THE EFFECTS OF TEXAS' TOP TEN PERCENT PLAN ON COLLEGE CHOICE

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Comments welcomed

1. Introduction

Public debate prompted by the U.S. Supreme Court's pending review of the University of Michigan's affirmative action admissions process has brought considerable attention to race-neutral "percent plans" already in place in some states. Opponents of Michigan's procedures have argued that these alternative admissions policies can achieve comparable levels of campus diversity. Thus, they conclude, it is not necessary to employ racial preferences, and these race-blind policies are preferable.

To illustrate the potential ability of race-neutral policies to promote campus diversity, President Bush cited the apparent success of Texas' Ten Percent Plan, which guarantees high school students in the top decile of their graduating class admission to any Texas public college or university. The Ten Percent Plan was enacted in the wake of sharp declines in African-American and Hispanic enrollment at the state's flagship universities following the 1996 *Hopwood*[1] decision, which led to a ban on affirmative action at the state's public and private postsecondary institutions. The Ten Percent Plan seeks to promote diversity by ensuring college access for high-achieving students from across the Texas' highly segregated high schools, especially those from schools that have traditionally sent few graduates to Texas'

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[1] *Cheryl J. Hopwood, et al. v. State of Texas.*

top universities. California and Florida have already adopted similar measures, granting admission to graduates in the top 4% and 20%,[2] respectively.

Given this national debate, this paper seeks to document the effect of the Ten Percent Plan and other post-*Hopwood* policies on campus diversity. To do so, this paper uses unique administrative data on Texas high school graduates and on those enrolled at any Texas public college or university. While several prior studies have relied on simulations to estimate the consequences of eliminating affirmative action, this paper is one of a small number of studies that compare actual student choices and outcomes under the two policy regimes. Kain and O'Brien (2003) also draw on this paper's data source—the Texas Schools Microdata Panel—to estimate multinomial logits of Texas students' college choices in selected years before and after *Hopwood*. They find that, under the Ten Percent Plan, minorities are less likely than similar whites to attend one of the most selective Texas public universities and are more likely to attend a less-selective state school. Tienda *et al* (2003) highlight the separate effects of changes in the admissions and enrollment probabilities of various groups at UT–Austin and Texas A&M. They show that students in the top decile of their high school class enjoyed near-certain chances of admissions prior to 1997 so that the Ten Percent Plan had little effect on this group's admissions rates. However, for those ranked below the 90th percentile, they find that the shift to race-neutral policies eliminated blacks' and Hispanics' previous advantage in admissions and has generally reduced minorities' matriculation probability (relative to comparable whites) at these flagship universities.[3]

This paper complements these prior studies in two ways. First, it details the annual enrollment and ethnic composition of incoming classes at UT–Austin and Texas A&M for each year between 1990 and 2001. These numbers provide a fuller context for post-*Hopwood* declines in minority enrollment at these schools and highlight differences in these schools' success in reversing these declines. In addition, the year-to-year changes in minority enrollment suggest that expanded recruiting and financial aid programs discussed below have likely played an

[2]Eligible Texas students are automatically admitted to any of the state's schools. The California and Florida measures, however, merely guarantee admission to a UC or Florida state institution, respectively, though not necessarily the student's first choice. California recently expanded its program, guaranteeing students who graduate in the 4th–12.5th percentiles admission as transfers into a UC school if they attend an in-state community college for their first two years.

[3]An exception is Hispanics' probability of enrolling at UT–Austin, which increased slightly.

important role in partially restoring diversity at Texas' flagships. Second, this paper examines in greater detail the apparent shift of minorities from more-selective to less-selective public institutions under race-neutral policies noted by Kain and O'Brien (2003).[4]

This paper shows that Texas students in the top 10% of their class represent a growing percentage of both applicants and enrollees at UT–Austin. I find that estimates of the effect of race-neutral policies on ethnic diversity depend on the school considered and on the measure of diversity used. The number of minorities starting at UT–Austin in recent years is comparable to pre-*Hopwood* levels, but they comprise a smaller fraction of entering students. At Texas A&M, both the total number and percentage of minority first-time students is lower than under affirmative action. Moreover, minority representation at these flagship universities has not matched growth in the share of Texas' minority high school graduates. Thus, minority students—especially those with high test scores—are now less likely to enroll at a selective Texas public postsecondary school than whites with similar test scores, while the opposite was true under affirmative action.

2. Legislative and Institutional Responses to Hopwood

Texas' *Hopwood* case, which challenged the admissions process at the University of Texas–Austin's Law School, was one of the earliest legal tests of preferential admissions and illustrates the lack of judicial consensus regarding affirmative action in higher education. In its March 1996 decision in this case, the Fifth Circuit Court of Appeals reversed a 1994 District Court ruling and argued that promoting a diverse student body is not a compelling governmental interest, which is a necessary condition for differential treatment by race. Following the *Hopwood* decision, Texas barred both public and private institutions from using race-conscious policies including in admissions, aid and recruiting.[5]

[4]Throughout the paper, I use "minority" to refer specifically to African-Americans and Hispanics. Though Native Americans are also under-represented minorities in higher education, I do not currently present results for them because they comprise a small fraction of both high school graduates and public college attendees in Texas (less than 0.5%).

[5]The decision also covers Louisiana and Mississippi, though these states have not adopted similar changes. See, for example, Chapa and Lazaro (1998), Holley and Spencer (1999) and Irving (1999) for detailed discussions of the *Hopwood* decision.

