Policy Transparency and College Enrollment:
Did the Texas Top 10% Law Broaden Access to the Public Flagships?
(Working Title)

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Abstract:
After affirmative action in college admissions was banned by the 1996 Hopwood decision, the State of Texas enacted H.B. 588, which guaranteed admission to any public university to students who graduated in the top-10% of their high school class. This new policy increased the transparency of the admissions process for students qualified for the guarantee. The new policy essentially replaced an opaque de facto policy of admitting nearly all top-10% students with a transparent de jure policy requiring public institutions to admit all students eligible for automatic admission. Despite the small policy change, the transparency of the new policy sent a clear message to students attending high schools that previously sent few students to the University of Texas at Austin and Texas A&M University. Using 18 years of administrative data to examine sending patterns, we find a sizable decrease in the concentration of flagship enrollees originating from select feeder high schools and growing shares of enrollees originating from high schools located in rural areas, small towns, and midsize cities, as well as high poverty and high minority schools.

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1. Introduction

Affirmative action in college admissions was banned in Texas in the wake of the Fifth District Court of Appeals' 1996 Hopwood decision.\footnote{Hopwood v. University of Texas, 78 F.3d 932 (1996).} After the State’s two public flagships, the University of Texas at Austin (UT) and Texas A&M University (TAMU), reported sharp declines in minority representation for the fall of 1997, the state legislature (along with the support of community activists, university officials, and then Governor George Bush) passed H.B. 588 (the “uniform admissions law”), which granted automatic admission to all students who graduated in the top-10% of their high school class. In justifying H.B. 588, the bill’s chief architect, the late Irma Rangel, emphasized that public institutions should be available to all Texas residents, irrespective of socioeconomic circumstances, ethnic group membership, or geographic location (Giovanola, 2005). Despite Rangel’s explicit emphasis on socioeconomic and geographic diversity, most evaluations of the uniform admission law have focused on its effectiveness in restoring campus ethno-racial diversity, particularly at the public flagships (see Horn and Flores, 2003; Kain and O’Brien, 2004; Harris and Tienda, forthcoming; Long and Tienda, forthcoming). With few exceptions (see Montejano, 2001; Saenz, 2007), there has been limited attention to the socioeconomic and geographic consequences of the law.

Both because the law is allegedly race neutral (but see Tienda and Niu, 2006a) and because it grants college access by rewarding academic achievement (class rank), the top 10% admission regime was initially applauded as a viable alternative to affirmative action. Bi-partisan support for the law has eroded since its enactment, however, as evident by several attempts to
modify or rescind the law (Hughes and Tresaugue, 2007; Monastersky, 2007; Tienda and Sullivan, 2008). That students eligible for automatic admission were qualified on a school-specific basis is a key provision behind growing opposition to the law. Given the economic and racial segregation of Texas public schools, this provision is the linchpin for broadening geographic, socioeconomic and ethno-racial diversity. Perceptions that high-achieving students from low-performing schools gain access to the flagships at the expense of lower ranked students who graduate from foment resentment from parents who presume their students are being crowded out by less meritorious applicants (Niu and Tienda, 2008; Tienda and Niu, 2006b). As growing numbers of students from affluent suburban districts that have historically been major feeders to the public flagships are denied admission, calls to repeal the law have grown (Monastersky, 2007; Hughes and Tresaugue, 2007)

Most academic research about the top 10% law shows only modest increases in minority representation at the public flagships (Kain and O’Brien, 2003; Harris and Tienda, forthcoming; Long and Tienda, forthcoming), but there is emergent evidence that the policy changed students' application behavior in ways that depend both on their class rank and type of high school attended (Long and Tienda, 2008; Koffman and Tienda, 2008). For example, at the University of Texas at Austin (UT) the shares of the freshman class who graduated in the top-10% of their high school classes rose from 41 to 81 percent between 1997 and 2008 (Long and Tienda, forthcoming; Tienda and Sullivan, 2008). Moreover, high school sending patterns also appear to have changed. In 1992, applicants to the University of Texas at Austin (UT) and Texas A&M University (TAMU) represented 872 and 951 different high schools, respectively, but by 2002 the sending school pools rose to 972 and 1,135, respectively.2

2 These estimates are based on tabulations from the THEOP administrative files and for UT verified with published reports. Similar patterns obtain for admittee and enrollee pools, except that the absolute numbers are smaller. At UT,
These stylized facts provide some evidence that the uniform admission policy broadened geographic access to the two public flagships, a conclusion also consistent with Montejano’s (2001) claim that the greatest impact of the new admission regime was geographic. Three years after the top 10% policy was in place, Montejano observed an emergent sending pattern involving new high schools that previously had sent few if any students to the University of Texas at Austin (UT). These students hailed from districts that largely served racial/ethnic minority and poor white communities, such as inner city Houston, northeast Texas, and west Texas. Montejano interpreted these incipient trends as evidence that the new admission regime supported one of Rangel’s goals of reaching a broader geographic spectrum of the State’s residents. More recent data indicate that the trend toward increased representation of high school campuses has continued. In 2007 UT admitted students from over 900 different high schools across the state, up from 674 high schools in 1996, the year before the uniform admission regime was implemented (Saenz, 2007).

