

Supply

We now turn our attention to the other side of the market and examine the behaviour of sellers. There are many definitions when dealing with supply and these must be memorised.

Supply: is the quantity of a good that firms are willing and able to make available at different prices over a certain period of time

Individual Supply: the quantity of a good an individual firm is willing to supply at different prices

Market Supply: the total quantity of a good that all firms are willing to supply at different prices

From the above definitions we see that in order to calculate market supply we simply add together all the amounts that the individual sellers would be willing to sell at different prices.

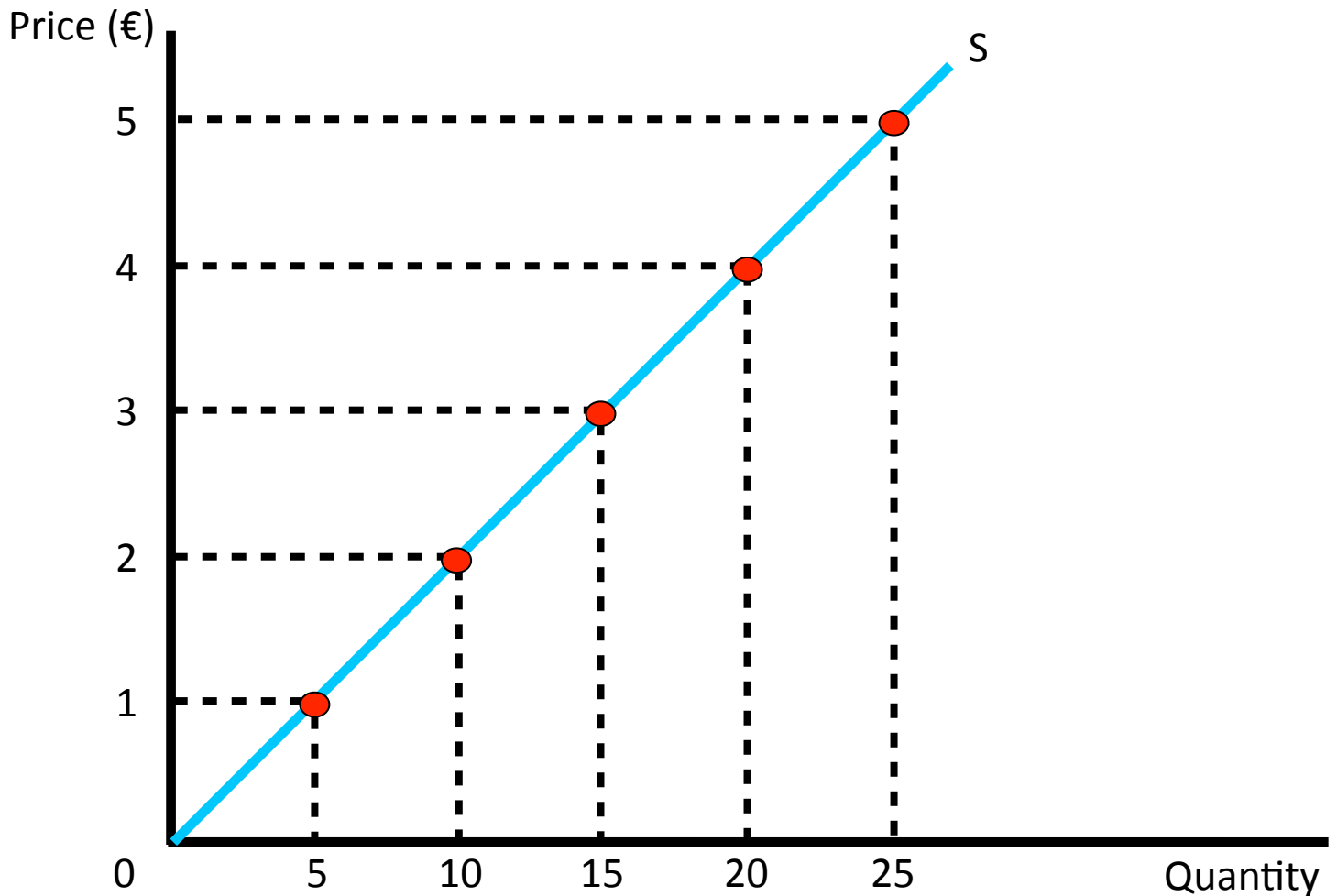
Individual Supply Schedule: is a table that shows the quantity of a good an individual firm is willing to supply at different prices

Price	Quantity
5	25
4	20
3	15
2	10
1	5

As we can see from the above schedule, the quantity supplied increases as the price of the good rises and falls as the price of the good falls. This positive relationship between quantity supplied and price gives us THE Law of Supply.