As shown below, the ban on affirmative action programs led to sharp reductions in the ethnic diversity of the state's most selective universities—UT–Austin and Texas A&M.[6] The Texas legislature adopted the Ten Percent Plan (HB 588)in 1997 to stem these declines in minority enrollment by ensuring college access for high-achieving graduates from across the state's high schools, which are highly segregated by race. More generally, the initiative sought to increase geographic and socioeconomic diversity at Texas' top public universities by increasing the number of students from high schools that historically sent few graduates. It granted those who graduated in the top decile of their class within the past two years automatic admission to any public college or university in the state and encouraged schools to consider non-academic factors, such as parental education and school district resources, in assessing applicants below this threshold.

The Ten Percent Plan had little effect on minority representation at UT–Austin and Texas A&M in the academic year 1998-99, the first full year after its adoption. To boost the Plan's effectiveness, both Texas A&M and UT–Austin increased their recruiting efforts at selected, low-income urban high schools and introduced scholarships available to top-ten-percent graduates at these schools (Irving (2002)). In the fall of 1999, UT–Austin began its Longhorn Opportunity Scholarships program, which includes not only financial assistance but also advising and curricular resources. Similarly, Texas A&M's Century Scholars program started the following fall. The combined percentage of incoming black and Hispanic students increased at both schools in the programs' first years. In addition, both universities developed new scholarship award criteria that emphasized financial need and strong academic performance despite socioeconomic disadvantage. These revised aid programs not only applied disproportionately to minorities, but also better targeted low-income students than pre-*Hopwood* minority scholarships, which primarily benefited middle-class minority students (Finnell (1998), Hanson and Burt (1997)).[7]

[6]Consistent with their reputation as flagships, Texas A&M and UT–Austin are the most competitive Texas public institutions according to Barron's (1998). They are also the only schools that reported considering race in admissions prior to *Hopwood* (Texas Higher Education Coordinating Board (1998)).

[7]See Holley and Spencer (1999), Gehring (2001), Selingo (1999) and Irving (1999) for further detail on Texas A&M's and UT–Austin's expansion of recruiting efforts and scholarships as well as new scholarships introduced by private foundations and associations, which are not bound by the judicial ban on racial preferences. The Texas Higher Education Coordinating Board (1998) reports that most public four-year schools changed aid,

3. Data

This paper draws on student-level data from the Texas Schools Microdata Panel (TSMP). The core of the TSMP is administrative data for all students enrolled at public schools and postsecondary institutions in Texas between 1990 and 2001. In any given year, it includes information collected by the Texas Education Agency (TEA) on between three and four million students in kindergarten through twelfth grade. These student records can be linked to data on teachers, schools and districts in the state. Using an encrypted Social Security number (SSN), student records can be matched to information from the Texas Higher Education Coordinating Board (THECB) on the approximately one million students enrolled at Texas two- and four-year colleges each year. Further, the SSN provides a link to several auxiliary data sources including SAT and ACT exam data and financial aid information for selected years.

I consider students who graduated from a Texas public high school between the 1992–93 and 1998–99 academic years, inclusive.[8] Thus, members of the first three graduation cohorts in the sample generally started college before the 1996 *Hopwood* decision, and students in the last two sample years graduated from high school and entered college after the Ten Percent Plan took effect in September 1997.[9] I identify the majority of these students along with their graduation date and school from TEA graduation files. I derive additional characteristics of these students while in high school from the annual enrollment files, namely participation in a gifted and talented program, economic disadvantage,[10] enrollment in special education, and limited English proficiency.

Using the encrypted Social Security Number, I merge on several additional measures of student background from data on SAT- and ACT-takers and from information on financial aid

admissions or recruiting procedures to comply with *Hopwood*. Only four community colleges altered their policies, and these changes were limited to financial aid.

[8]Hereafter I denote academic years by the calendar year of the corresponding spring (e.g., 1993 indicates September 1992 through August 1993).

[9]The analysis below focuses primarily on these two cohorts, in part because discussions and anticipation of *Hopwood* and the Ten Percent Plan may have affected the behavior of those who graduated in the intervening years. In examining college choice, I include students who enroll in a Texas college within 2 years of graduation. Using this definition, a small number of 1995 graduates are included though they entered college in 1997, after *Hopwood* took effect.

[10]Economically disadvantaged students, as defined by the TEA, include those eligible for free- or reduced-price lunch as well as students from households below the federal poverty threshold and those eligible for AFDC or TANF, food stamps or similar need-based benefits.

recipients.[11] The SAT files for 1998 and 1999 and the ACT data for all years include student questionnaire responses that capture a broad range of family and personal characteristics, including parental education and family income; high school courses and achievements; and college preferences.[12] The financial aid data, which are available for aid recipients in 1997 through 1999, likewise report parents' educational attainment and family income in addition to comprehensive information on the types and amounts of college aid received. Finally, I draw on the Department of Education's Common Core of Data, which geocodes each public school, to identify students who graduated from a high school in the central city of a major metropolitan area.[13]

The resulting sample includes over 1.2 million high school graduates, and over 55% of the records include an actual ACT or SAT score.[14] I impute a score for an additional 30% of observations based on a regression of SAT scores on standardized scores from a statewide exam administered to most tenth graders as well as several other student characteristics.[15]

Information on students' college choices is drawn from Texas Higher Education Coordinating Board data on student enrollment through the spring semester of 2001. In addition to identifying the students enrolled at all Texas public community and senior colleges in each semester, the data indicate if a student has transferred from another institution or if she is enrolled in college for the first time in that semester. I focus on the first college or university attended within two years of graduation: for nearly 90% of individuals this is the institution where a student enrolled in the fall semester following graduation from high school.[16] Those

[11]Because it is key to matching students across files, I eliminate those with an invalid encrypted SSN, who either did not have an SSN or refused to provide it. This criterion is the most substantial restriction on the sample of high school graduates and eliminates roughly 6% of the records.