It is also conceivable that these increases also reflect growth in the total number of high schools in the state. The State’s school-age population has been growing much faster than the national average (WICHE, 2008) prompting the opening of new high schools. Whether and how much growth in the number of high schools represented at the public flagships broadened access to “all Texas residents,” as Rangel envisioned, also depends on school size and application rates. In fact, however, a few schools have traditionally sent very large numbers of students, while the vast majority sent none or a handful relative to their eligible pool. Tienda and Niu (2006b) distinguish between “sending” schools and “feeder” schools, showing that a handful of affluent,
suburban high schools account for a disproportionate share of enrollment at both public
flagships. They defined feeder schools as the top 20 high schools based on the number of
students admitted to UT and to TAMU as of 2000. Because of substantial overlap in the college
destinations of their graduates, these schools represented only 28 unique secondary campuses out
of over 1500 statewide. In 2000, these 28 feeder schools accounted for about 15 and 23 percent
of enrolled freshmen at TAMU and UT, respectively. Saenz (2007) reports a similar
concentration of feeding patterns to UT, noting that in 1996 a mere 59 high schools made up half
of UT’s freshman class, and a quarter of freshman enrollment came from only 20 high schools.
By 2006, he reports that half of UT’s enrollment came from 104 high schools (Saenz, 2007).³

These shifts put into context the current controversy about the fairness of the uniform
admission law. Specifically, legislators from sparsely settled rural districts allege that the
provisions of the law that guarantee admission to rank-eligible graduates “reserves” slots for
them that would not be available otherwise; detractors emphasize that students from rural high
schools represent less than two percent of total enrollment (see Hughes and Tresaugue, 2007;
Monastersky, 2007).⁴ These legislative debates about whether the uniform admission law
broadened geographic diversity at the public flagships by changing the sending patterns of
applicant and enrollment pools show no signs of abating; moreover, in the absence of compelling
evidence, perceptions are powerful determinants of human behavior. Evaluating competing
claims about increased geographic access based on changes in high school sending patterns is

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³ The vast majority of the major feeder schools are large, suburban public schools. Only one private school qualifies
as a “feeder” based on the Tienda and Niu (2006b) definition.
⁴ Historically, TAMU has drawn from more rural populations partly because of its land grant mission, and partly
because of its location outside of a major city.
crucial, especially in anticipation of the next round of legislative debate about the future of the uniform admission policy.⁵

Political coalitions between representatives from rural districts and low-income urban districts suggest the testable hypothesis that the major beneficiaries of the law were white students from rural Texas and minority students from low-income urban high schools. In this initial foray, we use administrative data from UT, the public flagship at the center of most controversy about the law (Paredes, 2006; Tienda and Sullivan, 2008) to investigate if the top 10% law modified established high school feeder patterns. Specifically, we ask whether and to what extent applicant and enrollment sending patterns are (a) more expansive geographically and (b) more diverse along socioeconomic lines under the uniform admission regime compared with the pre-Hopwood period. Our results have important policy implications beyond the State of Texas because other states (e.g., Michigan) have begun consideration of a percent plan (Fraser, 2008) and because many states are seeking alternatives to diversify their student bodies along many dimensions.

The remainder of this paper proceeds as follows. Section 2 reviews prior studies high school feeding patterns and college destinations, followed by a brief description of the in Section 3. Section 4 presents both methods and findings about the nature and magnitudes of changes in feeding and sending patterns to UT. The conclusion reconsiders policy implications both for Texas public institutions that differ in the selectivity of their admissions as well as other states considering percent plans as a solution for broadening college access across their socioeconomic and geographic spectrum. We also discuss the potential value of strengthening institutional

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⁵ For the second consecutive legislative session, in 2007 the Texas legislature considered and scuttled a bill to cap the number of students granted automatic admission at 50 percent, which is comparable to the share of top 10% graduates in 1996, in order to maintain institutional flexibility in shaping their high freshmen classes. It is highly likely that the uniform admission law will be re-debated in 2009, when the Texas legislature reconvenes. The State legislature meets in odd numbered years, except when special sessions are called.
linkages between new sending schools and public universities as a strategy to deepen college-going traditions in the new sending schools—actions that may become even more important in the future if the top 10% law is rescinded.

2. Background

A vast literature in sociology and economics shows a strong positive association between socioeconomic status and college enrollment, usually based on parental education and post-secondary outcomes. Comparatively fewer studies examine variation in school characteristics and post-secondary outcomes, but several recent studies based on Texas are noteworthy for our interest in high school feeding patterns. For example, Niu and associates (2006) demonstrate that graduates from affluent suburban high schools are more likely, and those from schools with large shares of economically disadvantaged students are less likely to seek admission to selective colleges compared with their statistical counterparts who graduate from a typical Texas high schools. Furthermore, these differences in institutional preferences persist among students eligible for automatic admission to the public university of choice. Niu, Sullivan and Tienda (2008) explain that rank-eligible minority students are less likely to know about the provisions of the law than their nonminority counterparts, which results in a potential loss of talented applicants. Socioeconomic differences are largely responsible for these differences in college knowledge, but for Hispanics parents’ English proficiency is another contributing factor.

