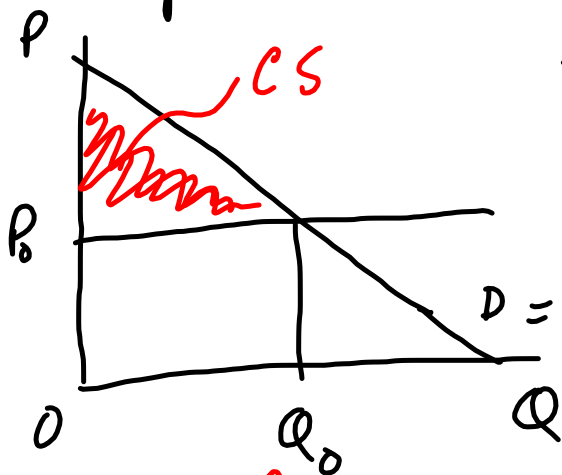


Syllabus - Topic IV
Chapters 7 + 8
all 7 · part 8

Examples of markets



spend $P_0 \cdot Q_0$

+ this is

Total Revenue to

seller

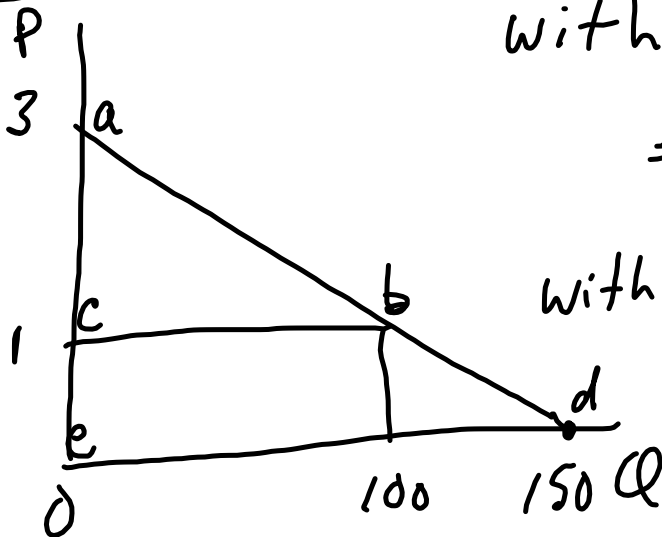
$$CS = \sum_{Q=0}^{Q_0} (WTP - P_0) \cdot Q$$

Q10 2 cell plans

A unlimited \$120

B all calls charged at \$1/min.

$Q^D = 150 - 50P$ set $Q = 0$ $P = 3$



with B CS area

$= \frac{1}{2} \cdot 100 \cdot 2$

$= 100$

with A CS = $\frac{1}{2} \cdot 150 \cdot 3$

$= 225$

net $225 - 120$

$= 105$

Extend to 2-part price

Fixed Charge
+ use charge

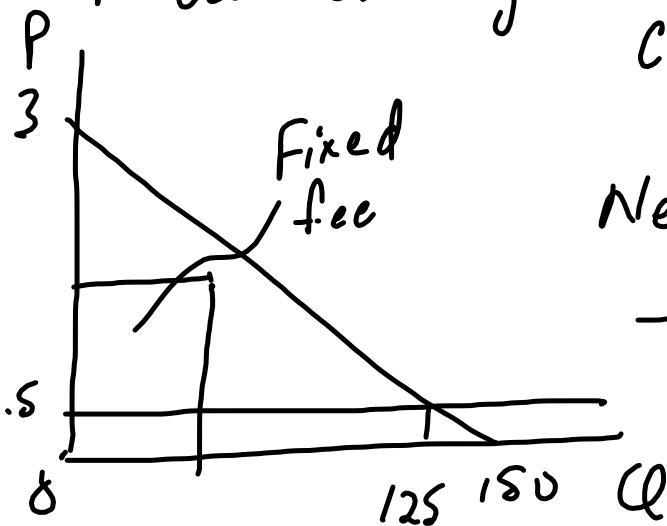
$$Q^D = 150 - 50 \cdot P$$

$$= 125$$

$$CS = \frac{1}{2} \cdot 125 \cdot 2.5$$

$$= X$$

$$Net = X - 120$$



Electric bill
Water "]

2 part.

