Student Transferring and Outcomes under the Texas Public Education Grant

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Abstract

We evaluate the effects of the public education grant (PEG) program, a long-running school accountability initiative in Texas meant to encourage students at lower-performing schools to transfer. Using a regression discontinuity design, we find substantial positive effects of the program on long-term outcomes. Elementary and high school students whose schools are marginally placed on the PEG list become more likely to graduate high school. Among elementary school students, we additionally see gains in Texas University attendance and rates of initially majoring in STEM. However, there is little evidence that these effects are driven by increases in student transferring. In fact, we find consistently null effects across a wide range of potential types of student transferring, even when accounting for a measure of the approximate distance students would need to travel to transfer. Instead, we find evidence that the positive effects of the PEG program may be coming through efforts to improve standardized testing results at schools placed on the PEG list. A caveat to the results from elementary schools is that, despite reason to believe that these schools are not influencing their testing results in improper ways, we do see some evidence of running variable manipulation among elementary schools.

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1 Introduction

The Public Education Grant (PEG) program is a long-term initiative in Texas with wide eligibility that encourages students at low-performing schools to transfer to higher-performing schools. It has been running over 25 years, and in our sample an average of 9.3% of students were eligible to take advantage of the program each year. Despite this, there has been little academic research evaluating the effects of the PEG program on students. To our knowledge, this paper is the first to identify causal effects of the PEG program using a regression discontinuity design.

We find evidence of substantial effects on long-term outcomes. Elementary school students whose schools are placed on the PEG list become more likely to graduate high school, attend a four-year university in Texas, and pursue a degree in STEM at one of those universities.

Surprisingly, however, there is little evidence that student transferring is contributing to this effect. News reports have previously indicated that few students were taking advantage of the public education grants,[1] but this is just one of many ways that the PEG program could have encouraged transferring behavior. Under the PEG program, all the parents of students attending a school on the "PEG list" are legally required to be notified of this by their school district and provided with details on the PEG program. If parents had reacted by removing their children from public schools, moving them to charter schools, pursuing standard (non-PEG) transferring options, or waiting to move their children across districts until they had finished the highest grade at their school, none of these options would necessarily be associated with a PEG grant. Despite this, we find consistently null effects of the PEG program on a wide array of transferring measures.

A possible contributing factor to this lack of transferring could be that districts receiving PEG transfer students are not required to provide those students with transportation. This places an additional "cost" of the transfer on students and their families. To test for the potential relevance of this channel, we divide schools up into three terciles based on a measure of the distance their students would have to transfer across districts, and then estimate the regression discontinuity separately for each tercile. If the distance required for transferring is a disincentive, we would expect the first tercile (with the shortest distance to travel) to be more responsive than the third tercile (with the farthest distance to travel). However, we find little evidence that this is the case, and we are unable to statistically rule out the hypothesis of null effects for any of the

[1] For example, see Smith (2013).

regression discontinuity estimates.

Given the lack of evidence for transferring, an alternative channel that could explain the positive long-term effects of the PEG program is that being placed on the PEG list encourages schools to provide students with higher-quality education. In support of this hypothesis, we find evidence that elementary schools placed on the PEG list have lower failing rates on state standardized tests in the following year.

The rest of the paper proceeds as follows. Section 2 describes details of the PEG program, including the key criterion for PEG list placement which we will exploit in our estimation strategy. Section 3 describes our data and provides some summary statistics. Then, section 4 describes our estimation strategy, and section 5 shows results from taking that strategy to the data. Finally, section 6 concludes.

2 Institutional Setting

The Public Education Grant (PEG) program was started in 1995, and has continued until present day. It encourages students at low-performing schools to transfer to different districts by providing the receiving district with an extra 10% of the funding that they would normally receive for that student. The schools that students transfer to cannot be on the PEG list themselves, which helps to ensure that students are transferring to "higher-performing" schools. Other districts are not required to accept PEG transfers, but there are a number of student characteristics which cannot be used by the district in making their acceptance decisions. These include things like academic achievement and socioeconomic status, preventing districts from selectively accepting PEG-funded transfers in an effort to obtain more "academically gifted" students. Students who are accepted do not need to pay tuition at the receiving school, but may face additional transportation costs because the receiving district is not required to provide them with transportation to their new school (31 TEX. EDUC. CODE § 29.201-205).

The general timing of the PEG program is as follows. Each year schools can be put on the "PEG" list, and students attending those schools are eligible to transfer under the program in the following year. For example, the 2011 PEG list was released in December[2] of 2011, and allowed students to transfer for the 2012-2013 school year. By February 1, school districts with schools on the PEG list are required to notify the parents of students who attend those schools that they are eligible to receive a public education grant for

[2]December was the most common month of PEG list release from 1999-2018. Over that time the November before or the January after were also used.

the following school year.

The criteria for being put on the PEG list change over time, but one of the consistent rules is that a school is placed on the PEG list if 50 percent or more of their students did not pass one of a list of state standardized tests in any two of the previous three years.[3] For the 2011 PEG list, this included standardized tests taken in 2009, 2010, and 2011. Below, we will use this rule to help identify the effects of a school being placed on the PEG list using a fuzzy regression discontinuity design.

3 Data

The main data that we will use for this paper comes from the Texas Schools Project (TSP). This is a unique data set which links educational data from grades K-12 and colleges to labor force outcomes in Texas. To know which of these schools was on the PEG list, we merge this data with each year's PEG list from the Texas Education Agency's (TEA) Public Education Grant Archive. We also use standardized testing outcomes at the school level from the TEA's Academic Excellence Indicator System (AEIS) and Accountability Rating System.

Table 1 shows some initial summary statistics weighted by students. One of the first things to notice is that schools on the PEG list tend to be there for multiple years. Among schools on the PEG list in a given year, 71.1% of them were on the PEG list in the previous year, compared with only 2.4% for schools not on the PEG list. The table also provides initial evidence to support that transferring is more common at PEG list schools—students at PEG schools are 3.6 percentage points more like to transfer out of their school for the next full academic year, and 1.6 percentage points more likely to transfer out of their school district over that same time frame. They are also two percentage points more likely to exit the Texas Public School System altogether. Here and throughout the paper, by "exit the Texas Public School system," we mean that a student is present in TSP PEIMS enrollment data for some school year and not present in the following school year. Perhaps surprising, actually being recorded as a transfer student occurs somewhat more frequently in schools that are not on the PEG list. For more details on the measures of transferring and data preparation in general, see appendix section 7.1.

However, these differences in transferring need not be caused by the PEG program—the rest of the table

[3]The list of standardized tests that is used for this rule does change over time. The subjects of the exams that counted toward the PEG list also changed over time.

Table 1: Descriptive Statistics

	All Students			Not On Peg List			On Peg List		
	Mean	SD	Tot. Stu	Mean	SD	Tot. Stu	Mean	SD	Tot. Stu
On the PEG List	0.114	0.318	59,876,459	0.000	0.000	53,027,940	1.000	0.000	6,848,519
On Last Year's PEG List	0.104	0.305	59,493,302	0.024	0.153	52,600,234	0.711	0.453	6,893,068
Transfer for Full Year	0.143	0.103	45,427,598	0.139	0.102	40,215,937	0.175	0.109	5,211,661
Transfer Districts for Full Year	0.075	0.040	45,427,598	0.074	0.039	40,215,937	0.090	0.043	5,211,661
Recorded as Transfer Student	0.021	0.043	59,876,459	0.022	0.044	53,027,940	0.015	0.035	6,848,519
Exit TX Public Schools	0.102	0.111	59,876,459	0.100	0.109	53,027,940	0.120	0.119	6,848,519
At Risk of Dropping Out	0.476	0.198	59,876,459	0.453	0.192	53,027,940	0.653	0.150	6,848,519
Male	0.513	0.027	59,876,459	0.513	0.027	53,027,940	0.516	0.027	6,848,519
Race: Asian	0.037	0.066	59,876,459	0.040	0.068	53,027,940	0.012	0.026	6,848,519
Race: Black	0.127	0.156	59,876,459	0.116	0.139	53,027,940	0.208	0.236	6,848,519
Race: Hispanic	0.489	0.303	59,876,459	0.470	0.300	53,027,940	0.636	0.282	6,848,519
Race: White	0.332	0.277	59,876,459	0.358	0.277	53,027,940	0.134	0.188	6,848,519
Economic Disadvantage Status	0.564	0.276	59,876,459	0.535	0.274	53,027,940	0.782	0.168	6,848,519
Limited English Proficiency	0.185	0.197	59,876,459	0.176	0.192	53,027,940	0.254	0.214	6,848,519
Math Test Score, Year PEG list Announced	0.005	0.277	30,755,751	0.037	0.267	27,062,116	-0.235	0.229	3,693,635
Min. Dist. to Other School	3.269	4.264	59,040,599	3.173	4.044	52,304,203	4.016	5.633	6,736,396
Min Dist to Closest School in Diff. District	5.489	4.927	59,040,599	5.370	4.740	52,304,203	6.416	6.112	6,736,396

