Adverse selection in credit market

private info about success prob of project

↳ interdependent valuation

↳ adverse selection

$D = 1 + r = \frac{m}{\hat{p}}$ $\quad m > 1$ (if $m < 1$, X finance any project).

$\max \int_{\underline{p}}^{\hat{p}} [pD - 1] f(p)\, dp$ $\quad$ profit of a monopoly lender

$= \int_{\underline{p}}^{\hat{p}} [p \frac{m}{\hat{p}} - 1] f(p)\, dp$ $\quad (1 \geq \hat{p} \geq \underline{p})$

② ①

$\hat{p}$ affect profit

$D\uparrow, r\uparrow \rightarrow \hat{p}\downarrow \Rightarrow$ expected profit from a borrower of type $p\uparrow$

negative impact: lose the safest (i.e. the most profitable) borrowers

↳ average profitability ↓

↳ adverse selection effect.

of credit

Finally, rationing may be an econ equilibrium.

stop at a price do not clear the market

can rise in every market with adverse selection

α = number of loans (monopoly) / total demand of loan) < 1

↖ can not supply all demand

2 type example $\quad$ fraction β, $(1-\beta)$

$P_S > P_R$ (2 types borrowers, safe + risk)

$R_R = \frac{m}{P_R} > \frac{m}{P_S} = R_S$ (still same mean return)

$1 - \beta < \alpha < 1$ $\quad$ assume $m > 1$

$q(D) = \begin{cases} 1 \\ \\ 1-\beta \end{cases}$ $\quad D \leq R_S$ (all borrowers can afford duty pay)

$R_S < D \leq R_R$ (safe type cannot afford,

0 $\quad D > R_R$

2 possible optimal choices : R_S or R_R

① if lender chooses $D = R_R$ (exclude safe borrowers)

* $(1-\beta)(P_R R_R - 1) = (1-\beta)(m-1) > 1$

② if lender select $D = R_S$

$\alpha < 1$, more people apply for loan than lender can make loans for

but lender can not tell which is safe or risky.

calculate the average.

$\alpha [\beta (R_S P_S - 1) + (1-\beta)(P_R R_S - 1)]$

number of loans issued — average profitibality of a loan

$< m-1$

* $= \alpha [\beta (m-1) + (1-\beta)(P_R R_S - 1)]$

When is ② > ① (prefer high demand, but only sell α ⇒ rationing credit)

Suppos P_R is close to P_S (limit)

① if $P_R = P_S$

② $= \alpha (m-1) > (1-\beta)(m-1)$ ← ①

② if $1-\beta$ is small (not to many risky customer)

Externalities / External effect

unregulated economy should not exist under

actions of firms and consumers affect other participants directly
- positively
- negatively

(may not same on everybody)

eg. pollution negative
location positive boost econ + lower price for nearby + more people
? agglomeration econ

wedge < social benefit of an action
private ..... -> neg ext too much of action
pos ext too little .....

- concern of offspring
  family members
  social groups
- altruism, envy
- comprision consumption
- neighborhood effect.
- human capital
- intergenerational ext
- pollution
- wasted disposal
- econ excludable consequence