14.771 Development Economics: Microeconomic issues and Policy Models

Fall 2008

Education Policy in Equilibrium

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14.771

Four Examples were Looking at the Market Equilibrium Makes a Difference

- Private and Social Returns (done!)
- Vouchers for Private School
- Using Regression discontinuity to estimate the impact of class size
- The Cost of Teachers

Vouchers for private schools

- Why should government finance education?
- What should government provide education?
- Vouchers: A way to de-couple financing and provision of education
- The impact of vouchers: a partial equilibrium analysis Angrist et al (2006,2008)

Voucher in Partial Equilibrium

- Setting: one city in Colombia
- 125,000 Vouchers are randomly allocated to eligible students who applied through a lottery
- Vouchers cover half the cost of private schools
- They are renewed conditional on good performance in school
- Since Vouchers are assigned by lottery, we can follow losers and winners to asses their impact on probability to go to to private school, and their performance.
- First Stage and Reduced form impact of winning: ▸ Table 3
- Short term test score results of winning: ▸ Table 6
- Long term test impact: More likely to graduate high school and take school leaving exam ▸ Table 2

Dealing with Attrition and Non Compliance

- Attrition:
  - The differential rate at which students take the exam create an attrition problem
  - They deal with attrition in different ways, notably by constructing bounds
  - Without controlling: no difference in test scores. With Control: big differences on test scores
- The non compliance problem:
- Some kids do not take the voucher (never takers)
- Some kids get another voucher (always takers) use winning the lottery as an instrument for getting the private school voucher ▸ Table 8
  - Are the identification assumption satisfied?
  - Suppose that we were trying to use this instrument to measure the impact of attending private school, would they be satisfied?

Equilibrium Effects

- Why might the effect of the voucher on a winner not tell us what would the effect be of introducing vouchers in an entire school system?
- If we could do a giant randomized experiment on this, what would it be?
- Hsieh and Urquiola examine the case of Chile
  - In 1981, Chile introduced a nationwide voucher systems
  - Massive entry of private school : ▸ Graph
  - Especially in richer and more urban area
  - DD (panel) analysis of the impact of school markets that got more private schools: regress change in test scores on change on fraction of students in private school.
  - ▸ Results More Private school not associated with any increase in test score
  - Potential Confounding factors?

Sorting

- Explanation: market for schools.
  - Parents like good schools
  - They think good school=good test scores
  - They look for school with good peers (even if there are no peer effects)
  - Increased sorting ▸ Table5
  - Evidence that parents have strong willingness to pay for schools with good peers (even with low value added): Zhang (2008) find no effect of elite school on test score in China (lottery), even though parents are willing to pay a lot of money to attend these schools.

Estimating Class Size: Angrist and Lavy

- A classic RD design
- Israel: Class size should not be over 40
- This creates discontinuity in class size at multiple of 40:

- A Fuzzy RD, since the class size is not exactly following the rule.
- Therefore we use predicted class size (based on the rule) as an instrument for actual class size, controlling for smooth function of the class size.
- Results: ▸ Figure ▸ First Stage and Reduced forms ▸ 2SLS

What happens to this if Class Size is a choice:? Urquiola and Verhoogen

- Back to Chile...
- Schools are subject to a class size cap (45), and an integer constraints on the number of classroom: they respect this ▸ figure 5
- But they can chose how many kids they enroll, as well as the fee they set.
- Profit-maximizing schools will endogenous choose enrollment and fees to avoid being on the right side of a discontinuity: this will generate bunching ▸ figure 7
- Except if they are targeting parents who really value class size and are willing to pay more for it: they will then raise the fees.