Interest in what came to be known as “school effects,” namely claims that, in addition to individual and family characteristics, attributes of schools also contribute independently to educational outcomes dates back to the controversial 1966 Coleman Report (Coleman, 1990), which documented huge inequities in the resources available in minority dominated schools.
Although he argued that economically disadvantaged minority students benefitted educationally from attending integrated schools and classrooms, his research was criticized for minimizing the influence of schools on educational outcomes.\(^6\) His subsequent work comparing public and private high schools (Coleman and Hoffer, 1987; Coleman, Hoffer and Kilgore, 1982) also identified family structure as more decisive than school resources in promoting academic achievement. In support of his claims, he showed that Catholic schools, although less generously funded than most private and public schools, were more effective than better-endowed schools on a range of educational metrics.

Since Coleman’s pioneering work, relatively few researchers have succeeded in detecting “school effects” on educational outcomes, despite formidable methodological and computational innovations. Two recent studies based on Texas are relevant exceptions. Frost (2007) examines whether the socioeconomic and ethno-racial mix of Texas high schools is associated with students’ expectations to graduate from a four-year college. Using multi-level models that consider both student attributes known to influence educational goals as well as various indicators of school composition, she finds that both school socioeconomic level and achievement composition influence students’ college expectations. Niu and Tienda (2008) evaluate variation in college choice sets among a representative sample of Texas high school seniors. They too find that type of high school attended is far more decisive in shaping college choices than students’ academic achievement, even those qualified for automatic admission to a public university of choice.

Research on residential segregation also is relevant for appreciating how place shapes opportunity because social resources and public amenities are distributed unevenly across space.

\(^6\) Although his work polarized much of the scholarly debate, a more balanced interpretation of his findings is that, compared with family socioeconomic background, school attributes exert smaller influences on educational outcomes.
That a handful of Texas high schools account for a disproportionate share of the freshman classes at both public flagships is partly the by-product of residential segregation fueled by the white flight that undermined Coleman’s infamous bussing policy proposals and partly by the State’s urbanization pattern as the industrial composition of production shifted from agriculture and oil to service industries. Most of the dominant feeder high schools are located in major urban centers, and particularly their suburban rings. Noted for their strong college-going traditions, these schools seize on strategic resources, such as well-placed alumni networks, strong counseling offices, and well educated parents, to maintain close relationships with the state’s flagship institutions.

The limited body of research about high school sending or “feeder” patterns indicates that well-developed social networks and access to academic resources are decisive in cultivating high post-secondary aspirations, including admission to the most competitive institutions (Frost, 2007). Established alumni loyalties and parents’ institutional affiliations further reinforce feeder patterns across generations by bolstering children’s college choices based on their parents’ legacy status. Over time, these feeding patterns become self-perpetuating even as they shape institutional socioeconomic and geographic profiles (Wolniak and Engberg, 2007). Analysts of college decision-making argue that students’ behavior exemplifies a form of “bounded rationality” inasmuch as some choices reflect self-imposed limits on post-secondary aspirations while others confront social and environmental barriers in their college choices (McDonough, 1997; Niu and Tienda, 2008). Entrenched high school feeder patterns qualify as social influences on college decision-making.

Established high school feeder patterns also can privilege students from higher socio-economic backgrounds in ways simultaneously disadvantage students from lower socio-
economic strata. For example, Martin, Karabel, and Jaquez (2005) explored inequitable admissions patterns by focusing on high schools with long traditions feeding students to the University of California system. As appears to be the case in Texas, they show that a small group of high schools accounted for a disproportionate number of students at the premier UC campuses; moreover, these feeder secondary campuses, which include several private schools, tend to serve affluent white and Asian students. High schools that serve low-income populations or predominantly Latino or African American students send proportionately and numerically fewer applicants and enrollees to the UC campuses. The Texas feeder schools studied by Tienda and Niu (2006b) also serve affluent white and Asian students in the main.

Social class barriers to college access, whether real or self-imposed due to poor understanding of entry requirements and financial aid opportunities, also restrict geographic and economic diversity at selective institutions (Bowen, Kurzweil and Tobin, 2005; Koffman and Tienda, 2008). For example, Astin and Oseguera (2004) find that students from the wealthiest families not only are overrepresented by a two to one margin as compared to peers from the poorest families attending selective institutions, but show that these trends in inequality have been growing in recent years. Analyzing a decade of administrative data for both Texas public flagships, Koffman and Tienda (2008) find that the socioeconomic composition of applicant pools is remarkably resistant, even under the uniform admission law that guaranteed access for all rank-eligible graduates. In particular, the top 10% plan did little to raise flagship application rates from poor high schools. Moreover, they document highly uneven impacts of the uniform admission regime at UT and TAMU, illustrating that UT’s saturation with top 10% graduates
was largely fueled by students from affluent high schools, but notably students who graduated in the top two percentiles of their class. By contrast, TAMU witnessed a drop in application rates from top 10% graduates, particularly those who attended poor schools.

