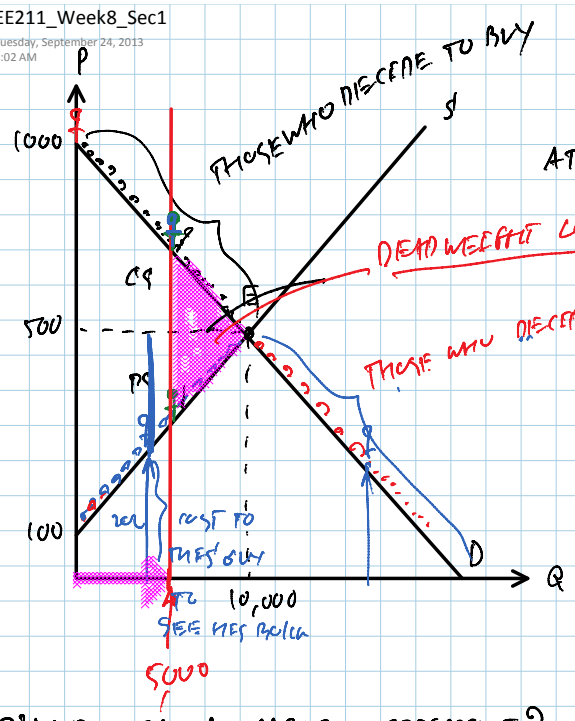


AT A EQUILIBRIUM: P = 500 BAHT / BOOK
Q = 10,000 BOOKS / SEMESTER

DEADWEIGHT LOSS = LOSS IN CS + LOSS IN PS

THOSE WHO DECIDE NOT TO BUY

TOTAL SURPLUS = CS + PS

CS / PS = "ECONOMIC PIE"

Q: WHEN IS A MARKET EFFICIENT?
A: WHEN TOTAL SURPLUS (OR ECONOMIC PIE) IS THE LARGEST.

NOTION OF "EFFICIENCY"

EXAMPLE

ROOM 304
TOTAL SURPLUS = 100
CHAIRS = 50

ROOM 206
CHAIRS = 100

PARETO EFFICIENCY = EFFICIENCY IS ACHIEVED IF YOU CANNOT DO ANY FURTHER ARRANGEMENT TO MAKE ONE BETTER OFF W/O ANY ONE WORSE OFF.

Ex: MINK | BILL GATES | PRAE

US$1,000,000
M P

ALLOCATION A (500,000 , 500,000)
ALLOCATION B (1M , 0)
ALLOCATION C (0 , 1M)
ALLOCATION D (X , 1,000,000 − X)

Q: WHICH ALLOCATION IS CONSIDERED AS "PARETO EFFICIENT ALLOCATION"?

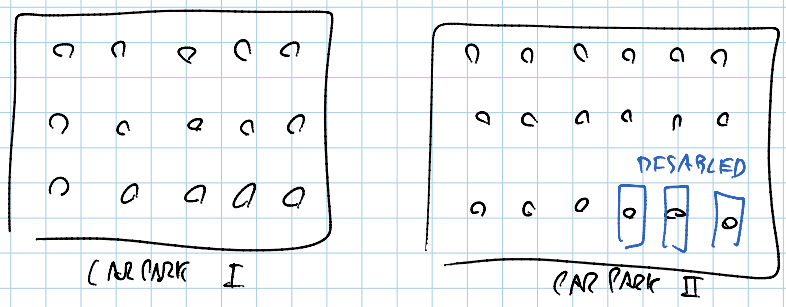
IN KRUGMAN & WELLS:

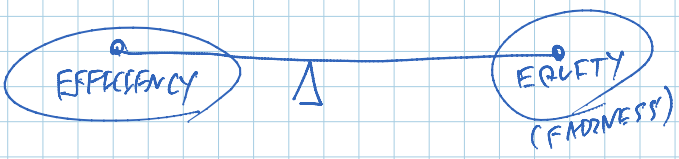
"DON'T LET CAR PARKS GO UNUSED"

"DON'T LET CAR PARKS GO UNUSED"