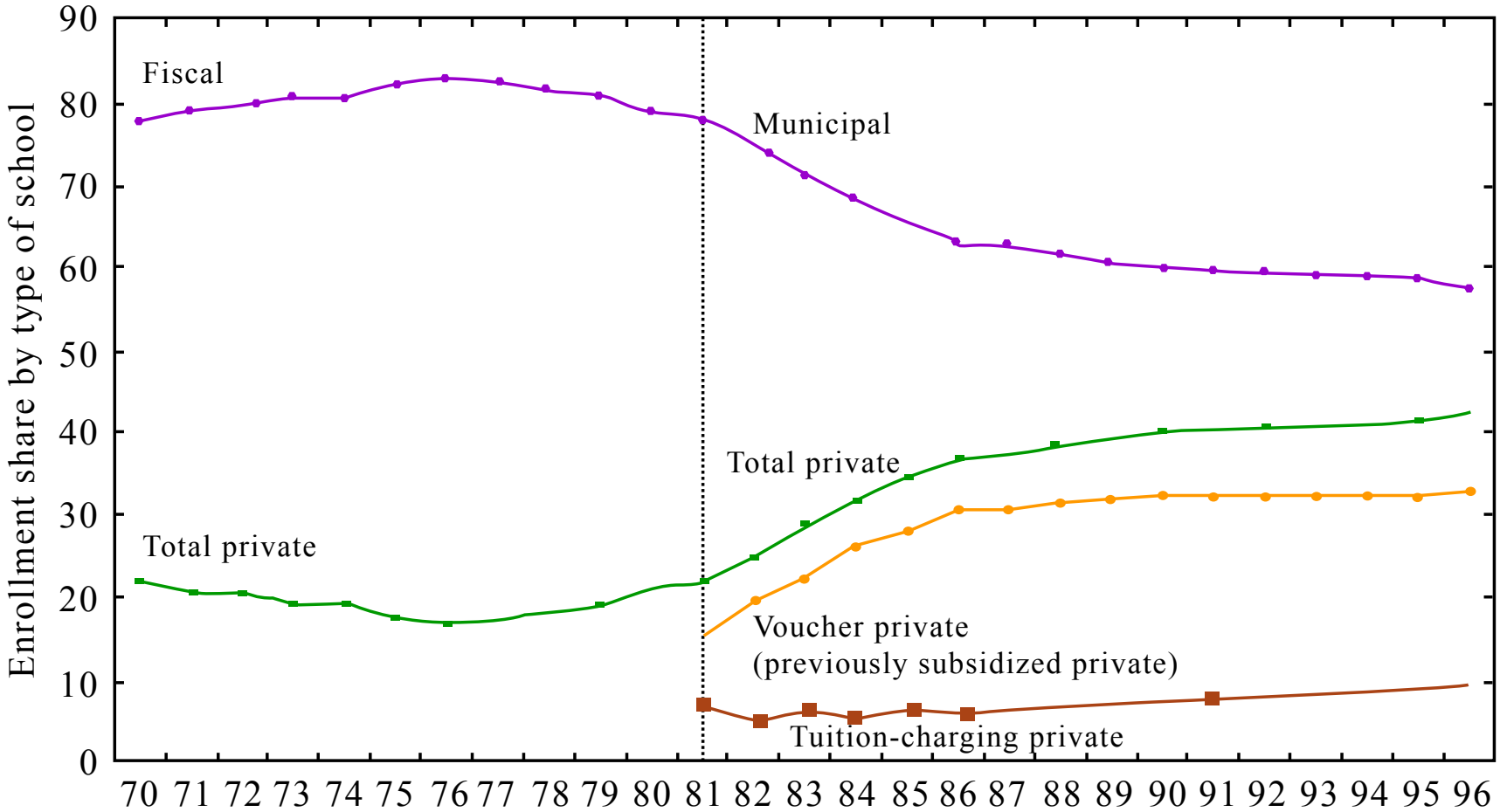
Problems for RD design

- The composition of students on the left and right side of a discontinuity will change endogenous as a function of the discontinuity ▸ figure 8
- This is a violation of the RD identification assumption: the potential outcome of the students will also differ.
- There is a RD in test scores ▸ figure 6 but it may be due to the underlying discontinuity in potential outcomes.
- ▸ Table 3: nicely estimated effect of class size
- ▸ Table 5: controlling for observable differences erase the result!
- Note that this does not invalidate the Angrist Lavy study, since in their set-up, class size was not a choice variables for the school.

The cost of Teachers

- Suppose returns to education increases (i.e. because of economic growth)
- This also will bid up the price of teachers
- And thus the cost of education
- This may not lead to an increase in education in steady state (Banerjee, 2004)
- Effect of education policy in equilibrium depends on:
  - What we assume about credit constraints
  - What we assume about preferences

Hsieh and Urquiola (2006)



National enrollment shares by sector, 1970-1996. Data assembled from several issues of the Ministry of Education's *Compendio Estadistico*.

Figure by MIT OpenCourseWare.

Table 3
OLS regressions for achievement, 1982–1988 and 1982–1996

	Dependent variable—change in average					
	Language score[a]			Math score[a]		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A—1982–1988						
Change in priv. enrollment[b]	−5.5	−6.7	−3.4	−7.2	−9.4	−9.2
	(7.5)	(7.7)	(8.7)	(7.6)	(7.5)	(8.9)
	[−0.08]	[−0.10]	[−0.05]	[−0.10]	[−0.13]	[−0.12]
Controls: previous trends[d]	No	Yes	Yes	No	Yes	Yes
Controls: concurrent trends[e]	No	No	Yes	No	No	Yes
N	84	84	84	84	84	84
R^2	0.006	0.073	0.105	0.010	0.087	0.156
Panel B—1982–1996						
Change in priv. enrollment[b]	−13.8*	−12.3	−8.9	−15.8**	−15.0**	−12.8
	(7.9)	(7.7)	(9.9)	(6.5)	(6.7)	(8.0)
	[−0.24]	[−0.21]	[−0.15]	[−0.27]	[−0.25]	[−0.22]
Controls: previous trends[d]	No	Yes	Yes	No	Yes	Yes
Controls: concurrent trends[e]	No	No	Yes	No	No	Yes
N	84	84	84	84	84	84
R^2	0.056	0.106	0.145	0.072	0.117	0.171

Table 5
Sorting among communes, 1990's cross-section and 1982–1988 changes

	Dependent variable—within commune observations of average characteristic in public schools/average characteristic in all schools									
	SES index[a]		Income[b]		Language[a]		Mathematics[a]		Repetition[c]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A—1990's cross sections[d]										
Private enrollment[c]	−0.20***	−0.16***	−0.37***	−0.33***	−0.08***	−0.08***	−0.09***	−0.09***	0.42***	0.28***
	(0.02)	(0.03)	(0.07)	(0.09)	(0.02)	(0.02)	(0.02)	(0.03)	(0.07)	(0.07)
	[−0.58]	[−0.46]	[−0.43]	[−0.38]	[−0.39]	[−0.39]	[−0.42]	[−0.42]	[0.44]	[0.29]
Commune controls[e]	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Thirteen regional dummies	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
N	296	296	184	184	296	296	296	296	299	299
R^2	0.313	0.493	0.171	0.285	0.188	0.396	0.215	0.346	0.193	0.447
Panel B—1982–1988 changes										
Change in private enrollment[c]					−0.21**	−0.22**	−0.14*	−0.19**	0.51**	0.38*
					(0.10)	(0.10)	(0.08)	(0.08)	(0.24)	(0.24)
					[−0.24]	[−0.26]	[−0.17]	[−0.23]	[0.24]	[0.18]
Controls: concurrent trends[f]					No	Yes	No	Yes	No	Yes
N					84	84	84	84	163	163
R^2					0.060	0.065	0.027	0.097	0.054	0.100

