

Public-private partnerships in education in Pakistan

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Presentation plan

1. Context
2. Strategic government response
3. Punjab and Sindh's PPP programs
4. Impact evaluation designs and preliminary results

Context

- **Acute and persistent challenges in education**

- *Participation*: 38% of children age 6-17 out of school. Worse for female, rural, and poor children.
- *Student retention and attainment*: Only 50% of children who attend school, complete secondary school (grade 10).
- *Student achievement*: Average score below 50% in a national assessment (public schools).

- **Public sector failure: lack of accountability**

- Poor and deteriorating infrastructure, missing facilities, poorly-equipped schools.
- *Teacher absenteeism*: Roughly 15% of teachers in rural Sindh and Punjab are absent on any day (LEAPS project, Siaens 2008).

Context (cont.)

- **Dramatic growth and metamorphosis of the private sector**
 - Explosive increase in # of private schools (e.g., 32,000 in 2000 to 47,000 schools in 2005).
 - One out of every three primary school-going children in private school.
 - From elite to mass system:
 - Half of all private schools set up since 1995 are rural.
 - Growth of private school enrollment in rural Punjab for poor twice as large as for the rich.
 - Affordable school fees: Rs. 1089 annually, roughly 2% of household expenditure.
 - Children in public schools will take 1.5-2.5 years to catch up with learning levels achieved by grade-3 children in private schools.

Source: LEAPS project and related papers

Strategic government response

- PPPs seen as key to address access, equity, and quality issues .
- Government-driven experiments:
 - Leverage the low-cost private sector to deliver quality education to the poor and underserved communities.
 - Key mechanism: conditional subsidies.
 - Institutional conduit: semi-autonomous education foundations.
 - Attention to scalability.
- Receptivity to rigorous impact evaluation with keen interest in using findings to inform future directions.

Punjab's Foundation-Assisted Schools (FAS) program: Program design

- **Program:** Conditional public subsidies to support the operation of existing low-cost private schools.
- **Implementing agency:** Main program of Punjab Education Foundation (PEF); consumes over 90% of PEF's funds.
- **Objectives:** To enable socioeconomically-disadvantaged households to access private education & raise the quality of education in low-cost private schools (private schools that cater to the poor).
- **Scale:** One of the larger PPP experiments in the country.
- **Coverage:** Presently covers 1,084 schools (over 470,000 beneficiary children); 90% of beneficiary schools in 7 (out of 35) districts.

Punjab's Foundation-Assisted Schools (FAS) program: Program design (cont.)

- **Placement:** Targeted at the lowest-ranked districts on selected economic and education indicators.
- **Period:** Initiated in Nov. 2005 and expanded in phases (4 entry phases completed; 5th entry phase initiated).
- **Benefits:** Per-student subsidy; test performance-based group bonuses for teachers; test performance-based competitive school bonuses.
- **Conditions:** Minimum enrollment; no tuition and fees; minimum student performance in independent, externally-administered test (67% of students in tested grades have to obtain 40% or higher).

FAS program design links to objectives

- **Access:** Per-student subsidy incentivizes schools to attract children.
- **Access/equity:** Elimination of tuition and fees potentially increases demand for schooling from parents of poor children and girls.
- **Equity:**
 - (1) Geographical targeting to reach worst-off districts.
 - (2) Self targeting of low cost schools (low monthly per-student subsidy of Rs. 300).
- **Quality:** Benefits tied to test-based performance to incentivize learning:
 - (1) Continuation in program tied to minimum school performance.
 - (2) Teacher bonuses in all schools that perform exceptionally well (Rs. 10,000 per teacher per year; ~50% of baseline mean annual salary in program schools)
 - (3) Top-performing school in each district obtains bonus (Rs. 100,000 per school per year; ~15% of annual subsidy to an averaged-sized program school).