≡

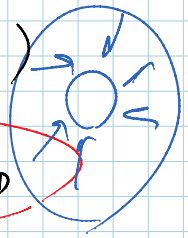
EFFECCENCY





MAX SOCIAL WELFARE = $f(V_A, V_B, V_C, V_D)$

$f(V) = V_A + V_B + V_C + V_D$



• UTILETARIAN CONCEPT

ANOTHER CONCEPT IS "RAWLSIAN CONCEPT"

"JOHN RAWLS" ⇒ "JUSTICE"

HIS IDEA: MAXIMIZE WELFARE OF THE WORSE-OFF PERSONS

EE 441
EE 462

EE 461
EE 462

SO FAR...
- SUPPLY & DEMAND
- ELASTICITY
- CONSUMER SURPLUS & PRODUCER SURPLUS!

⇓

USE TO DO ECONOMIC APPLICATIONS

GOVERNMENT INTERVENTIONS
- TAXATION
- PRICE CONTROLS
  - PRICE CEILING
  - PRICE FLOORS
- INTERNATIONAL TRADE

EFFECT OF TAXATION

- 2 TYPES OF TAXES

① UNIT TAX ON GOOD OR SERVICE: TAX IMPOSED ON A UNIT OF GOOD OR SERVICE.

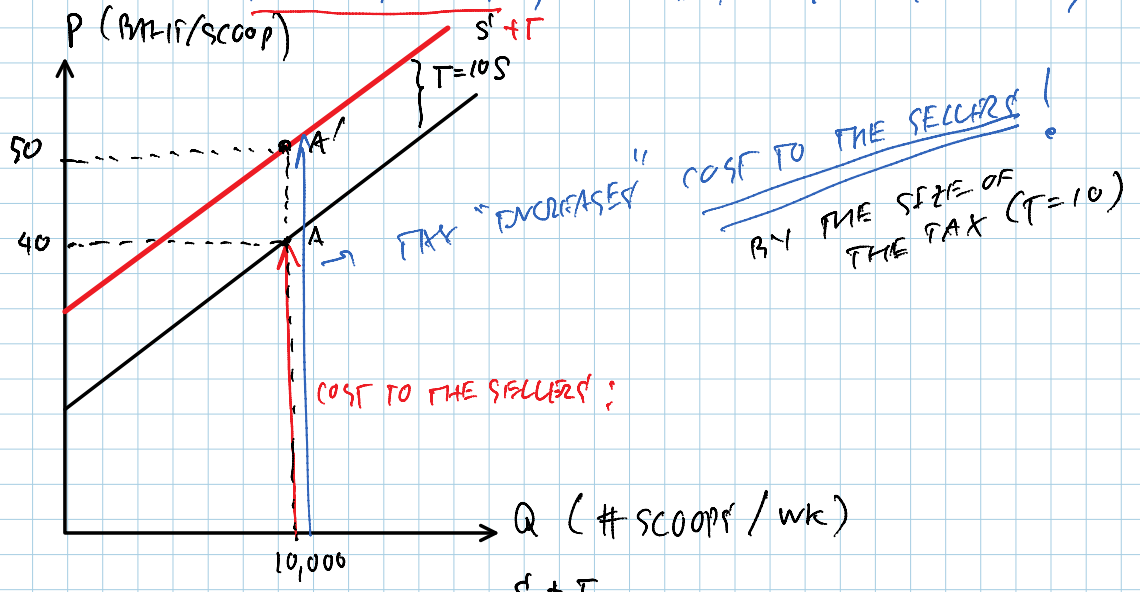
EX: CIGARETTES TAX, WINE TAX, WINDOW TAX (IN ENGLAND OLD TIME)