Angrist et al (2001)

Educational Outcomes and Voucher Status

Dependent variable	*Bogota 95*				*Combined sample*	
	Loser's means	*No Ctls*	*Basic Ctls*	*Basic +19 Barrio Ctls*	*Basic Ctls*	*Basic +19 Barrio Ctls*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Using any scholarship in survey year	.057 (.232)	.509** (.023)	.504** (.023)	.505** (.023)	.526** (.019)	.521** (.019)
Ever used a scholarship	.243 (.430)	.672** (.021)	.663** (.022)	.662** (.022)	.636** (.019)	.635** (.019)
Started 6th in private	.877 (.328)	.063** (.017)	.057** (.017)	.058** (.017)	.066** (.016)	.067** (.016)
Started 7th in private	.673 (.470)	.174** (.025)	.168** (.025)	.171** (.024)	.170** (.021)	.173** (.021)
Currently in private school	.539 (.499)	.160** (.028)	.153** (.027)	.156** (.027)	.152** (.023)	.154** (.023)
Highest grade completed	7.5 (.960)	.164** (.053)	.130** (.051)	.120** (.051)	.085** (.041)	.078* (.041)
Currently in school	.831 (.375)	.019 (.022)	.007 (.020)	.007 (.020)	-.002 (.016)	-.002 (.016)
Finished 6th grade	.943 (.232)	.026** (.012)	.023* (.012)	.021* (.011)	.014 (.011)	.012 (.010)
Finished 7th grade (excludes Bog 97)	.847 (.360)	.040** (.020)	.031 (.019)	.029 (.019)	.027 (.018)	.025 (.018)
Finished 8th grade (excludes Bog 97)	.632 (.483)	.112** (.027)	.100** (.027)	.094** (.027)	.077** (.024)	.074** (.024)
Repetitions of 6th grade	.194 (.454)	-.066** (.024)	-.059** (.024)	-.059** (.024)	-.049** (.019)	-.049** (.019)
Ever repeated after lottery	.224 (.417)	-.060** (.023)	-.055** (.023)	-.051** (.023)	-.055** (.019)	-.053** (.019)
Total repetitions since lottery	.254 (.508)	-.073** (.028)	-.067** (.027)	-.064** (.027)	-.058** (.022)	-.057** (.022)
Years in school since lottery	3.7 (.951)	.058 (.052)	.034 (.050)	.031 (.050)	.015 (.044)	.012 (.043)
Sample size	562		1147		1577	

Angrist et al (2001)

Test Results

	OLS estimates (1)	*OLS with covariates (2)*	*RE estimates (3)*	*RE with covariates (4)*
A. Test scores for all applicants				
Total points	.217* (.120)	.205* (.108)		
Math scores	.178 (.118)	.153 (.110)		
Reading scores	.204* (.122)	.203* (.113)		
Writing scores	.126 (.121)	.128 (.114)		
Pooled test scores			.170* (.095)	.148* (.088)
Math and reading scores			.192* (.101)	.162* (.096)
B. Test scores for female applicants				
Total points	.199 (.152)	.263** (.120)		
Math scores	.292** (.142)	.346** (.126)		
Reading scores	.117 (.156)	.152 (.135)		
Math and reading scores			.204 (.130)	.235** (.117)
B. Test scores for male applicants				
Total points	.204 (.183)	.170 (.179)		
Math scores	.010 (.142)	.004 (.031)		
Reading scores	.276 (.190)	.220 (.176)		
Math and reading scores			.143 (.160)	.087 (.160)

Angrist et al (2001)

OLS and 2SLS Estimates of the Effect of Ever Using a Private School Scholarship

Dependent variable	*Coefficient on ever used a private school scholarship*				
	Bogota 95			*Combined sample*	
	Loser's mean (1)	*OLS* (2)	*2SLS* (3)	*OLS* (4)	*2SLS* (5)
Highest grade completed	7.5 (.965)	.167** (.053)	.196** (.078)	.141** (.042)	.134** (.065)
In school	.831 (.375)	.021 (.021)	.010 (.031)	.033* (.017)	-.003 (.026)
Total repetitions since lottery	.254 (.508)	-.077** (.029)	-.100** (.042)	-.069** (.023)	-.091** (.035)
Finished 8th	.632 (.483)	.114** (.028)	.151** (.041)	.108** (.025)	.127** (.038)
Test scores - total points	-.099 (1.0)	.379** (.111)	.291* (.153)	--	--
Married or living w/companion	.016 (.126)	-.009 (.006)	-.013 (.009)	-.010* (.006)	-.014 (.009)
N	562	1147		1577	

