

# Government Interventions in the Market

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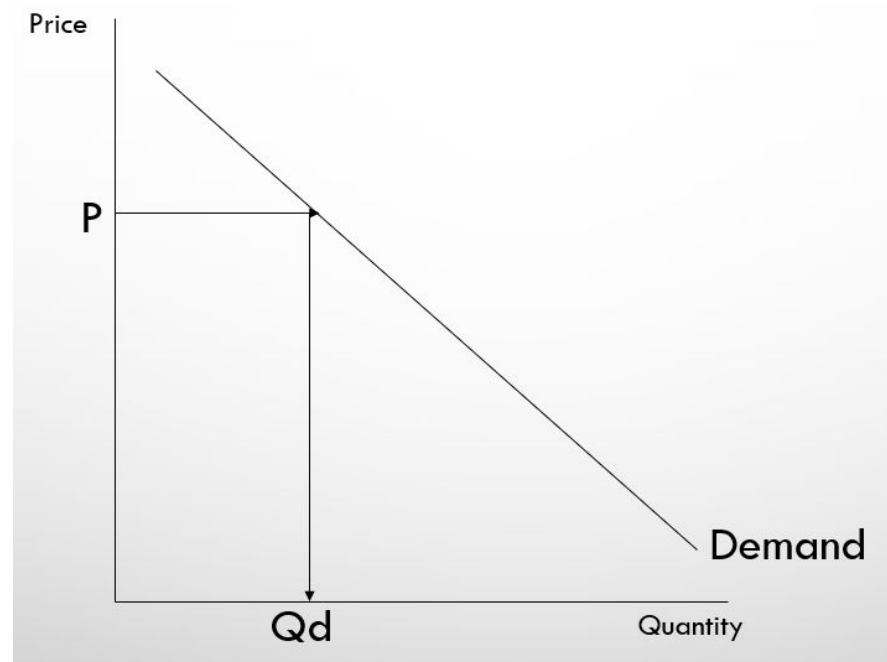
# Government interventions in the market

Market: : an institution or mechanism, which brings together buyers ("demanders") and sellers ("suppliers") of particular goods and services.

# Demand vs Quantity Demanded

Demand is the entire Curve

Quantity Demanded comes from a point on the curve



# Demand Schedule

Price (P)	Quantity (Q water bottles)
\$5	0
\$3	1
\$2	7
\$1	24
\$.50	40
\$.05	82

**The law of demand:** a change in the own-price causes a change in quantity demanded in the opposite direction and movement along a demand (marginal benefit) curve.

# MARKET DEMAND CURVES

Market Demand Curves come from the summation of individual demand curves.

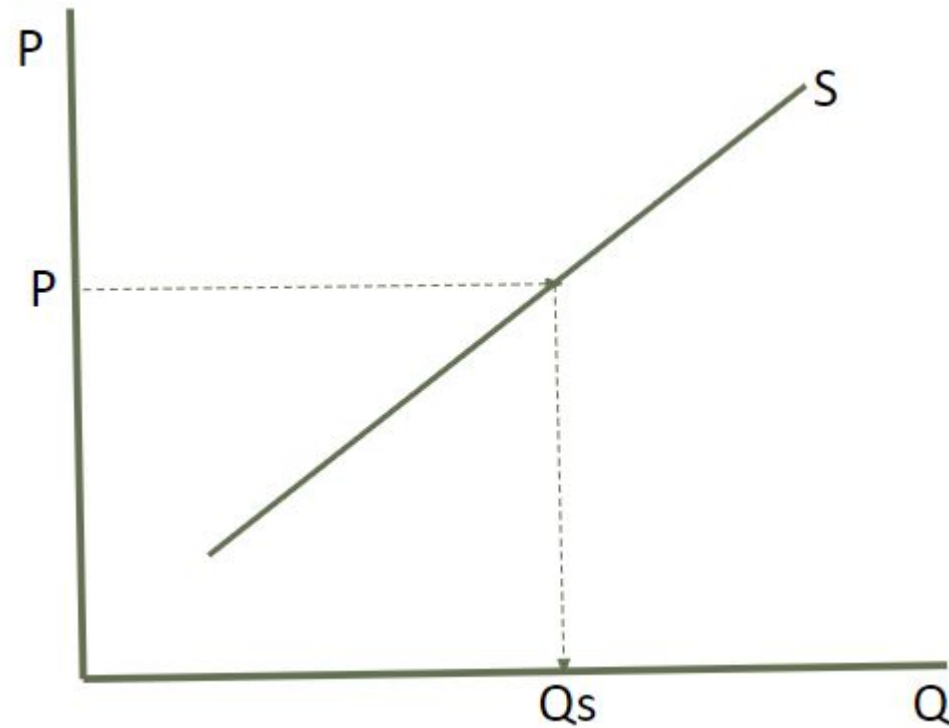
# DETERMINANTS OF DEMAND

1. CONSUMER INCOMES
2. TASTE AND PREFERENCE
3. PRICE OF A COMPLEMENT
4. PRICE OF A SUBSTITUTE
5. CHANGE IN POPULATION
6. EXPECTATIONS ABOUT PRICE

# Supply vs Quantity Supplied

Supply is the entire Curve

Quantity Supplied comes from a point on the curve



# SUPPLY SCHEDULE

Price (P)	Quantity (Q water bottles)
\$5	120
\$3	96
\$2	48
\$1	24
\$.50	12
\$.05	0

**The law of supply:** a change in the own-price causes a change in quantity supplied in the same direction and movement along a supply curve.



# MARKET SUPPLY CURVES

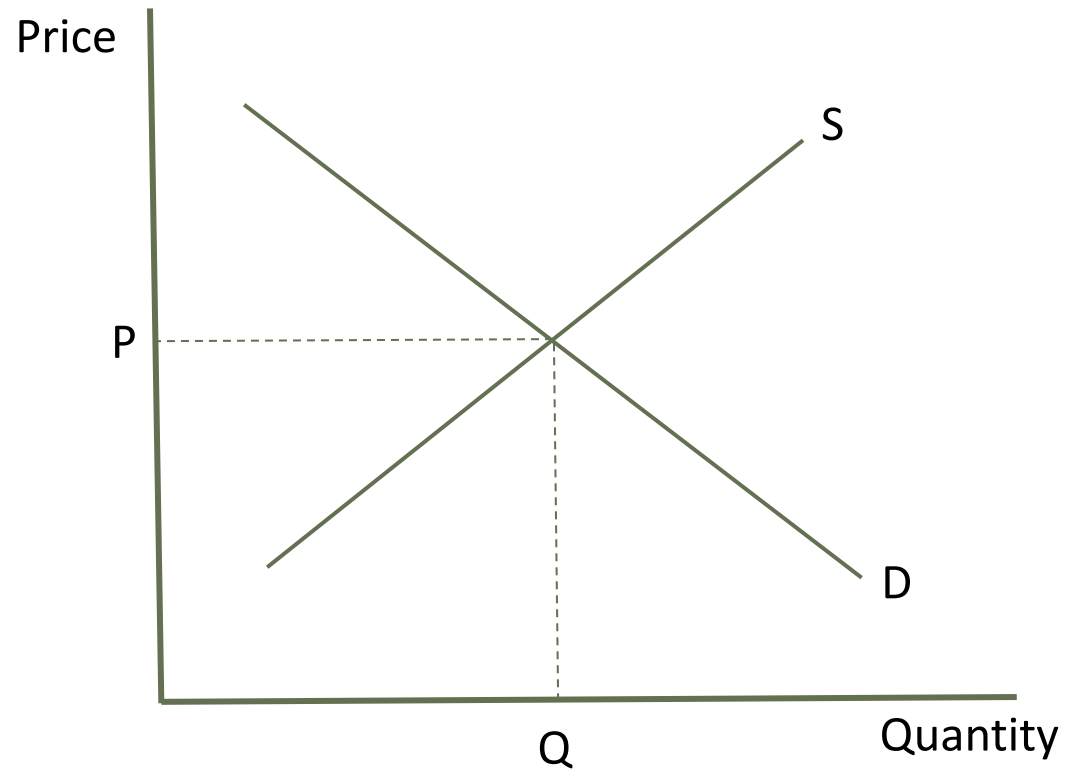
Market Supply Curves come from the summation of individual supply curves.

# DETERMINANTS OF SUPPLY

1. Resource Prices
2. Technology
3. Taxes
4. Subsidies
5. Number of Sellers
6. Expectations about future price

# Equilibrium

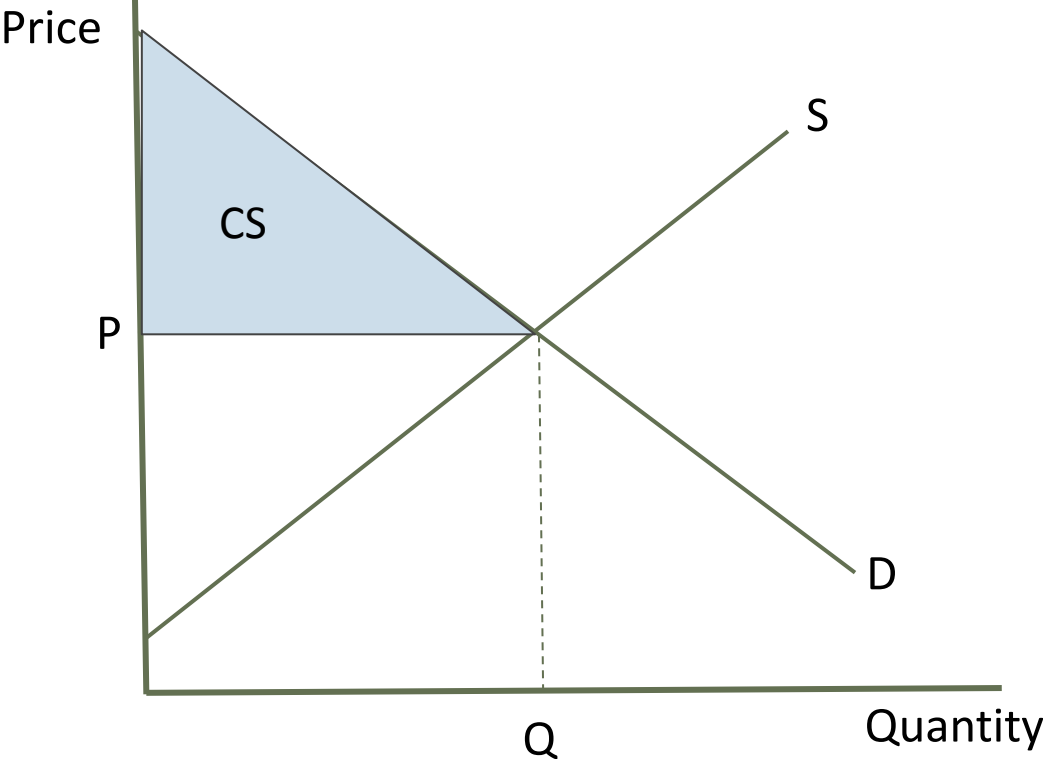
The price at which the quantity demanded equals the quantity supplied is called the equilibrium price.



# Consumer Surplus

CS is the difference between the price the consumer is willing to pay for a good and the price they have to pay for the good.

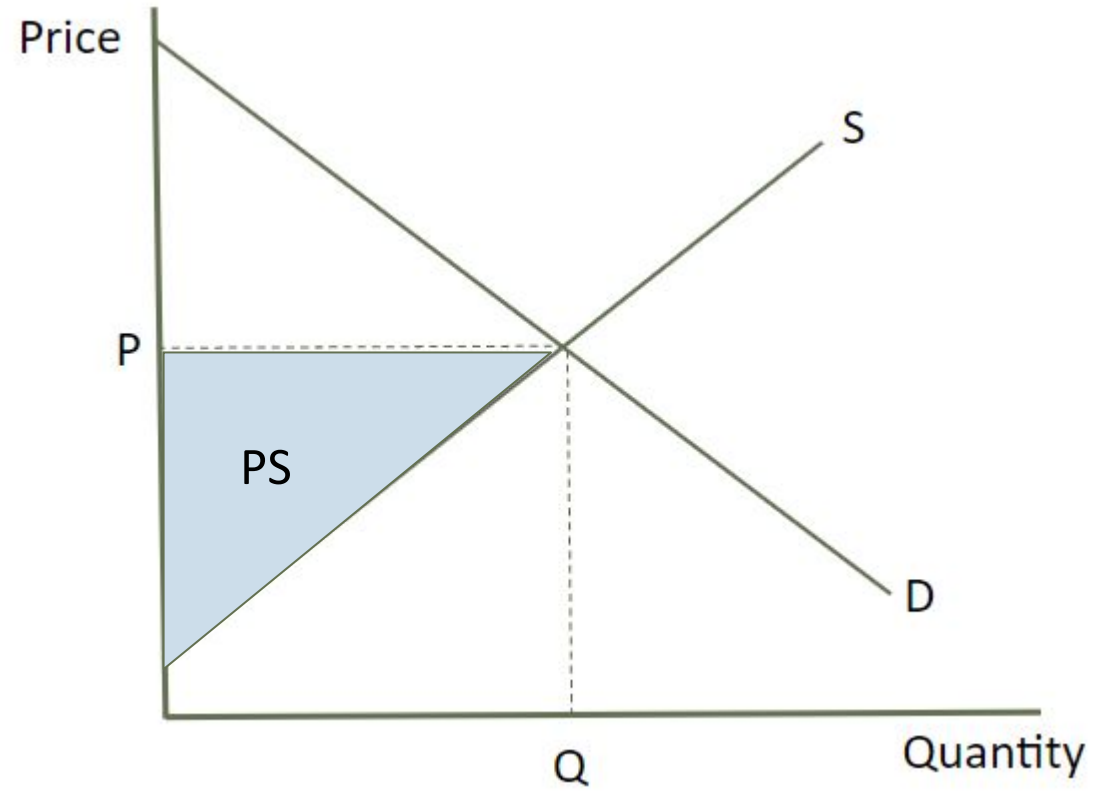
# Consumer Surplus



# Producer Surplus

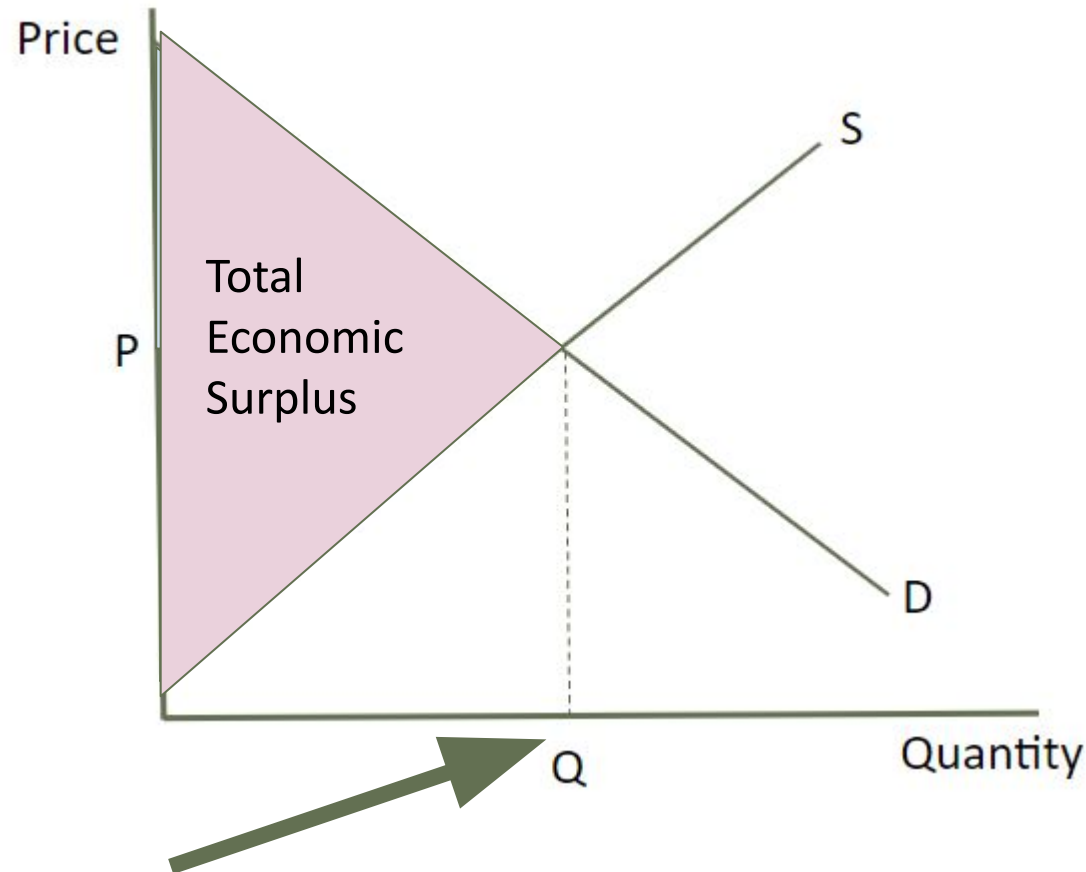
PS is the difference between the price the seller is willing to sell a good for and the price they receive for the good.

# Producer Surplus



# Equilibrium

CS + PS is Total Economic Surplus.



When total surplus is maximized, we are producing at the Socially Optimal Output



# Government Policies

EK: Some government policies, such as price floors, price ceilings, and other forms of price and quantity regulation, affect incentives and outcomes in all market structures.

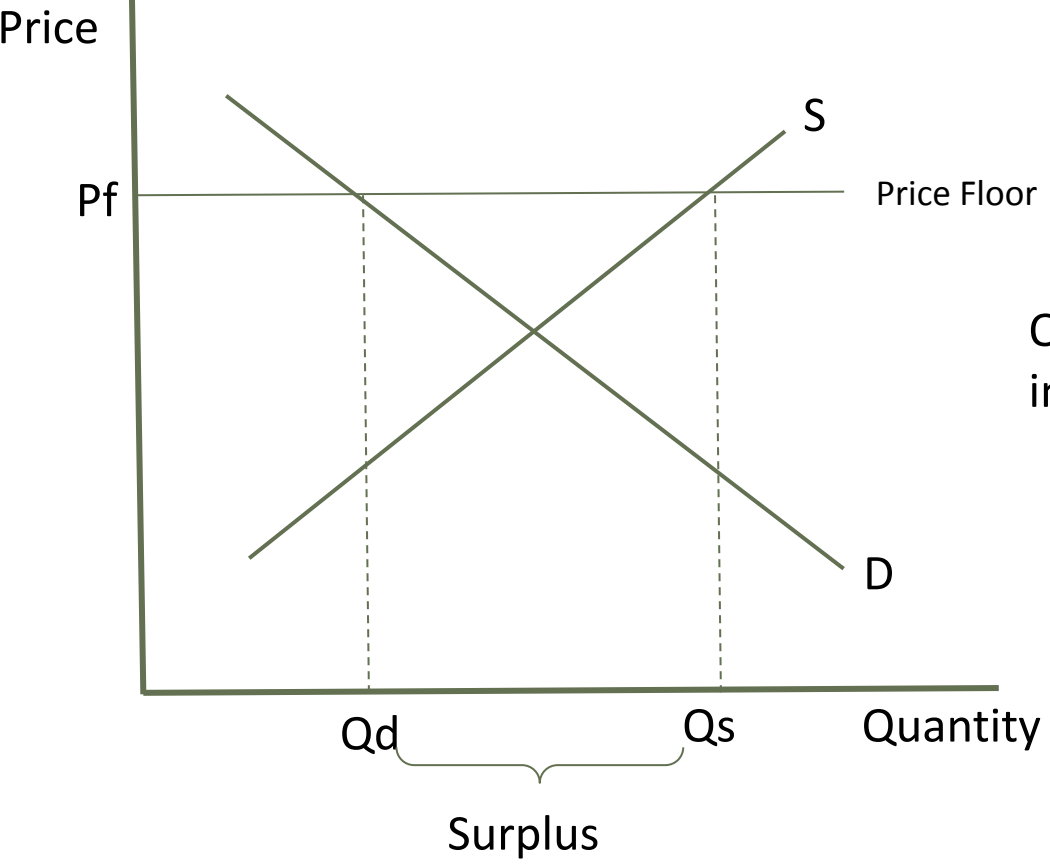
# Price Floor

Price floor: A lower limit on price that the good or service may be exchanged.

Examples: Minimum wage, price support on agricultural products.

# Price Floor

An effective price floor is above equilibrium. It keeps the price from falling to equilibrium.



$Q_s > Q_d$  so we have a surplus in the market.

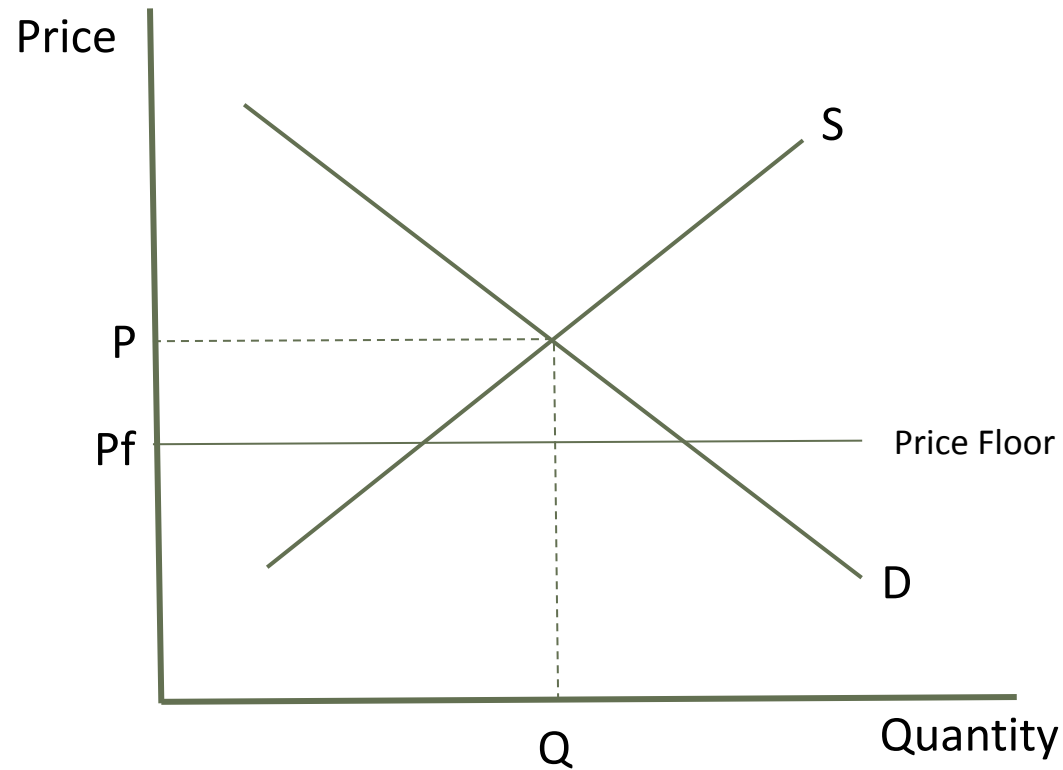
$$Q_d - Q_s = \text{Surplus}$$

# Ineffective Floor

The price at which the quantity demanded equals the quantity supplied is called the equilibrium price.