shows that there are any number of differences between schools on and off the PEG list. Students at schools on the PEG list are substantially more likely to have limited english proficiency, be at risk of dropping out, and have some form of economic disadvantage. In terms of standardized math test scores, students at PEG list schools tend to be about a quarter of a standard deviation below the state average. This is not surprising given that one of the main ways to get onto the PEG list is to have low performance on standardized test scores.

The last two rows of the table give summary statistics on the distance in miles between a given school and the nearest other viable[4] school that student's from the first school could reasonably transfer to. We separately calculate this minimum distance to viable schools in different district, because the PEG program only provides the PEG grant to the district receiving a PEG transfer student if that student started out in a different district. Compared those attending schools not on the PEG list, under this measure students at schools on the PEG list must travel about a mile further in order to transfer. One reason considering distance is important is that schools receiving PEG transfer students are not required to provide those students with transportation to their new school. Additionally, even if they did provide transportation, another school is less likely to be an attractive option for transferring if the student needs to travel a long way each day to get there.

While many of the observed differences between schools on and off the PEG list are intuitive, they

[4]We are more specific about the schools included as "viable" for this purpose in appendix section 7.1.

present a challenge for estimating the effect of PEG list placement. Specifically, if we compute the difference in outcomes between students at PEG list schools and students at non-PEG list schools, we will not know what of this observed difference is coming from being putting on the PEG list, and what is coming from the many other differences between these populations. Even if we were to control directly for the characteristics covered by our variables, the differences documented by those variables likely form a small portion of the full set of differences. Our estimation strategy below will solve this problem by identifying an area in which assignment to the PEG list is plausibly the only difference between certain groups of students. Then, we will compare these student groups to arrive at an estimate of the PEG program's effect.

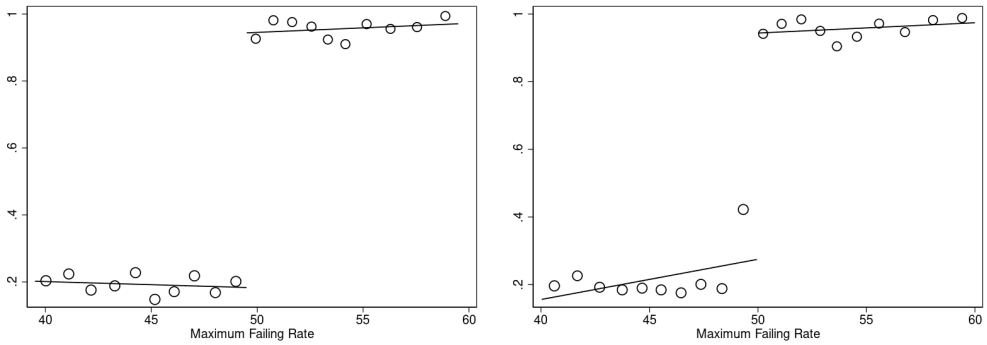
4 Estimation Strategy

In order to evaluate the effects of the PEG program on student transferring and long-term outcomes, we use a fuzzy regression discontinuity design. This strategy exploits the fact that schools are consistently placed on the PEG list if 50 percent or more of their students did not pass one of a list of state standardized tests in any two of the previous three years. Specifically, we limit our sample to schools with failing rates higher than 50 percent on a state standardized test in one of the past two years. Then, we construct a variable F_{jt} which is school j's maximum failing rate on a state standardized test in the present year t. There is then a discontinuity in this variable, where schools with maximum failing rates above 50% are placed on the PEG list, and the rest are not.

There are two clarifications to be made on this approach: First, it appears that the maximum failing rate at each school was rounded to the nearest percentage point before determining PEG list status, and therefore that the true "cutoff" is 49.5% rather than 50%. Figure 1 provides evidence of this by showing the discontinuity in PEG list assignment using both 49.5% and 50% as cutoffs. As can be clearly seen, the 49.5% cutoff does a better job of capturing the discontinuity. Some schools to the right of the cutoff are not on the PEG list, which is a fact we discuss more in appendix section 7.1.2. In the results presented below, we focus on the subset of the years the PEG program was operating in which we have the specific number of students that failed each test, so as to be able to recreate the un-rounded maximum failing rate. Then, we use the 49.5% cutoff as the location of the discontinuity.

Second, we need to be careful with the time indexing. As described in section 2, the 2011 PEG list was

Figure 1: Percent of Schools on the PEG list, using Alternative Cutoffs



(a) Using 49.5% as the Cutoff

(b) Using 50% as the Cutoff

based upon standardized test scores taken in the 2010-2011 school year,[5] announced in December of the 2011-2012 school year, and allowed students to transfer under the PEG program for the 2012-2013 school year. We represent this in the equations below by regressing PEG status in year t (say, the 2011-2012 school year) on the maximum failing rate F_{jt} at time $t-1$ (the 2010-2011 school year). The transferring outcome variables for the specific year of that PEG list refer to transferring between year t (the 2011-2012 school year) and $t+1$ (the 2012-2013 school year).[6]

To evaluate the effects of being on the PEG list, we estimate the following equations:

$$Y_{jt} = \alpha_0 + \alpha_1 \hat{P}_{jt} + \alpha_2 F_{jt-1} + \alpha_3 F_{jt-1} \mathbb{1}\left\{F_{jt-1} \geq .495\right\} + \varepsilon_{jt} \tag{1}$$

$$P_{jt} = \beta_0 + \beta_1 \mathbb{1}\left\{F_{jt-1} \geq .495\right\} + \beta_2 F_{jt-1} + \beta_3 F_{jt-1} \mathbb{1}\left\{F_{jt-1} \geq .495\right\} + \eta_{jt} \tag{2}$$

where P_{jt} is a dummy variable equaling 1 if a school is on the PEG list at time t. For some results, we include each grade level g from a school as a separate observation, so Y_{jt} becomes Y_{jgt}.[7] α_1 is the main parameter of interest.

For further clarify, notice that the "treatment" of being on the PEG list could be different for different schools. Imagine two schools, "A" and "B." School A had a failing rate above 50% on the relevant standard-

[5] As well as the prior two school years, 2008-2009 and 2009-2010.

[6] Of course, measures of transferring over longer time horizons, like before a student's anticipated twelfth grade year, need not necessarily occur by the next school year.

[7] This is useful for long-term outcomes where we will not observe the outcomes for all grade levels in all years.

ized tests for the 2007-2008 school year, but not for the 2008-2009 school year. School B was the opposite, with a failing rate above 50% for the 2008-2009 school year, but not for the 2007-2008 school year. Thus, both schools would be in our sample for the 2010 PEG list. Now say that both of those schools had a failing rate above 50% for the 2009-2010 school year, and were therefore both placed on the 2010 PEG list. This placement means different things for each school's future PEG list status. School A would be in our sample for the 2011 PEG list, because they would have had a failing rate above 50% in one of the last two years.[8] This makes them "eligible" to be on the 2011 PEG list based upon a standardized test score failing rate, but they are not automatically placed on that list. School B, by contrast, would automatically be placed on the 2011 PEG list because they had a failing rate above 50% in both of the prior two years: 2008-2009 and 2009-2010. Thus, the measured estimate for α_1 will be influenced by the "PEG list treatment" to both schools like school A and schools like school B.

