Agricultural cooperatives in Ethiopia

Emerging issues and recent evidences

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Introduction

• Informal collective action in rural Ethiopia is as old as the society itself

• Formal agricultural cooperatives emerged in 1960s as a result of comprehensive agricultural development programs

• While many of the current cooperatives have passed through several historical turmoil, some are newly emerged cooperatives with renewed missions and objectives
Types of agricultural cooperatives

• Single-purpose cooperatives
  • Commodity specific marketing cooperatives (dairy, vegetables, sesame, sugar cane)
  • User cooperatives (irrigation, mineral extraction, hillside lands)
  • Farmers marketing Organizations (FMOs)

• Multi-purpose cooperatives (MPCs)
Emerging opportunities for AgCoops

- Increased urbanization
  - Increased demand for processed and fresh foods
  - Growth supply chain with which cooperatives can make contract
- Increased income/economic growth
  - High value products such as milk, meat, chicken etc, which increases demand for grains /animal feeds
- Infrastructural development
  - Rural roads, which allows farmers to transport their outputs with trucks
  - Per unit transportation cost for cooperatives than for individuals
  - Rural electrification
  - ICT, Mobile subscription, 4G service, growing apps, cheaper phones
Issues affecting the competitiveness of coops

• The boundary of the coops

• Rigid pricing system

• External interventions

• Governance

• Membership and benefits

• Members trust and commitment
Research on Ethiopian Cooperatives

• Many studies have been conducted to measure producers participation and impact of coops on producers:
  • IFPRI (Bernard, et al 2008; Bernard and Spielman 2009; Tadesse, 2010)
  • Addis Ababa University (Francesconi, G. N., & Heerink, N., 2010,
    • Ethiopian Economics Association: (Abebaw and Haile, 2013) etc.

• The result indicated that cooperatives are indeed
  • Facilitated adoption of improved technologies (fertilizer and seeds)
  • Allow farmers to receive better price

• However, their impact on commercialization is very limited and heterogeneous
  • Only 10% of the marketable surplus pass through cooperatives
  • Poor rural households are excluded (not benefited) from MPC services

• Their competitiveness is not yet significant
Research on Ethiopian cooperatives

• Many studies focus on impact and participation
  • Strategic issues are not yet adequately studied
  • Even the impact/ participation studies have problems of measurement and coverage

We studied
• The impact of market-oriented cooperatives on production and marketing
  • To improve measurement problems
• Trust and commitment of members using choice experiment to measure their implicit trust to cooperative and other members and see how this is important in performance
Impact of coops on smallholders’ production and marketing

Benefits of Cooperatives

- Lower marketing cost
- Reduction in transaction cost
- Ownership benefits
- Competition to the local market

Farm income ($Y$)

- Marketed surplus
- Production / productivity ($Q_p$)
- Input use ($i$)
- Crop choice / specialization

Higher Price

Risk, Asset

Source: Tadesse and Luz
Measuring impact

• Data
  • Collected in 2012 and 2014
  • 960 longitudinal samples
  • We measured production, input use, sales, etc..

• Treatment and controls
  • Those who have access to cooperative and those who have no access to coops (villages with coop and village without coop)
  • Members and non-members from villages with coop
  • Those who sold their output to coop and those who did sale output to the coop

• Outcome variables
  • Area share to major crop and tradable crops
  • Productivity of major crop and tradable crops
  • Marketed surplus for major crop

• Analysis method
  • Propensity score matching
  • Difference-in-difference (double difference)
## Percentage of samples in each treatment group

<table>
<thead>
<tr>
<th>Extent of farmers participation in cooperatives</th>
<th>Percentage out of the total sample (N=960)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td>Farmers have access to the Cooperative</td>
<td>74.2</td>
</tr>
<tr>
<td>Farmers who are member to the cooperative</td>
<td>52.9</td>
</tr>
<tr>
<td>Farmers used to sell crops to the cooperative</td>
<td>23.8</td>
</tr>
</tbody>
</table>
## Impact of presence of a cooperative in the village/Kebele

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Baseline Without coop</th>
<th>Baseline With coop</th>
<th>Follow up Without coop</th>
<th>Follow up With coop</th>
<th>Diff-in-Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area share of the major crop</strong></td>
<td>0.577 (0.021)</td>
<td>0.606 (0.012)</td>
<td>0.467 (0.021)</td>
<td>0.566 (0.021)</td>
<td>0.1*** (0.024)</td>
</tr>
<tr>
<td><strong>Area share of tradable crops</strong></td>
<td>0.889 (0.012)</td>
<td>0.884 (0.007)</td>
<td>-0.006 (0.013)</td>
<td>0.935 (0.007)</td>
<td>0.05*** (0.013)</td>
</tr>
<tr>
<td><strong>Productivity of major crop</strong></td>
<td>34.303 (3.489)</td>
<td>22.904 (2.085)</td>
<td>-11.4*** (4.064)</td>
<td>14.352 (1.97)</td>
<td>9.422* (5.655)</td>
</tr>
<tr>
<td><strong>Productivity of tradable crops</strong></td>
<td>28.039 (2.899)</td>
<td>22.026 (1.736)</td>
<td>-6.013* (3.379)</td>
<td>12.476 (1.726)</td>
<td>4.196 (4.757)</td>
</tr>
<tr>
<td><strong>Share of marketed surplus of major crop</strong></td>
<td>0.385 (0.033)</td>
<td>0.431 (0.019)</td>
<td>0.046 (0.038)</td>
<td>0.004 (0.036)</td>
<td>-0.042 (0.053)</td>
</tr>
</tbody>
</table>
## Impact of membership

