

WEEK 2: THEORY OF DEMAND AND SUPPLY**DEMAND AND SUPPLY**

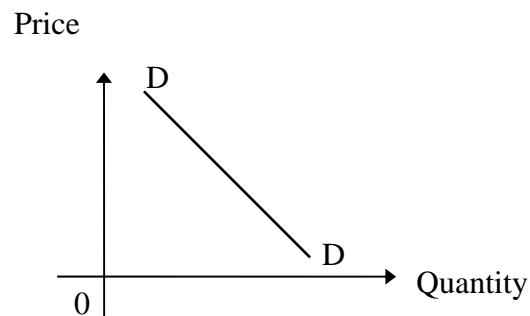
Demand is the quantity of goods or services that consumers would ask for at a given level of price at a particular time.

FACTORS THAT INFLUENCE DEMAND

- a) Price of the good itself
- b) Price of other goods
- c) Household income
- d) Taste, habits and customs
- e) Changes in population
- f) Seasonal factors
- g) Government influence
- h) Expectation of future changes in price

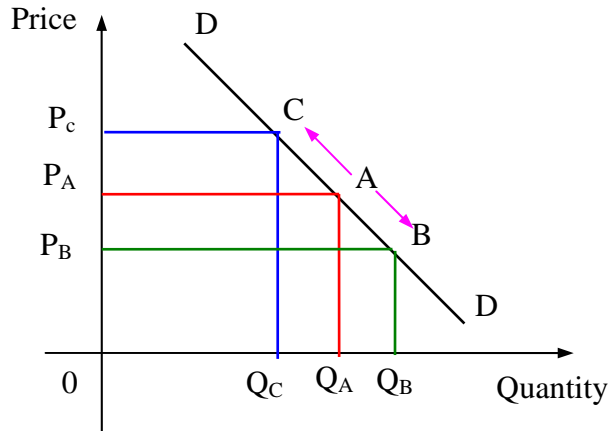
**DEMAND SCHEDULE**

Price	Quantity
1	7
2	6
3	5
4	4
5	3
6	2

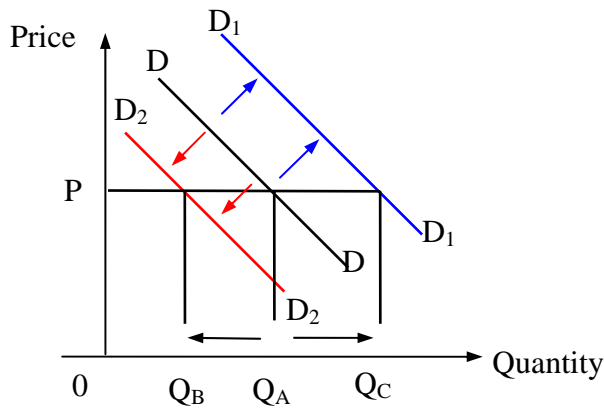


CHANGES IN DEMAND CURVES

- a) Changes in quantity demanded
 ■ movement along the same demand curve

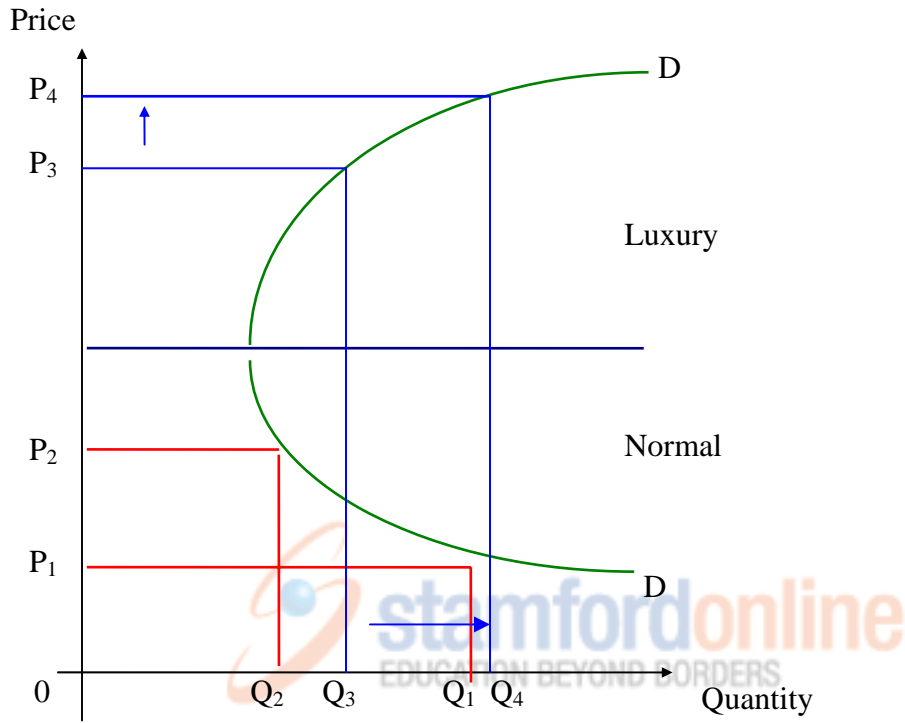


- b) Changes in demand