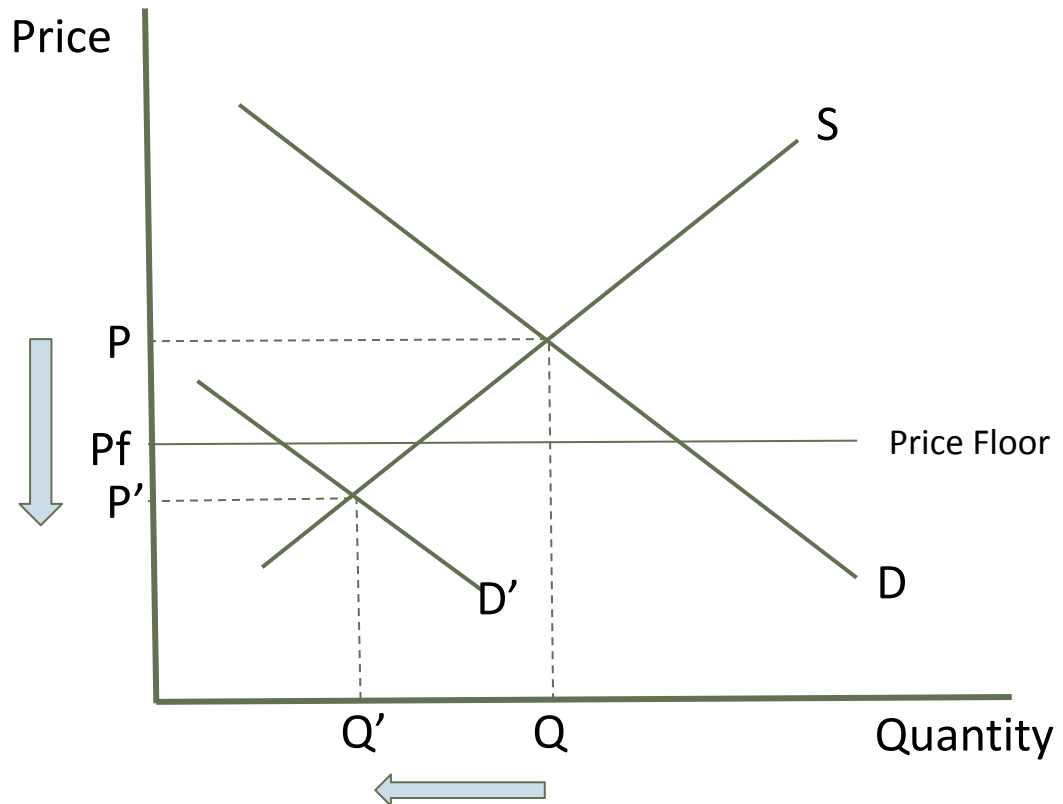
The market will ignore this floor and clear at equilibrium price.

This floor is said to be ineffective.



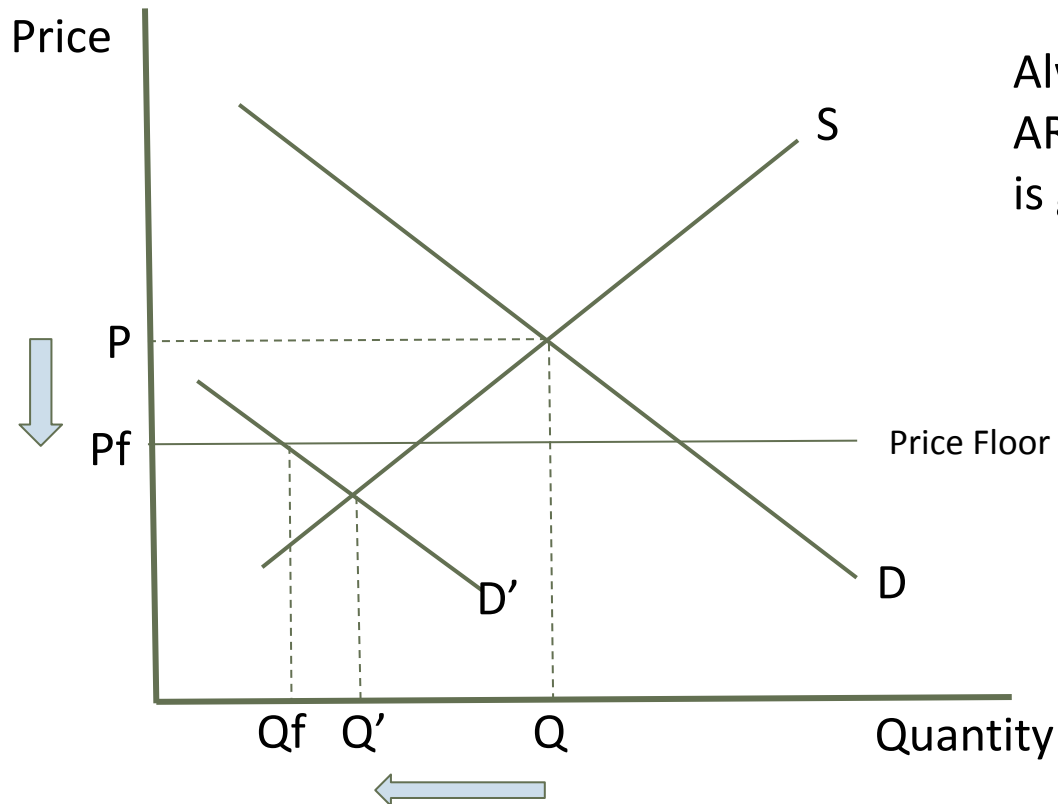
# Why an Ineffective Floor?

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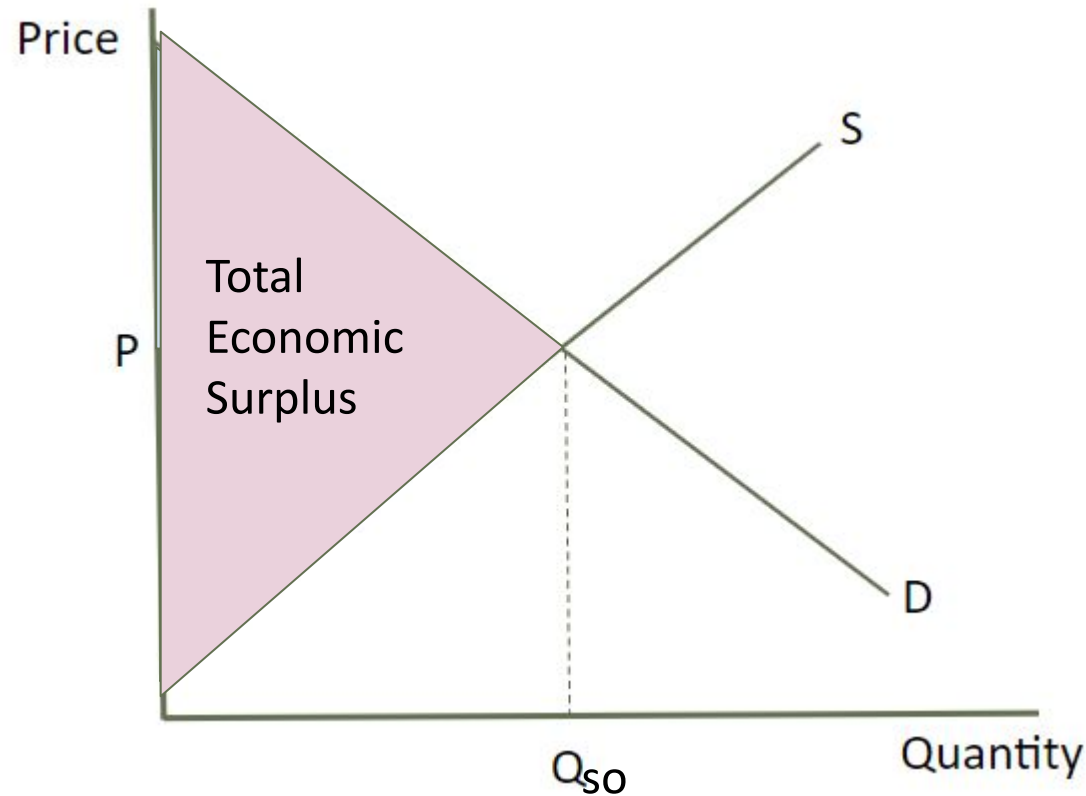
Always assume floors and ceilings ARE effective, unless information is given that tells otherwise.

# Government Policies

EK: Government intervention in a market producing the efficient quantity through taxes, subsidies, price controls, or quantity controls can only **decrease allocative efficiency**.

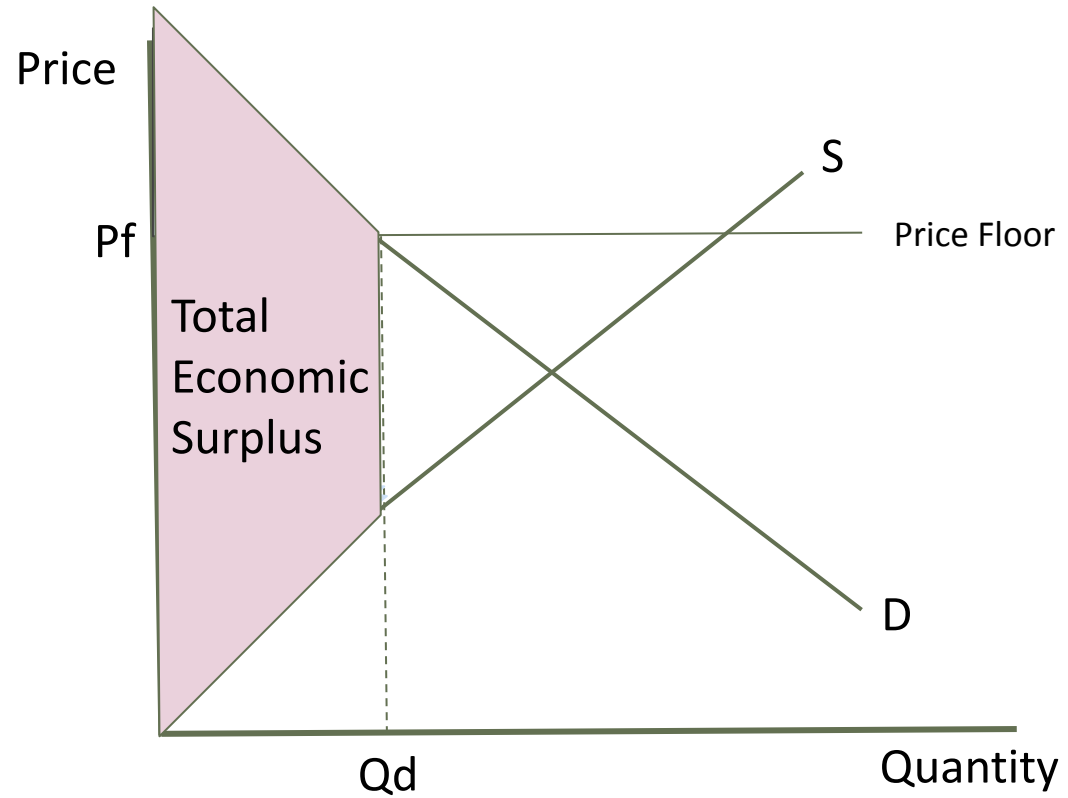
CS + PS is Total Economic Surplus.

Socially optimal is allocative efficient.



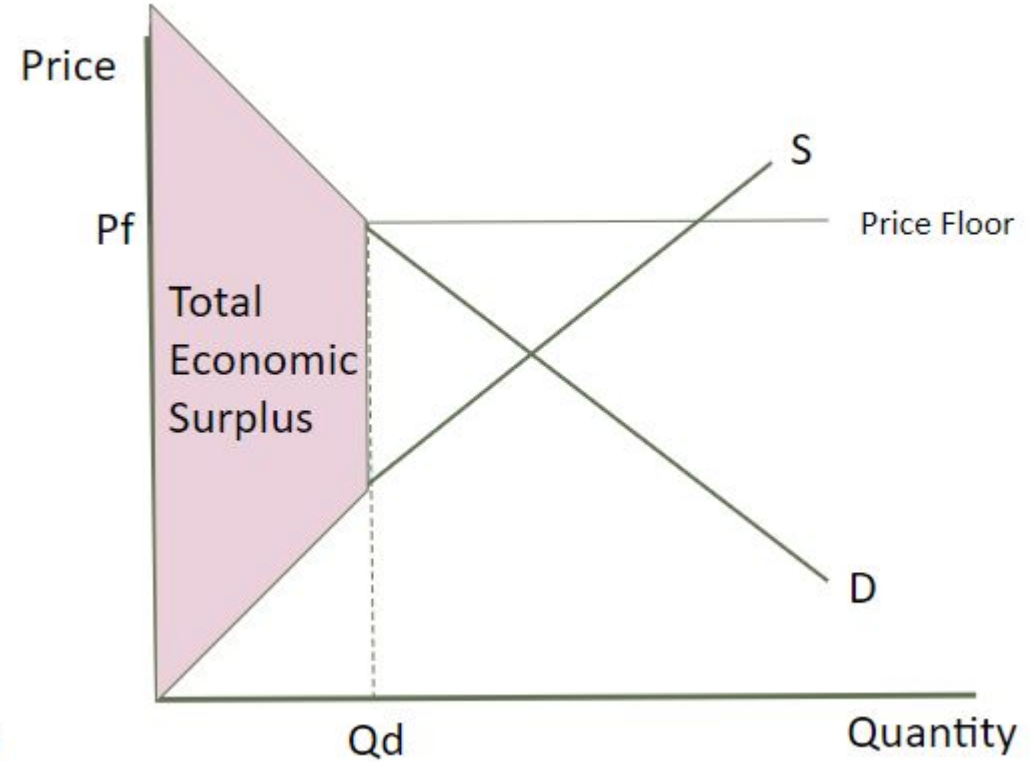
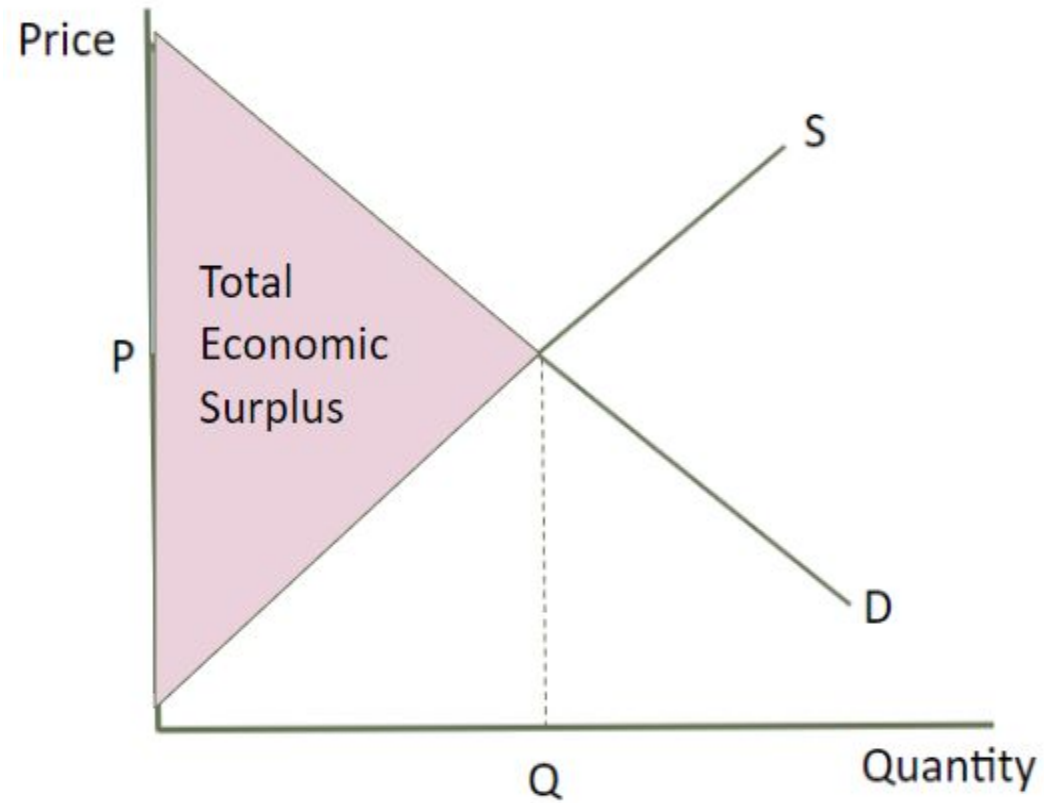
# Government Policies

CS + PS is Total  
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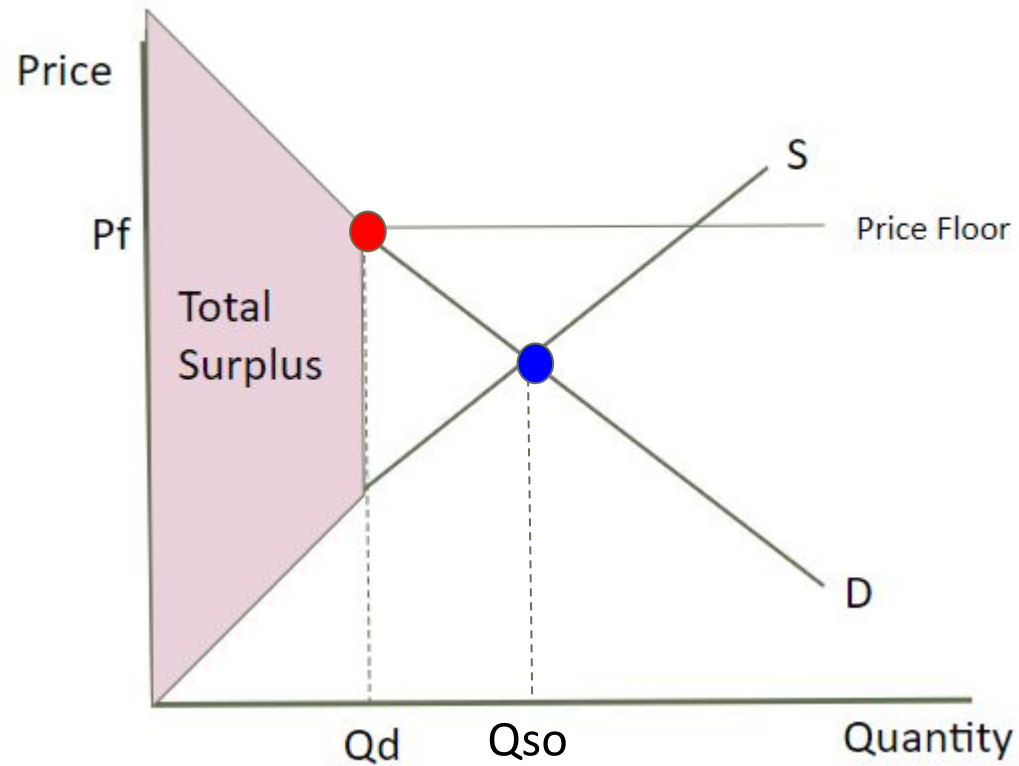


# Government Policies



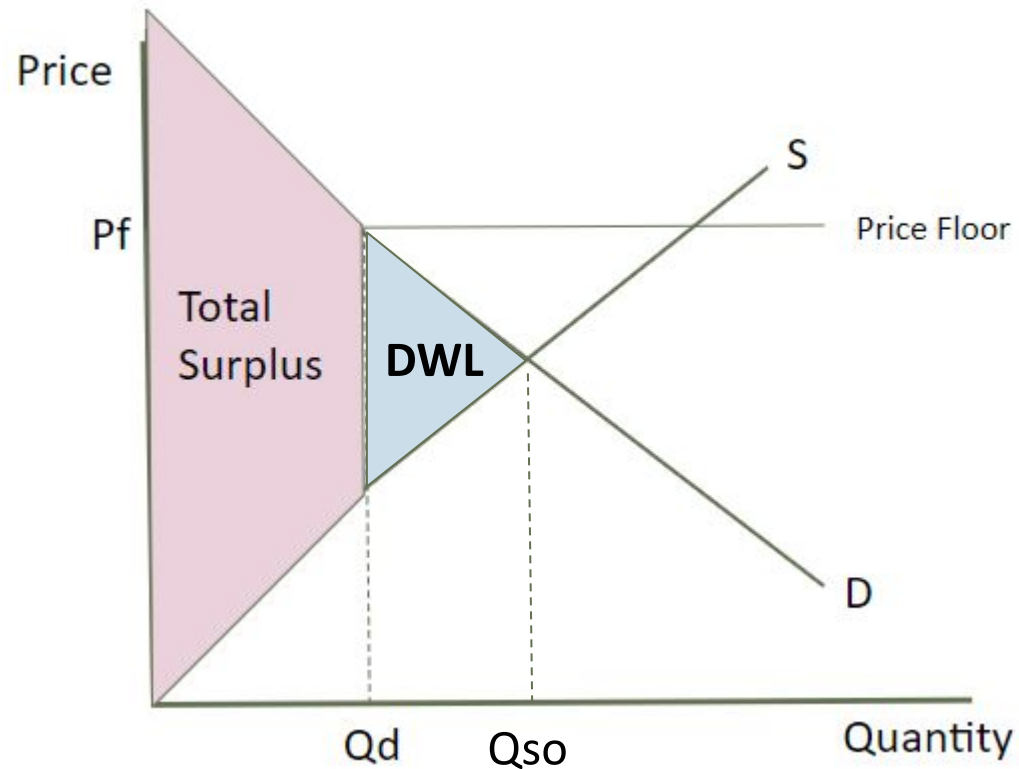
# Government Policies

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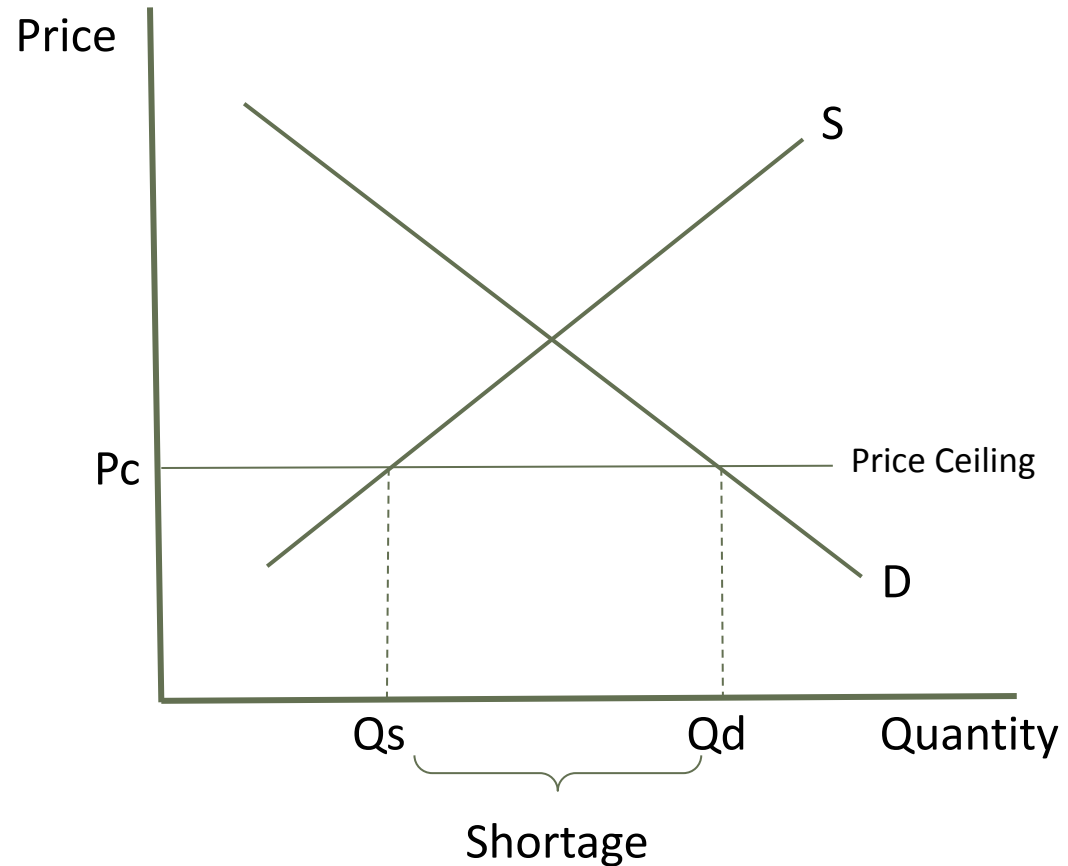
# Price Ceiling

Price ceiling: A upper limit on price that the good or service may be exchanged.

Examples: Rent controls, cap on medical expenses

# Price Ceiling

An effective price ceiling is below equilibrium. It keeps the price from rising to equilibrium.



