Working with the ultra-poor: Lessons from BRAC’s experience

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in collaboration with
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1 Overview: BRAC and ultra-poor

2 Motivation
   - Learning from microfinance
   - How to work with the ultra-poor

3 Targeting Ultra-poor (TUP) in Bangladesh
   - Program description
   - Evaluation
   - Impact results

4 Experience in South Sudan
   - Motivation
   - Program description and evaluation design
   - Results

5 Putting together
BRAC’s experience with the ultra poor

- Initiated to do rehabilitation work in post-independent Bangladesh
- Launched microcredit in 1974 as part of their ‘holistic approach’
- Reached over 69,000 villages in 1990s
- Launched targeted programme for the ultra poor in 1983 in collaboration with WFP and the Government of Bangladesh
- Reached nationwide with the Income Generation for Vulnerable Group Development (IGVGD) programme
- Launched the ‘Targeting Ultra Poor’ (TUP) programme in 2002
- Experimentation by BRAC in Pakistan and South Sudan
- BRAC has reached over 400,000 households in Bangladesh
- TUP is being piloted in 9 countries across the globe
Key features of microfinance participation of the poorest

- Very low participation rate
- Frequent exit and re-entry
- Lower level of borrowing
- Smaller loan size
- Difficulties in repayments
- Often “passive participants”
Microfinance impact: Evidence from Bangladesh

- Early evidence on impact from Bangladesh (1990s)
  - Khandker and Pitt (2003) found positive impact of microcredit on income
  - Morduch (1998) found impact only on vulnerability
- Evidence on BRAC (Zaman, 2000)
  - Microfinance participation has positive impact on both income and vulnerability of the moderate poor
  - No impact is observed for the extreme poor
  - Non-participation in microfinance leads to exclusion of the poorest from non-financial services
More recent evidence on microfinance impact

- Banarjee et al (2010)
  - Microfinance participation increases profit if the participants have an enterprise before joining
  - Microfinance participation increases consumption of non-durable goods if they do not have an enterprise

- Karlan and Zinman (2009)
  - Effects of microfinance are stronger for higher income entrepreneurs
Starting point: The ultra-poor lack both capital and skills

- They tend to be in low return and often insecure occupations
- Development literature and policy has focused on 2 key mechanisms to move the poor out of poverty:
  - expanding access to capital (Banerjee and Newman 1993, Carter and Barrett, 2006)
  - giving them skills and education (Becker 1964, Schultz 1979)
- It is not clear whether either route will move the poor out of poverty permanently
  - Asset transfer is likely to have a large wealth effect, thus increasing short-run consumption instead of long-run productivity
  - If returns to education are perceived to be low, the poor are unlikely to participate in education or skills programs (Jensen 2010)
TUP/CFPR program description

- **Intervention package**
  - Transfer of asset (mostly livestock) worth USD 150
  - Training for 2 years (‘hand-holding’)
  - Weekly subsistence allowance (for 30-40 weeks)
  - Provision for healthcare
  - Village committee
TUP/CFPR program description

- **Intervention package**
  - Transfer of asset (mostly livestock) worth USD 150
  - Training for 2 years (‘hand-holding’)  
  - Weekly subsistence allowance (for 30-40 weeks)  
  - Provision for healthcare  
  - Village committee

- **Participant selection: Combing targeting methods**
  - Spatial targeting  
  - Participatory wealth ranking  
  - Proxy means
    - Binding - economically active woman, not participating in other targeted safety net  
    - Not binding (any three) - almost zero land ownership, no other productive asset, child not in school, woman works as maid and no male earner
Evaluation design

- The roll-out of the program was randomized
- BRAC officials at central office identified 40 branch offices to target
- Field officials identify which communities/households will be treated
- We randomize the roll-out of the program at branch level:
  - match branch offices within each sub-district
  - within each sub-district, select one branch each for treatment and control
  - households in treatment branches receive the program in 2007, others in 2011
- STUPs are identified in both treatment and control communities - *they are not informed about the program at baseline*
- All STUPs in treatment communities are treated
Evaluation sites: Randomization at branch level
Survey and sample

- Survey all STUPs + all other poor + a 10% sample from other wealth classes ⇒ *allows to measure spillovers and price effects*
- 40 branches, 1409 communities, 25068 households (roughly half treatment)
- Due to large sample size, fieldwork for every survey wave takes about 6 months
## Lives of different categories of households at Baseline