The Law of Supply: states that when the price of a good rises the quantity supplied of that good rises and when the price of a good falls the quantity supplied falls.

The Supply Curve



If the supply schedule is drawn in the form of a graph, the resulting curve is known as the supply curve, which graphically shows the relationship between the amount supplied by the firm at each price.

Due to the positive relationship between price and quantity supplied, the typical supply curve is upward sloping showing that as price rises quantity supplied rises and as price falls quantity supplied falls.

The higher the price the greater the quantity suppliers are willing to supply. This is because suppliers can earn more revenue. As price falls, suppliers are not as willing to supply the good because the rewards are not as high, and so less is supplied.

The Supply Curve: The supply curve (which graphs the supply schedule) shows how the quantity supplied of a good varies as its price varies.

EXAMPLE

The cost of production to the firm for producing one good is 10.

- At a selling price of €5, the firm will not produce any goods as this price is below the firm's cost of production and it would make a loss on each good sold.
- At a selling price of €15, goods will be supplied as the firm is making a profit on each good sold.
- At a selling price of €30, the firm increases its production (increases supply) in order to avail of higher profit levels.
- At a selling price of €10, goods will be supplied as the firm is covering its costs, but the quantity supplied will be less than it was when the price was €15 and €30 respectively.

Just as we have individual and market demand we also have individual and market supply.

Market Supply

Let's assume that the total quantity supplied of good x is supplied by firms 1 and 2. They are the only firms that supply this good. The Supply Schedules for these firms are given below.

Supply Schedule		
Price	Firm 1	Firm 2
€1	5	10
€2	10	20
€3	15	30
€4	20	40
€5	25	50

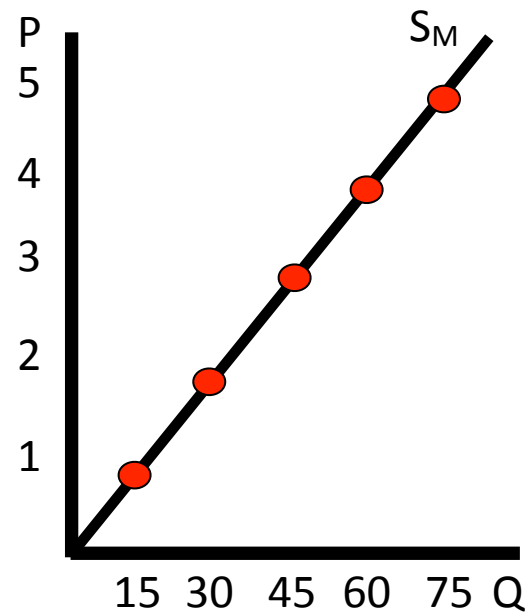
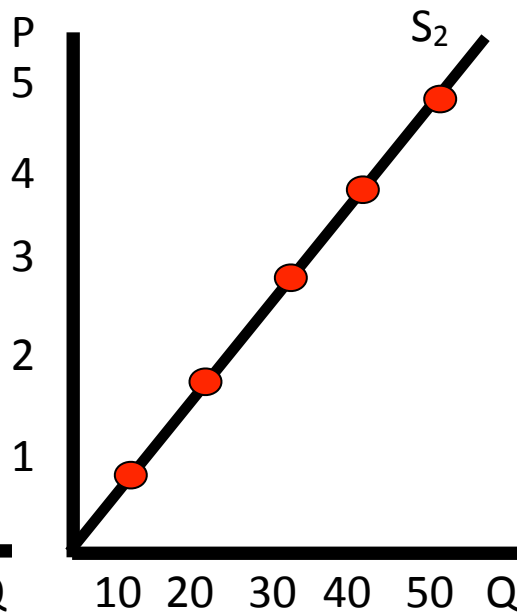
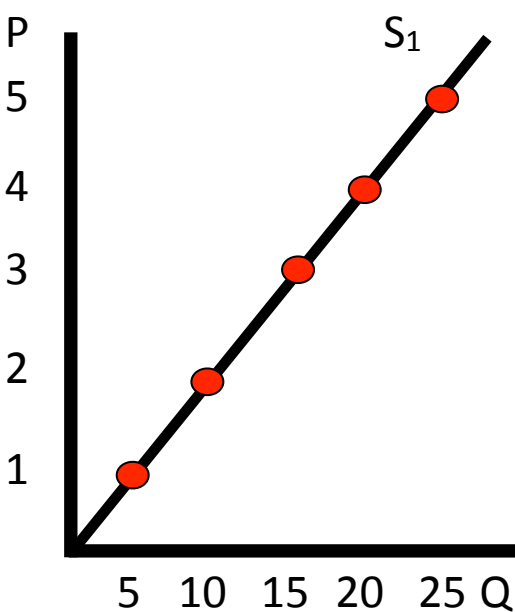
The Supply Curves below the demand schedule for each individual firm. From these graphs, we can see that at a price of €3, the quantity supplied by firm 1 is 15 units and the quantity supplied from firm 2 is 30 units at a price of €3. By adding these amounts we see that the market supply for that good at a price of €3 is 45 units.