 ■ Shift in the demand curve i.e. to the right (upwards) or left (downwards)

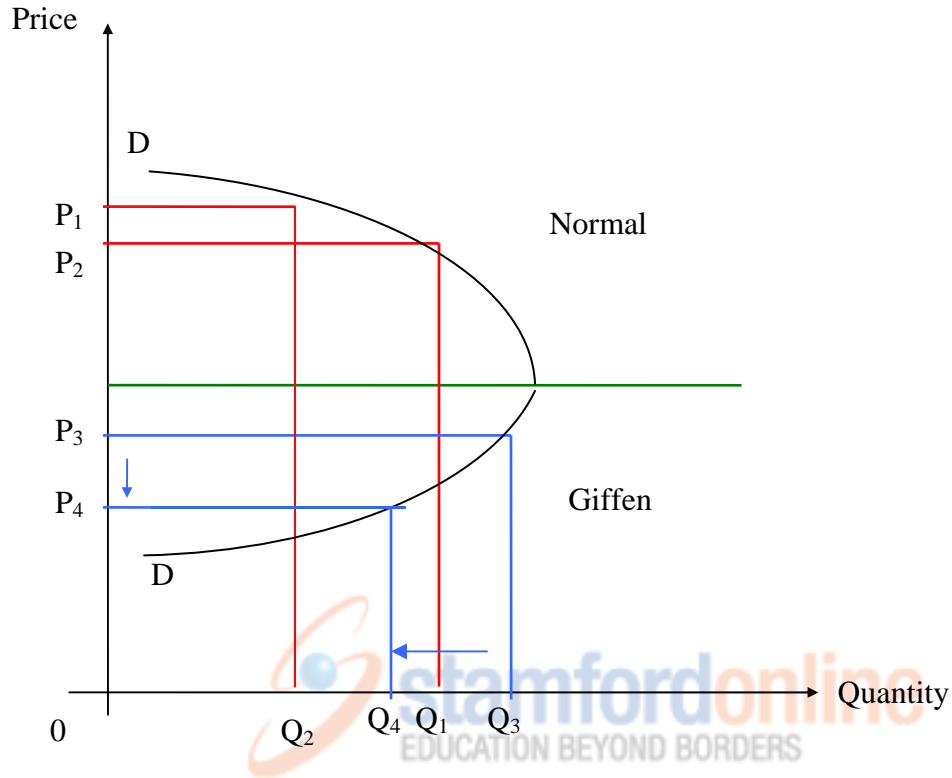


ABNORMAL DEMAND CURVE

- a) Luxury or snob goods ($P \uparrow Q \uparrow$)
 - Diamonds, luxury cars



- b) Inferior/Giffen goods ($P \downarrow Q \downarrow$)
 - broken rice



SUPPLY

Supply is the quantity of a commodity that suppliers will wish to supply at a given level of price at a particular time. *Ceteris paribus*, a greater quantity will be supplied at a higher price (as a higher increased cost can be incurred).

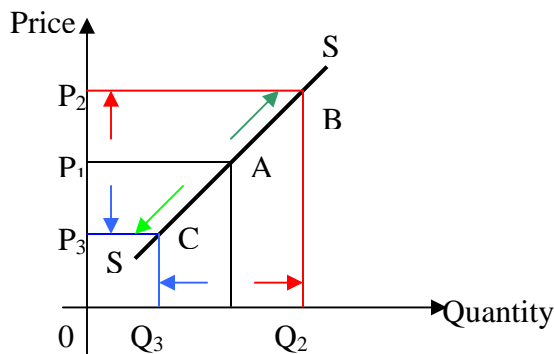
FACTORS THAT INFLUENCE SUPPLY

- a) Price of the good itself
- b) Price of other Goods
- c) Cost of factors of production
- d) Technology
- e) Weather / climate
- f) Competitors
- g) Government influences



