

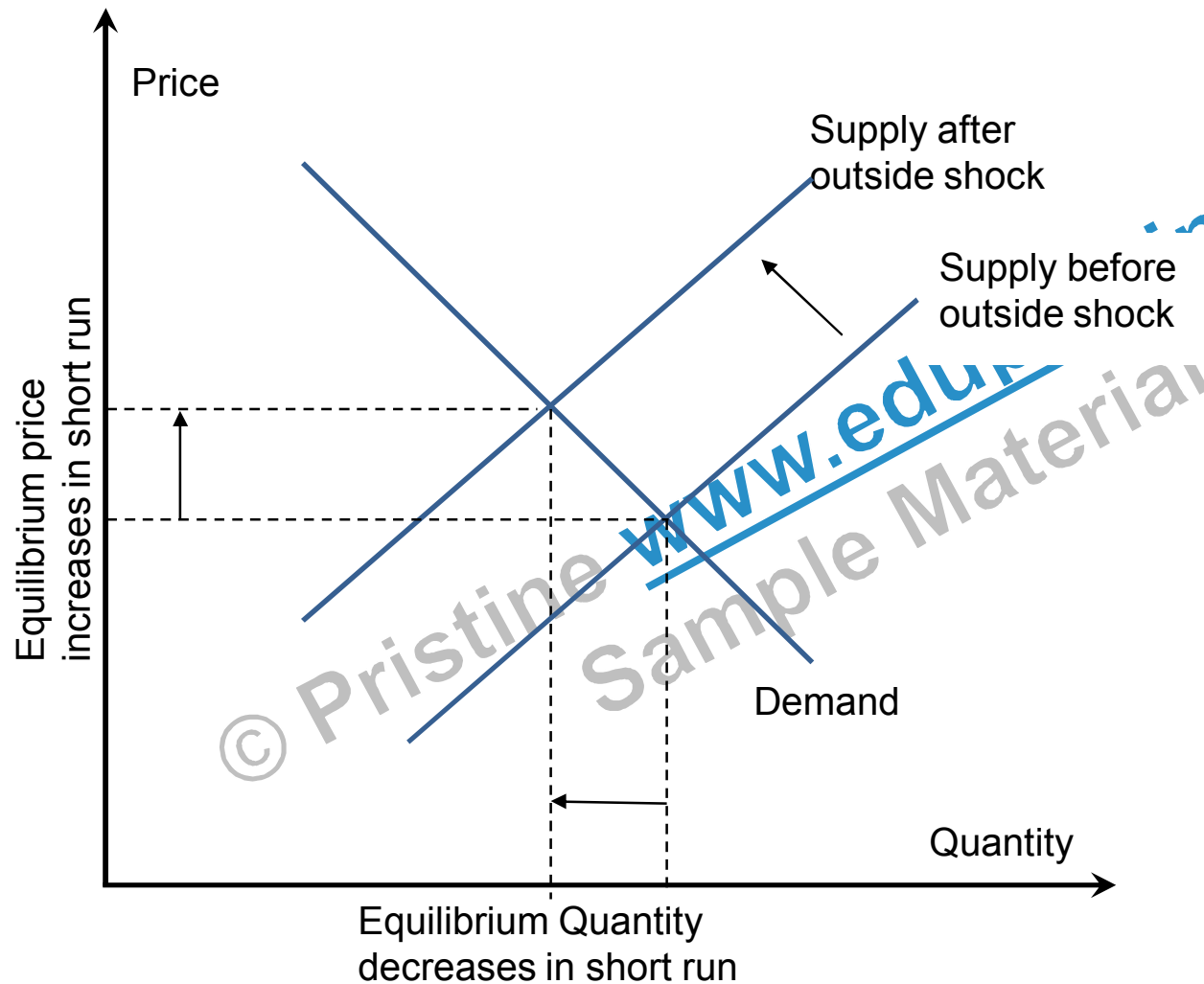
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**P R I S T I N E**

**Economics - I**

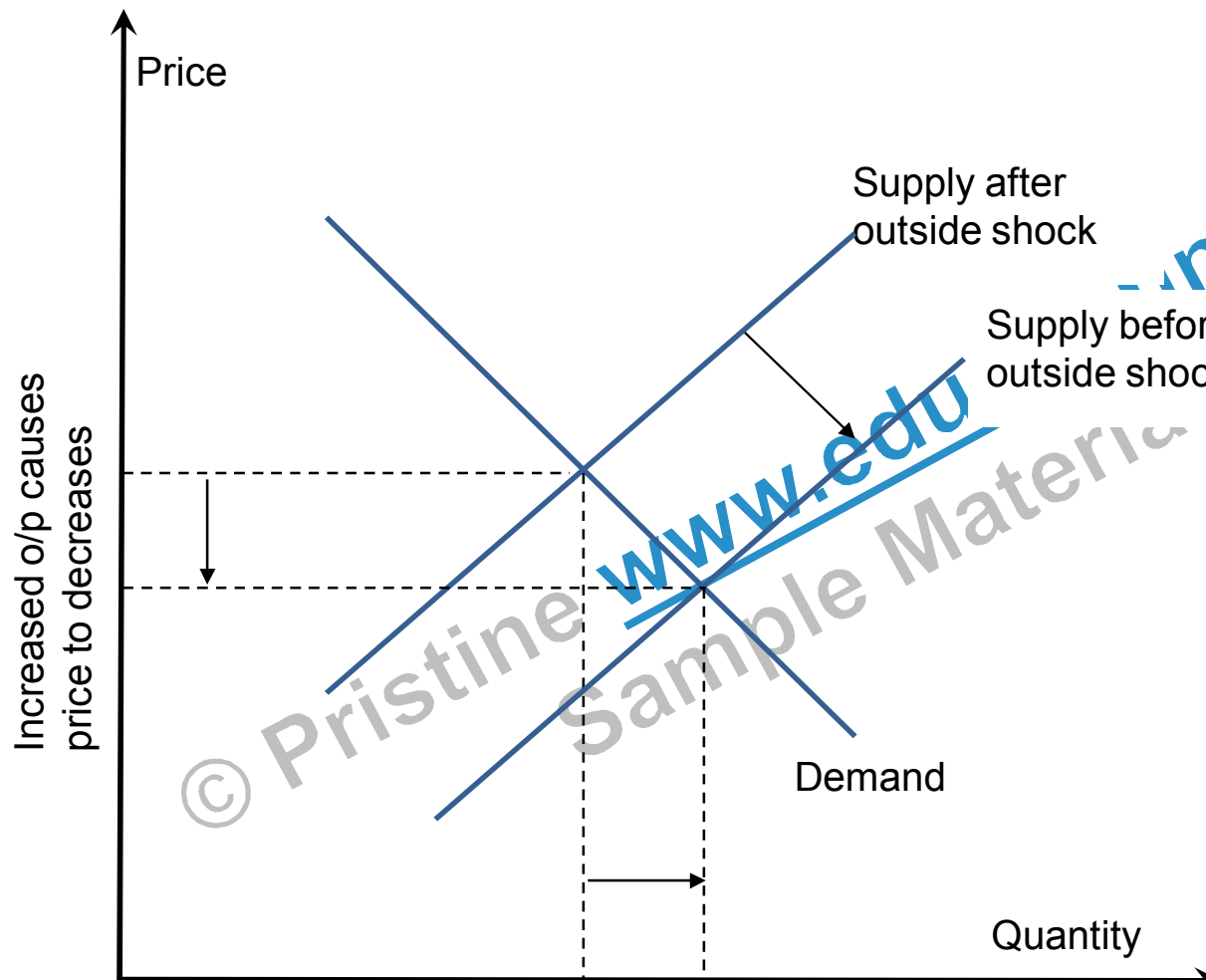
- **Market equilibrium occurs at the price where the demand equals to supply**
- Impact of Outside shocks (OS), such as natural disasters, on market equilibrium
  - **Short Term Impacts:** OS Causes interruption in supply whereas impact on demand differs. Producers are unable to adjust their capacity to meet demand in short term (assuming demand remains same) hence supply falls short resulting in equilibrium prices to move upward
  - **Long Term Impacts:** In long run, producers adjusts the capacity if supply is short of demand to benefit from higher prices. New supply causes prices to fall and return to equilibrium prices prevailing before OS