<table>
<thead>
<tr>
<th></th>
<th>Targeted poor</th>
<th>Other poor</th>
<th>Middle class</th>
<th>Upper class</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of households</strong></td>
<td>6,817</td>
<td>8,576</td>
<td>7,241</td>
<td>2,428</td>
</tr>
<tr>
<td><strong>HH head male</strong></td>
<td>0.58</td>
<td>0.79</td>
<td>0.94</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>(0.49)</td>
<td>(0.41)</td>
<td>(0.23)</td>
<td>(0.22)</td>
</tr>
<tr>
<td><strong>HH size</strong></td>
<td>3.26</td>
<td>3.70</td>
<td>4.43</td>
<td>5.03</td>
</tr>
<tr>
<td></td>
<td>(1.69)</td>
<td>(1.65)</td>
<td>(1.66)</td>
<td>(2.02)</td>
</tr>
<tr>
<td><strong>Female respondent is literate</strong></td>
<td>0.07</td>
<td>0.16</td>
<td>0.27</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>(0.26)</td>
<td>(0.37)</td>
<td>(0.44)</td>
<td>(0.50)</td>
</tr>
<tr>
<td><strong>Female respondent BMI</strong></td>
<td>18.36</td>
<td>18.87</td>
<td>19.33</td>
<td>20.27</td>
</tr>
<tr>
<td></td>
<td>(2.24)</td>
<td>(2.37)</td>
<td>(2.46)</td>
<td>(2.90)</td>
</tr>
<tr>
<td><strong>Food Security</strong></td>
<td>0.41</td>
<td>0.53</td>
<td>0.81</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>(0.49)</td>
<td>(0.50)</td>
<td>(0.40)</td>
<td>(0.19)</td>
</tr>
<tr>
<td><strong>Total per capita expenditure</strong></td>
<td>3,960.1</td>
<td>4,247.1</td>
<td>5,563.8</td>
<td>11,973.3</td>
</tr>
<tr>
<td></td>
<td>(2,267.9)</td>
<td>(2,990.0)</td>
<td>(5,278.6)</td>
<td>(34,484.8)</td>
</tr>
<tr>
<td><strong>Wealth</strong></td>
<td>5620.9</td>
<td>13,991.2</td>
<td>153,359.5</td>
<td>853,426.6</td>
</tr>
<tr>
<td></td>
<td>(29,931.2)</td>
<td>(69,828.1)</td>
<td>(325,057.5)</td>
<td>(971,623.6)</td>
</tr>
<tr>
<td><strong>Livestock value</strong></td>
<td>870.18</td>
<td>2,553.3</td>
<td>12,879.7</td>
<td>31,304.6</td>
</tr>
<tr>
<td></td>
<td>(3,207.7)</td>
<td>(6,786.0)</td>
<td>(26,172.3)</td>
<td>(39,186.4)</td>
</tr>
<tr>
<td><strong>Durables value</strong></td>
<td>429.1</td>
<td>713.0</td>
<td>2,263.5</td>
<td>7,892.0</td>
</tr>
<tr>
<td></td>
<td>(509.7)</td>
<td>(1005.2)</td>
<td>(3,252.6)</td>
<td>(8,900.4)</td>
</tr>
<tr>
<td><strong>Female respondent, hours spent in:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self-employment</strong></td>
<td>413.4</td>
<td>502.8</td>
<td>700.4</td>
<td>769.5</td>
</tr>
<tr>
<td></td>
<td>(580.9)</td>
<td>(575.4)</td>
<td>(559.3)</td>
<td>(512.9)</td>
</tr>
<tr>
<td><strong>Wage employment</strong></td>
<td>723.5</td>
<td>435.3</td>
<td>110.9</td>
<td>42.6</td>
</tr>
<tr>
<td></td>
<td>(847.8)</td>
<td>(712.4)</td>
<td>(398.3)</td>
<td>(279.1)</td>
</tr>
<tr>
<td><strong>All income generating activities</strong></td>
<td>1136.8</td>
<td>938.3</td>
<td>811.3</td>
<td>812.1</td>
</tr>
<tr>
<td></td>
<td>(886.2)</td>
<td>(827.3)</td>
<td>(643.1)</td>
<td>(554.3)</td>
</tr>
<tr>
<td><strong>Female respondent, total earnings</strong></td>
<td>5001.4</td>
<td>4182.9</td>
<td>4806.8</td>
<td>9687.2</td>
</tr>
<tr>
<td></td>
<td>(5,394.1)</td>
<td>(6,165.1)</td>
<td>(11,611.3)</td>
<td>(24,279.9)</td>
</tr>
<tr>
<td><strong>Occupation at baseline (% of respondents):</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wage employment only</strong></td>
<td>28.2</td>
<td>14.6</td>
<td>2.5</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Both self-employment and wage labor</strong></td>
<td>26.8</td>
<td>21.9</td>
<td>7.2</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Self-employment only</strong></td>
<td>29.3</td>
<td>44.3</td>
<td>76.2</td>
<td>87.1</td>
</tr>
<tr>
<td><strong>Out of the labor force</strong></td>
<td>15.6</td>
<td>19.2</td>
<td>14.4</td>
<td>10.1</td>
</tr>
</tbody>
</table>
ATT: specification

