

## **3.1 Perfect Competition**

### **What is a market structure?**

A market structure refers to the conditions under which a good or service is bought and sold. The notes that follow examine two extremes - perfect competition (many firms) and monopoly (one firm). Between these two extremes lie markets where there are a large number of sellers supplying similar but slightly different products (imperfect competition) and a market structure where a small number of sellers supply similar but slightly different products (oligopoly).

Helpful video [here](#)

### **What is a Perfectly Competitive Market/Perfect Competition?**

The characteristics or assumptions underlying perfect competition are identified below. A perfectly competitive market is the most extreme type of market structure

- **There are many buyers & sellers in the industry**
  - No individual buyer or seller can influence by his/her own actions the market price of the goods.
- **Firms produce homogeneous goods**
  - The goods, which are supplied by the producers, are identical goods. Firms do not advertise or use brand names in attempting to convince consumers that their product is different.
- **Free entry and exit (No barriers to entry)**
  - Firms already in the industry cannot prevent new firms from entering the industry. No barriers to entry/exist within the industry. It's possible for firms to enter or leave the industry as they wish.
- **Perfect knowledge of prices/profits**
  - In the market every firm has full knowledge as to profits made by the other firms in the industry. Consumers and businesses are fully aware of the prices being charged by rival firms.
- **Firms try to maximise profits**
  - The aim of each firm is to produce that quantity where  $MC = MR$ . Each firm will try to minimise costs.

A brief look at the above assumptions shows that markets like this are not very common. Most manufactured products contain brand names by which they can be distinguished from other similar products, so that perfect competition describes a situation which applies to only a small proportion of the goods and services supplied on the market today.

However, the above conditions do represent the market situation for many agricultural products. The sale of fresh fruit and vegetables in shops or in markets reflects the market characteristics of perfect competition. Also the organised commodity market for primary products (wheat, tea, coffee, rubber) are such that a price may be fixed for grade or quality of the product, and individual producer, no matter how large his output, represents only a small fraction of total output.

Even though the above assumptions apply only to a limited number of cases, and despite the fact that some of the assumptions may be considered unrealistic, the perfect competition market structure is usually the starting point chosen in the analysis of how markets work, and it's the yardstick by which the other market structures are evaluated

### **How is the Price Determined in a Perfectly Competitive Market?**

There are a large number of firms. Each firm supplies a tiny percentage of the total output in the market. As a result, it alone does not have any influence on the price. Firms are **price takers**/ the price is set by the interaction of the industry demand and supply curves. Individual firms then charge the price as set by the industry.

Determining Price in a Perfectly competitive market

### **Demand Curve Faced By The Firm**

The demand for the firms output is perfectly elastic ( $D=AR=MR$ ). A firm in perfect competition is a price taker / it accepts the market price. The single firm by its own actions cannot influence the market price because the single firm represents such a small proportion of the total supply. If a firm increases price quantity demanded will fall to zero as consumers switch to the cheaper homogenous goods available.

Quantity demanded	Total Revenue (€)	Marginal Revenue (€)	Average Revenue(€)
1	5	5	5
2	10	5	5
3	15	5	5
4	20	5	5
5	25	5	5

It can be seen that when price is fixed, marginal revenue equals average price. Every extra unit sold will add the same amount to the total revenue of the firm. Under perfect competition:

$$MR = AR = D = P$$

All three coincide in the same horizontal line as shown above. As far as the producer is concerned, all are constant regardless of the amount of output produced.

Deriving the demand curve faced by an individual firm in a perfectly competitive market

## Equilibrium Position Of A Firm In Perfect Competition

- **Short-Run Equilibrium Position**

The Short-Run Equilibrium Position of A Firm In A Perfectly Competitive Market

- Equilibrium occurs at the point a, where  $MC=MR$ , and  $MC$  continues to rise. This is the quantity that ensures profit maximisation.
- $P1$  is charged. This is the price set by the industry, as the firm is a price taker it charges this price set by the industry.
- At  $Q1$ , the profit maximisation quantity,  $AR$  (average revenue)  $>$   $AC$  (average cost). Supernormal Profits (SNPs) are earned.
- The Cost of Production is at point B, where the quantity line cuts the  $AC$  Curve. This is NOT the lowest point on the  $AC$  curve, representing some inefficiency. A firm can tolerate this inefficiency due to the presence of SNPs ( $AR>AC$ )

- **New Firms Enter The Market**

As sellers have perfect knowledge of profits, the supernormal profits attract new firms to the market. These new firms have freedom of entry to the market.

As new firms are attracted, the supply of the good increases.

As supply rises within the industry, the market price falls and the demand for an individual's firm's goods drops due to the increase competition. Individual firms must now charge this lower price (as they are price takers).

The Absence Of Barriers To Entry Along With The Presence Of Supernormal Profits Attracts New Firms To Enter The Industry. Supply Rises, So Price Falls.

- **Long Run Equilibrium Position**
  - Market supply curve shifts out to the right from  $s_1$  to  $S_2$ .
  - The market price falls
  - Individual firm's price falls
  - Equilibrium point moves from  $e_1$  to  $e_2$ .
  - Firm will now produce a smaller quantity
  - Amount of SNP's earned will fall / are eliminated.
  