Table 2. Voucher Status and the Probability of ICFES Match

	Exact ID Match		ID and City Match		ID and 7-letter Name Match		ID, City, and 7-letter Match	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. All Applicants (N=3542)								
Dependent Var. Mean	.354		.339		.331		.318	
Voucher Winner	.072	.059	.069	.056	.072	.059	.068	.056
	(.016)	(.015)	(.016)	(.014)	(.016)	(.014)	(.016)	(.014)
Male		-.052		-.053		-.043		-.045
		(.014)		(.014)		(.014)		(.014)
Age		-.160		-.156		-.153		-.149
		(.005)		(.005)		(.005)		(.005)
B. Female Applicants (N=1789)								
Dependent Var. Mean	.387		.372		.361		.348	
Voucher Winner	.067	.056	.069	.057	.071	.060	.073	.062
	(.023)	(.021)	(.023)	(.021)	(.023)	(.021)	(.023)	(.021)
Age		-.168		-.164		-.160		-.156
		(.006)		(.006)		(.006)		(.006)
C. Male Applicants (N=1752)								
Dependent Var. Mean	.320		.304		.302		.288	
Voucher Winner	.079	.063	.071	.055	.074	.059	.065	.050
	(.022)	(.020)	(.022)	(.020)	(.022)	(.020)	(.022)	(.020)
Age		-.153		-.148		-.146		-.141
		(.007)		(.007)		(.007)		(.006)

Notes. Robust standard errors are shown in parentheses. The sample includes all Bogotá 95 applicants with valid ID numbers and valid age data (i.e. ages 9 to 25 at application). The sample is the same as in Table 1, Column 5.

Angrist and Lavy (1999)

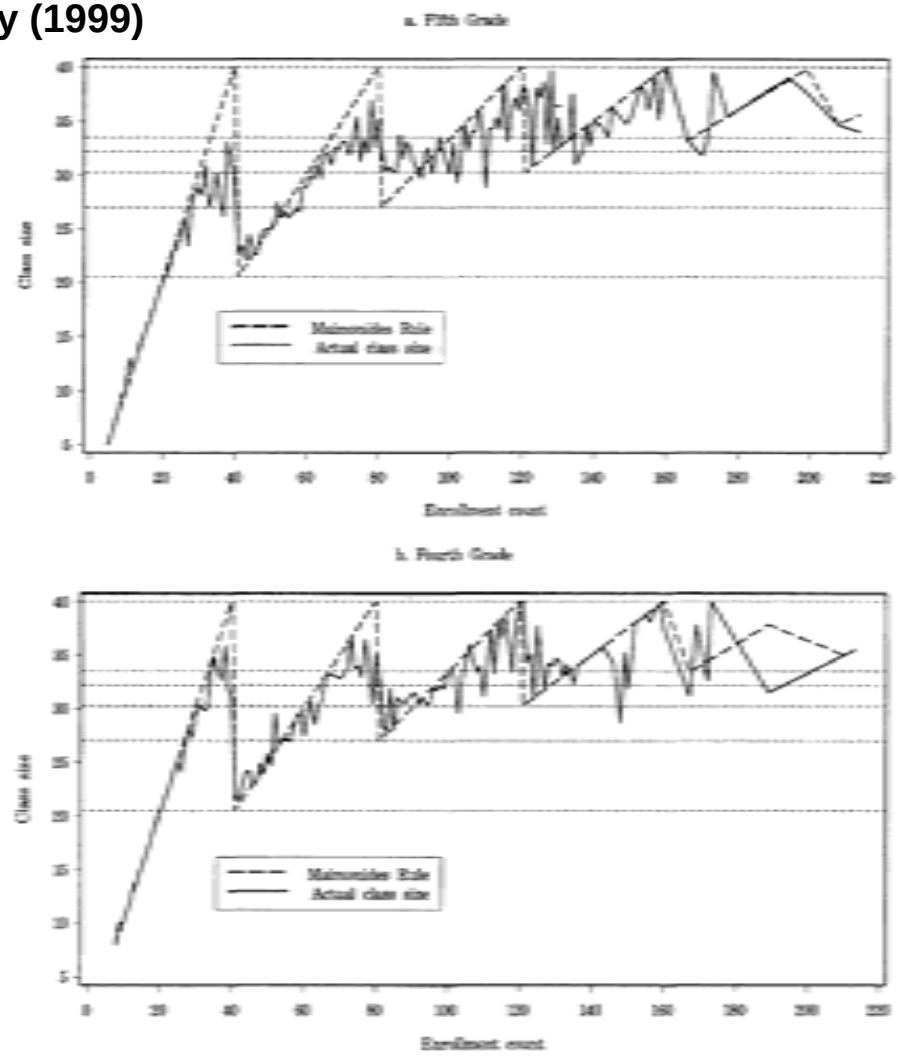


FIGURE I
Class Size in 1991 by Initial Enrollment Count, Actual Average Size and as Predicted by Maimonides' Rule

Angrist and Lavy (1999)

