but their share of the high school population has been shrinking. In 1994 whites earned 56 percent of diplomas awarded in Texas, but by 2004 their share dropped to 48 percent. WICHE (2008:107) projections indicate that Hispanics will earn 38 percent of diplomas in 2008, compared with 43 percent for whites.

Not all high school graduates pursue post-secondary education of course, but the larger graduation cohorts imply intensified competition for access to the selective public institutions among the college bound. Although Texas's post-secondary system expanded in response to higher demand, its growth failed to keep pace with demographic trends. Texas postsecondary enrollment rose 27 percent between 1994 and 2004, which is well below the 50 percent increase in the number of high school graduates during the same period (Tienda, 2006). Texas differs from the nation and many other states in another important respect that bears on the college squeeze—namely, the preponderance of two-year institutions within its post-secondary education system. At the national level, enrollment growth at two- and four-year institutions was relatively similar during this period - around 19-20 percent - but this was not the case in Texas, where two-year institutions registered a 37 percent enrollment increase during the period. It is noteworthy, moreover, that total enrollment at two-year institutions had surpassed that of four year public institutions in 1995, at least one year before the *Hopwood* decision (THECB, 2005).

⁷ TEA reports higher graduation rates (circa 84 percent), but Swanson's Cumulative Promotion Index generates more accurate cohort-estimates. Specifically, the 67 percent graduation rate indicates that only 67 of every 100 9th grade students will graduate four years later.

The change in Texas college admission regimes over a short period of time coupled with appreciable increases in the number of college-eligible Hispanics raises several questions about their representation in higher education: How did Hispanic application, admission and enrollment *rates* to the University of Texas at Austin (UT) and Texas A&M University (TAMU) change over the three policy regimes? How have Hispanic-white gaps in application, admission and enrollment rates changed across policy regimes? Finally, what are the enrollment implications of changes in Hispanics' application and admission rates? In addressing these questions, we illustrate the policy consequences of changes in Texas college admission policies for Hispanics—the fastest growing segment of its college-age population.

Data and Methods

We use publicly available data from the Texas Education Agency (TEA) about graduates from Texas public high schools and administrative data on applicants, admittees and enrollees at the UT-Austin and TAMU for the years 1993-2003.⁸ To construct group-specific annual application rates, we merge information about school- and group-specific graduation class size provided by TEA with school- and group-specific data about applicants to UT and TAMU available in the administrative data. Institutional administrative data record the admission and enrollment status of all applicants as well as measures of senior class size, which is used to compute class rank with precision. Additional data merged to student records include high school public vs. private status (from NCES) and the percent of students ever economically

⁸ Nearly 95 percent of Texas seniors graduate from public high schools and this share has not changed since the early 1990s (WICHE, 2008). We exclude special and alternative schools from consideration on grounds that their students may differ systematically in their college going behavior. We used publicly available data from the National Center for Education Statistics (NCES) to determine which high schools to exclude from the analysis. Administrative data available to us for UT extend through 2003 and for TAMU through 2002. Administrative data were compiled by the Texas Higher Education Opportunity Project (THEOP). See <http://www.texastop10.princeton.edu> for further details.

disadvantaged (from TEA). Because high schools are the unit of analysis for calculating application rates, we develop weights to account for school variation in the size and ethnic composition of graduating classes.⁹ Analyses are restricted to public 942 high schools that were in operation throughout the observation period.

We begin by comparing Hispanic and white application rates to UT-Austin and TAMU for each policy regime and subsequently evaluating their admission and enrollment outcomes across policy regimes. Finally, we simulate Hispanic enrollment changes in the post-affirmative action period under several scenarios about application and matriculation behavior.

Application Rates

Table 1 reports the application rates to UT-Austin and TAMU for Hispanic and white Texas public school seniors across the three policy regimes. The average Hispanic application rate to UT-Austin fell from 3.6 to 2.8 percent during the no preference period. Although Hispanic application rates to UT improved under the top 10% regime compared with the no preference period, they remained below the level observed during affirmative action. The white application rate to UT also fell during the no preference period from 7.2 to 6.6 percent, but under the top 10% law the white applicant rate virtually recovered to its affirmative action level. Comparable data for TAMU show a steady drop in application rates for both Hispanic and white Texas high school graduates after affirmative action was prohibited, but the decline was appreciably larger for Hispanics. In part the steady drop reflects a provision in the law that allows rank-eligible students to select their campus, but the surge in the number of graduates

⁹ The weight used is the product of two separate weights. The first weight accounts for the size of the graduating class by dividing the total number of graduates by 150, which is the average size of graduating classes for the 942 high schools in the sample. Thus, a school with a graduating class size of 600 students will count double that of one with 300 graduates. The second weight accounts for the white and Hispanic share of the graduating class.

across regimes is also responsible (Tienda and Sullivan, 2008). Nevertheless, Hispanics experienced larger declines in application rates compared with whites after affirmative action was disallowed.