[12]In merging the SAT and ACT data with the graduation data, I drop those who report attending a private school, since I do not have TEA data for these students and since they are included in only select years of ACT and SAT data. However, I retain those who are identified as public high school graduates on the ACT or SAT but who are not in the TEA sample. Thus, if a student had an invalid SSN on the graduation files but took the SAT or ACT and provided a valid SSN, they are included in the analysis.

[13]This set includes high schools in the San Antonio, Dallas/Fort Worth, Houston, Austin, El Paso and Corpus Christi metropolitan areas.

[14]The College Board re-scaled SAT scores in 1996. I convert SAT scores in earlier years and all ACT scores to equivalent scores on the current SAT I scale. Scores for students who took both exams were averaged.

[15]Of the remaining 14% of students for whom I do not impute a test score, the majority (92%) are students without one or more of the tenth grade math, reading or writing standardized test scores. The remainder of those without a predicted score are missing covariates drawn from the high school enrollment files.

[16]This definition seeks to avoid assigning students to "summer schools" attended before starting college in the fall or, e.g., to community colleges attended while concurrently enrolled in high school.

who are not enrolled in this fall term are assigned the first school they attend in any subsequent semester within two years of high school graduation. I classify the schools into four categories: 1) Selective universities (Texas A&M and UT–Austin), 2) Historically black colleges or universities or simply HBCUs (Prairie View A&M and Texas Southern University), 3) Other four-year colleges or universities, and 4) Community and technical colleges.

4. The Ten Percent Plan's Effect on Enrollment

As noted above, proponents of "percent plans" often point to a rebound in minority representation at Austin in recent years as evidence that merit-based measures can produce levels of diversity comparable to those achieved through racial preferences.[17] In this section, I examine this conclusion in greater detail, documenting changes in both the level and percentages of minority enrollment at Texas A&M and UT–Austin over the 1990s. Further, using data from UT–Austin, I offer a preliminary examination of race-blind policies' success in attracting top-ten-percent students to apply to Austin and of the hypothesis that students granted automatic admission are "crowding out" others who graduated below the top decile. Finally, I consider, more generally, the effect of the policy change on students' college choices.

4.1. **Enrollment of Top Ten Percent Students.** Critics of the Ten Percent Plan express concern that the guarantee of admission to students at the top of their class would significantly reduce the chances of admission for students below the ten-percent threshold (see, e.g., Faulkner (2000)). On the other hand, as noted by Tienda *et al* (2003) and Markley and Lum (1998), students in the top ten percent of their high school class were generally accepted prior to 1996, so that the Ten Percent Plan alone might be expected to have minimal effect on these students' application and enrollment behavior.

In this section, I draw on data from UT–Austin's Office of Admissions to examine the degree to which "top ten percenters" represent a disproportionate share of those admitted and of those who attend Austin in recent years. Table 1 shows that the share of applicants granted automatic admission increased between 1997 and 2002 for each of the four largest

[17]See, for instance, Blair (2000), Gehring (2001), May (2001), and Wilgoren (1999). Perhaps based on the results of Lavergne and Walker (2001), these authors generally compare minorities' post-*Hopwood* shares against their 1996 level. As Figure 1 shows, the percent of black and Hispanic students at UT–Austin had been decreasing since 1994.

ethnic groups. The greatest growth came among minorities, with the fraction of Hispanic top-ten percent applicants rising 22 percentage points (from 39% to 61%) and the percentage of African-Americans growing from 28% to 56% over this period.

TABLE 1: NUMBER AND PERCENT OF TOP 10% ADMITS TO UT–AUSTIN BY ETHNICITY
TX High School Graduates Granted Automatic Admission, Summer/Fall Combined

	Whites		African American		Asian American		Hispanic	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
1997	2,262	28%	118	28%	803	41%	613	39%
1998	2,561	33%	143	36%	863	44%	734	45%
1999	2,753	37%	268	52%	998	51%	911	53%
2000	3,182	39%	291	52%	1,034	48%	1,020	56%
2001	3,213	41%	245	55%	1,081	49%	1,012	56%
2002	3,527	43%	278	56%	1,211	53%	1,177	61%

Source: Tables 1 and 2, *Implementation and Results of the Texas Automatic Admissions Law (HB 588) at the University of Texas at Austin: Report 5* (http://www.utexas.edu/student/research/reports/admissions/HB588-Report5.pdf)
Note: "Percent" is fraction of all freshmen (i.e., both graduates of Texas high schools and others) of a given ethnicity automatically admitted under HB 588 (for which only Texas high school graduates are eligible). For example, in 1997, of a total of 7,964 whites (see Table 1 of source) from Texas and out-of-state high schools, 2,262 were Texas high school graduates granted automatic admission.

Because the data start in 1997, the first post-*Hopwood* year, one cannot conclude how adoption of the Ten Percent Plan itself in 1998 has affected the application behavior and admissions probabilities of students at the top of their class relative to those under affirmative action. Nonetheless, Table 1 shows that students eligible for automatic admission comprise a growing share of applicants, accounting for 32% of applicants (in these ethnic groups) admitted in 1997 and 48% by 2002.