$Q_d > Q_s$  so we have a shortage in the market.

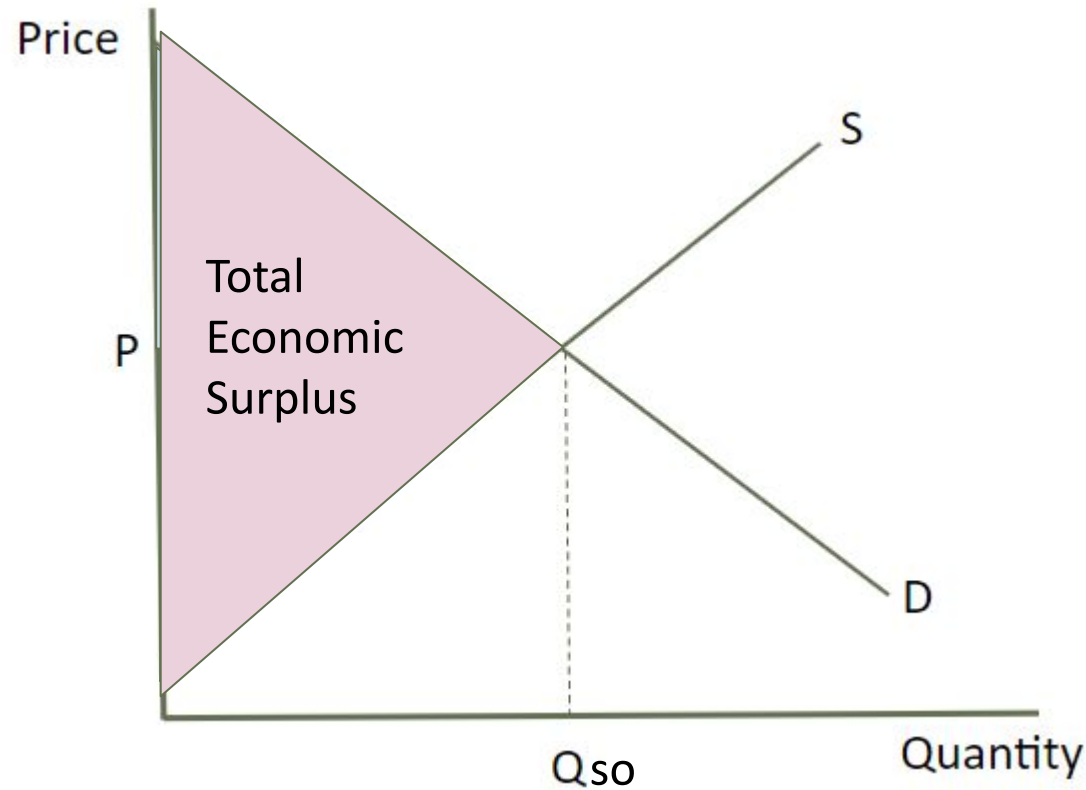
$$Q_d - Q_s = \text{Shortage}$$

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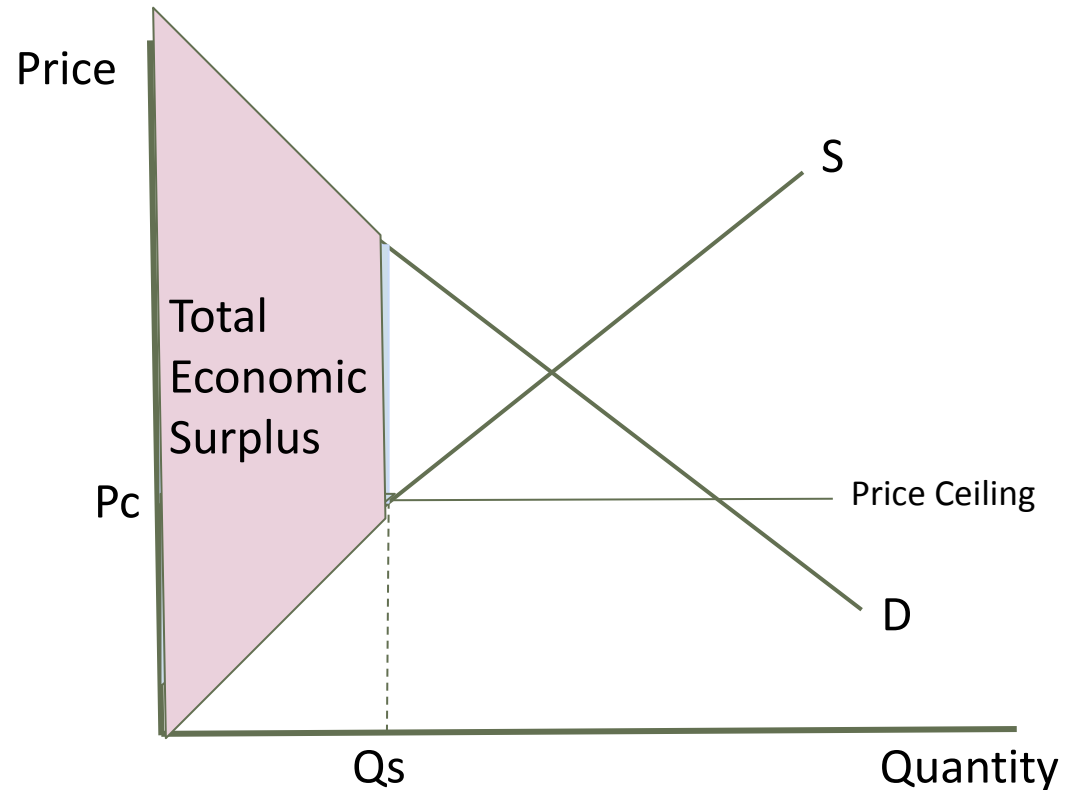
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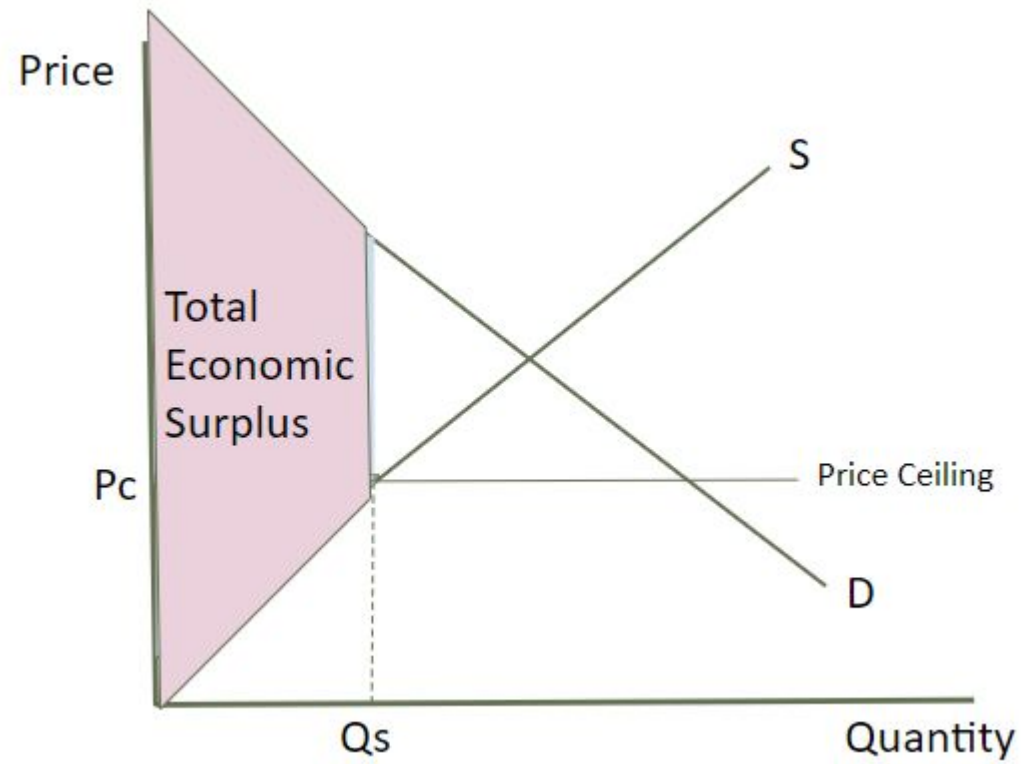
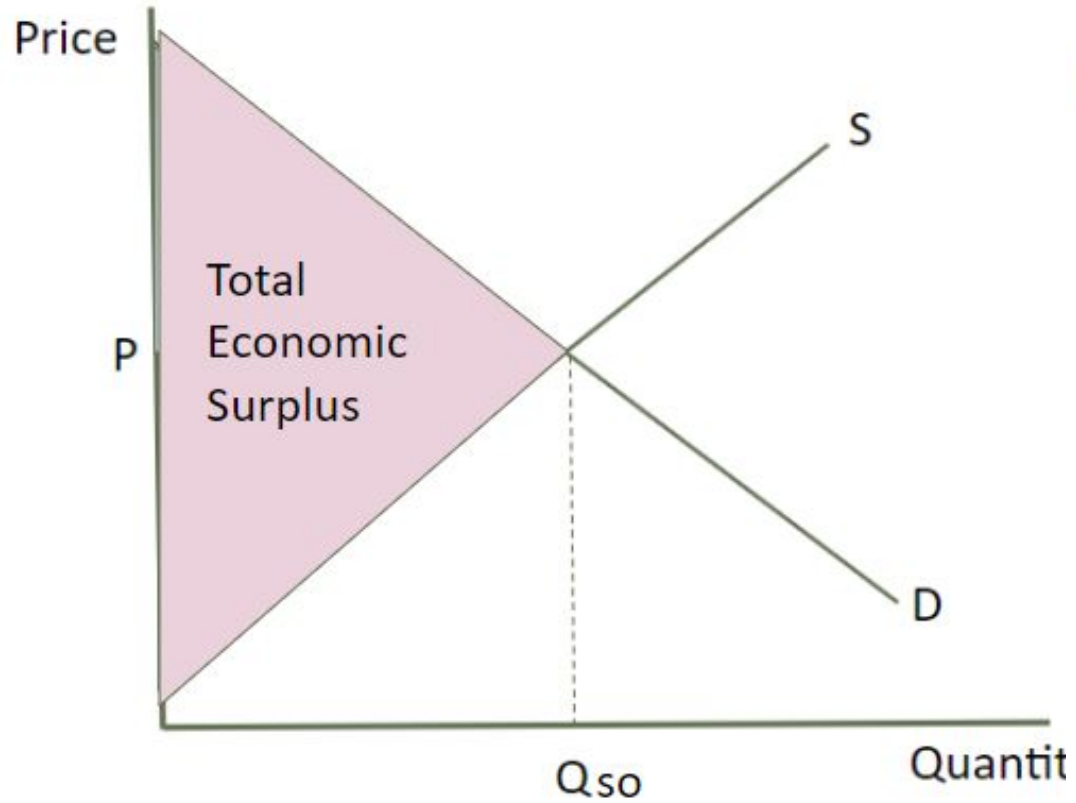
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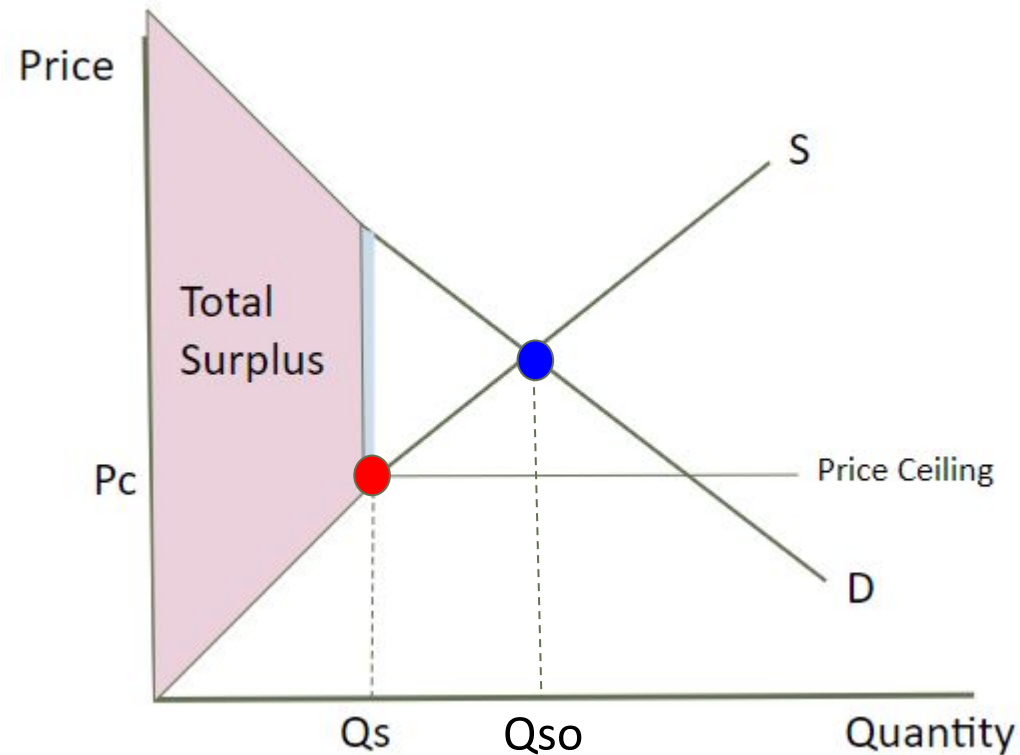
# Price Ceiling





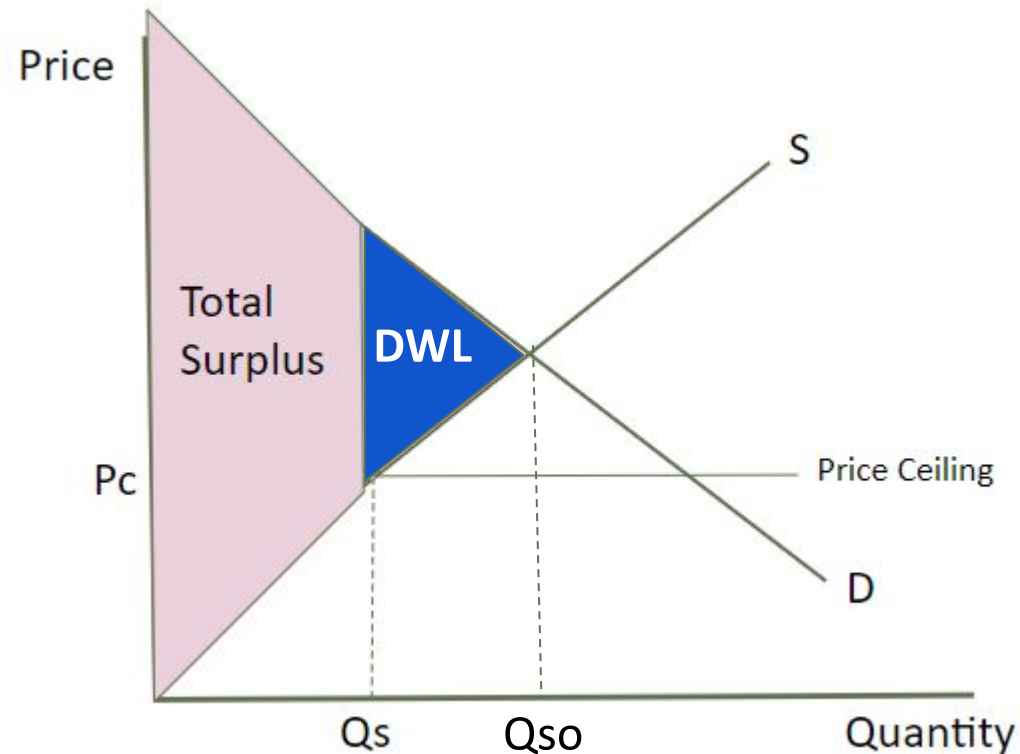
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# Government Policies

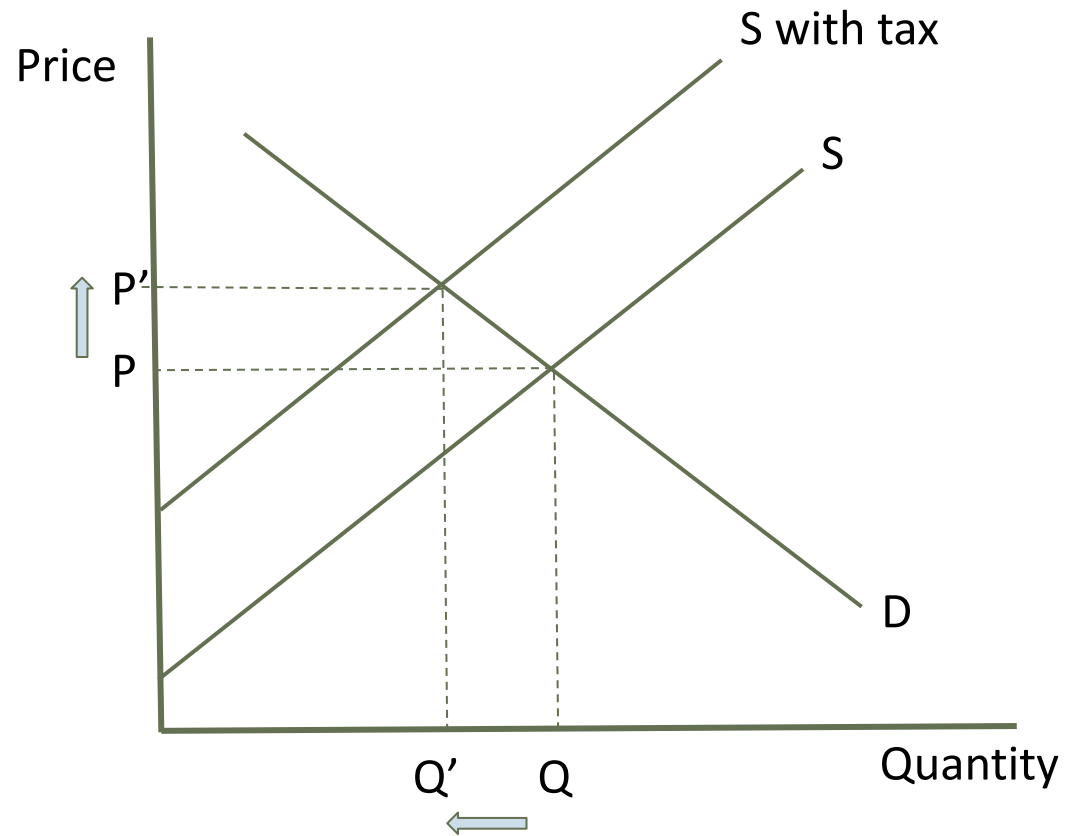
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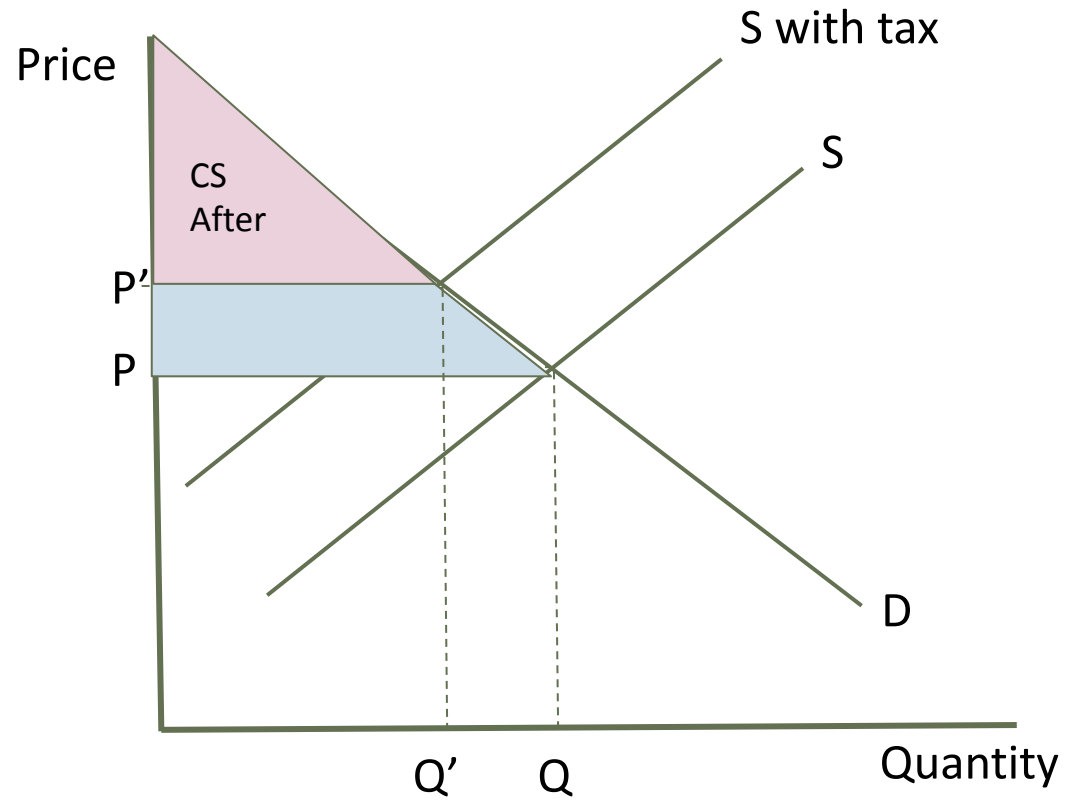
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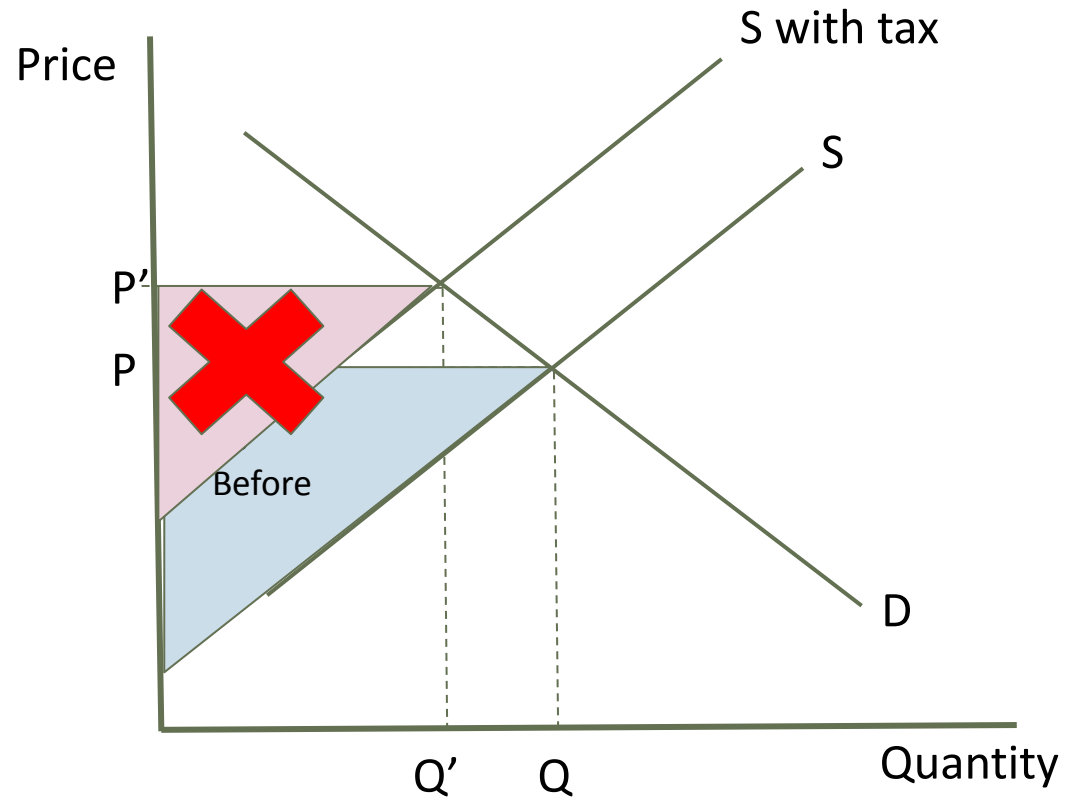
# Per Unit Tax