- Estimate:
  \[(y_{i1} - y_{i0}) = \alpha + \beta T_i + \eta_d + \epsilon_{id},\]

- \((y_{i1} - y_{i0})\) is the difference in outcome of interest for individual \(i\) between followup and baseline
- \(T_i = 1\) if individual \(i\) lives in a treated community and 0 otherwise
- \(\eta_d\) are subdistrict fixed effects
- \(\beta\) identifies the causal effect of the treatment on the treated under the common trend assumption
- \(\beta\) identifies the intent to treat, which in this context coincides with the average treatment on the treated as all selected individuals accepted to participate
- Residuals are clustered at the community level (robust to branch level)
ATE on occupation and earnings of targeted poor women

<table>
<thead>
<tr>
<th>Treatment community (=1 if yes)</th>
<th>Hours spent in self-employment</th>
<th>Hours spent in wage-employment</th>
<th>Hours worked</th>
<th>Labor force participation</th>
<th>Total earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>557.19***</td>
<td>-80.34***</td>
<td>476.8***</td>
<td>0.13***</td>
<td>1755.79***</td>
</tr>
<tr>
<td></td>
<td>(22.590)</td>
<td>(25.81)</td>
<td>(32.31)</td>
<td>(0.01)</td>
<td>(245.65)</td>
</tr>
<tr>
<td>Observations</td>
<td>6817</td>
<td>6817</td>
<td>6817</td>
<td>6817</td>
<td>6817</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.18</td>
<td>0.03</td>
<td>0.08</td>
<td>0.04</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Difference in difference estimates. *** (**) (*) indicates the hypothesis that the coefficient equal zero can be rejected at the 1% (5%) (10%) level. Standard errors are clustered at the community level. All regressions include sub-district fixed effects. All variables are measured on an annual basis. Total earnings equals earnings from all income generating activities the woman is involved in.
# ATE on livestock assets of targeted poor women

<table>
<thead>
<tr>
<th></th>
<th>Number of cows</th>
<th>Number of goats</th>
<th>Number of poultry</th>
<th>Livestock value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment community (=1 if yes)</td>
<td>1.22***</td>
<td>0.75***</td>
<td>2.57***</td>
<td>11306.49***</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.04)</td>
<td>(0.16)</td>
<td>(230.29)</td>
</tr>
<tr>
<td>Observations</td>
<td>6817</td>
<td>6817</td>
<td>6817</td>
<td>6817</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.47</td>
<td>0.12</td>
<td>0.08</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Difference in difference estimates. *** (** ) ( *) indicates the hypothesis that the coefficient equal zero can be rejected at the 1% (5%) (10%) level. Standard errors are clustered at the community level. All regressions include sub-district fixed effects.
### ATE on welfare of targeted women’s households

<table>
<thead>
<tr>
<th></th>
<th>Food security</th>
<th>PCE food</th>
<th>Price per calorie</th>
<th>PCE non-food</th>
<th>Total PCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment community (=1 if yes)</td>
<td>0.15***</td>
<td>150.72***</td>
<td>0.03**</td>
<td>231.49***</td>
<td>369.38***</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(57.82)</td>
<td>(0.01)</td>
<td>(61.84)</td>
<td>(93.63)</td>
</tr>
<tr>
<td>Observations</td>
<td>6817</td>
<td>6295</td>
<td>6294</td>
<td>6500</td>
<td>6295</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.137</td>
<td>0.027</td>
<td>0.033</td>
<td>0.014</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Difference in difference estimates. *** (**) (*) indicates the hypothesis that the coefficient equal zero can be rejected at the 1% (5%) (10%) level. Standard errors are clustered at the community level. All regressions include sub-district fixed effects. PCE stands for per capita expenditure. All variables are measured at the household level. Food security equals one if the household could afford two meals per day most of the time over the previous year, 0 otherwise. Per capita food expenditure is imputed at the yearly level on the basis of reported food expenditure in the last three days. Price per calorie is computed as the ratio of total food expenditure over total calories purchased. Per capita non-food expenditure includes all expenditures other than food over the previous year.
## GE on wages and prices at the community level

