

Risk — Chapter 18

- tort law - negligence

Hand Rule

$$P_L \cdot L \geq C_A$$

L - loss

P_L - prob (loss)

C_A - cost of avoidance

Risk neutral

- max EV vs EU

Base policy on EV vs Cost

- risk pooling -

P389 - fire ins.

Loss \$10,000 $EV_L = \$10$

Prob = 0.001

10 in pool contrib \$10

expand pool - CLT - prob bad draw ↓



- buffer stock (pool of cash) ↑

- uncorrelated risk

env. disaster (natural disaster)

Correlated - geographic

- public programs - pool 100 million households

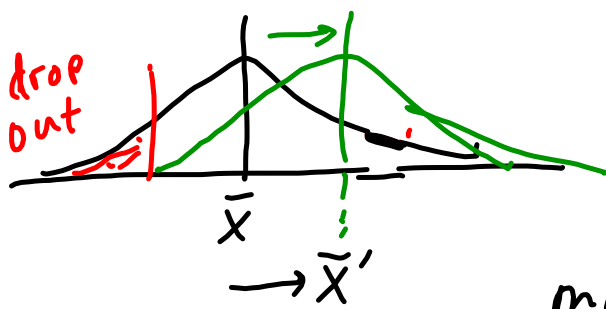
- flood insurance
- country wide

- hurricanes
- earthquakes

natural disasters
but we contribute to losses

→ moral hazard - less care to avoid loss

adverse selection
 - high risk buy insurance
 low risk won't



premium based
 on EV of risk
 → as low risk
 dropout premium ↑
 more dropout

pool less & less representative
 compel insurance - can't dropout

man-made risk -

- chemical spills
- train derail
- toxic releases

} easy-time dimension

- ozone
- carbon
- SO₂
- radon

} hard-long time effect
+ synergistic effects
assign blame is hard

ex post compensation vs
ex ante reduction of risk

Table 18.1 - risk equivalent

prob of death ↑ $1/1,000,000$

- surprising?

- focus on some risks

- prob low → overweight prob

→ focus on outcome

loss aversion - overweight loss

Rank dependent
expected
utility

familiar vs new risk

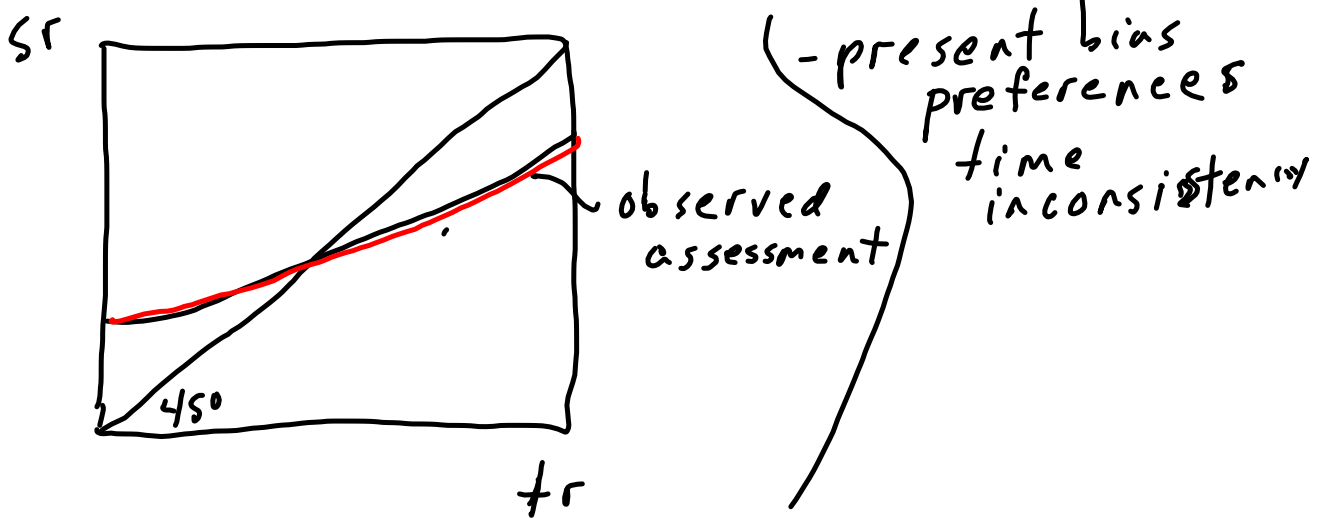
- focus new risk even when
losses smaller

$$\underline{EV_{nr}} < EV_{fr}$$

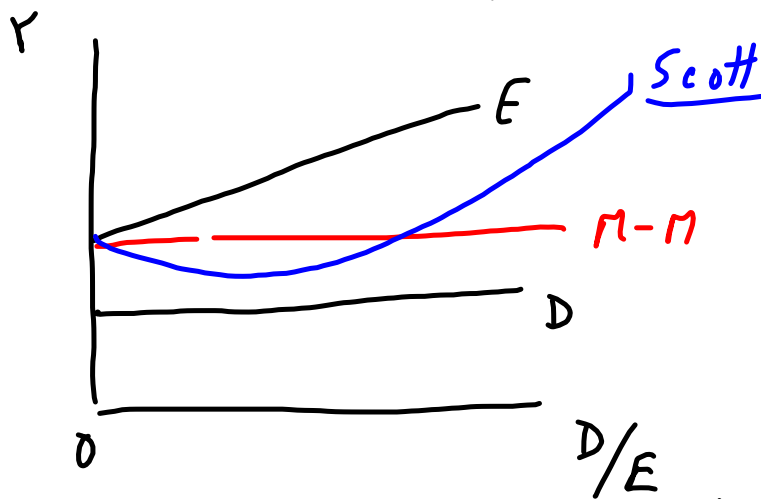
insure

Fig 18.1 - risk vs uncertainty
quantifiable?

subjective risk vs true risk

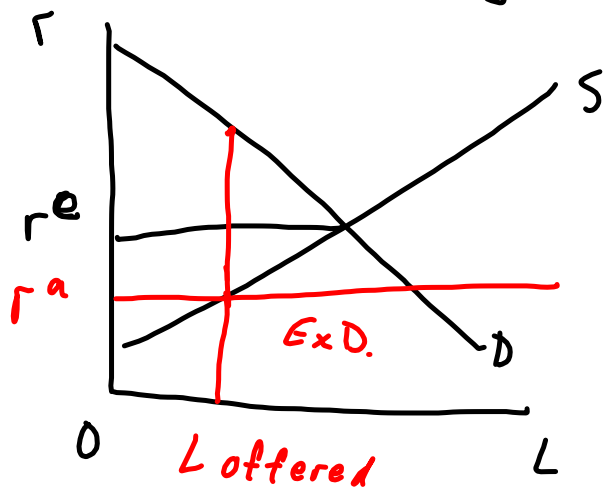


- risk of bankruptcy - costly



- env. risk - prob bankruptcy ↑
debt holders want risk adjusted

- Capital rationing - Jaffee + Russell



- extract additional info