Free Lunch for All!
The Effect of Community Eligibility Provision Program on Academic Outcomes

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CEP –Community Eligibility Provision

- **Community Eligibility Provision (CEP) – free breakfast and lunch to ALL students in a school**
- Reimburse schools that adopt based on the percentage of students in need-based programs.
- Potentially, affect academic outcomes :
  - Ease administrative burden
  - Increase lunch participation
  - Decrease absences
  - Eliminates stigma
  - Reduces childhood food insecurity

Related Literature

- School meals and educational outcomes
  - Academic performance: mixed evidence
    - Free breakfast for all: Loes-Urbel, Schwartz, Weinstein, & Corcoran (2013), Frisvold (2015)
    - Breakfast in the classroom: Corcoran, Elbel, & Schwartz (2016), Imberman & Kugler (2014), Anzman-Fransa, et. al. (2015)
    - Individual based free and reduced lunch: Hinrichs (2011)
  - School meals and other outcomes
    - Food insecurity: Fletcher & Frisvold (2017)
    - Nutrition: Bhattacharya, Currie, & Haddie (2006)
    - Health: Gunderson, Kreider, & Pepper (2012)
    - Obesity: Schanzenbach (2009)
- Universal free lunch and education:
  - Universal lunch and behavior: Altindag, Lee, Merkle (2018)
  - “Let Them Eat Lunch…” Schwartz & Rothbart (2018)
    - Use the policy adoption in NYC
    - Positive effect on math and reading scores for Middle School Students
    - Gains for both the poor and the near-poor

Main Results

- Overall Effects
  - 0.034-0.036 SD increase in math scores for elementary students
  - Smaller effects on ELA
  - No significant effects on middle school results or absences
- Poor vs. Non-poor Students
  - Poor students (measured by their SNAP/TANF status) have the gains in test scores.
- Urban /Rural
  - No statistically different effects on performance
  - Large reduction in absences in urban schools

CEP –Community Eligibility Provision

Background

- Authorized by Congress as a part of the Healthy, Hunger-Free Kids Act of 2010.
- Phased in over a period of 3 years, starting with D.C., Illinois, Kentucky, Michigan, New York, Ohio, West Virginia, Florida, Georgia, Maryland, and Massachusetts.
- Available nationwide beginning July 1, 2014 (School Year 2014-15).

CEP –Community Eligibility Provision

Eligibility

- Schools and LEAs with a minimum Identified Student Percentage (ISP ≥ 40 percent) in the prior school year
- Identified Students = those certified for free meals without the use of household applications (for example those directly certified through SNAP).
- Available to:
  - All schools in an LEA
  - A group of schools in an LEA
  - An individual school in an LEA

