Can Employment Programs Reduce Poverty and Social Instability?

Experimental evidence from a Ugandan aid program (Mid-term results)

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DIW

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IDB
Average age: 25
Average education: 8th grade
Average cash earnings: $0.48/day PPP
Average employment: 10 hours/week
Female: 33%
The “Youth Opportunities Program” in Uganda

• NUSAF: Uganda’s second largest development program
  1. Raise incomes and employment
  2. Increase community cohesion and reduce conflict

• YOP: groups of 15 to 30 young adults (ages 16 to 40) apply to government for cash transfers of $7-$10k ($377 per person on average)

• If your group is selected:
  – Central bank transfers lump sum to bank account in names of group leaders
  – Groups pay training fees for group members and distribute cash or in-kind assets

• Conditions:
  – Must propose to use for vocational training fees, tools, and start-up costs
  – After transfer, no further government monitoring, support, or accountability
Aid strategy rooted in at least four assumptions

1. Money will not be “wasted”
   – Poor people have agency and can make informed economic decisions
   – i.e. will save/invest rather than eat right away

2. Poor have high potential returns to capital

3. Poor are constrained from reaching high returns
   – e.g. Missing markets (credit, insurance) and production non-convexities

4. Poverty reduction will have positive socio-political impacts
   – More empowered and engaged citizens (especially if participatory)
   – Less alienated
   – Less violent
1. Is (relatively) unconditional cash transfer invested on training and equipment?

2. Do the poor have high returns to capital?

3. Do employment programs promote social stability?
   – i.e. externalities
Work opportunities outside intervention
Distribution of hours worked in control group (at endline)

- Domestic work: 23%
- Farming: 33%
- Vocation: 12%
- Wage worker: 4%
- Own business: 3%
- Other unskilled: 8%
- Casual labor: 4%
- Animal raising: 7%
- Selling food/items: 6%
Distribution of per capita grant size across groups

Heterogeneity driven mainly by differences in group size

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**Average grant size within groups (USD)**

- **Percent**
  - 0
  - 10
  - 20
  - 30

- **Average grant size within groups (USD)**
  - 0
  - 1000
  - 2000
  - 3000
Timeline of events

2006  Tens of thousands apply, hundreds of groups funded

2007  Funds remain for 265 groups in 10 districts
       Government selects, screens and approves 535 groups

2/2008 Baseline survey with 5 people per group
       Randomization at group level

7-9/2008 Government transfers funds to treatment groups

10/2010 Mid-term survey commences roughly 2 years after transfer
       Effective attrition rate of 8%

5/2012  Next survey in the field
Data and attrition

• Baseline survey
  – Successfully tracked 524 of 535 groups
    • 6 discovered to be “ghosts” and discarded
  – Interviewed 5 random members per group
  – Balanced along most characteristics

• Mid-term follow-up survey
  – Sought all 5 members of each group, tracking migrants (4 attempts per person)
  – Attrition of 13%
    • 9% of control group not found
    • 15% of treatment group not found
  – Attrition relatively unsystematic
Investments in vocational skills and capital
### ATEs on investments in vocational skills and capital

<table>
<thead>
<tr>
<th></th>
<th>Vocational training</th>
<th>Tools and machines acquired since baseline</th>
<th>Existing stock of raw materials, tools, and machines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enrolled</td>
<td>Hours</td>
<td>Level ('000s of UGX)</td>
</tr>
<tr>
<td>Treated</td>
<td>0.607</td>
<td>400.264</td>
<td>791.904</td>
</tr>
<tr>
<td></td>
<td>[0.030]***</td>
<td>[25.162]***</td>
<td>[130.305]***</td>
</tr>
<tr>
<td>Treated × Female</td>
<td>0.033</td>
<td>13.996</td>
<td>-409.800</td>
</tr>
<tr>
<td></td>
<td>[0.046]</td>
<td>[46.693]</td>
<td>[171.343]**</td>
</tr>
<tr>
<td>Female</td>
<td>-0.014</td>
<td>27.474</td>
<td>-49.611</td>
</tr>
<tr>
<td></td>
<td>[0.031]</td>
<td>[25.389]</td>
<td>[85.262]</td>
</tr>
<tr>
<td>Control means</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>0.169</td>
<td>41.80</td>
<td>159.8</td>
</tr>
<tr>
<td>Females</td>
<td>0.157</td>
<td>63.34</td>
<td>96.71</td>
</tr>
<tr>
<td>Female Treatment Effect</td>
<td>0.640</td>
<td>414.3</td>
<td>382.1</td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td>0.000</td>
<td>0.001</td>
</tr>
<tr>
<td>ATE as % of control mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>359%</td>
<td>958%</td>
<td>496%</td>
</tr>
<tr>
<td>Females</td>
<td>407%</td>
<td>655%</td>
<td>395%</td>
</tr>
</tbody>
</table>

Robust standard errors in brackets, clustered by group and stratified by district.

