INDIAN SCHOOL MUSCAT
DEPARTMENT OF COMMERCE AND HUMANITIES
SENIOR SECTION
CLASS – XI - MICROECONOMICS (030)

SUPPLY

Meaning of supply

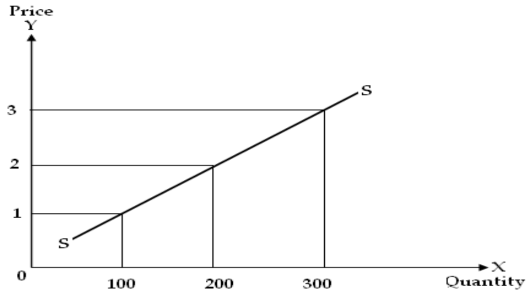
Supply means the quantity of a commodity which a firm or an industry is willing to produce at a particular price, during a given time period.

Law of Supply

This law states that **'other things remaining the same', an increase in the price of a commodity leads to an increase in its quantity supplied and vice versa**. Thus, more of a commodity is supplied at higher prices than at lower prices.

Supply schedule and Supply curve.

A supply schedule is a table which shows the quantities of a commodity supplied at various prices during a given time period.

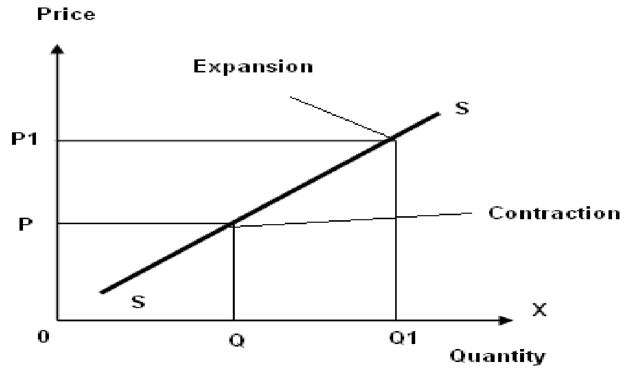
<table>
<tr><th colspan="2">Supply Schedule</th><th>Supply Curve</th></tr>
<tr><th>Price (Rs.)</th><th>Supply (Units)</th><td rowspan="4">
</td></tr>
<tr><td>1</td><td>100</td></tr>
<tr><td>2</td><td>200</td></tr>
<tr><td>3</td><td>300</td></tr>
</table>

As the price increases from ₹ 1 to ₹ 3, the supply also rises from 100 units to 300 units, in response to the rising price. The law of supply is based on the concept that other things remaining the same, an increase in price results in higher profits for the producer and higher profits earned by the firms and the greater is the incentive to produce more.

<u>'Change in supply' versus 'change in quantity supplied'</u>
<u>('Shift of supply curve' versus 'movement along a supply curve')</u>

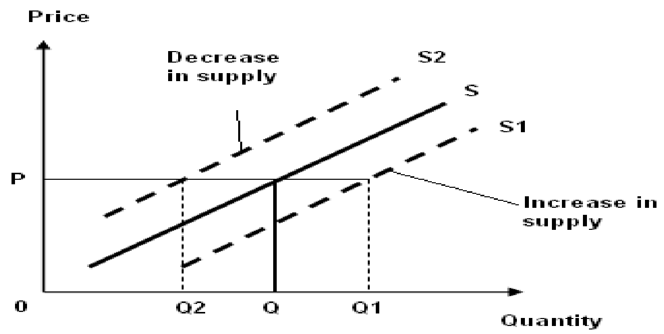
Movement along a supply curve (Change in quantity supplied)

The law of supply states the effect of a change in the own price of a commodity on its supply, other things remaining constant. The supply curve also carries the same assumption. A movement from one point to another on the same supply curve is also referred to as a change in quantity supplied".