To derive the Market Supply we add the quantity supplied by each individual firm at each price to calculate the overall quantity supplied to the market at each price.

Firm 1

Firm 2

Market Supply



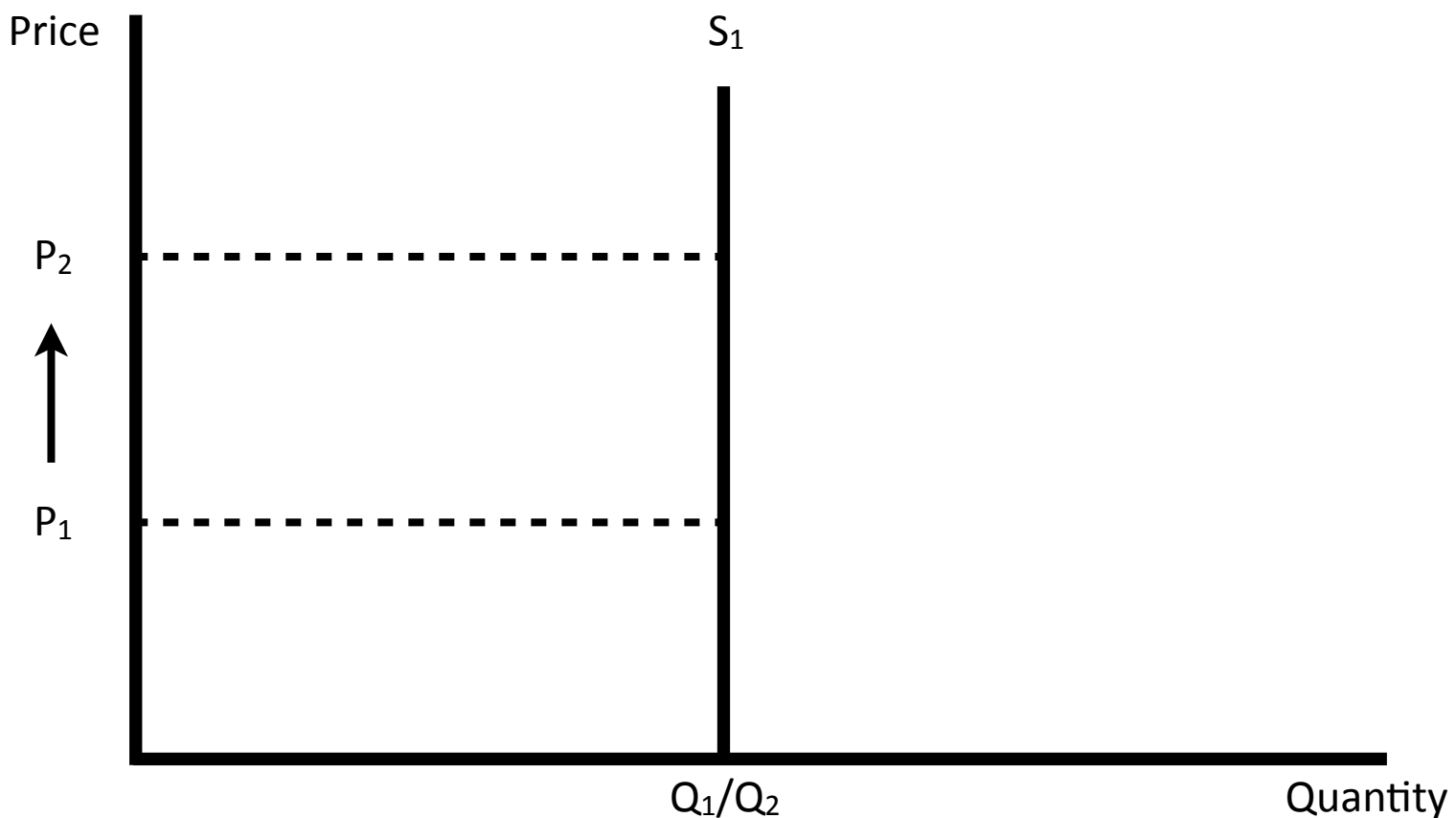
Supply Curves that Break the Law of Supply

On the Leaving Cert course, there are four supply curves that break the Law of Supply. Each of these you must be able to both draw and explain. These are

- 1) Perfectly Inelastic or Perfectly Inflexible Supply Curve
- 2) Supply Curve with a Maximum Capacity Constraint
- 3) Minimum Price Accepted Supply Curve
- 4) Backward Bending Supply Curve

We will look at each of these individually now.

