UNIT-II
(Demand and Supply)
MODULE- 6: LAW OF SUPPLY

Notes:
CONTENTS

6.0: OBJECTIVES:
The objective of this module is to explain the meaning of supply, determinants of supply and elasticity of supply. After reading this module, you should be able to understand:

The meaning of supply
The Law of Supply
Extension and Contraction in Supply
Increase and Decrease in Supply

6.01: Introduction:
In economics the word supply is used to show the relationship between change in independent variable i.e. price and consequent change in the dependent variable i.e. quantity of a commodity that would be supplied. The supply of a commodity at different prices, indicates the behavior of a rational supplier involved in supplying a commodity. The supply of a

commodity reflects the quantity of a product is available to consumer at any given point of time.

6.02: Meaning of supply:

The quantity of a commodity that would be offered for sale at a given price, at a given point of time and in a given place is known as 'supply' of a commodity. We can understand the meaning of supply with an example:

Example: A farmer produced 100 bags of paddy. Out of these 100 bags, he retained 30 bags with him and offered for sale 70 bags at given price. Quantity offered for sale is the 'supply of paddy' and 100 bags are the total output or production. So whatever the quantity offered for sale is known as supply.

6.03: Supply function:

The supply of a commodity is influenced by large number of factors. These are called determinants of supply. When we write determinants of supply in the form of an equation, it is called supply function, which is shown below.

Sn = f (Pn, Pf, T, O, ...)

In the supply function Sn is the dependent variable and Pn, Pf,T, O, are independent variables.

6.04: Law of Supply:

In the supply function we have identified Pn, Pf, T, O, . as the determinants of supply. In reality we know that the changes in all independent variables influence the supply of a commodity. For analytical simplicity, while analyzing the supply of a commodity, we assume other things remaining constant, except price of the commodity under observation. In such a case we can write the simplified supply function as:

Sn = f (Pn).

The function tells us that the supply of 'n' commodity depends on price of 'n' commodity. If that is the case, there exists direct relationship between price of 'n' and supply of 'n', other things remaining constant. That is as price of 'n' rises the supply of 'n' goes up and as the price of 'n' falls; the

supply of ‘n’ goes down. This relationship between price and supply is known as ‘Law of Supply’.

Individual Supply schedule:

This consists of different quantities of a commodity offered for sale by a supplier at different prices. The supply schedule is shown below.

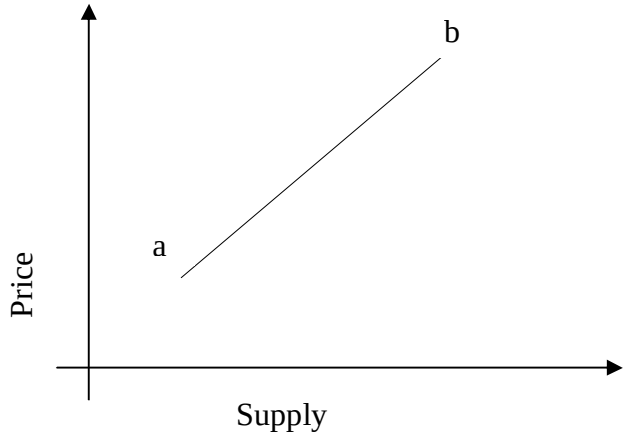
Price of ‘n’ (Rs)	Supply of ‘n’ (Units)
10	50
20	60
30	70
40	80
50	90
60	100

The supply schedule shown above reveals the direct relationship between price of ‘n’ and supply of ‘n’. As price rises from Rs 10 to Rs 20 the supply increased from Rs 50 to Rs 60 units and as price rises from Rs 20 to Rs 30 and up to Rs60 the supply increased from 60 to 100 units.

Individual Supply curve:

It is the graphic representation of individual supply schedule. While drawing the supply curve we measure supply on X axis and price on Y axis. The shape of normal supply curve is shown below.

