Development Economics

Development Microeconomics

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Chapter 7

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Rural credit markets [1]

- Importance
  - Smoothing consumption in an environment where production is risky and insurance markets are incomplete
- Types of credit
  - Zero interest loans between friends and relatives
  - Formal sector loans backed by collateral
  - Loans offered by professional moneylenders, some of which is backed by collateral
  - Tied loans offered by traders to farmers
  - Consumption loans offered by employers to long-term employees
  - Group loans offered by microfinance institutions to groups of borrowers who lack collateral

Rural credit markets [2]

- Types of government intervention
  - Interest rate ceilings
  - Directed credit

- Rationale for intervention
  - Credit is an important input for agricultural production
  - It is "unfair" to not have credit available to farmers

- Consequences of intervention
  - Financial repression
    - Reduction in supply of loanable funds
    - Increase in demand for credit leading to rationing and hence rent seeking behaviour

Modelling rural credit market [1]

- Assumption
  - Both borrowers and lenders are risk neutral

- A farm yields 0 if harvest fails and R>1 if there is a successful harvest

- The probability of success is $\pi(a)$ when a is effort
  - $\pi(a)$ is increasing and concave, $a \in [0, 1]$

- A farmer has a cost of supplying effort ≡ $D(a)$
  - $D(a)$ is strictly increasing and convex

Modelling rural credit market [2]

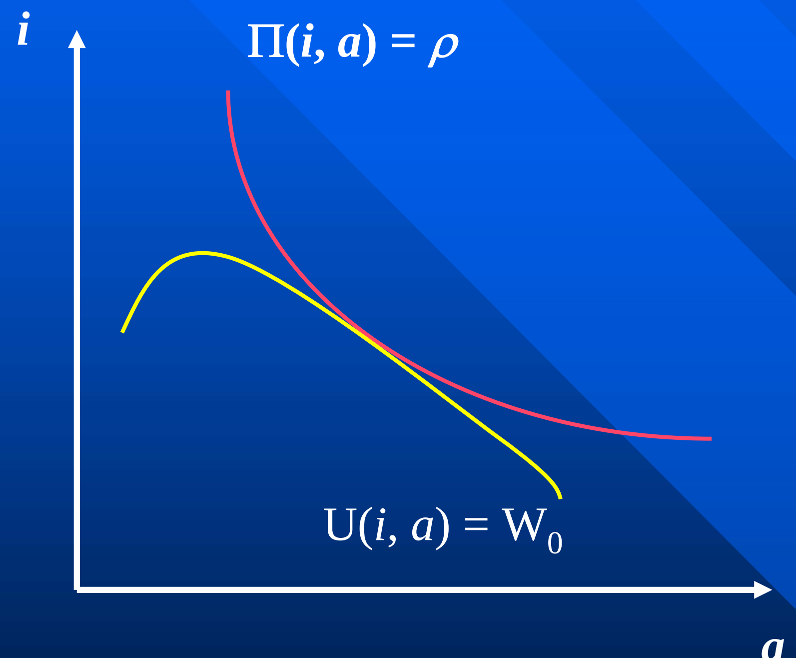
	Borrower	Lender
Success	R – i – D(a)	i
Failure	- D(a)	0

Implicit assumptions:
- No problem of enforcement in the event of success
- Limited liability in the event of failure

Why would borrowers repay?
- Fear of not getting credit in the future
- Fear of social sanctions

- Borrower's cost of borrowing
  - $1 \leq \rho < R$
- Reservation payoff of borrower
  - $0 \leq W < R$
  - Implication: $i < R$
- Expected returns:
  - Borrower:
    - » $\pi(a)(R - i) - D(a)$
  - Lender:
    - » $\pi(a)i$

Modelling rural credit market [3]



- Borrowers problem

  Max $\pi(a)(R - i) - D(a)$

  Sub $\pi(a)i \geq \rho$

  $\pi(a)(R - i) - D(a) \geq W$

  Choice variables: *i* and *a*

- In equilibrium
  - Borrower gets at least reservation utility
  - Lender recovers at least cost of funds
  - There is no (*i*, *a*) combination that is more preferred

Introducing moral hazard

- The lender cannot observe the effort put into the production process by the borrower
- Incentive compatibility constraint
  - $\pi(a)(R - i) - D(a) \geq \pi(a')(R - i) - D(a')$
- In equilibrium, lower *a* chosen by borrower than in the perfect information case
- Collateral
  - Complications of risk aversion on the part of the borrower
  - Need for secondary market for collateral
  - Rapid rise of group lending when groups are typically homogeneous