Perfectly Inelastic / Perfectly Inflexible Supply Curve



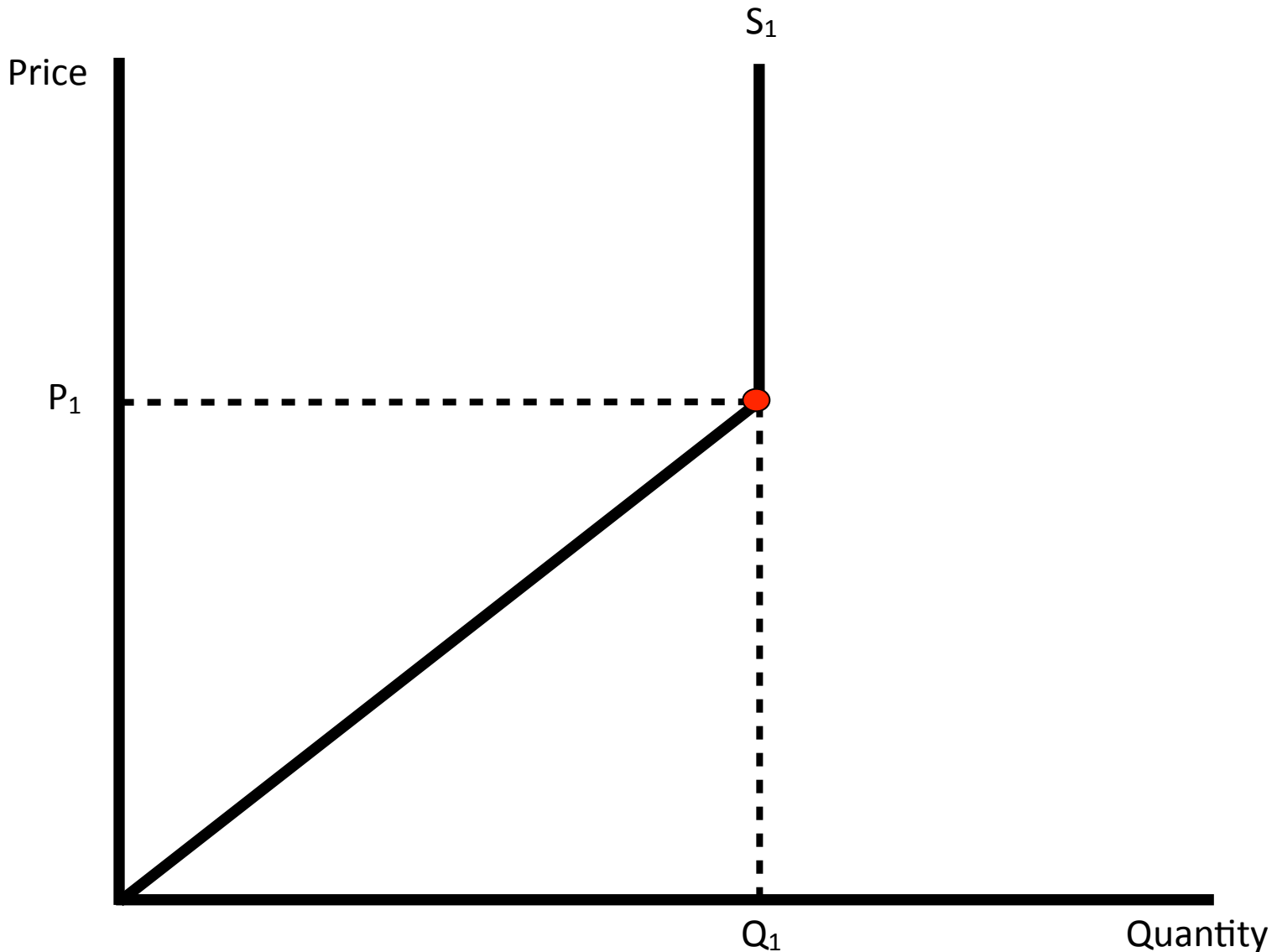
- 1) Any change in price will not bring about any change in supply.
- 2) Entire daily supply must be sold, regardless of the prevailing price because the commodity cannot be held over for sale the following day.