Sindh's PPP program: Program design

- **Program:** Conditional public subsidies and capacity-building support for the establishment and operation of private primary schools in underserved rural localities.
- **Implementing agency:** Sindh Education Foundation.
- **Rural Sindh context:** 56% out of school; 66% girls out of school; learning in rural schools substantially below curriculum norms (Saiens 2008; NEAS)
- **Objectives:** increase access; reduce gender disparity in participation; and increase learning.
- **Placement and period:** Targeted at 8 poorest-ranked districts in terms of out-of-school population, gender disparity in participation, and distance to school. Pilot period: 4 years.
- **Scale:** 200 rural localities; 1 school per locality.

Sindh's PPP program: Program design (cont.)

- **Benefits:** Per-student enrollment subsidy; teacher training, free textbooks; and opportunity to seek quality assurance certification.
- **Conditions:** Selected localities are school-less; minimum school size; no tuition and fees; minimum school performance in independent test (second year of pilot onwards).
- **Treatments:** 100 rural localities receive schools supported by a gender-uniform subsidy. 100 rural localities receive schools supported by a gender-differentiated subsidy (a higher amount for girls). All other benefits identical across the two subsidy structures.

Sindh's PPP program design links to objectives

- **Access:**
 - (1) Per-student subsidy benefit incentivizes schools to attract children.
 - (2) Program placement in school-less localities.
- **Access/equity:** Elimination of tuition and fees potentially increases the demand for schooling from parents of poor children and girls.
- **Equity:**
 - (1) Geographical targeting to worst-off districts.
 - (2) Self targeting of low-cost schools through low per-student subsidy.
 - (3) Higher subsidy for girls incentivizes schools to attract girls.
- **Quality:**
 - (1) Continuation in program tied to minimum school performance.
 - (2) Teacher training and Quality Assurance.

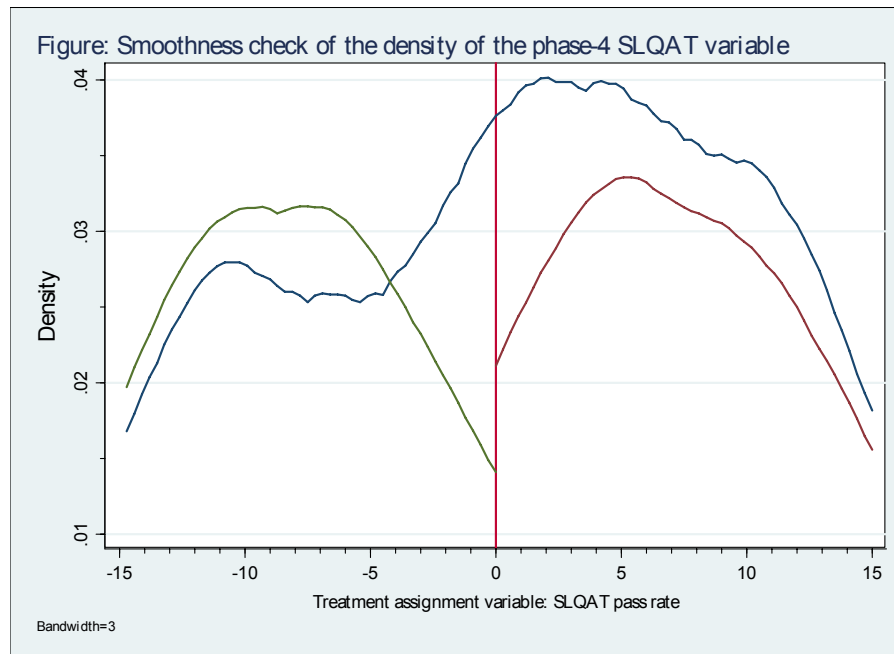
Punjab's FAS evaluation:

