Advancing the Research Agenda for Financial Inclusion

Panel on Insurance

Shawn Cole (Harvard Business School)

June 28, 2016, World Bank
Agricultural Insurance
Agricultural Insurance
Consumer Protection and Insurance

- Need for consumer protection?

- Evidence:
  - Life Insurance (Anagol, Cole, and Sarkar, 2016)
  - Weather Insurance (Giné, Cole, and Vickery, 2016)

- Concluding Thoughts
Need for consumer protection?

- **Self-evident to many**

- **Less clear to others**
  - Some believe customers do not systematically make mistakes
  - Market discipline
Why Study Life Insurance in India?

- Large market (>105m customers, 20% of household savings)
- Simple example of product choice:
  - Term insurance
  - Whole insurance
- Key question: how well does the market do in helping people choose policies?
Why Study Life Insurance in India?

- Large market (>105m customers, 20% of household savings)

- Simple example of product choice:
  - Term insurance
    - Pay premium each year for 30 years, receive benefit if die, if live >30 years no benefit

- Whole insurance
  - Pay higher premium each year for 30 years, receive benefit if die *at any point*
Simple Example of Product Choice

- Whole Insurance $\approx$ Term Insurance + Savings

- Can compare whole vs. term policies without knowing anything about individual preferences
Compare to LIC Policies

- Coverage of Rs. 500,000 (ca. $10,000) for a 34-year old male
- Whole policy costs Rs. 13,574, provides 500,000 Rs. cover, which grows by 3% “bonus” each year
- Term policy costs Rs. 2,506
  - Save (13,574-2,506) = 13,574 in bank account each year earning 8%

- If die before 2056: term + savings pays more

- If survive until 2056:
  - Whole redemption value Rs. 1,205,000
  - Term redemption value Rs. 0
  - Savings balance Rs. 5,563,378
Why would consumers choose Whole?

- **Commitment savings motive**
  - But lapsed insurance policies cost consumers considerable amounts

- **Agents commission on whole is much higher**
Audit Study

- Hire 10 auditors, who make 1,026 visits to insurance agents over 12 months

- Basic script:
  - Introduce self, seek insurance at low cost
  - Not looking for savings product
  - If need to save, prefer to do so via separate financial account
  - What policy do you recommend?

- Results: “Term only” recommended 9% of the time, 91% of recommendations suggest whole (or whole + term)
How responsive are agents to customer needs?

• **Vary customer types:**
  • “I do not have the discipline to save on my own” (needs whole)
  • “I want to cover risk at a low cost” (needs term)

• **Vary customers’ stated beliefs:**
  • “I’ve heard term is a good policy”
  • “I’ve heard whole is a good policy”
How responsive are agents to customer needs?

- Agents respond to needs, and beliefs in the same way.
- But “best case” customers only get correct recommendation 30% of the time!
Can competition solve the problem?

- High competition setting: “I was speaking to another agent, who recommended…”
- Low competition: “I was speaking to a friend, who recommended…”
Can competition solve the problem?

- High competition setting: “I was speaking to another agent, who recommended…”
- Low competition: “I was speaking to a friend, who recommended…”

- RESULT: High competition increases suitability of advice by 5 percentage points (from 10 percent to 15 percent of the time)
Can financial education solve the problem?

- Separate Experiment
- Low sophistication: “I don’t understand very much about life insurance”
- High sophistication: “I have spent time studying the products and am quite familiar with them, what would you recommend?”
Can financial education solve the problem?

- Separate Experiment

- Low sophistication: “I don’t understand very much about life insurance”

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- RESULT: Sophisticated customers get bad advice 14 percentage points less often (from a base of 80% bad advice)
Conclusion

- Even with professional agents, reasonably high training standards, most advice is unsuitable

- Improving advice:
  - Competition, sophisticated customers get slightly better advice
Understanding Demand for Insurance

- Rainfall index insurance policies are complicated
- Contracts written on mm rainfall
  - Farmers think about soil moisture
- Goal of limiting basis risk makes policies more complex
- Payout is a non-linear function of rainfall index
- Question: can farmers effectively evaluate products?
Experimental Design

- Evaluate willingness to pay for 2,000 farmers (1,500 ‘old’ farmers and 500 farmers added to sample) for **four** policies

- (1) Actual policy designed for their geographical area
  - E.g., Anantapur Phase II, premium 110. Pays Rs. 1,000 on exit.