5 Results

Section 7.2 in the appendix provides tests of manipulation in the running variable and balance tests. We highlight there that, despite strong "ex ante" reasons to believe that elementary schools are not improperly manipulating their maximum failing rate on the relevant standardized tests, there does seem to be evidence of running variable manipulation among those schools. Thus, the results for elementary schools below should be treated with caution.

5.1 Long-Term Effects of the PEG Program

Table 2 shows how placing an elementary school on the PEG list affects the long-term outcomes of its students. The coefficient estimate shown for each outcome is α_1 from equation (1), and the observations N below the standard errors is the number of school-and-grade level combinations that were included within the bandwidth around the cutoff. All of the standard errors are nearest-neighbor clustered at the district level. The columns show estimates for alternative choices of bandwidth. Here and throughout, the "auto selected" column refers to using an MSE-optimal bandwidth selector for a common bandwidth to be used

[8] That is, they had a failing rate above 50% for the 2009-2010 school year, but not the 2008-2009 school year.

on either side of the cutoff.[9]

Table 2: Long-term Effects of PEG for Elementary Schools

First Maj. in STEM, LB	0.0099*	0.0099	0.0101*
	(0.0048)	(0.0060)	(0.0048)
	N=1730	N=792	N=1553
	h=7.7296	h=3.0000	h=7.0000
First Maj. in STEM, UB	0.0099*	0.0099	0.0101*
	(0.0048)	(0.0060)	(0.0048)
	N=1730	N=792	N=1553
	h=7.7296	h=3.0000	h=7.0000
First Maj. in STEM, Public	0.0097*	0.0094	0.0100*
	(0.0048)	(0.0060)	(0.0049)
	N=1732	N=792	N=1553
	h=7.7848	h=3.0000	h=7.0000
Went to Pub./Priv. TX Uni.	0.0494**	0.0552**	0.0495**
	(0.0166)	(0.0187)	(0.0166)
	N=1576	N=792	N=1553
	h=7.0602	h=3.0000	h=7.0000
First Uni. TX Public Flagship	0.0027	0.0050*	0.0028
	(0.0014)	(0.0020)	(0.0015)
	N=1724	N=792	N=1553
	h=7.6766	h=3.0000	h=7.0000
Graduated HS	0.0366*	0.0452*	0.0434*
	(0.0170)	(0.0196)	(0.0175)
	N=2231	N=792	N=1553
	h=10.0041	h=3.0000	h=7.0000
Rounded to Percent	No	No	No
Bandwidth	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school, grade level, and school year combination.

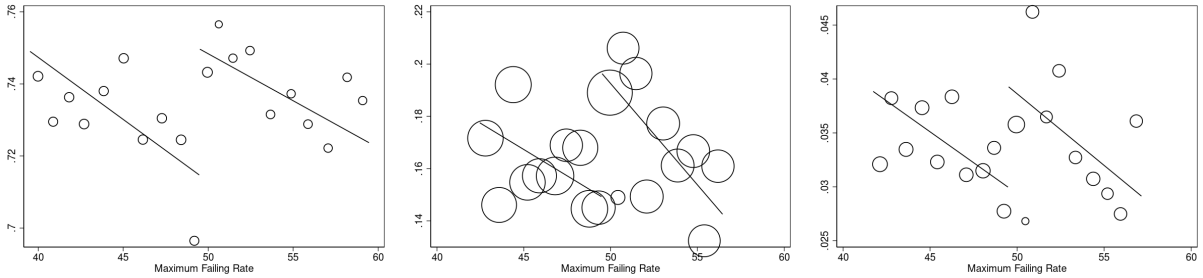
The outcomes generally show positive and substantial effects associated with the PEG program. Elementary students whose school gets placed on the PEG list are more likely to graduate high school and attend a four-year university in Texas. There is also some evidence, particularly at the smaller bandwidth of 3, that students are about a quarter to a half a percentage point more likely to attend one of the public flagship universities in Texas.

The next results show the effects of PEG on whether a student will declare a "STEM" major as their first major at a four year university.[10] One minor complication with the data is that we are unable to see the majors that students have while enrolled in private universities prior to 2010. To fix this, the "LB" row gives

[9]Specifically, we use the option "mserd" from the rdrobust package (Calonico et al., 2017).

[10]Here we identify STEM majors as those in the primary two-digit CIP code categories the DHS labels as STEM: 14 (engineering), 26 (biological and biomedical sciences), 27, (mathematics and statistics), and 40 (physical sciences).

Figure 2: Regression Discontinuity Plots for Elementary Schools



(a) Graduated HS (b) Went to Pub./Priv. TX Uni. (c) First Maj. in STEM, Public

a lower bound on the effect in which we assume that none of the students who we observe attending private universities before 2010 majored in STEM, and the "UB" row gives the upper bound where we assume that all of those students majored in STEM. As can be seen, this has no noticeable effect on the estimates for elementary school students here. This makes sense, because we begin tracking students in 2004, and so it is unlikely that very many students went from being in elementary school in 2004 to attending a private university before 2010. Another way of correcting this issue is just to look at STEM majors declared at public universities. For that row as well, the results are very similar. Figure 2 shows regression discontinuity plots for some outcomes from this table using "auto selected" bandwidths.

Table 3 shows the corresponding results for high schools, which are much more muted. One potential reason for this is that any changes made by students or schools in response to PEG list placement would have less time to take affect for high school students than they would for elementary school students. Nevertheless, there is still evidence that PEG list placement raises a student's chances of graduating high school. Figure 3 shows the corresponding plot using an auto selected bandwidth.

5.2 Effects of the PEG Program on Transferring

Having shown that the PEG program does seem to have effects on the long-term outcomes of students, we now turn to investigating certain possible channels for how it could have this effect. The main channel that we investigate is transferring, because the PEG program is designed to encourage students to transfer away from "low-performing" schools. Surprisingly, we find little to no evidence that more students actually transfer under the PEG program.

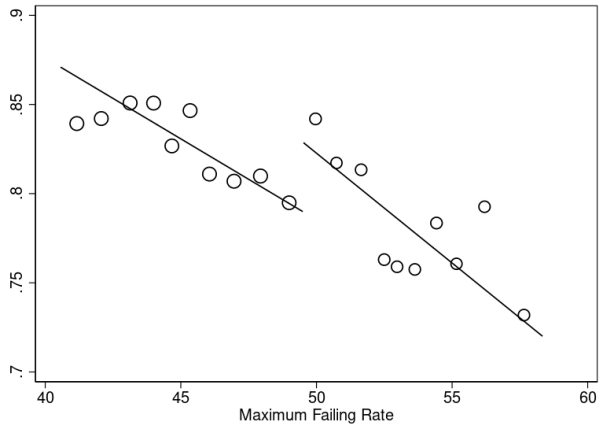
Tables 4 and 5 shows a wide variety of variables measuring different ways that elementary school students could respond to the PEG program by moving schools or enrolling in additional schools. All of these

Table 3: Long-term Effects of PEG for High Schools

First Maj. in STEM, LB	0.0118	0.0141	0.0109
	(0.0076)	(0.0140)	(0.0065)
	N=2378	N=1075	N=2743
	h=5.7814	h=3.0000	h=7.0000
First Maj. in STEM, UB	0.0083	0.0091	0.0087
	(0.0058)	(0.0136)	(0.0063)
	N=3008	N=1075	N=2743
	h=7.7654	h=3.0000	h=7.0000
First Maj. in STEM, Public	0.0118	0.0141	0.0108
	(0.0075)	(0.0137)	(0.0063)
	N=2312	N=1075	N=2743
	h=5.6610	h=3.0000	h=7.0000
Went to Pub./Priv. TX Uni.	0.0199	0.0500	0.0232
	(0.0217)	(0.0501)	(0.0233)
	N=3038	N=1075	N=2743
	h=7.8481	h=3.0000	h=7.0000
First Uni. TX Public Flagship	0.0024	0.0052	0.0027
	(0.0030)	(0.0077)	(0.0035)
	N=3437	N=1075	N=2743
	h=8.8786	h=3.0000	h=7.0000
Graduated HS	0.0489*	0.0777	0.0644*
	(0.0239)	(0.0617)	(0.0282)
	N=3446	N=1075	N=2743
	h=8.9420	h=3.0000	h=7.0000
Rounded to Percent	No	No	No
Bandwidth	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school, grade level, and school year combination.

