

Demand, Supply, and Applications

Goal: To evaluate an economic impact of government policies on stakeholders in a market.

Tools: • Supply and Demand Model

• Elasticity

• Consumer Surplus, Producer Surplus

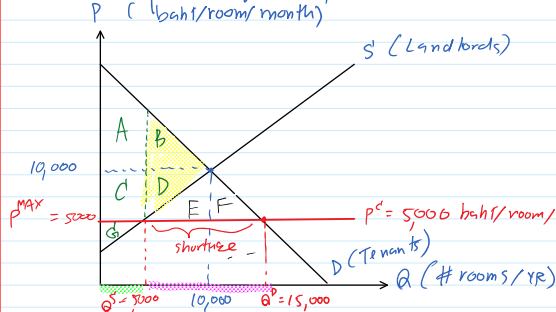
Government Policies covered

• Price Controls
• Taxes

Price ceiling ✓
Price floor ✓

Price Ceiling: Legally maximum price sellers can charge on buyers.

Consider market for apartments which is assumed to be perfectly competitive.

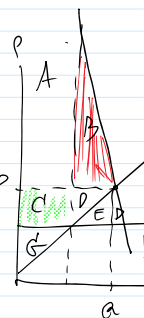


	B/F	A/F	
Free Mkt	A+B	A+C	+C-B
Price Ceiling	C+D+G	A+C+G	-C-D
	A+B+C+D+G	A+C+G	-B-D

• CS
• PS
• TS

> 0 😊 consumers are better off
< 0 ☹️ worse off

DWL from price ceiling.



Fact#1 An effective price ceiling creates "SHORTAGE" as

$$Q^D > Q^S$$

(15,000) (10,000)

Fact#2 w/ only 5000 rooms available, rooms will be allocated by ...

- ① lucky draw
- ② first come first serve basis
- ③ Discrimination by race, by religion, by presence

Unfortunately, these methods are 'inefficient' as

- ① it creates "wasted resources"
- and/or ② it does not guarantee that those in need (or those with high WTP) will get rooms.

Fact#3 w/ such a low price, landlords will lack of incentives to provide proper maintenance.

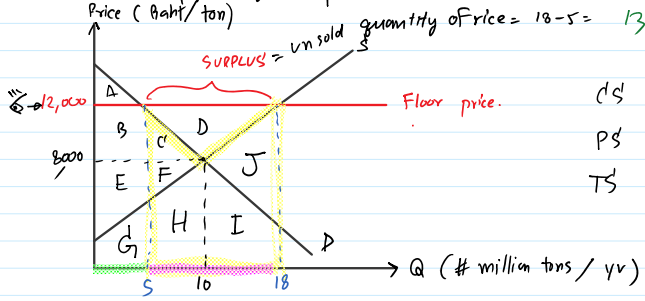
So, quality of room gets deteriorated in the medium and the long term.

Fact#4 Who gain / who lose from this policy?

S'
 P'
 Q

PRICE FLOOR: Legally minimum price a producer (or a seller) must get when he/she sells a good.

Consider market for paddy rice (in Thailand). Assume that the market is perfectly competitive.



Free Mkt
 $A+B+C'$
 $E+F$
 $A+B+C'+E+F$

Price Floor Δ
 A $-B-C'$ WORSE OFF
 $B+E$ $-H-I-J$ $+B-H-I-J-F$ WORSE OFF
 $A+B+E-H-I-J$ $-H-I-J$ $-C-F$ WORSE OFF

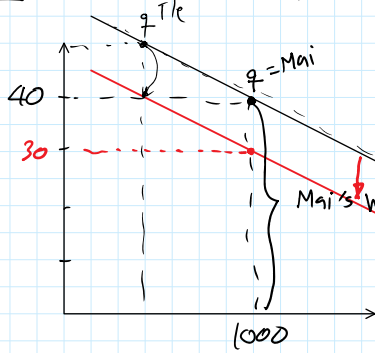
Costs of Standard Price producing unsold amount of rice.

- An effective price floor causes "SURPLUS" as $Q^S > Q^D$ at $P = 12,000$ baht/ton.
- Who gain/ Who lose from the Policy?