[Table 1 about here]

If the percentages in Table 1 seem small, they represent substantial changes in the number of Hispanic applicants because the population of graduates is large and growing rapidly. To illustrate, Table 2 simulates the number of additional Hispanic applicants under two hypothetical scenarios: 1) if the Hispanic application rate had remained unchanged since affirmative action; and 2) if Hispanics had the same application rates as whites for each policy period. Assuming no change in Hispanic application rates since affirmative action implies that an additional 380 and 221 Hispanics would have applied to UT-Austin and TAMU, respectively, during the no preference period. Moreover, during the first four to five years of the top 10% regime, UT-Austin and TAMU would have gained an average of 202 and 553 Hispanic applicants, respectively, had their application behavior remained at the pre-*Hopwood* level. The second counterfactual – that of equal Hispanic and white application rates across policy regimes – implies that 1,702 and 2,948 additional Hispanic students would have applied to UT and TAMU, respectively, during the no preference period. Even more striking is the simulated implication that if Hispanic and White application rates were equivalent, UT and TAMU each would have received approximately 2,170 and 3,756 additional Hispanic applicants annually under the Top 10% regime.

[Table 2 about here]

These estimates are likely to be conservative because the TEA data used as school-specific denominators for application rates only include high school seniors, which accounted for 67 and 72 percent of all applications received by UT-Austin and TAMU in 1997, the year neither race

nor class rank preferences were in force, and approximately 70 percent of the applicants for both universities during the top 10% regime. Approximately 30 percent of applicants to UT-Austin and TAMU were non-traditional students who applied at least one year post-high school. Given the estimated gain in Hispanic applicants from the high school ranks, it is likely that the increase in Hispanic applications would be even greater if we were able to perform similar calculations for college-eligible adults not enrolled in high school.

Admissions and Enrollment

Campus diversity depends not only on application rates, but also admission and enrollment rates. The former are constrained both by policy and institutional carrying capacity, namely the size of the freshman class that can be accommodated given physical and human capital resources. The top panel of Table 3 shows the percent of Hispanic applicants admitted to UT-Austin and TAMU was lowest after the enactment of the top 10% law (67.7 and 70.8 percent, respectively). At UT the decline in Hispanic admission rates occurred after the no preference period, the drop at TAMU began with the repeal of affirmative action. TAMU Hispanic applicants witnessed a 10 percentage point decline in admission rates in 1997 compared with affirmative action, and a 15 percent point drop in percent of applicants admitted under the top 10% regime. By contrast, whites' admission probability rose during the no preference period (11.5 percent at UT and 5.9 percent at TAMU), but their admission rates returned to affirmative action levels under the top 10% law mainly because of institutional constraints on the size of the freshman class. Finally, Hispanics enjoyed an admission advantage relative to whites under affirmative action (3.2 and 12.2 percent points at UT and TAMU, respectively), but faced lower admission prospects compared with whites under both alternative admission regimes.

The bottom panel of Table 3, which reports information about enrollment, shows that the percentage of students admitted to UT who enrolled rose for Hispanic and white admittees during the no preference period (by 9.8 and 4.9 points, respectively) and during the top 10% regime (by 5.7 and 2.6 points, respectively). Changes in admission policy since the ban on race preferences narrowed Hispanic-white enrollment differentials among admitted students, however, enrollment rates are based on a much smaller pool of Hispanics compared with whites. Similar enrollment patterns obtain at TAMU in that the percent of admitted Hispanics and whites who enrolled fell during the no-preference period and rebounded slightly for both groups under the top 10% regime. Nevertheless, the Hispanic disadvantage relative to whites was larger under the top 10% law (12.9%) compared with the no preference and affirmative action regimes.