CEP in SC

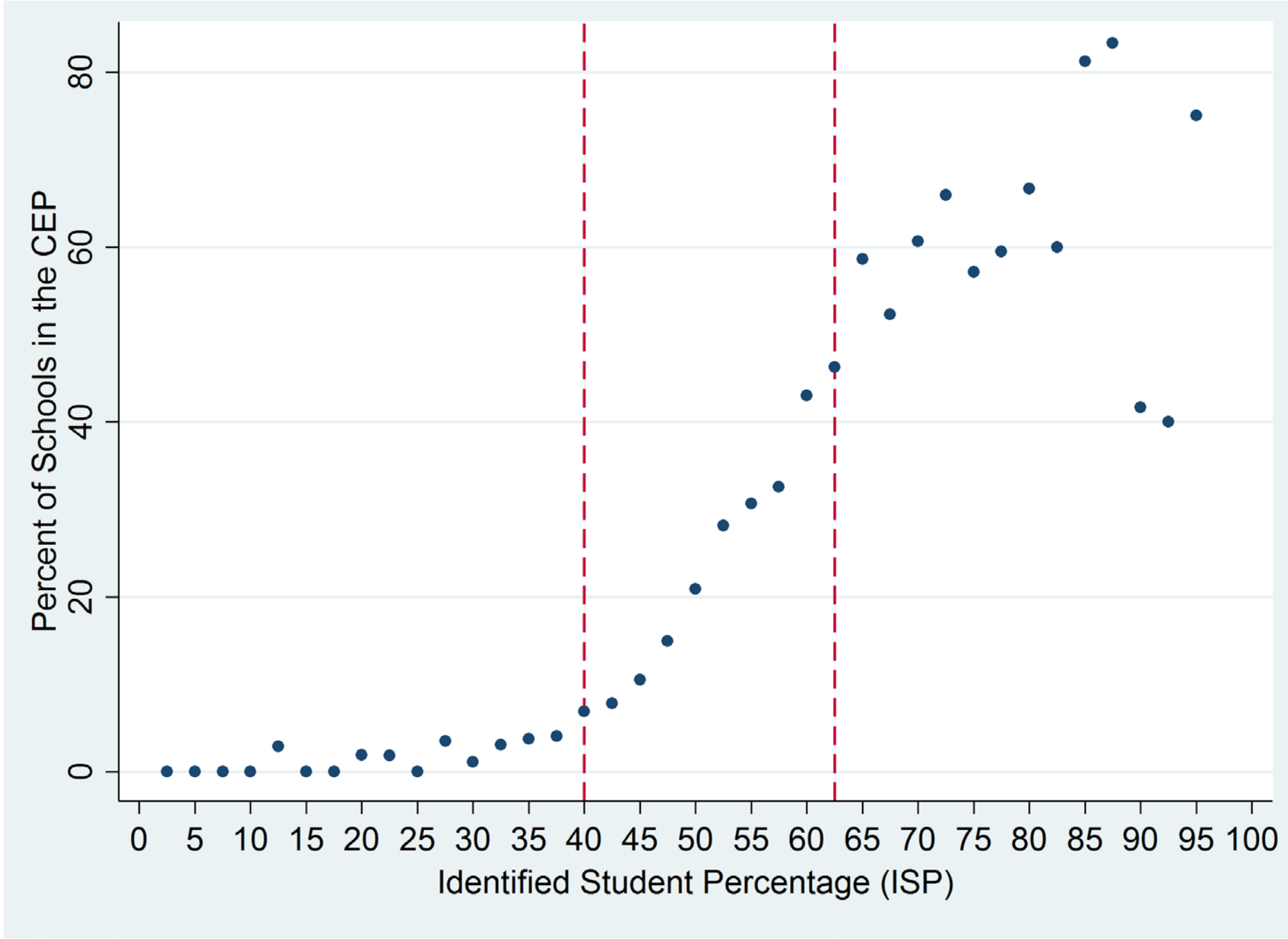
- The CEP was implemented in 2014-15 school year in South Carolina.
  - In 2014-15, 461 out of 848 schools were eligible, and 216 of them participated.
  - The number of participating schools increases over time (369 in 2015-16 and 376 in 2016-17).
  - Currently, 37 districts participate as a whole even though some of their schools are not categorically eligible for the CEP.
- Once in the program, schools do not need to recertify for 4 years.
- The reimbursement rate is set as the ISP multiplied by 1.6.
  - The program is 100% subsidized in any school where the ISP exceeds 62.5%.

Data on Outcomes

- Administrative data from SC Department of Education and SC Department of Social Services:
- From SC DOE:
  - Math and ELA end-of-year test scores and annual attendance record for each student in the 3rd to 8th grade.
- From SC DSS:
  - Free/reduced lunch receipt status, TANF or SNAP receipt status
- To these data sets we also merged in school level characteristics (annual school report cards from SC DOE and the Common Core Data from NCES) and annual reports from SC DOE on CEP indicating eligibility and participation status with details for each school.