(1) Regression-discontinuity (RD) design

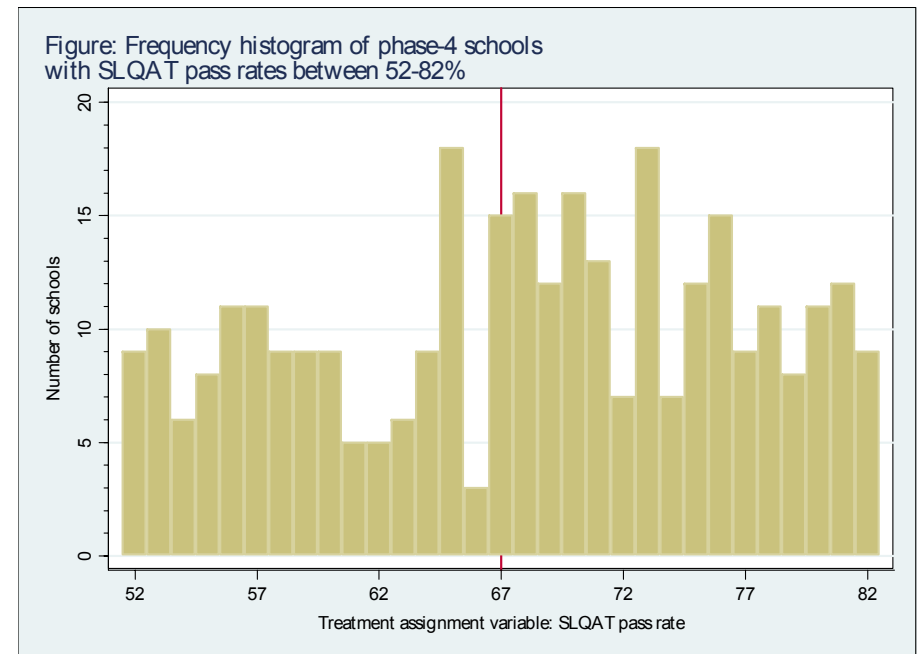
- **School-based evaluation;** outcomes measured at the school level.
- **Key outcomes:** enrollment and average test scores. Secondary outcomes: teachers, classrooms, blackboards, ratios.
- **Treatment assignment:** Screening test applied to applicant schools in phases 3 and 4 . Schools that met cutoff (67%) in the test became eligible and took up program.
- **Treatment parameter:** Design identifies average casual effect of FAS program at the cutoff (key condition: smoothness in ex-ante conditional expectations of outcomes)
- **Data sources:**
 - Baseline data: applications and screening tests.
 - Follow-up data: phone interviews, school surveys, and student testing.