GRAPH-1



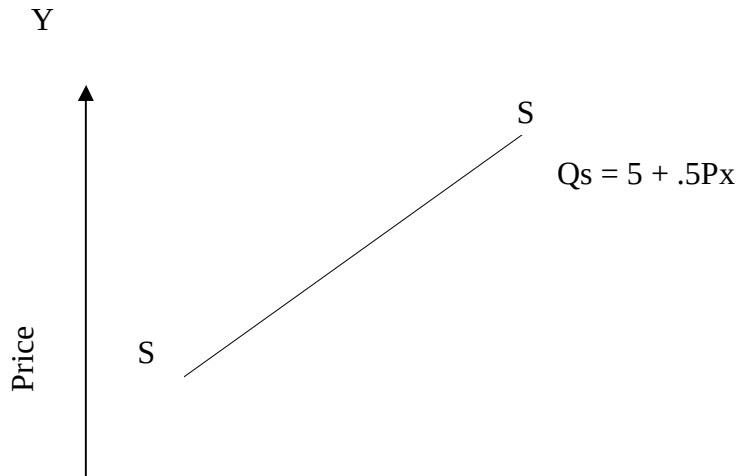
The basic feature of supply curve is that it slopes upward from left to right. This reveals the fact that, the quantity supplied is directly related to price. The supply curve shown above indicates the quantity offered for sale by a single supplier at different prices.

Statistical Supply function:
We can use the linear supply function Qs = a +bPx to estimate change in supply as a result of given change in price. Assume that the estimated supply function is Qs = 5 + .5 Px. With the help of this supply function we can con construct supply schedule as shown below.

Price of 'X' (Rs)	Supply of 'X' (Units)
1	5.5
2	6.0
3	6.5
4	7.0
5	7.5

With the help of above information we derive the supply curve as shown below.

GRAPH-2



Market Supply Schedule:

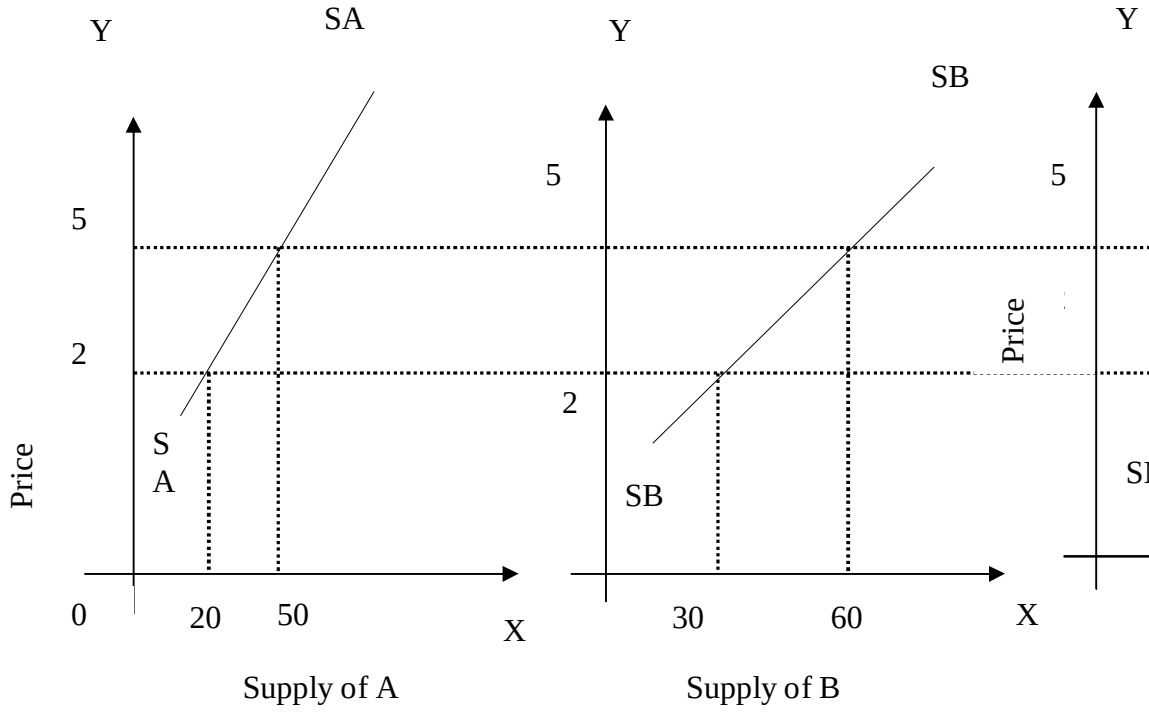
In the market there may be more than one supplier for a product. The market supply schedule consists of quantity of a commodity supplied by different individual suppliers at different prices. By adding the supply of individual suppliers at a given price, we can get market supply of a commodity. Assuming there are two suppliers for a product, a hypothetical market supply schedule is given below.