- Equilibrium occurs in the long run at point  $a_2$  as follows:
- $Q_2$  is produced where  $MR=MC$ , and  $MC$  continues to rise. That is the quantity that ensures profit maximisation.
- $P_2$  is the price charged. This is the (now lower) price as set by the industry, and as the firm is a price taker it charges that price.
- At  $Q_2$ ,  $AR = AC$ . Normal profits are made. (If  $AR$  falls below  $AC$  then firms will make a loss, causing some firms to leave the market until  $AR$  rises and normal profits are made.)
- The firm is producing at the minimum  $AC$  in the long run which is the most efficient level of production. It has to do this because it is only earning Normal Profit in the long run ( $AR=AC$ ).  $Q_2$  is supplied at the lowest point on the  $AC$  curve in the graph (point  $b_2$ ).

Helpful videos [here](#), [here](#) and [here](#)

## What Are The Advantages Of Perfect Competition?

Perfect competition is beneficial to consumers and society in the following ways:

- **Efficiency:** In the long run, the firm produces a quantity associated with the minimum point on the AC curve, i.e. minimum costs.
- **Low price for consumers:** In the long run firms are not earning supernormal profits. Costs are also kept to a minimum as the firm is efficient and so prices for the consumer are lower than they could otherwise be.
- **No advertising** As the goods are homogeneous there is no need for wasteful advertising
- **Normal profits earned** Because freedom of entry exists no firm will continue to earn SNPs in the long run as new firms will enter / no exploitation of consumers.

## Why do firms in Perfect Competition tend not to Advertise?

Firms in perfectly competitive markets tend not to engage in competitive advertising for several reasons:

- **Products are homogenous** - As the products are identical, one firm cannot honestly claim that its goods have better qualities than another firms'.
- **Market demand would rise rather than the demand for an individual firm's output-** As goods are homogenous, a firm that engages in such advertising would simply boost total market sales and it alone would incur the costs of the advertising.
- **Competitive advertising will increase costs** – In the long run firms are efficient and do not waste resources. Firms are aiming to maximise profits and so will not waste money on advertising.
  - **What is Generic Advertising?**
    - Generic advertising may occur in a perfectly competitive market.
  - **Generic Advertising Differs From Competitive Advertising**
    - Competitive advertising is advertising that promotes the features of an individual firm's product over those of competing firms.

## Supply Curves for firms in Perfect Competition

- **Short-Run Supply Curve For A Firm Operating In Perfectly Competitive Market**
  - A firm must at least cover its variable costs, e.g. staff wages and electricity, in the short-run. If it cannot pay variable costs then it will have to close, staff will not work and electricity will be cut off. It will therefore produce/supply if it can cover these average variable costs in the short-run.
  - Remember that the firm produces/supplies where  $MR=MC$
  - The short-run supply curve therefore is the section of the MC curve that is above the AVC curve.

### Deriving The Short-Run Supply Curve Of A Firm In A Perfectly Competitive Market

- **Long-Run Supply Curve Of Firm In Perfect Competition**
  - In the long run the firm must cover all of its costs, i.e. variable and fixed costs such as rent of premises. These are represented by the average cost (AC) curve (also known as the average total cost).
  - Remember that the firm still produces/ supplies where  $MR=MC$ .
  - The long run supply curve therefore is the section of the MC that lies above the AC curve.

## Example

### **Currency markets - taking us closer to perfect competition**

- The global foreign exchange market is where all buying and selling of world currencies takes place. There is 24-hour trading, 5 days a week.
- Trading volume in the Forex market is around \$3 trillion per day – equivalent to the annual GDP of France! 31% of global trading takes place in London alone.
- Most trading in currencies is ‘speculative.’

The main players in the currency markets are as follows:

- **Banks** both as “market makers” dealing in currencies and also as end-users demanding currency for their own operations.
- **Hedge funds** and other institutions (e.g. funds invested by asset managers, pension funds).
- **Central Banks** (including occasional currency intervention in the market when they buy and sell to manipulate an exchange rate in a particular direction).
- **Corporations** (for example airlines and energy companies who may use the currency market for defensive ‘hedging’ of exposures to risk such as volatile oil and gas prices.)
- **Private investors** and people remitting money earned overseas to their country of origin / **market speculators** trading in currencies for their own gain / tourists going on holiday and people traveling around the world on business.

### **Why does a currency market come close to perfect competition?**

- **Homogenous output:** The "goods" traded in the foreign exchange markets are homogenous - a US dollar is a dollar and a euro is a euro whether someone is trading it in London, New York or Tokyo.
- **Many buyers and sellers meet openly to determine prices:** There are large numbers of buyers and sellers - each of the major banks has a foreign exchange **trading floor** which helps to "make the market". Indeed there are so many sellers operating around the world that the currency exchanges are open for business twenty-four hours a day. No one agent in the currency market can, on their own influence price on a persistent basis - all are ‘price takers’. According to Forex\_Broker.net "The intensity and quantity of buyers and sellers ready for deals doesn't allow separate big participants to move the market in joint effort in their own interests on a long-term basis."
- Currency values are determined solely by **market demand and supply factors**.
- **High quality real-time information and low transactions costs:** Most buyers or sellers are well informed with access to real-time market information and background research analysis on the factors driving the prices of each individual currency. Technological progress has made more information immediately available at a fraction of the cost of just a few years ago. This is not to say that information is cheap - an annual subscription to a

Bloomberg or a Reuter's news terminal will cost several thousand dollars. But the market is rich with information and transactions costs for each batch of currency bought and sold has come down.

- **Seeking the best price:** The buyers and sellers in foreign exchange only deal with those who offer the best prices. Technology allows them to find the best price quickly.

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