South Africa’s Child Support Grant Impact Evaluation

Department of Social Development (DSD) and EPRI, IDC, IFPRI, OPM, RDC and TNT with support from UNICEF and SASSA

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Evaluating the impact of social cash transfers in sub-Saharan Africa, January 19-21, 2011
UNICEF Eastern and Southern Africa Regional Office (ESARO)
South Africa’s Child Support Grant

- Largest social cash transfer programme in S. Africa
  - Means-tested benefit; caregiver applies on behalf of child
- Take-up initially slow, with many programme changes:
  - Transfer increased to R250 in April 2010 (from R100 per child for children under age 7 in 1998); means test changed (Feb. 2008) to account for inflation
  - Age of eligibility extended: in 2003 (to 8 years), 2004 (to 10 years), 2005 (to under 14), 2009 (to under 15); as of 2010, children under 16 eligible, and will extend to under 17 in 2011 and under 18 years in 2012
  - Unconditional cash transfer, but Dec. 2009 amendments added obligations for caregiver (requiring children’s enrollment in school)
CSG Evaluations

- Increasing number of studies evaluating CSG targeting effectiveness, implementation and impacts
  - No opportunity for experimental impact evaluation given constitutional right of all to appropriate social assistance
  - Implementation studies document infrastructure and management challenges in CSG rollout
  - Targeting studies show higher take-up rates among very poor but lower take-up rates among youngest children (age < 6 months) and other vulnerable groups (e.g., orphans)
  - Quasi-/nonexperimental studies of CSG effects on school attendance, child hunger, weight and height z scores, fertility, adult and child labour force participation, household agricultural production, expenditures on food and other household goods, and others
Quasi-/nonexperimental Impact Evaluation Methods and Data

- Key evaluation challenge: CSG beneficiary outcomes observed, but not *what would have happened had they not received CSG*; with no control group, need comparison group to approximate *counterfactual state*

- Evaluation data sources have included KIDS, GHS, NIDS, LFS, IES and other data
  - Generally, lack of specific data on CSG receipt and child-caregiver links (NIDS 2008 wave 1 is exception, with detailed info. on grant receipt, identification of caregiver/recipient)

- Matching, regression discontinuity, and other multivariate/control function methods used
Impact Evaluation of CSG

**Evaluation goal:** measure causal impacts of CSG

**Distinctive study features:**

- Tightly integrated qualitative-quantitative study components to evaluate programme process, pathways and mechanisms of change, and impacts
  - Explicit, comprehensive theory of change guiding development of hypotheses, measures and methods
- Baseline (2010) and follow-up data collection to evaluate impacts on health, education, early child development, adult/child labour, consumption, social welfare, risky behaviour, intra-household, unintended impacts
  - Assessing impacts of early vs. late enrolment and CSG receipt vs. no benefits
Primary Impact Evaluation Questions

- How has early versus late enrolment affected the well-being and cognitive development of children?
- How are critical life course events of adolescents affected by extension of the CSG?
- What is the impact of the CSG on recipient households?
- What conditions determine and influence access to the CSG?
CSG Evaluation Samples

- 10 year old children who enrolled in CSG either: a) between 0 and 18 months or b) between 5 and 9 years
- Adolescents between ages 15 and 17 years
  - Including those who met other CSG eligibility criteria but turned 17 by Dec. 31, 2009 and will not receive CSG
- 5 provinces: Eastern Cape, Gauteng, KwaZulu-Natal, Limpopo, and the Western Cape
  - Variability in programme rollout and eligibility criteria and timing and length of CSG enrolment among eligible children allow for analysis of child/household impacts associated with differing dosages of CSG receipt (and early vs. late enrolment) as well as no grant receipt (among adolescents)
## Target Sample Structure and Size

### Sampled (index) children

<table>
<thead>
<tr>
<th>Sampled (index) children</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children aged 10, enrolled after birth</td>
<td>800</td>
</tr>
<tr>
<td>Children aged 10, enrolled around age 5-6 years</td>
<td>800</td>
</tr>
<tr>
<td>Adolescents below age cut off point</td>
<td>1428</td>
</tr>
<tr>
<td>Adolescents above age cut off point</td>
<td>612</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3640</strong></td>
</tr>
</tbody>
</table>

### Adolescent sample structure

<table>
<thead>
<tr>
<th>Age at time of sampling</th>
<th>Beneficiaries</th>
<th>Non-beneficiaries</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>408</td>
<td>0</td>
<td>408</td>
</tr>
<tr>
<td>16</td>
<td>612</td>
<td>408</td>
<td>1020</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
<td>612</td>
<td>612</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1020</strong></td>
<td><strong>1020</strong></td>
<td><strong>2040</strong></td>
</tr>
</tbody>
</table>

### Early versus late enrolment

<table>
<thead>
<tr>
<th>Sample for early versus late enrolment impact analysis</th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample for early versus late enrolment impact analysis</td>
<td>Enrolled between birth and 18 months</td>
<td>Enrolled at age 5-9 years</td>
</tr>
<tr>
<td>Age</td>
<td>Years of Exposure</td>
<td>Age</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------</td>
<td>-----</td>
</tr>
<tr>
<td>2000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2001</td>
<td>1</td>
<td>1</td>
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<td>2002</td>
<td>2</td>
<td>2</td>
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<tr>
<td>2003</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2004</td>
<td>4</td>
<td>4</td>
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<td>2005</td>
<td>5</td>
<td>5</td>
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<td>2006</td>
<td>6</td>
<td>6</td>
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<td>2007</td>
<td>7</td>
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<td>2008</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2009</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>2010</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>
Data Sources

