From Dreamer to DACAmented: Understanding the Educational Choices of Undocumented Immigrants in Texas

Tomas Monarrez

December 2017

What We Studied

Immigration reform is one of the centerpieces of an increasingly polarized political debate in the United States. This debate has partly focused on the adjustment of status of unauthorized immigrants that have resided in the country from a young age and for extended periods of time. Institutionally, this immigrant subgroup resides in a unique limbo: on the one hand they face many institutional constraints given their lack of status – for instance, being ineligible for employment and the social safety net. On the other hand, federal law mandates public schools to serve this subgroup, and several government entities (both at the state and federal level) have recently initiated efforts to alleviate institutional constraints for them. One the key movements of this recent trend is the enactment of tuition equity reforms by state legislatures.

As of 2015, eighteen states in the nation had enacted tuition equity laws granting resident tuition rates to qualifying undocumented students.[1] The state of Texas was the pioneer of this movement, approving House Bill 1403 in July of 2001. The initiative came to be known as the 'Texas Dream Act' (henceforth, TDA). It granted a large reduction in the cost of college attendance for undocumented students, moving them from out-of-state to in-state status in terms of tuition and fees. The complex institutional environment faced by the affected population, however, hinders our ability to predict the effect of this reform on education attainment on purely theoretical grounds. On the one hand, this group is forbidden from participating in the formal labor market. Thus, while the expected return to higher education for this group is difficult to assess, it is likely lower than that of natives, and may or may not be higher than the value starting to earn at an earlier age.[2] On the other hand, college education may have consumption value in and of itself for undocumented immigrants, not just due to its intrinsic value but also because academic institutions have been identified as a partial safe haven from the duress of lack of immigration status once adulthood has been reached, including a reduced risk of deportation (Gonzales, 2010). Thus, the effect of tuition equity reforms on the post-secondary educational attainment of undocumented immigrant students is theoretically ambiguous, and better studied empirically.

---

[1] These include: Texas, California, Minnesota, New Mexico, Illinois, New York, Michigan, Washington, Oregon, New Jersey, Maryland, Rhode Island, Connecticut, Kansas, Colorado, Utah, Nebraska, and Oklahoma.

[2] The political climate is much more relevant for the formation of expectations for this segment of the population, given that adjustment of immigration status and/or deportation has a direct effect on their ability to earn in the U.S. Hence, policy volatility has a large effect on expected labor market returns.

TEXAS Education
The University of Texas at Austin
College of Education

How We Analyzed the Data

This paper contributes to this endeavor by estimating the effect of the Texas Dream Act on the post-secondary educational attainment of undocumented public high school students. To do this, I exploit administrative data from Texas public education agencies – the Texas Education Agency (TEA) and the Texas Higher Education Coordination Board (THECB) – via the Texas Education Research Center at UT Austin. I estimate the effect of the reform using a generalized differences-in-differences research design, in which non-immigrant Hispanic high schoolers serve as a comparison group for the group affected by the reform. The identification assumption in my estimation is that non-immigrant and undocumented students attending the same high school followed similar trends in post-secondary attainment prior to the reform.

One of the main challenges in studying the outcomes of undocumented immigrants is measurement. Indeed, the very notion of undocumented status suggests that this population is not easy to identify in data sources, administrative or survey-based, as these individuals may not appear in formal records or may have incentives to deny information requests during surveys. I keep this measurement problem in mind when constructing a proxy indicator of undocumented immigrant status based on administrative high school records – namely, a simple function of a student-level "immigrant" flag in the data which is used purely for administrative purposes by Texas agencies.[3]

To validate this approach, I develop an empirical test for my proxy indicator of undocumented status. I do this by noting the fact that TDA beneficiaries were obliged to sign affidavits promising to attain legal immigrant status as soon as possible. Individuals who signed such an affidavit are coded in the administrative data under a specific tuition flag. This tuition flag is as good of an indicator for undocumented status as it is feasible in administrative data from public colleges. By correlating the undocumented high schooler proxy indicator rates in high schools with affidavit rates at nearby community colleges, I am able to partially assess whether the proxy is capturing the correct population. Figure 1 presents this relationship visually. The correlation is clearly positive, indicating that the proxy captures at least a subset of the treated population. While this test is by definition imperfect – the correlation confounds college enrollment rates, and endogenous outcome, with the accuracy of the proxy – it is a rare instance in which one can assess the extent to which we can trust the empirical results in an analysis regarding undocumented immigrants.