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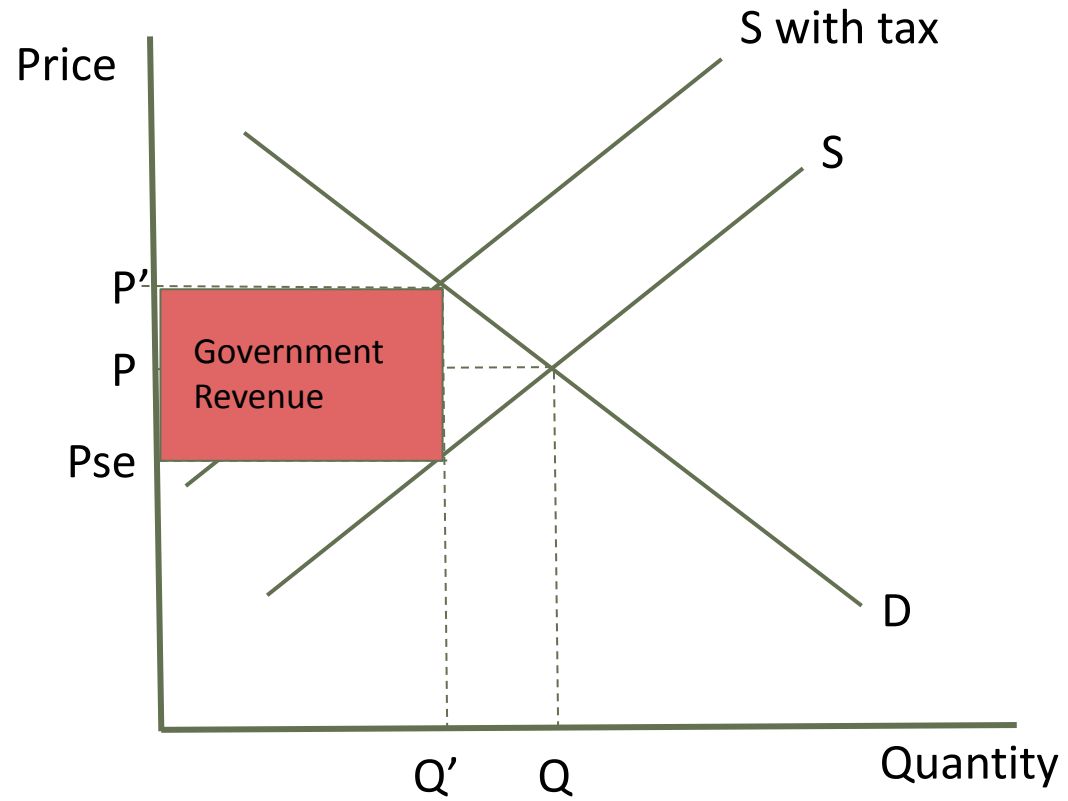


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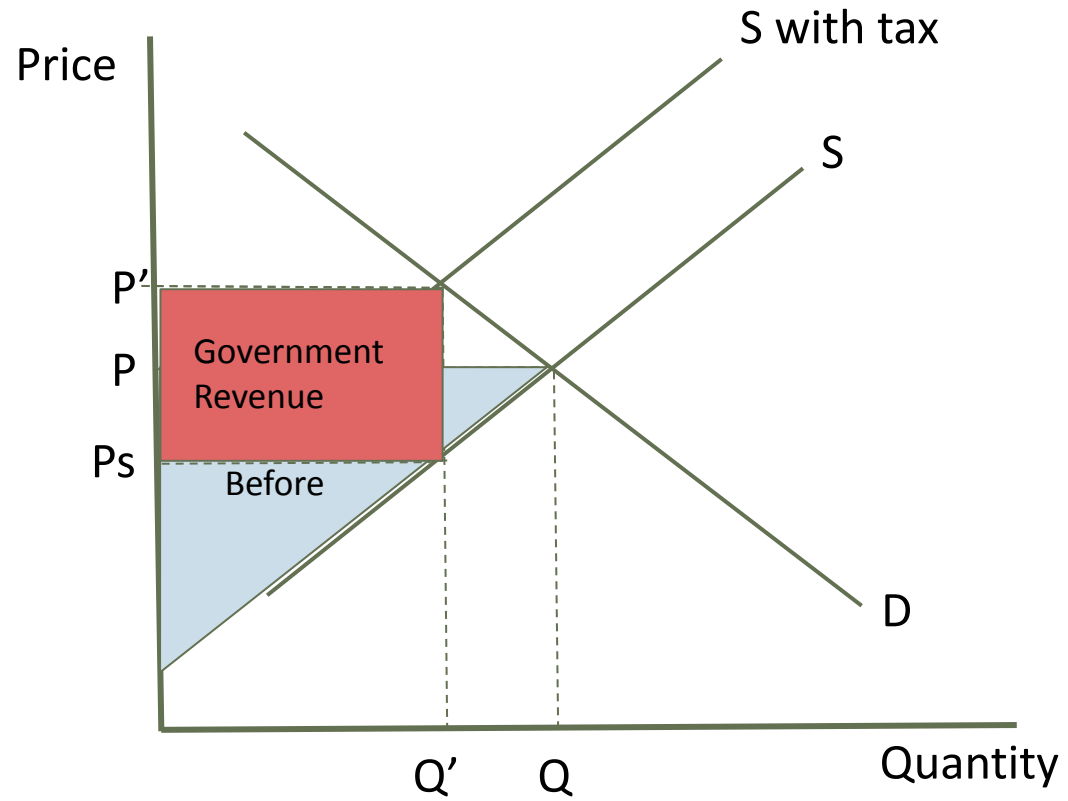


# Per Unit Tax

$(P' - P_{se})Q'$  is  
Government Revenue



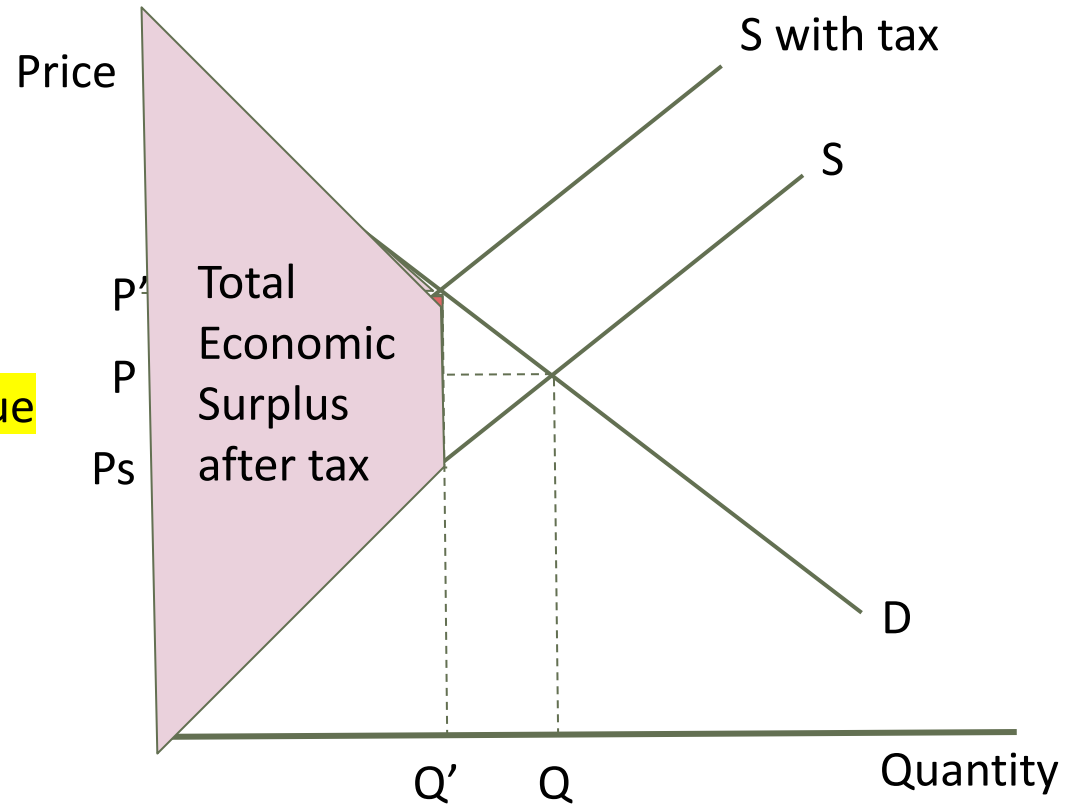
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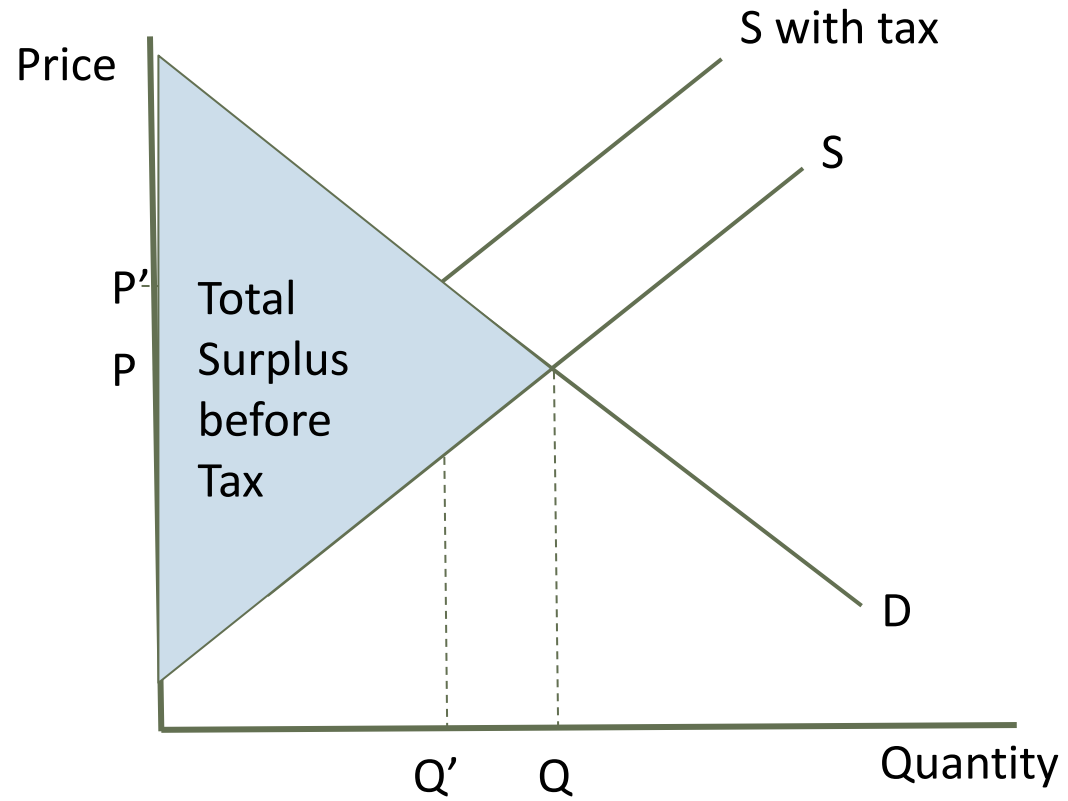


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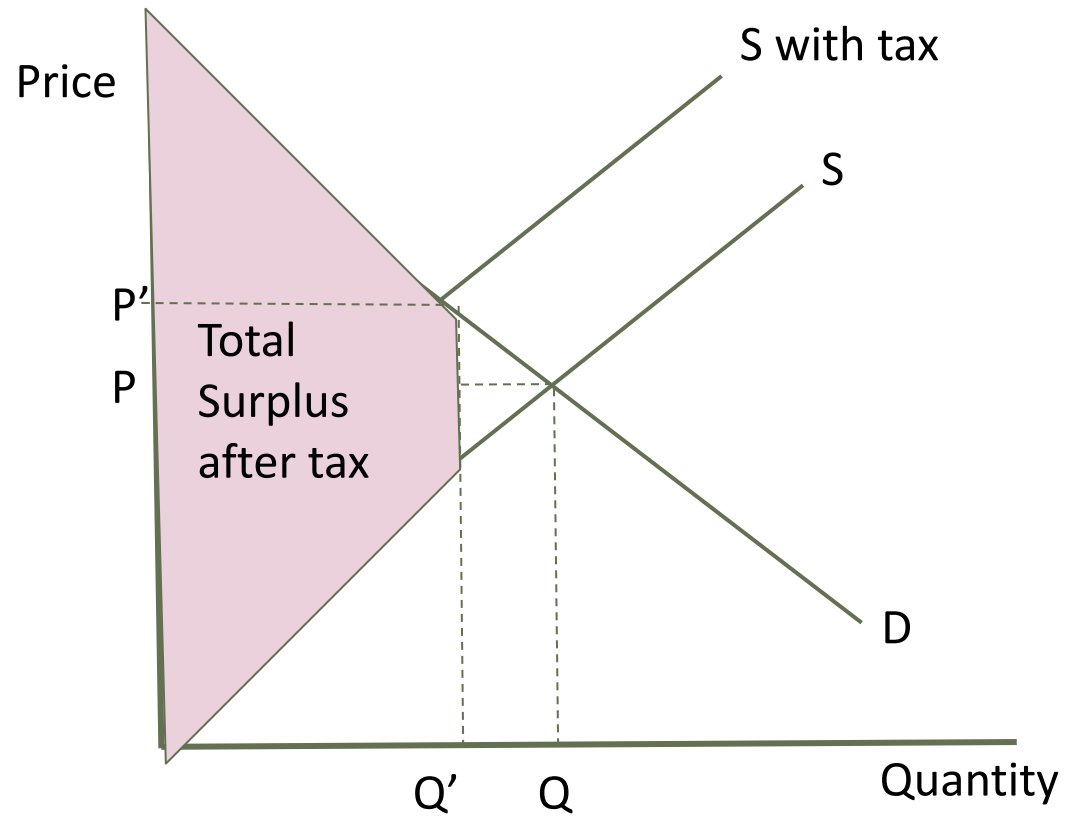
Total Surplus is  
CS + PS + **Government Revenue**



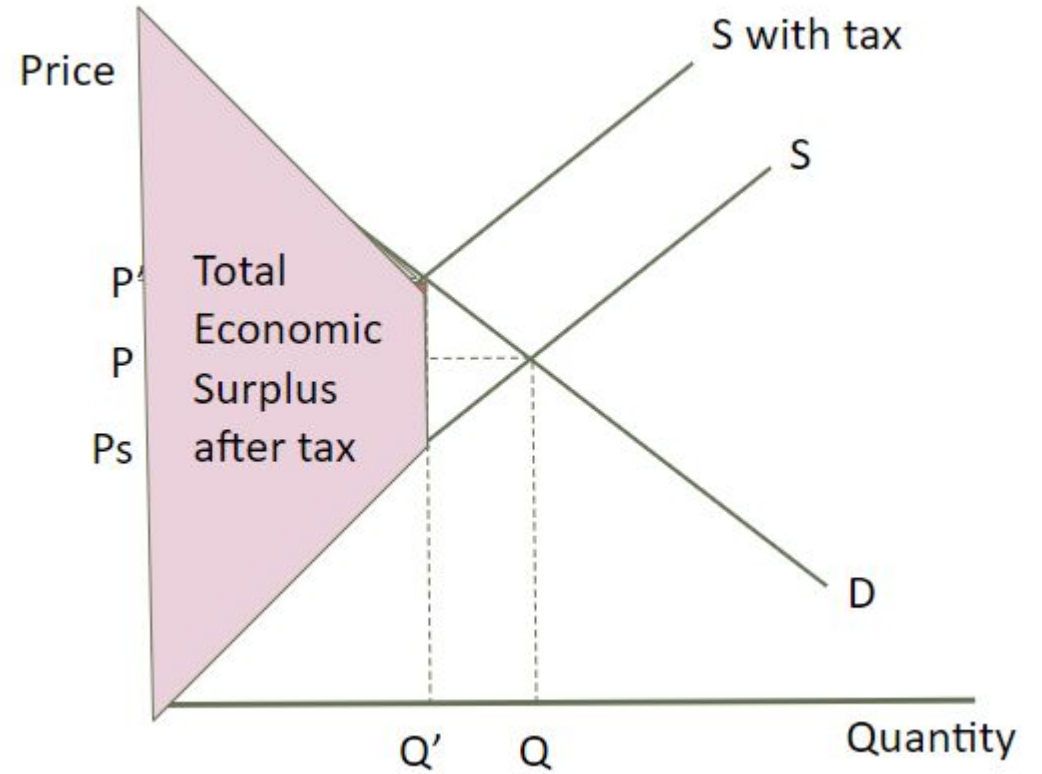
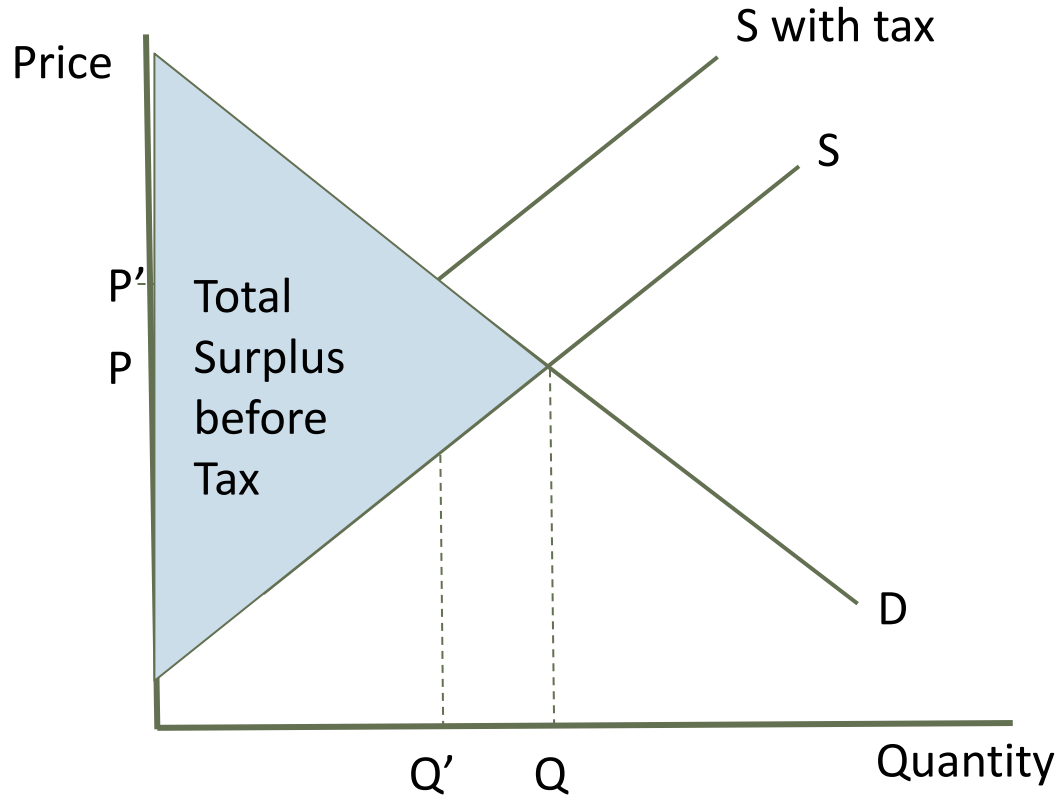
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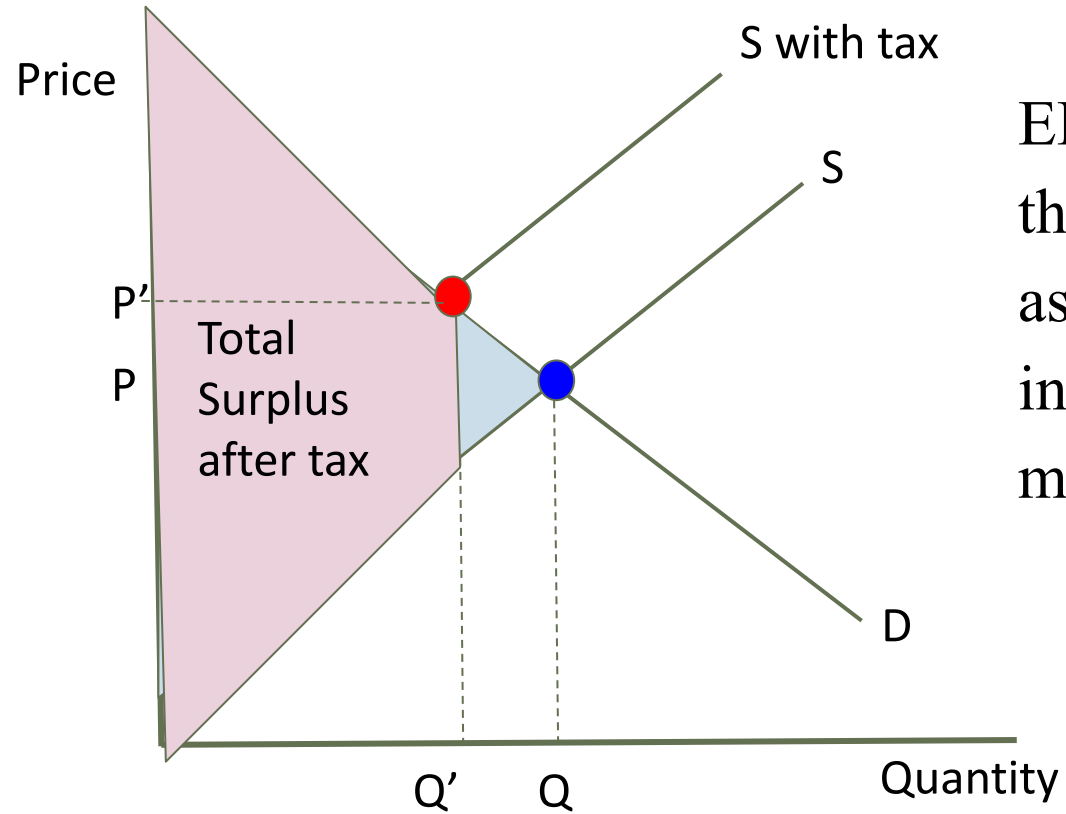
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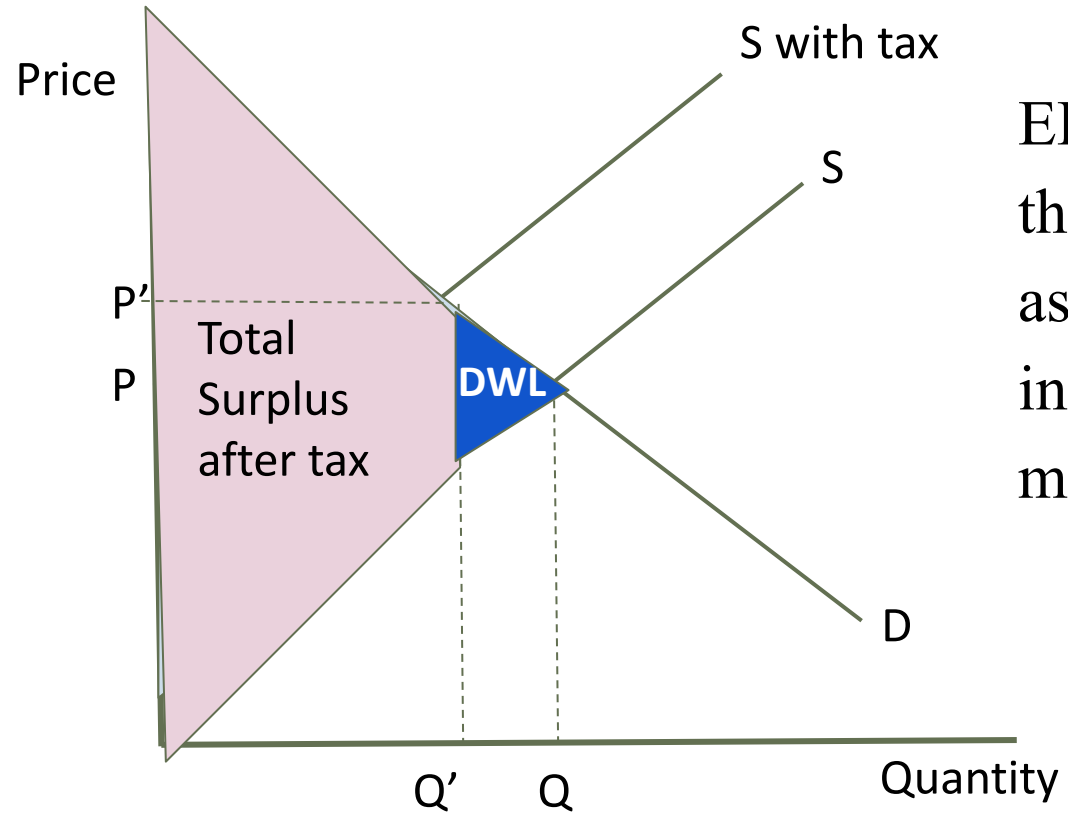