- SOCPEN grant administrative system
- Early focus groups and interviews (prior to baseline)
- Baseline survey administered to index child and household members in 2010, including: household, young child and adolescent questionnaires, a risky behaviors module for adolescents, a SASSA questionnaire, anthropometric tests, and cognitive tests (language and numeric)
- Second round qualitative data collection to understand impacts and investigate additional issues
- Follow-up survey administered to same individuals two years after baseline survey
- Administrative (secondary) data on supply-side health and education services available in communities
Qualitative-Quantitative Integration

- Shared membership and skills/experiences between qual and quant teams
- Quant team provided feedback on design and instrumentation applied in qual study to ensure results would inform quant instruments (survey design)
- Qual team members provided both overview of early qual study results and detailed inputs to inform design of baseline survey question items and responses
- Quant (survey) instruments pretested and modified acc. to pre-testing results with qual/quant team input
- Qual-quant integration workshop to finalize baseline survey instruments
Quantitative (Nonexperimental) Impact Evaluation Design

- Programme beneficiaries expected to differ in systematic ways from nonbeneficiaries; systematic differences also likely between early vs. late enrollees

- Collection of baseline and follow-up data (same measures) from CSG beneficiaries and comparison group members facilitates difference-in-differences impact estimation

  - If CSG recipients differ in important ways from those in comparison group, as long as differences are stable over time in their relation to outcomes, impact estimates will not be biased; still important to adjust/control for stable characteristics
## Difference-in-differences Impact Estimation

<table>
<thead>
<tr>
<th>Survey round</th>
<th>Treatment group (Group (T))</th>
<th>Comparison group (Group (C))</th>
<th>Difference between groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up</td>
<td>(T_1)</td>
<td>(C_1)</td>
<td>(T_1 - C_1)</td>
</tr>
<tr>
<td>Baseline</td>
<td>(T_0)</td>
<td>(C_0)</td>
<td>(T_0 - C_0)</td>
</tr>
<tr>
<td>Difference across time</td>
<td>(T_1 - T_0)</td>
<td>(C_1 - C_0)</td>
<td>Double-difference ((T_1 - C_1) - (T_0 - C_0))</td>
</tr>
</tbody>
</table>
Comparison Group Constructed through Matching Methods

- Treatment households matched to comparison group households based on observable characteristics
  - Measured at time of application/enrolment into programme (retrospectively in baseline survey) or at baseline
  - Key assumption: conditional on observed characteristics, comparison group members have same mean outcomes as beneficiaries would have if they did not receive CSG (or received CSG at a later time or for less time)
  - Programme impact estimated as average difference (in differences) in outcomes for each treatment household from weighted average of differences in outcomes in similar comparison group households
Propensity Score Matching Approach

- Estimate probability of CSG benefit receipt or probability of early (vs. late) enrolment in CSG to reduce matching problem to single dimension (propensity score)
- Use propensity scores to match treatment and comparison group households and estimate impacts
  - Nearest neighbor: Randomly order CSG households and comparison households; select first CSG household and find comparison household with closest propensity score
  - Caliper: define a common-support region (e.g., .01), and randomly select comparison household that matches on propensity score with CSG recipient household
  - Exclude poor matches between treatment and comparison group households
Regression Discontinuity Method

- Essential feature: takes advantage of use of a threshold targeting criteria (age limit) for program eligibility to construct treatment and comparison households with eligibility near threshold
  - R-D analyses will be performed to estimate average impact of CSG on adolescents near age threshold, exploiting discontinuity in age-eligibility criterion created with program expansion in 2010 to children up to age of 16 years
- Average difference in outcomes estimated for households/adolescents just to right and left of discontinuity
### Sample for R-D Estimation

<table>
<thead>
<tr>
<th>Date of birth</th>
<th>Age as of January 1, 2010</th>
<th>Age at time of baseline survey (August – Nov. of 2010)</th>
<th>Age at time of follow-up survey (August – Nov. of 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 1993</td>
<td>16</td>
<td>16.5+</td>
<td>18.5+</td>
</tr>
<tr>
<td><strong>DISCONTINUITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 1, 1994</td>
<td>16</td>
<td>16.5+</td>
<td>18.5+</td>
</tr>
<tr>
<td>January 1, 1995</td>
<td>15</td>
<td>15.5</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Just missed age-eligibility for continuation

Just young enough for continuation

Younger and eligible to continue
Regression Discontinuity Assumptions

- No spurious discontinuity in outcomes coinciding with threshold
- Households/children just above and below threshold similar in observed and unobserved characteristics
  - Unobservable characteristics not important determinants of eligibility; age eligibility criteria strictly applied
- Sample needs large enough number of nonbeneficiaries with ages close to eligibility threshold to provide sufficient statistical power
- Impacts typically estimated for fairly narrow group close to eligibility threshold
CSG Impact Evaluation Next Steps

- Baseline data collection soon to be completed (RDC)
- Baseline data analysis
  - Describe and assess comparability of treatment and comparison groups and quality of data for matching and R-D analyses
  - Descriptive analyses of beneficiaries (early and late enrollees and adolescents) and nonbeneficiaries
- Potential for preliminary impact estimation
- Continuing qualitative research and follow-up survey
- Impact analysis with baseline and follow-up data
CSG Impact Evaluation Team


Qualitative: S Devereux, I van Niekerk, M Adato

Overall approach: R Khanyile, N Riemenschneider, J McConnell, J Kruger, K Mac Quene

Tech Support: N Riemenschneider, J McConnell, R Khanyile, K Mac Quene, J Kruger

Fieldwork: N Riemenschneider, J McConnell, R Khanyile, K Mac Quene, J Kruger