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- In SR, Producers are unable to adjust their capacities hence supply fell short of demand causing supply curve to move upward and prices to increase

**Impact of outside shocks in short run**



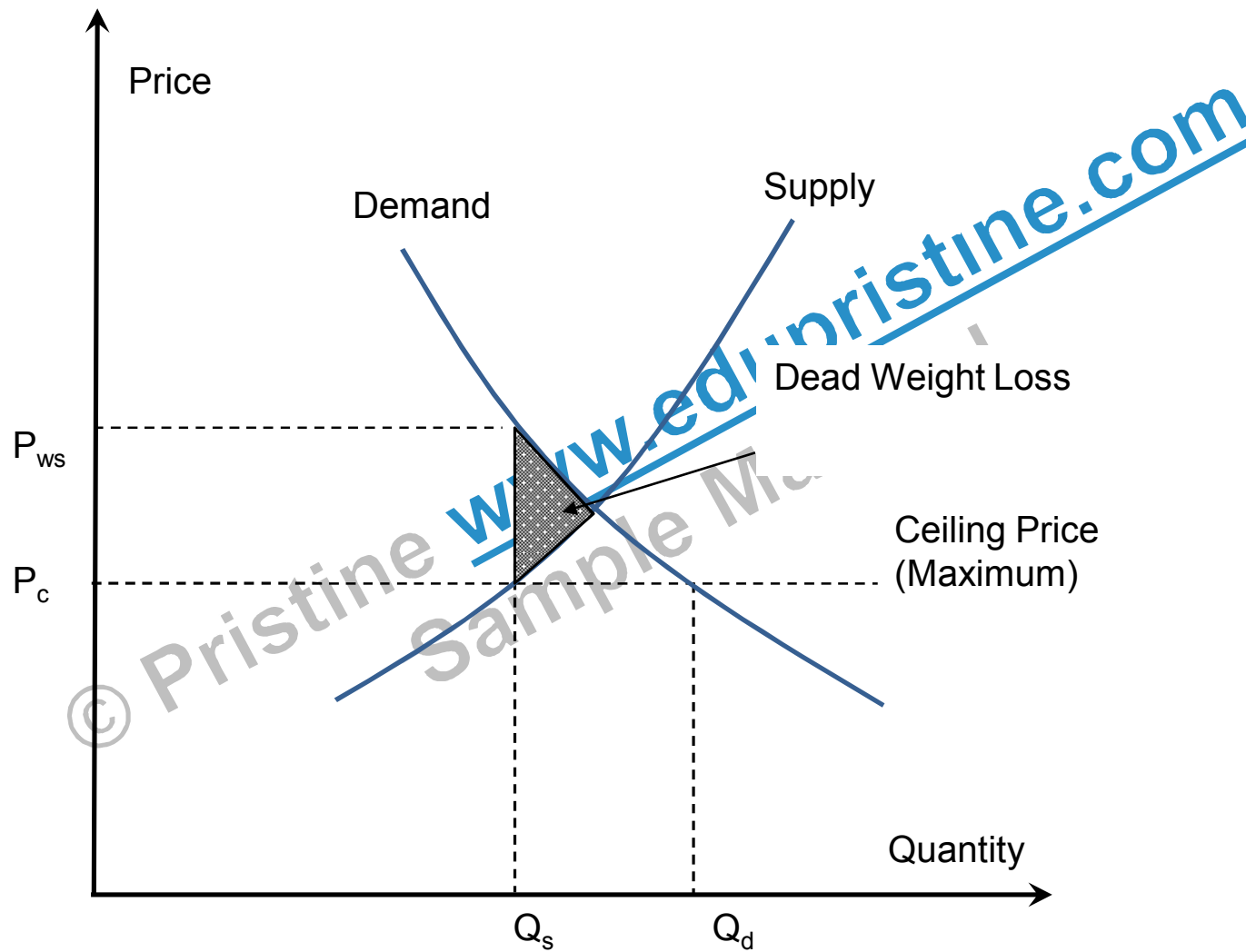
In LR, Producers adjust their capacities hence supply return to previous levels causing supply curve to move downward and prices to return to levels before shocks

**Impact of outside shocks in Long run**

## Price Ceiling

- **A price ceiling (PC) is an upper limit on the price which a seller can charge.**
- PC above the equilibrium price (EP) - No effect
- **PC below the EP -**
  - Supply will fall short of demand at PC
  - In such a situation consumers will be willing to pay an opportunity cost to make purchases
  - Causing deadweight losses due to reduction in quantity exchanged