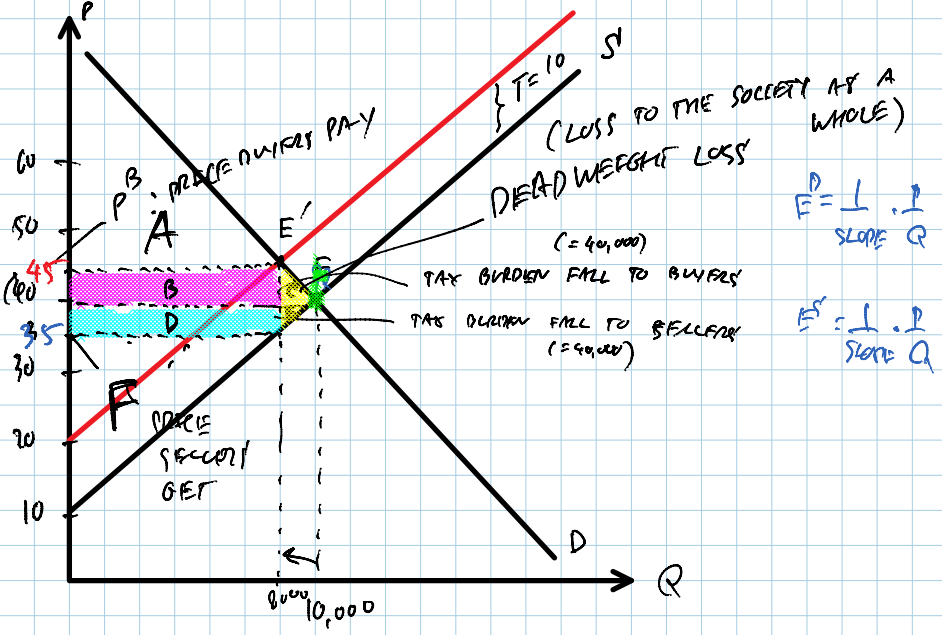
② AD VALOREM TAX: TAX IMPOSED ON A CERTAIN PERCENTAGE BASIS

EX: VALUE ADDED TAX (VAT)
CASE OF THAILAND: 7%.

CONSIDER A MARKET OF ICECREAM. ASSUME THAT THE MARKET IS PERFECTLY COMPETITIVE.

SUPPOSE GOVERNMENT IMPOSES A UNIT TAX ON ICECREAM FROM SELLERS, LET'S SAY T = 10 BAHT/SCOOP.





RESULT #1 (ON Q) MARKET BECOMES LESS ACTIVE: Q FALLS FROM 10,000 TO 8000 SCOOPS/WK.

RESULT #1 (ON Q) MARKET BECOMES LESS ACTIVE: Q FALLS FROM 10,000 TO 8000 SCOOPS/WK.

RESULT #2 BUYERS PAY A HIGHER PRICE FOR A SCOOP:

B/F ⇒ 40 BAHT/SCOOP

N/F ⇒ 45 BAHT/SCOOP

SELLERS

SELLERS GET A LOWER PRICE (OR PAYMENT)

B/F ⇒ 40 BAHT/SCOOP

N/F ⇒ 35 〃

RESULT #3 GOVT OBTAINS TAX REVENUE OF 80,000 BAHT

(=8000 × 10 = 80,000)

RESULT #4 TAX BURDEN IS EQUALLY SHARED BY BOTH BUYERS AND SELLERS. (IN THIS CASE)

THIS IS THE CASE WHEN $E^D = E^S$.