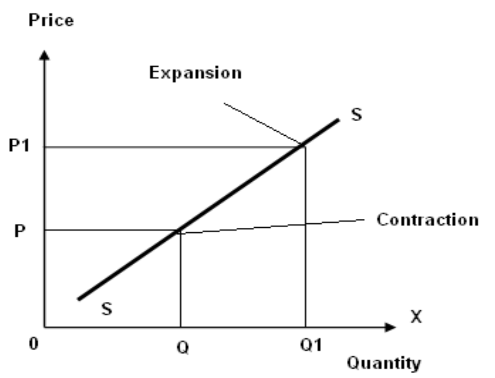
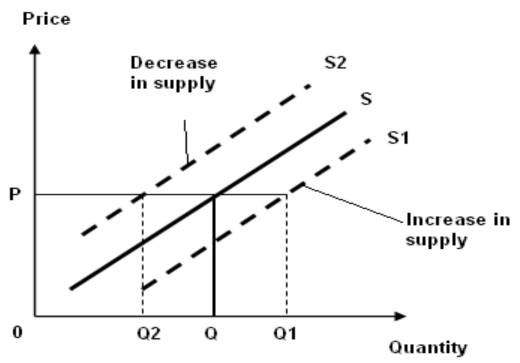
In the above figure, OQ is the quantity supplied at price OP. When the price rises to OP1 the quantity supplied increases to OQ1. Thus there is an upward movement along the supply curve from point A to B. It is expansion/extension of supply.
Similarly, when the price of a commodity falls from OP1 to OP, there is a decrease in quantity supplied from OQ1 to OQ and thus a downward movement along the supply curve. It is contraction of supply.

Shifts of the supply curve
When supply changes due to changes in factors other than the own price of the commodity, it results in a shift of the supply curve. This is also referred to as a **"change in supply".**

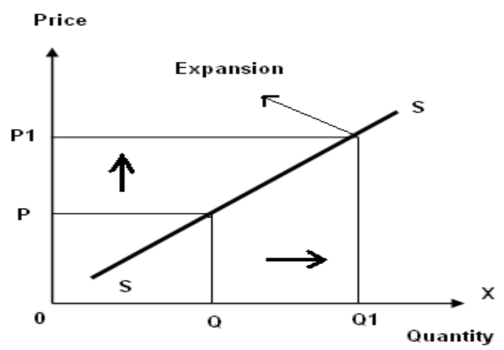
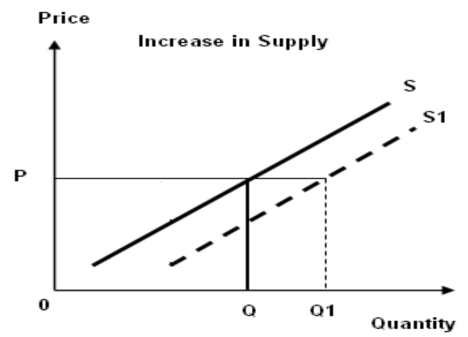


An **'increase in supply'** means more of the commodity is supplied at the same price. As a result the supply curve shifts to the right. In figure given above, at price OP the previous supply was OQ which increased to OQ1. This also means that OQ1 are being supplied at price OP with the new supply curve S1S1. An **'increase'** in supply can take place due to an improvement in technology, decrease in input prices and decrease in rate of excise tax as it will enable producers to produce and sell more resulting in a rightward shift of the supply curve.
A decrease in supply means less of the commodity is supplied at the same price, than previously. As a result, the supply curve shifts inwards to the left. In the figure, at price OP, previously OQ units were supplied which decreased to OQ2. This also means that OQ2 units can now be supplied price OP with the new supply curve S2S2.

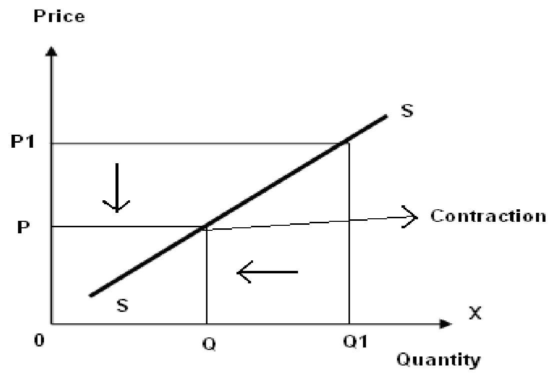
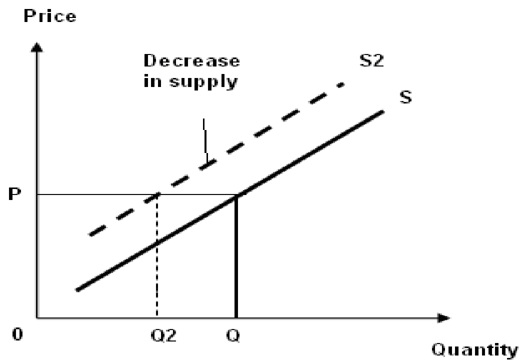
DISTINCTION BETWEEN