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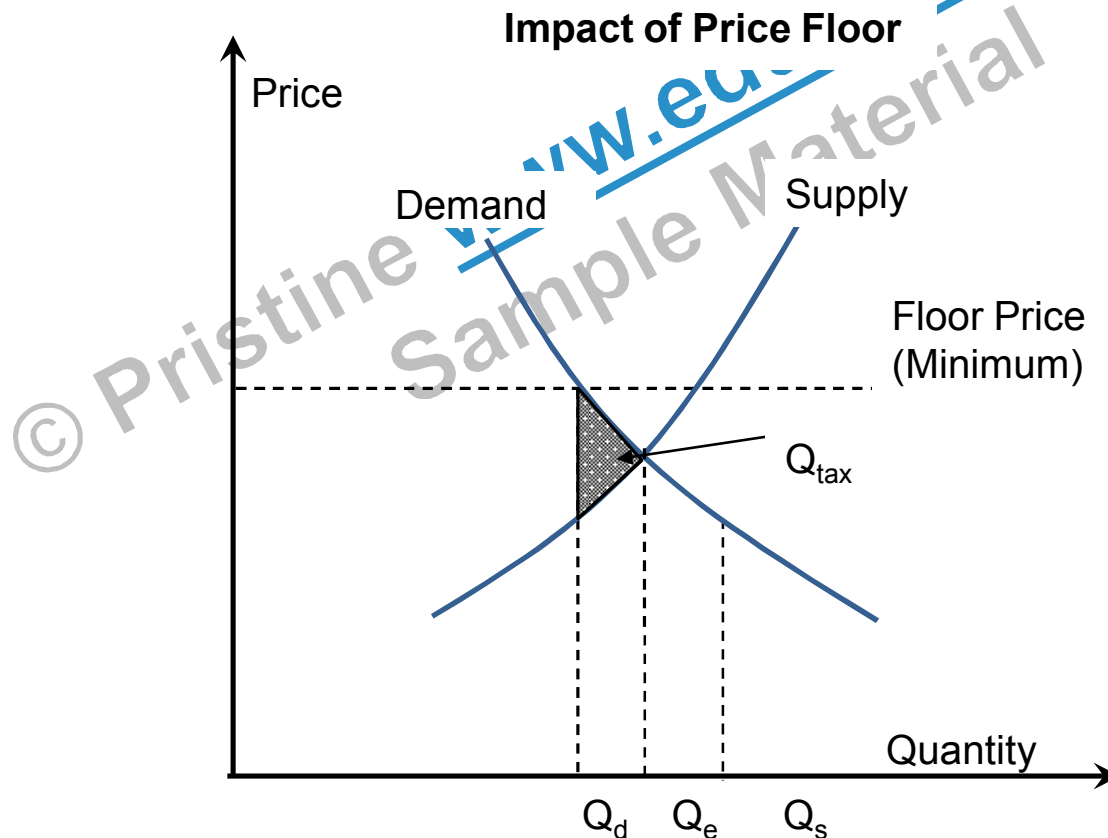


**Impact of Price Ceiling**

- Rent ceiling is a type of price ceiling, it distorts market and causes creation of black market as
  - **Renters are ready to pay high prices and bribe owners to get houses in view of low supply**
  - **Official rent remains at ceiling while fees and other charges increase and accrue to owners**
- A black market is generally inefficient because:
  - Deterioration in Quality controls
  - Prosecution risk increases the prices required by suppliers
  - Contracts are not enforceable
  - Causes discrimination, such as selling to friends and relatives first.

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- A price floor is a minimum price that a buyer can offer for a good, service, or resource.
- **PF < EP = No effect**
- **PF > EP =**
  - Supply will exceed demand at the floor price
  - Causes loss of efficiency (deadweight loss) because the quantity actually transacted at PF is less than the efficient equilibrium quantity.



- The **Minimum wage is an example of a price floor**

Inefficiencies caused due to price floor

- Causes **increased unemployment because firm can't legally hire labors despite their willingness to work at lower prices than floor price**
- Firms substitute other productive resources for labor and use more than the economically efficient amount of capital
- Firms may decrease quality or quantity of nonmonetary benefits they previously offered to workers, such as pleasant, safe working conditions and on-the-job training

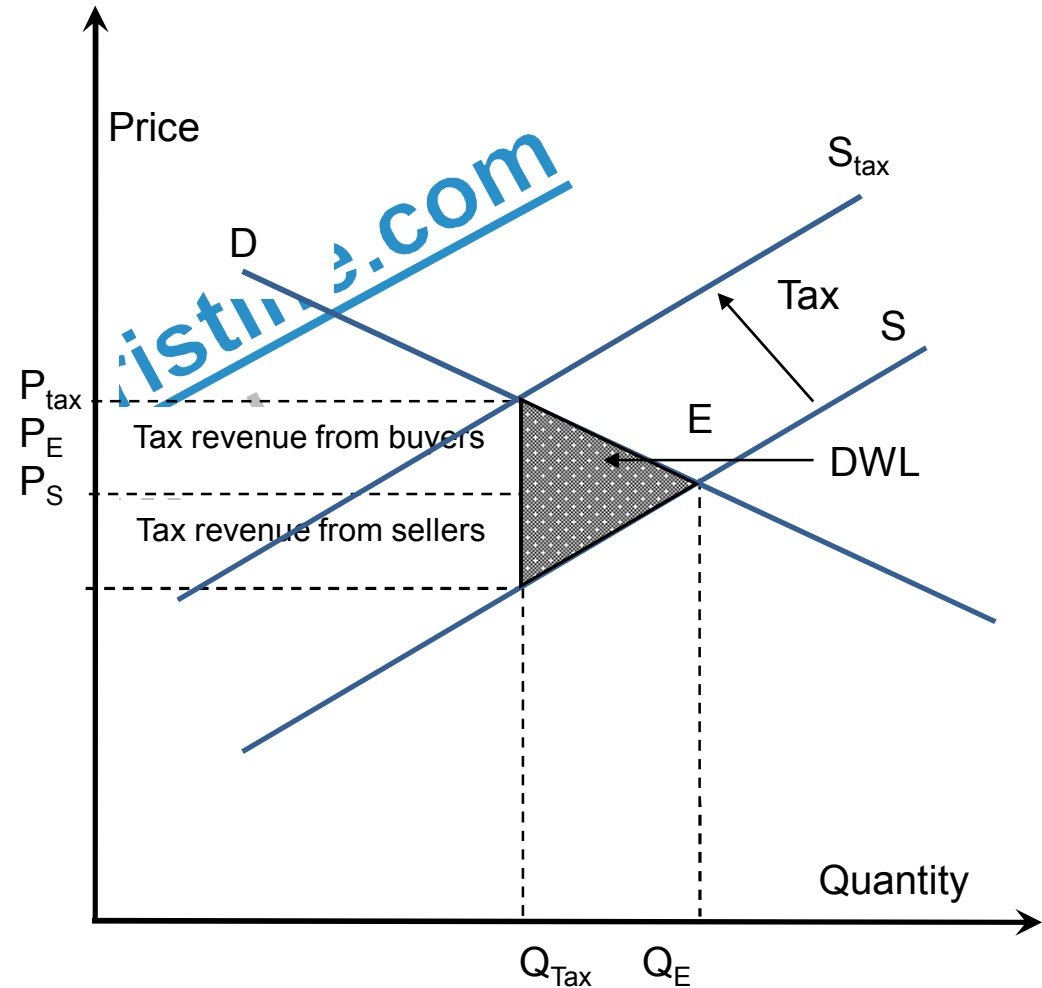
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- **The tax is the difference between what buyers pay and what sellers gets per unit**
- Hence a tax on a good or service
  - **Increases its equilibrium price and**
  - **decrease its equilibrium quantity** because of the deadweight loss created
- Tax Revenue = Tax \* Equilibrium Quantity
- Actual and statutory incidence of tax
  - Actual: **Who actually bears tax** – buyer in the form of high prices paid or seller in the form of less prices received
  - Statutory: **Who is legally responsible to pay tax**