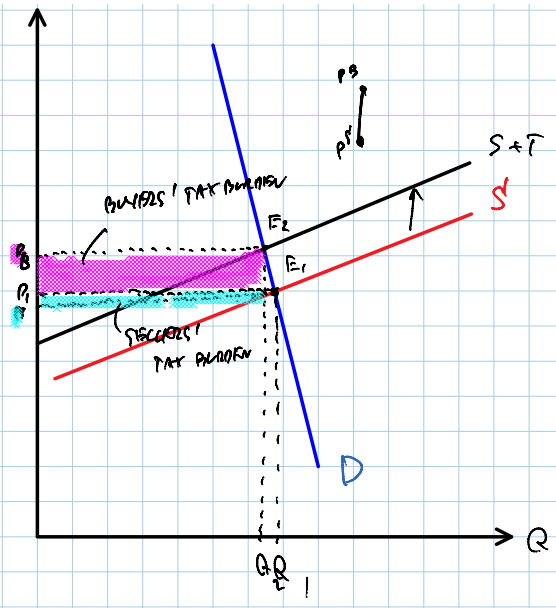
E^D: PRICE ELASTICITY OF DEMAND

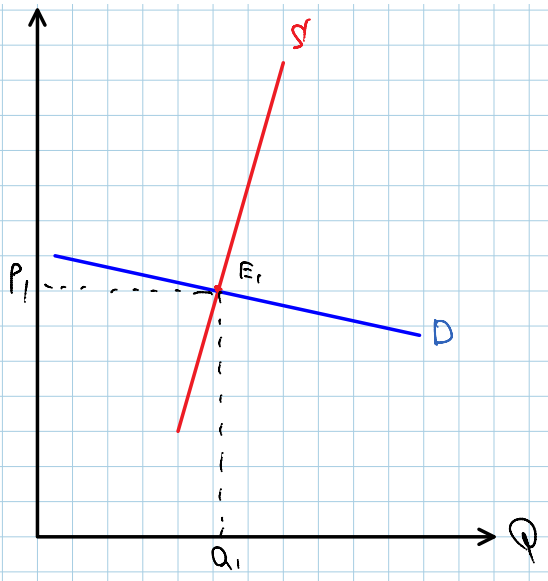
E^S: PRICE ELASTICITY OF SUPPLY

RESULT #5 (ON WELFARE)

	FREE MKT	GOVT INTERVENTION W/ ICE-CREAM TAX	Δ
CONSUMER SURPLUS	A+B+D	A	−B−C
PRODUCER SURPLUS	D+E+F	F	−D−E
GOVERNMENT	0	B+D	+B+D
TOTAL SURPLUS	A+B+C+D+E+F	A+B+D+F	−C−E

P P





DEMAND CURVE IS RELATIVELY STEEPER THAN THE SUPPLY CURVE:

SELLERS ARE MORE SENSITIVE TO ΔP.

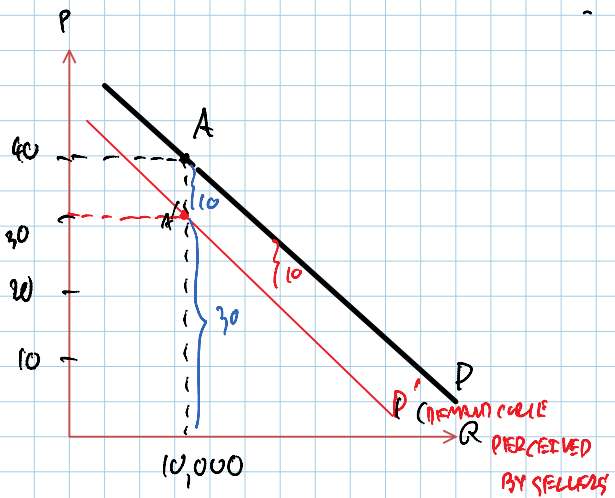
$$E^D < E^{S'}$$

SUPPLY CURVE IS RELATIVELY STEEPER THAN THE DEMAND CURVE:

BUYERS ARE MORE SENSITIVE TO ΔP.

$$E^D > E^{S'}$$

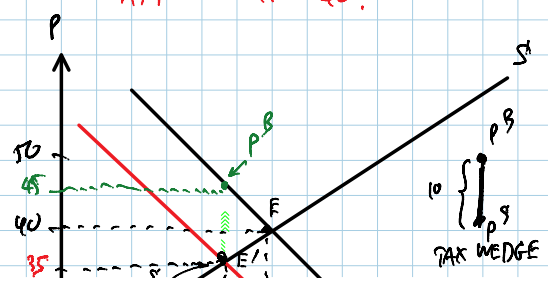
- WHAT IF THE UNIT TAX IS IMPOSED TO THE BUYERS?