Figure 3: Share of High Schoolers that go on to Graduate High School



variables show null effects. The standard errors are small, always below two percentage points, showing that we are able to find this null results with a substantial amount of precision. Tables 13 and 13 in appendix section 7.3 show the results for additional potential measures of transferring, and also display consistently null estimates.

Table 4: Effects of PEG Program on Transferring for Elementary Schools

Exit TX Public Schools	-0.0041	0.0003	-0.0041
	(0.0033)	(0.0043)	(0.0034)
	N=1514	N=632	N=1386
	h=7.7334	h=3.0000	h=7.0000
Transfer for Full Year	0.0000	0.0087	0.0015
	(0.0152)	(0.0198)	(0.0146)
	N=1167	N=627	N=1377
	h=5.6674	h=3.0000	h=7.0000
Transfer Districts for Full Year	-0.0012	0.0016	-0.0009
	(0.0089)	(0.0112)	(0.0088)
	N=1323	N=627	N=1377
	h=6.6081	h=3.0000	h=7.0000
Bandwidth (h)	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Table 5: Effects of PEG Program on Transferring for High Schools

Exit TX Public Schools	0.0146	0.0465	0.0099
	(0.0166)	(0.0346)	(0.0146)
	N=752	N=346	849
	h=5.9827	h=3.0000	h=7.0000
Transfer for Full Year	0.0001	-0.0112	0.0000
	(0.0113)	(0.0177)	(0.0115)
	N=884	N=346	N=846
	h=7.4521	h=3.0000	h=7.0000
Transfer Districts for Full Year	-0.0030	-0.0103	-0.0031
	(0.0072)	(0.0130)	(0.0080)
	N=1002	N=346	N=846
	h=8.5918	h=3.0000	h=7.0000
Bandwidth (h)	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

5.3 Examining the Potential Role of Distance

Since school districts that receive PEG transfers are not required to provide transportation to those students, one explanation for the lack of transferring responses may be that students are being dissuaded by the need to

bear their own transportation costs. As was shown in table 1, students at schools on the PEG list have about an additional mile to travel to transfer compared to students at schools that are not. We are able to partially test this hypothesis by breaking down the transferring results from table 4 by distance. Specifically, we will divide schools into three terciles based upon the minimum distance between that school and the closest school in another district. If the estimated transferring response to the PEG program is larger among schools with closer viable transferring options, that will provide evidence that transportation costs are limiting the effectiveness of the PEG program for encouraging transferring.

Table 4 displays the results for elementary schools. The second two rows measuring transferring between schools and districts show some evidence of the hypothesized pattern, in which schools with nearby transferring options experience greater transferring effects. However, these effects are not statistically different from zero. The results for exiting the public school system do not show a pattern where schools at the closest distances experience the largest effects, but it is less clear what the hypothesized pattern would be in that case since the students who are leaving are not going to other schooling options that were included in the distances metric. Table 7 extends table 4 to include middle and high schools as well, and shows similarly null effect estimates.

Table 6: Effects of PEG Program on Transferring for Elementary Schools, Broken Down by Distance

	b/se/obs/mat_bandwidths	b/se/obs/mat_bandwidths	b/se/obs/mat_bandwidths
Exit TX Public Schools	0.0012	-0.0048	0.0039
	(0.0059)	(0.0042)	(0.0097)
	201	152	250
	3.2631	2.2489	3.1777
Transfer for Full Year	0.0426	0.0143	-0.0316
	(0.0345)	(0.0361)	(0.0284)
	139	170	236
	2.2675	2.4440	3.0189
Transfer Districts for Full Year	0.0165	-0.0010	0.0032
	(0.0160)	(0.0236)	(0.0135)
	139	157	233
	2.2643	2.3213	2.9859
Rounded to Percent	No	No	No
Bin Tercile	1	2	3

Here, each observation is a school and school year combination.

Table 7: Effects of PEG Program on Transferring for All Schools, Broken Down by Distance

	b/se/obs/mat_bandwidths	b/se/obs/mat_bandwidths	b/se/obs/mat_bandwidths
Exit TX Public Schools	0.0287	0.0239	0.0313
	(0.0357)	(0.0767)	(0.0467)
	406	388	345
	2.5355	2.8402	1.6597
Transfer for Full Year	-0.0123	0.0374	-0.0061
	(0.0229)	(0.0357)	(0.0246)
	511	443	543
	3.2429	3.3858	2.5809
Transfer Districts for Full Year	0.0003	-0.0050	-0.0035
	(0.0153)	(0.0146)	(0.0161)
	376	405	322
	2.3872	3.1089	1.5473
Rounded to Percent	No	No	No
Bin Tercile	1	2	3

Here, each observation is a school and school year combination.

5.4 Effects of the PEG Program on Standardized Test Scores

Although the PEG program seems to do little to encourage transferring, the fact from section 5.1 above remains that the PEG program appears to be having substantial positive effects on certain long-term outcomes. In this section, we investigate another possible channel through which this effect could be occurring. Namely, that the PEG program could be inducing schools to better prepare students for state standardized tests. If schools are able to take actions that lower their maximum failing rates on state standardized tests, then they will be less likely to be placed on the PEG list in the future.

Table 8 shows results relating to standardized tests for elementary school students. The main row to look at is the top one, which shows the maximum failing rate in the school year that the PEG list was announced. Recall that the PEG list for 2011, for example, was released in December of 2011, and was based on standardized test scores from the 2008-2009, 2009-2010, and 2010-2011 school years. The top row of table 8 would show the maximum failing rate for the standardized tests taken in the 2011-2012 school year. The results show a substantial decline of around four and a half percentage points in the maximum failing rate. Figure 4 shows the corresponding discontinuity plot.

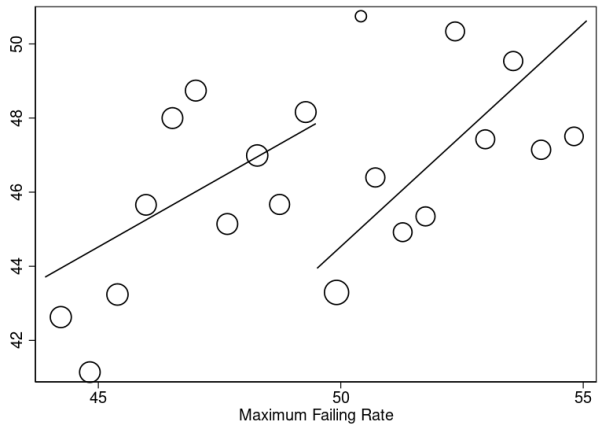
This result makes sense. Recall that schools with maximum failing rates above the cutoff for any two out of the last three years are placed on the PEG list. Thus, if a school gets onto the 2011 PEG list by having too high of a maximum failing rate on the 2010-2011 standardized tests, then a maximum failing rate above the cutoff on the 2011-2012 standardized tests would be the second consecutive year of unacceptable