Examples Include: Supply of fresh fish in a fish market

Supply of land

Seating capacity of a sports stadium

Supply Curve with a Maximum Capacity Constraint

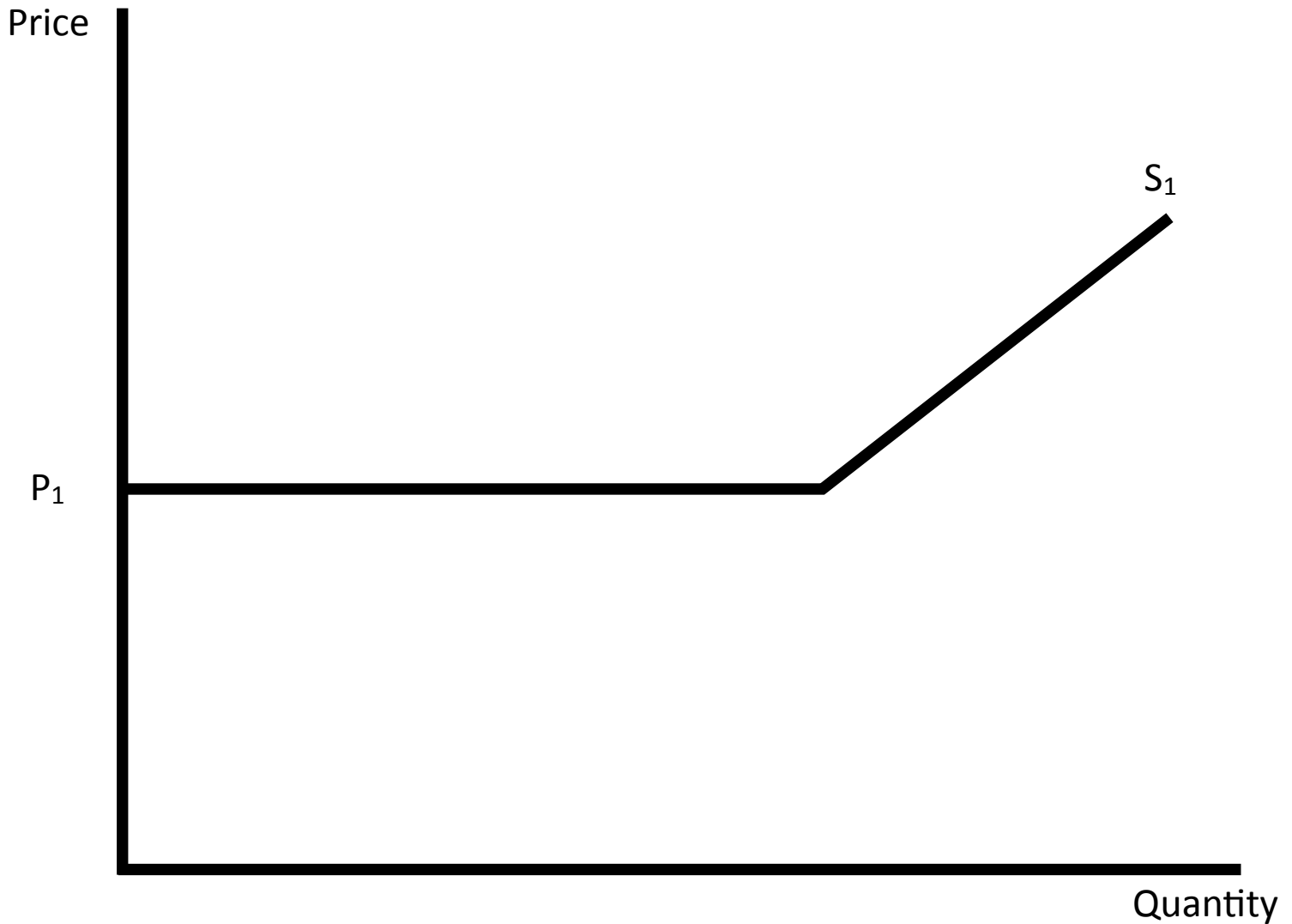


- 1) As price increases up to P_1 output increases up to a maximum level Q_1 .
- 2) As price increases above P_1 quantity supplied will not increase.

