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Credit Rationing: Theory and Policy Response

AFEPA 2011 Summer School
Tuesday Morning



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Summary of Yesterday



Intellectual openings and policy closures

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- Neoclassical methodological approach does not necessarily lead to Neoliberal policy prescriptions.
- Competitive market equilibria may NOT be efficient if sufficient conditions underlying Welfare Theorems do not hold.
- Complete markets for time and state contingent goods probably does not hold (i.e., credit and insurance markets are imperfect or missing).

Separability & Risk

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- Separable household models
 - ▣ When markets are complete, resource allocation/productivity independent of preferences & endowments.
 - ▣ No (or minimal) role of state in the economy.
- Non-separable household models
 - ▣ When markets are incomplete, resource allocation may depend on preferences & endowments.
 - ▣ Competitive market equilibria may NOT be efficient (FFWT breaks down).
 - ▣ Efficiency may not be independent of distribution (SFWT breaks down).
 - ▣ Role for state? Maybe...
- Roles of risk
 - ▣ Interacts with asymmetric information to worsen market failure (risk is key to moral hazard stories)
 - ▣ Can lead to heterogeneous & wealth-based patterns of resource allocation. (eg. DARA → opposite result of inverse farm-size relationship)

Theory of endogenous credit rationing (Carter, JDE)

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- Why are credit markets often missing or imperfect?
 - Key question 1: Why might a lender find it in her best interest *not* to raise interest rate to eliminate excess demand?
 - Careful look at role of asymmetric information (moral hazard & adverse selection);
 - Key question 2: Why might credit rationing be biased against (more frequent among) lower wealth households?
- Importance of theory??
 - If we don't understand the origin of market failure, we can't fix it!

Policy Response: Property Rights Reform

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- Why might strengthened property rights increase investment? (3 stories from Tim Besley. JPE. 1995)
 - Investment demand story 1: Tenure security
 - Investment demand story 2: Gains from trade
 - Supply-side story: Credit supply effect
- How has the story worked out?
 - Not so well in Central America: some descriptive evidence
- Why not?
 - Wealth biased supply effect (Carter & Olinto. "Getting institutions right for whom?")
 - Weak investment demand effect when insurance markets are missing (Boucher, Guirkinger. "Risk rationing...")

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Endogenous Credit Rationing

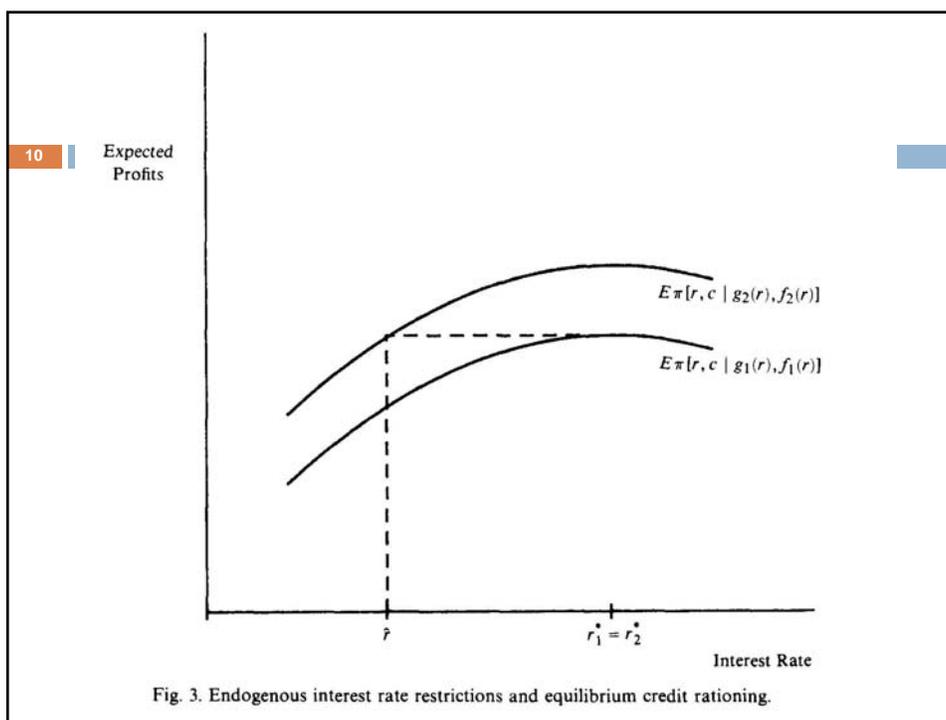
Background to Model

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- Credit market policy 1950's – 1970's
 - Lack of rural credit preventing small-holder adoption of Green Revolution technologies;
 - → Massive state involvement (development banks, interest controls, ...)
- Push-back: "Iron-Law of Interest Rate Restrictions"
 - Early 1980's: Gonzales-Vega (and others) reviews rural credit policy;
 - Government is the problem, not the solution to rural credit markets;
 - Credit markets will deepen if we eliminate heavy-handed state role;
- Carter's goal:
 - If you just eliminate state role, we'll be back where we started! (credit rationing!)
 - Need to more clearly understand WHY credit rationing exists.
- Theoretical foundations
 - Application of Stiglitz & Weiss (1981) seminal framework;
 - Adapt to LDC agriculture where there are systematic differences in "average" characteristics of small vs. large farmers (productivity and risk);
 - Provides foundation for understanding wealth-biased credit rationing.

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□ ...to the blackboard...



Summary...

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- Wealth and Limited Liability
 - In the presence of asymmetric info., principals (lender) use contract terms to provide incentives to agents (borrowers).
 - Collateral is key term → heterogeneity of agent wealth will influence range of contracts available.

- Symmetric impacts of limited liability
 - We assumed risk neutrality of borrowers & lenders;
 - i.e., utility fn. Linear in total returns from contract;
 - Limited liability introduces non-linearity and thus changes this:
 - Lenders become risk averse (profit fn locally concave);
 - Borrowers become risk loving (income fn locally convex).

Summary...

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- Principal's (lender's) objective fn is not monotonically increasing in price (i)
 - In world of Welfare Theorems, increase in price always raises seller's profit & price is flexible to clear excess demand
 - In real world of asymmetric info, same logic does not apply
 - Raising price affects borrower decisions in ways that are not observable by lender & which negatively affect lender profits
 - Thus: if faced with excess demand → may NOT raise i. Instead ration by Quantity.

- Wealth bias
 - Quantity rationing may or may not occur;
 - If it does, it will be biased against smaller farmers.

Critiques & Extensions

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- What about “separating” contracts?
 - Carter holds C fixed and only allows i to vary.
 - Couldn't lenders overcome adverse selection within an observable class by simultaneously varying both terms?
 - Maybe...Large “screening” literature exists (see Milde & Riley, QJE 1988; Bester AER 1985, JEL 1990).
 - But ability to separate will be limited by lack of collateral

- What about monitoring?
 - Interesting paper by Jonathan Conning (JDE 1998) about monitoring technologies and segmentation between formal – informal sectors

- What about using other borrowers to overcome adverse selection and moral hazard?
 - This is the Group Lending story...later this afternoon.