Descriptives

	All	ISP≥0.4 (2014)	ISP≥ 0.625 (2014)	Ever CEP	CEP in both years	CEP Switchers
Female	48.9	48.9	49.0	49.5	49.3	50.2
Race						
White	54.2	42.7	21.1	29.1	29.8	28.1
Black	35.1	46.7	68.8	62.6	63.4	60.9
Hispanic	8.0	8.8	9.0	6.7	5.2	9.3
Asian and Pacific Islander	2.0	1.2	0.6	0.9	0.9	1.4
SNAP/TANF (2014)	40.7	53.6	67.3	60.1	61.3	56.4
Lunch Status (2014)						
Full Price	38.9	23.6	17.6	17.6	15.4	22.1
Free	54.7	70.0	84.7	77.1	78.9	72.9
Reduced Price	6.4	6.4	5.3	5.3	5.7	5.0
Urban	53.7	50.0	54.1	50.2	38.8	69.3
Total No. of Students	223,115	116,286	36,220	46,731	23,504	14,789


Percent of Schools in the CEP
0
20
40
60
80
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
Identified Student Percentage (ISP)

Baseline Specification

$$Y_{igst} = \beta_0 + \beta_1 CEP_{st} \times Elementary_{igt} + \beta_2 CEP_{st} \times Middle_{igt} + X'_{st}\beta_3 + \gamma_{gt} + \delta_i + \varepsilon_{igst}$$

- Y_{igst}: Outcome of student *i* in grade *g* school *s* in year *t*, including Math score, ELA score, and no. of absences;
- CEP_{st}: Whether school *s* is in the CEP in year *t*;
- $Elementary_{igt}$: Whether student *i* is in grades 3 to 5;
- $Middle_{igt}$: Whether student *i* is in grades 6 to 8;
- X_{st}: Time-varying school characteristics;
- γ_{gt}: Grade-by-year fixed effect;
- δ_i: Individual fixed effect;
- ε_{igst}: Idiosyncratic error.

Baseline Results

	Math		Reading		Absence	
	(1)	(2)	(1)	(2)	(1)	(2)
CEP Elementary	0.034**	0.036**	0.015	0.015	-0.236	-0.224
	[0.016]	[0.016]	[0.011]	[0.011]	[0.151]	[0.151]
CEP Middle	0.006	0.004	-0.011	-0.014	-0.228	-0.208
	[0.019]	[0.019]	[0.012]	[0.012]	[0.358]	[0.350]
School Characteristics	No	Yes	No	Yes	No	Yes
Observations	551,779	551,779	551,779	551,779	551,779	551,779
R-squared	0.849	0.849	0.864	0.864	0.729	0.730

Panel A: Schools with ISP between 0.3 and 0.5 in 2014			
	Math	**ELA**	**Absence**
CEP Elementary	-0.018	-0.018	-0.397
	[0.044]	[0.031]	[0.272]
CEP Middle	0.011	-0.001	-0.219
	[0.034]	[0.026]	[0.301]
Observations	217,270	217,270	217,270
R-squared	0.842	0.859	0.755

Panel B: Schools with ISP between 0.525 and 0.725 in 2014			
	Math	**ELA**	**Absence**
CEP Elementary	0.041*	0.030*	-0.208
	[0.023]	[0.017]	[0.247]
CEP Middle	-0.036	0.010	-0.387
	[0.034]	[0.022]	[0.440]
Observations	134,529	134,529	134,529
R-squared	0.823	0.858	0.741

Social Benefit Status of Students

	Math	ELA	Absence
CEP Elementary × No SNAP/TANF	0.008	0.003	-0.224*
	[0.019]	[0.014]	[0.133]
CEP Elementary × SNAP /TANF	0.054***	0.023**	-0.221
	[0.017]	[0.012]	[0.177]
CEP Middle × No SNAP/TANF	-0.010	-0.008	-0.497*
	[0.024]	[0.014]	[0.255]
CEP Middle × SNAP/TANF	0.014	-0.018	-0.008
	[0.019]	[0.012]	[0.426]
Observations	551,779	551,779	551,779
R-squared	0.849	0.864	0.730
F-stat			
CEP Elem × No SNAP/TANF = CEP Elem × SNAP/TANF	6.91***	2.85*	0.00
CEP Midd × No SNAP/TANF = CEP Midd × SNAP/TANF	1.80	0.61	5.08**