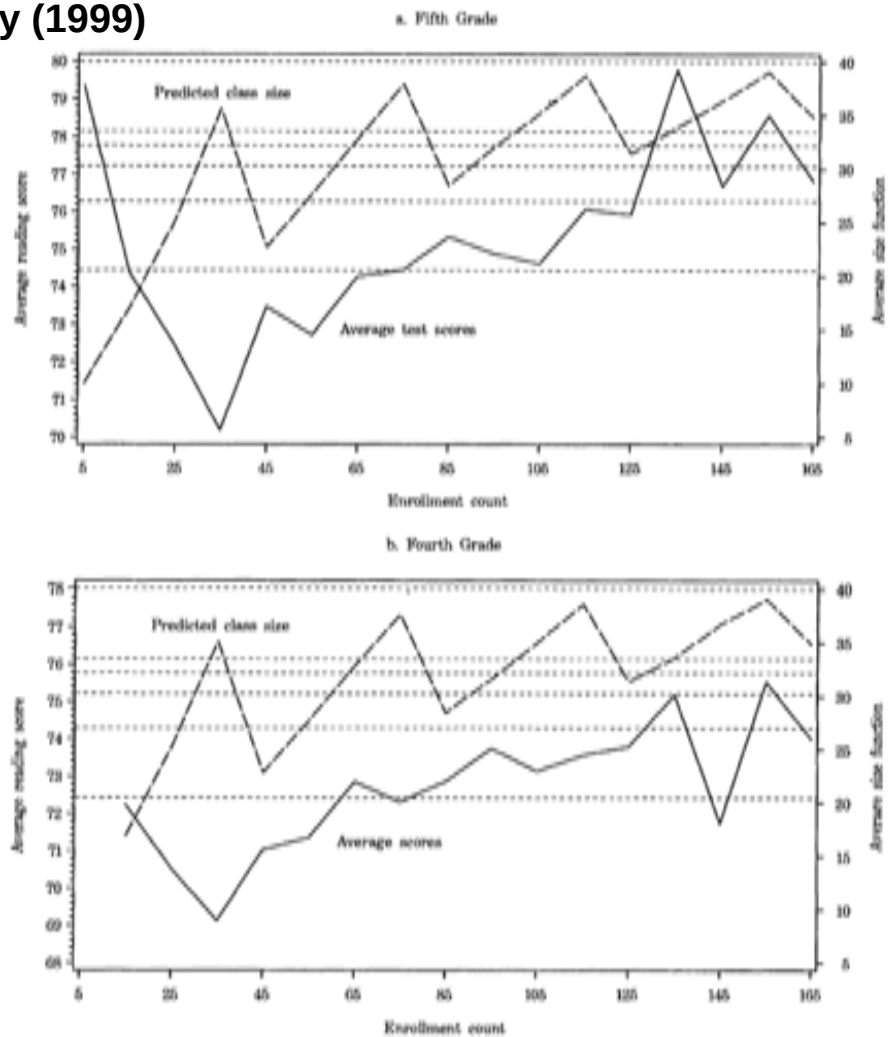


FIGURE II
Average Reading Scores by Enrollment Count, and the Corresponding Average Class Size Predicted by Maimonides' Rule

Angrist and Lavy (1999)

TABLE III
REDUCED-FORM ESTIMATES FOR 1991

	5th Graders						4th Graders					
	Class size		Reading comprehension		Math		Class size		Reading comprehension		Math	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A. Full sample												
Means	29.9		74.4		67.3		30.3		72.5		68.9	
(s.d.)	(6.5)		(7.7)		(9.6)		(6.3)		(8.0)		(8.8)	
Regressors												
f_{sc}	.704	.542	−.111	−.149	−.009	−.124	.772	.670	−.085	−.089	.038	−.033
	(.022)	(.027)	(.028)	(.035)	(.039)	(.049)	(.020)	(.025)	(.031)	(.040)	(.037)	(.047)
Percent disadvantaged	−.076	−.053	−.360	−.355	−.354	−.338	−.054	−.039	−.340	−.340	−.292	−.282
	(.010)	(.009)	(.012)	(.013)	(.017)	(.018)	(.008)	(.009)	(.013)	(.014)	(.016)	(.016)
Enrollment		.043		.010		.031		.027		.001		.019
		(.005)		(.006)		(.009)		(.005)		(.007)		(.009)
Root MSE	4.56	4.38	6.07	6.07	8.33	8.28	4.20	4.13	6.64	6.64	7.83	7.81
R^2	.516	.553	.375	.377	.247	.255	.561	.575	.311	.311	.204	.207
N	2,019		2,019		2,018		2,049		2,049		2,049	
B. Discontinuity sample												
Means	30.8		74.5		67.0		31.1		72.5		68.7	
(s.d.)	(7.4)		(8.2)		(10.2)		(7.2)		(7.8)		(9.1)	
Regressors												
f_{sc}	.481	.346	−.197	−.202	−.089	−.154	.625	.503	−.061	−.075	.059	.012
	(.053)	(.052)	(.050)	(.054)	(.071)	(.077)	(.050)	(.053)	(.056)	(.063)	(.072)	(.080)
Percent disadvantaged	−.130	−.067	−.424	−.422	−.435	−.405	−.068	−.029	−.348	−.343	−.306	−.291
	(.029)	(.028)	(.027)	(.029)	(.039)	(.042)	(.029)	(.028)	(.032)	(.034)	(.041)	(.043)
Enrollment		.086		.003		.041		.063		.007		.024
		(.015)		(.015)		(.022)		(.014)		(.017)		(.022)
Root MSE	5.95	5.58	6.24	6.24	8.58	8.53	5.49	5.26	6.57	6.57	8.26	8.25
R^2	.360	.437	.421	.421	.296	.305	.428	.475	.299	.299	.178	.182
N	471		471		471		415		415		415	

The function f_{sc} is equal to enrollment/{int[(enrollment − 1)/40) + 1]. Standard errors are reported in parentheses. Standard errors were corrected for within-school correlation between classes. The unit of observation is the average score in the class.