Given the entrenched nature of high school feeder patterns, meaningful changes are likely to evolve slowly. Yet, there is suggestive evidence that the top 10% law altered the sending patterns to the public flagships not only by redistributing the applicant pool among public institution, but also because the law explicitly allowed rank-eligible students to select their preferred campus (Long and Tienda, 2008). Because the law stipulates students qualified for the admission guarantee are designated on a school-specific basis, eligibility can be rendered more transparent. Students need only know their class rank, and school administrators and college counselors need to encourage their top performing students to submit applications—a requirement that often is conducted as part of senior English classes. Thus, the transparency of the admission guarantee for rank-eligible graduates potentially can weaken the social networks that perpetuate the entrenched feeder patterns and consequently broaden geographic diversity, as well as potentially socioeconomic diversity. In the remainder of the paper we investigate whether and how high school sending patterns of applicants and enrollees to UT changed in response to a more transparent admission policy.

3. Data

The University of Texas administrative data for our research comes from two sources. One consists of individual-level applicant data for the years 1990 to 2003 that have been compiled by the Texas Higher Education Opportunity Project (THEOP,

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As several papers have demonstrated, an admission guarantee does not ensure enrollment for low–income students, hence knowledge of and receipt of adequate financial aid packages is necessary as well (see Niu, et al, 2008).
www.theop.princeton.edu). We have collapsed these data to the high school level, and we focus on the number of students attending regular Texas public high schools that apply to and enroll at UT during the observation period. The second source is publicly available data from the UT-Austin Office of Admissions Research (OAR) for the years 1996 to 2007. These data contain high-school level information on the number of applicants and enrollees for Texas public high schools that sent one or more enrollees to UT. Because these data lack information on the universe of high schools that sent applications to UT, we use this dataset only to evaluate changes in enrollment. For the overlapping years 1996 to 2003, the THEOP and OAR data contain nearly identical numbers of enrollees per high school. Thus, we only use the OAR data for the years 2004 to 2007.

These datasets have been merged with the U.S. Department of Education’s Common Core of Data (CCD), which provides information about several high school attributes of interest on a time-varying basis, including location, enrollment, racial composition, share of students receiving free- or reduced price lunch, and per pupil expenditures at the district level. To be included in the analysis, the public high schools also had to include a senior class, which is the year college applications are submitted. After eliminating high schools that lack senior classes and alternative high schools, we include a universe of 1,379 unique campuses for the observation period. Because the most recent CCD data correspond to the 2005-06 school year, we replicate CCD data the last school year available and merge it with the 2007 OAR data. Implicitly, this

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8 We exclude alternative high schools and private high schools for different reasons. Alternative high schools have very low college sending programs, as many focus on behavioral problems and vocational programs. The CCD data lack information about private schools, therefore we cannot append comparable attributes for our comparisons. Only one private high school is included in the top 28 feeder schools identified by Tienda and Niu (2006b). In subsequent analyses we may be able to include this information, which is available through NCES.

9 Not all public high schools include senior classes; some are separated according to class standing, with one notable large school that only includes seniors.
assumes that the composition and characteristics of high schools remained the same between these two years.

The CCD identifies the “urbanacity” of high schools in eight categories. We reduce this categorization into four types:

- “Urban” = Within the city limits of the principal city of a large urban area (Austin, Corpus Christi, Dallas-Fort Worth-Arlington, El Paso, Houston, or San Antonio).
- “Suburban” = Within the urban area of these large cities, but not within the city limits.
- “Rural” = Rural area outside of a Metro or Micropolitan Statistical Area.
- “Other” = Any area not otherwise captured above, including midsize cities and towns.

We further re-categorize any high school that lies within a 20-mile radius of the center of the large cities as “Suburban”. Thus “Rural” and “Other” only consists of areas outside those radii and outside of these large cities’ Metropolitan Statistical Areas. Given its rapid population growth during the observation period, the “other” category is of particular interest because it likely includes many new schools.

4. Findings

As presaged by Montejano’s (2001) early assessment, Figure 1 provides shows that the school distribution of applicants and enrollees at UT widened over time. Specifically, the share of Texas public high schools sending at least one applicant to the State’s flagship campus remained stable between 1992 and 1996, a period when affirmative action was permitted, but plummeted in 1997, when the Hopwood decision went into effect. The chilling effect of the
affirmative action on applications proved temporary, however. Beginning in 1998, the first year
the top 10% law was in force, the number of high schools sending applications began an upward
trend.