Examples Include: ESB Power Plant

Mining Plant

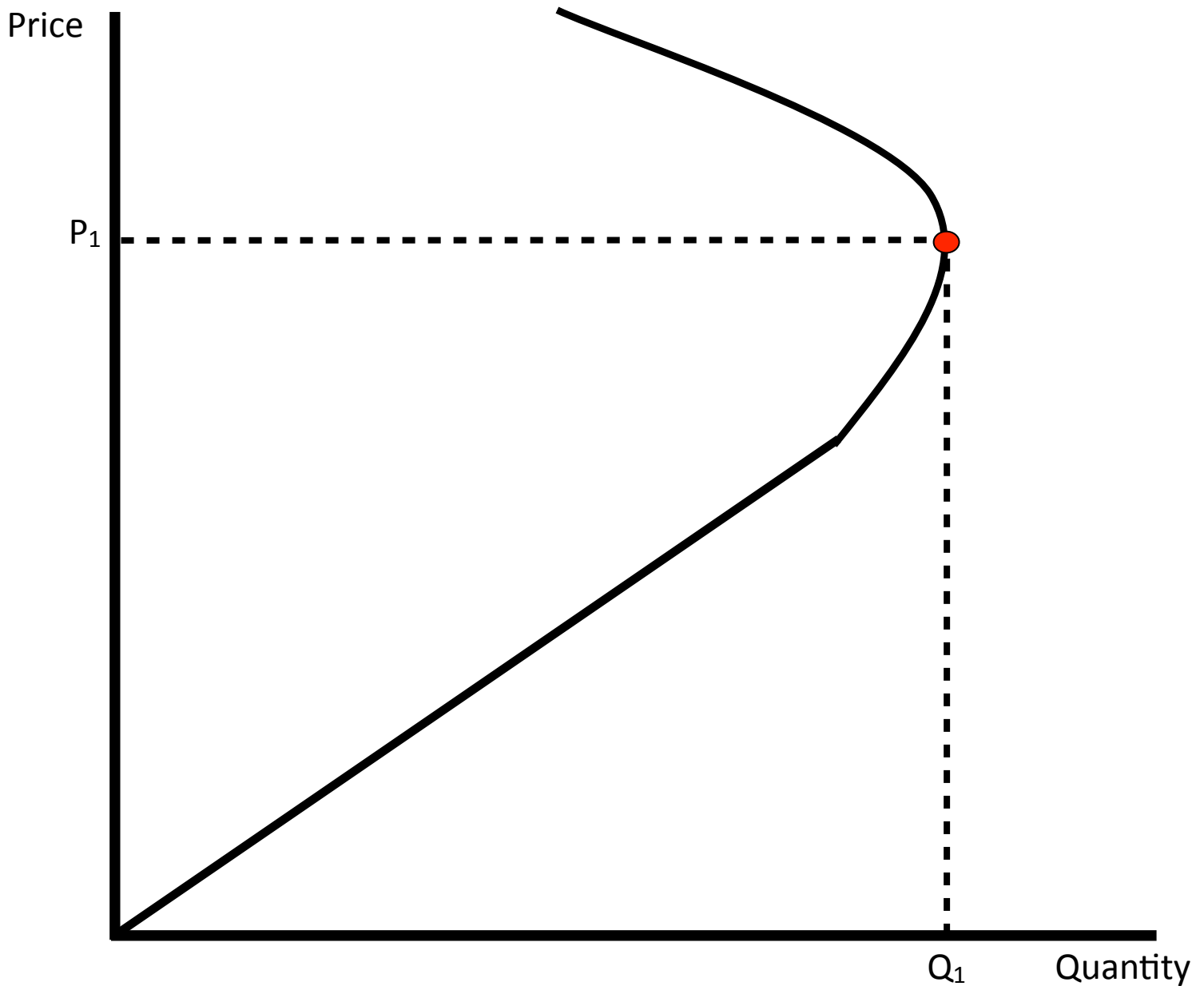
Output is limited by plants productive capacity

Minimum Price Accepted Supply Curve

- 1) Below P_1 nothing is supplied.
- 2) At prices above P_1 as price increases, quantity supplied increases.

Examples Include: Supply of Labour

Backward Bending Supply Curve



- 1) Up to price P_1 , any increase in price will cause an increase in quantity supplied.
- 2) Any price above P_1 , will cause a reduction in the quantity supplied.

Examples Include: Workers, when their wages reach very high levels.

Change in Supply

The following cause a change in Supply

- 1) Change in the Price of the Good itself
- 2) The Price of Related Goods.
- 3) The Cost of Producing the Product.
- 4) The State of the Firm's Production Technology.
- 5) Unplanned Factors.
- 6) Taxation and Subsidies.
- 7) Number of Sellers in the Industry.
- 8) Objectives of the Firm.