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## Tax on Producer

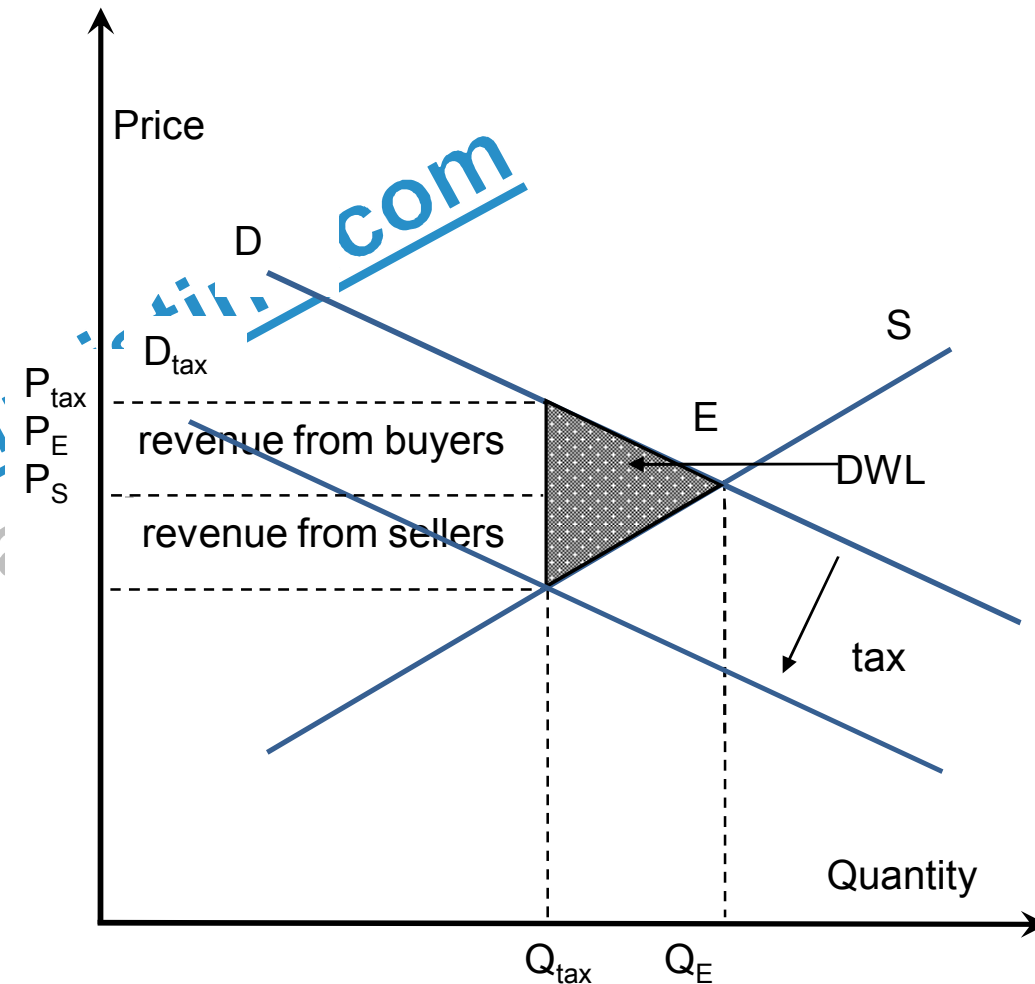
- Statutory tax on the producer results in the shift in supply curve towards left.
- Now the equilibrium price becomes  $P_{Tax}$  instead of  $P_E$ , which results in decreased equilibrium production ( $Q_{Tax}$ )
- Now the difference between new price  $P_{tax}$  and  $P_E$  is the extra price which buyers would have to pay apart from the previous price of  $P_E$ . This extra payout is the tax revenue from the buyers.
- Statutory tax on the producer is the difference between  $P_{tax}$  and  $P_S$  at quantity  $Q_{tax}$ , out of which  $P_{tax} - P_E$  is borne by the buyer. Therefore actual incidence of tax on the producer becomes  $P_E - P_S$
- In frictionless market the efficient quantity to be produced should be  $Q_E$  but the actual quantity produced is less than the efficient quantity which results in Dead Weight Loss defined by the triangle.