Table 8: Effects of PEG Program on Test Scores at Elementary Schools

Max Fail Rate, year PEG list Announced	-4.6189**	-4.4553*	-4.6776**
	(1.5090)	(2.1919)	(1.4442)
	N=948	N=523	N=1139
	h=5.5999	h=3.0000	h=7.0000
Max Fail Rate, year after PEG list Announced	-2.3747	-3.9057	-2.4086
	(2.2358)	(3.0856)	(2.2613)
	N=950	N=418	N=904
	h=7.3756	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced	-0.0028	0.0101	-0.0029
	(0.0306)	(0.0387)	(0.0301)
	N=1259	N=626	N=1375
	h=6.2688	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +1	0.0382	0.0687	0.0375
	(0.0385)	(0.0548)	(0.0391)
	N=1194	N=517	N=1126
	h=7.5321	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +2	0.0511	0.0237	0.0185
	(0.0343)	(0.0638)	(0.0408)
	N=1598	N=412	N=894
	h=13.5663	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +3	0.0180	0.0419	0.0047
	(0.0387)	(0.0678)	(0.0415)
	N=1071	N=317	N=672
	h=11.2844	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +4	-0.0080	0.0411	-0.0079
	(0.0437)	(0.0670)	(0.0437)
	N=466	N=222	N=468
	h=6.9288	h=3.0000	h=7.0000
Bandwidth (h)	Auto Selection	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Figure 4: Maximum Failing Rate at Elementary Schools the Year the PEG List is Announced



failing rates, automatically meaning a return to the PEG list for 2012 and 2013. Among schools that were not placed on the PEG list in 2011, however, it is possible that they could have an unacceptable failing rate in the 2011-2012 school year and not go on the 2012 or 2013 PEG list.[11]

These results can also be broken down by terciles of distance, which we do in table 15 of appendix section 7.3. One interesting point from this table is that these results seem to be largely driven by schools the furthest distance from a viable other school to transfer to. A possible story to rationalize this is that parents put greater pressure on schools in places where there are fewer outside options, because they are less able to respond by taking their children out of the school.

The next row of table 8 shows the effects of the PEG program on the maximum failing rate in the school year after the PEG list was announced. In the case of the 2011 PEG list, this would be the maximum failing rate from the 2012-2013 school year. Here the results are negative but statistically insignificant, suggesting that the actions school administrators take to improve test scores do not persist as strongly into the following year.

The rest of the rows show effects on the average standardized math test score at the school. The fact that the results are null suggests that the actions school administrators take to raise test scores are mainly focused on lowering the failing rate, and not necessarily on raising the overall average test score. One possible story here is that efforts taken to raise the scores of the poorest-performing students come at the expense of efforts taken to help higher-performing students, and the net result on average test scores is null.

For completeness, these same results are shown for the case of high schools in table 16 of appendix section 7.3. There, we do not observe statistically significant effects.

6 Conclusion

In this paper, we evaluate the effects of the public education grant (PEG) program, a long-running school accountability initiative in Texas meant to encourage students at lower-performing schools to transfer. We find substantial effects of the program on long-term outcomes like graduating high school, attending a Texas four-year university, and pursuing a STEM degree. However, there is little evidence that these effects are driven by increases in student transferring. Instead, we find evidence that the positive effects of the PEG

[11] Specifically, this occurs for schools which entered our regression discontinuity sample by have an unacceptable failing rate two years prior. For the 2011 PEG list, this would be the 2008-2009 school year.

program may be coming through efforts to improve standardized testing results at schools placed on the PEG list.

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7 Appendix

7.1 Additional Details on Data Preparation

We utilize student enrollment data from the TSP. To help ensure that we are consistently identifying individual students, we limit the student data to cases with unique SSN replacement and PID replacement combinations.[12] If a student shows up in enrollment data for multiple schools within a given school year, we link them to a single school using the following hierarchy: First, we prefer schools designated as active. Second, we prefer schools labeled as "instructional campuses." Finally, we prefer non-charter schools. Ties are broken with a random number. After linking students to schools, we further limit our sample by removing charter schools (where the PEG program does not apply) and "non-typical" schools, which we define to include alternative instructional units, private schools, summer schools, district administration, juvenile justice alternative education programs, and "DAEP only" campuses. To be clear, even though such schools are not directly included in our results, a student could still be marked as "transferring" if they begin to attend one of those schools. We remove these kinds of schools from our sample *after* preparing the transferring variables. To assign a grade level to each student, we use the maximum grade listed in that student's enrollment data for a given school year.

The "minimum distance" variables calculate the minimum distance in miles between a given school and any other school fitting the following requirements: First, they must not be on the relevant PEG list for that year,[13] because in that case they would not be a viable school that a student could transfer to under the PEG program. Second, the other school must not be a charter school or "non-typical," as defined above. Third, at least half of the grade levels covered by the original school must be covered by this other school. Without this restriction, our measurement might calculate the "minimum distance" an elementary school student would need to travel to transfer as the distance to a nearby high school. The ideal distance metric would give the distance between a student's home address and the nearest alternative school, and so this metric of calculating the distance between schools is somewhat limited. However, in the absence of data on student

[12] In other words, we remove all observations with SSN replacement numbers (ssnrep) that are associated with multiple PID replacement numbers (pidrep), and all observations of PID replacements that are associated with multiple SSN replacements.

[13] For the 2011-2012 school year, this would be the 2011 PEG list. If a school is on the 2011 PEG list, students cannot transfer there under the PEG program for the following school year (2012-2013).

home addresses, this metric should be a good proxy, so long as students live close to the school that they are currently attending. The receiving district obtains additional funding when students transfer districts under the PEG program, and so we will be particularly interested in looking at the minimum distance between a school and another viable school from a different school district.

Next, we'll discuss the long-term outcomes shown in tables 2 and 3. For the postgraduate outcomes, we include students whose anticipated 12th grade spring-semester year is at least four years before 2021. We only consider data for universities that we observe the student attending after graduating high school.[14] Further, in order for a university's data to be included the student needs to begin attending that university no later than four years after graduating high school, and we only consider majors recorded no later than four years after graduating high school.[15] For the "Graduated HS" outcome, we include students whose anticipated 12th grade spring-semester year is at least 2 years before 2019.

7.1.1 Preparation of the Transferring Variables

Here are specific details on the preparation of each of the transferring variables:

- "Exit TX Public Schools": Occurs whenever a student is present in the TSP PEIMS enrollment data in school year t and is not present in $t+1$. If a student left high school because of graduating, this would count as a "transfer_exit"

- "Transfer for Full Year": This variable is only defined for students that did not "have to leave" any of the schools that they are currently enrolled in either because that school has no enrolled students for the following school year or based upon standard grade progression. For example, if in school year t a student is listed as being in fifth grade in some enrollment file[16] and is attending at least one school where the highest grade level offered is fifth grade, then they will have a "missing" value for this variable. The variable is "1" if a student is enrolled in at least one school in school year $t+1$, but

[14] Here and throughout this paper, we are looking at university records up to and including those with "spring semester years" of 2021. A student is counted as attending a university after high school graduation if they are recorded as attending it in a school year's record after the school year associated with their high school graduation, or if they are recorded as attending it the summer after the school year of their high school graduation and graduated high school prior to July.

[15] Here, the differences in times are specifically measured between the "spring semester year" of the university record and the "spring semester year" associated with a student's high school graduation.

[16] Recall that we take the maximum grade listed in the student's enrollment data for a given school year.

none of the schools they are attending in school year $t+1$ were schools that they attended in school year t. Otherwise, it is zero. "Transfer Dist for Full Year" measures a "Transfer for Full Year" in which none of the districts a school is attending in school year $t+1$ were districts that they attended in school year t.

- Recorded transfers: Students can be recorded as being transfer students in the adaelig variable. If a student is categorized as being a transfer student in this way for school year $t+1$, they are marked as being a "Recorded Transfer" for school year t. A "Recorded Transfer Districts" is a recorded transfer in which at least one of the districts where a student is recorded as being a transfer student in school year $t+1$ is not a district that they were enrolled in for school year t.

7.1.2 Discussion of why not all Schools above the Cutoff are on the PEG List

In the figure 1, it can be seen that not all schools with maximum failing rates above the cutoff are placed on the PEG list. This section discusses some reasons why that may be the case. The most obvious is that, even after limiting the set of schools considered as described at the top of section 7.1, we are including some schools for whom the PEG program does not apply. So long as there is not a "discontinuity" in the share of these schools included at a maximum failing rate of 49.5%, this should not present an issue for identification.

