Consumption Smoothing, Saving, Credit and Insurance

Lecture 8/3: Asymmetric information in Credit Market and Microfinance

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Outline

- Asymmetric information and credit rationing
- Microfinance
  - What is microfinance?
  - Group lending/joint liability
  - Microfinance and adverse selection
  - Some results from microfinance

Informational asymetries and credit rationing

- Credit ration: why the moneylend won't increase the interest rate when there is excess demand for loan.
- Two types of borrowers: high-risk borrowers (risky type) and low-risk borrowers (safe type)
- Risk may be correlated with characteristics of the borrower that are observable or unobservable to the lender.
- When it is unobserved, the interest rate affects the mix of clients that are attracted, and hence the average probability of default.
- Suppose each type needs a loan of size L to invest in some project.
- Safe type: always obtain a secure return of R
- Risy type: Obtain a higher return of R' with probability p and possbily get zero return with probability 1-p

Informational asymetries and credit rationing

- The lender can freely set the interest rate; which rate he should choose?
- What is the highest interest rate that the safe borrower wants the loan?
  - From net return, $i_1 = R/L - 1$
- What is the highest interest rate that the risky borrower wants the loan?
  - From expected return, $i_2 = R'/L - 1$
- Since we have $R' > R$, we then have $i_2 > i_1$
- Note that this interest rate is independent of the risky type's probability of success.

Informational asymetries and credit rationing

- Suppose the lender charges i_2, his expected profits are $\Pi_2 = p(1 + i_2)L - L$
  - Only the risky type is willing to borrow at i_2
- If the lender charges i_1, both types are in; hence, his expected profits are $\Pi_1 = \frac{1}{2} i_1 L + \frac{1}{2}[p(1 + i_1)L - L]$
- When $\Pi_1 > \Pi_2$, the lender will be reluctant to charge the higher interest rate.
- By substituting i_1 and i_2, we obtain the condition $p < \frac{R}{2R' - R}$
  - If the high-risk type is sufficiently risky (a lower p means a higher chance of default), the lender will not raise his interest rate to i_2 that attract on the risky type.
- The price is not raised even in the face of excess demand.

What is microfinance?

- Provision of small-scale finanical services
- Still primarily small loans to poor borrowers in poor countries (microcredit)
- Average loan size $100-200
- Some famous names: Grameen Bank (Bangladesh), BRAC (Bangladesh), Accion (Mexico)
- Key differences from standard banking: small loans, frequent payment, group lending (use borrowers' local presence to overcome information constraints)

Why does it work?

- Better ability to deal with market failures
- Local information
- May lower monitoring and enforcement cost
  - Peer monitoring
  - Social pressure
  - Future access to credit

Group lending/Joint liability

- Loans are made to groups of borrowers
  - Usually 5 or so
  - Usually the borrowers form the groups themselves
  - No literal collateral
- Weekly meetings in the village
  - Very public review of each group's records (passbooks)
- The entire group is liable for each of its member's repayment
- If all repay, the group can continue to borrow
- If one member defaults, all members of the group lose access to credit
- Incentives for members to monitor each other (project choice, effort, repayment)

Limitations of group lending

- Best suited to "medium-density" environments, i.e. villages and small towns
  - Low density makes group monitoring, meeting attendence, etc., expensive
  - High density reduces the effectiveness of the implicit collateral
- Tradeoff between monopoly power and credibility of enforcement mechanism
  - Entry leads to more competition for borrowers
  - But if I can default with one lender and get a loan from another?
- Frequent but early repayment
  - Establish good habits
  - But costly and can reduce investment

Limitations of group lending

- Difficult to maintain credibility that all members of the group will be punished
- Added risk for borrowers
- Costs of monitoring transferred to borrowers
- Social sanction may not work very well for enforcement

Microcredit and Adverse selection

- Villagers form groups themselves
- They are likely to know better who is relatively risky or safe
- Villagers will sort into groups with others like themselves, but not all the cases
- Bank does not need to know which group is which and charge one interest rate
  - Risky types pay higher effective interest rate because they repay for their partners when the project is successful
  - Lowers (but does not eliminate) subsidy from safe to risky types
  - Efficiency gain: lower interest rate keeps safe type from exiting

Microcredit and Adverse selection

- Assume borrowers know each others' types
- How will the borrowers match?
  - A safe type would not want to match with a risky type: when the risky type fails, the safe type will not be able to cover the balance, and both will lose access to future credit
  - A risky type would prefer to match with a risky type: if his own project fails, then there is at least a chance that his partner's project will succeed and can pay for both of them
- Positive assortative matching
- You might see negative matching of Safe with Risky. The safe borrower can always repay the debts of both, and then they could split the upside when the risky type's project is successful.

Microcredit and Adverse selection

- Participation and enforcement:
  - Why the risky type will follow through on paying when his partner cannot
  - There is an incentive for the successful risky type to break his promise and keep the output
- Punishment: loses access to credit in the future
  - We'll assume this is a sufficient deterrent
  - Other mechanisms could be social sanction, i.e. being perceived as not trustworthy within the village

Some results from microfinance

- Demand for many of microcredit products was modest
  - In many countries, the take-up rate for eligible borrowers is ranged from 13-31%
- Expanded credit access did lead some entrepreneurs to invest more in their business
- Microcredit access did not lead to substantial increases in income
- Expanded access to credit did afford household more freedom in optimizing how they earned and spent money (consumed, invested, and managed risk)
- There is little evidence that microcredit access had substantial effects on women's empowerment or investment in children's schooling.