After finding the treated, I estimate the effects of the reform using administrative data from Texas high schools in a generalized differences-in-differences framework. More specifically, I exploit within- school, between-cohort variation to draw comparisons between the educational outcomes of undocumented high school students across cohorts, using the outcomes of their native classmates as a fine- grained control. I present evidence that although control group students are substantially different to the treated in levels, their similarity in trends validates the research design. My preferred estimates of the impact of the reform on college demand are regression-adjusted differences in college planning rates between immigrant and non-immigrant Hispanic students attending the same high school, across the pre and post reform period.

What We Discovered

The analysis points to the following conclusions. First, undocumented students are a severely disadvantaged group – as shown by the summary statistics in Table 1. They rank lower than non-immigrant Hispanics (a group already considered disadvantaged in Texas) in many educational outcomes such as high school graduation rates, standardized exam scores, and college demand. Second, Figure 2 presents event study estimates showing that the reform led to a 5 to 6 percentage point increase in college demand among undocumented high school graduates – as measured by the share of students responding positively to a post-graduation survey regarding their college plans. The magnitude of these estimates imply a closing of the college demand gap between undocumented students and non-immigrants by 90%.

---

[3] My proxy function flags students as potentially treated if they were flagged as immigrants by the agency in 3 consecutive years. See data documentation for more detail on this administrative flag.

TEXAS Education
The University of Texas at Austin
College of Education

Table 1: Summary Statistics - Graduating High School Cohorts

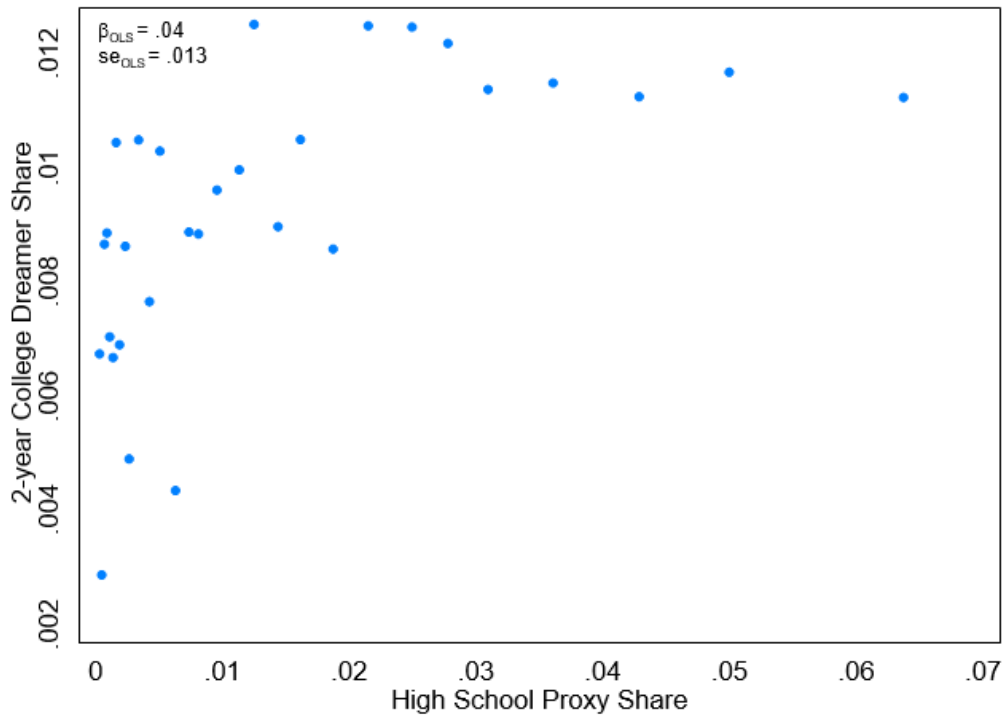|	Pre 2002			Post 2002		
	Immigrant	Control	Difference	Immigrant	Control	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
Individual Characteristics						
Plans to Attend to College	0.56	0.62	-0.06	0.69	0.69	-0.00
Age	17.64	17.30	0.34	17.45	17.24	0.21
Female	0.51	0.52	-0.01	0.51	0.51	0.00
Gifted and Talented Prog.	0.09	0.09	0.01	0.05	0.08	-0.03
Special Education	0.04	0.11	-0.06	0.05	0.12	-0.07
At Risk of Dropping Out	0.64	0.50	0.14	0.72	0.57	0.15
Spanish Spoken at Home	0.82	0.30	0.52	0.85	0.36	0.49
English Language Learner (ELL)	0.87	0.24	0.63	0.97	0.42	0.54
Free or Reduced Price Lunch (FRL)	0.94	0.76	0.18	0.96	0.84	0.12
Exit Math Score	-0.12	0.10	-0.22	-0.15	0.03	-0.18
Exit Reading Score	-0.65	0.02	-0.68	-0.55	-0.01	-0.54
School Characteristics						
Cohort Size	346.14	325.59	20.56	375.17	348.20	26.98
Graduation Rate	0.41	0.47	-0.06	0.45	0.51	-0.05
Share FRL	0.53	0.45	0.08	0.59	0.50	0.09
Share Minority	0.80	0.68	0.11	0.79	0.69	0.10
Share Gifted and Talented	0.16	0.12	0.05	0.11	0.11	0.00
Share Immigrant	0.08	0.02	0.06	0.09	0.04	0.05
Observations	7434	241069	248503	22216	376372	398588