[Table 3 about here]

To illustrate the implications of the Hispanic-white admission and enrollment gaps, we combine them with application rates to estimate impact of the policy shifts in students units. That is, because admission and enrollment rates depend on how many students apply, we simulate changes in the number of additional Hispanic students admitted and enrolled under alternative application rates. The first two columns in the top panel of Table 4 show that if Hispanic application rates remained at the levels observed during affirmative action, admission rates for each policy regime would have yielded an additional 287 and 169 Hispanics to UT and TAMU, respectively, during the no-preference period, and an annual average of 138 and 391 additional Hispanic admittees under the top 10% regime for UT-Austin and TAMU, respectively. If both Hispanic application and admission rates remained at their pre-*Hopwood* levels, TAMU would have admitted 362 additional Hispanic students during the no-preference period and UT would have admitted an additional 276 Hispanic applicants. Under the top 10% plan, the annual

increment in Hispanic admittees associated with pre-*Hopwood* application and admission rates averages 338 at UT and 745 at TAMU. These are sizable losses in potential Hispanic admittees associated with shifts in admission policy and resulting changes in application behavior.

[Table 4 about here]

The next two columns simulate a different counterfactual, namely, the implied loss of Hispanic admittees if Hispanic Texas high school graduates applied to UT and TAMU at the same rate as white students. Not surprisingly, the additional annual Hispanic admittees under this scenario are much larger – approximately 1,300 and 2,200 at UT and TAMU, respectively, during the no-preference period and 1,500 and 2,600 under the top 10% regime. These findings show that even under a no-preference regime, greater effort in recruitment to bring about parity in application rates between Hispanics and whites could lead to substantial gains in Hispanic representation at Texas’ flagship universities. The last two columns in the top panel of Table 4 indicate that Hispanic representation at UT and TAMU could be boosted appreciably if they applied at the same rate as whites *and* their admission rates remained at affirmative action levels. That the largest gains derive from closing the gap in application rates, rather than race preferences has profound policy implications in an environment where preferences of any kind remain highly contested.

The bottom panel of Table 4 reports the loss in Hispanic enrollment resulting from changes in application and admission rates under the no preference and top 10% regimes. These estimates also show that the chill on Hispanic application rates under the no preference period resulted in 185 and 79 fewer Hispanic enrollees at UT and TAMU, respectively. If both Hispanic application and admission rates had remained at their levels under affirmative action, both flagships would have over 170 additional Hispanic enrolled students during the no

preference year (columns 3 and 4), and averaged an additional 203 to 385 under the top 10% regime, respectively for UT and TAMU. The simulated boost in Hispanic enrollment is particularly striking under the scenarios that assume white application rates for Hispanic high school graduates (columns 5 through 8). This simulation estimates the average annual loss in Hispanic enrollees at over 800 at UT and over 1,000 at TAMU. Finally, if group differences in application rates are equalized and Hispanics' admission rates were maintained at the levels observed during affirmative action, the average annual loss in Hispanic enrollment during the top 10% regime averaged over 1,000 at UT and approximately 1,800 at TAMU.

Admission Policy and the College Pipeline: A Simulation

Although informative, the findings discussed above do not account for group differences in characteristics associated with college admission prospects. In particular, the observed Hispanic-white gaps likely reflect group differences in high school quality, which is related to application behavior and college readiness (Niu and Tienda, 2008; Koffman and Tienda, 2008). Thus, the next set of analyses use regression techniques to examine admission and enrollment outcomes taking into account variation in applicants' high school size, public-private status, and percent of students ever economically disadvantaged.

Because both admission and enrollment are dichotomous variables—measured as “1” if yes and “0” if no—OLS results replicate those reported in Table 3 as proportions rather than percentages. The advantage of a regression framework, however, is that it expresses proportions for Hispanics relative to whites, and allows for the introduction of control variables. Thus, the OLS results assess whether Hispanics experienced greater changes in their admission and enrollment shares than whites, and how much of the relative differences between these groups can be attributed to inequities in the types of high schools they attended. We also replicate these

analyses using logistic regression, which is the more traditional technique for dichotomous and/or categorical outcomes. Logistic regression results can be expressed as probabilities (or likelihood of being admitted and likelihood of enrolling). Therefore, Table 5 reports both logit coefficients and odds ratios, which have clear interpretations for group comparisons.

