



JOHN K.E.  
MUBAZI

# ECONOMICS

Demand,  
Supply,  
the Market,  
and  
Business

KSP BOOKS



# Economics

## Demand, Supply, The Market, and Business

**John K.E. Mubazi**

Kyambogo University, Uganda

**KSP Books**  
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***Economics: Demand, Supply, The Market, and Business***

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# Preface

**T**his book concentrates on the elementary micro-economics, both theory and applied. The purpose is to produce a relatively portable text covering micro-economics at an elementary level in sufficient details. This supplements related materials in more complete texts but that fail on details. This portability and supplementation properties rationalises the need of the text.

After the introductory remarks in chapter one, the text takes an elementary approach to the theoretical basis of supply and demand in the second chapter and production in the third chapter. The treatment of imperfect competition in chapter four is typically slightly more complicated but nonetheless still elementary. The last chapter is an application of the earlier chapters both in a micro and macro sense or setting.

The last chapter is rather unique, not commonly found in texts of this nature which from chapter four would go into macro-economics, often starting with national income. In this way, the text does provide an opportunity of applying the micro foundations to the business world albeit in an elementary setting.

The primary audience of this book is the student community in the early stages of the discipline. Practitioners and policy makers would find it useful as a backdrop.

John K.E. Mubazi  
May 29, 2019



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## **Appendix**

Introduction

Revision Questions



# 1. Introduction

**E**conomics may be defined as a study of man's wants, efforts and satisfaction. In general economics may be said to be concerned with the manner in which both human and non-human resources are utilised for the good of man.

Wants arise out of scarcity. Scarcity in economics means a relative shortage of supply in relation to demand. In order to satisfy his wants, man has to produce goods and services therefore in economics we study the means of production.

When we produce, we create wealth but the distribution of this wealth among people is not equal or even therefore we also study distribution of wealth. We try to explain why incomes are unequal and what the significance of the inequality of the incomes is. Here economics often becomes involved with politics and ethics.

Wants stimulate production. Production creates wealth. Wealth is largely consumed. Consumption creates more wants and thus production starts again.

In our subject, we study anything which is connected with man's efforts to create and increase his wealth. We study anything concerned with the distribution of production. It is difficult to define wealth but most people think of it in materialistic terms but then how much value do we place on clean fresh air and how much wealth has been created today is at the expense of future generations? Industrial countries, for example, have powered so much poisonous gas into the atmosphere that stringent legislation has been passed in order to prevent complete pollution of the air.

We must, therefore, consider how wealth is created and whether this wealth is at the expense of future generations.

### *Economics as a science*

Economics is a science but unlike natural sciences, it is a science of human behaviour which cannot be subjected to laboratory tests. It can therefore be defined as the science which studies human behaviour as a relationship between end and scarce means which have alternative uses. This definition contains the key concepts - scarcity, choice and opportunity cost - which point to the subject matter of economics.

### *Opportunity cost*

Because resources are scarce, the decision to produce or consume one thing implies that the alternative good or service will be left not produced or unconsumed, that is, it will be sacrificed. By cost here we mean what must be given up in order to obtain something else. The economist's term for expressing costs in terms of foregone opportunities or sacrificed alternative is 'opportunity cost'. The concept of opportunity cost emphasises the problem of choice by measuring the cost of obtaining a quantity of one commodity or service in terms of the quantity of some other commodity or service which could have been obtained instead.

## **Primary Functions of Economic Organisation**

### *To fix standards*

This involves identifying objectives, wants, and who to get them. The last also include an elimination mechanism where some can be eliminated from the beneficiaries.

### *To organise production*

Here the allocation of limited resources is done for purposes of production.

### *Distribution*

This is connected with distributing resources for production and goods/services for consumption often determined by the values of the system and social environment, for example, socialist versus capitalist economies.

### *Economic maintenance*

This involves maintenance of capital stock and therefore production. The problem of possibility to progress is also dealt with here - economic development.

### *Adjusting production to consumption*

This is where the process of eliminating the dynamic stagnation is dealt with. Development leads to tomorrow's reservation and this is taken care of here.

These five functions are universal to all countries irrespective to whether a country is socialist, mixed or capitalist through macro-economic analysis.

As already hinted, there are two ideal types of organisation:

1. Where an individual is fully free to do what s/he wants, that is the "wilderness of survival of the fittest". However, what exists in reality is private capitalism which requires the price mechanism to solve the above functions.
2. Socialist or centre system where collective ownership propels the system. Collective welfare criteria are the basis of deciding who gets what and how much.

