

Private Preschool and Test Score Gaps in rural India

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Motivation & Background

- Early years are important.
- Significant gaps in learning at **primary** school level.
- **Problem** – Rigorous preschool evaluation remains the missing puzzle piece. **No study** on preschools in India.
- 1.3 mn govt (public) preschools in India. Every village has at least 1.
- Private preschools are low cost, low fee paying.

Data – ASER ECE (2011-12)

- first of its kind

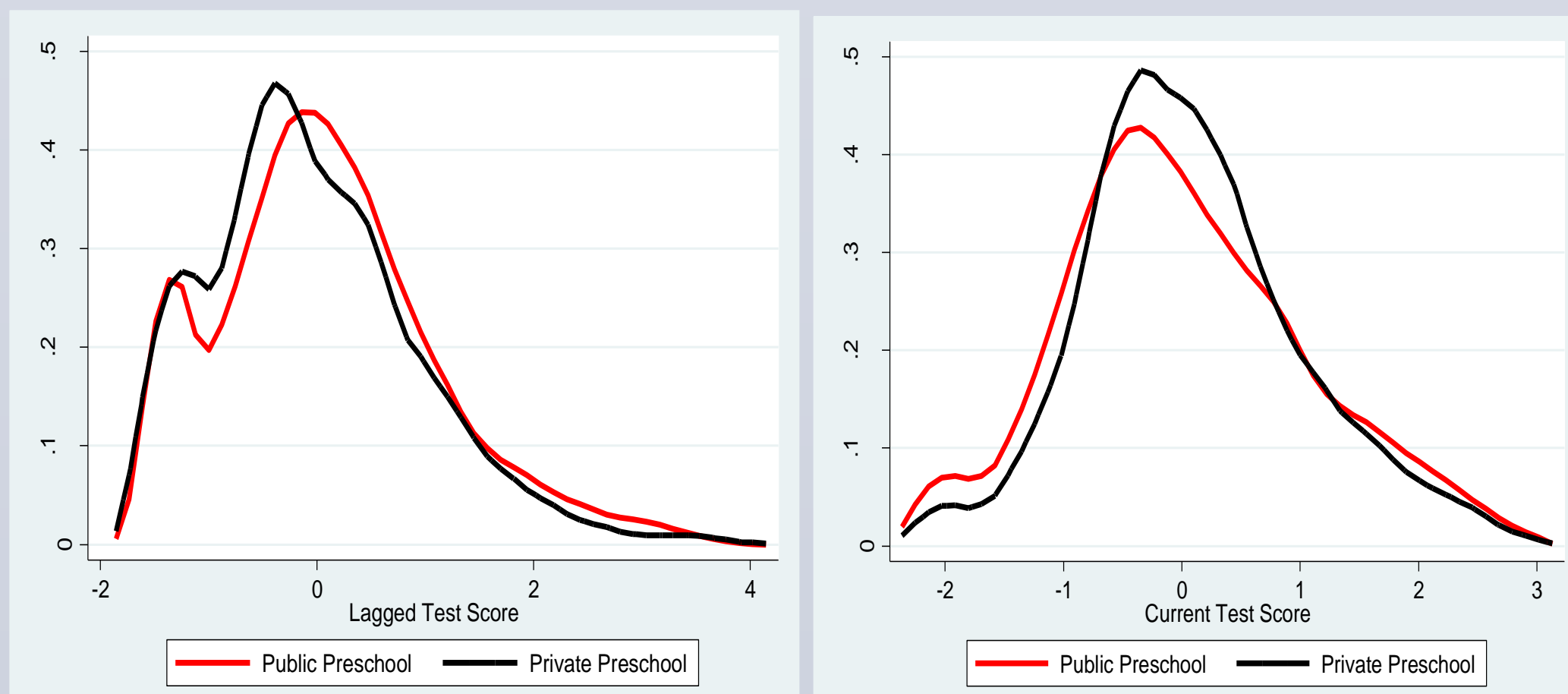
- 300 villages from 3 states in India.
- All children at 3.5-4.5 years in Sept, 2011 surveyed.
- Children tested twice – Sept, 2011 & Dec, 2012.
- Children tracked 4 times in 1 year.



Questionnaires administered -

Survey instrument	Visit 1 Sep - Dec 2011	Visit 2 Feb - Mar 2012	Visit 3 Jul - Aug 2012	Visit 4 Oct - Dec 2012
Village	✓			
Household	✓			
Test Score	✓			✓
Child	✓	✓	✓	✓
Preschool	✓	✓	✓	✓

Test scores – lagged (2011) & current (2012)



Methodology

Lagged Score Value Added Model – Dynamic OLS estimation

- Identification – lagged score captures all past inputs and decisions.
- Unbiased – *private* is correlated with error ONLY through lagged score.

$$T_{it} = \alpha_1 X_i + \lambda T_{i(t-1)} + \alpha_2 Private_i + \alpha_3 V_i + \alpha_4 S_i + e$$

Where T is the test score in period t and t-1, X is household and individual control, V is village control, S is state controls for individual i.

Results

Private Preschool increases test scores by 0.13 SD v/s public

	(1)	(2)	(3) VAM – No lagged	(4) VAM – Lagged
Dependent Variable - Current test score				
Private Preschool	0.27*** (0.042)	0.19*** (0.04)	0.17*** (0.039)	0.13*** (0.0368)
Lagged test score		0.228*** (0.0202)		0.182*** (0.0181)
Individual Controls			Yes	Yes
Household Controls			Yes	Yes
State Controls	Yes	Yes	Yes	Yes
Village Controls	Yes	Yes	Yes	Yes
Observations	5,730	5,730	5,730	5,730
R-squared	0.342	0.379	0.398	0.417

*** p<0.01, ** p<0.05, *p<0.1

Robustness Check – DID Matching

Should correct for any time invariant ability bias. Private – public preschool gap 0.1 SD.

	Nearest Neighbour	5 - Nearest Neighbour	Radius	Kernel	Sample Size
ATT	0.073 (0.052)	0.103** (0.052)	0.104** (0.045)	0.104** (0.044)	5494

Outcome variable Gain in test score (DID)

ATT	0.073 (0.052)	0.103** (0.052)	0.104** (0.045)	0.104** (0.044)	5494
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Standard errors for Nearest Neighbour are Abadie & Imbens (2006) corrected; for Radius and Kernel are bootstrapped.

Conclusion

- The private-public test score gap is 0.1 to 0.13 SD which is approximately 6% of the mean.
- The estimation is robust to controlling for child heterogeneity, parental sorting and aspirations, test scores standardized by age.