The first model reported in Table 5, which serves as a baseline, replicates the findings in Table 3. For example, the constant of .717 corresponds with the 71.7 percent admitted for whites at UT-Austin shown in the second column of Table 3. The coefficient of .032 for Hispanics represents their admission rate relative to whites. Thus, adding this value to the constant—whites' admission rate—yields .749, which corresponds with the 74.9 percent shown in the first column of Table 3. The coefficients of .115 and -.003 for no-preference and top 10%, respectively, represent the change in admission rates under for each policy relative to the affirmative action period and correspond to the highlighted (% Δ) column for whites at UT-Austin in Table 3. When added to the constant, they show that the proportion of whites admitted was .832 and .714 during the no-preference and top 10% regimes, respectively.

[Table 5 about here]

The highlighted coefficients from Model 1 represent the change in Hispanic admission rates relative to whites across policy periods following the affirmative action ban. Relative to whites, Hispanics experienced an 11 percent lower admission rate during the no preference period and 6.9 percent lower under the top 10% law relative to the affirmative action period. Model 2, which adjusts for differences in the characteristics of the high schools white and Hispanic students attended, reveals even lower admission rates for Hispanics under the no preference and top 10% regimes relative to whites (-.124 and -.077, respectively). The positive coefficients for public high school status and percent of economically disadvantaged students

indicate that the admission practices used by the public flagships favor public high school graduates over those from private schools as well as those who graduate from schools with large shares of economically disadvantaged students. Because Hispanic students are more likely than whites to attend economically disadvantaged public high schools, standardizing comparisons for these factors neutralizes Hispanics' admission advantage that these attributes afford, which translates to even a larger penalty across policy regimes relative to whites. Logit estimates produce similar findings, with the interpretation advantage of odds ratios. For example, Model 2 shows that Hispanics' admission odds were 52 percent lower under the no preference period compared with affirmative action (odds ratio = .477).

Hispanics lost even more ground at TAMU, where their admission rates were 15 to 16 percent lower than whites under the top 10% law and the no policy period. The decline in Hispanic admission rates relative to whites after affirmative action was repealed is greater still once group differences in high school characteristics are equalized statistically (Model 2)—approximately 17 to 18 percent lower. Logistic estimates show that Hispanics' admission odds to TAMU is 65 percent lower than for whites under the top 10% regime compared with their odds under affirmative action.

The lower panel of Table 5, which reports the parallel analyses for enrollment rates, reveals different consequences for UT-Austin and TAMU. Specifically, the highlighted coefficients show that, conditional on admission, Hispanic were slightly more likely than whites to enroll at UT under the top 10% regime compared with affirmative action. At TAMU, by contrast, the change from affirmative action to the top 10% regime was associated with lower Hispanic enrollment odds relative to whites. In some measure, this reflects the desirability of Austin versus College Station as a place to live and perceptions that UT is more hospitable to

minority students compared with TAMU (Tienda and Sullivan, 2008). Conditional on admission, students from economically disadvantaged high schools are less likely to enroll at either UT-Austin or TAMU compared with their counterparts who graduate from affluent high schools, largely reflecting shortfalls in financial aid.

Summary and Discussion

Our analyses show that changes in Texas college admission policies have been highly consequential for Hispanics, the largest and fastest growing segment of the State's population. Using data from the Texas Education Agency and from the administrative records of both UT-Austin and TAMU, we evaluate how Hispanic and white students fared across three policy regimes: affirmative action, no-preference period, and the top 10% regime. Although it is commonplace to focus on admission and enrollment outcomes, our empirical analysis underscores that these outcomes are highly conditioned by the decision to apply (Long and Tienda, 2008a; Koffman and Tienda, 2008). This conclusion echoes that reached by Brown and Hirschman (2006) based on the experience of the State of Washington, where use of race preferences in college admissions was outlawed by voters.

The empirical analyses produce three major findings. First, Hispanics' application rates to the Texas flagship universities fell after affirmative action was banned; moreover, owing to rapid growth in the number of high school graduates, their disadvantage in percent of applicants relative to whites grew over time. Although the declines in application rates to both UT-Austin and TAMU averaged one percent or less, this implies 200 fewer Hispanic applications per year at UT-Austin and over 550 fewer Hispanic applications per year at TAMU. Second, Hispanics' admission rate to both UT-Austin and TAMU fell after the ban on affirmative action and reached

its lowest point under the top 10% regime. This finding implies that the number of Hispanics eligible for enrollment to Texas flagship universities is reduced even further—a compounding of application and admission disadvantages that translates to fewer potential enrollees. Third, even with the declines in admission rates for Hispanics since the repeal of affirmative action, our results suggest that Hispanics would gain substantial representation in Texas flagship universities if they applied at the same rate as whites.