Angrist and Lavy (1999)

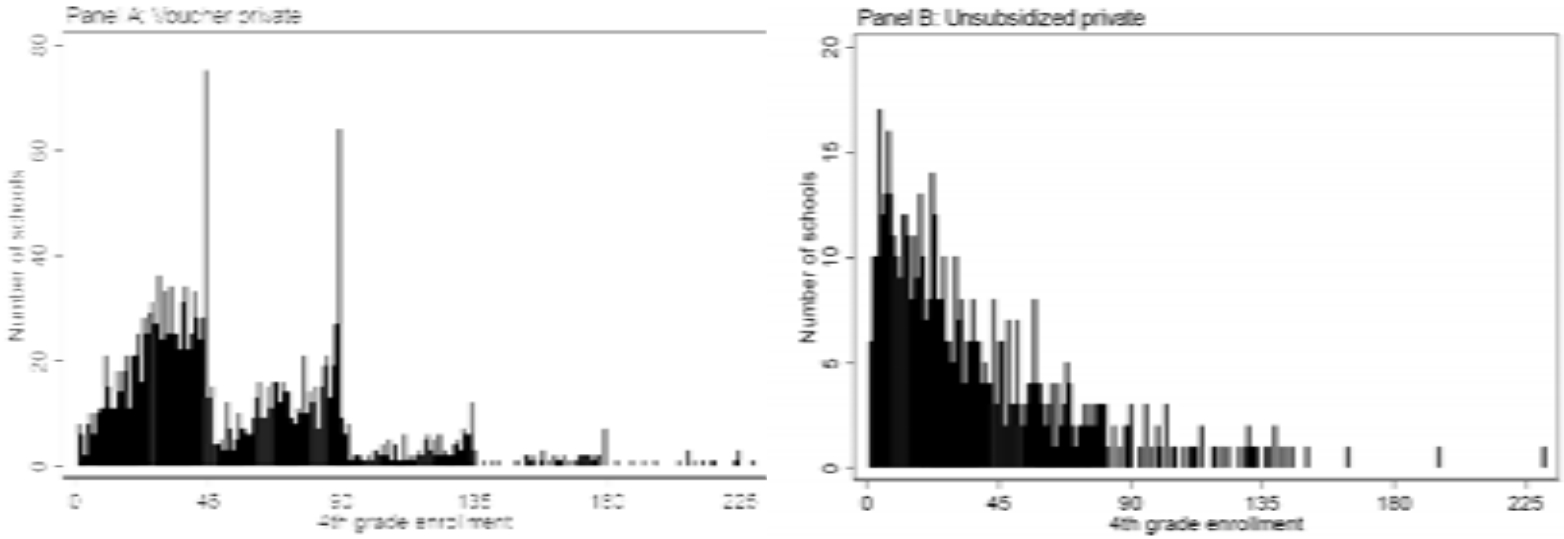
TABLE IV
2SLS ESTIMATES FOR 1991 (FIFTH GRADERS)

	Reading comprehension						Math					
	Full sample				+/− 5 Discontinuity sample		Full sample				+/− 5 Discontinuity sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mean score	74.4				74.5		67.3				67.0	
(s.d.)	(7.7)				(8.2)		(9.6)				(10.2)	
Regressors												
Class size	−.158	−.275	−.260	−.186	−.410	−.582	−.013	−.230	−.261	−.202	−.185	−.443
	(.040)	(.066)	(.081)	(.104)	(.113)	(.181)	(.056)	(.092)	(.113)	(.131)	(.151)	(.236)
Percent disadvantaged	−.372	−.369	−.369		−.477	−.461	−.355	−.350	−.350		−.459	−.435
	(.014)	(.014)	(.013)		(.037)	(.037)	(.019)	(.019)	(.019)		(.049)	(.049)
Enrollment		.022	.012			.053		.041	.062			.079
		(.009)	(.026)			(.028)		(.012)	(.037)			(.036)
Enrollment squared/100			.005						−.010			
			(.011)						(.016)			
Piecewise linear trend				.136						.193		
				(.032)						(.040)		
Root MSE	6.15	6.23	6.22	7.71	6.79	7.15	8.34	8.40	8.42	9.49	8.79	9.10
N		2019		1961	471			2018		1960	471	

The unit of observation is the average score in the class. Standard errors are reported in parentheses. Standard errors were corrected for within-school correlation between classes. All estimates use f_{ic} as an instrument for class size.

Urquiola and Verhoogen (2008)

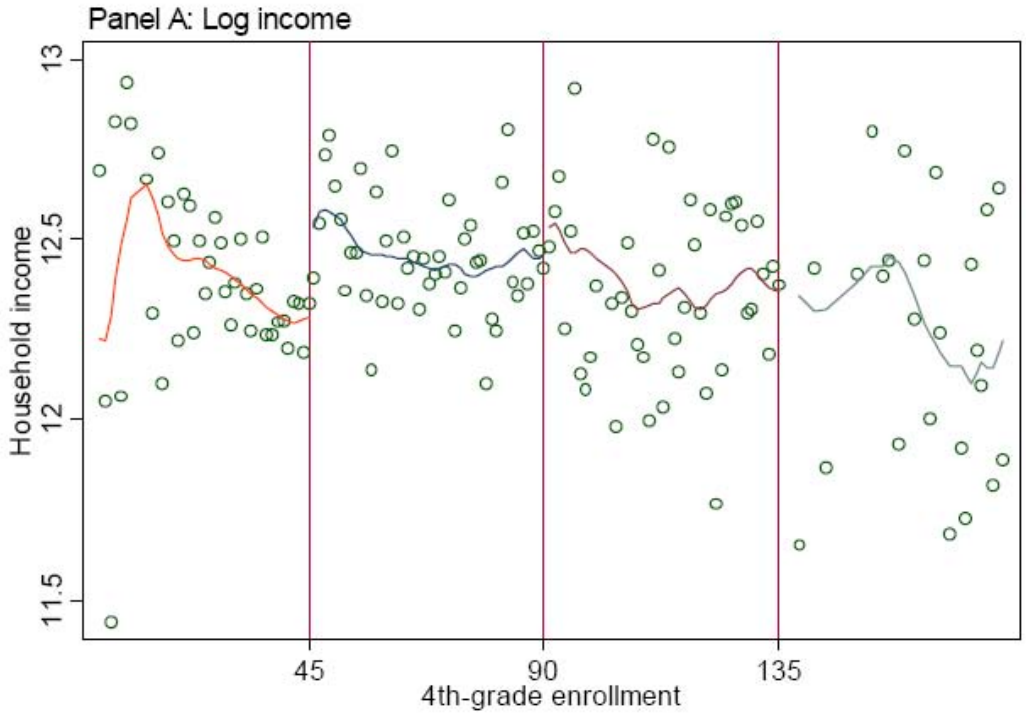
Figure 7: Histograms of 4th grade enrollment in urban private schools, 2002



Notes: Enrollment is drawn from administrative data for 2002. For visual clarity, only schools with 4th grade enrollments below 225 are displayed. This excludes less than one percent of all schools.