CHANGE IN QUANTITY SUPPLIED (MOVEMENT ALONG THE SAME SUPPLY CURVE)	CHANGE IN SUPPLY (SHIFTS IN SUPPLY)
✶ More or less units of a commodity are supplied at a higher or lower price of the commodity	✶ More or less units of a commodity are supplied at the same price of the commodity.
✶ It is due to change in price of the commodity	✶ It is due to change in other factors other than price of the commodity.
✶ It is the case of movement along the same supply curve in upward or down ward direction	✶ It is the case of shifts in supply right or left to the original one
✶ It is also called expansion or contraction of supply	✶ It is also called increase or decrease in supply
	

DISTINCTION BETWEEN

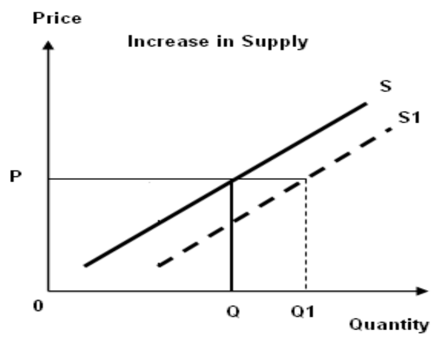
INCREASE IN QUANTITY SUPPLIED (EXPANSION OF SUPPLY)	INCREASE IN SUPPLY
✶ More units of a commodity are supplied at a higher price.	✶ More units of a commodity are supplied at the same price of without any change in its price.
✶ It is movement along the same supply curve in a upward direction	✶ It is shift is supply curve right to the original one
✶ t is due to change in price of the commodity	✶ It is due to change in factors other than the price of the commodity.
	

DISTINCTION BETWEEN

DECREASE IN QUANTITY SUPPLIED (CONTRACTION IN SUPPLY)	DECREASE IN SUPPLY
✶ Less units of a commodity are supplied at a lower price.	✶ Less units of a commodity are supplied at the same price or without any change in the price of the commodity.
✶ It is movement along the same supply cure in a downward direction	✶ It is the case of shift in supply to the left of the original one.
✶ It is due to change in price of the commodity	✶ It is due to change in factors other than the price of the commodity.
	

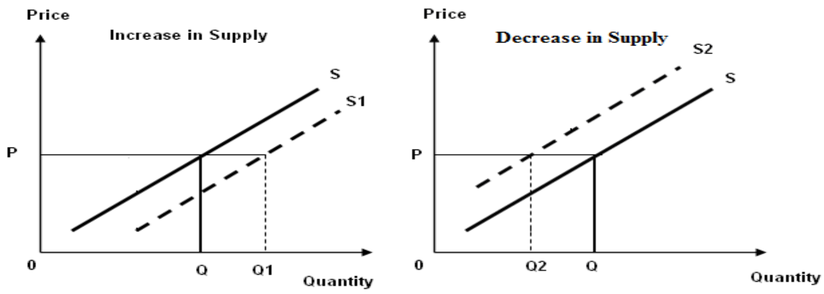
Determinants of a Firm's Supply Curve
Any factor that affects a firm's marginal cost curve is a **determinant of its supply curve**. Three such factors are:

Technological Progress:
Any cost saving or innovative method that uses factors of production to produce more units of output is technological progress. It will lower the firm's marginal cost of output and shift the marginal cost curve rightwards. Therefore, at any given market price, the firm supplies more units of output.
The use of outdated technology has the opposite effect.



Input Prices
A change in input prices also affects a firm's supply curve. If the price of an input (e.g. wage rate of labour) decreases, the cost of production falls. This will decrease the firm's marginal cost at any level of output. The supply curve will shift rightward. Therefore, at any given market price, the firm supplies more units of output (Increase in supply).