<table>
<thead>
<tr>
<th></th>
<th>Log (wages)</th>
<th>Asset prices</th>
<th>Product prices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Cows</td>
</tr>
<tr>
<td>Treatment community</td>
<td>0.10***</td>
<td>0.01</td>
<td>0.10</td>
</tr>
<tr>
<td>(=1 if yes)</td>
<td>(0.03)</td>
<td>(0.02)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>Observations</td>
<td>1288</td>
<td>1380</td>
<td>1402</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.08</td>
<td>0.05</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Difference in difference estimates. *** (** *) indicates the hypothesis that the coefficient equal zero can be rejected at the 1% (5%) (10%) level. Standard errors are clustered at the community level. All regressions include sub-district fixed effects. All variables are computed as community level averages. The number of observations differs across columns because of missing values. The return to self-employment is computed as earnings from self-employment over hours devoted to self-employment.
## ATE on occupational choice and earnings of OTHER POOR women

<table>
<thead>
<tr>
<th>Treatment community (=1 if yes)</th>
<th>Hours spent in self-employment</th>
<th>Hours spent in wage-employment</th>
<th>Labor force participation</th>
<th>Total earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30.32</td>
<td>51.36***</td>
<td>0.04***</td>
<td>478.68**</td>
</tr>
<tr>
<td></td>
<td>(20.99)</td>
<td>(18.37)</td>
<td>(0.01)</td>
<td>(204.36)</td>
</tr>
<tr>
<td>Observations</td>
<td>8576</td>
<td>8576</td>
<td>8576</td>
<td>8576</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Difference in difference estimates. *** (** *) indicates the hypothesis that the coefficient equal zero can be rejected at the 1% (5%) (10%) level. Standard errors are clustered at the community level. All regressions include subdistrict fixed effects. All variables are measured on an annual basis. Total earnings equals earnings from all income generating activities the woman is involved in.
### ATE on other income generating activities of targeted women

<table>
<thead>
<tr>
<th></th>
<th>Owns land (=1 if yes)</th>
<th>Rents land (=1 if yes)</th>
<th>Number of shops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment community</td>
<td>0.02***</td>
<td>0.08***</td>
<td>0.01*</td>
</tr>
<tr>
<td>(=1 if yes)</td>
<td>(0.006)</td>
<td>(0.01)</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>6817</td>
<td>6817</td>
<td>6817</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.01</td>
<td>0.04</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Difference in difference estimates. *** (** *) indicates the hypothesis that the coefficient equal zero can be rejected at the 1% (5%) (10%) level. Standard errors are clustered at the community level. All regressions include sub-district fixed effects.
Intra-household spillover effects

- No significant impact on net enrolment rate
- It increases demand for child labor in treated households as both boys and girls spend more time in livestock rearing
- Negative impact on school achievement for girls: 7 pp more likely to repeat a grade
Change in School Enrolment and Child Labor
Experience in South Sudan

Motivation

Food transfer and labor supply

- Consensus in public economics (Moffitt, 1992 and 2003; Blundell and MaCurdy, 2000)
  - Transfer increases non-labour income
  - This shifts the budget line away from origin
  - Consumes more of both commodities and leisure

- Life cycle model makes different prediction
  - Income reduction (if any) is distributed over lifetime
  - Increased consumption of durables and savings (Imbens et al, 2001)
  - Possible reduction in child labor (Basu and Van, 1998)

- Efficiency wage/Nutritional poverty traps (Dasgupta, 1997; Dalgaard and Strulik, 2011)
Participant selection
- 6 branches in Juba
- Selection by community
- Indicators (female headship, housing, dependency ratio)
- Verification
Participant selection
- 6 branches in Juba
- Selection by community
- Indicators (female headship, housing, dependency ratio)
- Verification

Support package
- Food assistance for 7 months - for the whole households
- Training in income generating activity - for 8 hours over 2 days
- Access to financial services - 5% uptake
Evaluation design

- Randomized control trial
- 1049 potential participants selected
- 500 randomly selected for support
- 549 as comparison households
- Baseline survey in March 2008
- Follow-up survey in March 2009
Summary Results

- There is no structural change in participant’s earning activity
- Income declines by about 20-25%
- Decline in child labour and small improvement in enrolment (for girls)
- Improvement in housing condition
- No major change in household assets
- Private transfers receipt does not decline
- Participants are more likely to give out transfers
More questions than answers

- Achieving multidimensional objectives
- Asset vs. food transfer
- Replication of approaches in different context