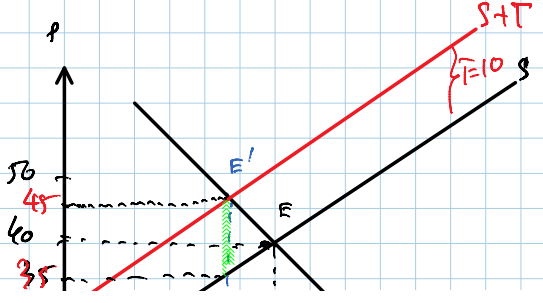


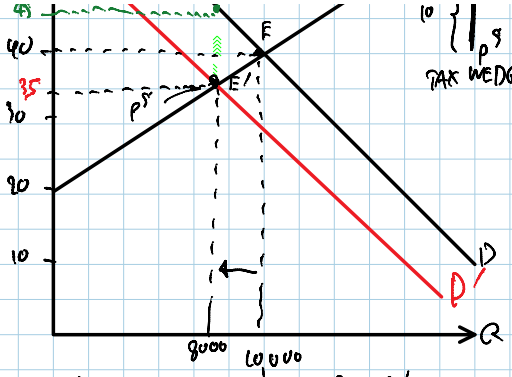
ICECREAM TAX ON BUYERS CAUSES THE DEMAND CURVE TO SHIFT DOWNWARD BY THE SIZE OF THE TAX

- WTP REMAINS UNCHANGED

B/F WTP = 40
A/F WTP = 40.

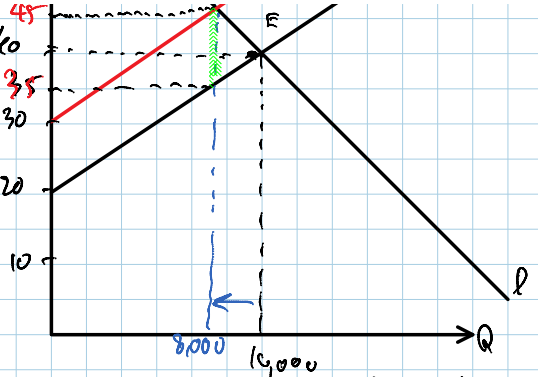






A UNIT TAX ON BUYERS

- $P^B = 45$
- $P^S = 35$
- EQUAL SHARE OF TAX BURDEN

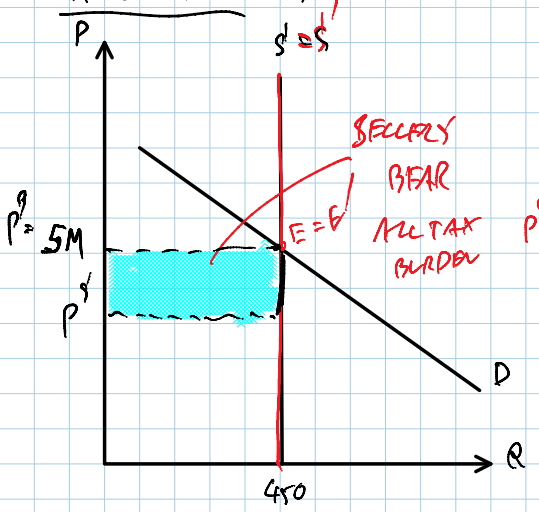


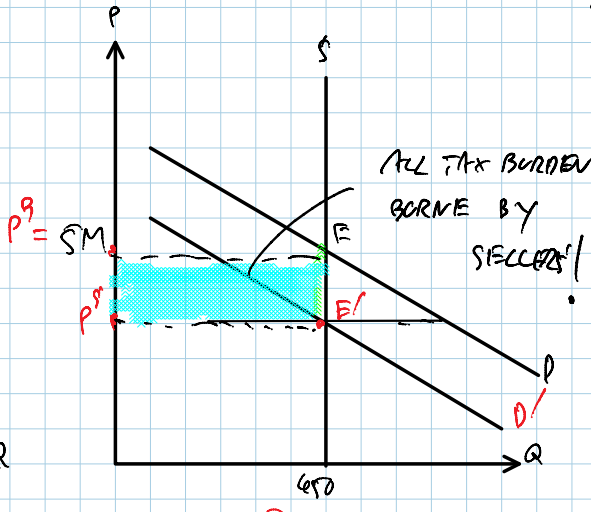
A UNIT TAX ON SELLERS

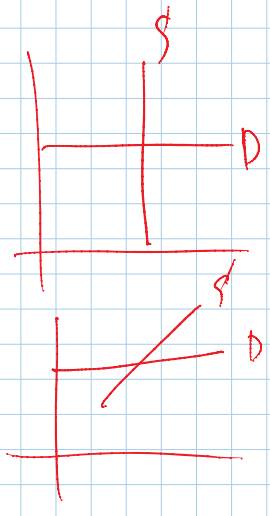
- $P^B = 45$
- $P^S = 35$
- EQUAL SHARE OF TAX BURDEN