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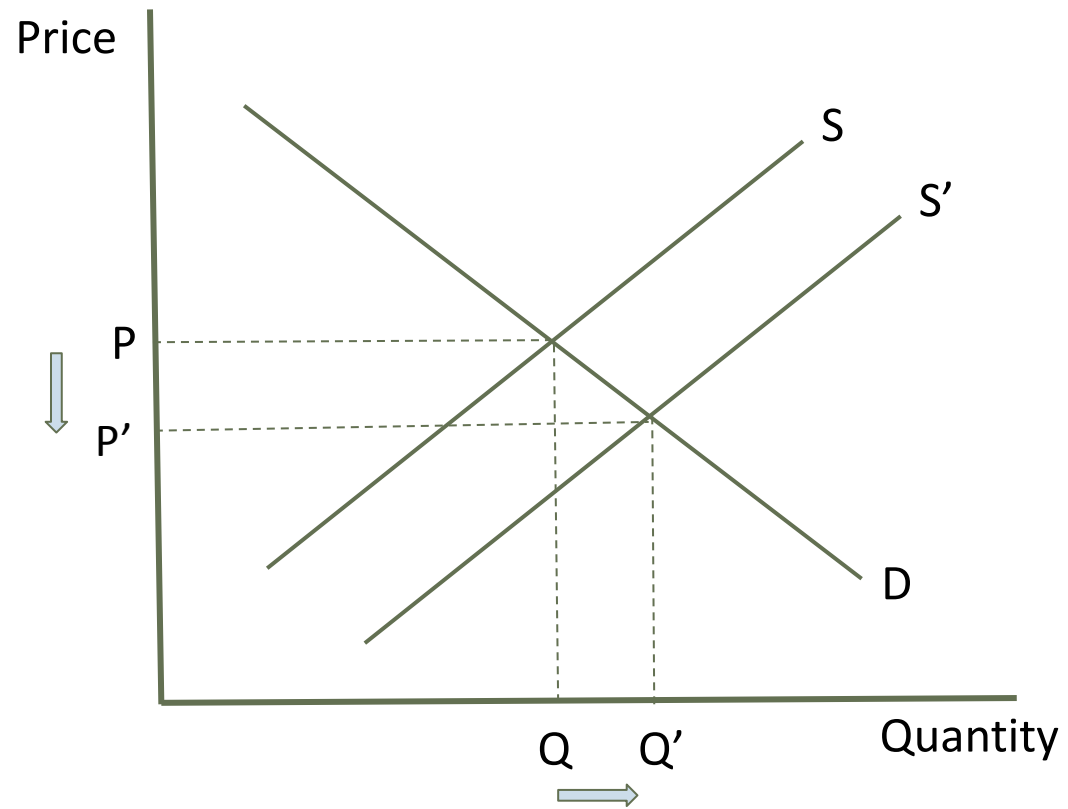
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# Per Unit Tax

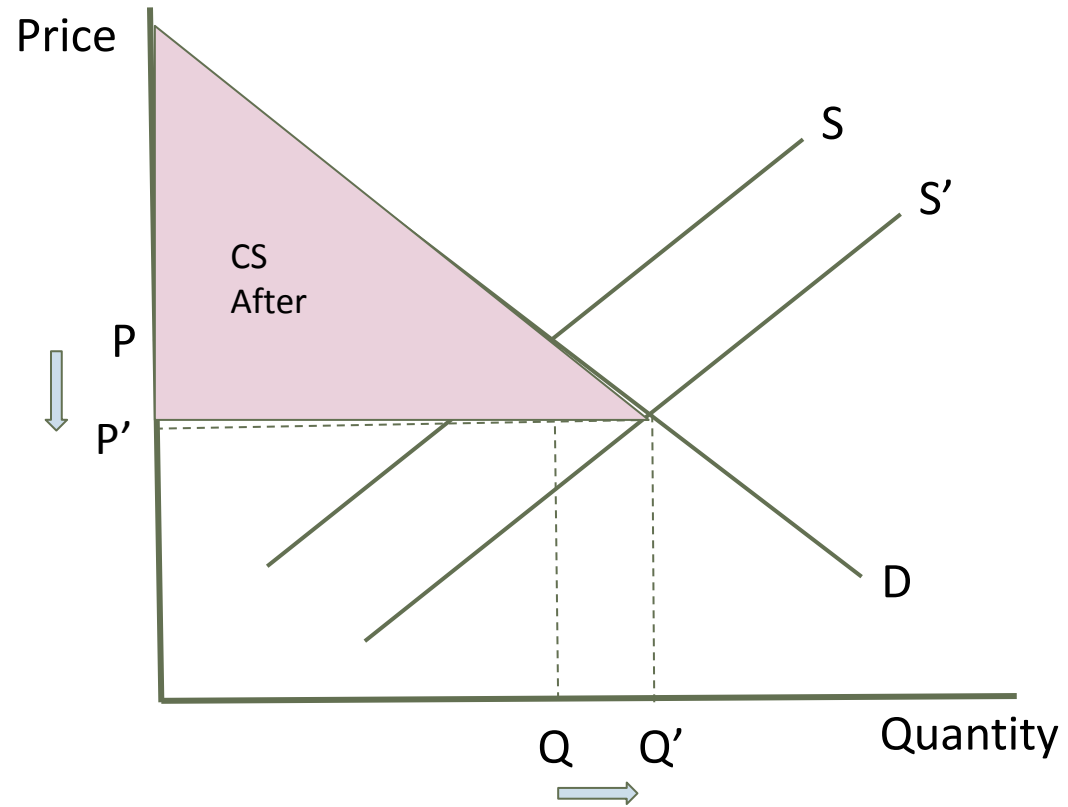


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# Per Unit Subsidy

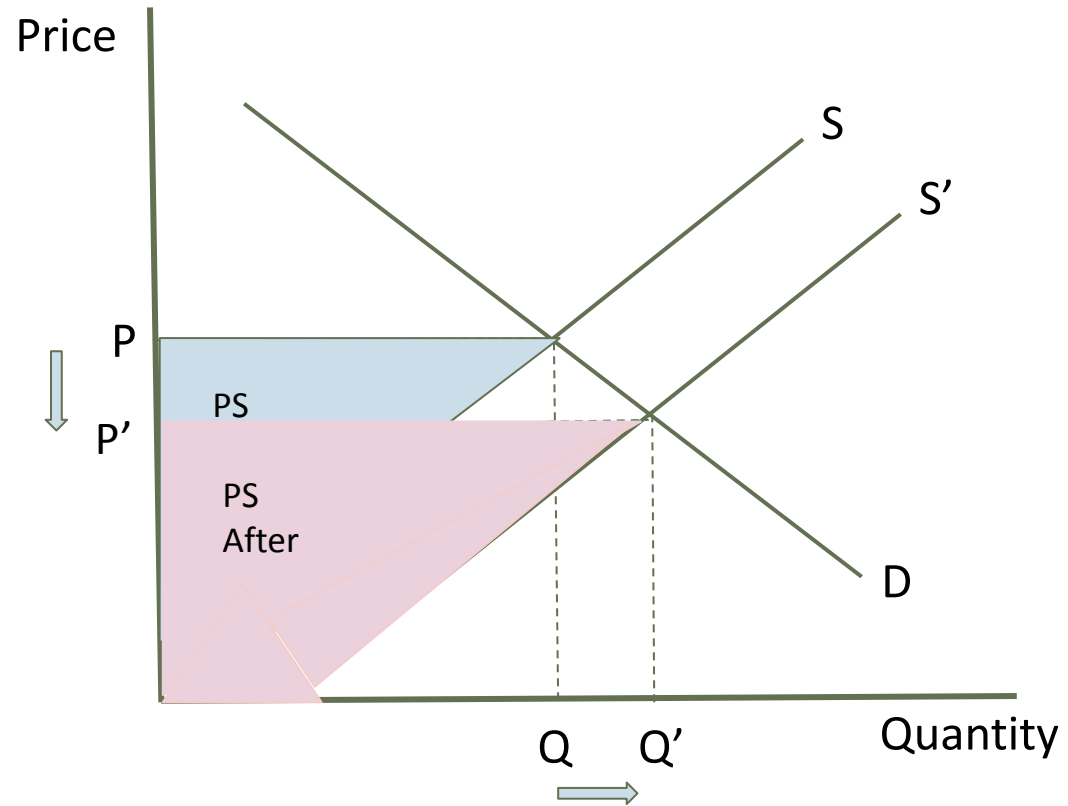


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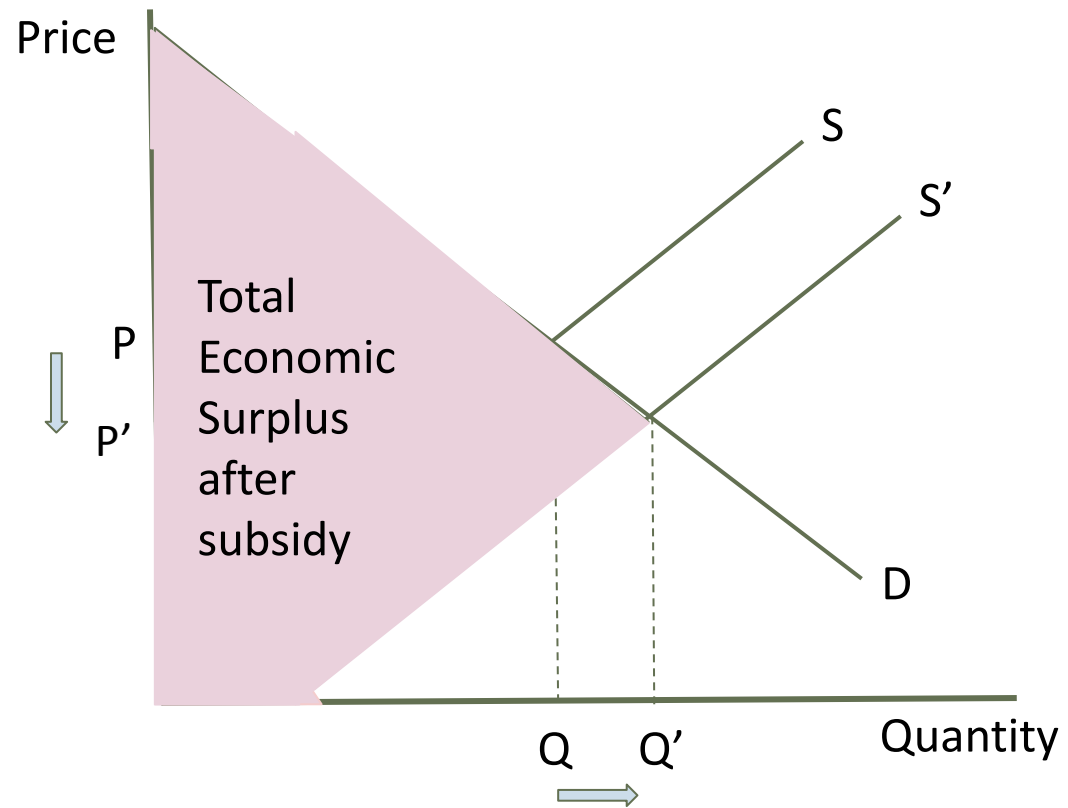


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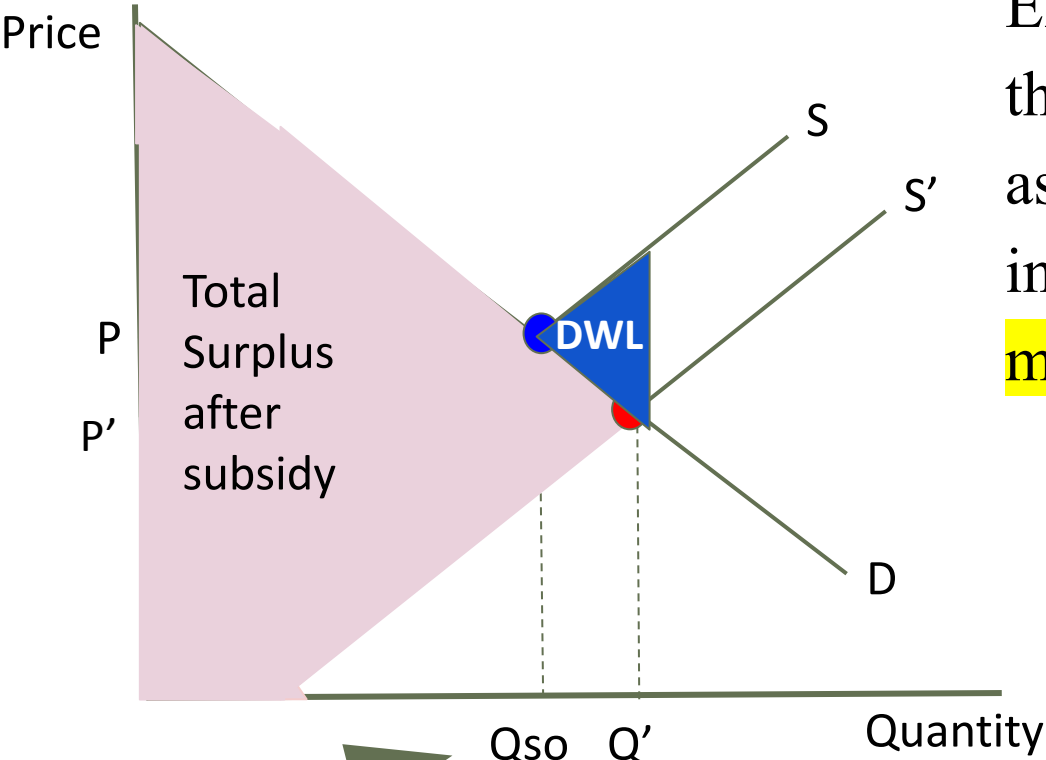


Yes, there is DWL, but not where you think it is. I will show you this in a minute.

# Per Unit Subsidy



# Per Unit Subsidy



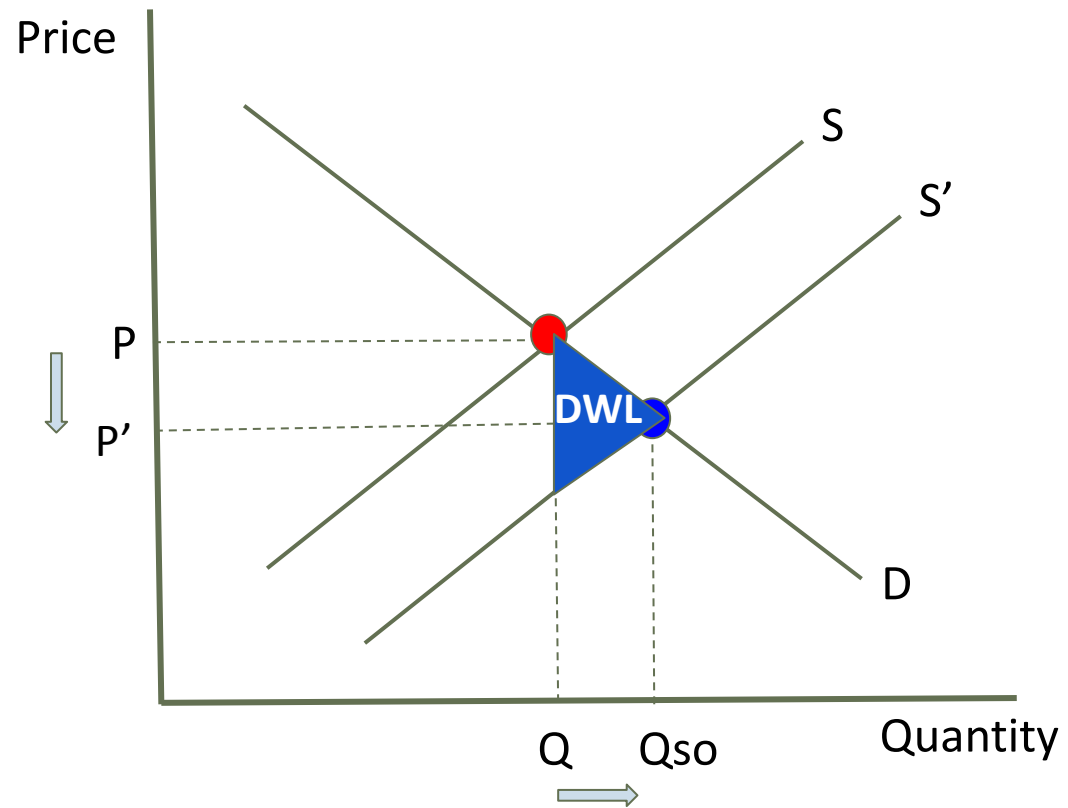
EK: **Deadweight loss** represents the losses to buyers and sellers as a result of government intervention in an **efficient market**.

DWL is created because the subsidy leads to overproduction, beyond the allocative efficient level.

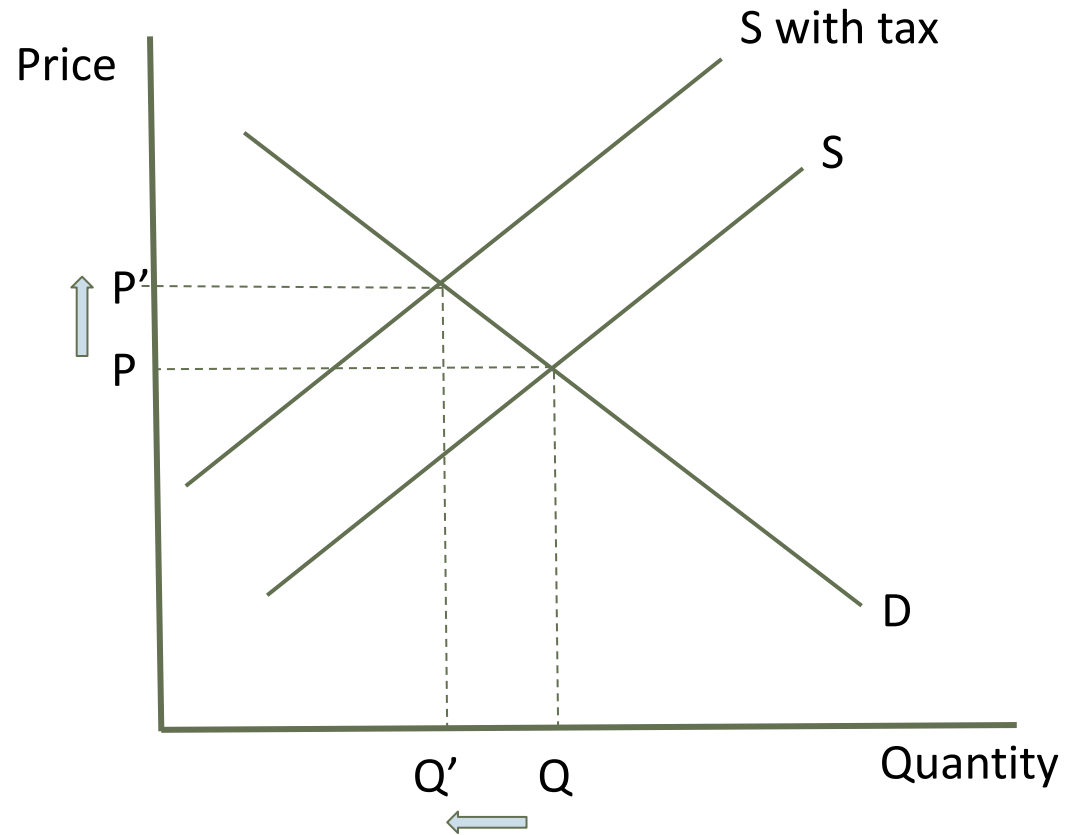
Efficient Quantity is less than the subsidized quantity.



# “Doesn't Government Subsidize products that are good?”



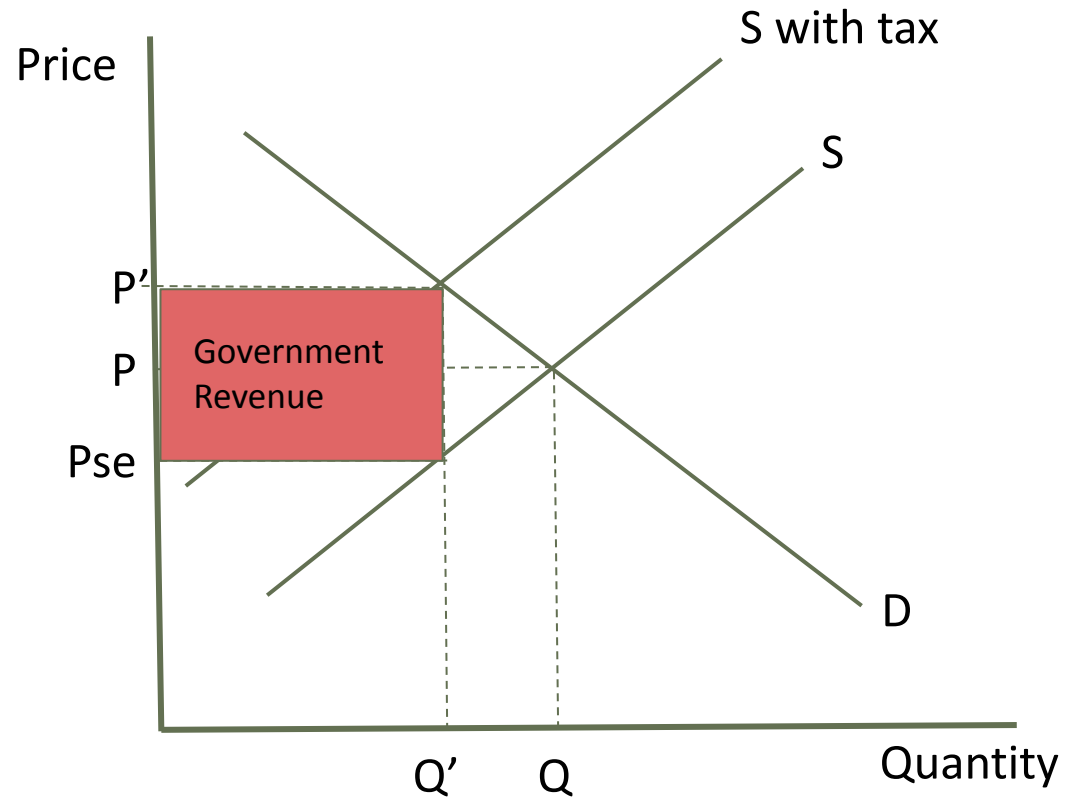
# Tax incidence



Tax incidence: who is paying the burden of the tax.