**Incidence of Tax on Producers**

## Tax on Buyer

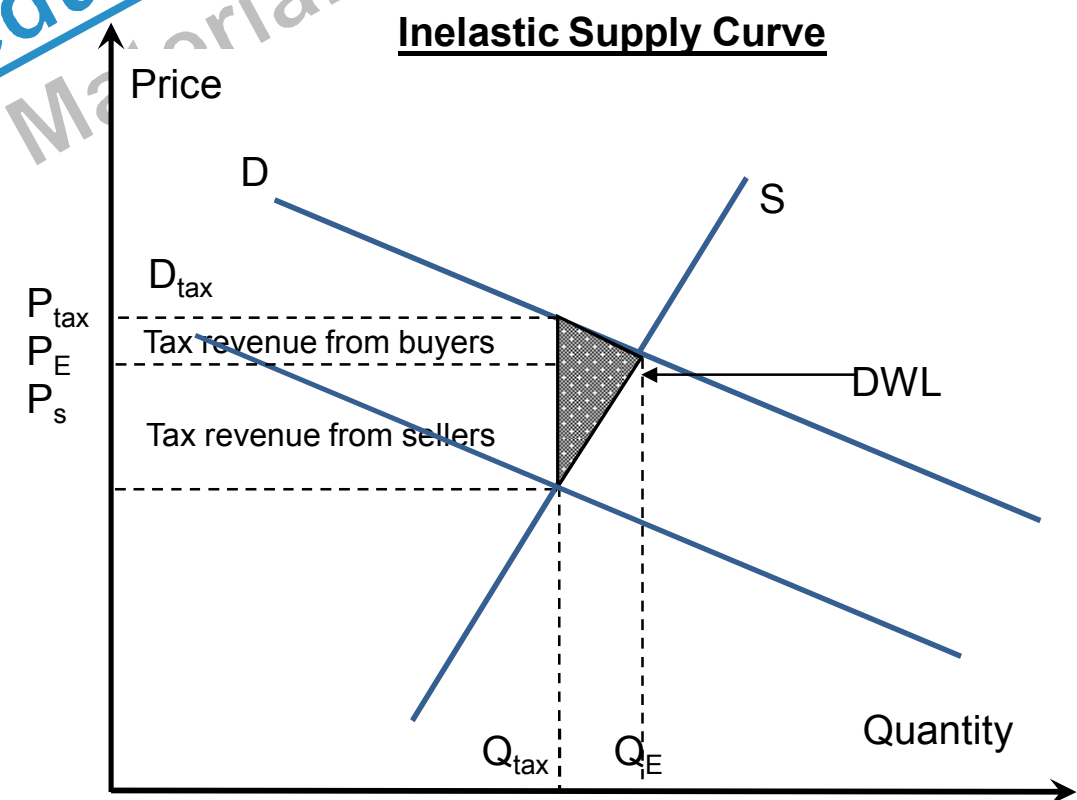
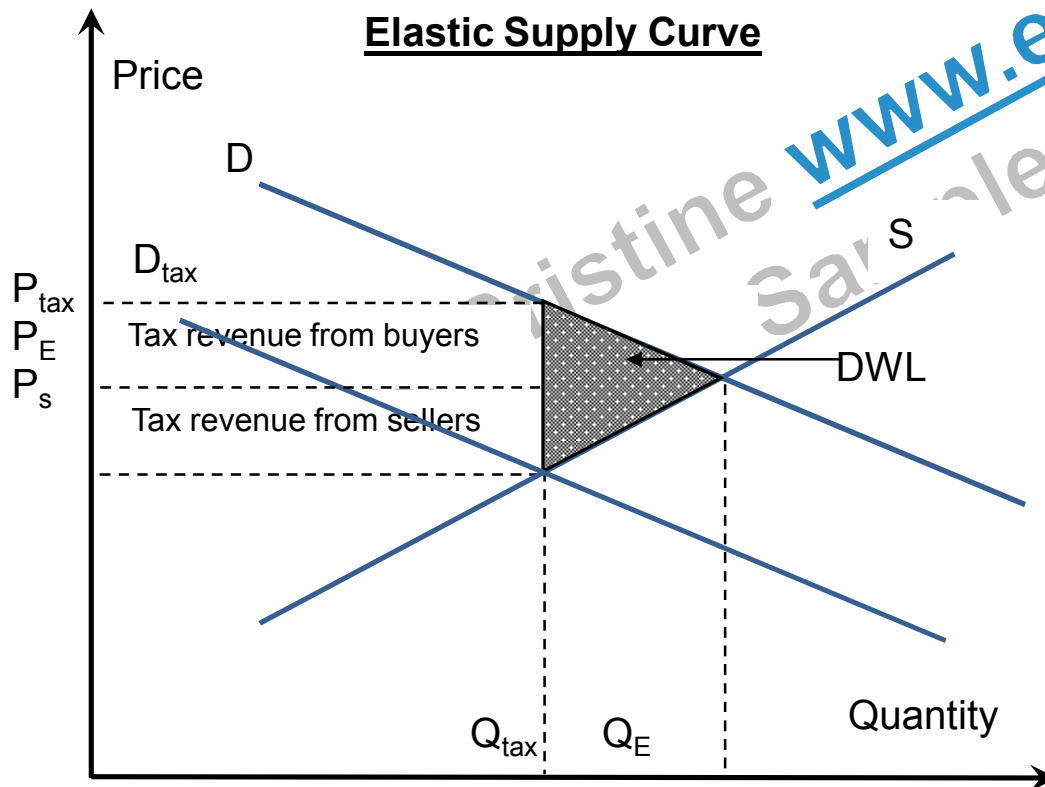
- Statutory tax on the buyer results in the shift in demand curve downwards by the tax amount.
- Now the equilibrium quantity becomes  $Q_{Tax}$  instead of  $Q_E$ , which results in the increase in price to  $P_{Tax}$ .
- Now the difference between new price  $P_{tax}$  and  $P_E$  is the extra price which buyers would have to pay apart from the previous price of  $P_E$ . This extra payout is the tax revenue from the buyers.
- Statutory tax on the buyer is the difference between  $P_{tax}$  and  $P_S$  at quantity  $Q_{tax}$ , out of which  $P_{tax} - P_E$  is borne by the buyer. Therefore actual incidence of tax on the producer becomes  $P_E - P_S$ .
- In frictionless market the efficient quantity to be produced should be  $Q_E$ , but the actual quantity produced is less than the efficient quantity which results in Dead Weight Loss defined by the triangle.