**Figure 1 About Here**

Enrollment trends followed suit, except that the share of public high schools represented
is 8 to 10 percentage points lower, on average, and the annual fluctuations less pronounced.
Between 1996 and 2003, the number of public high schools that sent any applications to UT rose
from 694 to 812, while the number that sent none remained stable. Likewise, from 1996 to 2007,
the number of high schools represented among UT enrollees rose from 532 to 731, while the
number of non-feeders increased by a lesser amount less (from 697 to 786). These averages
based on counts conceal annual variation because not all schools send an applicant or enrollee to
UT every year, and many only send an occasional student. Nevertheless, these descriptive results
are consistent with other evidence about the increased number of schools sending students to the
public flagships. Whether this represents broadened access is not obvious; however. Increases in
the counts of schools represented in applicant and enrollee pools represent a minimal criterion to
demonstrate increased access, especially if the number of high schools rose in response to
population pressures (see Koffman and Tienda, 2008).

Given these changes in the number of high schools represented in UT’s applicant and
enrollee pools, the logical question is whether these trends reflect expanded access. Stated as a
question, “do the new feeders look like the old feeders?” To address this question, we first
identify high schools that existed in the years 1990-96. For these high schools, we separate these
schools into those that ever sent an applicant to UT in these years (pre-policy feeders vs. pre-
policy non-feeders). Next, we identify whether these high schools are feeders in the post-policy period.

Table 1 About Here

Interpreting changes in sending patterns requires clarity about the measurement of change using high schools as analytic units. The middle panel shows the cross-classification of 1,379 unique public high schools included in the CCD data file according to whether they were represented in the UT applicant pool before and after the change in admission regime. Of these, 966 had sent applicants to UT before the top 10% law was implemented, and 413 had not. Although a few campuses that sent at least one application to UT in the period before the admission regime was changed did not do so afterwards (44 of 966), the vast majority is represented in the applicant pool in both periods.

More interesting is the increased representation of 77 new sending schools among the 413 that were not represented in UT’s applicant pool before the admission guarantee was in place. Nearly one in five high schools that did not send any applicants to UT prior to 1997 did so between 1998 and 2003. By contrast less than five percent of secondary schools that had sent at least one applicant to UT before the regime change did not do so in the later period. This suggests that the school-specific sending patterns are highly uneven, with many schools sending very few applications occasionally, and others sending many applicants on a continuous basis (Koffman and Tienda, 2008). The 922 schools that continuously sent applicants to UT did so approximately 4.5 out of 6 of the post-policy period years, compared with less than 2 years for the new sending schools. Viewed differently, the 77 new sending schools averaged 10 applicants total per school (814/77) across the years 1998-2003 compared with 76 applicants (70,031/922) from the schools that sent students in both periods.
More convincing evidence that the new sending patterns represent broadened access requires information about the composition of new schools. The top panel of Table 1 shows that relative to the established sending schools, schools new to UT’s applicant pools are far more likely to be located outside of large metro areas and have lower shares of black and Hispanic students compared with the traditional sending schools. The bottom panel shows that the applicants from these new schools are more likely to be Asian; somewhat surprisingly, these applicants are also less likely to be in the top-10% of their class compared with applicants from the traditional feeders. This suggests that the top 10% law is not solely responsible for increases in number of schools whose graduates seek admission to UT, although it well may have prompted some students to apply on learning that their rank-eligible classmates planned to attend.

Such a stringent definition of new sending schools may mask important increases in the share of applicants/enrollees that hail from traditional sending schools that sent relatively few students. Figures 2 and 3 depict application and enrollment patterns of students from Texas high schools located in rural and “other” areas (i.e., excluding the large urban/suburban areas of Dallas, Houston, San Antonio, Austin, El Paso, and Corpus Christi). Both figures are based on a balanced-set of schools that existed continuously in 1996, 2003, and 2007; each school is represented by a marker on each panel. In Figure 2, the size of the marker is proportional to the share of 12th graders who applied at UT, while in Figure 3 we weight the high schools by the share of their 12th graders who actually enrolled. The markers also indicate “high poverty” schools (those in which more than 40% of the students receive free- or reduced-price lunch, on average, for the 1990 to 2007 period) with red markers.

A comparison of the top-panel and the bottom-panels of Figures 2 and 3 provides modest evidence that schools located in rural and emergent micropolitan areas are increasing their
representation among UT’s applicant and enrollment pools; there is also some indication that
applicants and enrollees from high poverty schools have also grown. This evidence, however, is
neither overwhelming nor unequivocally apparent to the naked eye. Visually, the evidence looks
more compelling for applications than for enrollment. What is less disputable from both graphs
is the sparse representation of schools from west Texas.

**Figures 2 and 3 About Here**

Figures 4-7 consider applicants and enrollees originating from urban and suburban high
schools in the state’s two largest metropolitan areas, Dallas and Houston. These graphs identify
urban schools with circles and suburban schools with triangles. The visual images show growth
in applications and enrollees from suburban schools for both metro areas, but evidence of
increases in applicant and enrollment shares from high poverty schools is more tenuous,
particularly in Dallas.