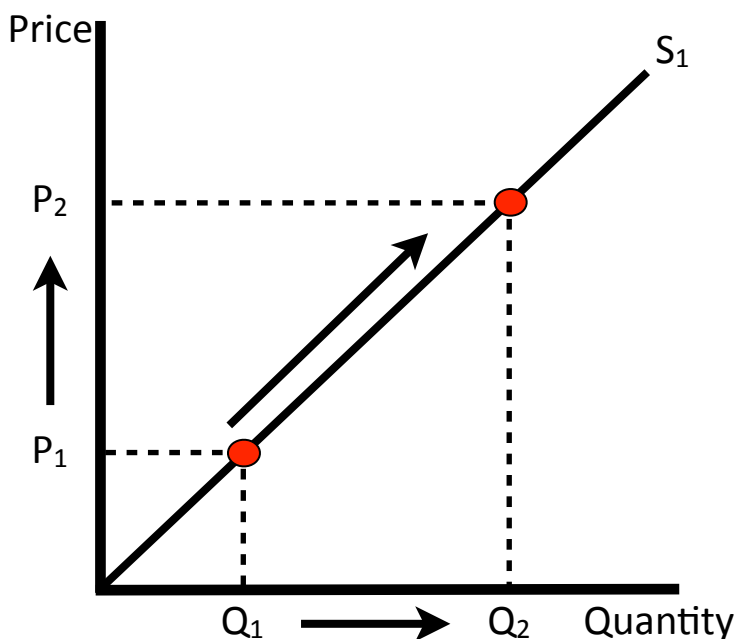
These factors can be represented by a Supply Function

$$S = f(P_1, P_{OG}, IC, Tech, U, T, Sell, Obj)$$

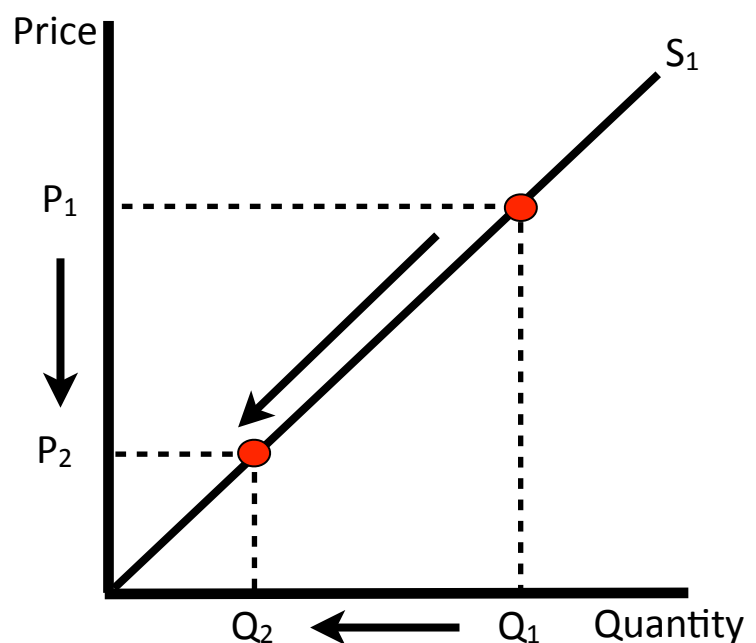
- 1) **Price of the Good Itself:** If the price of the good rises, suppliers will supply more of that good resulting in a MOVEMENT upwards along the existing supply curve. If the price of the good falls, there is not the same financial return in the good for the suppliers resulting in a MOVEMENT downwards along the existing supply curve.

NOTE: The change in the price of the good itself is the only factor that causes a movement along the existing supply curve. All the other factors cause a shift.