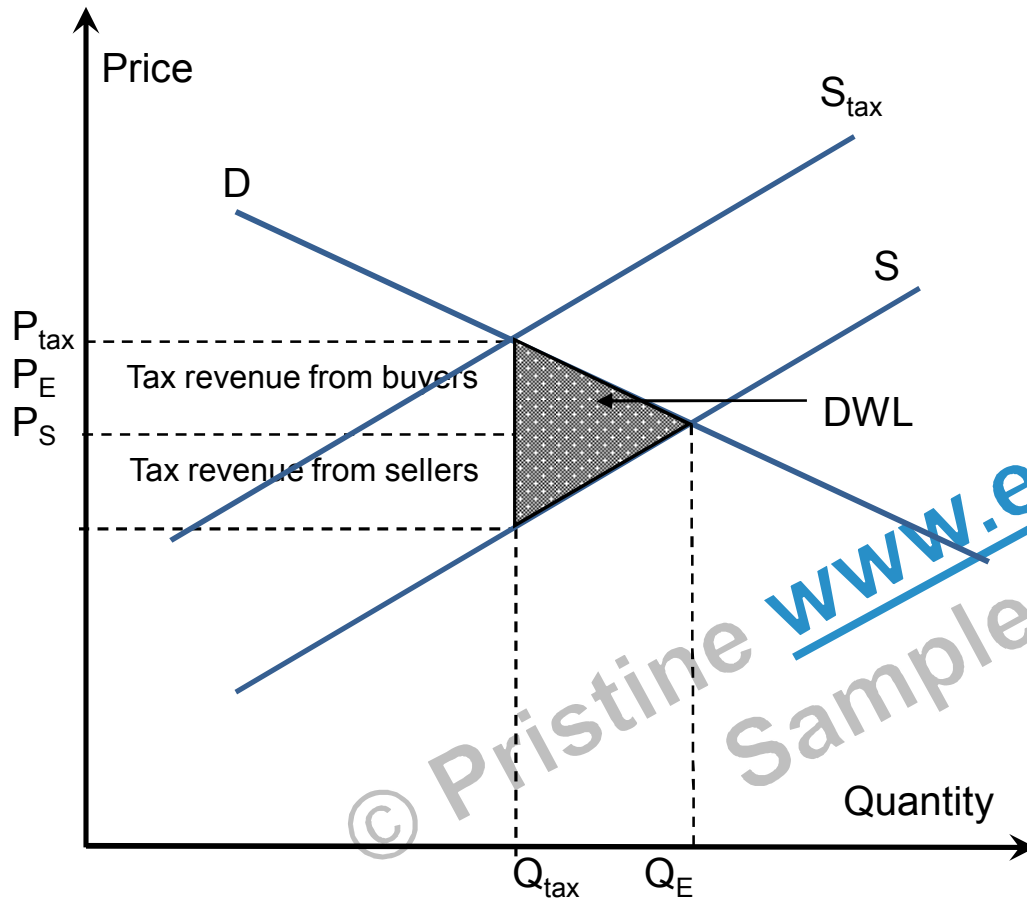
**Incidence of Tax on Buyers**

# Elasticity of Supply & Demand Influence the Incidence of a Tax

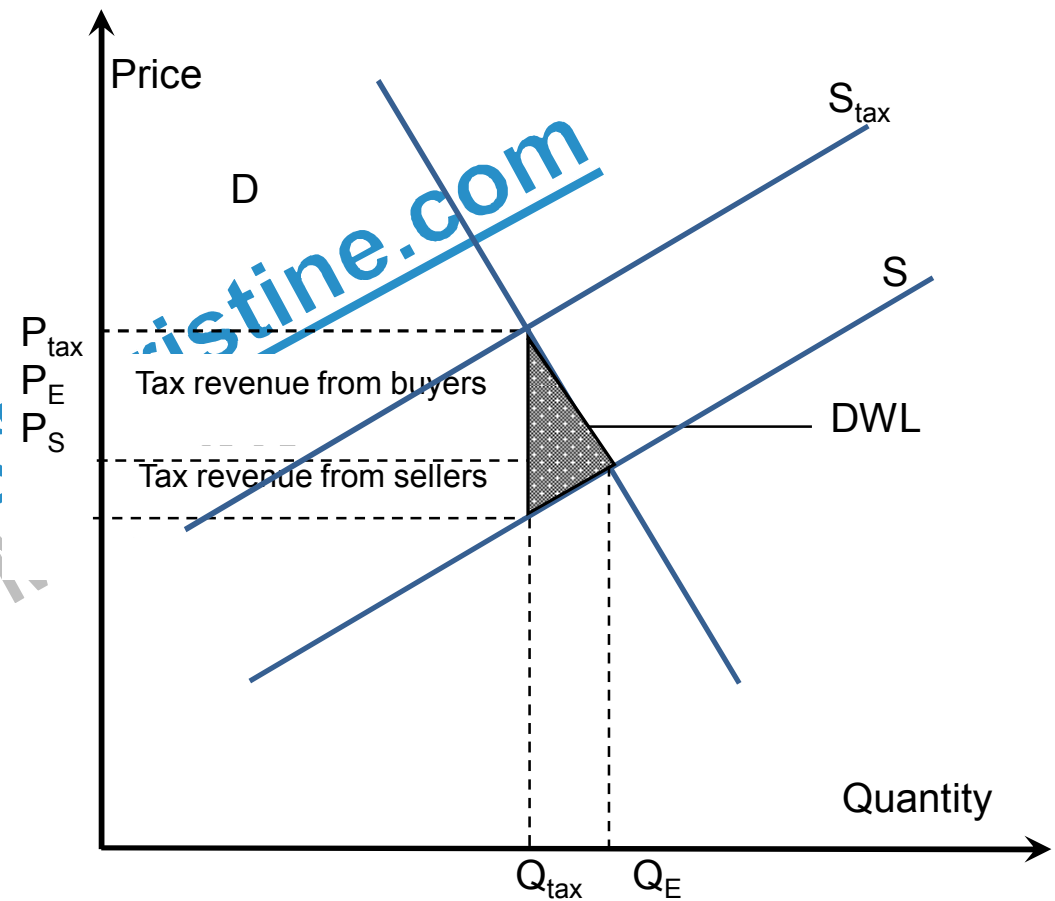
- **High elasticity causes less tax burden on that party hence**
  - If supply is Less elastic (i.e., the supply curve is steeper) than demand, consumers will bear lower taxes than suppliers
  - If demand is Less elastic (i.e., the demand curve is steeper) than supply, opposite occurs
- **High inelasticity causes less deadweight loss because**
  - It occurs due to lack of substitutes or options with suppliers or /and buyers causing less effect on equilibrium quantity