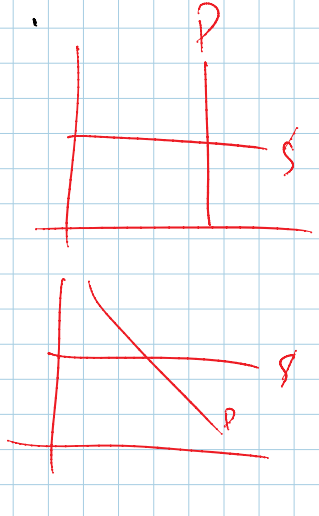
REGARDLESS OF WHO BEARS LEGAL INCIDENCE, THE MARKET OUTCOMES ARE EQUIVALENT!

APPLICATION: A UNIT TAX ON VANGOGH PAINTING OF 10,000€/PAINTING ON SELLERS

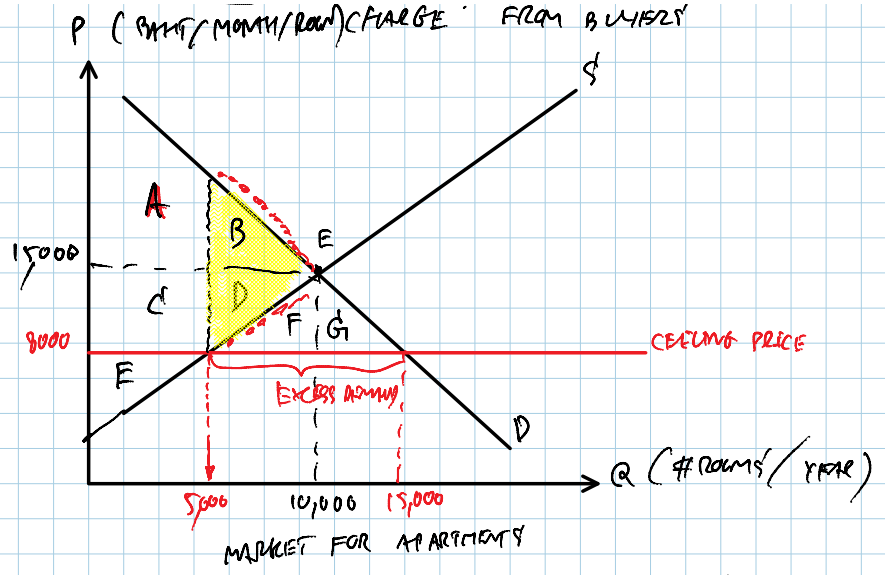








PRICE CEILING: A LEGALLY MAXIMUM PRICE SELLERS CAN P (€/UNIT/MONTH/ROOM) CHARGE FROM BUYERS



RESULT #1: PRICE CEILING CAUSES "SHORTAGE" OR "EXCESS DEMAND".

- 5000 LUCKY STUDENTS
- 10,000 UNLUCKY STUDENTS
- XD = 10,000 ROOMS ∴

RESULT #2 ROOMS WILL BE ALLOCATED BY "NON-PRICE" MECHANISMS:

- LUCKY-DRAW
- FIRST-COME / FIRST-SERVE → WASTEFUL RESOURCES; TIME COST ETC
- DISCRIMINATION BY RACE / BY RELIGION / BY APPEARANCE