<table>
<thead>
<tr>
<th>Outcome variables</th>
<th>Baseline</th>
<th>Follow up</th>
<th>Diff-in-Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-members</td>
<td>Membe rs</td>
<td>Diff</td>
</tr>
<tr>
<td><strong>Area share of major crop</strong></td>
<td>0.635 (0.022)</td>
<td>0.594 (0.014)</td>
<td>-0.041 (0.026)</td>
</tr>
<tr>
<td><strong>Area share of tradable crops</strong></td>
<td>0.877 (0.012)</td>
<td>0.885 (0.008)</td>
<td>0.008 (0.014)</td>
</tr>
<tr>
<td><strong>Productivity of major crop</strong></td>
<td>24.564 (2.669)</td>
<td>21.179 (1.752)</td>
<td>-3.385 (3.193)</td>
</tr>
<tr>
<td><strong>Productivity of tradable crops</strong></td>
<td>28.994 (2.966)</td>
<td>18.516 (1.883)</td>
<td>-10.48*** (3.513)</td>
</tr>
<tr>
<td><strong>Share of marketed surplus major crop</strong></td>
<td>0.416 (0.032)</td>
<td>0.441 (0.021)</td>
<td>0.025 (0.038)</td>
</tr>
</tbody>
</table>
## Impact of selling to the cooperative

<table>
<thead>
<tr>
<th>Outcome variables</th>
<th>Baseline</th>
<th>Follow up</th>
<th>Diff-in-Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-client to coops</td>
<td>Client to coops</td>
<td>Diff</td>
</tr>
<tr>
<td><strong>Area share of major crop</strong></td>
<td>0.592 (0.015)</td>
<td>0.634 (0.021)</td>
<td>0.042 (0.026)</td>
</tr>
<tr>
<td><strong>Area share of tradable crops</strong></td>
<td>0.88 (0.008)</td>
<td>0.886 (0.012)</td>
<td>0.006 (0.014)</td>
</tr>
<tr>
<td><strong>Productivity of major crop</strong></td>
<td>23.236 (1.799)</td>
<td>20.189 (2.537)</td>
<td>-3.048 (3.11)</td>
</tr>
<tr>
<td><strong>Productivity of tradable crops</strong></td>
<td>20.405 (1.942)</td>
<td>24.138 (2.823)</td>
<td>3.733 (3.427)</td>
</tr>
<tr>
<td><strong>Share of marketed surplus of the major crop</strong></td>
<td>0.457 (0.021)</td>
<td>0.387 (0.030)</td>
<td>-0.07* (0.037)</td>
</tr>
</tbody>
</table>
Trust and commitment in cooperatives

• Trust in cooperatives
  • Makes members commit themselves to the organization (Borgen, 2001),
  • Be loyal to their cooperatives (James & Sykuta, 2006)
  • Become involved in the governance of the cooperatives (Barraud-Didier, Henninger, & Akremi, 2012).

• However, trust cannot be easily created and maintained (Lyon, 2000).

• We measured different types of trust using choice experiment
  • Trust among members
  • Trust to the cooperative
    • Absolute trust
    • Relative trust
      • Neutral trust
      • Incentivized trust
      • Costly trust
  • Commitment to the cooperative
Choice experiment

• A hypothetical measure to measure trust and commitment using financial transfer and product trading

• For example; to measure trust to the cooperative we have asked farmers to choose between
  • Receiving 100 ETB directly from us and 150 ETB through the coop
  • Selling product to cooperative on credit and selling to traders on credit
  • Selling product to cooperative on credit and selling to traders on credit, but the trader offers better price
  • Selling outputs to cooperative on credit and selling to the trader on cash but the cooperative offers better price
## Extent of trust and commitment in cooperatives

<table>
<thead>
<tr>
<th>Trust indicators</th>
<th>Percentage of members indicated trust</th>
<th>Variability across cooperatives(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Min Percentage</td>
</tr>
<tr>
<td>Trust in other members (TOM)</td>
<td>63</td>
<td>41</td>
</tr>
<tr>
<td>Absolute trust in cooperative (ATC)</td>
<td>63</td>
<td>45</td>
</tr>
<tr>
<td>Relative trust in cooperative (RTC)</td>
<td>87</td>
<td>74</td>
</tr>
<tr>
<td>Incentivized trust in cooperative (ITC)</td>
<td>91</td>
<td>75</td>
</tr>
<tr>
<td>Costly trust in cooperative (CTC)</td>
<td>74</td>
<td>45</td>
</tr>
<tr>
<td>Stated self-commitment in the cooperative (COM)</td>
<td>62</td>
<td>33</td>
</tr>
</tbody>
</table>
Results of further analysis

• We observed significant association between
  • members trust to the cooperative and their commitments
  • members' trust to the cooperative and selling to the cooperative
  • trust among members and investment on cooperatives

• The following factors are important determinants of trust and commitment to the cooperative
  • Distance from the cooperative
  • Role in the management of the coops
  • Age of the cooperative
  • History of bad events
Messages to policy makers

• No question about the role of cooperatives in an economy where there are millions of smallholder producers and markets are yet very thin

• Let cooperatives grow naturally
  • Artificial comparative advantages do not make cooperatives sustainable or efficient
• Government has to consider different options for making local markets competitive

• Linking SACCOs with AgCoops
Message to cooperative leaders and promoters

• Cooperatives should follow basic principles of markets and collective actions
  • Establish cooperatives for commodities/services where there is significant market failure

• Cooperatives have to create exclusive benefits for members to invest on them

• Let members' own, freely act and commit to their organizations

• Revisit strategies of promotion ...members promoters
Messages to Researchers

• Improve our coverage
• Improve methodology
• Improve delivering research outputs
Thank you!!