Price of (Rs)	Supply of A (Units)	Supply of B (Units)	Market Supply A+B (Units)
1	10	20	30
2	20	30	50
3	30	40	70
4	40	50	90
5	50	60	110

Market Supply Curve:

The market supply curve is the graphic representation market supply schedule. We can derive the market supply curve through horizontal summation of individual supply curves.

GRAPH-3



In the above diagrams SA, SB are the individual supply curves. SM is the market supply curve. At price Rs 2, supplier A offered 20 units, B offered 30 units. Therefore, market supply at Rs2 is 20+30 =50 units. In the same way at price Rs 5, A offered 50 units while B offered 60 units. Therefore the market supply is 110 units.

ACTIVITY -1

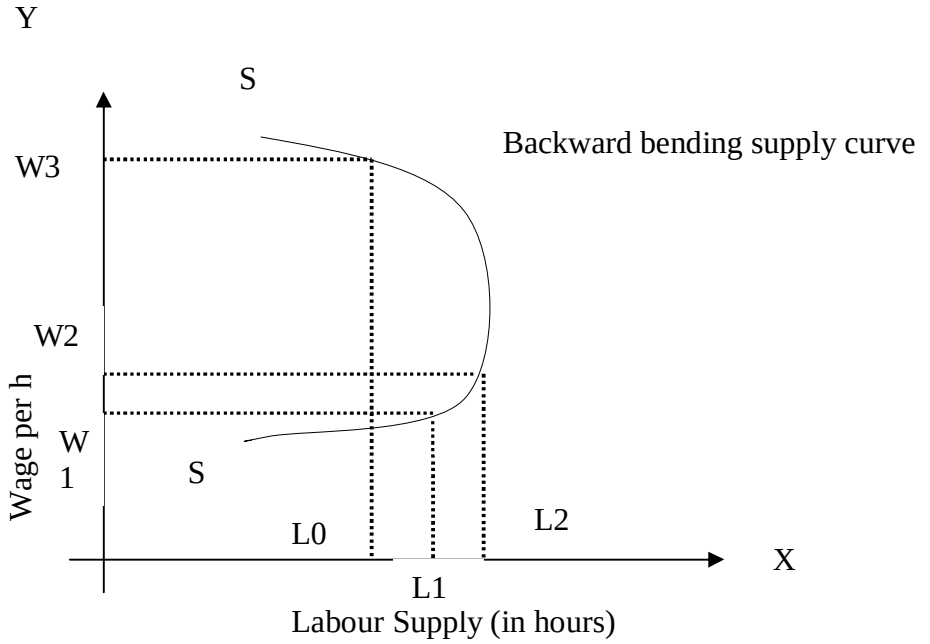
1. Spell out the meaning of supply.
2. Show the difference between individual and market supply.
3. Given the supply function Qs =10 + .8 Px, estimate supply at different prices.

Exceptions to the Law of Supply:

Law of supply i.e the existence of direct relationship between price and supply, given other things, may not hold good, with respect to all types of commodities or factors of production. With respect to the supply of factors of production, we may observe an inverse relationship between price and supply beyond a point of rise in price of factors of production. Such an inverse relationship is an exception to the law of supply.

1. Incase of labour supply, the law of supply does not hold good at all prices. Labour supply i.e. in terms of number of hours a worker wants to work in a single day. Initially increases as the price of labour i.e the wage rate per hour, increases. But beyond a point, if price of labour increase, supply of labour is likely to decrease. This is based on the assumption that workers have fixed money needs. Due to this, when wage increase, workers can earn adequate amount of income, even by working less number of hours. As a result of this, labour supply curve, generally, bends backwards as shown below.

GRAPH-4



According to the above diagram OL1 is the supply of labour corresponding OW1 wage rate per hour. As the wage rate increased to W2, supply of labour increased to OL2. Further if the wage rate increased from W2 to W3, number of hours offered for work by a worker decreased from OL2 to OL0. This reveals the fact that at higher wage rate i.e. OW3, workers offered less number of hours for work. This goes against the law of supply and hence an exception.