RESULT #3 LANDLORDS HAVE NO INCENTIVE TO PROVIDE A WELL MAINTAINANCE. → LOW QUALITY OF THE GOODS

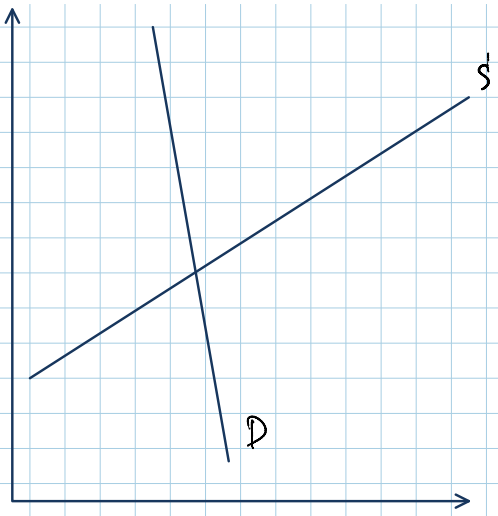
RESULT #4

	FREE MKT	RENT CONTROLS	Δ
CS	A+B	A+C	+C −B
PS	C+D+E	E	−C −D
TOTAL SURPLUS	A+B+C+D+E	A+C+E	−B −D

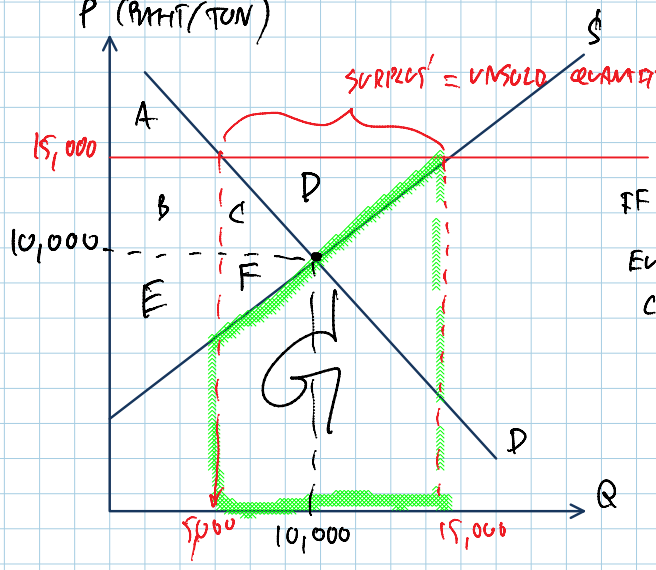
BETTER-OFF

WORSE-OFF

DEADWEIGHT (DWL) LOSS



PRICE FLOOR: MINIMUM PRICE SELLERS MUST GET WHEN SELLING THEIR PRODUCTS



IF FARMERS PRODUCE AT 15,000, EVALUATE WELFARE FOR CONSUMERS AND PRODUCERS.

CASE 1 IF PRODUCERS PRODUCE AT Q = 15,000

$$\Delta CS = A - (A+B+C) = -B-C \quad \therefore$$

$$\Delta PS = (B+E-G) - (E+F) = B+E-G-E-F = \underbrace{B-F-G}_{\text{POLICY ENDS UP W/ HURTING PRODUCERS RATHER THAN HELPING THEM.}} \quad \therefore$$

$$\Delta TS = \Delta CS + \Delta PS = (-B-C) + (B-F-G)$$

$$= -B-C+B-F-G$$

$$= -C-F-G \rightarrow \text{POLICY CREATES LOSSES TO THE SOCIETY AS A WHOLE.}$$

G: COSTS OF PRODUCING THE UNSOLD QUANTITY OF 10,000 TONS

CASE 2*: PRODUCERS KNOW THAT THEY CAN SELL AT ONLY 5000 AND

PRODUCERS THE SOCIETY AS A WHOLE,
UNSOLD QUANTITY OF 10,000 TONS.

CASE 2*: PRODUCERS KNOW THAT THEY CAN SELL AT ONLY 5,000 AND SO THEY PRODUCE ONLY 5,000.

NOTE: OF COURSE, IN REALITY, IT IS DIFFICULT TO KNOW THIS. NONETHELESS THIS IS JUST A CASE TO BE CONSIDERED.

$$\Delta CS = A - (A+B+C) = -B-C \quad \text{:(}$$

$$\Delta PS = (B+E) - (E+F) = B+E-E-F = B-F > 0 \quad \text{:)}$$

(THIS CASE, PRODUCERS ARE BETTER OFF)

$$\Delta TS = \Delta CS + \Delta PS = (-B-C) + (B-F)$$

$$= -B-C+B-F$$

$$= -C-F.$$