It seems that a second possible cause is that schools to the right of the cutoff could have successfully appealed a past accountability ranking. The TEA 2018 Accountability Manual gives a hypothetical example where certain writing tests were sent back in for re-scoring, and some of their scores were revised upward (Tex, 2018, p. 80). Even if such a revision is made, the underlying testing data that we access for making the running variable would remain the same.[17] If that were not the case, there could be concern that the appeals process was effectively creating running variable manipulation. In Fu and Gregory (2019), for example, there was some evidence that their running variable was manipulated when calculated *after* an appeals process, and so they instead accessed a version prepared prior to the appeals process.

For our case, the accountability data is unchanged during an appeals process, so it seems that the affect

[17] The same 2018 Accountability Manual states the following: "When a district, charter school, or campus rating is changed as the result of an appeal, the data and calculations on which the original rating was based are not changed; only the rating itself is changed. The Accountability Report Card and all other reports related to accountability for the 2017–18 school year (e.g., School Report Cards, TAPR, TPRS) will include the same data and calculations as do the original reports" (Tex, 2018, p. 82).

of the appeals process on our analysis would just be to limit the size of the jump shown in figure 1. Imagine, for example, that there were some school which initially had a maximum failing rate of 51% on the relevant tests for the 2009-2010 school year, but after appealing was able to lower this failing rate to 49%. Our data would continue to show them at 51%, above the 49.5% cutoff, and so we would may include them in the sample for the 2011 PEG list when in fact they had not had a maximum failing rate above the cutoff in one of the last two years.

7.2 Testing the Validity of the Regression Discontinuity Design

In this section we do two things to test the validity of the regression discontinuity design. First, we do a manipulation test for the running variable using the package provided by Cattaneo et al. (2018).[18] The idea of this test is that if schools were able to manipulate the running variable, then out of a desire to avoid being placed on the PEG list the schools with running variable values just above the cutoff may be able to lower themselves below the cutoff and escape being put on the PEG list. This would create a larger mass of observations to the left of the cutoff than to the right.

Before running the test, we have strong reason to believe that there is not manipulation in this running variable. The TEA has a group of "Performance-Based Monitoring" staff which develop methods of validating student assessment data.[19] Additionally, to clarify, the concern for the purposes of the regression discontinuity design is not exactly that certain schools may be improperly manipulating their maximum failing rate. For example, imagine that every school had a 50% chance of taking actions that would lower their maximum failing rate by 1 percentage point, and that these actions were correlated with unobserved components of ε_{jt} in equation (1). Under this scenario, provided that there is not a discontinuity in those unobserved components at the maximum failing rate of .495, omitted variable bias would not affect our estimate of α_1.

The concern would come if schools were manipulating their maximum failing rate specifically around the cutoff in order to avoid being placed on the PEG list. This would involve figuring out that their failing rate would be precisely around 50%, and then somehow altering enough tests or altering the population

[18] For the first two columns of table 9 uses a bandwidth selection method from this package called "diff" which chooses a common bandwidth for each side of the cutoff based on the MSE of a difference in densities.

[19] For a list of manuals describing how this data validation is completed, see https://tea.texas.gov/student-assessment/monitoring-and-interventions/data-validation-monitoring/data-validation-manuals

taking the test to shift that failing rate below the cutoff. While there have been some reports of schools cheating on standardized exams, before running the test for running variable manipulation it seems quite unlikely that this kind of manipulation would be present.

The results of the test are shown in table 9, separated out for "High Schools," "Elementary Schools," and the combined category "All Schools" which also includes middle and transitional schools. The first number reported in each group of four is the p-value, then the school observations used within the chosen bandwidth, then the bandwidth, and finally the estimated difference in densities around the cutoff. The different columns change the size of the bandwidth used and the order of the polynomial used. With the notable exception of the case with a small bandwidth of 3 and a polynomial of order 2,[20] For elementary schools, however, the results quite consistently show a difference in densities between those who just barely do qualify for the PEG list and those that do not. These differences are negative in all but one case, and a negative difference is what would be expected if running variable manipulation were occurring in order to avoid PEG list placement.

Table 9: Running Variable Manipulation Tests

	p/obs/h/diff	p/obs/h/diff	p/obs/h/diff	p/obs/h/diff	p/obs/h/diff	p/obs/h/diff	p/obs/h/diff	p/obs/h/diff
High Schools	p=0.583	p=0.562	p=0.663	p=0.004	p=0.551	p=0.772	p=0.629	p=0.471
	N=339	N=1,883	N=346	N=346	N=631	N=631	N=850	N=850
	h=2.909	h=20.916	h=3.000	h=3.000	h=5.000	h=5.000	h=7.000	h=7.000
	diff=0.004	diff=0.003	diff=0.003	diff=0.039	diff=-0.003	diff=-0.003	diff=0.002	diff=-0.006
Elementary Schools	p=0.005	p=0.017	p=0.044	p=0.072	p=0.009	p=0.135	p=0.005	p=0.026
	N=1,231	N=1,475	N=636	N=636	N=1,040	N=1,040	N=1,391	N=1,391
	h=5.983	h=7.574	h=3.000	h=3.000	h=5.000	h=5.000	h=7.000	h=7.000
	diff=-0.010	diff=-0.012	diff=-0.010	diff=0.016	diff=-0.010	diff=-0.009	diff=-0.009	diff=-0.011
All Schools	0.042	0.166	0.916	0.000	0.053	0.860	0.049	0.135
	N=5,303	N=3,283	N=1,511	N=1,511	N=2,545	N=2,545	N=3,436	N=3,436
	h=11.655	h=6.609	h=3.000	h=3.000	h=5.000	h=5.000	h=7.000	h=7.000
	diff=-0.004	diff=-0.005	diff=0.000	diff=0.027	diff=-0.005	diff=0.001	diff=-0.004	diff=-0.005
Order	1	2	1	2	1	2	1	2

Here, each observation is a school and school year combination.

The second thing that we do in this section to test the validity of the regression discontinuity design is to report balance tests for variables that should not be affected by assignment to the PEG list. Tables 12 through 10 show the results. As with our main results from section 5, standard errors are nearest-neighbor clustered at the district level. The coefficient estimates are not statistically significant for any of the variables

[20]Note that in this case, the estimated difference is actually positive, suggesting that there is a higher density of schools that just barely make the cutoff for entering the PEG program than the density of schools just barely avoiding it. This is the opposite of what would be expected if schools were manipulating their running variable to avoid PEG list placement.

or bandwidths we consider.