# Demand Elasticity and Incidence of Taxation

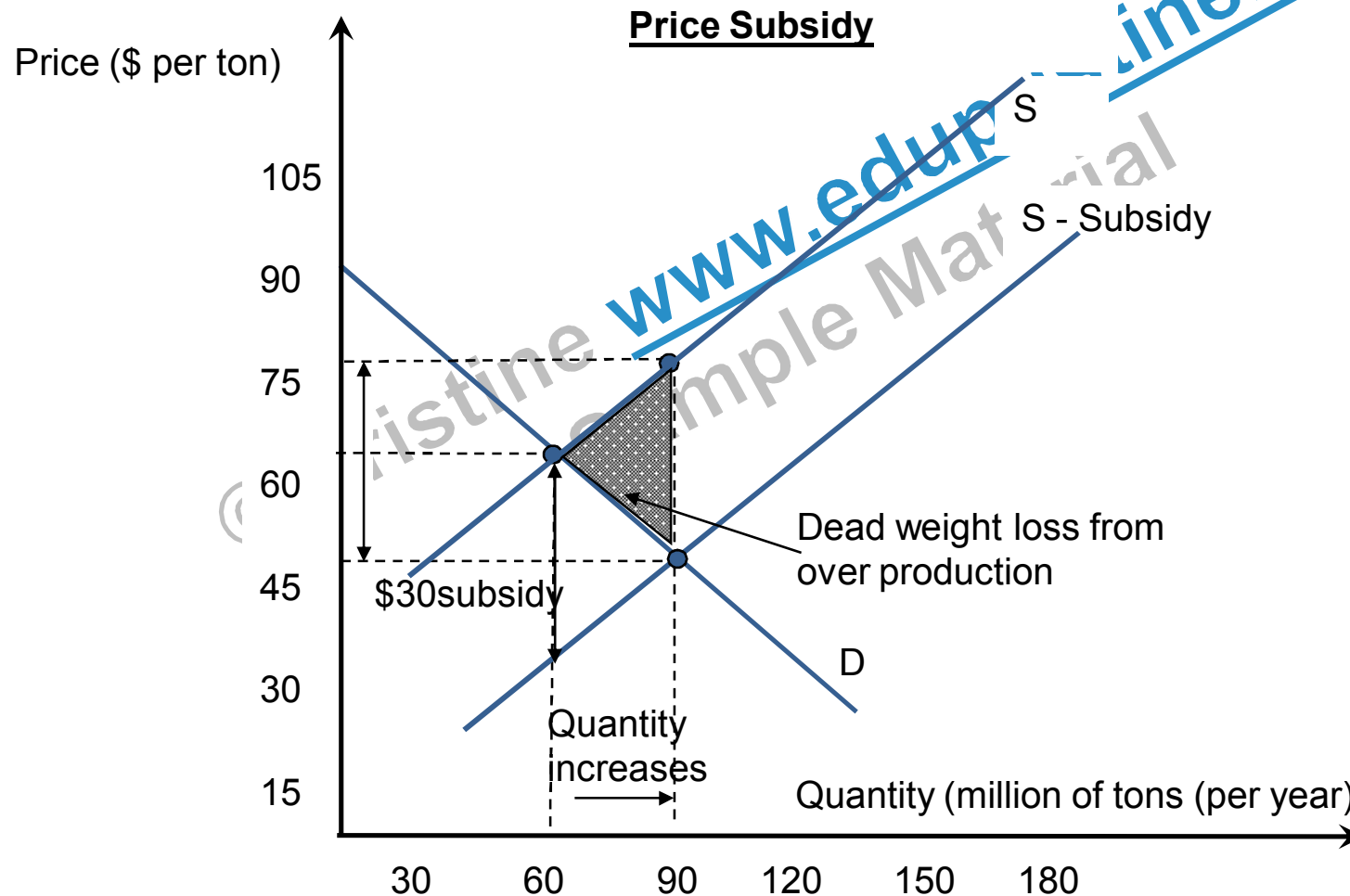


**Elastic Demand Curve**

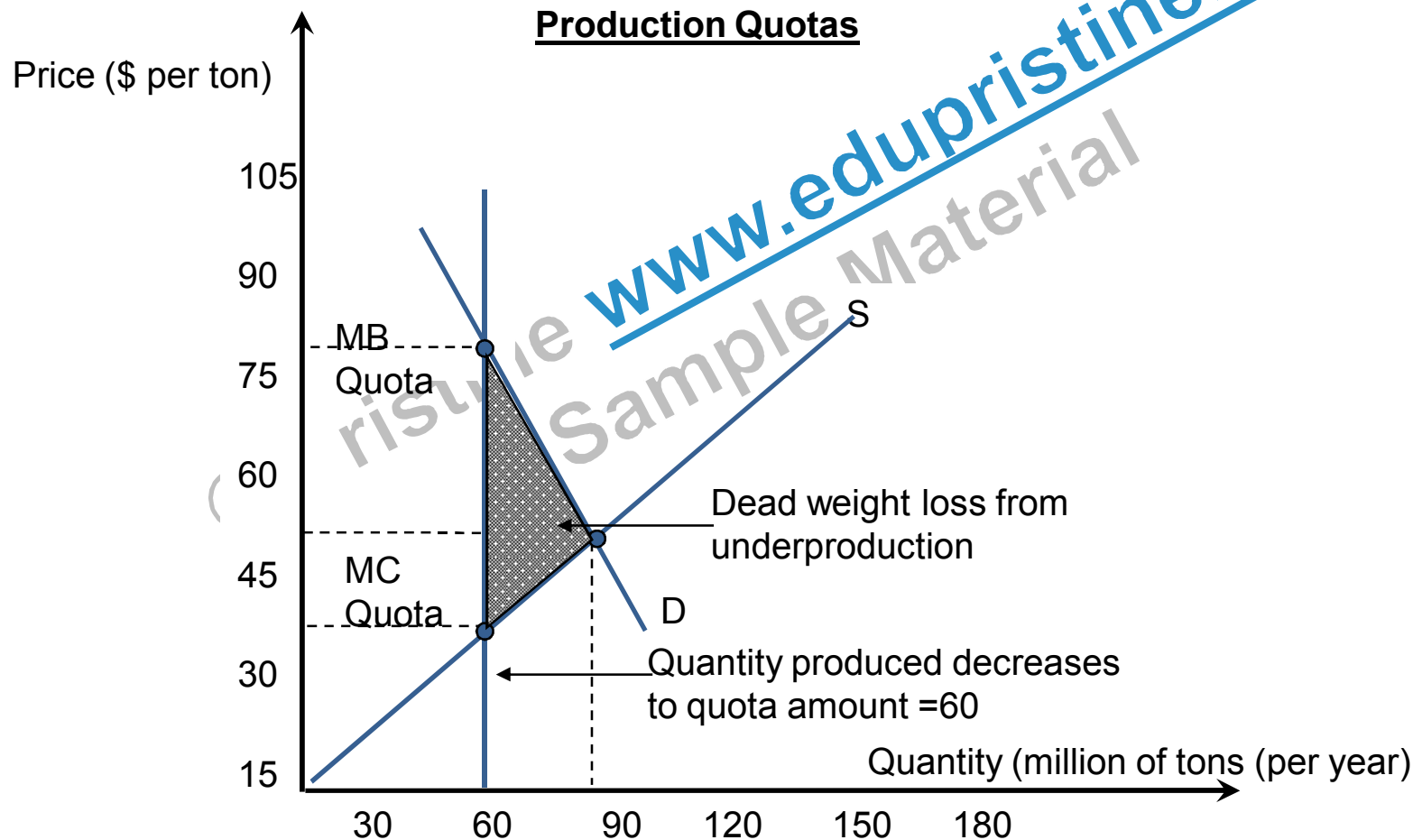


**Inelastic Demand Curve**

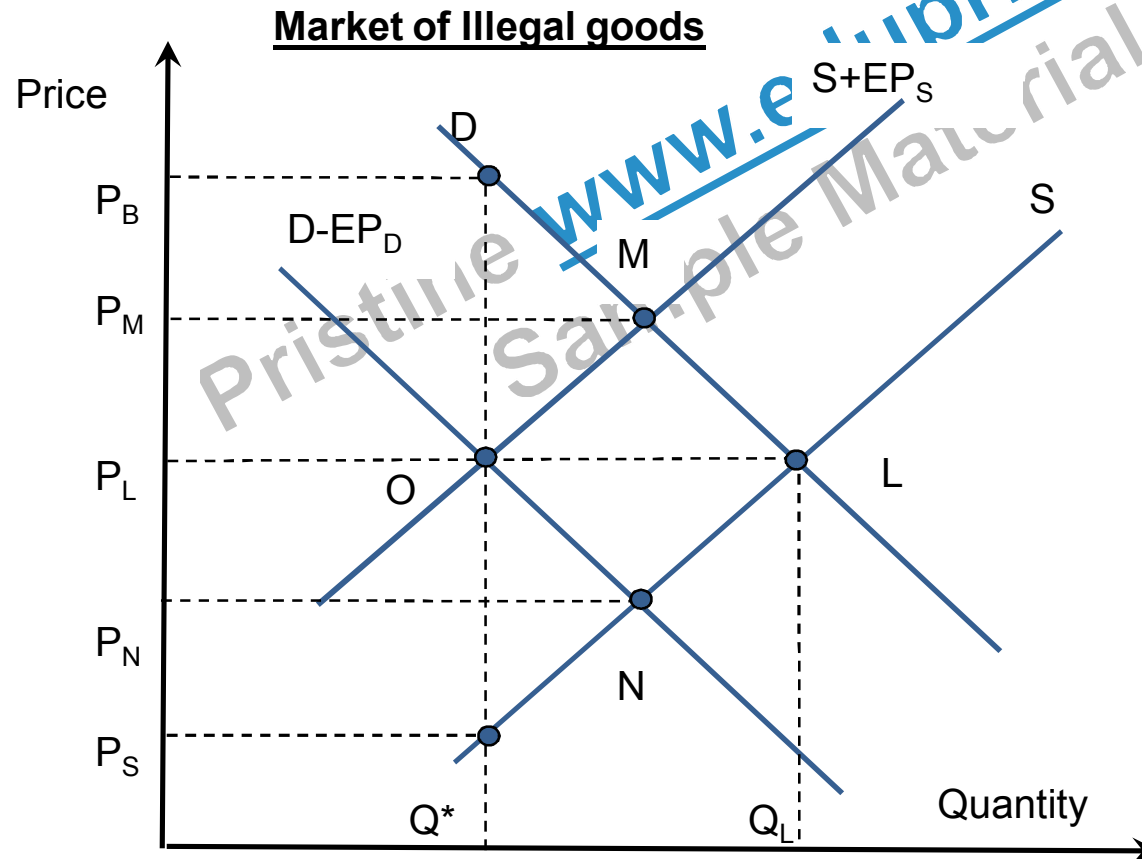
- Through subsidies, governments compensate producers for the difference between the actual price of the goods and the price at which goods are sold.
- A subsidy raises marginal cost (supply costs curve) above marginal benefits (demand curve)
  - **This leads to a deadweight loss from overproduction.**



- Govt. imposes an upper limit on the produced quantity of a good over a specified time period.
  - **Causes reduction in the quantity produced leading to an inefficient allocation of resources and a deadweight loss to the economy**
    - Increases the market price and lowers the marginal cost of producing the quota quantity



- **Suppliers add expected penalty** (extra compensation) to their minimum prices, shifting the supply curve upwards
- On the other hand, **buyers subtract expected penalties** (to co purchase and possess illegal goods) from maximum price that they are willing to pay causing the demand curve shift downward
- **Hence if the expected penalties for sellers and buyers are equal, the new market price remains at the original market price but the quantity purchased declines**



- Buyer pays  $P_L$  plus an added cost equal to the value of the expected penalty for buying and possessing Cuban cigars
- Sellers effectively receive  $P_S$ , which is  $P_L$  minus the amount to compensate for the expected penalty for selling Cuban cigars.
- Note that buyers pay, and sellers receive, a cash price equal to  $P_L$  in this example.
- If the penalty is larger for the seller, the supply curve will shift by a greater amount than the demand curve and the cash market price will rise above what it would have been if the good were not illegal,
- The opposite is true when penalties are higher for buyers.

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