This result has profound policy implications that transcend admission regimes because they redirect attention away from the seemingly irresolvable differences about race or class rank preferences to encouraging greater numbers of qualified applicants to apply for admission. Of the three admission regimes compared, Hispanics' application rates to TAMU were lowest under the top 10% plan and to UT under the period when no preferences were used. Furthermore, Koffman and Tienda (2008) show that graduates from affluent schools are significantly more likely to seek admission at the public flagships compared with their cohorts who graduate from high schools that serve students of low to moderate socioeconomic status. Our simulations indicate that equalizing their application rates with those of white graduates would yield an additional 1,470 and 2,652 Hispanic applications per year for UT-Austin and TAMU, respectively. Given the rate of enrollment for Hispanics admitted to these universities, UT-Austin and TAMU could have averaged between 885 and 1,371 additional Hispanic enrollees, respectively, during the first four years the top 10% law was in effect.

That the expansion of the post-secondary education system has failed to keep up with the growth of the college-eligible population represents a formidable policy challenge for the future because competition for access to the State's public flagships will continue to intensify in Texas, at least through 2015 (Tienda, 2006; WICHE, 2008); because legal and statutory challenges to

race preferences and the top 10% plan show no sign of abating (Haurwitz, 2008; Schmidt, 2008); and because Texas invests less of its GDP on public education than several other states that have excellent public universities.¹⁰ Over the long term the post-secondary system will expand to accommodate slower growth of high school graduates, but the State faces enormous opportunity costs for continued underinvestment in the education of its fastest growing population. Texas comptroller Strayhorn (2005) estimated a 500 percent return on every dollar invested in the state's higher education system. Educational underinvestment is seldom invoked as the culprit for the rising number of applicants denied admission to a four-year institution in the state, yet it is the ultimate cause of the college squeeze and a source of economic vulnerability for the state in the future.

In the short term, however, cultivating college-going cultures at under-resourced high schools is a potential high-impact, relatively low cost strategy to raise Hispanic college application rates. The Longhorn and Century Scholars programs developed by UT and TAMU, respectively, enabled economically disadvantaged top 10% graduates to attend their institutions. As important, these programs were accompanied by an aggressive outreach program that promises to increase students' orientation to college. Domina (2007) shows that the Longhorn and Century programs were associated with lower absenteeism and higher completion of standardized tests required by selective post-secondary institutions. Finally, it warrants emphasizing that an admission guarantee can not guarantee enrollment, particularly for students from limited economic means. That Hispanic students are disproportionately concentrated in low resourced high schools requires strong financial aid programs to ensure that successful applicants actually enroll and graduate from college.

¹⁰ In a recent communication to alumni (June, 2008), President Powers noted that in 2006, Texas spent 3.35% of GDP on public education, including post-secondary institutions, compared with 4.24% by California, 4.49% by Michigan, and 4.05 by North Carolina.

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**Table 1. Average Application Rates to UT-Austin and Texas A&M from Texas High School Seniors,
1993-2003**

Policy (Years)	University of Texas at Austin			Texas A&M University		
	Hispanic	Whites	Difference	Hispanic	Whites	Difference
Affirm. Act. ('94-'96)	3.62	7.19	-3.57	3.23	9.48	-6.26
No Preference (1997)	2.77	6.56	-3.79	2.74	9.30	-6.57
Top 10% ('98-'03)	3.26	7.13	-3.87	2.22	9.06	-6.84

Note: Percentages are for the 942 public high schools in operation in Texas from 1993 through 2003. Data for Texas A&M extend through 2002.

Table 2. Estimated Additional Hispanic Applicants under Two Behavioral Scenarios

Policy (Years)	If Hispanics' Application Rates Remained at Affirmative Action Level ^a		If Hispanics had Whites' Application Rates for Each Policy Regime ^b	
	UT-Austin	TAMU	UT-Austin	TAMU
No Preference (1997)	380	221	1,702	2,948
Top 10% Annual Avg.	202	553	2,170	3,756

Note: Data for TAMU extend only to 2002. .

^a The following formula was employed for each cell: $AddApps = (HGrads * HAppRtAA - HApps)$, where $AddApps$ are additional applications, $HGrads$ are the total number of Hispanic high school graduates during the given policy period, $HAppRtAA$ is the Hispanic application rate during Affirmative Action, and $HApps$ are the total number of Hispanic applicants from Texas high schools during the same policy period. Numbers were calculated from Texas Education Agency data.