**Figures 4 through 7 about Here**

Thus, this visual evidence, while interesting, does not clearly answer whether the sources
of applicants and enrollees became less concentrated over time, and especially after the
admission guarantee for top 10% graduates was in force. To answer this question more
definitively, we compute Gini indexes measuring such concentration.\(^{10}\) These results, which are
shown in Figure 8, reveal clear evidence of reduced concentration.\(^{11}\) Between 1990 and 1997,
application and enrollment became more concentrated at particular high schools, which squares
with the claims of Tienda and Niu (2006b) and Saenz (2007) regarding a handful of schools that
sent disproportionately large numbers of graduates to UT. After the top-10% policy was enacted,

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\(^{10}\) Gini indexes range from zero to one. A value of zero indicates perfect equality of high schools in terms of their
enrollment (or admittees or enrollees). A value of one would indicate that all of the state’s enrollment (or admittees
or enrollees) are located in a single high school.

\(^{11}\) The UT-Applicant time-series only extends through 2003; because the OAR data only includes high schools that
sent at least one enrollee to UT, therefore it cannot be used to compute Gini indexes for applicants after 2003.
the trend toward increased concentration of applicants from a relatively few high schools halted. This is mirrored by the steady drop in the concentration of enrollment between 2000 and 2007.

**Figure 8 about Here**

The apparent dispersion of applicants and enrollees across a greater number of Texas public high schools raises questions about which types of schools gain and lose representation at UT. To address this question we first focus on the level of urbanization because of unsubstantiated claims that the top 10% law has increased access to students from sparsely populated regions of the state. For this analysis we compute the shares of UT’s applicants originating from urban, suburban, rural, and other areas as well as the shares of total 12th grade enrollment coming from each area. To determine whether applicants and enrollees are over- or under-represented by level of urbanization, we take the difference between each area’s share of UT applicants and its share of 12th graders. If this difference is greater than zero, then that type of location is overrepresented among applicants to UT. We repeat this computation for UT’s enrollees and track the results over time. Figures 9 and 10 display the results.

Figure 9 shows that suburban and rural high school students have been overrepresented among applicants in all years, but particularly those from suburban areas. The degree of suburban overrepresentation among applicants was relatively steady between 1990 and 1993, and spiked in 1994. Suburban overrepresentation in UT’s applicant pool rose steadily between 1996 and 1998, in the aftermath of *Hopwood*, and then fell precipitously between 1998 and 2003. In contrast, rural overrepresentation among applicants declined to zero between 1990 and 1998, but rebounded thereafter, possibly in direct response to the admission guarantee. Applicants from urban schools were underrepresented in every year. The trend indicates that their underrepresentation was lessening before the ban on affirmative action, but it increased
thereafter. Underrepresentation of applicants from midsize cities and towns (i.e. “other” areas), by comparison, was increased in the early 1990s and remained more or less steady until about 2000, two years after the top-10% policy was implemented. In summary, the top-10% policy appears to have widened applicant access for students at rural and other high schools to the relative disadvantage of students at urban and suburban schools.\footnote{Add tests of statistical significance.}

**Figure 9 About Here**

Figure 10 shows similar patterns among enrollees over a longer time period, which confirms continuation of the trends in applications by level of urbanization. Between 2004 and 2006, representation of enrollees by level of urbanization achieved approximate parity, with the exception of students from urban high schools. Underrepresentation of students from urban high schools continued to grow and appears to have taken a sharp downturn in 2007. Whether applications from urban high schools fell during this period is unknown because the OAR data do not include schools with less than one enrollee. Furthermore, because the admission guarantee can not ensure enrollment, it is plausible that the relative contraction in representation of students from urban high schools is related to financial aid and other factors that preclude enrollment.

**Figure 10 About Here**

To address whether the apparent increases in UT applicants and enrollees from schools located in rural areas and midsize cities and towns also was experienced by students who attended low income schools with large minority populations, we produce kernel density estimates of three different indicators: (1) percent of students receiving free- or reduced-price lunch; (2) percent who are black or Hispanic; and (3) the schools’ per pupil expenditures. The
kernel densities displayed in Figures 11-13 are weighted by the school's share of 12th graders who apply (or enroll) at UT.\footnote{Note: the Kolmogorov-Smirnov tests for equality of the distributions in these figures are incorrect and should be ignored (because the high schools are weighted in the kernel density estimate, whereas the Kolmogorov-Smirnov statistics are unweighted). This problem will be fixed in subsequent versions of the paper.}

The top panels of Figures 11 and 12 reveal that between throughout the period, applications shifted towards low minority and low poverty high schools, indicating continuous increases of more advantaged students among UT applicants even after the admission guarantee was in force. As shown in the bottom panels of Figures 11 and 12, enrollment trends followed a different course. Between 1996 and 2007, the trend reversed as the share of UT enrollment from high minority and high poverty schools rose. One plausible explanation is the efficacy of the Longhorn Opportunity Scholarships in permitting rank-eligible students from schools with historically low representation at UT. The Longhorn Opportunity program is targeted to urban public schools with high concentrations of low income students and low college-going traditions (Domina, 2007). The program involves targeted outreach to the designated schools, which simultaneously raises awareness of the admission guarantee and the prospects of a tuition subsidy. An additional interpretation is that the top-10\% plan continued to crowd out students from affluent high schools who did not qualify for automatic admission (Niu and Tienda, 2008).