Benefit - Cost Analysis
 - project evaluation

net Benefits = Benefit - Cost
 pass requires $B > C$

- evaluating B requires apply "shadow price"

- install traffic lights

Benefit \rightarrow accident reduction

Value of statistical Life (VSL)

\$6 million

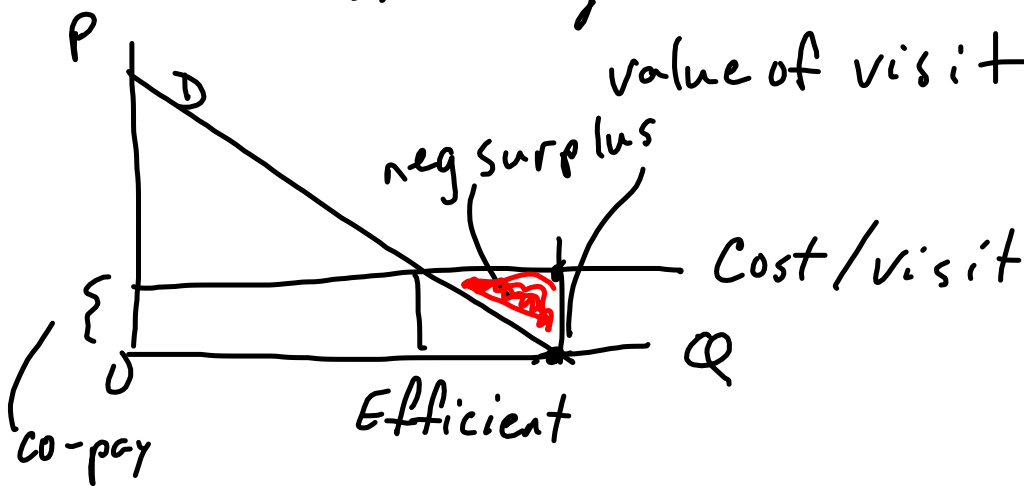
Δ probability of death traffic light

$$\begin{aligned}\Delta p r o b &= 0.001 \\ 0.001 \cdot 6,000,000 &= \$6,000 && 20 \text{ years} \\ 20 \cdot 6,000 &= 1.2 \text{ mill.}\end{aligned}$$

Health care

- moral hazard \rightarrow without co-pay system goes broke

value of visit = $P = 0$



Adverse selection

Healthy - cost/year \$100 70% pop.
 Unhealthy - " " \$1,000 30% "

$$\text{Expected value} = 0.70 \cdot \$100 + 0.30 \cdot \$1,000$$

$$= \$370$$

$$\text{Premium} = \$370 + z$$

Healthy: cost of \$100 vs \$370

Some healthy drop out

0.6 Healthy & 0.4 Unhealthy

$$EV = 0.4 \cdot 1000 + 0.6 \cdot 100$$
$$= \$460$$

etc until only unhealthy buy insurance

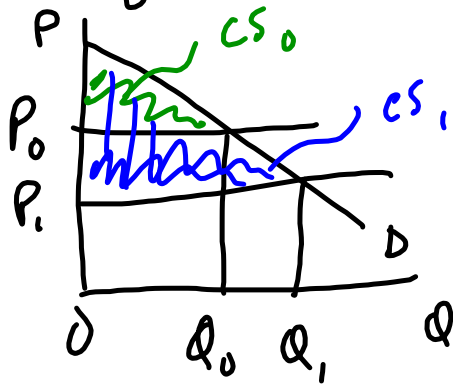
$$EV = 1.0 \cdot 1000 + 0 \cdot 100$$
$$= \$1000$$

state change over time

- viable insurance requires
- mandatory coverage or
 - rate policies - pools by risk

Technical progress

Price ↓
 $P_0 \rightarrow P_1$



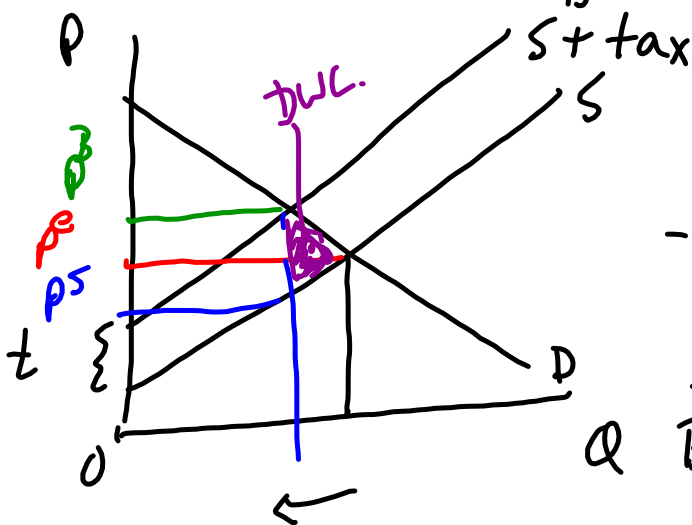
Chapter 7
Q 4 & 7

- justify
(set rate)
for tax
breaks on
R + D
- lower price

Chapter 8 taxation.

- incidence (who pays?)

- taxes result $P_B > P_S$ - efficiency loss.



- excise tax
(gas tax)

- legal incidence on seller

- economic
Buyer $P^B - P^e$

Seller $P^e - P^S$