Note: Mean characteristics of graduating cohort sample reported. Sample consists of Hispanic students that have just graduated from a public high school in Texas. The immigrant group corresponds to those flagged by our proxy as eligible to be TDA beneficiaries. The control group corresponds to all Hispanic students that are never flagged as an immigrant in the TEA records. The pre-reform period corresponds to the 1998-2001 graduating cohorts, and the post period to the 2002-2006 cohorts. The ELL and FRL indicators are measured longitudinally, that is they indicate whether the student has ever been in these programs.

In the paper, I present further evidence suggesting that these demand effects translated into an increase in college enrollment and completion for the treated – however, constraints in the administrative data limit my ability to estimate such enrollment effects directly. Moreover, Figure 2 shows that, in the pre-reform period, the treated and comparison group followed statistically parallel trends in college demand, which I interpret as evidence supporting the key identification assumption of my research design.

Third, I find mixed evidence regarding spillover effects of the reform – i.e. its effects on college- bound investments during high school, but prior to the college decision. I find that, while there are some relative improvements in standardized test scores among ninth graders starting high school after TDA enactment, fundamental outcomes such as graduation and dropout suffered during this time period. I attribute these mixed results to the complex changes in the institutional environment of Texas public schools that are correlated with the advent of TDA – namely, the enactment of the No Child Left Behind doctrine, which took place in the same year as the passage of TDA.