Similarly, If the price of an input (e.g. wage rate of labour) increases, the cost of production rises. This will increase the firm's marginal cost at any level of output. The supply curve will shift leftward. Therefore, at any given market price, the firm supplies fewer units of output (Decrease in supply).

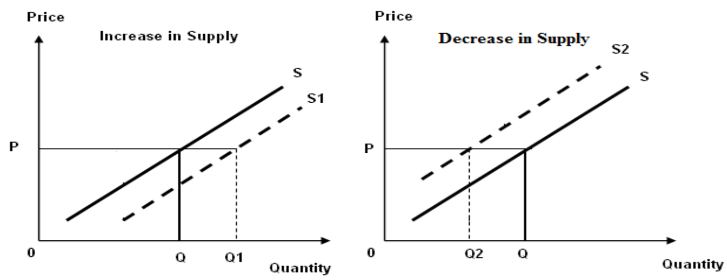


Unit Tax

A unit tax is a tax that the government imposes per unit sale of output.

A reduction in the rate of unit tax on sale or production will decrease the marginal cost of production for a firm. This means the firm will supply more output at same price. The marginal cost curve (supply curve) of the firm will shift rightwards. The supply of firm will increase. Therefore, at any given market price, the firm supplies more units of output (Increase in supply).

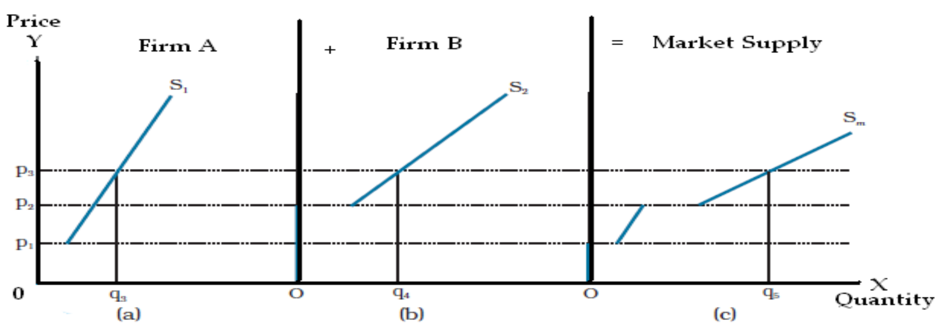
Similarly, an imposition of additional unit tax on sale or production will increase the marginal cost of production for a firm. This means the firm will supply less output at same price. The marginal cost curve (supply curve) of the firm will shift leftwards. The supply of firm will decrease. Therefore, at any given market price, the firm supplies fewer units of output (Decrease in supply).



Market Supply Curve

The market supply curve shows the output levels that firms in the market produce in aggregate corresponding to different values of the market price. Market supply at price is the horizontal summation of the supplies of individual firms at that price.

If the market has 2 firms, namely Firm A and Firm B, then at a given market price, market supply = supply of Firm A + supply of Firm B.



Price Elasticity of Supply

Price elasticity of supply measures the degree of responsiveness of quantity supplied to changes in the price of the good. Price elasticity of supply is denoted by (E_S) and is defined as follows:

$$\text{Price Elasticity of Supply} = \frac{\textbf{percentage change in quantity supplied}}{\textbf{percentage change in price}}$$

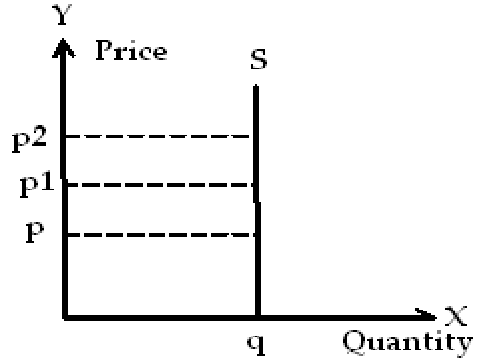
OR

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

Types of Price Elasticity of Supply

There are five degrees of price elasticity of supply. These are

<table>
<tr><th>Price elasticity</th><th>Example</th><th>Diagram</th></tr>
<tr><td>Perfectly inelastic supply (Es = 0)