Not all students who are accepted, of course, will ultimately matriculate. Table 2 shows that, overall, students granted automatic admission also represent an increasing share of all Texas high school graduates who enter UT–Austin.[18] In aggregate, this percentage held steady between 1996 and 1998, before clearly increasing between 1998 and 2002. While the rates of growth varied across ethnicity, the fraction of top 10% students declined for all four groups in 1997 (the first full year after the judicial ban on affirmative action) and increased for each group in 1998, coinciding with the introduction of the Ten Percent Plan. In 1999, after UT–Austin introduced its Longhorn Scholarships and associated mentoring programs,

[18]Note that, in contrast to Table 1, which shows the fraction of top-ten-percent students among both in- and out-of-state applicants, Table 2 shows top decile students as a share of graduates of Texas high schools who attend UT–Austin.

blacks and Hispanics experienced the largest increases in the fraction of incoming students who had qualified for automatic admission.

TABLE 2: NUMBER AND PERCENT OF TOP 10% ENROLLEES AT UT–AUSTIN
Enrolled Summer/Fall Freshmen from Texas High Schools by Ethnicity and Top 10% Status

	Class Rank	Whites	African American	Asian American	Hispanic	Total Students
1996	Top 10%	1,497	91	430	396	2,428
	Not Top 10%	2,215	164	461	506	3,375
	Fraction Top 10%	40.3%	35.7%	48.3%	43.9%	41.8%
1997	Top 10%	1,408	50	505	358	2,332
	Not Top 10%	2,781	135	567	519	4,033
	Fraction Top 10%	33.6%	27.0%	47.1%	40.8%	36.6%
1998	Top 10%	1,497	69	519	414	2,513
	Not Top 10%	2,457	119	542	441	3,597
	Fraction Top 10%	37.9%	36.7%	48.9%	48.4%	41.1%
1999	Top 10%	1,620	160	609	513	2,925
	Not Top 10%	2,472	113	559	424	3,596
	Fraction Top 10%	39.6%	58.6%	52.1%	54.7%	44.9%
2000	Top 10%	1,921	156	653	591	3,346
	Not Top 10%	2,529	129	606	401	3,713
	Fraction Top 10%	43.2%	54.7%	51.9%	59.6%	47.4%
2001	Top 10%	1,942	137	718	575	3,423
	Not Top 10%	2,076	98	607	426	3,255
	Fraction Top 10%	48.3%	58.3%	54.2%	57.4%	51.3%
2002	Top 10%	2,203	156	800	703	3,932
	Not Top 10%	2,188	99	562	411	3,302
	Fraction Top 10%	50.2%	61.2%	58.7%	63.1%	54.4%

Source: Table 1, *Implementation and Results of the Texas Automatic Admissions Law (HB 588) at the University of Texas at Austin: Report 5 (Part 2)* (http://www.utexas.edu/student/research/reports/admissions/HB588-Report5-part2.pdf)
Note: American Indian, international and "unknown" groups not shown but included in Total Students. Figures include only Texas high school graduates.

4.2. **Enrollment and Diversity at Texas' Flagships.** As shown in Table 3, both Texas A&M and UT–Austin experienced well publicized declines in minority enrollment following *Hopwood*. The fraction of African-Americans and Hispanics among entering UT–Austin students declined approximately two percentage points between 1995 and 1997, from 4.9% to 2.7% for blacks and from 14.7% to 12.6% for Hispanics. At Texas A&M, the share of black first-time freshmen likewise dropped by about two points over this period—from 4.8% to 2.9%—while Hispanics' share fell from 14.9% in 1995 to 9.6% in 1997. Concurrently, the fractions of both whites and Asian-Americans increased at both schools.

Focusing on the top panel of Table 3, it appears that the Ten Percent Plan and associated changes in recruiting and financial aid have partially offset the declines in the percent of

black and Hispanics enrolling at UT–Austin after 1996. However, the lower panel reveals that minorities' shares at Texas A&M remain below their pre-*Hopwood* levels. This difference in Ten Percent Plan's success across schools suggests the potential importance of institution-specific policy changes in, e.g., financial aid and recruiting, in restoring campus diversity.

Table 3 also illustrates the effects of the *Hopwood* decision differed between UT–Austin and Texas A&M. The effect of the Court of Appeals' decision at Texas A&M, for instance, was most pronounced in the fall of 1996, although admissions and aid offers had generally been made before the court's order took effect. This timing suggests that press coverage of the *Hopwood* case may have affected students' decisions to apply and to accept offers of admission (Finnell (1998)). In contrast, the largest drops in minority enrollment at UT–Austin came in 1997, when the first classes recruited and admitted under race-blind policies entered. Texas A&M and UT–Austin differ further with respect to pre-*Hopwood* trends in minority representation. The shares of incoming black and Hispanic students at Texas A&M had been increasing prior to 1995, and *Hopwood* reversed these gradual gains. Conversely, post-*Hopwood* declines in the fraction of incoming minorities continued a downward trend since 1993 at UT–Austin.

Furthermore, Table 3 highlights the fact that whether the Ten Percent Plan has restored diversity at the state's most selective institutions depends, in part, on whether one considers the number or the percentage of under-represented minority students at selective public colleges. Turning first to the absolute number, the final column of Table 3 indicates that the total enrollment of first-year students jumped sharply at both schools following *Hopwood* after remaining relatively constant through the mid-nineties. Texas A&M's freshman enrollment grew 19% in 1998, while the number of incoming students at UT–Austin climbed 10% in 1997 and has generally remained higher than in the pre-*Hopwood* period.