	B/F	A/F	Δ
CS			
PS			
GOVT			
TS			

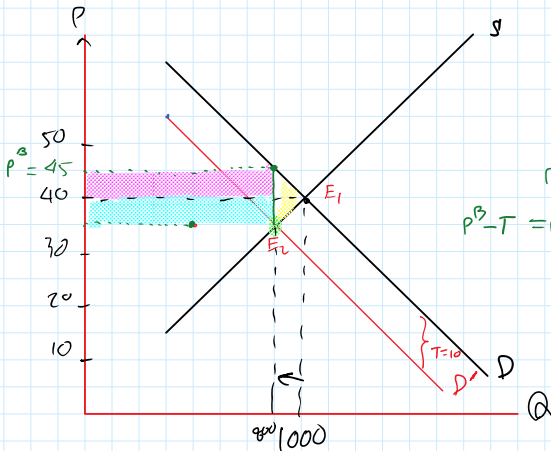
Case 2

Unit tax imposed on Buyers

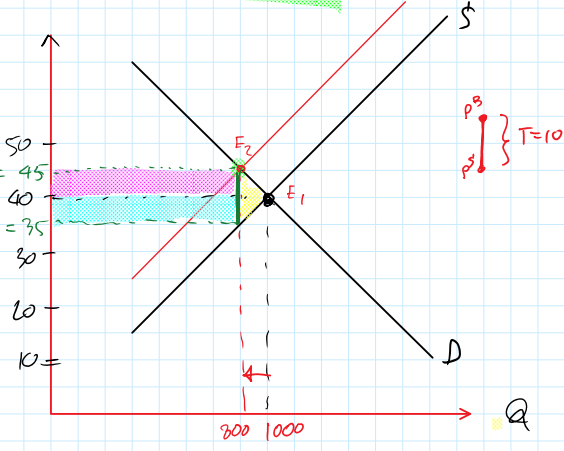


Now, suppose icecream tax of 10 baht/scoop is imposed on buyers. In effect, demand curve will vertically shift DOWNWARD by the size of tax per unit. perceived by sellers.

Note: Icecream tax does not change consumer's WTP.



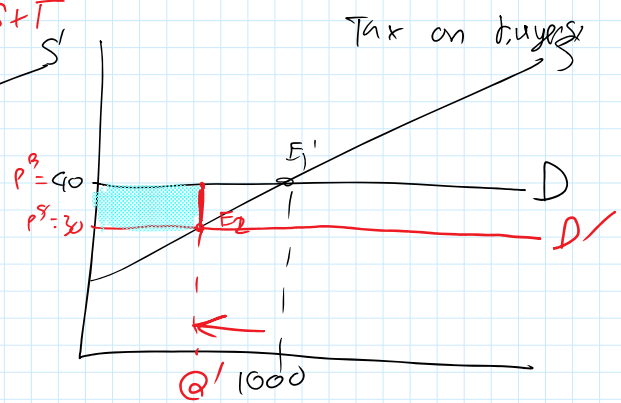
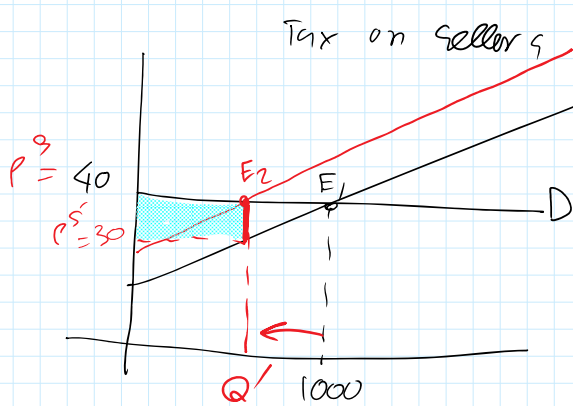
unit tax imposed on Buyers



unit tax imposed on Sellers

Regardless of who is legally responsible to pay tax, economic outcomes ARE EQUIVALENT !!!

$E \times 0$



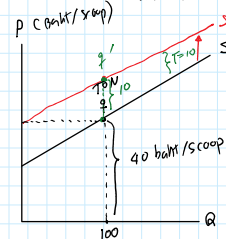
= tax per unit of good sold.

ex: liquor tax
cigarette tax

unit tax charged on sellers

unit tax charged on buyers

Consider market for icecream



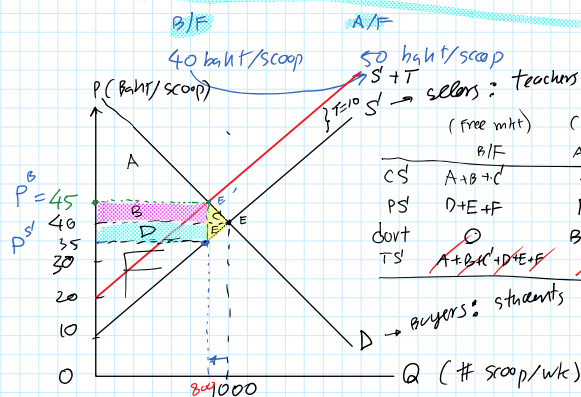
B/F tax: to induce Tom to sell his scoop, he said he must get at least 40 baht. Otherwise he will not want to sell.

