Michael Rothschild and Joseph Stiglitz: "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information", *The Quarterly Journal of Economics*, Vol. 90, No. 4, pp. 629-649

Poorly informed agents can extract information from those who are better informed by offering a **menu** of alternative contracts for a specific transaction

→ **screening through self-selection**

MODEL

- Two states of nature

- No accident $\rightarrow$ W = individual's income

- Accident $\rightarrow$ $W - d$ = individual's income

- With insurance

- No accident → individual's income = W - α

- Accident→ individual's income= W - $d - \alpha + \beta$

$(\alpha , \beta) \rightarrow$ *insurance contract:*

- α = premium

- β = amount of compensation in the case of income loss *d*

- $d - \beta$ = deductible

<u>ASSUMPTIONS:</u>

- Insurance market →perfect competition
- <u>Risk propensity:</u>

  - Insurance companies → risk neutral

  - Costumers → risk averse
- <u>Costumers:</u>

  - <u>High risk</u>: $d < W$ with p^H

  - <u>Low risk</u>: $d < W$ with p^L

  $0 < p^L < p^H < 1$

ASSUMPTIONS:

- Information

- Costumers are the informed side

→They know p^L and p^H

- Insurance companies are the uninformed side

→ They cannot observe p^L and p^H

If Perfect information

- $\alpha^H = p^H d$,
- $\alpha^L = p^L d$,
- $\beta = d$
- $(d - \beta) = 0$.

Asymmetric information

Two possible types of equilibrium:

- pooling equilibrium → same insurance contract

- separating equilibrium → different insurance contracts

⟹ No pooling equilibrium exists

Separating equilibrium with two distinct insurance contracts:

$$(\alpha^H, \beta^H) \text{ and } (\alpha^L, \beta^L)$$

- Contract (α^H , β^H):

$$\alpha^H > \alpha^L$$

$$\beta^H = d \quad \text{(full coverage)}$$

$$d - \beta^H = 0$$

Purchased by all <u>high-risk individuals</u>.

- Contract (α^L , β^L):

$$\alpha^L < \alpha^H$$

$\beta^L < d$ (partial coverage)

$$d - \beta^L > 0$$

Purchased only by <u>low-risk individuals</u>

In equilibrium:

the deductible scares away the high-risk individuals, who are tempted by the lower premium but choose the higher premium in order to avoid the deductible

Social Cost: low-risk insurance clients do not obtain full coverage