Though a portion of the enrollment growth may be attributed to changes in students' choices after *Hopwood*,[19] the sharp and sustained increase in the number of incoming students suggests that one aspect of both schools' responses to the ban on affirmative action and

[19]For example, the number of students taking advantage of a longstanding provisional admissions program at UT–Austin, which offered rejected students a second chance to gain admission, roughly doubled between 1996 and 2000. Applications to UT–Austin also increased significantly in the post-*Hopwood* years, from 14,982 in 1997 to over 21,000 in 2000 (Faulkner (2000)).

adoption of the Ten Percent Plan was to expand enrollment. One possibility is that UT–Austin and Texas A&M simply admitted more students of all ethnicities in order to maintain the number of minorities attending these schools. Alternatively, remarks by the President of UT–Austin suggest that admitting a greater number of students may instead have served to ensure space for students who did not qualify for automatic admission under the Ten Percent Plan (Faulkner (2000)).

TABLE 3: FIRST-TIME STUDENT ENROLLMENT AT UT–AUSTIN AND TEXAS A&M
Total Enrollment and Percent by Ethnicity

Summer	Asian		Black		Hispanic		White		Total
/Fall	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count
UT–AUSTIN†									
1990	605	10.0%	301	5.0%	976	16.1%	4,037	66.8%	6,047
1991	642	10.8%	282	4.7%	955	16.0%	3,955	66.3%	5,963
1992	705	12.3%	277	4.8%	886	15.5%	3,759	65.6%	5,730
1993	787	13.1%	333	5.6%	963	16.1%	3,803	63.5%	5,987
1994	898	14.8%	323	5.3%	880	14.5%	3,893	64.0%	6,086
1995	904	14.2%	309	4.9%	935	14.7%	4,081	64.2%	6,352
1996	942	14.7%	266	4.1%	932	14.5%	4,159	64.7%	6,430
1997	1,130	15.9%	190	2.7%	892	12.6%	4,730	66.8%	7,085
1998	1,133	16.8%	199	3.0%	891	13.2%	4,399	65.2%	6,744
1999	1,221	17.3%	286	4.1%	976	13.9%	4,447	63.2%	7,040
2000	1,325	17.2%	296	3.9%	1,011	13.2%	4,801	62.5%	7,686
2001	1,413	19.3%	242	3.3%	1,024	14.0%	4,447	60.6%	7,337
TEXAS A&M‡									
1990	246	4.2%	233	4.0%	564	9.7%	4,735	81.6%	5,800
1991	248	4.4%	156	2.7%	555	9.8%	4,703	82.8%	5,682
1992	240	4.3%	245	4.4%	608	10.8%	4,495	80.1%	5,612
1993	226	3.8%	229	3.9%	763	12.9%	4,697	79.2%	5,933
1994	194	3.5%	276	5.0%	776	14.2%	4,213	77.0%	5,472
1995	150	2.8%	263	4.8%	810	14.9%	4,178	77.0%	5,423
1996	162	2.8%	208	3.7%	646	11.3%	4,660	81.8%	5,696
1997	193	3.4%	160	2.9%	537	9.6%	4,628	82.7%	5,595
1998	228	3.4%	176	2.6%	593	8.9%	5,478	82.3%	6,659
1999	202	3.3%	167	2.7%	513	8.4%	5,107	83.2%	6,135
2000	225	3.7%	158	2.6%	595	9.8%	4,913	80.8%	6,083
2001	199	3.2%	178	2.9%	618	9.9%	5,115	82.2%	6,222

Source: THECB Student Enrollment Reports, UT–Austin Office of Institutional Research (1997, 2001)
Notes: Figures for Native American, foreign, multiracial, "other," and missing ethnicity are not shown but are included in "Total Count." Figures include students enrolled in the fall who enrolled as first-time students in preceding summer.
† Due to ambiguity in the coding of students offered provisional summer admission to UT–Austin, these students are not identified as first-time students in the THECB Enrollment Reports prior to 1998. Figures reported are those from UT–Austin's Office of Institutional Research and accord with those from the THECB beginning in 1998.
‡ Figures do not include first-time students entering the College of Veterinary Medicine.

The table also presents the number of incoming students by ethnicity. The fourth column shows that UT–Austin's larger freshman class in recent years included slightly fewer African-Americans than enrolled under affirmative action and a greater number of Hispanics than

at most any time during the previous decade. Thus, measured by the absolute number of minorities who attend UT–Austin, the Ten Percent Plan and complementary policies largely restored the educational opportunities for minorities lost after the ban on affirmative action. In contrast, there have been fewer blacks starting at Texas A&M in recent years than in all but one pre-*Hopwood* year. Similarly, despite increasing in 2000, the number of Hispanic first-time students remains below the levels attained under affirmative action. The increase in total freshmen enrollment may have cushioned *Hopwood*'s blow at Texas A&M, but it was not enough to maintain the number of seats available to minority students.

Alternatively, it could be argued that the goal of both conventional race-conscious measures and alternatives such as the Ten Percent Plan is to ensure that minorities comprise a certain fraction of the student body rather than an absolute number. Comparison of the number of incoming students by ethnicity in Table 1 shows that the rate of enrollment growth varied across groups, with Asian-Americans experiencing the largest proportional increase relative to their level just prior to *Hopwood*. As a result, even though together the number of blacks and Hispanics at UT–Austin has increased, the percentage of entering minority students fell slightly over time. At A&M, the rapid growth in Asian and white representation after *Hopwood* largely erased gains during the early 1990s in the fractions of entering Hispanic and black students. In short, while at best maintaining enrollment opportunities for African-American and Hispanic students, Texas' selective universities greatly expanded the number of seats available to non-minorities. Consequently, by this metric, the Ten Percent Plan and associated measures have brought only modest gains at UT–Austin and have had minimal success at Texas A&M, at least compared to the percentages of minorities entering in the mid-1990s.

