

2.1) 2015 final exam

$$V(c) = \sqrt{c}$$

Wage $\begin{cases} w, & \text{if employed} \\ 0, & \text{otherwise} \end{cases}$

$$\begin{aligned} a) E[V] &= \overbrace{(1-p)}^{\text{Prob of being employed}} \sqrt{\underbrace{w}_c} + p \sqrt{0} \\ &= (1-p) \sqrt{w} \end{aligned}$$

b) Risk averse + actuarially fair price

= full insurance

$$\text{Max } E[V] = q \sqrt{b - p} + (1-q) \sqrt{u - p}$$

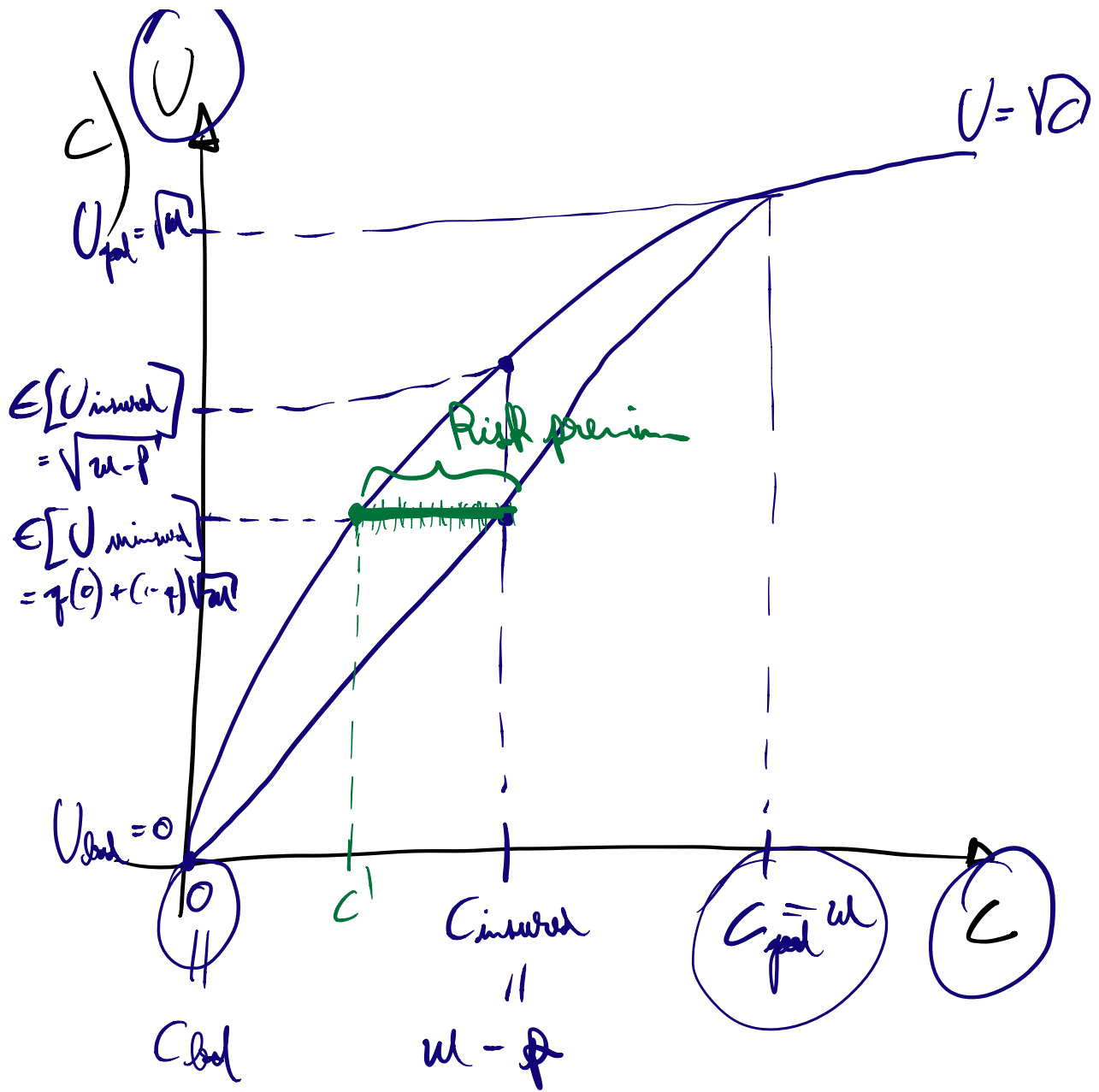
can manipulate

$$\text{s.t. } p = bq$$

$$\text{Max}_b q \sqrt{b - bq} + (1-q) \sqrt{u - bq}$$

$$\frac{\partial E[V]}{\partial b} = 0 \Rightarrow \boxed{b^* = u}$$

—



d) q_i is prob of being unemployed

↑ q_i has more incentives to join insurance

ADVERSE SELECTION.

e) Budget constraint:

b is benefit

t is payroll tax to finance b

$$\overbrace{q}^{\text{unemp}} \overbrace{b}^{\text{benefit}} = \underbrace{(1-q)}_{\text{employed}} \underbrace{t}_{\text{tax}}$$

gov spending = gov collects

$$t = \frac{qb}{1-q}$$

Expected utility:

$$EU = (1-q) \sqrt{w - \frac{qb}{1-q}} + q \sqrt{b}$$

f) MORAL HAZARD

Gov should provide partial insurance

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⇒ ↑ effort in looking for jobs

⇒ Prob of employment.

g) $\frac{\partial c}{\partial b} = ?$

benefits of consumption
smoothing

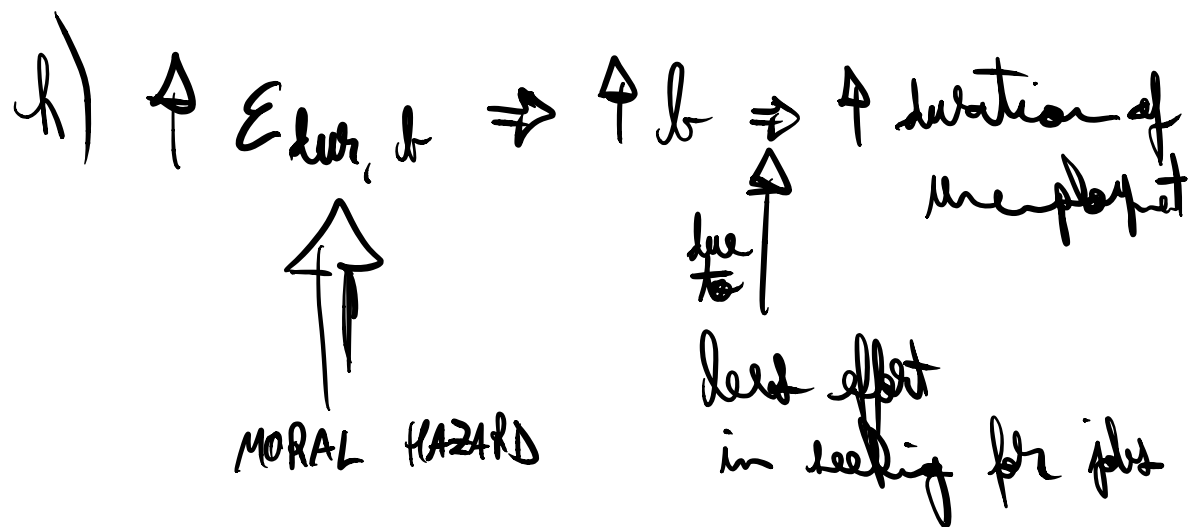
→ Moral hazard costs.

$E_{\text{dur}}, b = ?$

⇒ Telling us the need of UI benefit.

↑ $\frac{\partial c}{\partial b}$, means there is no
need for UI.

⇒ ↑ UI in California and NY.



$\Rightarrow \uparrow UI$ in NY (smallest $E_{dur, b}$)

i) NY highest UI benefit based on the two criteria.

j) $\uparrow \frac{\partial c}{\partial b}$ goes up during recession.

↓ $E_{dur, b}$ during the recession.

⇒ Recession : ↑ VT benefits be
the parameter that drives
the VT benefit goes up and
the parameter that drives
the moral hazard goes down.

k) Experience rating is the linkage
of the number of layoffs of a
firm to the taxes it pays to the
VT system.

LoUS has a partial experience
rating.