# Tax Incidence

Per Unit Tax  
is  $P' - P_{se}$   
 $(P' - P_{se})Q'$  is  
Government Revenue

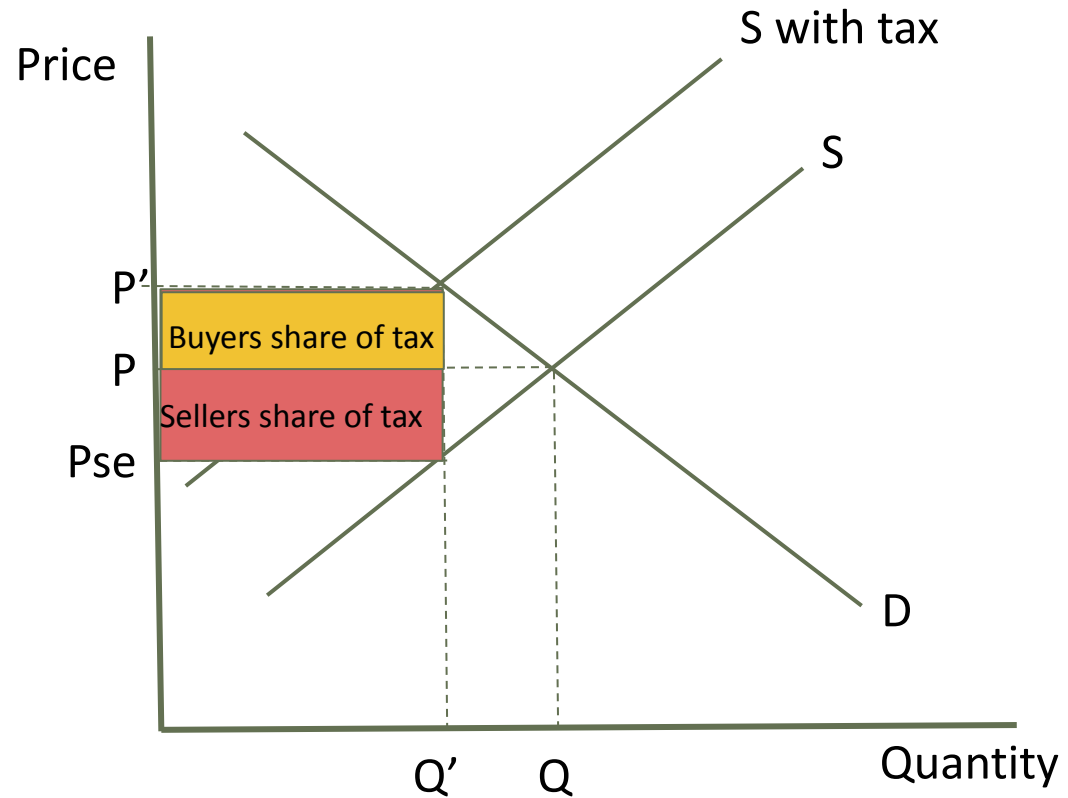


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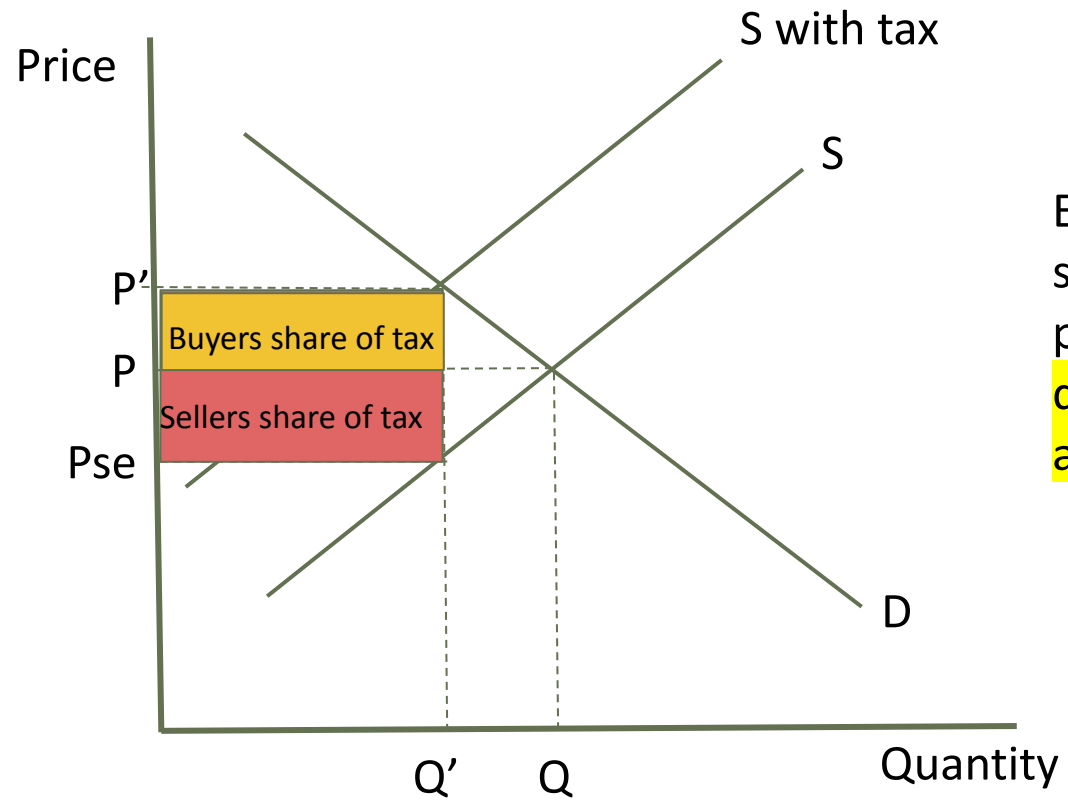
For buyers, the price was  $P$  before the tax and now it is  $P'$

For sellers, the price was  $P$  before the tax. They collect the tax and send  $P' - P_{se}$  to the government. The price they keep is  $P_{se}$ .



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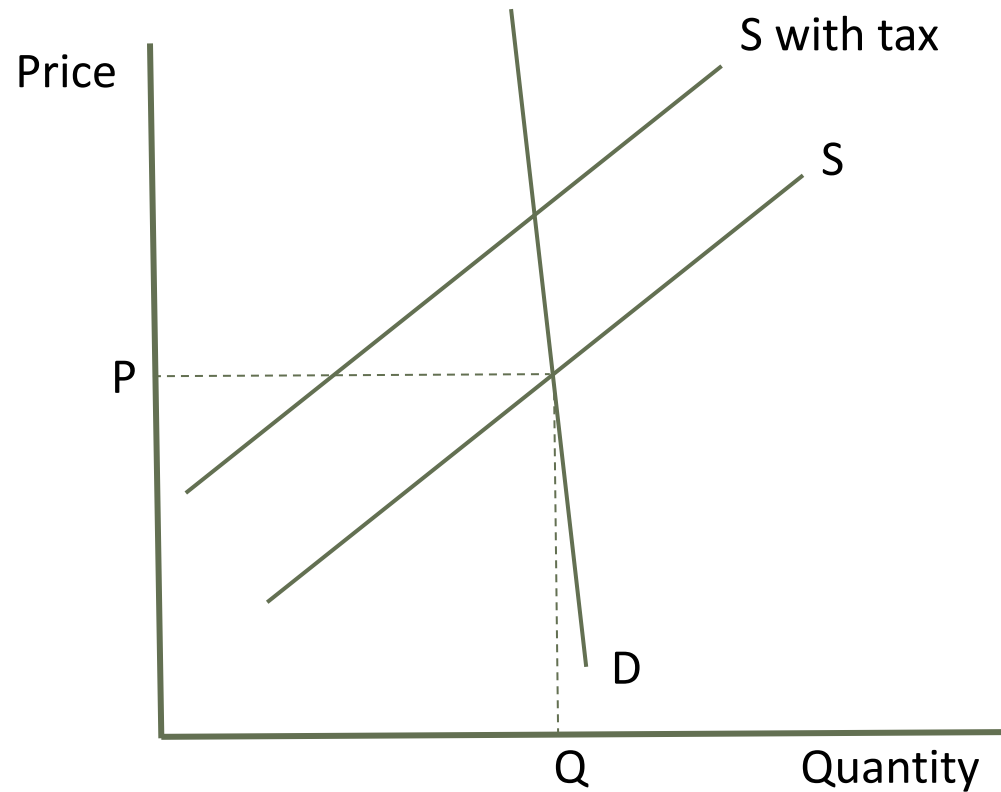
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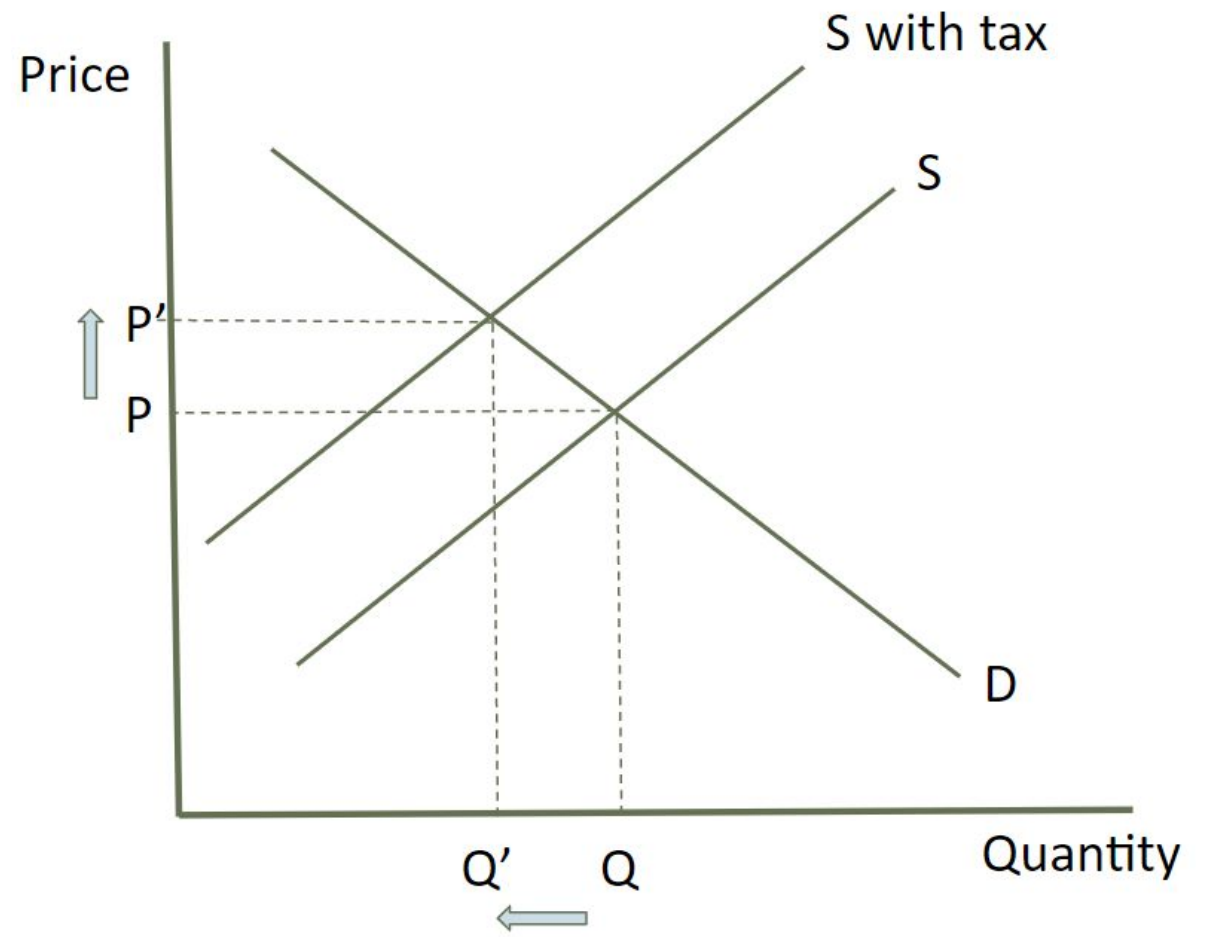
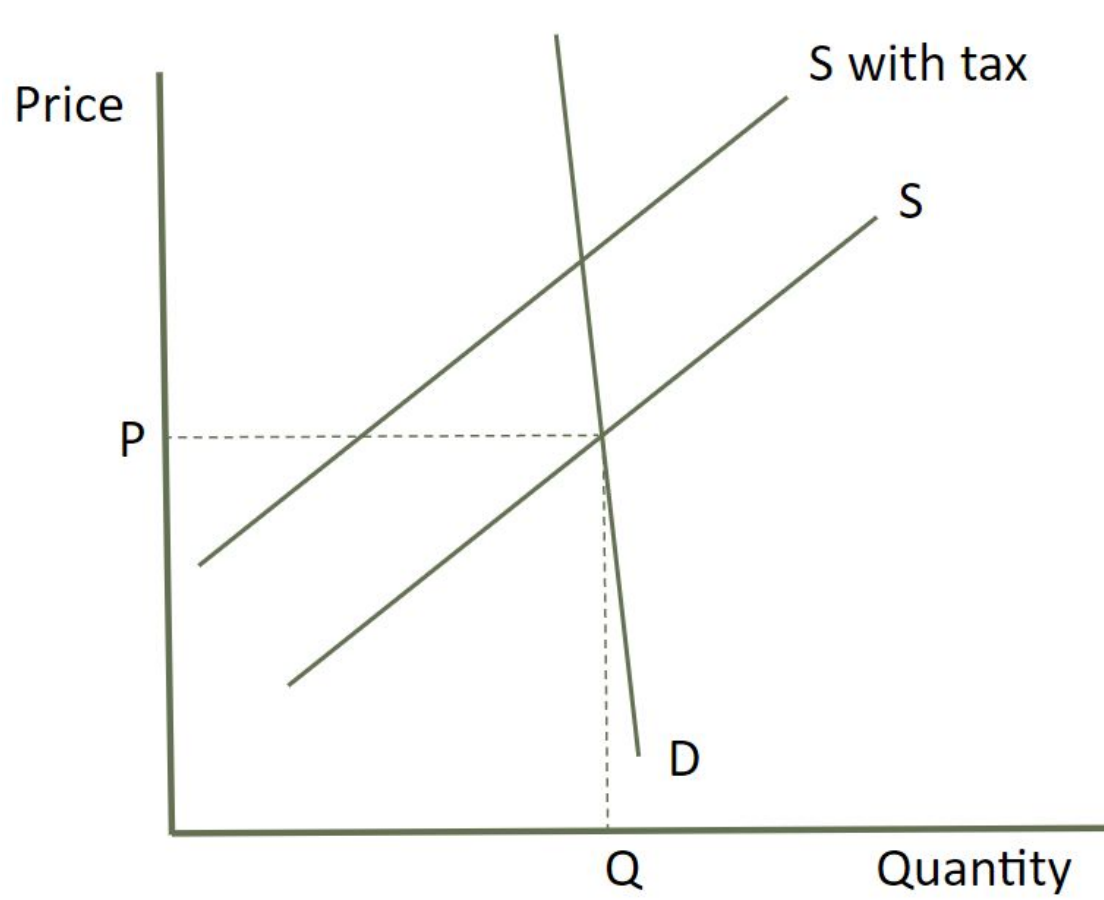
EK: The incidence of taxes and subsidies imposed on goods traded in perfectly competitive markets depends on the elasticity of supply and demand.



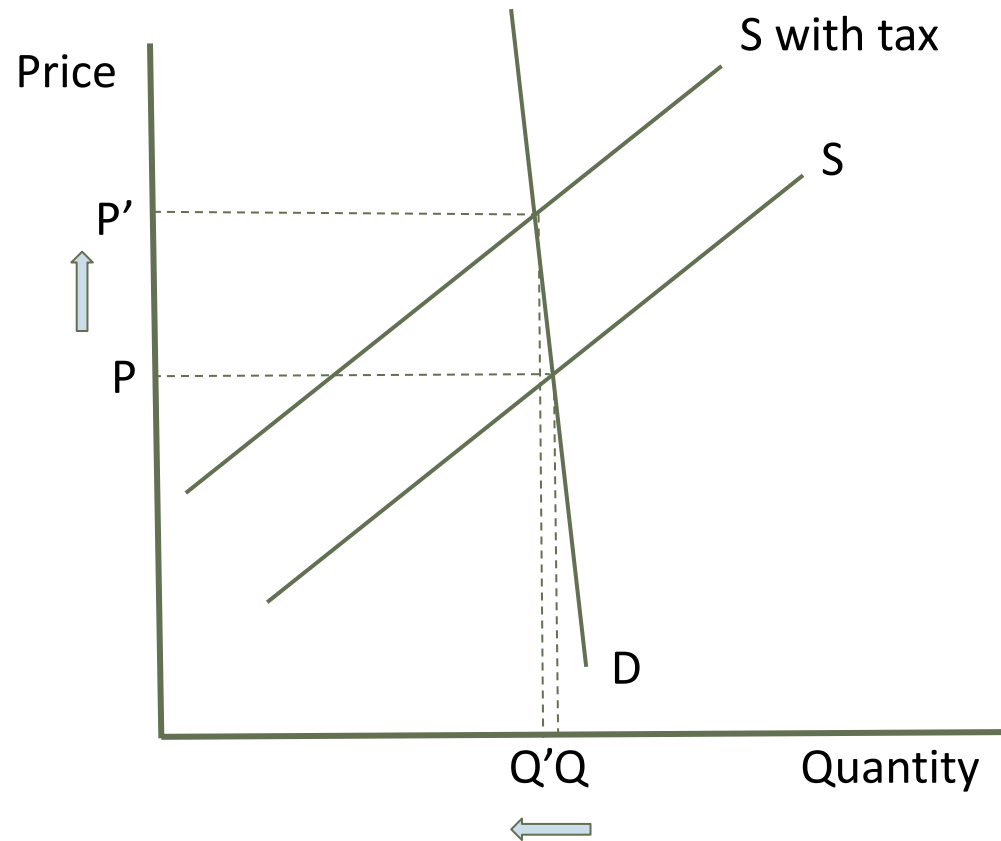
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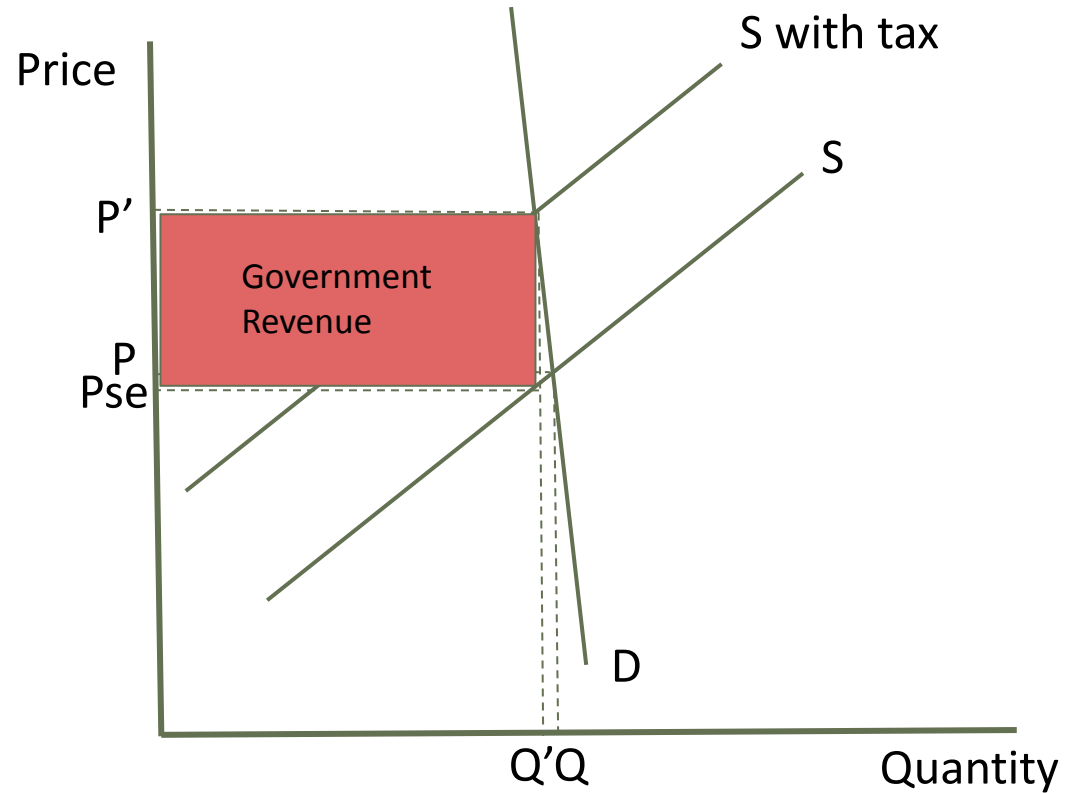


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 $P' - P_{se}$

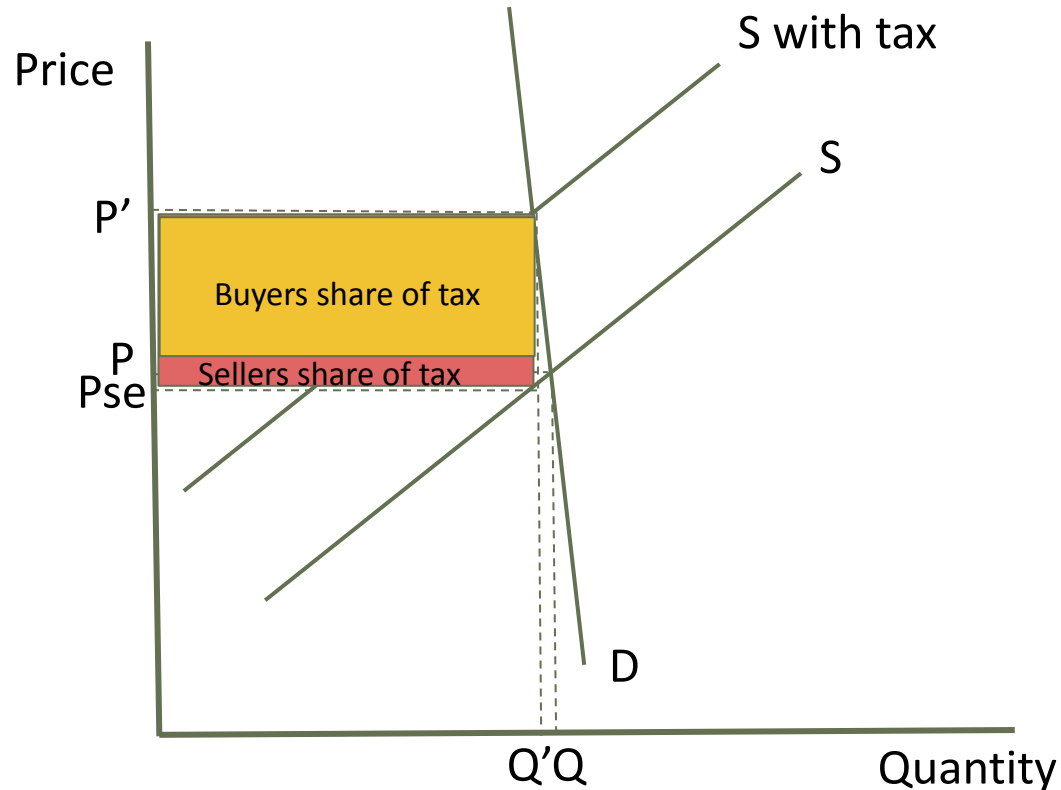
$(P' - P_{se})Q'$  is  
Government Revenue