4.3. **College Choice.** Neither of the measures of diversity considered above, however, accounts for growth over the last decade in the fraction of black and Hispanic high school graduates in Texas. As shown in Table A2, Hispanics accounted for 28% of the state's graduates between 1993 and 1995 and 29.7% of 1998 or 1999 graduates. Similarly, blacks' share grew from 11.7% to 12.7% over the period. Therefore, if one gauges the success of race-blind

policies by whether the ethnic composition of incoming students at Texas' flagship institutions mirrors that of the state's high school graduates, these policies have fallen even shorter of the goal of achieving equal access.

To show this more formally, I examine next the effect of race-neutral policies on the type of college, if any, that a student of a given race attends. To account for changes in the types of students of a given ethnicity who enroll in college over time, I examine how trends in college choices differ conditional on ability as measured by the SAT. Controlling for SAT score also permits stronger conjecture regarding the post-high school outcomes of those who do not attend a Texas public college or university.

Table 4 details the distribution of college choices for sets of high school graduates defined by graduation year and SAT score. The graduation years correspond to two phases: pre-*Hopwood* (1993–1995 graduates), and post-Ten Percent Plan (1998 and 1999 graduates).[20] In addition to the Texas public college choices described above (selective four-year, non-selective four-year, HBCU and two-year colleges),[21] the table includes the "residual" category, which comprises all graduates who did not start college at a Texas public institution within two years of graduation. This set of students includes not only those who do not go to college, but also students who attend an out-of-state or private institution or who transfer into a Texas public college after starting at an out-of-state or private college. Hence, this category, which contains about half of minority graduates, likely includes students with a wide range of abilities and alternatives to attending a Texas public institution.

I further classify students based on their SAT score. The first three score categories correspond to the first through third quartiles of the overall distribution of SAT scores in the sample. The top two score ranges represent the 75th–90th percentiles and the top decile. The final row reports the mean SAT by ethnicity, which varies negligibly over time.[22]

Table 4 shows that minorities with high SAT scores are significantly less likely to enroll at a selective public university after the ban on racial preferences. The table presents the

[20]Results including those who graduated in the transition years, 1996 and 1997, are available upon request.
[21]Results including those enrolling at HBCUs available upon request.
[22]In Appendix Table A1, I document that the distribution of SAT scores varies dramatically by race and that these distributions have remained stable pre- and post-*Hopwood*. The distributions for the interim period are similar and are available upon request.

postsecondary choices of students with similar SAT scores in the pre-*Hopwood* and post-Ten Percent Plan cohorts.[23] The first column shows that, throughout the distribution of test scores, Asians are generally now more likely to enroll at Texas A&M or UT–Austin than they were under affirmative action. If one assumes that students with scores in the top quartile who do not enroll at a Texas public school—the residual category—are most likely to be at a private or out-of-state institution, rather than not attending college, then the Ten Percent Plan has also slightly increased the likelihood that high-SAT Asians choose a public, in-state school.

Table 4: College Choices by Ethnicity, SAT Score and Graduation Year

SAT	Asian		Black		Hispanic		White	
Range	1993–95	1998-99	1993–95	1998-99	1993–95	1998-99	1993–95	1998-99
$\leq$ 780								
Selective	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.0%	0.1%
Other 4-year	15.3%	11.7%	6.1%	7.0%	10.5%	7.0%	5.3%	5.1%
Two-year	59.7%	61.2%	33.8%	34.9%	38.1%	38.4%	45.7%	43.6%
Residual	24.7%	26.7%	50.2%	50.7%	51.3%	54.5%	48.9%	51.1%
780–900								
Selective	1.8%	2.1%	1.3%	0.8%	1.0%	0.8%	0.5%	0.6%
Other 4-year	27.1%	28.0%	17.8%	18.6%	21.9%	17.0%	14.5%	12.6%
Two-year	47.8%	46.4%	29.3%	31.7%	39.7%	41.0%	47.8%	46.3%
Residual	23.1%	23.4%	40.5%	41.5%	37.3%	41.2%	37.2%	40.4%
900–1040								
Selective	10.8%	11.8%	6.7%	3.8%	6.1%	4.2%	3.8%	4.7%
Other 4-year	37.9%	34.1%	26.6%	28.3%	31.5%	27.1%	26.7%	22.6%
Two-year	31.1%	33.1%	21.7%	23.2%	31.6%	35.6%	40.0%	40.9%
Residual	20.2%	21.0%	35.5%	38.3%	30.8%	33.0%	29.5%	31.8%
1040–1175								
Selective	31.2%	29.7%	23.2%	11.5%	18.6%	14.2%	16.1%	16.5%
Other 4-year	29.7%	30.7%	22.4%	27.2%	29.4%	31.8%	27.8%	26.1%
Two-year	17.2%	19.2%	12.4%	17.0%	21.6%	24.1%	28.0%	29.5%
Residual	21.8%	20.4%	34.5%	39.4%	30.3%	29.7%	28.2%	28.0%
$>$ 1175								
Selective	42.1%	44.5%	29.5%	18.1%	35.2%	25.9%	32.1%	30.8%
Other 4-year	15.2%	14.6%	14.7%	19.7%	18.2%	22.9%	20.4%	20.3%
Two-year	6.8%	7.3%	6.9%	10.0%	9.1%	11.7%	13.4%	14.7%
Residual	35.8%	33.6%	45.9%	50.0%	37.4%	39.4%	34.1%	34.3%

Note: Selective Texas public institutions include UT–Austin and Texas A&M. All other Texas public senior universities and colleges except historically black colleges and universities are classified as "Other 4-year," and "Two-year" includes all public junior colleges. Residual category includes those who never enroll in a Texas public institution during the sample period, who enroll more than 2 academic years after graduation, or who transfer from out-of-state or private institutions. Results including historically black colleges and universities and results for intervening years available upon request.