Urquiola and Verhoogen (2008)

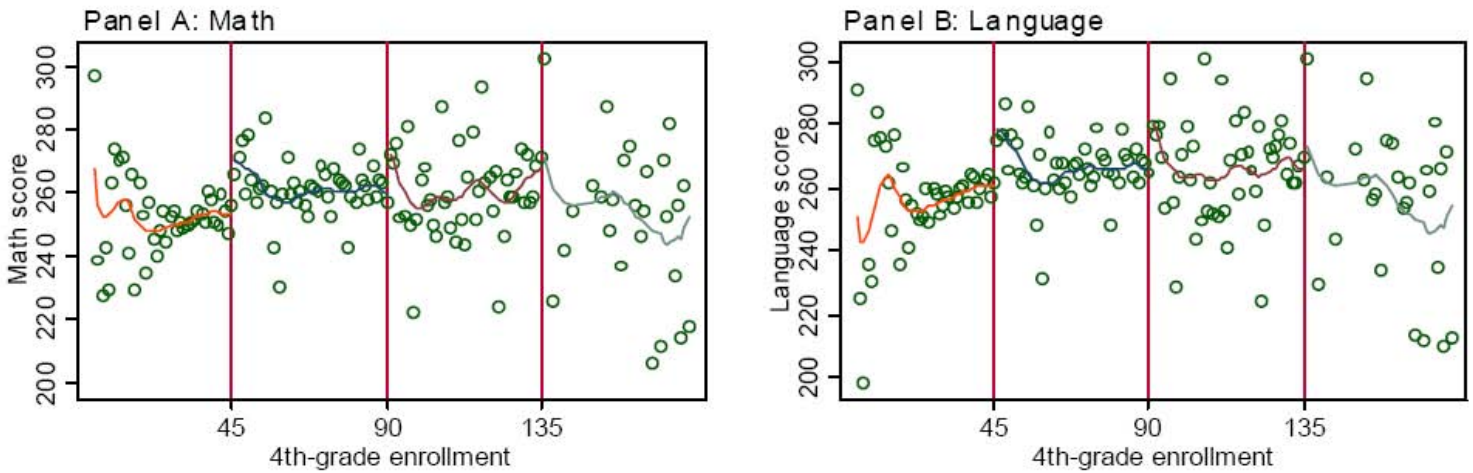
Figure 8: Student characteristics and enrollment in urban private voucher schools, 2002



Notes: Income and mothers' schooling come from 2002 individual-level SIMCE data aggregated to the school level. Enrollment is drawn from administrative data for the same year. The figure presents "raw" enrollment-cell means, along with the fitted values of a locally weighted regression calculated within each enrollment segment. Only data for schools with 4th grade enrollments below 180 are plotted; this excludes less than two percent of all schools.

Urquiola and Verhoogen (2008)

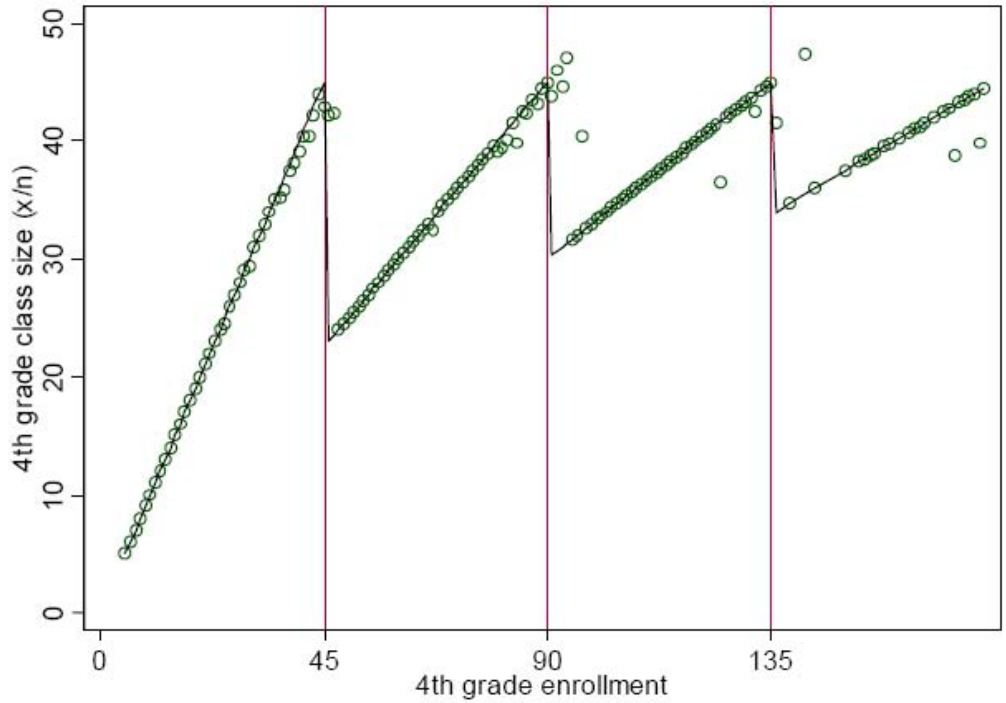
Figure 6: Test scores and enrollment in urban private voucher schools, 2002



Notes: Test scores come from 2002 individual-level SIMCE information aggregated to the school level, and enrollment is drawn from administrative data for the same year. The figures plot "raw" enrollment-cell means of test scores, along with the fitted values of a locally weighted regression calculated within each enrollment segment.