7.3 Additional Results

Table 10: Balance Tests for High Schools

At Risk of Dropping Out	0.0028	-0.0241	0.0002
	(0.0406)	(0.0835)	(0.0429)
	N=928	N=346	N=849
	h=7.7178	h=3.0000	h=7.0000
Gifted/Talented Program Participant	0.0006	0.0033	-0.0012
	(0.0108)	(0.0219)	(0.0113)
	N=978	N=346	N=849
	h=8.1698	h=3.0000	h=7.0000
Identified Immigrant	-0.0057	-0.0048	-0.0058
	(0.0067)	(0.0123)	(0.0069)
	N=921	N=346	N=849
	h=7.6678	h=3.0000	h=7.0000
Male	-0.0047	0.0009	-0.0047
	(0.0053)	(0.0076)	(0.0054)
	N=919	N=346	N=849
	h=7.6552	h=3.0000	h=7.0000
Enrolled/Served in Spec. Ed. Program	-0.0169	-0.0112	-0.0169
	(0.0097)	(0.0158)	(0.0096)
	N=837	N=346	N=849
	h=6.8508	h=3.0000	h=7.0000
Race: Native American	-0.0009	0.0000	-0.0010
	(0.0008)	(0.0012)	(0.0008)
	N=860	N=346	N=849
	h=7.1620	h=3.0000	h=7.0000
Race: Asian	0.0019	0.0151	0.0019
	(0.0088)	(0.0200)	(0.0089)
	N=861	N=346	N=849
	h=7.1949	h=3.0000	h=7.0000
Race: Black	-0.0305	-0.0943	-0.0380
	(0.0583)	(0.1252)	(0.0649)
	N=1027	N=346	N=849
	h=8.8212	h=3.0000	h=7.0000
Race: Hispanic	0.0369	-0.0001	0.0408
	(0.0789)	(0.1569)	(0.0837)
	N=942	N=346	N=849
	h=7.8697	h=3.0000	h=7.0000
Race: White	-0.0068	0.0707	-0.0068
	(0.0391)	(0.0777)	(0.0391)
	N=848	N=346	N=849
	h=6.9940	h=3.0000	h=7.0000
Race: Two or more races	0.0028	0.0086	0.0030
	(0.0021)	(0.0052)	(0.0024)
	N=992	N=346	N=849
	h=8.3939	h=3.0000	h=7.0000
Economic Disadvantage Status	0.0087	-0.1083	0.0104
	(0.0615)	(0.1095)	(0.0562)
	N=753	N=346	N=849
	h=6.0008	h=3.0000	h=7.0000
English as 2nd Lang. Program Participant	0.0509	0.0296	0.0498
	(0.0345)	(0.0605)	(0.0367)
	N=976	N=346	N=849
	h=8.1460	h=3.0000	h=h=7.0000
Limited English Proficiency	0.0713	0.0565	0.0724
	(0.0401)	(0.0711)	(0.0431)
	N=999	N=346	N=849
	h=8.4874	h=3.0000	h=7.0000
On Last Year's PEG List	0.0834	-0.0571	0.0955
	(0.1279)	(0.2738)	(0.1340)
	N=928	N=346	N=849
	h=7.7084	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -4	-0.0781	-0.0988	-0.0678
	(0.0631)	(0.0954)	(0.0499)
	N=512	N=273	N=698
	h=4.9631	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -3	0.0119	-0.0438	0.0106
	(0.0372)	(0.0616)	(0.0404)
	N=770	N=257	N=651
	h=8.3263	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -2	0.0052	-0.0039	0.0048
	(0.0435)	(0.0668)	(0.0431)
	N=479	N=203	N=489
	h=6.7330	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -1	-0.0167	-0.0254	-0.0184
	(0.0412)	(0.0683)	(0.0426)
	N=541	N=203	N=492
	h=7.8301	h=3.0000	h=7.0000
Bandwidth (h)	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Table 11: Balance Tests for Elementary Schools

At Risk of Dropping Out	-0.0299	-0.0545	-0.0348
	(0.0286)	(0.0349)	(0.0297)
	N=1714	N=632	N=1386
	h=8.8030	h=3.0000	h=7.0000
Gifted/Talented Program Participant	-0.0011	-0.0065	-0.0057
	(0.0094)	(0.0106)	(0.0090)
	N=2064	N=632	N=1386
	h=11.0905	h=3.0000	h=7.0000
Identified Immigrant	-0.0012	0.0095	-0.0004
	(0.0080)	(0.0121)	(0.0082)
	N=1631	N=632	N=1386
	h=8.3721	h=3.0000	h=7.0000
Male	-0.0051	-0.0062	-0.0045
	(0.0031)	(0.0037)	(0.0031)
	N=1175	N=632	N=1386
	h=5.6696	h=3.0000	h=7.0000
Enrolled/Served in Spec. Ed. Program	0.0013	0.0022	0.0013
	(0.0050)	(0.0066)	(0.0050)
	N=1376	N=632	N=1386
	h=6.8725	h=3.0000	h=7.0000
Race: Native American	-0.0007	0.0001	-0.0005
	(0.0016)	(0.0016)	(0.0016)
	N=1787	N=632	N=1386
	h=9.3190	h=3.0000	h=7.0000
Race: Asian	0.0074	0.0128	0.0076
	(0.0060)	(0.0098)	(0.0061)
	N=1430	N=632	N=1386
	h=7.2402	h=3.0000	h=7.0000
Race: Black	0.0552	0.0705	0.0548
	(0.0490)	(0.0642)	(0.0492)
	N=1437	N=632	N=1386
	h=7.2587	h=3.0000	h=7.0000
Race: Hispanic	-0.0607	-0.1085	-0.0576
	(0.0525)	(0.0705)	(0.0522)
	N=1285	N=632	N=1386
	h=6.3212	h=3.0000	h=7.0000
Race: White	-0.0078	0.0224	-0.0046
	(0.0228)	(0.0286)	(0.0235)
	N=1642	N=632	N=1386
	h=8.4316	h=3.0000	h=7.0000
Race: Two or more races	0.0000	0.0027	0.0003
	(0.0029)	(0.0037)	(0.0029)
	N=1540	N=632	N=1386
	h=7.8475	h=3.0000	h=7.0000
Economic Disadvantage Status	-0.0150	-0.0395	-0.0161
	(0.0215)	(0.0255)	(0.0218)
	N=1770	N=632	N=1386
	h=9.1631	h=3.0000	h=7.0000
English as 2nd Lang. Program Participant	0.0136	0.0387	0.0133
	(0.0182)	(0.0250)	(0.0182)
	N=1379	N=632	N=1386
	h=6.9204	h=3.0000	h=7.0000
Limited English Proficiency	-0.0527	-0.0729	-0.0484
	(0.0473)	(0.0590)	(0.0458)
	N=2038	N=632	N=1386
	h=10.9307	h=3.0000	h=7.0000
On Last Year's PEG List	-0.0218	0.0905	0.0134
	(0.0632)	(0.0988)	(0.0692)
	N=2105	N=632	N=1386
	h=11.4320	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -4	-0.0208	-0.0323	-0.0167
	(0.0318)	(0.0410)	(0.0317)
	N=1277	N=616	N=1355
	h=6.4005	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -3	-0.0370	-0.0605	-0.0251
	(0.0292)	(0.0361)	(0.0281)
	N=1125	N=625	N=1375
	h=5.4904	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -2	-0.0018	-0.0188	-0.0012
	(0.0247)	(0.0359)	(0.0253)
	N=1513	N=625	N=1374
	h=7.8299	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -1	-0.0173	-0.0152	-0.0176
	(0.0250)	(0.0352)	(0.0252)
	N=1403	N=626	N=1375
	h=7.1124	h=3.0000	h=7.0000
Rounded to Percent	No	No	No
Bandwidth	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Table 12: Balance Tests for All Schools