[23]Results including HBCUs and students who graduated in 1996 and 1997, between the two policy regimes, are available upon request.

In contrast, the proportion of African-Americans with SAT scores above the median that now enroll at selective schools has declined by roughly 40% to 50% with the switch from race-conscious to race-blind policies. In all three of the top score ranges, however, the fraction attending other public four-year schools increased. The share of blacks in the residual category also rose, consistent with anecdotal evidence that out-of-state schools, in particular, successfully increased their recruiting of high-scoring Texas minorities after *Hopwood*.[24] The same patterns emerge generally for Hispanics, though they are muted. For instance, the share of Hispanics with an SAT above 900 that attend a Texas public selective fell approximately 25% to 30%. Overall, the switch from race-blind to merit-based policies in Texas had little effect on the college choices of whites, particularly those with SAT scores in the top decile.

Furthermore, Table 4 reveals that under the Ten Percent Plan, whites are now more likely than blacks and Hispanics with comparable SAT scores to attend UT–Austin or Texas A&M. Before the ban on affirmative action, the opposite was generally true. For example, 35% of Hispanics who graduated prior to 1995 and scored above 1175 on the SAT attended one of these two schools compared to 32% of whites. After the adoption of post-affirmative action policies, 26% of Hispanics and 31% of whites with scores in the top decile enrolled at a selective public university in the state.

Kain and O'Brien (2003) draw similar conclusions regarding changes over time in minority and non-minority college choices based on multinomial logit estimates, which additionally control for several student traits and high school characteristics. The finding for blacks is consistent with Long's (2002b) conclusion that eliminating racial preferences would, on average, shift minorities from more- to less-selective schools and that measures such as the Ten Percent Plan would do little to offset these declines at top schools.[25]

[24]However, a more rigorous assessment of this hypothesis requires additional data on those attending private and out-of-state schools, which UT–Dallas researchers are working to obtain. As noted above, a nationwide ban on affirmative actions would eliminate this advantage currently enjoyed by institutions outside Texas.

[25]Kane (2000), on the other hand, suggests that policies like the Top Ten Percent Plan would potentially draw students from less-selective and two-year schools into more competitive institutions and could increase ethnic diversity at top schools. Specifically, drawing on data from the National Education Longitudinal Study (NELS), he finds that the set of students with SAT scores below, for example, the 90th percentile nationally but who are in the top tenth of their class is disproportionately minority and that many of these attend non-selective colleges.

5. Conclusion

This paper highlights a number of important facts of relevance to the current debate regarding the viability of race-neutral alternatives to conventional affirmative action at post-secondary schools. It examines, more specifically, the consequences in Texas of a judicial ban on racial preferences at the state's colleges and universities and the subsequent adoption of the Top Ten Percent Plan on students' college choices.

Considering data from UT–Austin, this paper shows that students eligible for automatic admission under the Plan represent an increasing share of both applicants and enrollees at Austin. The largest growth in these shares has come among minority students. Overall, the share of Texas students entering UT–Austin who are in the top decile of their high school class has risen from roughly 42% in 1996 to 54% in 2002.

Proponents of percent plans have pointed to the comparable percentages of minorities entering UT–Austin in say 1996 (under affirmative action) and in 1999 (under the Ten Percent Plan) as evidence that such measures are similarly effective in promoting campus diversity. This paper, however, suggests a more cautious interpretation of the success of the Ten Percent Plan. First, it appears that the Ten Percent Plan and institutional responses to the *Hopwood* decision have had varying success in restoring black and Hispanic enrollment at Texas' flagship campuses. Diversity at UT–Austin is at or below pre-*Hopwood* levels, depending on the standard used, and minority representation at Texas A&M remains below its peak shortly before the court decision. Moreover, aggressive recruiting and financial aid efforts may explain a larger portion of any improvements in minority representation than changes in students' admissions probabilities.

As Kain and O'Brien (2003) and Tienda *et al* also note, the fraction of black and Hispanic high school graduates in the state has grown over the period. Accounting for this fact in examining students' college choices reveals that minorities—and particularly those with high college entrance exam scores—are now less likely than whites with comparable SAT scores to enroll at a selective Texas public university. Certainly one of the functions of a public university system, in particular, is to serve that state's high school graduates, and this notion underlies the philosophy of the Ten Percent Plan itself. From this perspective, however, with

an increasingly diverse population of high school graduates, the Ten Percent Plan has reduced minority graduates' access to the state's most selective universities by failing to even maintain the ethnic composition of pre-*Hopwood* classes at the flagships.

References

Barron's (1998). *Barron's Profiles of American Colleges 2001* (24th ed.). Hauppauge NY: Barron's Educational Series.

Blair, J. (2000, February 9). Minorities' College Enrollment Improves in Texas. *Education Week 19*(22), 1, 14.

