Conditional Cash Transfer and Girl Child Survival in India

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Conditional Cash Transfer and Girl Child Survival in India

Nabaneeta Biswas

Research Day, November 9, 2018
The Context

Child Sex Ratio: Ratio of boys to girls among children aged 0-6 years
The Context: Punjab

Child Sex Ratio 1991

Child Sex Ratio 2001
Dhanlakshmi girl child scheme

- Federally sponsored financial incentive program, 2008
- Introduced in select blocks of 7 states
- Cash benefits for couples with daughters, residents only
- Enhance wellbeing of girls
  - promote the birth of girls
  - increase years of schooling among girls
  - deter under-age marriage
- Staggered disbursement of funds, conditional on proof of girl’s wellbeing
  - birth, immunization
  - school and marriage
- Funds are modest but sufficient for covering the stipulated costs
Contributions

- limited literature on girl child CCTs
- first of its kind CCT
  - broad eligibility, no income or fertility control clause
    Anukriti (2017), Sinha & Yoong (2009)
  - focus on human capital development in girls: health and education
  - awareness campaign
Data and variables

Census rounds of 2001 and 2011
  - proportion of girls in the under-six population
  - data from 25,000 villages and towns across 73 blocks of Punjab
  - covariates
    - population composition by caste and gender
    - proportion of urban population
    - gender composition of working population
    - gender composition of literates

pretreatment mean share of girls is 0.44
negligible difference between treated and control villages
### Table: Summary statistics for treated and control blocks before and after the CCT

<table>
<thead>
<tr>
<th>Variables</th>
<th>Treated</th>
<th></th>
<th>Control</th>
<th></th>
<th>DD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre (1)</td>
<td>Post (2)</td>
<td>Pre (3)</td>
<td>Post (4)</td>
<td>DD (5)</td>
</tr>
<tr>
<td>Share of girls under six</td>
<td>0.442</td>
<td>0.462</td>
<td>0.444</td>
<td>0.458</td>
<td>0.006***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td></td>
<td>(0.001)</td>
<td></td>
<td>(0.001)</td>
</tr>
<tr>
<td>Share of low caste pop</td>
<td>0.216</td>
<td>0.220</td>
<td>0.288</td>
<td>0.317</td>
<td>-0.025***</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td></td>
<td>(0.097)</td>
<td></td>
<td>(0.005)</td>
</tr>
<tr>
<td>Share of literate women</td>
<td>0.752</td>
<td>0.793</td>
<td>0.648</td>
<td>0.712</td>
<td>-0.024***</td>
</tr>
<tr>
<td></td>
<td>(0.113)</td>
<td></td>
<td>(0.091)</td>
<td></td>
<td>(0.003)</td>
</tr>
<tr>
<td>Share of literate men</td>
<td>0.839</td>
<td>0.873</td>
<td>0.765</td>
<td>0.808</td>
<td>-0.010***</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td></td>
<td>(0.075)</td>
<td></td>
<td>(0.003)</td>
</tr>
<tr>
<td>Share of working women</td>
<td>0.127</td>
<td>0.134</td>
<td>0.178</td>
<td>0.134</td>
<td>-0.051***</td>
</tr>
<tr>
<td></td>
<td>(0.088)</td>
<td></td>
<td>(0.043)</td>
<td></td>
<td>(0.006)</td>
</tr>
<tr>
<td>Share of working men</td>
<td>0.525</td>
<td>0.549</td>
<td>0.530</td>
<td>0.548</td>
<td>-0.006***</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td></td>
<td>(0.024)</td>
<td></td>
<td>(0.002)</td>
</tr>
</tbody>
</table>

**Observations**

|                | 1 | 72 |

* * p < 0.10, ** p < 0.05, *** p < 0.01
SD reported for controls
SE clustered at the block level for the DD
Empirical Strategy

Basic empirical model:

\[ \text{sharegirls06}_{ibt} = \beta \text{treatpost}_{ibt} + X_{ibt}\omega + \alpha_b + \pi_t + \varepsilon_{ibt} \]

- \text{sharegirls06}: proportion of girls in the under-six population
- \text{treatpost}: difference between treated and control blocks before and after treatment
- \text{X}: covariates
- \alpha_b,\pi_t: Block FE, Year FE

Difference-in-difference (DID) strategy

- spatial variation
- time variation
Results

Table: Estimated effect of the program on the share of girls (0-6 years)

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>treatpost</td>
<td>0.019***</td>
<td>0.022***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Year FE</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Block FE</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Covariates</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>24,705</td>
<td>24,705</td>
</tr>
</tbody>
</table>

SE clustered at the block-level in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Effect size: 5-6 more girl per 100 boys in the 0-6 age group
Robustness

Validity of DID

- assumption of parallel trends
- ideal control groups
- covariates not an exhaustive list

Synthetic Control Method (SCM)

- data driven technique
- hypothetical counterfactual based on pretreatment trends
- simulate outcome path of treated region in the absence of treatment
Robustness

SCM using data from two rounds of the District-Level Household Survey