^b The following formula was employed for each cell: $AddApps = (HGrads * WhtAppR - HApps)$, where $WhtAppR$ is the White application rate during the given policy period.

Table 3. Admission and Enrollment Rates at UT-Austin and Texas A&M across Three Admission Regimes

Admitted (Admitted / Applied) x 100										
Policy (Years)	University of Texas at Austin ^a					Texas A&M University ^b				
	Hisp.	%Δ	Whites	%Δ	H-W Diff.	Hisp.	%Δ	Whites	%Δ	H-W Diff.
Affirm. Act. ('90-'96)	74.9	---	71.7	---	3.2	86.2	---	73.9	---	12.3
No Preference (1997)	75.4	0.5	83.2	11.5	-7.8	76.2	-10.0	79.9	5.9	-3.7
Top 10% ('98-'03)	67.7	-7.2	71.4	-0.3	-3.7	70.8	-15.4	74.0	0.1	-3.2

Enrolled (Enrolled / Admitted) x 100										
Policy (Years)	University of Texas at Austin ^a					Texas A&M University ^b				
	Hisp.	%Δ	Whites	%Δ	H-W Diff.	Hisp.	%Δ	Whites	%Δ	H-W Diff.
Affirm. Act. ('90-'96)	54.5	---	59.1	---	-4.6	50.3	---	61.8	---	-11.5
No Preference (1997)	64.3	9.8	64.0	4.9	0.3	46.5	-3.8	57.4	-4.4	-10.9
Top 10% ('98-'03)	60.2	5.7	61.7	2.6	-1.5	51.7	1.4	64.6	2.8	-12.9

Note: Number of observations is 169,547 and 140,472 for UT-Austin and TAMU, respectively.

^a Data for Affirmative Action are from 1990-1996, No Preference are for 1997, and Top 10% rule are from 1998-2003.

^b Data for Affirmative Action are from 1992-1996, No Preference are for 1997, and Top 10% rule are from 1998-2002.

Table 4. Estimated Number of Additional Hispanic Admits and Enrollees Under Different Behavioral Scenarios*

Additional Hispanic Admittees if:								
Policy (Years)	Hispanics' Application Rates Remained at Affirmative Action Levels ^a		Hispanics' Application & Admission Rates Remained at AA levels ^b		Hispanics had Whites' Application Rates for Each Policy Regime ^c		Hisps. had Whites' App. Rates for Each Policy & Hisp. Admission Rates at AA ^d	
	UT-Austin	TAMU	UT-Austin	TAMU	UT-Austin	TAMU	UT-Austin	TAMU
No Preference (1997)	287	169	276	362	1,284	2,247	1,266	2,713
Annual Avg.Top 10%	138	391	338	745	1,470	2,652	1,812	3,498

Additional Hispanic Enrollment if:								
Policy (Years)	Hispanics' Application Rates Remained at Affirmative Action Levels		Hispanics' Application & Admission Rates Remained at AA levels		Hispanics had Whites' Application Rates for Each Policy Regime		Hisps. had Whites' App. Rates for Each Policy & Hisp. Admission Rates at AA	
	UT-Austin	TAMU	UT-Austin	TAMU	UT-Austin	TAMU	UT-Austin	TAMU
No Preference (1997)	185	79	177	168	826	1,045	814	1262
Annual Avg.Top 10%	83	202	203	385	885	1,371	1,091	1,808

* Data for TAMU extend only through 2002

^a The following formula was employed for each cell: $Addadmits = [(HGrads * HAppRtAA - HApps) + (HAppsAdmin)] * HadmitRt - Hadmits$, where *Addadmits* are additional Hispanics admitted, *HGrads* are the total number of Hispanic high school graduates during the given policy regime, *HAppRtAA* is the Hispanic application rate during Affirmative Action, *HApps* are the total number of Hispanic applicants from Texas high schools during the same policy regime, *HAppsAdmin* are the total number of Hispanic applicants received—administrative data files—during the given policy regime, *HadmitRt* is Hispanics' admission rate for the given policy regime, and *Hadmits* are the total number of Hispanics admitted during the policy regime.

^b Formula for each cell: $Addadmits = [(HGrads * HAppRtAA - HApps) + (HAppsAdmin)] * HadmitRtAA - Hadmits$, where *HadmitsRtAA* is Hispanics' admission rate during Affirmative Action.