Chapa, J. and V. Lazaro (1998). Hopwood in Texas: The Untimely End of Affirmative Action. In G. Orfield and E. Miller (Eds.), *Chilling Admissions: The Affirmative Action Crisis and the Search for Alternatives*, pp. 51–70. Cambridge MA: Harvard Education Publishing Group.

Faulkner, L. (2000, October 19). The Top 10 Percent Law is Working for Texas.

Finnell, S. (1998). The Hopwood Chill: How the Court Derailed Diversity Efforts at Texas A&M. In G. Orfield and E. Miller (Eds.), *Chilling Admissions: The Affirmative Action Crisis and the Search for Alternatives*, pp. 71–82. Cambridge MA: Harvard Education Publishing Group.

Gehring, J. (2001, August 8). Eyeing Campus Diversity. *Education Week 20*(43), 42–45.

Hanson, G. R. and L. Burt (1997). Responding to Hopwood: Using Policy Analysis Research to Redesign Scholarship Criteria. Unpublished manuscript, University of Texas–Austin.

Holley, D. and D. Spencer (1999, Fall). The Texas Ten Percent Plan. *Harvard Civil Rights-Civil Liberties Law Review 34*.

Irving, C. (1999, Spring). Texas' Demographic Challenge. *National CrossTalk*.

Irving, C. (2002, Summer). Texas' "Ten Percenters". *National CrossTalk 10*(3).

Kain, J. F. and D. M. O'Brien (2003). Hopwood and the Top 10 Percent Law: How They Have Affected the College Enrollment Decisions of Texas High School Graduates. Unpublished manuscript, Green Center for the Study of Science and Society, University of Texas–Dallas.

Kane, T. J. (2000, June). Basing and College Admissions on High School Class Rank. Unpublished manuscript, Harvard University Kennedy School of Government.

Lavergne, G. M. and B. Walker (2001, Fall). Implementation and Results of HB 588 at the University of Texas at Austin, Report Number 4.

Markley, M. and L. Lum (1998, June 1). Minorities Find Greener Pastures. *Houston Chronicle*.

May, M. (2001, July 6). The Cream of Every Crop. *The Texas Observer*.

Selingo, J. (1999, November 19). Texas Colleges Seek New Ways to Attract Minority Students. *Chronicle of Higher Education*.

Texas Higher Education Coordinating Board (1998). Report on the Effects of Hopwood on Minority Applications, Offers, and Enrollment at Public Institutions of Higher Education in Texas.

Tienda, M., K. T. Leicht, T. Sullivan, M. Maltese, and K. Lloyd (2003). Closing the Gap?: Admissions and Enrollments at the Texas Public Flagships Before and After Affirmative Action. Unpublished manuscript, Princeton University.

Wilgoren, J. (1999, November 24). Texas' Top 10% Law Appears to Preserve Racial Mix. *New York Times*.

Appendix A. Supplementary Tables

Table A1: Distribution of SAT Scores by Ethnicity and Period

SAT	Asian		Black		Hispanic		White	
Range	1993–95	1998-99	1993–95	1998-99	1993–95	1998-99	1993–95	1998-99
≤ 780	12.4%	11.1%	46.8%	47.6%	40.9%	43.0%	11.7%	11.9%
780–900	18.5%	17.9%	29.4%	29.2%	29.9%	29.8%	23.7%	23.7%
900–1040	24.0%	24.0%	16.4%	16.2%	19.6%	18.7%	30.5%	30.6%
1040–1175	20.0%	20.0%	5.5%	5.1%	6.9%	6.1%	20.0%	19.5%
> 1175	25.2%	26.9%	1.9%	1.8%	2.7%	2.4%	14.0%	14.3%
Mean SAT	1028	1040	805	803	829	822	980	980

Note: Table includes actual and imputed SAT scores.

Table A2: College Choice and Ethnicity of Texas High School Graduates
1993 to 1999 Graduates

Graduation	Asian			African-American			Hispanic			White		
Year	93-95	96-97	98-99	93-95	96-97	98-99	93-95	96-97	98-99	93-95	96-97	98-99
% of grads	3.2	3.2	3.2	11.7	12.3	12.7	28.0	28.5	29.7	56.6	55.5	53.8
College Choice by Ethnicity												
Selective	18.0	19.2	19.8	2.7	1.7	1.5	3.0	2.4	2.1	7.9	8.2	8.3
Other 4-yr	23.9	24.0	23.3	11.5	12.8	12.8	16.4	14.4	13.5	18.5	17.7	16.9
HBCU	0.1	0.1	0.1	8.7	7.2	6.1	0.1	0.0	0.0	0.0	0.0	0.0
Two-year	30.4	29.5	29.9	27.4	28.2	28.8	34.1	36.0	35.2	35.8	35.8	35.5
Residual	27.6	27.2	27.0	49.7	50.1	50.7	46.4	47.2	49.1	37.8	38.2	39.3
Ethnicity by College Choice												
Selective	9.1	10.2	10.7	5.0	3.4	3.3	13.6	11.1	10.6	71.9	74.9	75.0
Other 4-yr	4.4	4.8	4.9	7.8	9.7	10.5	26.6	25.1	25.8	60.8	60.1	58.5
HBCU	0.4	0.3	0.3	96.4	97.7	96.4	1.6	1.0	1.8	1.4	1.0	1.4
Two-year	2.8	2.8	2.8	9.4	10.0	10.7	28.0	29.6	30.4	59.4	57.3	55.7
Residual	2.1	2.1	2.0	14.1	14.7	14.9	31.3	32.0	33.6	51.7	50.5	48.7