Density of schools near the cutoff

KERNEL DENSITY



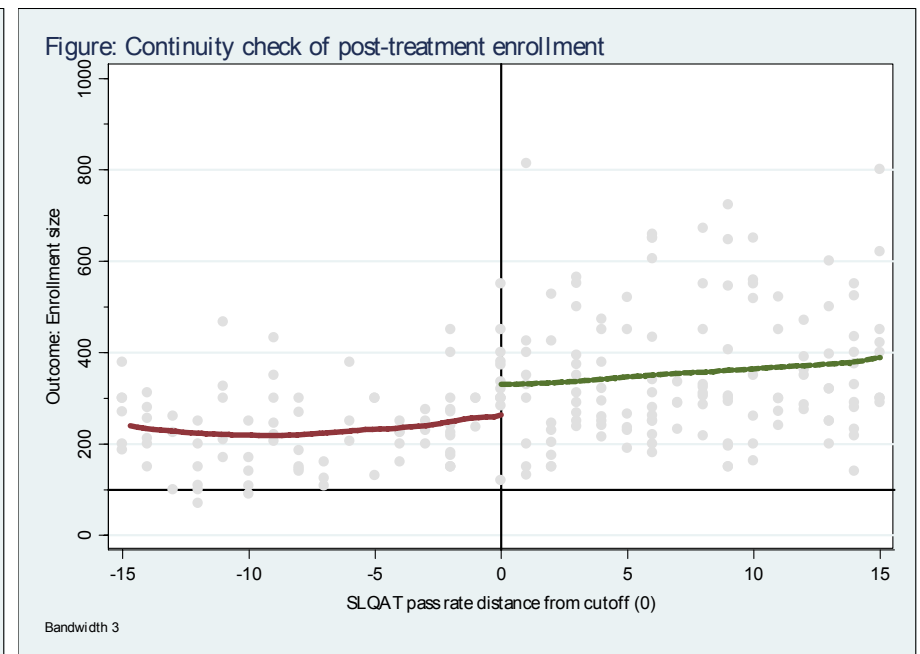
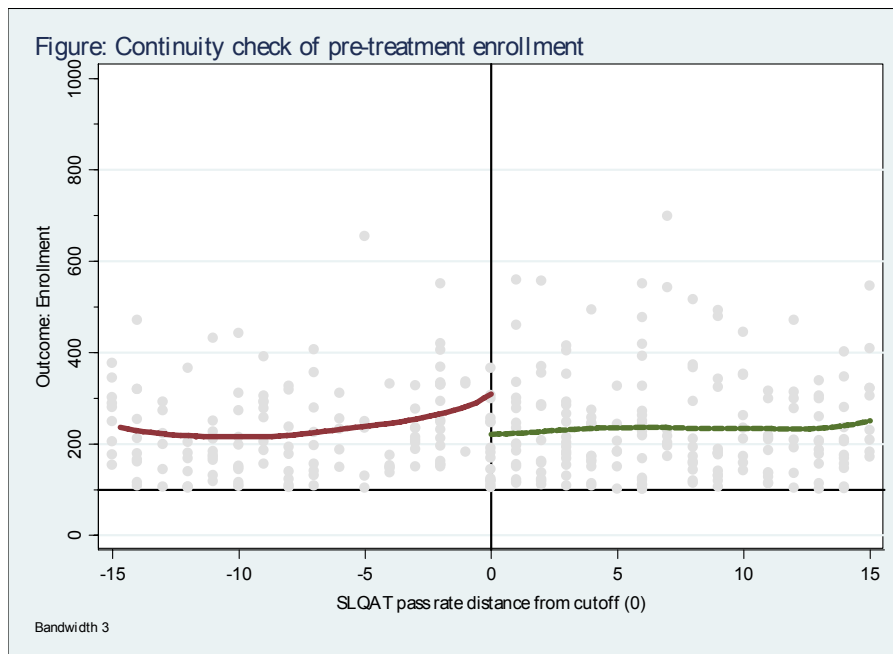
FREQUENCY HISTOGRAM