Locality of Schools

	Math	ELA	Absence
CEP Elementary × Rural	0.054**	0.022	0.124
	[0.021]	[0.014]	[0.196]
CEP Elementary × Urban	0.014	0.014	-0.759**
	[0.020]	[0.017]	[0.337]
CEP Middle × Rural	0.010	-0.011	0.064
	[0.025]	[0.014]	[0.440]
CEP Middle × Urban	0.000	-0.014	-0.856
	[0.025]	[0.021]	[0.619]
Observations	540,961	540,961	540,961
R-squared	0.849	0.865	0.730
F-stat			
CEP Elem × Urban = CEP Elem × Rural	2.23	0.12	4.32**
CEP Midd × Urban = CEP Midd × Rural	0.09	0.02	1.38

	Math	ELA	Absence
	(1)	(2)	(3)
CEP Elementary × Rural × No SNAP/TANF	-0.005	0.006	0.110
	[0.025]	[0.017]	[0.182]
CEP Elementary × Rural × SNAP/TANF	0.091***	0.031**	0.112
	[0.021]	[0.016]	[0.226]
CEP Elementary × Urban × No SNAP/TANF	0.028	0.009	-0.687**
	[0.028]	[0.023]	[0.291]
CEP Elementary × Urban × SNAP/TANF	0.004	0.017	-0.787**
	[0.023]	[0.017]	[0.379]
CEP Middle × Rural × No SNAP/TANF	-0.026	-0.012	-0.289
	[0.028]	[0.015]	[0.341]
CEP Middle × Rural × SNAP/TANF	0.033	-0.011	0.278
	[0.024]	[0.015]	[0.510]
CEP Middle × Urban × No SNAP/TANF	0.025	0.007	-0.912**
	[0.038]	[0.027]	[0.439]
CEP Middle × Urban × SNAP/TANF	-0.020	-0.030	-0.797
	[0.024]	[0.021]	[0.789]
Observations	540,961	540,961	540,961
R-squared	0.849	0.865	0.730

Students' Pre-CEP Achievement Level

	Math	ELA	Absence
CEP Elementary × Not Met	0.359***	0.230***	-0.267
	[0.019]	[0.014]	[0.235]
CEP Elementary × Met	-0.012	0.016	-0.237
	[0.017]	[0.016]	[0.177]
CEP Elementary × Exemplary	-0.319***	-0.174***	-0.193
	[0.030]	[0.018]	[0.150]
CEP Middle × Not Met	0.250***	0.168***	0.061
	[0.023]	[0.015]	[0.447]
CEP Middle × Met	-0.065***	-0.058***	-0.322
	[0.019]	[0.014]	[0.342]
CEP Middle × Exemplary	-0.304***	-0.195***	-0.590**
	[0.050]	[0.026]	[0.249]
Observations	455,829	455,547	455,829
R-squared	0.848	0.860	0.716

Potential Endogenous Self-Selection into the CEP –IV Approach

	Eligibility for the program as IV			Eligibility for the no-cost UFL as IV		
	Math	**ELA**	**Absence**	**Math**	**ELA**	**Absence**
CEP Elementary	0.133**	0.062	-0.888*	0.253***	0.090***	-1.266**
	[0.066]	[0.049]	[0.515]	[0.047]	[0.034]	[0.566]
CEP Middle	-0.043	-0.051	0.110	0.113**	0.020	-1.855
	[0.055]	[0.033]	[0.627]	[0.047]	[0.037]	[1.475]
Observations	551,779	551,779	551,779	551,779	551,779	551,779
R-squared	0.849	0.864	0.729	0.848	0.864	0.728

Conclusion

- The CEP increases Math scores in elementary schools by 0.034-0.036 SD.
- The most impoverished students enjoy the most significant gains in test scores from the adoption of the CEP.
- Students in rural areas benefit more from the CEP than their urban counterparts.
- The CEP reduces absences in urban schools and among non-poor students.
- Students with lower pre-CEP achievement level improve more in the test scores, in both Math and ELA, after the adoption of the CEP.

Thank you!