Urquiola and Verhoogen (2008)

Figure 5: 4th grade enrollment and class size in urban private voucher schools, 2002



Notes: Based on administrative data for 2002. The solid line describes the relationship between enrollment and class size that would exist if the class size rule (equation 30 in the text) were applied mechanically. The circles plot actual enrollment cell means of 4th grade class size. Only data for schools with 4th grade enrollments below 180 are plotted; this excludes less than two percent of all schools.

Urquiola and Verhoogen (2008)

Table 5: Behavior of selected variables around enrollment cut-offs and IV specifications; urban private voucher schools, 2002

	Mothers' schooling (1)	Fathers' schooling (2)	Household income (3)	IV Math (4)	IV Language (5)
Class size				-0.1	0.1
				(0.1)	(0.1)
$1\{x \geq 46\}$	0.93***	0.94***	66.6***		
	(0.2)	(0.2)	(14.1)		
$1\{x \geq 91\}$	0.03	0.03	17.6		
	(0.2)	(0.2)	(17.3)		
$1\{x \geq 136\}$	0.66	0.86	143.7*		
	(0.7)	(0.8)	(79.4)		
$1\{x \geq 181\}$	0.66	0.71	53.1		
	(1.1)	(1.1)	(77.7)		
x	-0.02*	-0.02*	-2.4***	0.4***	0.4***
	(0.0)	(0.0)	(0.8)	(0.1)	(0.1)
$(x-46)*1\{x \geq 46\}$	0.02*	0.01	2.3***	-0.4***	-0.4***
	(0.0)	(0.0)	(0.8)	(0.1)	(0.1)
$(x-91)*1\{x \geq 91\}$	-0.01	0.00	-0.7	0.1	0
	(0.0)	(0.0)	(0.6)	(0.1)	(0.1)
$(x-136)*1\{x \geq 136\}$	-0.02	-0.03	-3.5	-0.2**	-0.1
	(0.0)	(0.0)	(2.3)	(0.1)	(0.1)
$(x-181)*1\{x \geq 181\}$	0.01	0.02	4	0.1	0.1
	(0.0)	(0.0)	(3.4)	(0.1)	(0.2)
Mothers' schooling				8.5***	9.5***
				(0.9)	(1.0)
Fathers' schooling				1.6*	1.1
				(0.9)	(0.9)
Household income				13.4**	16.6***
				(5.4)	(5.5)
N	1,623	1,623	1,623	1,623	1,623
R^2	0.034	0.032	0.029		

Notes: Test scores and socioeconomic status measures are from 2002 SIMCE individual-level data, aggregated to the school level. Class size and enrollment come from administrative information for the same year. *** indicates statistical significance at 1% level; ** at 5%, and * at 10%. All regressions are clustered by enrollment levels. The table focuses only on effects around the first four cut-offs, excluding the less than one percent of schools that report 4th grade enrollments in excess of 225.

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Table 3: 1st stage, reduced form, and base IV specifications; urban private voucher schools, 2002

	1st stage	Reduced form		IV	
	Class size (1)	Math score (2)	Language score (3)	Math score (4)	Language score (5)
Class size				-0.7***	-0.6**
				(0.3)	(0.3)
1{x≥46}	-16.5***	11.8***	9.9***		
	(2.7)	(3.2)	(3.3)		
1{x≥91}	-4.9**	0.0	1.6		
	(2.3)	(4.0)	(4.0)		
1{x ≥136}	-4.3**	11.5	10.9		
	(2.0)	(13.6)	(12.9)		
1{x≥181}	-3.4	11.2	11.5		
	(3.0)	(10.6)	(13.9)		
x	0.95***	0.1	0.2*	0.8***	0.8***
	(0.01)	(0.1)	(0.1)	(0.2)	(0.3)
(x-46)*1{x≥46}	-0.6***	-0.1	-0.2	-0.6**	-0.6**
	(0.1)	(0.2)	(0.2)	(0.3)	(0.3)
(x-91)*1{x≥91}	-0.3**	0.0	-0.1	-0.2*	-0.3**
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
(x-136)*1{x≥136}	0.0	-0.6	-0.4	-0.2	-0.1
	(0.1)	(0.4)	(0.4)	(0.2)	(0.2)
(x-181)*1{x≥181}	-0.1	0.2	0.2	0.1	0.1
	(0.1)	(0.5)	(0.6)	(0.3)	(0.4)
N	1,623	1,623	1,623	1,623	1,623
R^2	0.844	0.069	0.072		

Notes: Test scores are based on 2002 SIMCE individual-level data, aggregated to the school level. Class size and enrollment come from administrative information for the same year. *** indicates statistical significance at the 1% level; ** at 5%, and * at 10%. All regressions are clustered by enrollment levels; see Lee and Card (forthcoming). The table focuses only on effects around the first four cut-offs, excluding the less than one percent of schools that report 4th grade enrollments in excess of 225 students.