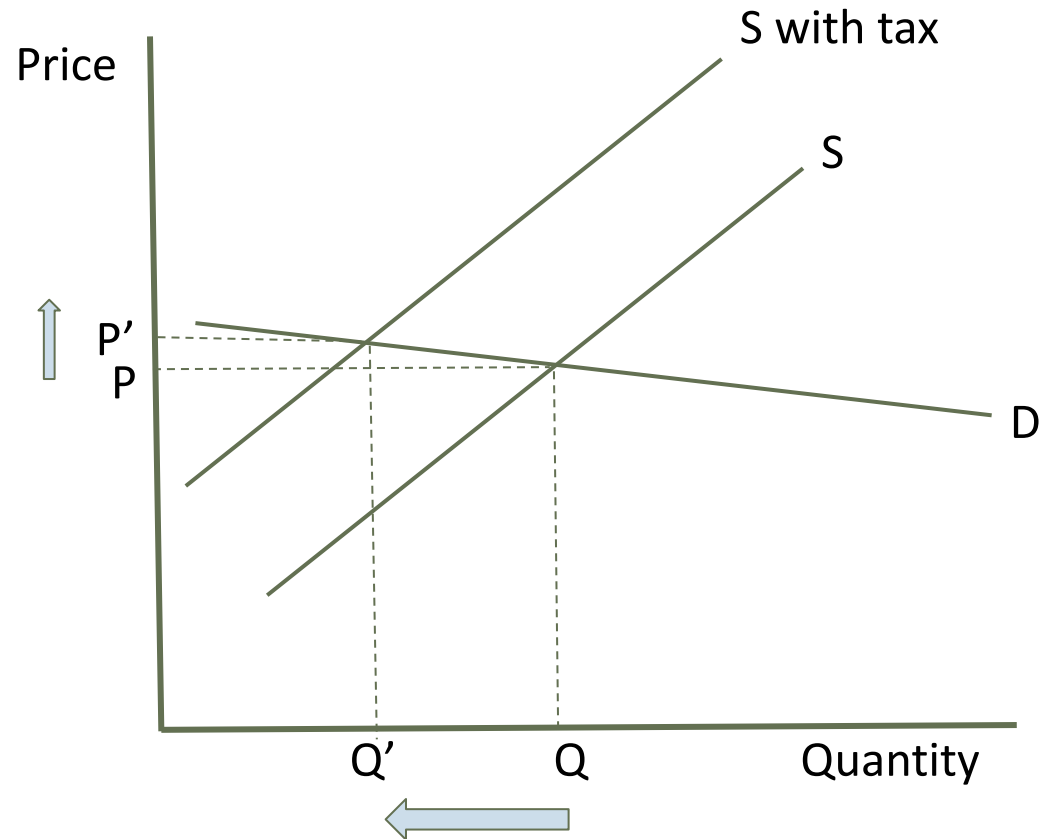
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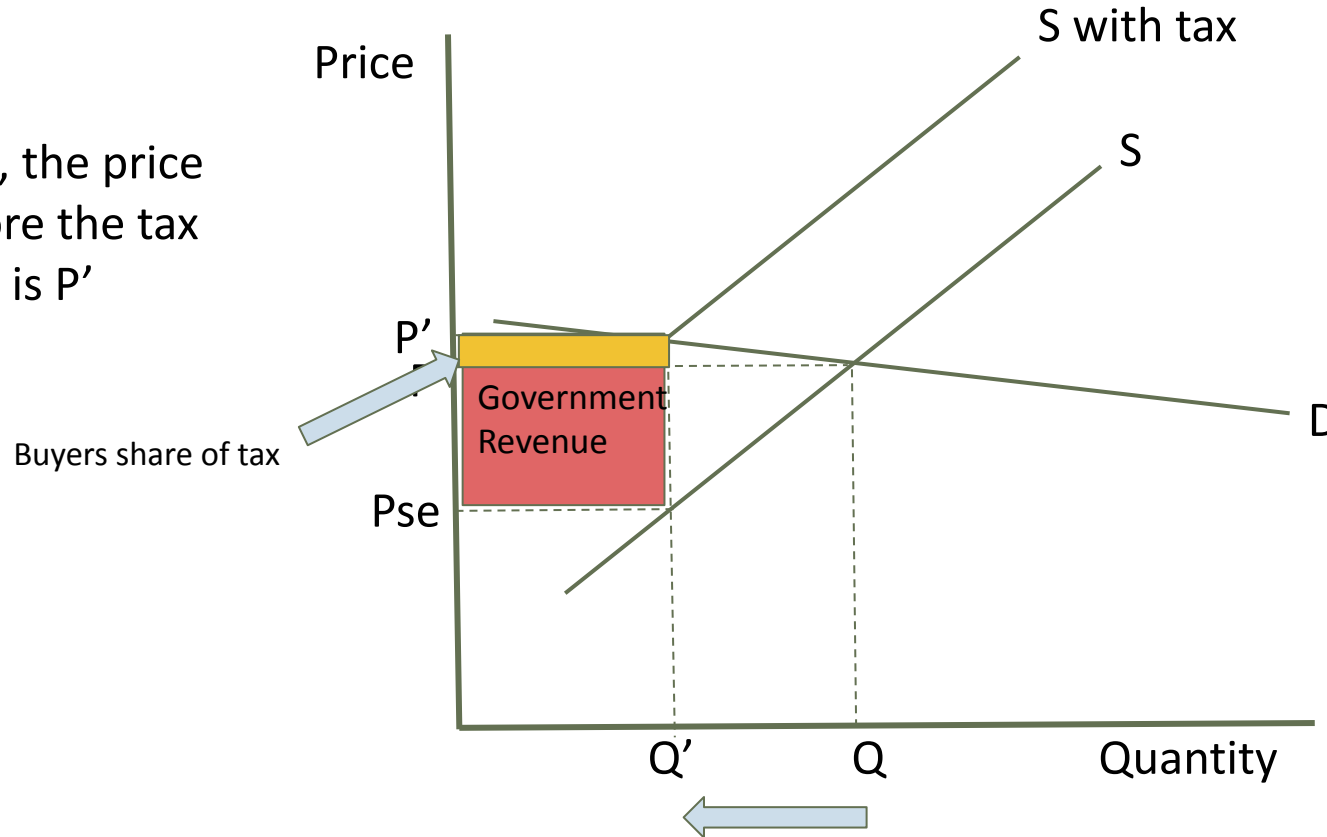
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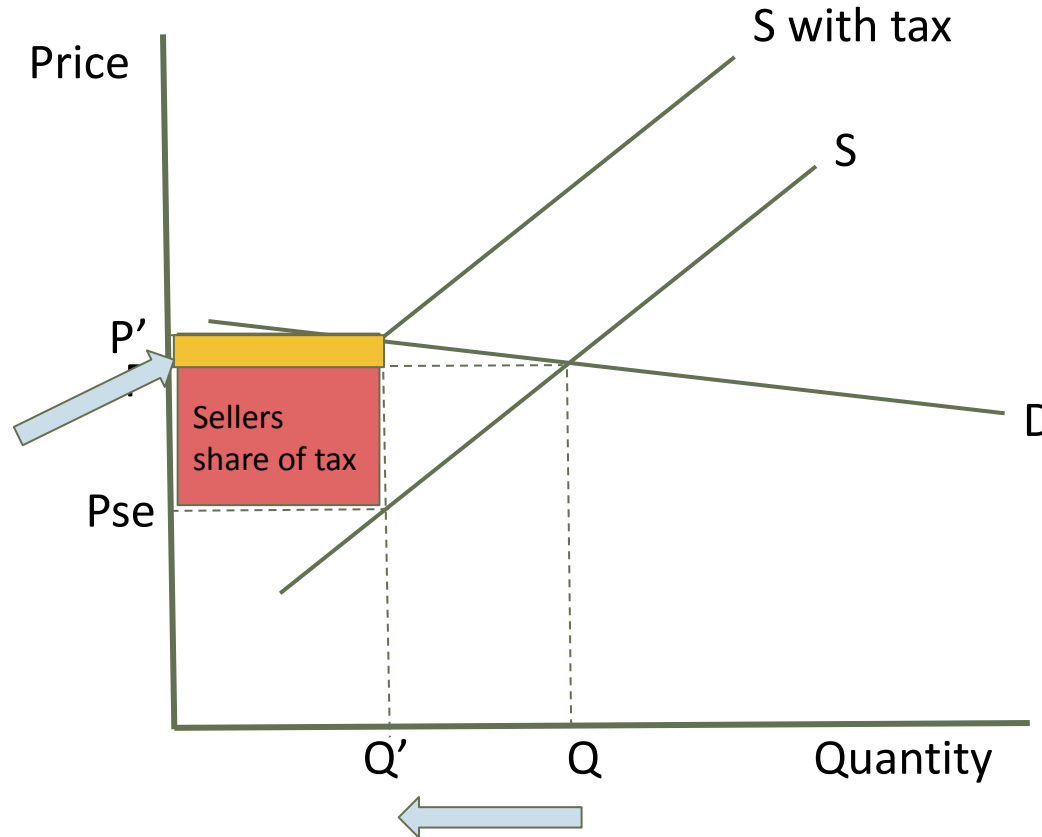
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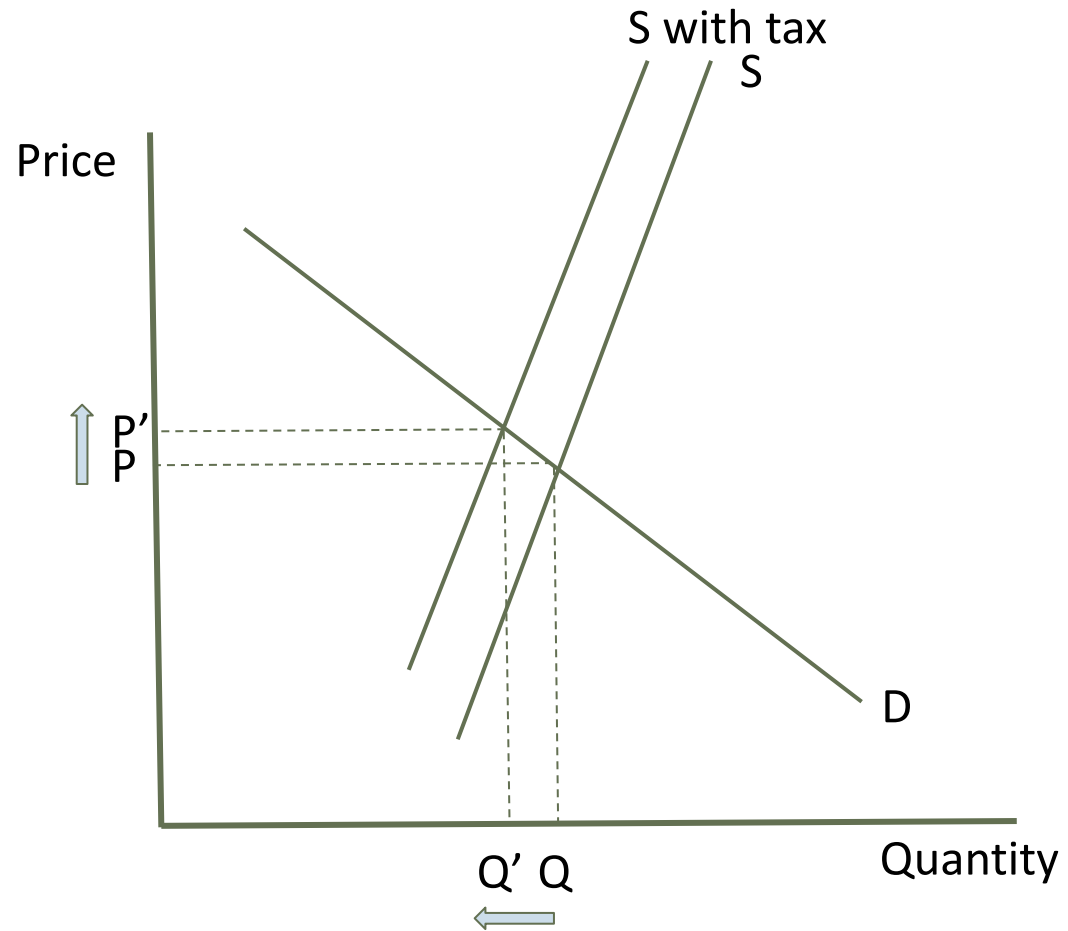
Buyers share of tax

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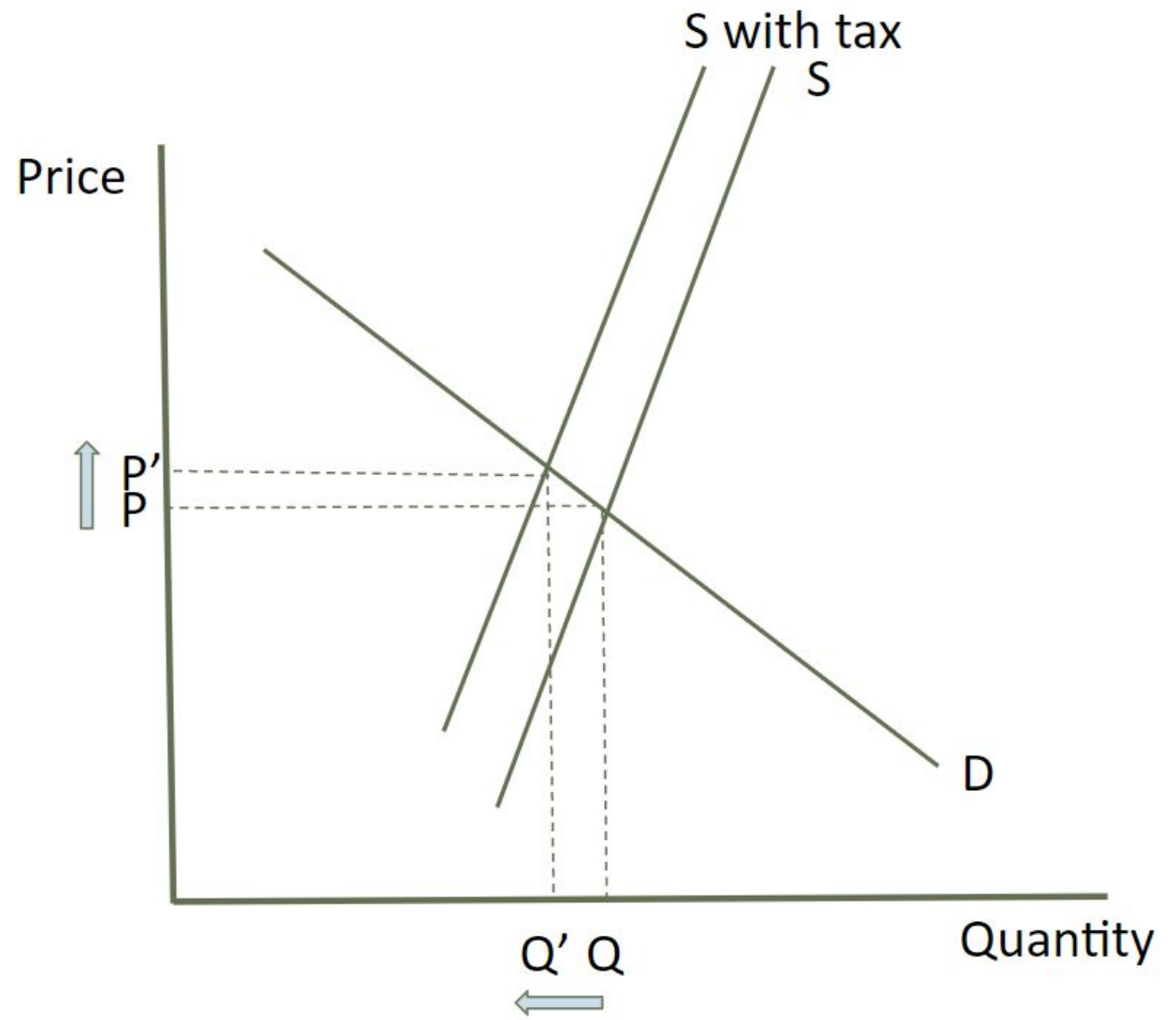
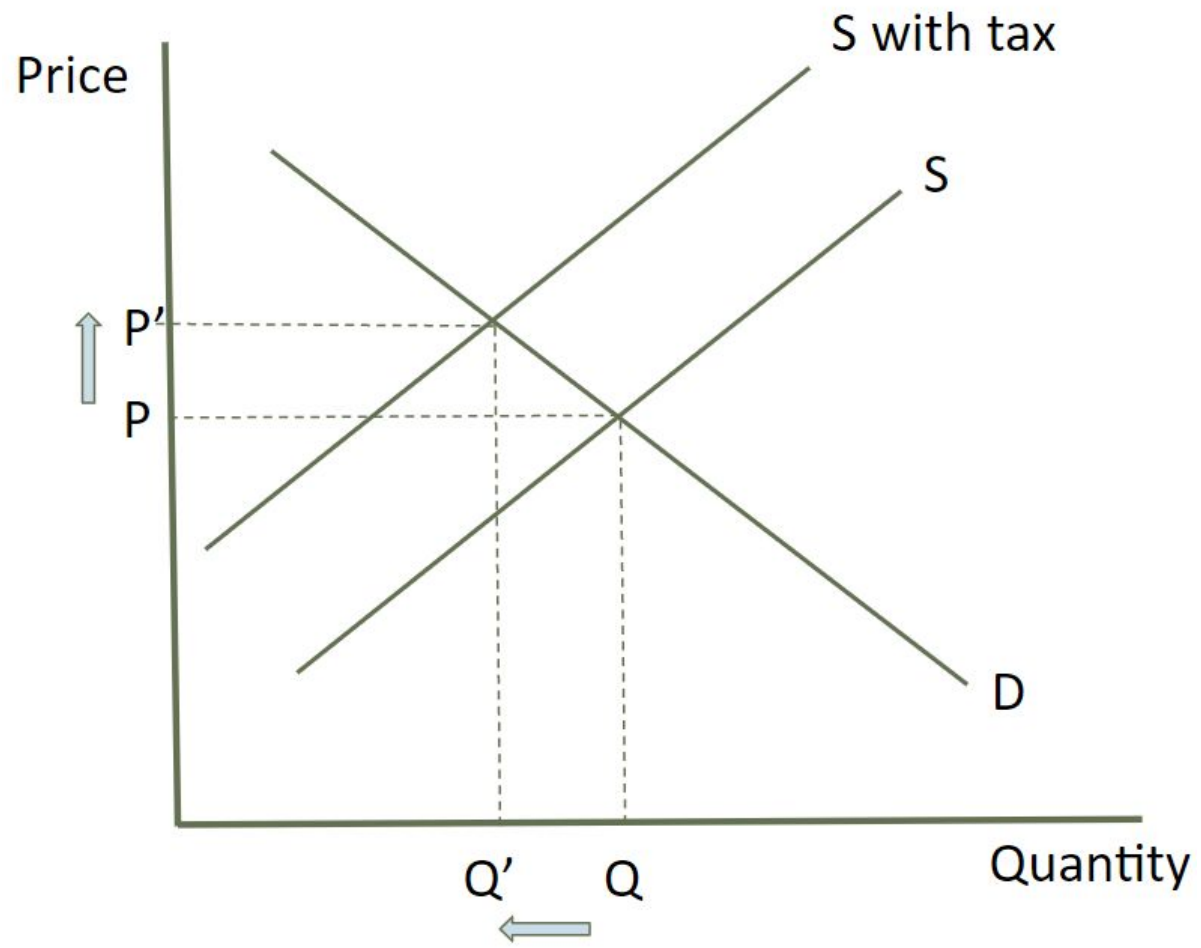




# Tax incidence

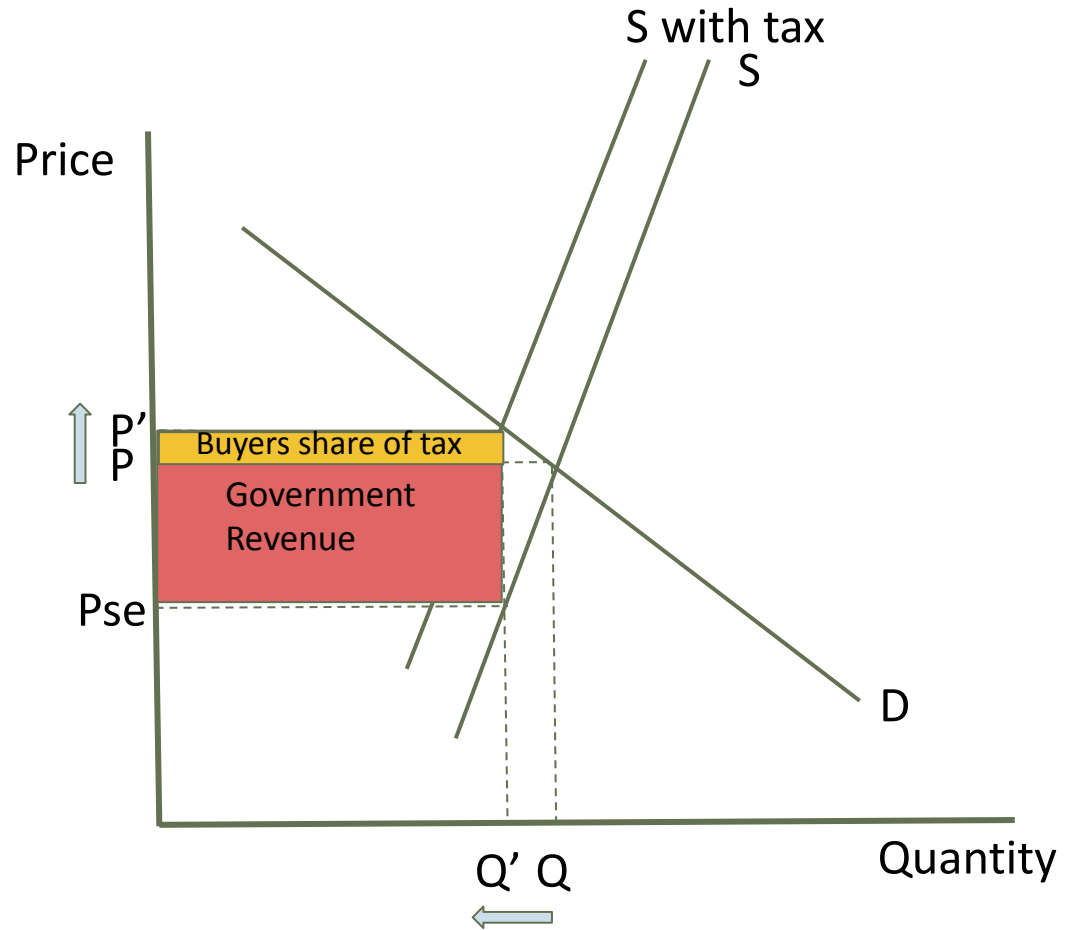


Tax incidence: who is paying the burden of the tax.