Omitted regressors include an age quartic, district indicators, and baseline measures of employment and human and working capital.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$
Types of training received

- Tailoring: 40%
- Carpentry: 20%
- Welding: 10%
- Salon: 5%
- Business: 5%
- Mechanics: 5%
- Borehole Repair: 5%
- Brickmaking: 5%
- Shoe Repair: 5%
- Plumbing: 5%
- Bicycle Repair: 5%
- Blacksmith: 5%
- Bee Keeping: 5%
- Fisheries: 5%
- Other: 20%
Implications

- Appears that two thirds of grant was invested in either training fees or tool/capital purchases

- Remaining third could have been consumed, or could have been invested in inventory, materials, etc. (No data on this)
Impacts on income, consumption and employment
## ATEs on income, consumption and employment

<table>
<thead>
<tr>
<th></th>
<th>Profits in last 4 weeks</th>
<th>Poverty</th>
<th>Employment levels in past 4 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level (000s of UGX)</td>
<td>ln(Profits)</td>
<td>Index of wealth (z-score)</td>
</tr>
<tr>
<td><strong>Treated</strong></td>
<td>26.225 [7.326]***</td>
<td>0.813 [0.179]***</td>
<td>0.182 [0.067]***</td>
</tr>
<tr>
<td><strong>Treated × Female</strong></td>
<td>-20.234 [11.317]*</td>
<td>0.164 [0.327]</td>
<td>-0.156 [0.106]</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>-9.547 [7.379]</td>
<td>-0.571 [0.232]**</td>
<td>-0.006 [0.066]</td>
</tr>
</tbody>
</table>

### Control means

<table>
<thead>
<tr>
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<th>Profits in last 4 weeks</th>
<th>Poverty</th>
<th>Employment levels in past 4 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td>50.01</td>
<td>8.653</td>
<td>-0.00328</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td>32.27</td>
<td>8.010</td>
<td>-0.0476</td>
</tr>
<tr>
<td><strong>Female Treatment Effect</strong></td>
<td>5.992</td>
<td>0.977</td>
<td>0.0261</td>
</tr>
<tr>
<td><strong>p-value</strong></td>
<td>0.447</td>
<td>0.000482</td>
<td>0.762</td>
</tr>
</tbody>
</table>

### ATE as % of control mean

<table>
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<tr>
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<th>Profits in last 4 weeks</th>
<th>Poverty</th>
<th>Employment levels in past 4 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td>0.524</td>
<td></td>
<td>0.254</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td>0.186</td>
<td></td>
<td>0.489</td>
</tr>
</tbody>
</table>

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Robust standard errors in brackets, clustered by group and stratified by district. Omitted regressors include an age quartic, district indicators, and baseline measures of employment and human and worker capital. *** p<0.01, ** p<0.05, * p<0.1
Are these high rates of return?

<table>
<thead>
<tr>
<th>Treatment effects</th>
<th>Real rate of return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income ATE</td>
<td>35%</td>
</tr>
<tr>
<td>Income QTE</td>
<td>22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available rates</th>
<th>Real rate of return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime rate</td>
<td>5%</td>
</tr>
<tr>
<td>Commercial low</td>
<td>15%</td>
</tr>
<tr>
<td>Commercial high</td>
<td>25%</td>
</tr>
<tr>
<td>ROSCAs</td>
<td>200%</td>
</tr>
<tr>
<td>Moneylenders</td>
<td>200%</td>
</tr>
</tbody>
</table>

- ATE and QTE higher than real commercial lending rates
- ATE implies a “Payback” time of 3 years
- But returns lower than 40 to 60% rates seen among microenterprises in Sri Lanka, Mexico or Ghana
Impacts on aggression and alienation
Survey measurement

• Social alienation/integration
  – **Participation**: Community group participation/leadership, community leadership, attending and speaking out in community meetings
  – **Interpersonal**: social support, family relationship, neighbor relations, elder/leader relations
  – **Emotional depression and distress**: 9 self-reported symptoms

• Interpersonal aggression
  – Frequency & intensity of disputes
  – Self-reported hostile behaviors
  – Peer behavior

• Political behavior – prevented from asking in mid-round
  – Preferences
  – Participation
  – Violence
Impacts on social cohesion and alienation

**Standardized ATEs for Outcome Families (by gender)**

- **Males: Participation**
  - ATE: 0.08

- **Females: Participation**
  - ATE: 0.10

- **Males: Social integration**
  - ATE: 0.13

- **Females: Social integration**
  - ATE: -0.15
Evidence consistent with idea that economic performance changes social role and esteem

- Treated give 25%-50% more transfers within and outside the household

- Robust positive correlation between social integration and participation and:
  - Economic performance (real and perceived rankings)
  - Transfers
Impacts on mental health and aggression

Standardized ATEs on Outcome families (by gender)

- Males: Distress symptoms
- Females: Distress symptoms
- Males: Aggression and hostile behavior
- Females: Aggression and hostile behavior

ATE values:
- 0.12
- -0.16
- 0.20
- 0.25
In absolute terms the changes in aggression are small

Distribution of index of aggressive behaviors

- But aggression levels changing at all points in the distribution
  - Especially those who at baseline report the highest number of disputes
- Proportionally the impact is huge
Next steps

• New round of data collection in 2012
  – Better data on de facto group size
  – Longitudinal performance data
  – More extensive social, political and violent participation outcomes
  – More extensive data on time preference and cognitive/non-cognitive skills