CHANGES IN SUPPLY

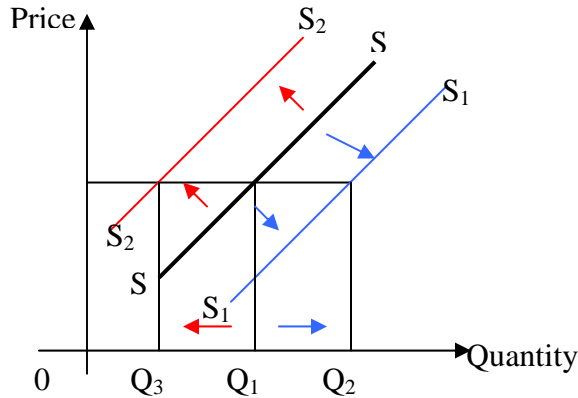
- a. Changes in quantity supplied



$$\begin{aligned}
 P \uparrow &\Rightarrow P_1 \rightarrow P_2 \\
 &\Rightarrow Q \uparrow \\
 &\Rightarrow Q_1 \rightarrow Q_2 \\
 &\Rightarrow A \rightarrow B \\
 &= \textit{Expansion}
 \end{aligned}$$

$$\begin{aligned}
 P \downarrow &\Rightarrow P_1 \rightarrow P_3 \\
 &\Rightarrow Q \downarrow \\
 &\Rightarrow Q_1 \rightarrow Q_3 \\
 &\Rightarrow A \rightarrow C \\
 &= \textit{Contraction}
 \end{aligned}$$

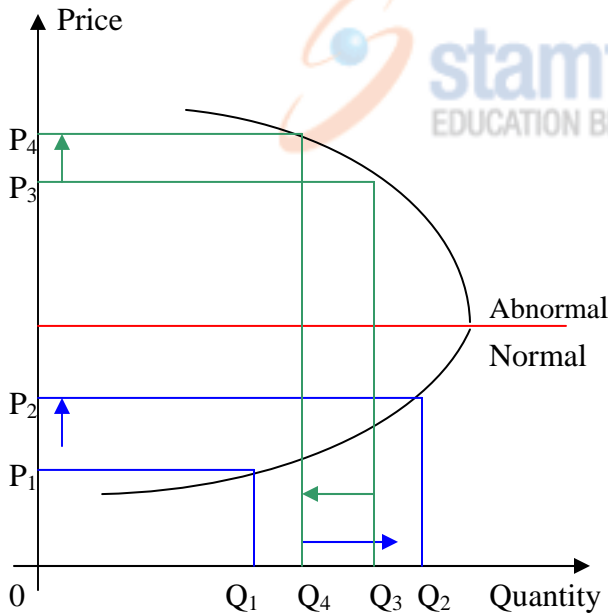
- b. Changes in supplies



$S / S \uparrow \Rightarrow SS \rightarrow S_1 S_1$
 $\Rightarrow Q_1 \rightarrow Q_2$
 $\Rightarrow SS$ curve shifts downwards (right)

$S / S \downarrow \Rightarrow SS \rightarrow S_2 S_2$
 $\Rightarrow Q_1 \rightarrow Q_3$
 $\Rightarrow SS$ curve shifts upwards (left)

ABNORMAL SUPPLY CURVE



Supply curves usually slope upwards from the left to the right. Sometimes however, they change direction as in the diagram above and are said to be 'regressive', this might be the case with the supply of labour, as an example, where there may be a high leisure preference. In coal-mining, where the job is extremely unpleasant, it has often been noticed that as wage rates have been increased, miners have worked shorter hours. This is because instead of taking the increased wage rate in money, the miners are taking it in increased leisure.

ELASTICITY

Elasticity can be divided into three categories:

- a. Price elasticity
- b. Income elasticity
- c. Cross elasticity

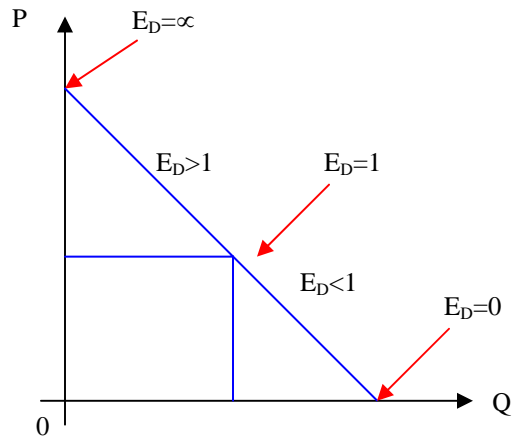
PRICE ELASTICITY

Price elasticity measures the degree of responsiveness of quantity demanded to the changes in price. Price elasticity can be divided into two:

- i. Price elasticity of demand (PED)
- ii. Price elasticity of supply (PES)

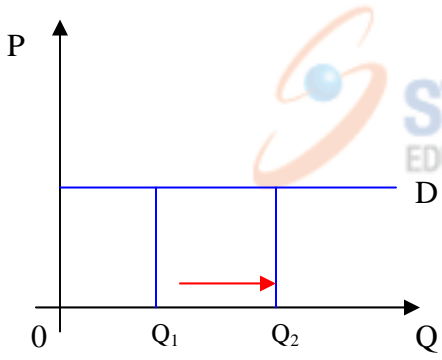
There are five categories of elasticity of demand:

Price	Quantity	Elasticity	Remarks
10	0	∞	$\infty \Rightarrow$ perfectly elastic
9	1	9	$> 1 \Rightarrow$ relatively elastic
8	2	4	
7	3	2.33	
6	4	1.5	
5	5	1	$= 1 \Rightarrow$ unitary elasticity
4	6	0.667	$< 1 \Rightarrow$ relatively inelastic
3	7	0.429	
2	8	0.25	
1	9	0.111	
0	10	0	$= 0 \Rightarrow$ perfectly inelastic

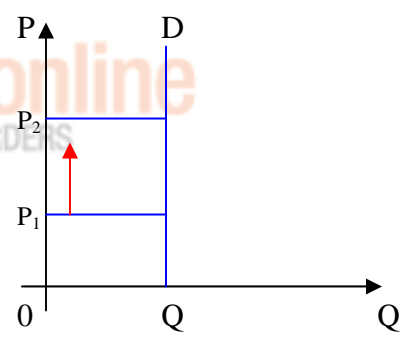


Perfectly elastic ($PE_D = \infty$)

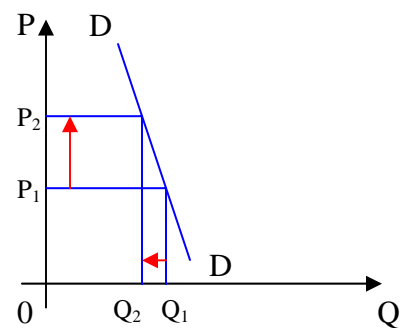
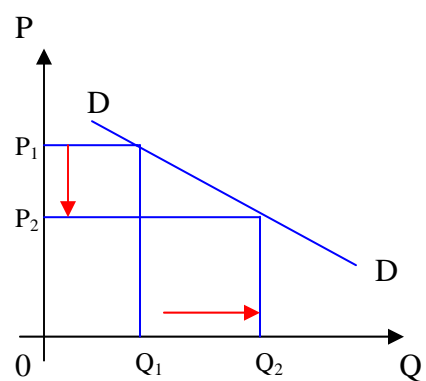
Perfectly inelastic ($PE_D = 0$)



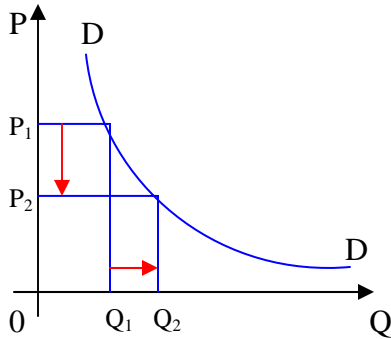
Relatively elastic ($PE_D > 1$)



Relatively inelastic ($PE_D < 1$)



Unitary elasticity (PED=1)



Demand is unitary when the percentage cut in price brings about an exactly equal expansion of demand as to leave total revenue unchanged. *This is where total revenue is neither rising nor falling but is momentarily stationary.*

Price increases → total revenue constant
Price decreases → total revenue constant

MEASUREMENT OF ELASTICITY OF DEMAND

The mathematical value of elasticity of demand is referred to as the *coefficient of elasticity*.

