

# Estimation of an Education Production Function under Random Assignment with Selection

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## Online Appendix

Appendix Table 1: Summary Statistics for Girls

	District 3	District 4	District 6	District 7	District 8	District 9
Average Korean CSAT score	97.9	102.8	103.0	103.0	106.8	100.2
	[3.7]	[3.2]	[2.4]	[4.3]	[3.1]	[2.7]
Percentage of single-sex schools	28.6	35.3	40.0	46.7	41.2	36.4
Percentage of private schools	14.3	47.1	53.3	60.0	52.9	45.5
Age of school in 2008 (in years)	23.3	16.4	35.5	24.1	44.1	35.7
	[16.0]	[17.2]	[30.1]	[23.6]	[30.4]	[27.0]
Senior class size	36.1	35.1	36.5	35.6	34.8	34.8
	[2.3]	[1.8]	[2.9]	[2.8]	[2.9]	[2.6]
Percentage of students receiving lunch support	10.4	7.8	6.0	9.1	4.2	12.0
	[4.7]	[3.6]	[2.8]	[4.6]	[3.2]	[2.6]
Annual development fund spending per student (in 1000 KRW)	40.7	17.2	27.2	20.5	54.5	35.5
	[96.7]	[19.9]	[33.5]	[14.1]	[60.6]	[27.3]
Percentage of female teachers	60.6	53.3	47.0	53.0	53.4	52.7
	[7.7]	[5.6]	[15.7]	[8.8]	[12.2]	[16.5]
Number of female seniors per school	255.6	299.1	361.4	346.5	334.3	258.4
	[114.1]	[168.0]	[185.5]	[186.6]	[158.8]	[91.6]
Number of female CSAT takers per school	236.9	286.4	339.6	330.5	307.6	242.6
	[108.6]	[165.6]	[177.2]	[180.3]	[145.3]	[88.3]
Number of high schools	14	17	15	15	17	11

Notes: All variables are for the school level. Standard deviations in brackets. 1000 KRW is worth approximately 1 USD.

Appendix Table 2: School Input Effects on Korean CSAT Scores for Girls

	(1) District 3	(2) District 4	(3) District 6	(4) District 7	(5) District 8	(6) District 9	(7) APE
Single-sex	2.98	6.62	0.01	-2.98	2.51	1.18	1.67
	(4.88)	(1.78)***	(1.80)	(2.81)	(4.16)	(2.25)	(1.28)
Senior class size	-0.24	-0.09	0.11	-0.08	-0.18	-0.03	-0.08
	(0.27)	(0.09)	(0.18)	(0.16)	(0.14)	(0.15)	(0.07)

Notes: \*, \*\*, and \*\*\* indicate significance at 10 percent, 5 percent, and 1 percent level, respectively. Robust standard errors in parentheses. Standard errors clustered in school level for coefficients on time-varying regressors. Time-varying control variables include the fraction of students receiving free or reduced price lunch, annual development fund spending per student, and the fraction of female teachers. Time-invariant control variables include a private indicator, age of the school in 2008, and the interaction between the two.