This paper is related to an emergent literature on the effect of tuition equity policy on the outcomes of immigrant students (Kaushal, 2008; Flores, 2010; Chin et al., 2010; Conger et al., 2015). Several of these studies employ U.S. census data to draw between-state comparisons between immigrant and native college enrollment rates. While these identification strategies are appealing based on their representative nature, the mixed conclusions drawn from these studies and the coarse nature of the immigrant indicator found in census data, have been a shortcoming of this class of methods. To my knowledge, I am providing the first analysis of the tuition equity reform movement based on high-quality administrative panel data from a public education state agency. The ability to observe a range of demographic variables as well as longitudinal variation in immigrant indicators, allows me to construct a reliable poxy to study this elusive population. Furthermore, the richness of the data allows me to study effects on outcomes related to college-bound investments during high school, the first time this is done in the literature, to my knowledge.
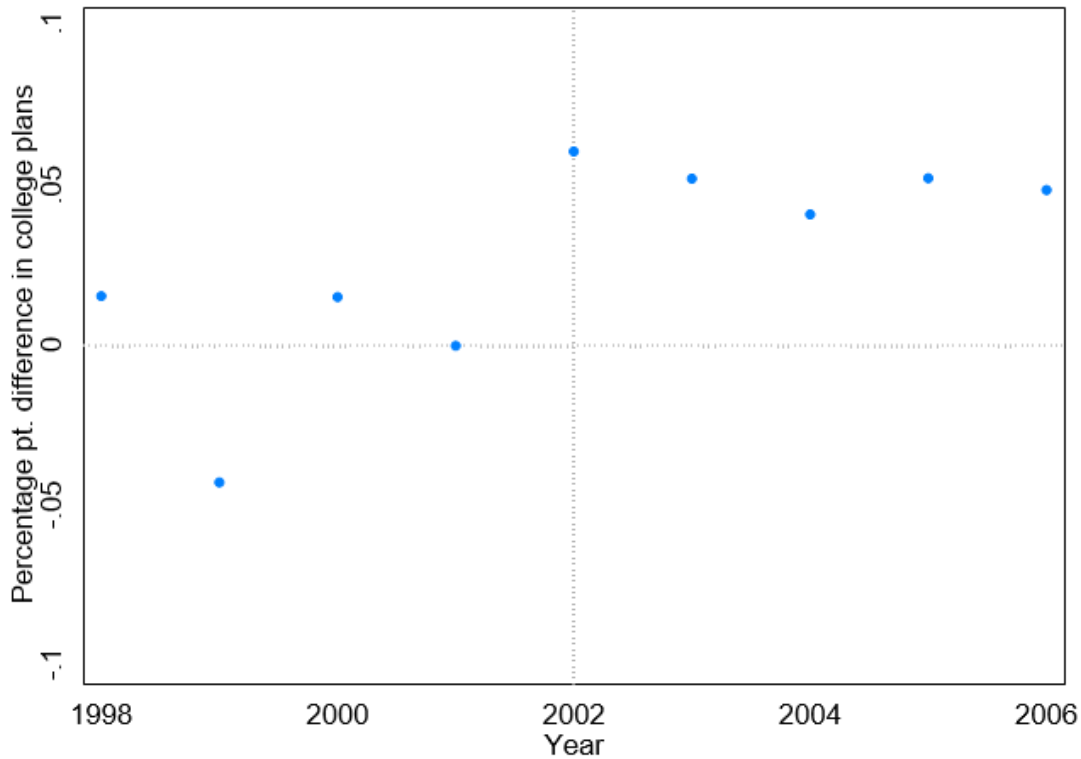
TEXAS Education
The University of Texas at Austin
College of Education

Figure 1: Validation of Undocumented Immigrant Proxy

Note: Binned scatter plot with 30 quantiles. Sample is a cross section of all public high schools in Texas, linked to nearby 2-year colleges. The horizontal axis measures the share of a high school cohort that is tagged as an undocumented immigrant using our proxy, while the vertical axis measures the share of Texas Dream Act beneficiaries in the incoming freshman cohort at 2-year colleges located near the high school in question. The figure also shows a Lowess regression fit to the underlying micro data. It also reports the OLS coefficient and robust standard error of a simple univariate regression on these variables. The coefficient is positive and statistically significant.

Most relevant to this study, Conger and Turner (2015) exploit administrative data from the City University of New York to estimate the effects of a temporary increase in tuition for undocumented students. Their identification strategy is straightforward and quite credible as they can observe undocumented status directly from college records, thereby avoiding altogether the measurement issues that have plagued the literature. Their estimates show large effects of tuition shocks on the re-enrollment and degree attainment of undocumented college students. I see the results of my analysis as complimentary to theirs. Their estimates are valid for a special sample of undocumented students, namely those that are already attending college. My analysis can be interpreted as estimating the effect of this class of policies during other stages of educational development – perhaps the more policy relevant ones: high schoolers and high school graduates. I estimate effects at the key juncture of high school and college, and also during earlier high school years, the period in which key investments are made toward post-secondary education. From the perspective of policymakers, I estimate whether tuition-equity reform generates positive externalities (i.e. effects beyond the direct price effects of tuition changes on college enrollment) by generating improvements in outcomes among undocumented youth prior to high school graduation.

Figure 2: Non-parametric DD estimates - Effect of TDA on Graduating Cohorts' College Plans

Note: Figure presents non-parametric DD estimates computed via OLS as presented in equation (2). The blue line denotes to estimated coefficients, while the dotted gray line denotes the corresponding 95% confidence intervals of these estimates. The model controls for school fixed effects, cohort fixed effects, and the following observable characteristics: exit scores in math and reading, gender, age, ELL status, FRL status, TWC match status, Spanish-speaking household, gifted status, at risk of dropping out status, and special education. The estimation sample is the universe of Hispanic high school graduates from Texas for the years 1998-2006. Standard errors are clustered at the high school level.

TEXAS Education
The University of Texas at Austin
College of Education