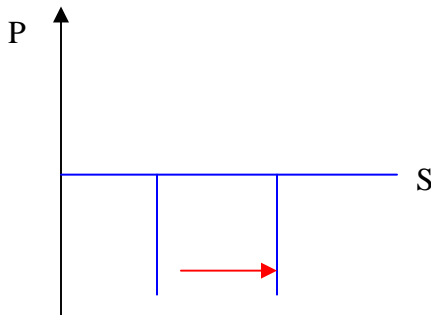
Coefficient of elasticity of demand (E_D) = $\frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$

$$= \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

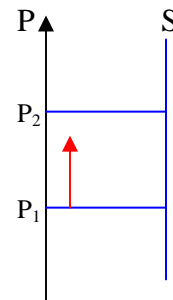
PRICE ELASTICITY OF SUPPLY

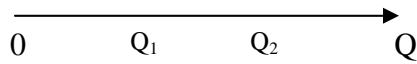
Price elasticity of supply measures the degree of responsiveness of the quantity supplied to changes in price. There are five categories of elasticity of supply:

Perfectly elastic (PES = ∞)

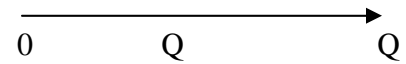
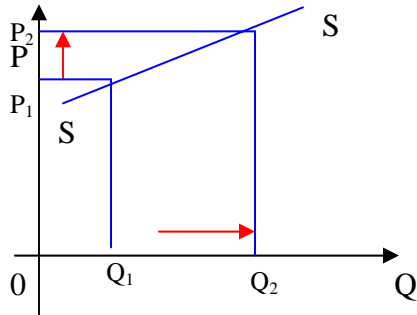


Perfectly inelastic (PES = 0)

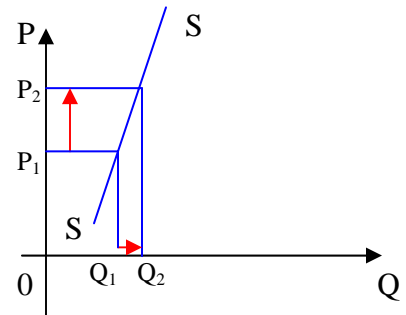




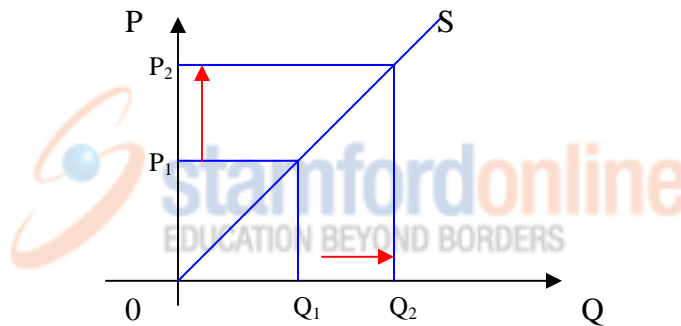
Relatively elastic (PES>1)



Relatively inelastic (PES<1)



Unitary elasticity (PES=1)



INCOME ELASTICITY

Income elasticity of demand measures the degree of responsiveness of the quantity demanded of a product to changes in income.

- i. $E_Y < 0 \Rightarrow$ Demand decreases as income rises (inferior goods)
- ii. $0 < E_Y < 1 \Rightarrow$ Demand rises by a smaller proportion than income (normal goods)
- iii. $1 < E_Y < \infty \Rightarrow$ Demand rises by a greater proportion than income (luxury goods)

$$E_Y = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in income}}$$

CROSS ELASTICITY OF DEMAND

Cross elasticity of demand measures the degree of responsiveness of the quantity demanded of one good (Good A) to changes in the price of another good (Good B).

- i. $E_C = \text{negative} \Rightarrow$ Complementary goods
- ii. $E_C = \text{positive} \Rightarrow$ Substitute goods

$$E_C = \frac{\% \text{ change in quantity demanded of Good A}}{\% \text{ change in price of Good B}}$$

Learning Outcomes:

Students should be able to:

- Define and explain the concepts of demand and supply
- Identify determinants of demand and supply
- Distinguish between shifts versus movement along the curves
- Calculate and interpret elasticities

Main Reference

Case, K. E., & Fair, R. C. (2007). *Principles of Economics* (8th ed.). Prentice Hall, Chapters 3, 4 & 5.

Other Reference

Sloman, J. (1999). *Essentials of Economics* (3rd ed.). Prentice Hall, Chapter 2.

Review Questions

1. Why is there a negative relationship between quantity demanded and price?
2. Explain $Q_d = f(P)$.
3. Distinguish between an increase in the quantity demanded and an increase in demand.
4. What is the usual shape of a supply curve? Why?