When percentage change in quantity supplied is Zero to percentage change in price</td><td><table><tr><th>Price (₹)</th><th>Quantity (Units)</th></tr><tr><td>10</td><td>20</td></tr><tr><td>20</td><td>20</td></tr></table></td><td>
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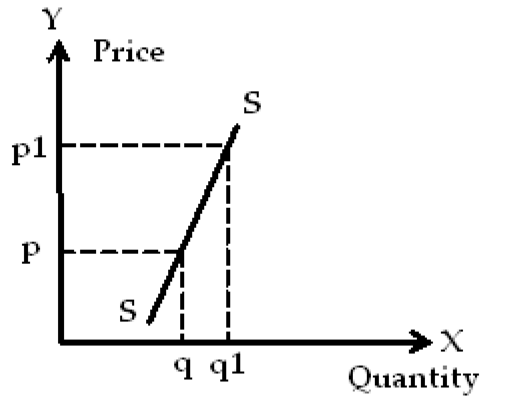
<tr><td>Inelastic supply OR less than unit elastic supply (Es > 0 < 1)

When percentage change in quantity supplied is less than percentage change in price</td><td><table><tr><th>Price (₹)</th><th>Quantity (Units)</th></tr><tr><td>10</td><td>20</td></tr><tr><td>20</td><td>24</td></tr></table></td><td>
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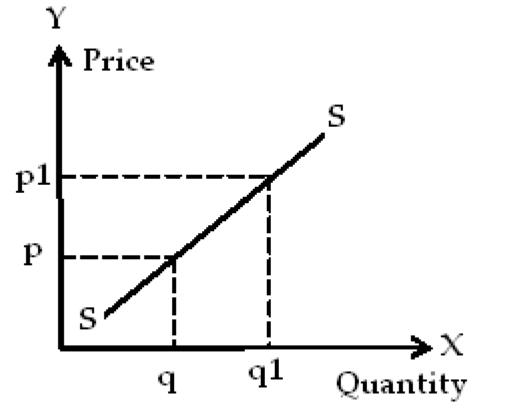
<tr><td>Unitary elastic supply (Es = 1)

When percentage change in quantity supplied is equal to percentage change in price</td><td><table><tr><th>Price (₹)</th><th>Quantity (Units)</th></tr><tr><td>10</td><td>20</td></tr><tr><td>20</td><td>40</td></tr></table></td><td>
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<td>Elastic supply OR more than unit elastic supply ($Es > 1 < \infty$)

When percentage change in quantity supplied is greater than percentage change in price</td>
<td>
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<tr><th>Price (₹)</th><th>Quantity (Units)</th></tr>
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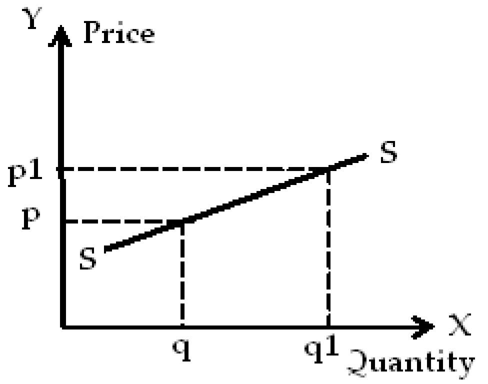
<td>
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<tr>
<td>Perfectly elastic supply ($Es = \infty$)

When percentage change in quantity supplied is infinite with no percentage change in price</td>
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<table>
<tr><th>Price (₹)</th><th>Quantity (Units)</th></tr>
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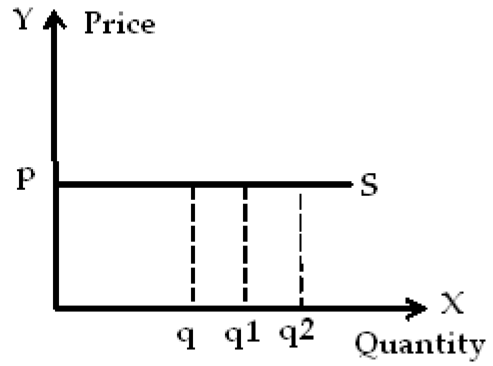
<td>
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