At Risk of Dropping Out	-0.0079	-0.0353	-0.0123
	(0.0233)	(0.0344)	(0.0248)
	N=4294	N=1504	N=3427
	h=9.0074	h=3.0000	h=7.0000
Gifted/Talented Program Participant	0.0058	0.0044	0.0040
	(0.0078)	(0.0100)	(0.0079)
	N=4023	N=1504	N=3427
	h=8.3864	h=3.0000	h=7.0000
Identified Immigrant	-0.0040	-0.0009	-0.0038
	(0.0056)	(0.0074)	(0.0059)
	N=4455	N=1504	N=3427
	h=9.4715	h=3.0000	h=7.0000
Male	-0.0030	-0.0026	-0.0030
	(0.0025)	(0.0032)	(0.0026)
	N=3771	N=1504	N=3427
	h=7.8145	h=3.0000	h=7.0000
Enrolled/Served in Spec. Ed. Program	-0.0049	0.0017	-0.0045
	(0.0053)	(0.0069)	(0.0056)
	N=4204	N=1504	N=3427
	h=8.7942	h=3.0000	h=7.0000
Race: Native American	-0.0005	0.0002	-0.0005
	(0.0008)	(0.0010)	(0.0008)
	N=4121	N=1504	N=3427
	h=8.6070	h=3.0000	h=7.0000
Race: Asian	0.0032	0.0093	0.0032
	(0.0040)	(0.0071)	(0.0043)
	N=3940	N=1504	N=3427
	h=8.1649	h=3.0000	h=7.0000
Race: Black	0.0154	-0.0093	0.0110
	(0.0396)	(0.0536)	(0.0420)
	N=4297	N=1504	N=3427
	h=9.0237	h=3.0000	h=7.0000
Race: Hispanic	-0.0208	-0.0366	-0.0119
	(0.0427)	(0.0650)	(0.0478)
	N=5103	N=1504	N=3427
	h=11.0540	h=3.0000	h=7.0000
Race: White	-0.0033	0.0319	-0.0028
	(0.0243)	(0.0332)	(0.0257)
	N=4316	N=1504	N=3427
	h=9.0752	h=3.0000	h=7.0000
Race: Two or more races	0.0010	0.0044	0.0011
	(0.0018)	(0.0028)	(0.0019)
	N=4446	N=1504	N=3427
	h=9.4214	h=3.0000	h=7.0000
Economic Disadvantage Status	-0.0073	-0.0509	-0.0085
	(0.0263)	(0.0404)	(0.0279)
	N=4179	N=1504	N=3427
	h=8.7329	h=3.0000	h=7.0000
English as 2nd Lang. Program Participant	0.0339	0.0604	0.0382
	(0.0230)	(0.0312)	(0.0238)
	N=4403	N=1504	N=3427
	h=9.3012	h=3.0000	h=7.0000
Limited English Proficiency	0.0082	-0.0059	0.0061
	(0.0406)	(0.0585)	(0.0419)
	N=4239	N=1504	N=3427
	h=8.8585	h=3.0000	h=7.0000
On Last Year's PEG List	0.0284	0.0302	0.0475
	(0.0543)	(0.0918)	(0.0608)
	N=4570	N=1504	N=3427
	h=9.6354	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -4	-0.0061	0.0206	-0.0136
	(0.0317)	(0.0478)	(0.0327)
	N=4056	N=1407	N=3225
	h=8.9904	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -3	-0.0086	-0.0319	-0.0127
	(0.0278)	(0.0448)	(0.0288)
	N=3769	N=1407	N=3213
	h=8.3357	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -2	-0.0138	-0.0065	-0.0104
	(0.0265)	(0.0393)	(0.0268)
	N=3801	N=1353	N=3050
	h=8.8838	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced -1	-0.0087	0.0321	-0.0055
	(0.0268)	(0.0423)	(0.0289)
	N=4262	N=1354	N=3054
	h=10.1107	h=3.0000	h=7.0000
Bandwidth	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Table 13: Effects of PEG Program on Transferring for Elementary Schools, with Additional Measures

Exit TX Public Schools	-0.0041	0.0003	-0.0041
	(0.0033)	(0.0043)	(0.0034)
	N=1514	N=632	N=1386
	h=7.7334	h=3.0000	h=7.0000
Transfer for Full Year	0.0000	0.0087	0.0015
	(0.0152)	(0.0198)	(0.0146)
	N=1167	N=627	N=1377
	h=5.6674	h=3.0000	h=7.0000
Transfer Districts for Full Year	-0.0012	0.0016	-0.0009
	(0.0089)	(0.0112)	(0.0088)
	N=1323	N=627	N=1377
	h=6.6081	h=3.0000	h=7.0000
Recorded as Transfer Student	-0.0001	0.0029	0.0012
	(0.0026)	(0.0031)	(0.0025)
	N=2114	N=632	N=1386
	h=11.5013	h=3.0000	h=7.0000
Recorded as Transfer in Diff District	0.0003	0.0002	0.0003
	(0.0007)	(0.0009)	(0.0007)
	N=1290	N=632	N=1386
	h=6.3597	h=3.0000	h=7.0000
Bandwidth	Auto Selection	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Table 14: Effects of PEG Program on Transferring for High Schools, with Additional Measures

Exit TX Public Schools	0.0146	0.0465	0.0099
	(0.0166)	(0.0346)	(0.0146)
	N=752	N=346	N=849
	h=5.9827	h=3.0000	h=7.0000
Transfer for Full Year	0.0001	-0.0112	0.0000
	(0.0113)	(0.0177)	(0.0115)
	N=884	N=346	N=846
	h=7.4521	h=3.0000	h=7.0000
Transfer Districts for Full Year	-0.0030	-0.0103	-0.0031
	(0.0072)	(0.0130)	(0.0080)
	N=1002	N=346	N=846
	h=8.5918	h=3.0000	h=7.0000
Recorded as Transfer Student	-0.0005	0.0035	-0.0005
	(0.0056)	(0.0122)	(0.0058)
	N=875	N=346	N=849
	h=7.3333	h=3.0000	h=7.0000
Recorded as Transfer in Diff District	0.0001	-0.0003	0.0001
	(0.0010)	(0.0026)	(0.0010)
	N=858	N=346	N=849
	h=7.0893	h=3.0000	h=7.0000
Bandwidth	Auto Selection	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.

Table 15: Effects of PEG Program on Test Scores at Elementary Schools, Broken Down By Distance

Max Fail Rate, year PEG list Announced	-6.2856	0.6736	-12.3595*
	(3.7105)	(3.5965)	(5.3069)
	N=150	N=181	N=172
	h=2.9124	h=3.1630	h=2.6824
Max Fail Rate, year after PEG list Announced	-1.2775	-7.8419	-7.2638
	(5.5439)	(6.7206)	(6.0320)
	N=119	N=114	N=161
	h=2.8791	h=2.3628	h=3.3229
Math Test Score, Year PEG list Announced	-0.0365	0.0707	0.0237
	(0.0614)	(0.0519)	(0.0619)
	N=176	N=178	N=238
	h=2.8180	h=2.5669	h=3.1165
Math Test Score, Year PEG list Announced +1	0.0801	0.1696	0.0379
	(0.0770)	(0.0927)	(0.0898)
	N=161	N=130	N=165
	h=3.1466	h=2.1198	h=2.6396
Math Test Score, Year PEG list Announced +2	0.0284	0.0743	-0.0299
	(0.1021)	(0.1065)	(0.1064)
	N=119	N=131	N=140
	h=2.8487	h=2.7316	h=2.9060
Math Test Score, Year PEG list Announced +3	-0.0295	0.1304	0.0435
	(0.0990)	(0.1130)	(0.0973)
	N=90	N=88	N=76
	h=2.9465	h=2.2495	h=2.1199
Math Test Score, Year PEG list Announced +4	-0.0469	0.4158***	0.0044
	(0.0873)	(0.1092)	(0.0853)
	N=47	N=41	N=54
	h=1.8222	h=1.2711	h=2.3427
Rounded to Percent	No	No	No
Bin Tercile	1	2	3

Here, each observation is a school and school year combination.

Table 16: Effects of PEG Program on Test Scores at High Schools

Max Fail Rate, year PEG list Announced	0.3987	2.6505	0.3608
	(1.5399)	(2.8476)	(1.5587)
	N=755	N=300	N=744
	h=7.2098	h=3.0000	h=7.0000
Max Fail Rate, year after PEG list Announced	-0.0055	2.9963	0.0349
	(2.0681)	(4.3731)	(2.0959)
	N=672	N=251	N=662
	h=7.1658	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced	0.0320	0.0293	0.0383
	(0.0490)	(0.0866)	(0.0436)
	N=429	N=203	N=493
	h=5.7306	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +1	0.0244	0.0299	0.0254
	(0.0524)	(0.0738)	(0.0464)
	N=368	N=187	N=457
	h=5.3392	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +2	-0.0218	-0.0509	-0.0110
	(0.0488)	(0.0722)	(0.0440)
	N=368	N=176	N=433
	h=5.6000	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +3	-0.0449	-0.0734	-0.0475
	(0.0367)	(0.0493)	(0.0369)
	N=396	N=156	N=391
	h=7.2145	h=3.0000	h=7.0000
Math Test Score, Year PEG list Announced +4	-0.0066	0.0115	-0.0114
	(0.0550)	(0.0859)	(0.0564)
	N=341	N=131	N=322
	h=7.6530	h=3.0000	h=7.0000
Bandwidth	Auto Selected	3	7
Kernel	Triangular	Triangular	Triangular

Here, each observation is a school and school year combination.