2. Expectations regarding future price may also lead to invalidity of the law of supply. If the suppliers expect that in near future, price is going to fall below present prices; suppliers may offer large quantities for sale, even though the present price is less than the previous price. In this case also, we can see the presence of inverse relationship between price and quantity supplied.

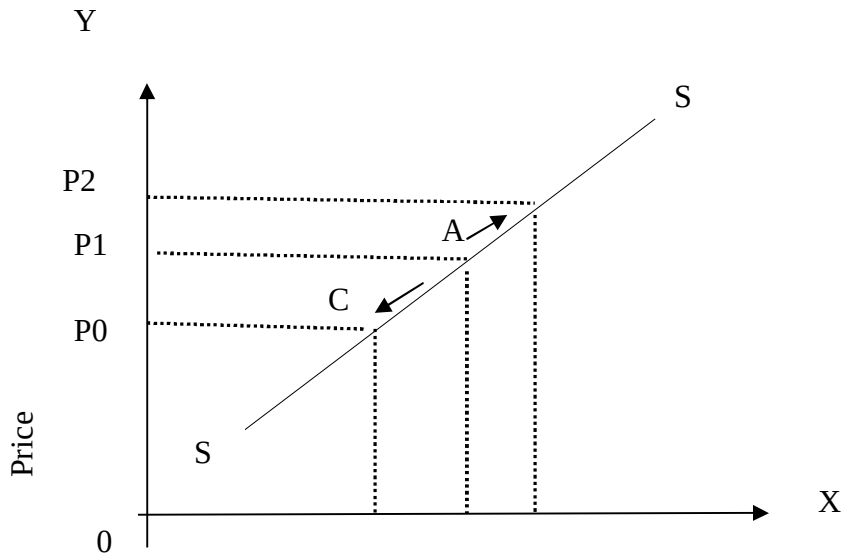
ACTIVITY-2

1. What do you understand by backward bending supply curve?

6.05: Extension and contraction in supply:

This refers to a movement along the supply curve. Change in supply as a result of change in price, other things remaining constant, is either called an extension or contraction in supply. Extension and contraction is to be shown on the same supply curve through different points.

GRAPH-5

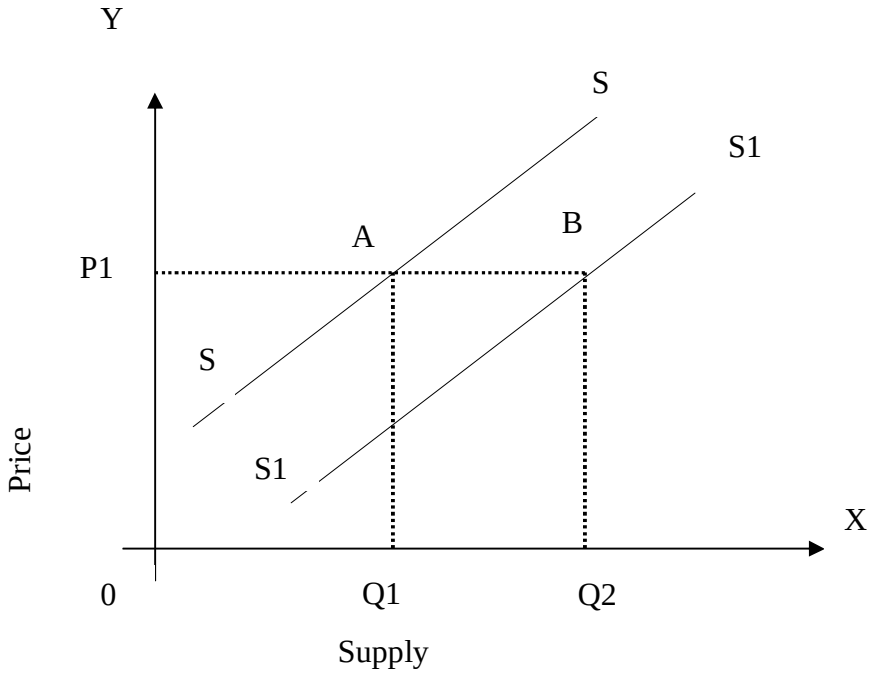


According to above diagram, at price OP1, suppliers are supplying Q1 quantity corresponding to point A on supply curve SS. As price increases to P2, suppliers are supplying Q2 quantity corresponding to point B on SS. The forward movement from A to B on SS supply curve is known as extension in supply. As the price decreases from P1 to P0, suppliers supply Q0 quantity corresponding to point C on SS supply curve. The backward movement on supply curve, from A to C is known as contraction in supply.