**Figures 11 and 12 About Here**

Figure 13 shows that between 1991 and 1996, there was a strong movement of UT applications and enrollment toward schools with low expenditures per pupil. It should be noted that per pupil expenditures are high for schools with elevated poverty rates and those located in rural and “other” areas. In relative terms, affluent schools tend to have lower per pupil expenditures. Between 1996 and 2007, however, this trend reversed—especially for applicants. Specifically, the origins of applicants and enrollees shifted toward schools that were relatively
"disadvantaged." Thus, it appears that the top 10% law broadened socioeconomic access to UT, as envisioned by the late Irma Rangel.

5. Conclusion

In this paper we sought to evaluate whether a state-level college admission policy that targets high schools and guarantees admission to a designated percentage can both weaken entrenched sending patterns and increase geographic and socioeconomic diversity. We find that the number of schools represented among UT applicants and enrollees rose over time, toward schools with larger shares of Asian students and those located in micropolitan areas. There is also evidence that the uniform admission law slowed the trend toward concentration of applicants and enrollees from affluent suburban high schools toward economically disadvantaged urban schools and those located in small cities. Students from urban schools remain underrepresented in UT’s applicant and enrollee pools, however, and this underrepresentation appears to have increased in 2007, possibly because of the growing demand for slots at the prestigious flagship.

To some extent, our finding that the number of high schools represented among UT’s applicant and enrollee pools increased under the top 10% regime compared to the pre-Hopwood era should be viewed as surprising. This is because even before the H.B. 588 became law, virtually all applicants who graduated in the top decile of their high school class were admitted to UT-Austin (Long and Tienda, forthcoming). Presumably, many seniors ranked highly in their class failed to apply because of the opaqueness of UT's admissions policy; as is the case at most institutions, students have no way of knowing whether they qualify for admission or the likelihood of being admitted. This opaqueness would be acute for students at high schools with
low rates of students applying to UT – a student at such a high school would not have the experience of seeing their older peers' application results. Thus, the apparent increases in access may be due, in part, to the rendering of an opaque *de facto* policy that admitted nearly all top 10% students to a transparent *de jure* policy that clearly stipulated the criteria for automatic admission. Not only did this change in admission policy influence the number of applicants to UT, but also diversified their geographic and socioeconomic origins.

The consistency of the law's provisions guaranteeing access to all public universities—that it applies a uniform merit criterion uniformly to all Texas high schools-speaks to the transparency of the Texas admission regime and differentiate it from other percent plans (e.g., California and Florida) as well all the myriad variants of "full file review" currently used by public and private institutions.

Our results have broad implications for public policies where transparency may matter for broadening access to government services. For example, Currie’s (2004) research shows that take-up rates of various programs, such as 401k plans and Medicare, rise when participants are automatically enrolled by their employer or through their participation in other social programs such as welfare. Additionally, program complexity and lack of information on the part of potential participants has been shown to lower participation in public programs such as welfare, Medicare, or the State Children’s Health Insurance Program (Kleven and Kopczuk, 2008; Aizer, 2007; Bansak and Raphael, 2007), further suggesting that policy transparency (and simplicity) may raise participation rates.
6. References


Harris, Angel and Marta Tienda. (forthcoming). “Hispanics in Higher Education and the Texas Top Ten Percent Law.”


Niu, Sunny X. and Marta Tienda. (2008). “Minority Student Academic Performance under the Uniform Admission Law: Evidence from the University of Texas at Austin.” Working


Figure 1: Share of Texas Public High Schools Sending at Least One Applicant/Enrollee to UT-Austin

Note: 2007 Base Number of High Schools Based on 2006-07 CCD Data.
Table 1: New vs. Old Feeder High Schools

Differences in the Characteristics of Pre-Policy Feeder and Non-Feeder High Schools that Sent Applicants to UT-Austin in the Post-Policy Years

<table>
<thead>
<tr>
<th>High School Characteristic</th>
<th>Pre-Policy Non-Feeder Schools</th>
<th>Pre-Policy Feeder Schools</th>
<th>P-Value for Significance of Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Students Receiving FRPL</td>
<td>28.7%</td>
<td>28.0%</td>
<td>65.5%</td>
</tr>
<tr>
<td>Percent of Students Who Are Black</td>
<td>4.3%</td>
<td>12.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Percent of Students Who Are Hispanic</td>
<td>20.5%</td>
<td>33.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Per Pupil Expenditures</td>
<td>$9,077</td>
<td>$7,781</td>
<td>0.0%</td>
</tr>
<tr>
<td>&quot;Urban&quot; Area</td>
<td>0.0%</td>
<td>18.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>&quot;Suburban&quot; Area</td>
<td>8.0%</td>
<td>24.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>&quot;Rural&quot; Area</td>
<td>23.2%</td>
<td>14.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td>&quot;Other&quot; Area</td>
<td>68.8%</td>
<td>41.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>School-Year Observations</td>
<td>138</td>
<td>4,249</td>
<td></td>
</tr>
</tbody>
</table>

# Schools that Sent Applicants to UT in Post-Policy Years

- 77

# Schools that Did Not Send Any Applicants to UT in Post-Policy Years

- 336

# Schools Total

- 413

Differences in the Characteristics of UT Applicants in the Post-Policy Years from Pre-Policy Feeder and Non-Feeder High Schools

