Lecture notes 8: Credit Markets

- Credit markets very important to efficient running of economy
    - Saving—for retirement, etc.
    - Borrowing—to start and run a business, operate a farm etc.

- Credit markets in developing countries do not function well

- Main reason: monitoring difficulties
    - what is being done with the loan
    - whether the project succeeded

Two types of credit market: informal and formal

- Formal market: banks (commercial or government), credit bureaus, etc.
    - Problem: often require collateral because of limited liability, which poor peasants can't provide

- Informal market: individuals
    - Can accept less traditional forms of collateral--large landowner adjacent to poor farmer
    - Can more easily monitor each other

- Facts about informal credit markets
    - Loan interest rates can be very high—avg annual rate on loan as high as 80% (Aleem)
    - Spread between loan and deposit rates very high
    - low default rates
    - Large amount of variation within loan and borrow rates
    - credit rationing--demand is greater than supply

- Why?
    - Market highly segmented--fixed clientele
    - a lot of interlinked credit--ie landlords and tenants
    - exclusivity
    - high monitoring costs

- these four factors lead to highly individualized interest rates
- the monitoring costs lead to large difference between loan and deposit rates
- can also explain credit rationing

Model with Monitoring and Credit Rationing

Assume an individual with wealth W wants to borrow money for production

Assume a linear production technology $F(K) = \sigma K$.

borrower who has borrowed $K - W$ at interest rate r has an incentive to default and not return the money he borrowed.

To default has to incur a cost cK.

--the cost of fudging the books to conceal the project returns, channeling funds to offshore accounts etc.,

--or simply the cost in terms of disapproval from his parents and fellow community members.

If the borrower refuses to pay there is no way the lender can chase after him, nor is there a court to which the lender can complain.

The borrower will repay the loan if the cost of fudging the books outweighs the benefit of not paying back the loans, ie if

$$F(K) - r(K - W) \geq F(K) - cK$$

$$r(K - W) \leq cK$$

$$(r - c)K \leq rW$$

$$\frac{K}{W} \leq \frac{r}{r - c}$$

This defines a maximum leverage ratio—the lender will not lend more than that, because they know that if they do lend more, the borrower will not repay the loan. This ratio decreases with r and increases with *c*. This also means that

$$K - W \leq \frac{c}{r - c} W$$

so people with higher wealth will be able to borrow more

Also, the borrowers want to maximize

$$F(K) - r(K - W) = \sigma K - r(K - W)$$

Same as maximizing $(\sigma - r)K$

So as long as $\sigma > r$, the more they borrow, the more profits they make, so they will be credit constrained

Alternative Credit Policies

two options:

--encourage informal lending: expansion of formal credit to informal lenders

--design formal organizations to replace informal crdit

Micro Credit

- Grameen bank
    - Set up to give small loans to poor households
    - Over 90% of borrowers are women, average repayment rates are over 97%
    - By 1994 had served over 2 million borrowers
    - Innovative method: lend to groups of people, if one member of the group defaults no other member of the group will ever be able to borrow from Grameen again—lending is sequential
    - groups meet weekly to make repayments on loans
- Advantages of group lending:
    - Positive assortative matching
    - Peer monitoring—encourages less risky projects
- Disadvantages of group lending:
    - Could lead to suboptimally risky projects

        - Lack flexibility

- specializes in very small loans at fairly low interest rates
- Grameen making a lot less money per borrower than most banks
- But many costs fixed, per borrower
- Result: Grameen needs subsidies--in1991-92, subsidies accounted for 22 cents of every dollar lent

Are the benefits greater than the costs here?
 --hard to know because of possible selection bias, either positive or negative

look at Pitt and Khandker "The impact of group-based credit programs on poor households in bangladesh: does the gender of participants matter?"

--evaluates three group-based credit programs--Grameen Bank and two others
--Grameen also has a "social development program"

Pitt and Khandker determine the effect by looking at eligibility criteria as a "quasi experiment"--eligibility based on amount of land and gender