

Consumption Smoothing, Saving, Credit and Insurance

Lecture 6/3: Risk and Insurance

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Outline

► Risk

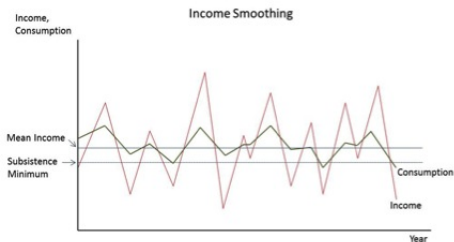
- Implication of risk and uncertainty
- How do the poor manage risk?
- Welfare costs of uninsured

► Insurance

- Asymmetric information of insurance
- Group-based insurance
- Index insurance and its challenges

Implication of Risk and Uncertainty

- ▶ Risk makes income (and consumption) volatile



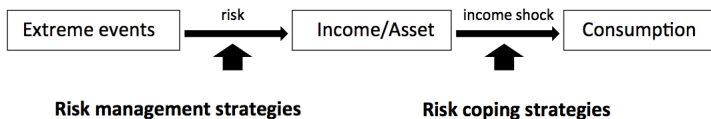
- ▶ What could be risk that causes income shock?
 - ▶ drought/flood/natural disaster, death, illness, price/market, crop fails, violence, political issues
- ▶ Covariate risk vs. idiosyncratic risk

Implication of Risk and Uncertainty

- ▶ Risk can keep people in poverty traps
 - ▶ Getting out of poverty trap requires steps that might be too risky (to get high returns means to involve in high risk)
 - ▶ The poor cannot get loans
- ▶ Risk can force people into poverty traps
 - ▶ Cannot recover from temporary setbacks (drought, illness, death of animal)

How do the poor manage risk?

- ▶ The poor are still largely uninsured in the absence of insurance and credit markets.
- ▶ Their risk management and coping strategies could further carry regressive long-term poverty costs.



- ▶ Reference: Dr. Sommarat

How do the poor manage risk?

- ▶ Risk management strategies (Ex-ante)
 - ▶ Diversification (off farm, multiple crops, migration)
 - ▶ Low risk (low return) portfolios
- ▶ Risk coping strategies (Ex-post)
 - ▶ Self insurance (saving in the form of buffer assets)
 - ▶ Informal group-based insurance (reciprocal transfers, loans)
 - ▶ Labor reallocation (including child labor)

The welfare costs of uninsured risk 'ex ante'

- ▶ Low-return portfolio choices of the poor
 - ▶ In India, Ethiopia, Kenya, Tanzania, Thailand: 25-50% loss in mean return of the poor relative to the rich due to conservative assets/income portfolio choices
- ▶ Risk also reduce the poor's incentive to invest, adopt new technology and use fertiliser
 - ▶ In India, Ethiopia, Malawi, Zimbabwe: These ex-ante risk reduction behavior could reduce capital accumulation by up to 40%
 - ▶ The mega flood 2011 in Thailand and Cambodia reduced rice farmers' farm investment

The welfare costs of uninsured risk 'ex post'

- ▶ Substantial and long-lasting welfare losses from covariate shocks
 - ▶ Ex: Famine in Ethiopia 1984 could lead to lower income growth (of -10-15%) in 1990s
- ▶ Shocks could place long-term impacts on human capital accumulation
 - ▶ Ex: In Indonesia, investment in education declined after the 1997 financial crisis, especially among the poorest

The introduction of insurance

- ▶ Insurance → protect rural livelihoods and escape poverty
 - ▶ Provide safety net to prevent collapse of vulnerable populations into poverty
 - ▶ Enhance investment incentives among the poor
 - ▶ Induce financial deepening by crowding-in credit supply and demand
- ▶ Insurance → pre-finance effective emergency response and recovery (from shocks)
- ▶ But, can insurance be sustainably offered in the low income countries?
 - ▶ Information asymmetry
 - ▶ Transaction cost
 - ▶ Covariate nature of risk

Asymmetric information in insurance

- ▶ The insurer knows less than the insured about:
 - ▶ His intrinsic riskiness (TYPE)
 - ▶ The things he does that affect the probability of an insurance payout (ACTIONS)
 - ▶ Damages
 - ▶ If the cost of overcoming the above lists is too high, the insurance market fails
- ▶ Adverse selection
 - ▶ Riskier types are more likely to demand insurance
 - ▶ If insurer bases premium on average riskiness, low risk types leave the market
- ▶ Moral hazard
 - ▶ The greater the insurance coverage, the less incentive to act in ways that reduce risk
 - ▶ And, the probability of the insurer having to make a payout increases

Informal risk sharing arrangements (IRSA)

- ▶ Local people (family, friends, villagers) have good information about each others'
 - ▶ types
 - ▶ actions (similar logic as microfinance)
- ▶ Thus, they can insure each other (with low transaction cost): group-based insurance
- ▶ But, there are some limitations:
 - ▶ Information is not perfect, and enforcement can be a problem
 - ▶ Good for idiosyncratic risks but not very useful against covariate risks (earthquakes, droughts, floods)
 - ▶ The poorest are often excluded from the risk sharing network

Index insurance

- ▶ Insurance payouts are based on some external index
 - ▶ correlated with farmer's yields, but
 - ▶ exogenous to farmer's characteristics and actions
- ▶ What does the index base on?
 - ▶ Rainfall, water level in a reservoir
 - ▶ Satellite imagery (vegetative index) - NDVI
 - ▶ Area yields (average yields in a specified area)
- ▶ Insured farmer gets payment when the index hits the strikepoint/threshold

Challenges to insurance

- ▶ It is hard to sell to the poor
- ▶ Farmers need to clearly understand the costs and benefits of insurance
 - ▶ Farmers always pay the premium, but infrequently receives an indemnity payment.
 - ▶ Farmers may not receive an indemnity payment (as index is high) even though yields are low.
 - ▶ If farmer does not understand 'preventative' nature of insurance, she may become disillusioned if she pays but does not receive anything.
- ▶ State-dependent benefits are not easy to grasp
- ▶ Most small farmers have never had insurance (of any type)