<table>
<thead>
<tr>
<th>Applicant Characteristic</th>
<th>Pre-Policy Non-Feeder Schools</th>
<th>Pre-Policy Feeder Schools</th>
<th>P-Value for Significance of Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>5.9%</td>
<td>5.2%</td>
<td>39.1%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9.0%</td>
<td>16.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Asian</td>
<td>30.2%</td>
<td>16.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>White</td>
<td>53.1%</td>
<td>60.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Female</td>
<td>52.0%</td>
<td>52.6%</td>
<td>76.4%</td>
</tr>
<tr>
<td>in Top-10% of HS Class</td>
<td>38.8%</td>
<td>43.4%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Applicant Observations</td>
<td>814</td>
<td>70,031</td>
<td></td>
</tr>
</tbody>
</table>
Figure 2

Share of High School's 12th Graders that Applied to UT in 1996

Restricted to Schools in Existence in 1996, 2003, and 2007 (Excluding Urban & Suburban Areas of Large Cities)

- High Poverty Schools
- Other Schools

Share of High School's 12th Graders that Applied to UT in 2003

Restricted to Schools in Existence in 1996, 2003, and 2007 (Excluding Urban & Suburban Areas of Large Cities)

- High Poverty Schools
- Other Schools
Figure 3

Share of High School's 12th Graders that Enrolled at UT in 1996

Restricted to Schools in Existence in 1996, 2003, and 2007 (Excluding Urban & Suburban Areas of Large Cities)

- High Poverty Schools
- Other Schools

Share of High School's 12th Graders that Enrolled at UT in 2007

Restricted to Schools in Existence in 1996, 2003, and 2007 (Excluding Urban & Suburban Areas of Large Cities)

- High Poverty Schools
- Other Schools
Figure 4

Dallas Area Urban and Suburban High Schools: Share of High School's 12th Graders that Applied to UT in 1996

Restricted to Schools in Existence in 1996, 2003, and 2007

- Urban High Poverty Schools
- Suburban High Poverty Schools
- Urban Other Schools
- Suburban Other Schools

Dallas Area Urban and Suburban High Schools: Share of High School's 12th Graders that Applied to UT in 2003

Restricted to Schools in Existence in 1996, 2003, and 2007

- Urban High Poverty Schools
- Suburban High Poverty Schools
- Urban Other Schools
- Suburban Other Schools
Figure 5

Dallas Area Urban and Suburban High Schools:
Share of High School's 12th Graders
that Enrolled at UT in 1996

Dallas Area Urban and Suburban High Schools:
Share of High School's 12th Graders
that Enrolled at UT in 2007
Houston Area Urban and Suburban High Schools:
Share of High School's 12th Graders
that Applied to UT in 1996

Restricted to Schools in Existence in 1996, 2003, and 2007

• Urban High Poverty Schools • Urban Other Schools
• Suburban High Poverty Schools • Suburban Other Schools

Houston Area Urban and Suburban High Schools:
Share of High School's 12th Graders
that Applied to UT in 2003

Restricted to Schools in Existence in 1996, 2003, and 2007

• Urban High Poverty Schools • Urban Other Schools
• Suburban High Poverty Schools • Suburban Other Schools
Figure 7

Houston Area Urban and Suburban High Schools:
Share of High School's 12th Graders that Enrolled at UT in 1996

Restricted to Schools in Existence in 1996, 2003, and 2007

- Urban High Poverty Schools
- Urban Other Schools
- Suburban High Poverty Schools
- Suburban Other Schools

Houston Area Urban and Suburban High Schools:
Share of High School's 12th Graders that Enrolled at UT in 2003

Restricted to Schools in Existence in 1996, 2003, and 2007

- Urban High Poverty Schools
- Urban Other Schools
- Suburban High Poverty Schools
- Suburban Other Schools
Figure 8: Concentration of HS Enrollment, UT Applicants, and UT Enrollees in Particular Texas Public High Schools
Figure 9:
Over/Underrepresentation Among Applicants to UT,
by High School's Urbanicity

![Graph showing over/underrepresentation among applicants to UT by high school's urbanicity. The graph illustrates the share of applicants to UT compared to the share of high school enrollment by urbanicity category (suburban, rural, urban, other) over the years 1990 to 2007.]
Figure 10:
Over/Underrepresentation Among Enrollees at UT, by High School's Urbanicity
Figure 11

In-State, Public High School Sources of UT's Applicants
As a Function of High School's %URM


In-State, Public High School Sources of UT's Enrollees
As a Function of High School's %URM

In-State, Public High School Sources of UT's Applicants
As a Function of High School's %FRPL


In-State, Public High School Sources of UT's Enrollees
As a Function of High School's %FRPL

Figure 13

In-State, Public High School Sources of UT's Applicants
As a Function of High School's Per-Pupil-Expenditure


In-State, Public High School Sources of UT's Enrollees
As a Function of High School's Per-Pupil-Expenditure