Outcome: School size

PRE-TREATMENT
EFFECT: -51 TO -88
CANNOT CONSISTENTLY REJECT SMOOTHNESS

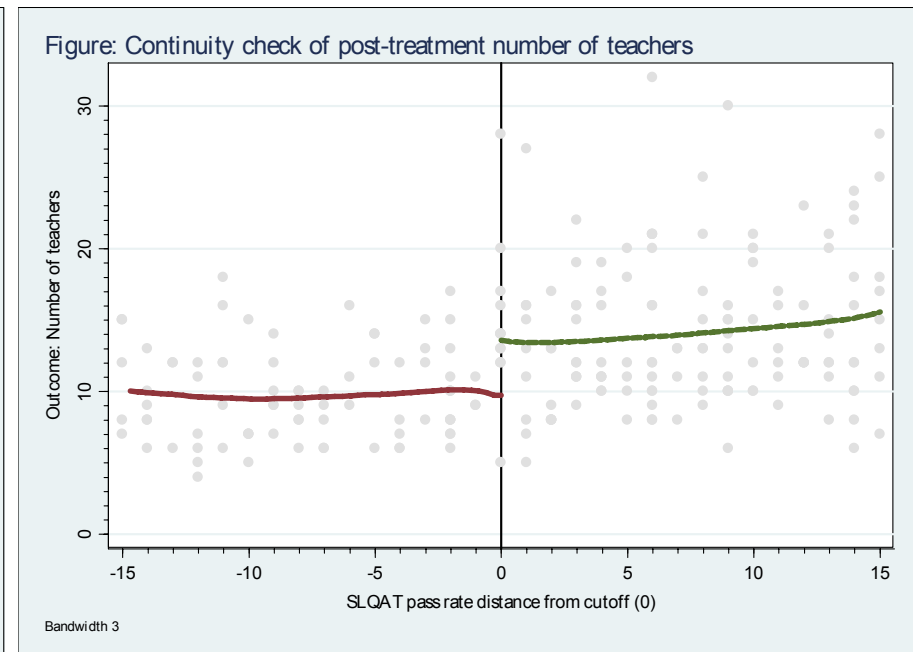
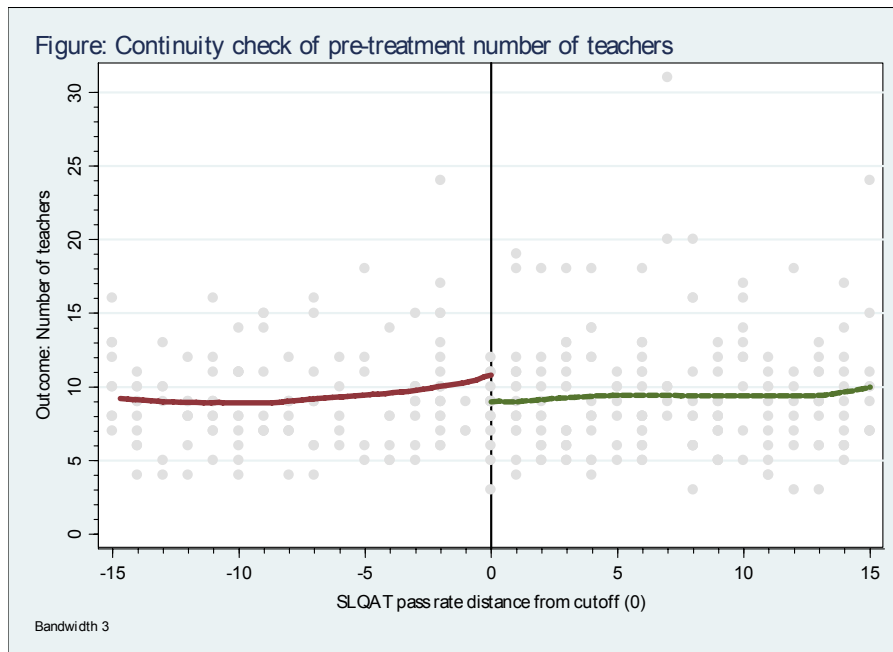
POST-TREATMENT
EFFECT: 67 TO 72
CAN REJECT SMOOTHNESS