The village moneylender

- Monopolist moneylender

  Max $i\pi(a)$

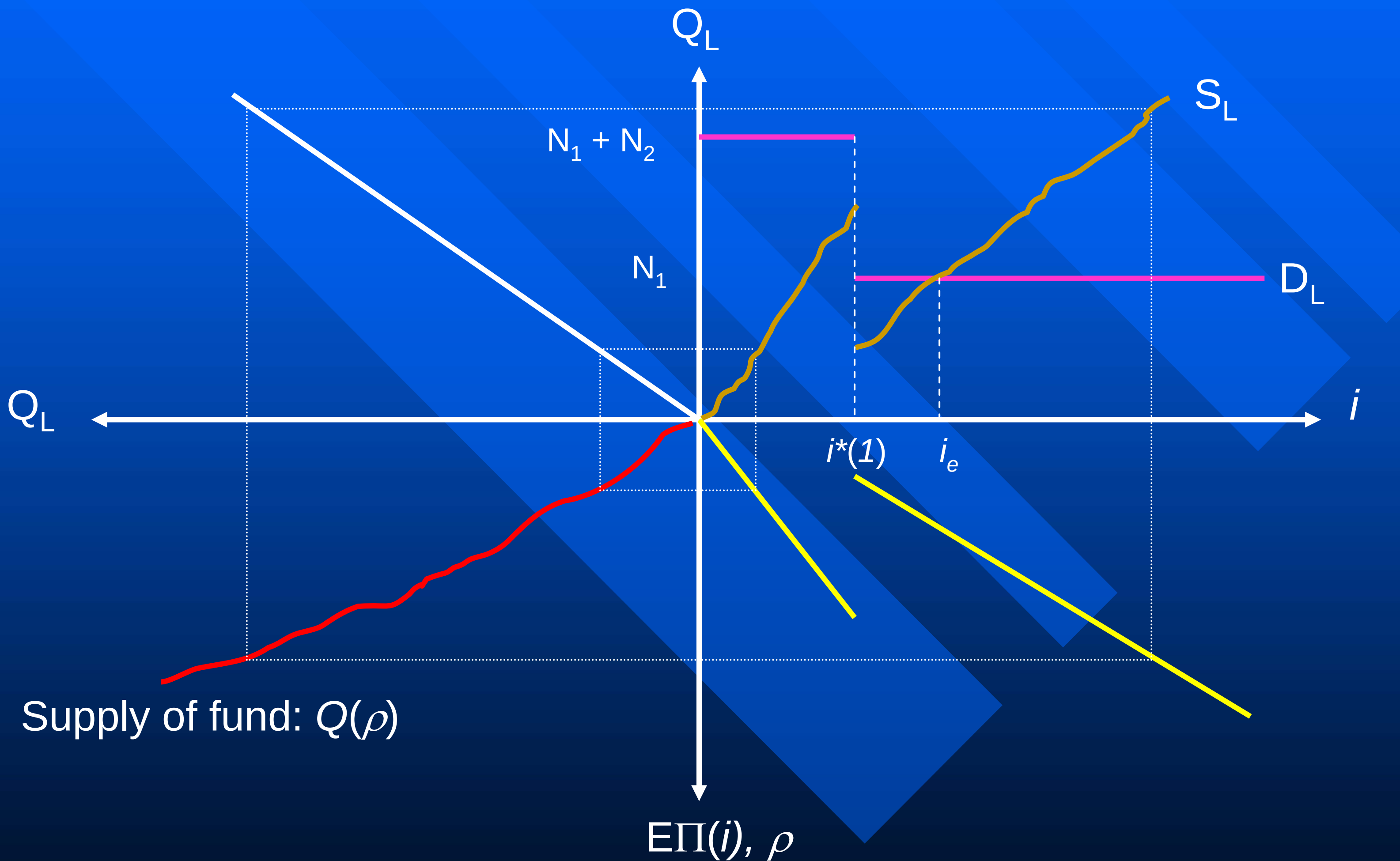
  Sub $\pi(a)(R - i) - D(a) \geq W$

  $i\pi(a) \geq \rho$

  – Can observe the borrower's effort costlessly
  – Drives the borrower down to his reservation utility

- Moneylender facing outside competition
  – Moneylender continues to observe borrowers' efforts costlessly
  – Outside competitor has a high cost of monitoring the borrowers
  – Outside borrowing opportunities increase reservation payoff for the borrowers
  – Moneylender has the same optimisation problem, but with a higher reservation utility in participation constraint

Introducing adverse selection [1]



Introducing adverse selection [2]

- Moneylender
  - Can enforce separating equilibrium
  - In case of outside competition, two-tier credit market
- Collateral
  - Reduce the impact of adverse selection
  - Increase income inequality if returns from farming is higher than returns on labour for landless labourers