- (2) mm deviation. Reduce the amount paid out per mm deficit from 10 to 5
  - =>Reduces expected value from 44 to 22

- (3) Higher Exit. Pay Rs. 1,000 if rainfall between 0 and 5 mm
  - =>Increases expected value from 44 to 110

- (4) Basis Risk. Real policy, but written on distant rainfall station
  - => No effect on expected value (in expectation)
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### Summary Statistics

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<th>Bid Type</th>
<th>Ordering 1</th>
<th>Ordering 2</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Policy</td>
<td>68.97</td>
<td>67.90</td>
<td>1978</td>
<td>68.43</td>
<td>70.00</td>
</tr>
<tr>
<td>Policy (Exit)</td>
<td>79.79</td>
<td>78.81</td>
<td>1978</td>
<td>79.30</td>
<td></td>
</tr>
<tr>
<td>Policy (mm Deviation)</td>
<td>56.66</td>
<td>56.40</td>
<td>1978</td>
<td>56.53</td>
<td></td>
</tr>
<tr>
<td>Basis Risk</td>
<td>38.90</td>
<td>39.07</td>
<td>1978</td>
<td>38.98</td>
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- Bid is scaled as percent of policy premium
- Average and median willingness to pay generally exceed actuarial value: there is scope for insurance
Summary Statistics

- Bid is scaled as percent of policy premium
- Average and median willingness to pay generally exceed actuarial value: there is scope for insurance
- No ordering effects
- Prices move in “correct” direction
Taking Stock

- Farmers get direction right, but magnitudes wrong

- Change in mm deviation
  - Reduces expected value by Rs. 22
  - Affects payouts in bad, but not catastrophic, states of world
  - Reduces willingness to pay by Rs. 13

- Change in exit level
  - Triples expected value, from 44 to 110
  - Payout occurs in exactly the ‘worst’ state of the world
  - Increases willingness to pay by 11

- Private market may not work well (Anagol et al., 2012)
  - Sales agents may not recommend appropriate products
  - Government ownership of products doesn’t solve problem
<table>
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<th>Policy Deviation</th>
<th>Change in E[Value]</th>
<th>Low Soph. (Q1)</th>
<th>High Soph (Q4)</th>
</tr>
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<tr>
<td>Change in mm Deviation</td>
<td>44 to 22=&gt;-22</td>
<td>-9</td>
<td>-14</td>
</tr>
<tr>
<td>Increase in exit threshold</td>
<td>44 to 110=&gt;+66</td>
<td>+9</td>
<td>+12</td>
</tr>
<tr>
<td>Basis Risk</td>
<td>E[Value] unchanged, real value much lower</td>
<td>-22</td>
<td>-34</td>
</tr>
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Conclusions

- Customers willingness to pay slightly higher than actuarially fair price
  - Transaction costs currently substantial, with mobile payments could approach zero

- But...
  - Customers fail to price deviations correctly
  - In particular, dramatically under-value change in “exit”.
  - This suggests that policies that theory predicts should be valuable to customers may not be perceived as such.

- This has interesting implications for the pricing of policies and thus for the quality of the insurance products offered.
Evidence from the Field

- The role of evidence
- The body of evidence
- The future of evidence
The role of evidence

- Private sector products face market test
- Insurance may be a special case
  - Consumer protection important
- Public funders increasingly demanding evidence
- Microfinance as a very useful comparison
  - Placing “poverty in a museum” (Yunus)
  - Six RCTs: “moderately positive, but not transformative impact” (Banerjee et al. 2015)
The limits of evidence in insurance

- Low-probability events are difficult to study
- Limited adoption makes impact evaluation especially difficult
- Gains in income, well-being difficult to detect
  - Few interventions are shown to measurably impact poverty
  - Research may usefully focus on “less ambitious” goals
The future of evidence

- Embrace new technologies
  - Mobile payments, mobile surveying
- Cooperate with insurers
- Emphasize innovation in product design
- Measure consumer surplus directly
- Focus on mechanisms and theories