Outcome: Number of teachers

PRE-TREATMENT
EFFECT: -1.1 TO -1.8
CANNOT REJECT SMOOTHNESS

POST-TREATMENT
EFFECT: 2 TO 3.8 TEACHERS
CAN REJECT SMOOTHNESS

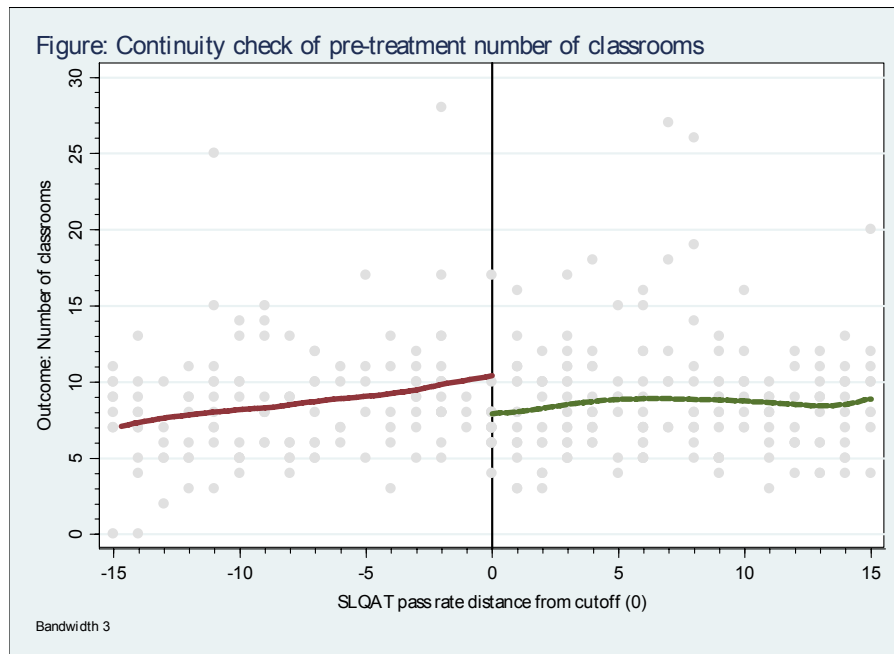


Outcome: Number of classrooms

PRE-TREATMENT

EFFECT: -1.8 TO -2.5

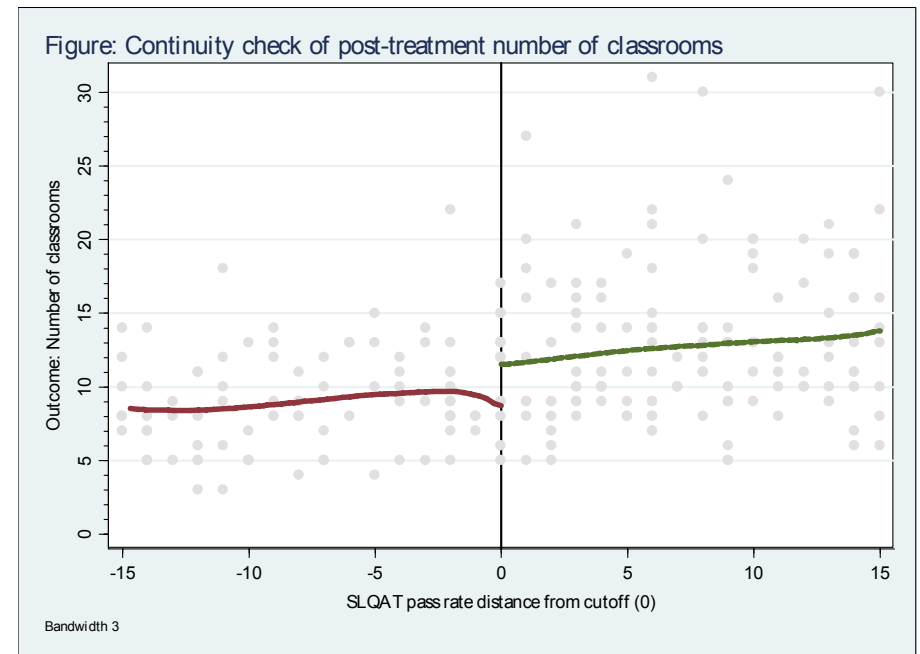
CANNOT CONSISTENTLY REJECT SMOOTHNESS



POST-TREATMENT

EFFECT: 1.6 TO 2.8

CANNOT CONSISTENTLY REJECT SMOOTHNESS

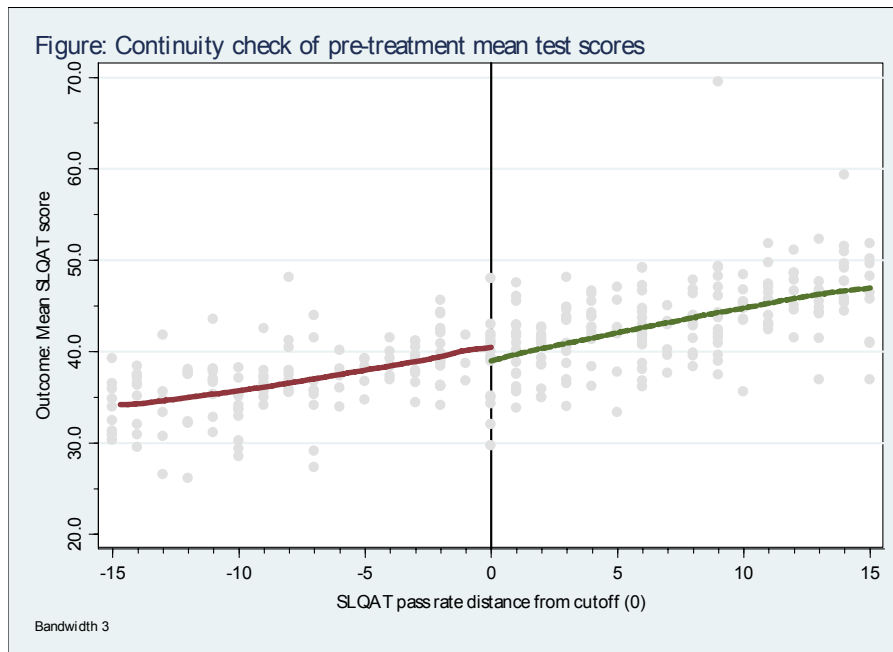


Outcome: Mean test score

PRE-TREATMENT
EFFECT: -1.1 TO -1.5%
CANNOT REJECT SMOOTHNESS

POST TREATMENT

Data to be collected in August
2008



Punjab's FAS evaluation:

(2) Sub-treatment randomization design

- **School-based evaluation;** outcomes measured at the school, teacher, and student levels.
- **Key outcomes:** enrollment, attendance, test scores.
- **Sample:** Next round of entrants (Phase-5).
- **Sub-treatments:** group teacher bonuses & cluster-based teacher training.
- **Random assignment:** Union councils with phase-5 entrants assigned to three groups:
 - (1) per-student subsidy benefit only (base treatment, ~150 schools);
 - (2) base treatment + teacher bonus benefit (~150 schools);
 - (3) base treatment + teacher training benefit (~150 schools).
- **Treatment parameter:** Design identifies the *marginal* average causal effect of sub-treatments.
- **Data:** Baseline and follow-up school surveys (administrators, teachers, and students). Academic testing of students and teachers.

Punjab's FAS evaluation:

(3) Randomized phase-in design

- **Community- and school-based evaluation;** outcomes measured at the school, household, and individual levels.