^c Formula for each cell: $Addadmits = [(HGrads * WhtAppR - HApps) + (HAppsAdmin)] * HadmitRt - Hadmits$, where *WhtAppR* is the White application rate during the given policy period.

^d Formula for each cell: $Addadmits = [(HGrads * WhtAppR - HApps) + (HAppsAdmin)] * HadmitRtAA - Hadmits$.

Table 5. Estimates of Policy Effects on Hispanic Admission and Enrollment at UT and TAMU

Ind. Variables	Admitted											
	The University of Texas at Austin ^a						Texas A & M University ^b					
	OLS (Proportions)		Logistic (Likelihood)				OLS (Proportions)		Logistic (Likelihood)			
	(1)	(2)	(1)	Odds	(2)	Odds	(1)	(2)	(1)	Odds	(2)	Odds
Hispanic	.032	.006	.163	1.177	.037	1.038	.123	.100	.789	2.201	.684	1.983
<i>Policy</i>												
No Preference (NP)	.115	.111	.670	1.954	.672	1.959	.059	.053	.335	1.398	.305	1.357
Top 10%(TT)	-.003	-.034	-.014	.986	-.180	.835	.001	.000	.004	1.004	-.003	.997
<i>Policy Interaction</i>												
Hisp x NP	-.110	-.124	-.643	.526	-.740	.477	-.160	-.177	-1.006	.366	-1.135	.321
Hisp xTT	-.069	-.077	-.340	.712	-.390	.677	-.154	-.170	-.949	.387	-1.071	.343
<i>Controls</i>												
Class Size	---	-.004	---		-.024	.976	---	-.022	---		-.120	.887
Public	---	.003	---		.033	1.033	---	.078	---		.390	1.477
HS Econ. Dis.	---	.030	---		.165	1.179	---	.048	---		.311	1.365
Male	---	-.008	---		-.041	.960	---	-.029	---		-.156	.855
Constant	.717	.727	.929		.969		.739	.673	1.043		.671	
R ² / χ^2 , Df	.005	.033	843, 5		5455, 13		.006	.026	947, 5		3863, 13	
Enrolled ^c												
The University of Texas at Austin ^a												
Texas A & M University ^b												
OLS (Proportions)												
Logistic (Likelihood)												
OLS (Proportions)												
Logistic (Likelihood)												
Ind. Variables	(1)	(2)	(1)	Odds	(2)	Odds	(1)	(2)	(1)	Odds	(2)	Odds
Hispanic	-.046	-.061	-.184	.832	-.276	.759	-.115	-.113	-.468	.626	-.463	.629
<i>Policy</i>												
No Preference (NP)	.061	.046	.248	1.281	.225	1.252	-.044	-.067	-.183	.833	-.282	.754
Top 10% (TT)	.058	-.018	.237	1.267	-.078	.925	.028	.006	.122	1.130	.029	1.030
<i>Policy Interaction</i>												
Hisp x NP	.019	.006	.072	1.074	.013	1.013	.006	.006	.029	1.029	.031	1.031
Hisp xTT	.026	.041	.103	1.108	.198	1.218	-.015	-.016	-.067	.935	-.071	.931
<i>Controls</i>												
Class Size	---	-.008	---		-.036	.964	---	-.009	---		-.039	.961
Public	---	.111	---		.496	1.642	---	.041	---		.169	1.185
HS Econ. Dis.	---	-.007	---		-.029	.971	---	-.003	---		-.014	.986
Male	---	.010	---		.045	1.046	---	-.003	---		-.011	.989
Constant	.536	.550	.143		.177		.618	.649	.481		.626	
R ² / χ^2 , Df	.005	.097	598, 5		13033, 13		.009	.018	986, 5		1888, 13	

Note: White is the omitted category for race. Model 2 includes measures that flag missing values for the control variables. Number of observations is 169,547 and 140,472 for UT-Austin and TAMU, respectively. Class size and percent HS economic disadvantage are measured in quartiles.

^a Data for Affirmative Action are from 1990-1996, No Policy are for 1997, and Top 10% rule are from 1998-2003.

^b Data for Affirmative Action are from 1992-1996, No Policy are for 1997, and Top 10% rule are from 1998-2002.

^c Data excludes students who enrolled but were not granted formal admission (e.g., waitlisted, deferred enrollment).