The long lasting effects of a conditional cash transfers on children’s human capital

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CONTRIBUTION:
• We evaluate the effects of a CCT on the adult outcomes of beneficiary children

IDENTIFICATION:
• Implementation of a social programme as natural experiment

RESULT:
• Persistent (and heterogeneous) effects on children‘s human capital
  → long-run effects of the program on schooling & labor income
Background Information

Social Programme: Chile Solidario (CS)
• Started in **2002** addressing the extremely poor (~5% of population)
• Main aim: **Link the poor** to the **existing** social transfer schemes

CCT: Single Family Subsidy (SUF)
• **Higher take-up** of SUF among families participating in CS; between **36 and 67%** (Carneiro et al., 2015)

- **CS** is a **natural experiment** to measure the **effect of SUF**
Identification Strategy

Children < 18 are eligible for **SUF** (family income in the bottom 40 %).

When **CS** started in **2002**, children born

1985-1986-1987-1988-… were eligible | 1984-1983-1982-1981-… were not eligible
Treatment Group

- Eligible for Chile Solidario
- Eligible for SUF

Control Group

- Not eligible for Chile Solidario
- Eligible for SUF

SUF beneficiaries in childhood

non-beneficiaries (no take-up)
Program eligibility and parental background

Data: CASEN, nationally representative household survey
Survey includes retrospective questions on parental background

→ 2/3 of the participating household heads and spouses in the first years of CS had no primary education degree (Galasso, 2011)
Program eligibility and parental background

Data: CASEN, nationally representative household survey
Survey includes retrospective questions on parental background

→ \( \frac{2}{3} \) of the participating household heads and spouses in the first years of CS had no primary education degree (Galasso, 2011)

Thorough retrospective questions in CASEN 2013 we identify …

Treated: Individuals whose parents have „No Education“
Control: Individuals whose parents have some primary but no secondary education
Method: Difference in Difference

\[ y_{ijt} = \eta_j + \lambda_t + \gamma X_{ijt} + \delta S_{jt} + \varepsilon_{ijt}, \quad (1) \]

- \( y_{ijt} \) is the outcome of individual \( i \) in group \( j \in (T, C) \) and cohort \( t \in (0, 1) \)
- \( t = 0 \) born before 1985
- \( \eta_j, \lambda_t \) are group and cohort fixed effects
- \( X_{ijt} \) are individual controls (age, household size, region, urban/rural, self-reported health)
- \( S_{jt} \) indicates treatment status of group \( j \) in cohort \( t \)

\[ DD = \delta + (\varepsilon_{T1} - \varepsilon_{T0}) - (\varepsilon_{C1} - \varepsilon_{C0}). \quad (2) \]

Standard errors clustered at municipality level (323 clusters)
Common Trends

Average effects (unconditional)

1.3 Years  274 USD
## Results - Baseline

<table>
<thead>
<tr>
<th></th>
<th>Years of Education</th>
<th></th>
<th>Labor Income (in USD)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conditional</td>
<td>Only Women</td>
<td>Only Man</td>
<td>Conditional</td>
</tr>
<tr>
<td>DD</td>
<td>1.075***</td>
<td>0.913*</td>
<td>1.374**</td>
<td>290.987***</td>
</tr>
<tr>
<td></td>
<td>(0.4073)</td>
<td>(0.4720)</td>
<td>(0.6391)</td>
<td>(95.5945)</td>
</tr>
<tr>
<td>Treated (0/1)</td>
<td>-2.129***</td>
<td>-2.059***</td>
<td>-2.232***</td>
<td>-157.258***</td>
</tr>
<tr>
<td></td>
<td>(0.2276)</td>
<td>(0.2935)</td>
<td>(0.3678)</td>
<td>(33.0931)</td>
</tr>
<tr>
<td>Time (0/1)</td>
<td>-0.037</td>
<td>-0.043</td>
<td>0.062</td>
<td>-59.414</td>
</tr>
<tr>
<td></td>
<td>(0.2106)</td>
<td>(0.2819)</td>
<td>(0.3279)</td>
<td>(93.3812)</td>
</tr>
<tr>
<td>Observations</td>
<td>7627</td>
<td>5075</td>
<td>2552</td>
<td>5229</td>
</tr>
</tbody>
</table>

**Control variables:** age, age-squared, number of household members, rural or urban location, region of residency dummies, ethnic background (indigenous or not), a dummy for migrants, and self-reported health.

Data: CASEN 2013, own estimations. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Weighted.
Results – Heterogeneity

• Effect only in urban areas

• Among indigenous, effect on schooling stronger and on labor income weaker

• Positive effects on schooling and earnings among women with no children
Robustness

• Diff-in-Diff PS Matching (Heckman et al. 1997)
• Multiple control groups and full set of dummies
• Labor income: Missing values set to 0
• Placebo Tests:
  1. Treated = parents with incomplete secondary
  2. Outcome = Non-Labor income
  3. Intervention set to 1982
Intensity of Treatment Effect

Years of Schooling

Labor income
Conclusion

• Short run effects of CS (and SUF) on children’s human capital *persist in the long run*

Outlook

• Semi-parametric Diff-in-Diff *(Abadie 2005)*
• Investigate spill-over effects
Thank you for your attention, your comments are very welcome!
Program eligibility and parental background

Individuals aged 30-60. Source: CASEN 2003, own estimations.
## Pre- and Post-Treatment sample averages

<table>
<thead>
<tr>
<th>Control variables / Cohorts</th>
<th>1977-1984 (t=0)</th>
<th>1985-1988 (t=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control</td>
<td>Treated</td>
</tr>
<tr>
<td>Male (0/1)</td>
<td>0.333</td>
<td>0.419</td>
</tr>
<tr>
<td>Age</td>
<td>32.612</td>
<td>33.273</td>
</tr>
<tr>
<td>Rural (0/1)</td>
<td>0.194</td>
<td>0.290</td>
</tr>
<tr>
<td># of household members</td>
<td>4.260</td>
<td>4.158</td>
</tr>
<tr>
<td>Indigenous (0/1)</td>
<td>0.124</td>
<td>0.175</td>
</tr>
<tr>
<td>Migrant (0/1)</td>
<td>0.005</td>
<td>0.007</td>
</tr>
<tr>
<td>Self-reported Health</td>
<td>5.817</td>
<td>5.796</td>
</tr>
</tbody>
</table>

Notes: 734 observations in treated and 7,003 in control group. (0/1) indicates dummy variable. Self-reported Health: (1) “very bad” - (7) “very good”. Migrants only included if migrated to Chile before 2002. Bootstrapped standard errors reported in italics below the estimates. Source: CASEN 2013, own calculations.