- **Key outcomes:** participation (all, the poor, girls); learning.
- **Sample:** Program-eligible schools in new expansion districts.
- **Randomization:** Program randomly phased in at the tehsil level.
- **Treatment parameter:** Design identifies average causal effect of the FAS program.
- **Data:**
 - Baseline and follow-up sample survey of households with school-aged children in random sample of treated and comparison localities.
 - Baseline and follow-up testing of all school-aged children of sample households at home.
 - School surveys of treated schools and other schools in treated and comparison localities between baseline and follow-up.

Sindh's PPP evaluation: Oversubscription-based randomization design

- **Community- and school-based evaluation;** outcomes measured at the school, household, and child levels.
- **Key outcomes:** participation, girls' participation, and learning.
- **Oversubscription:** Entrepreneurs submit applications with proposed localities. After screening applications, expect at least 250 eligible localities.
- **Random assignment:** Program-eligible localities assigned to 3 groups:
 - (1) Treatment 1: gender-uniform subsidy (100 localities);
 - (2) Treatment 2: gender-differentiated subsidy (100 localities);
 - (3) Control: Neither subprogram (50 localities).
- **Data:**
 - Baseline and follow-up sample survey of households with school-aged children within evaluation communities.
 - School-aged children in sample households tested at home at follow-up.
 - School surveys of program schools and schools near evaluation communities between baseline and follow-up.