6.06: Increase and decrease in supply:

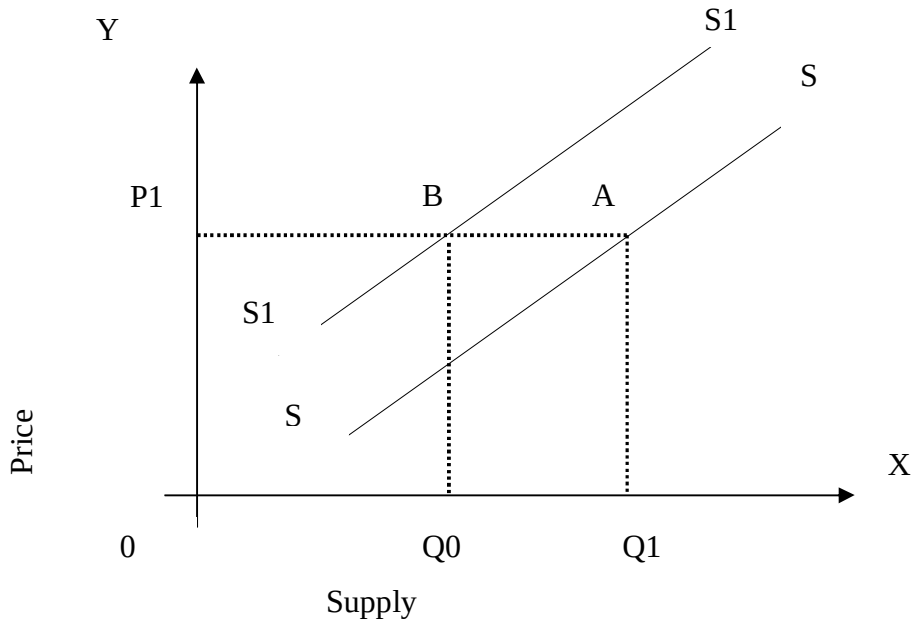
This refers to shift in supply curve either to right or to left of the original supply curve. Given the price, if there is change in other factors influencing the supply, the resulting change in supply is to be shown through a shift in supply curve.

GRAPH-6



In the above diagram SS is the initial supply curve. Point A on S indicates Q1 quantity supplied, corresponding to P1 price. Given the price, if there is a change in other things i.e fall in cost of production, suppliers may offer more than q1 quantity. In such a case supply curve shifts to the right of the original SS curve and becomesS1S1. Point B on S1S1 indicates Q2 quantity corresponding to P1 price due to change in other factors influencing supply. Change in supply from Q1 to Q2 at the same price is known as increase in supply.

GRAPH-7



In the above diagram SS is the initial supply curve. Point A on S indicates Q1 quantity supplied, corresponding to P1 price. Given the price, if there is a change in other things i.e increase in cost of production, suppliers may offer

less than Q1 quantity. In such a case supply curve shifts to the left of the original SS curve and becomes S1S1. Point B on S1S1 indicates Q0 quantity corresponding to P1 price due to change in other factors influencing supply. Change in supply from Q1 to Q0 at the same price is known as increase in supply.

ACTIVITY-3

1. How do you show extension and contraction in supply?
2. How do you show increase and decrease in supply?

6.07: Summary

The word 'supply' is used to show the directional relationship between price and quantity of a commodity or factor offered for sale at a given price and at a given point of time. Other things remaining constant, there exists direct relationship between price and supply. This direct relationship between price and supply is known as the 'law of supply'. Extension and contraction in supply refers to a movement along the supply curve. Increase and decrease in supply refers to shift in supply curve.

6.08: Reference:

1. R.L Varshney and Maheswari : *Managerial economics*.
2. Mote,V.L; Samuel Paul and G.S.Gupta : *Managerial Economics, concepts and cases.*
3. Koutsoyiannis : *Modern Micro Economics*
4. Stonier and Hague: *A Text Book of Economic Theory.*

6.09: Self Assessment Test:

1. Discuss the law of supply. Explain its exceptions.