# Tax incidence

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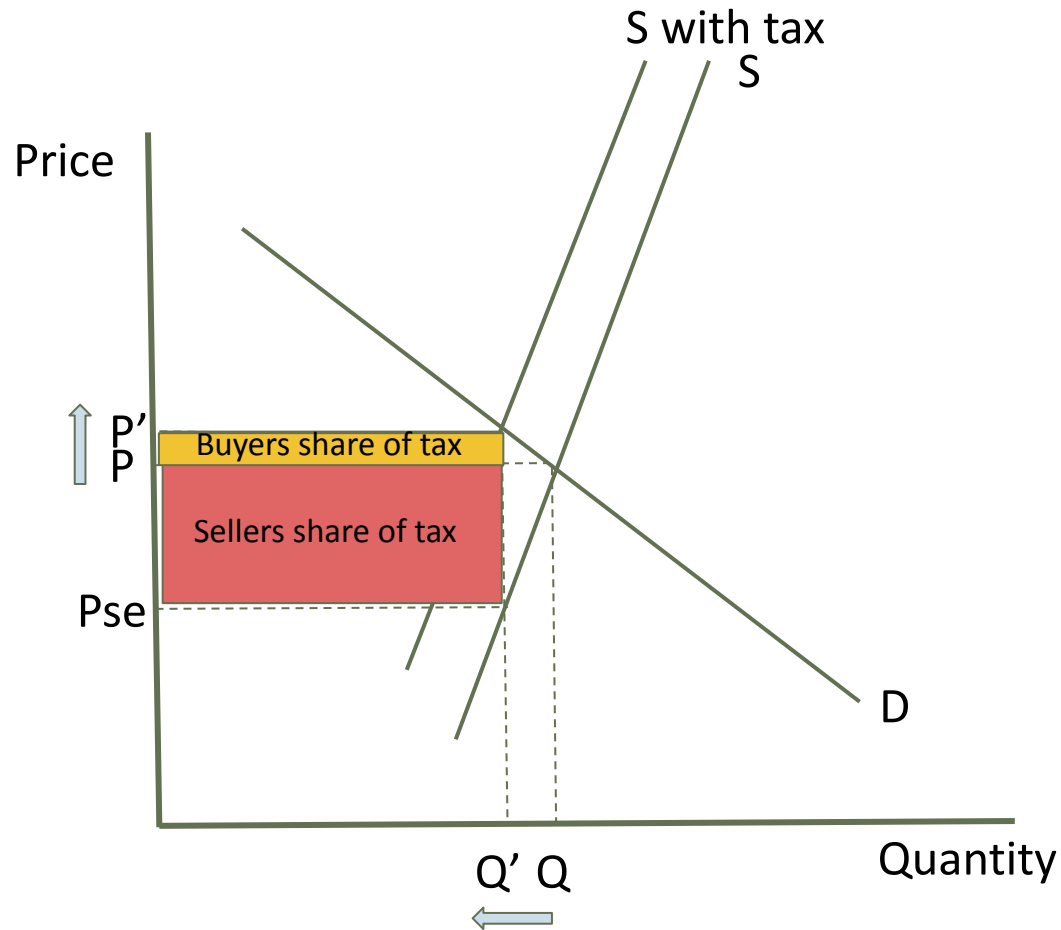


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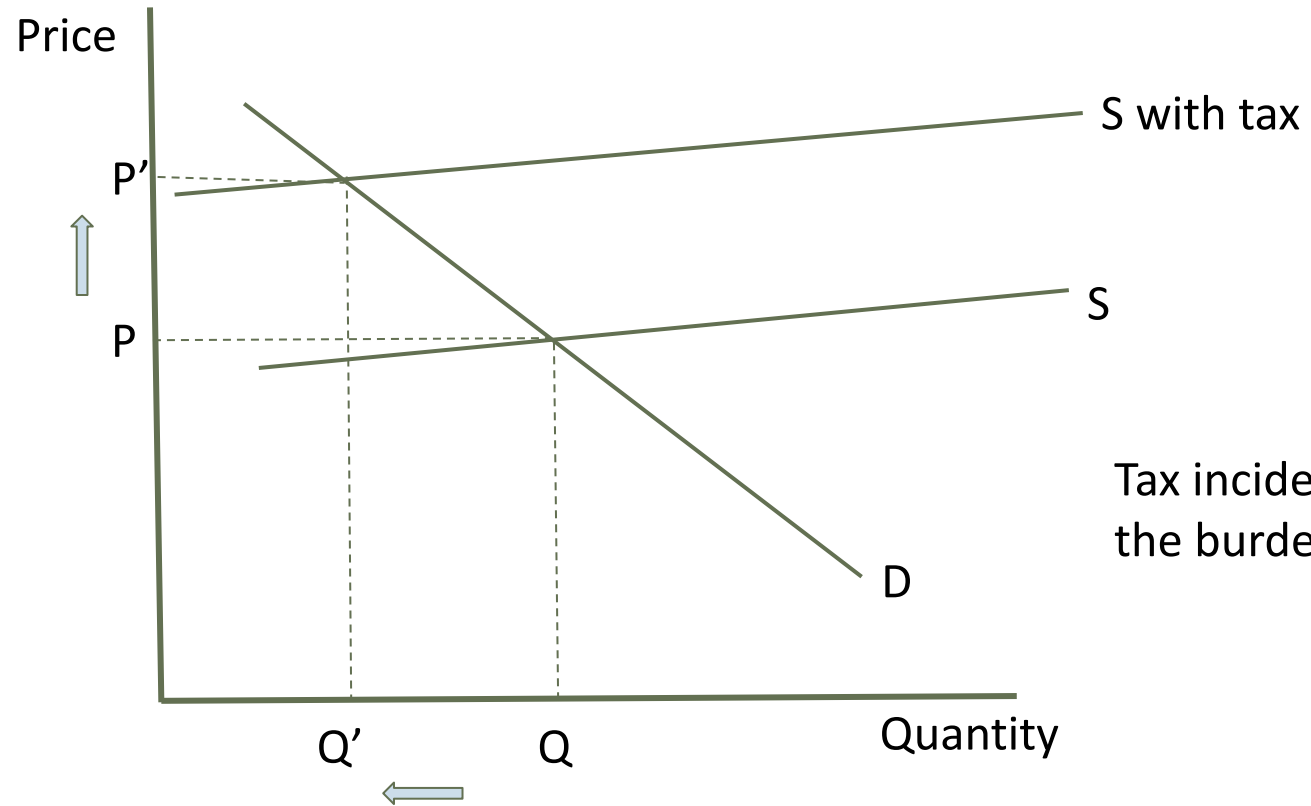
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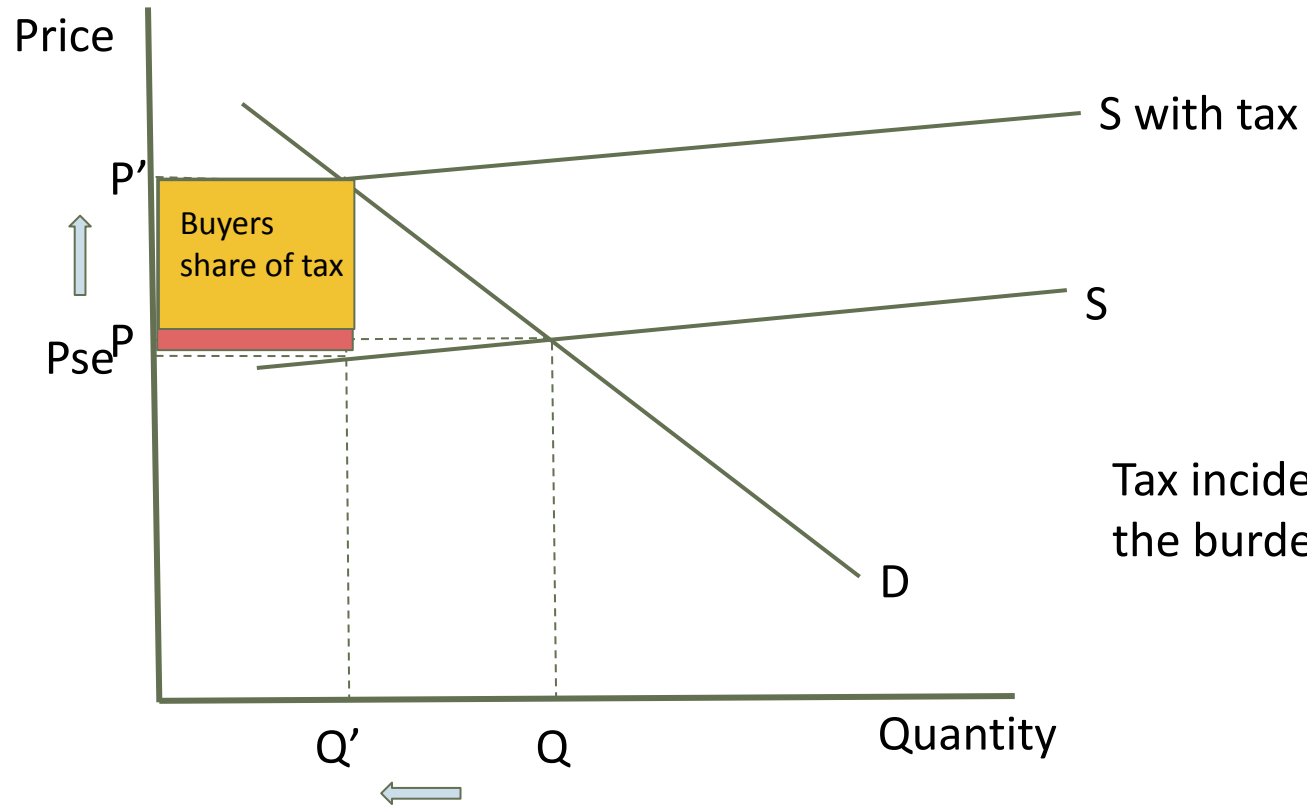
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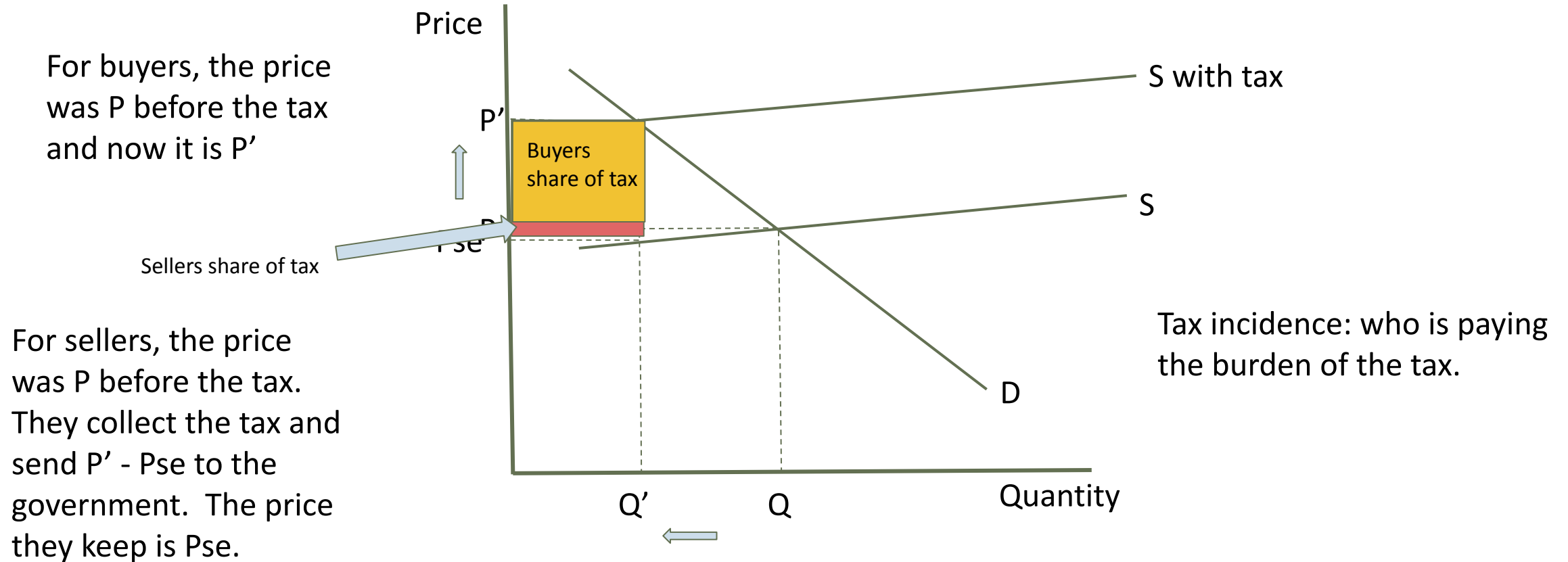
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# Tax incidence



Which of the following is true in the market for a certain product if producers consistently are willing to sell more at the going price than consumers are willing to buy?

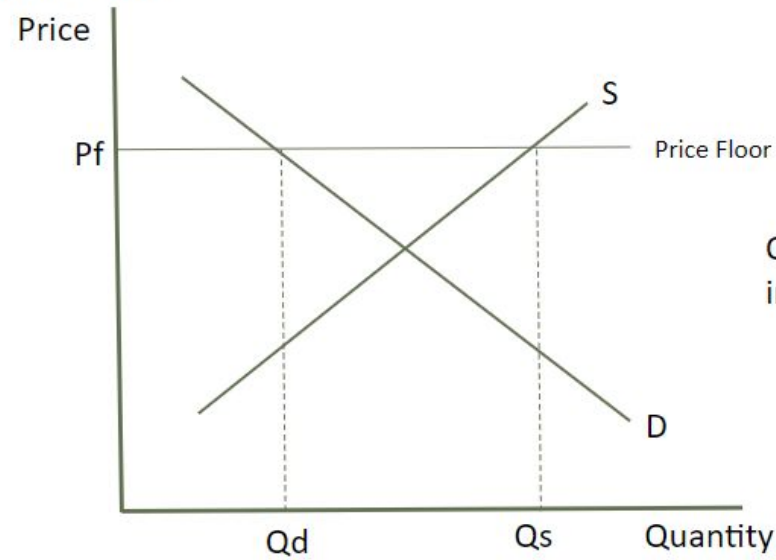
- (A) Demand is highly inelastic
- (B) Supply is highly elastic.
- (C) The product is inferior.
- (D) There is a price ceiling on the product.
- (E) There is a price floor on the product.



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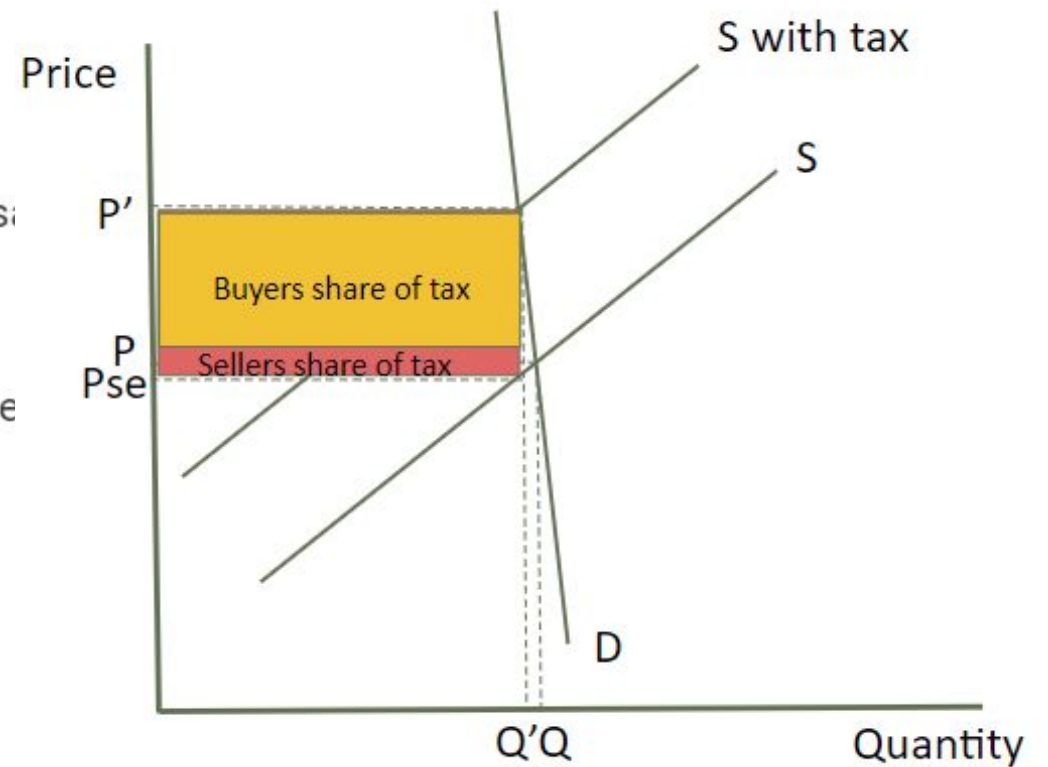
- (E) There is a price floor on the product.

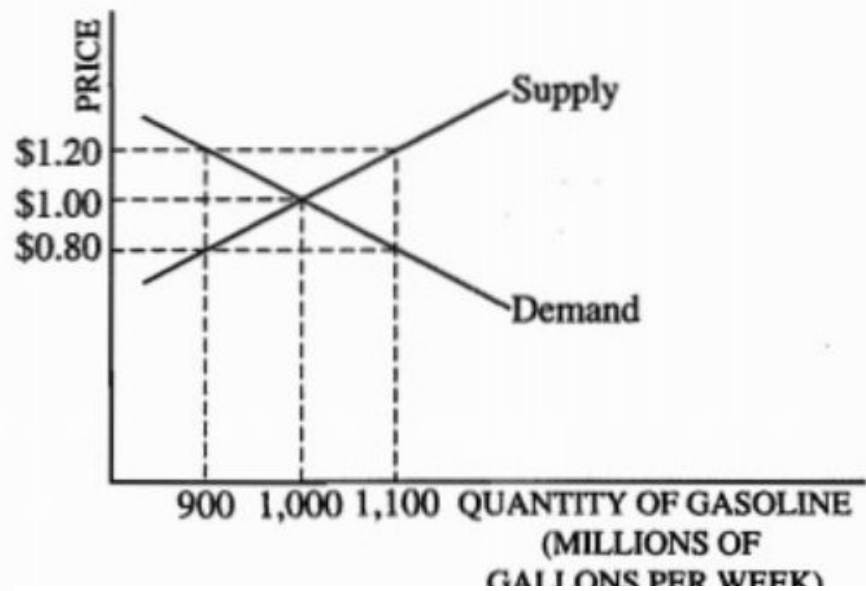
If the market demand for a good is inelastic and the supply is elastic, which of the following is true when there is an increase in sales tax?

- Ⓐ Consumers will bear most of the burden of the tax.
- Ⓑ Producers will bear all of the burden of the tax.
- Ⓒ Producers will bear most of the burden of the tax or risk losing sales.
- Ⓓ Both consumers and producers will share the burden of the tax equally.
- Ⓔ The price of the good will not change.

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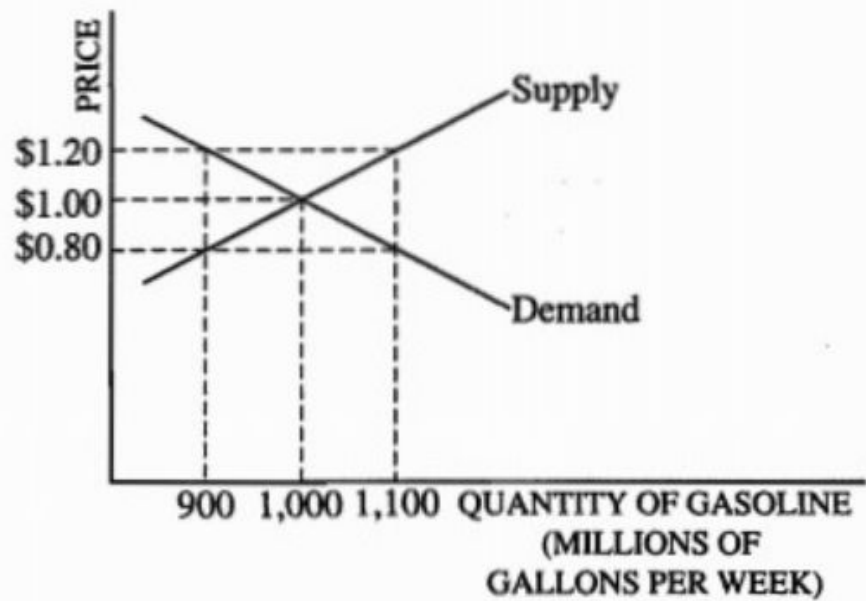
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The graph above shows the supply and demand curves for gasoline. Which of the following will occur if the government establishes a price ceiling of \$1.20 per gallon?

- (A) A shortage of 900 million gallons
- (B) A shortage of 200 million gallons
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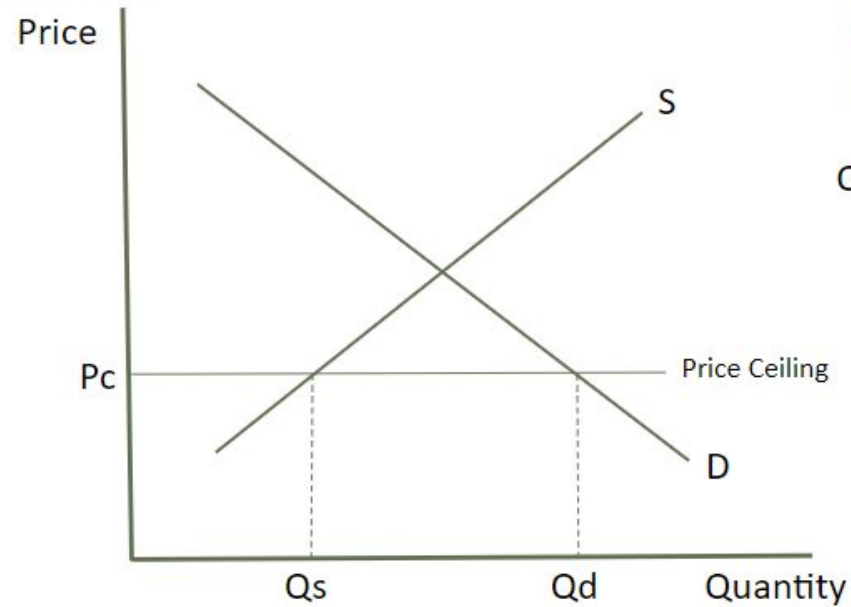
Which of the following will occur if the government imposes a price ceiling below the equilibrium price of a good?

- Ⓐ The quantity sold will exceed the equilibrium quantity.
- Ⓑ Firms' total revenues will increase if demand is price elastic.
- Ⓒ There will be a shortage in the market.
- Ⓓ All firms will shut down, since price is below the equilibrium price.
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An effective price ceiling is below equilibrium. It keeps the price from rising to equilibrium.



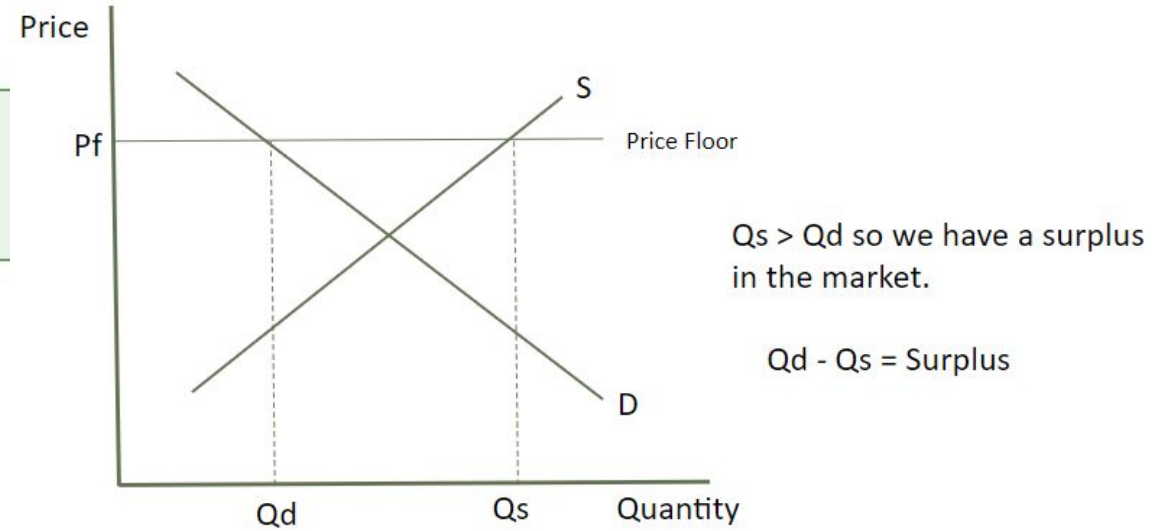
An increase in which of the following will most likely result in a long-run surplus of a product?

- Ⓐ The number of suppliers of the product
- Ⓑ A price is set by law above the equilibrium price
- Ⓒ The demand for the product
- Ⓓ The costs of resources used to produce the product
- Ⓔ The future expected price of the product



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Which of the following is true of a price floor?

- Ⓐ The intention of the government in creating the price floor is to assist the producers of the good.
- Ⓑ To have an impact in the market for the good, the price floor should be set below the existing market price of the good.
- Ⓒ An effective price floor will increase the quantity demanded of the good.
- Ⓓ The price floor would tend to create a shortage of the good in the market.
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What are your questions?

