Adverse Selection and Health Care

cost	M	G
L	40	60
H	70	100

valuation	M	G
L	70	85
H	110	160

efficiency : $L \to M$ value $G-M=15$ → cost $G-M=20$.

$H \to G$ value $G-M=40$ → cost $G-M=30$

perfect competition under complete info → seller know

$P_M = 40$ $P_G = 100$ conditioned if $L \to M$, $H \to G$.

$\Delta^L v = 85 - 70 = 15$ switch from $M \to G$ (value)

$\Delta^H v = 150 - 110 = 40$

$\Delta p = 100 - 40 = 60$

At these lower prices, L selects M.

there are incentives for H to choose M.

However, H applying for M would be turning down.

↳ seller choose to sell M to H at 70, $\Delta p = 30 < 40$.

$40 = P^L_M$ $P^H_M = 70$ ⇒ ask: at these prises, which market will be open.

$60 = P^L_G$ $P^H_G = 100$

Benchmark → perfect info → porato optimal

↑ x exist. + can not offer diff price to diff people.

Asymetric info

(CE) (可行的).

The previous solution is not viable.

What will happen? (what is the equilibrium)

⇒ Suppose only G is offered. everyon will buy G unless they can't afford.

Average cost $AC = 80$ $(\frac{1}{2}(100+60))$

↑ Is it stable (possible)? $U^L = 85 - 80 = 5$

$U^H = 150 - 80 = 70$

Suppose a firm entries will M and charges.

easiest to attract: lowest price (cheapest to serve).

Suppose charge $60 $\tilde{U}^L = 70 - 60 = 10$

creamskimming ⇒ only offering G is not viable.

⇒ Suppose both G and M are offered.

competition will drive down $P^L \downarrow \to 40$

$P^G \uparrow \to 100$

At these prices, H would prefer M ⇒ not viable

⇒ Suppose only M is offered

$AC = 55$ is it stable? $U^L = 15$ $U^H = 55$

If someone enters with G and charges

① $G_{lowest} = 60$ $U^L = 25$ $U^H = 90$

attract both L and H

② $G > 70$, attract only H

↳ price will go up to 100 ⇒ H stays with M.

⇒ no price can be charged to make money for the firm with G.

This is viable to threat of entry.

What is the best society can do under asymmetric info?

design a mechanism $L \to M$

$H \to G$ ⇐ can we implement ·· to outcomes.

who gives what, pays what?

P_M P_G (infer lowest type wish to buy M, higher ··· G?)

design P_M, P_G such that customers optimally self select?

incentive compatibility

① L: $70 - P_M \geq 85 - P_G$ $P_G \geq P_M + 15$

② H: $150 - P_G \geq 110 - P_M$. $P_M \geq P_G - 40$

$15 \leq P_G - P_M \leq 40$

IR

③ L: $70 - P_M \geq 0$ $P_M \leq 70$

④ H: $150 - P_G \geq 0$ $P_G \leq 150$

Shouldn't lose any money from the mechanism.

⑤ $\frac{1}{2}[P_M - 40] + \frac{1}{2}[P_G - 100] \geq 0$ $P_M + P_G \geq 140$

probability

$165 \leq 2P_G$

$P_G \geq 77.5$

Do there exist P_M, P_G such that (1) - (5) holds ✓

eg. $P_M = 30$ $P_G = 90$? $P_G \in [77.5, 110]$

First best is attainable under the machanism (let firm lose some and gain some in ⑤)

yet perfect competition is inefficient ⇐ why ?

creamskimming

monopoly : no creamskimming happen