Movement Up the Supply Curve



Movement Down the Supply Curve



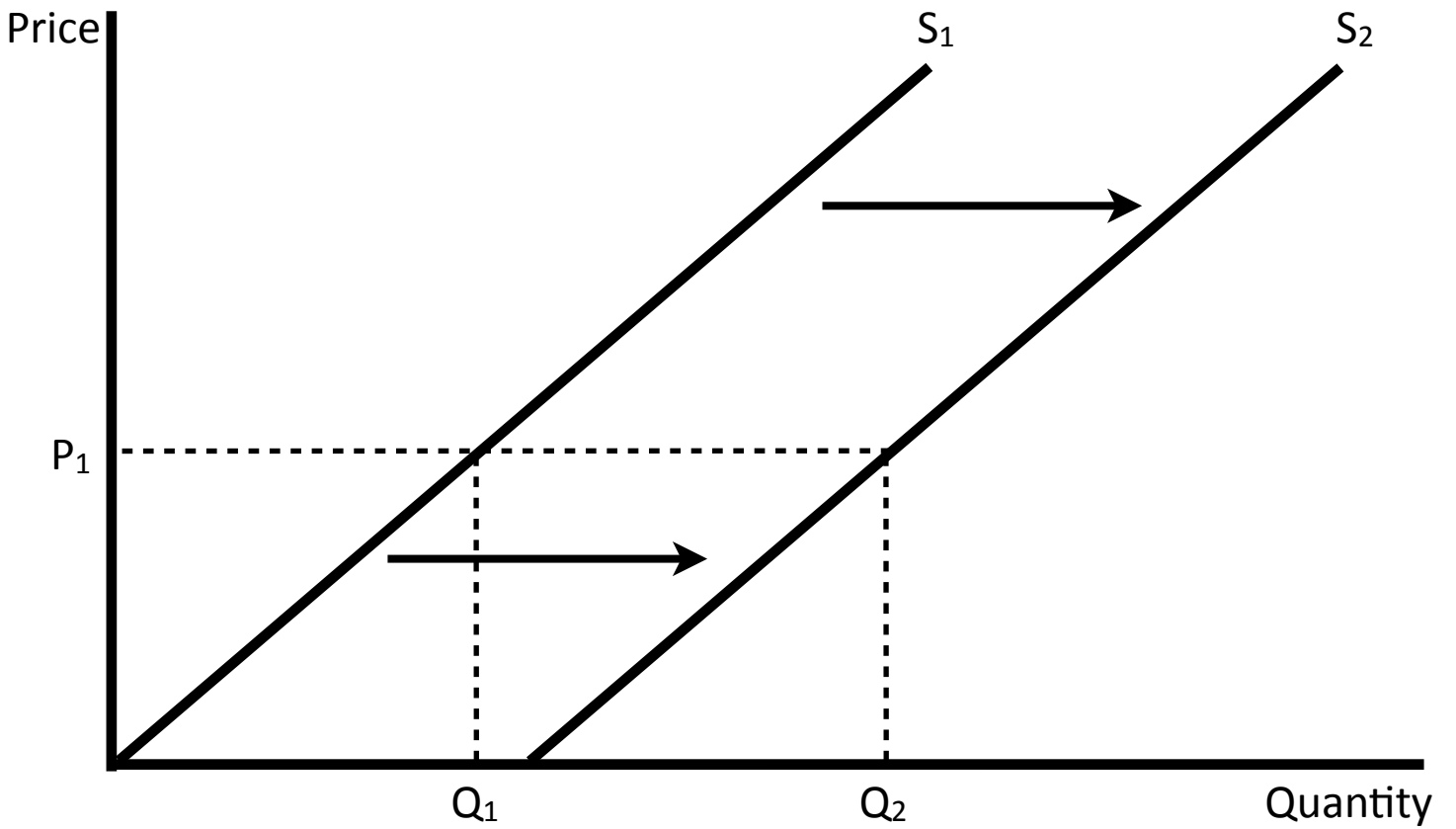
A Movement Along the Supply Curve: is caused by a change in the selling price of the good itself, all other things being equal.

- 2) **The Price of Related Goods:** If there is an increase in the selling price of other goods, which the manufacturer could produce through using his existing factors of production, he may switch from producing the present commodity to that for which the price has increased.
- 3) **The Cost of Producing the Product:** If there is an increase in costs of factors of production, which a firm uses in the production of their good, then it will be more costly to manufacture the good. They will not continue to supply the same quantity of the good at the old prices. There will be a reduction in the quantity supplied.
- 4) **The State of the Firm's Production Technology:** As new machinery is invented, as labour becomes more specialised and efficient the factors of production become more efficient. It becomes possible to increase their output even though the payments they receive remain the same.
- 5) **Unplanned Factors:** There may be changes in the quantity supplied, which were never intended by the producer. E.g. Agriculture due to changes in the weather; diseases etc. In industry there may be shortages of raw materials, strikes etc.
- 6) **Taxation and Subsidies:** If the government were to reduce the rates of taxation on the raw materials used in the manufacture of a commodity, this represents a reduction in the cost of production and hence quantity supplied would increase. If a subsidy is granted on the raw materials or on the labour employed by the firm, this has the effect of reducing costs and thereby resulting in an increase in the quantity supplied.
- 7) **Number of Sellers in the Industry:** If the number of firms in the industry decreased e.g. due to rationalisation then the overall quantity supplied to the market would decrease.
- 8) **Objectives of the Firm:** If the objectives of the firm changed from that of profit maximisation to a deliberate reduction in output by firms in the industry then quantity supplied would fall.

From point 2 to point 8 above, we have looked at the factors that cause "a shift in the supply curve". Remember, a change in price causes a movement and a change in any other factor causes a shift.

Shift in the Supply Curve: If any of the factors other than the price of the good itself change this will result in a shift in the supply curve.

Outward Shift in the Supply Curve



Inward Shift in the Supply Curve