Now suppose govt imposes 10 baht per unit of icecream tax on sellers...

In effect, this will shift the supply curve **VERTICALLY UPWARD** by the size of the unit tax, (Here, $T=10$)

A/F Thx: To induce Tom to sell the scoop of icecream, he requests at least 50 light/scoop.

Therefore, ... unit tax increases costs to the sellers !!! If not, he will not want to sell.



	(free mkt)	(unit tax)	
	B/F	A/F	Δ
CS	$A+B+C$	A	$-B-C$ ☹️ worse off
PS	$D+E+F$	F	$-D-E$ ☹️ worse off
Govt	0	$B+D$	$+B+D$ 😊
TS	$A+B+C+D+E+F$	$A+F+B+D$	$-C-E$

Deadweight loss
or
Welfare cost of this
ice cream
tax

- ① Under the free mkt, $P = 40$ baht/scoop
 $Q = 1000$ scoops/wk

- ② Now, Suppose $T = 10$ baht/scrap imposed on sellers.

- Tax reduces market activity (as Q falls)

$Q = 1000 \xrightarrow{-200} Q' = 800$

- Tax increases price that buyers (students) have to pay!

$3 \text{ F} \xrightarrow{+5} 4 \text{ F}$
 40 bsh/r/sroup $\rightarrow$ 45 bsh/r/sroup

- Tax also reduces price that sellers actually get.

B/F $\rightarrow$ A/E

40 $45 - 10 = 35$ 00

- ③ Who gain/ who lose from icecream tax?

- Consumers are worse off

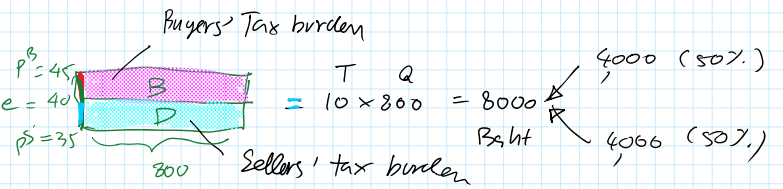
- Producers are worse off

Buyers' Tax burden

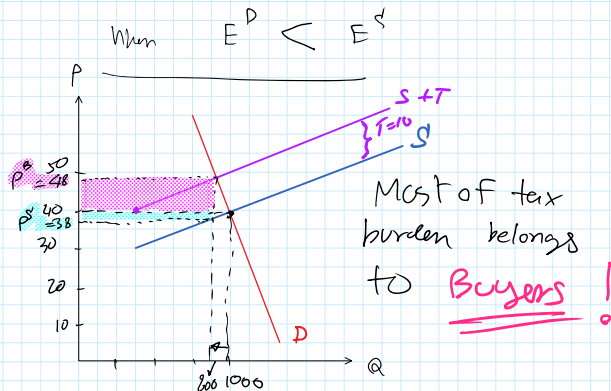
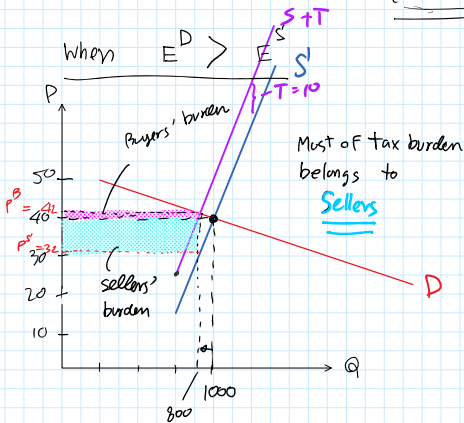
a Consumers are **worse off**

a Producers are **worse off**

a Govt. gets tax revenue = 4000



In this case, both buyers and sellers equally share
(where $|E^D| = |E^S| = 1$) tax burden



the flatter, the higher E
the steeper, the lower E