### **Forms of Economic Organisation**

Examination of institutions through which economic activity is organised is sometimes based on the way in which decisions are exercised in the hiring of factors of production and in the selling of the resulting goods and services. This means asking the question "who takes decisions in the hiring of factors of production and in the selling of the goods and services produced by those factors in this organisation?" On the basis of the answer, one can then classify an organisation as:

- (i) Individual proprietorship or one man business.
- (ii) Limited company.
- (iii) Public corporation, municipal undertaking, parastatal body and nationalised industry.
- (v) Cooperative.

## 2. Theoretical Basis of Demand and Supply

### Price, Market, and Effective Demand

**A**n item has a price because of two basic reasons: being useful and scarce. These two reasons must be present before anything can have a price. How high the price of the commodity will be depends on how useful and how scarce that commodity is. In a free enterprise economy the demand for and supply of the commodity does a great deal to determine its price.

Because of scarcity of goods and services, and because the distribution of these goods and services does not correspond to needs, it becomes necessary for individuals and countries to exchange what they have for what they do not have. Such exchange takes place at some rate - a price. The price could be fixed in units of money if we are operating in a monetary economy.

Prices are determined in markets - these being situations in which buyers and sellers are put in touch with each other for purposes of buying and selling goods and services. A market place is only one of such a market.

When a commodity is useful people will need it or will need its services; they will strive to have it. In economics we say that they will express demand for the commodity. Demand then means the amount of the commodity or service that will be bought at any given price per unit of time. However, for buying to take place, those who need or desire the commodity or service must be willing and able to buy. This means they must have the money to back up their demand. We call this *effective demand*.

## Determinants of Demand

### Introduction

The question now is what it is that determines an individual's demand for a commodity or service. The factors which influence this include:

- (i) The market price of the commodity itself ( $P_n$ ).
- (ii) Prices of all other commodities other than  $n$  ( $P_1 \dots P_{n-1}$ ).
- (iii) The size of the consumer's income or yield ( $Y$ ).
- (iv) Consumer's fashion, taste or preferences ( $T$ ).

Thus the demand function for product  $n$  can look like  $D_n = f(P_n, P_1 \dots P_{n-1}, Y, T)$ .

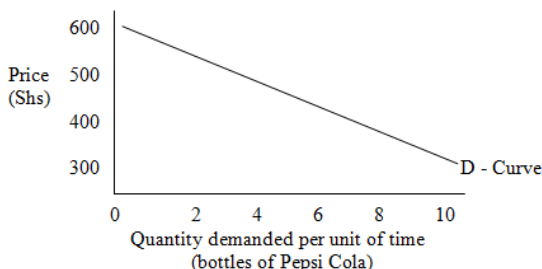
### *The Relationship between Demand for a Commodity and its Market Price*

Assuming that determinants (ii) to (iv) above do not change, we can find out what happens when the market price of a commodity or service changes. By way of illustration, we use an hypothetical demand schedule showing an individual's purchases at different prices per unit of time.

Taking Pepsi Cola as an example, if its price is 600/= a bottle, one may feel it is too expensive to buy, and may therefore not buy any. When the price drops to 500/=, s/he decides to buy a bottle. If its price finally drops to 300/=, one may feel that it is now possible to buy as much as 10 bottles and give to his or her friends. This information can be shown as follows:

Price of Pepsi Cola per bottle (Shs.)	Amount bought (in bottles)
200	0
180	1
50	10

The same information can be expressed in a form of graph, the advantage of which being that one can easily read off it how much this consumer would be willing to buy at various prices.



**Figure 2.1.** *Relationship between Demand and own Price*

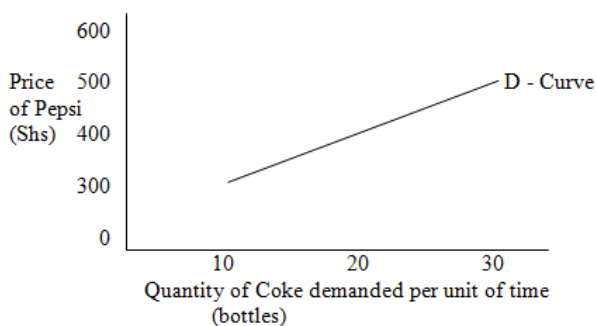
We can see that at 400/= per bottle, this consumer would buy about 7 bottles of Pepsi Cola. The curve slopes downward to the right implying that more will be bought as Pepsi gets cheaper. A single point on this curve indicates a single price quantity combination.

### *The Relationship between the Consumer's Demand for a Commodity and the Change in Prices of Other Commodities*

The relationship will depend on whether the commodity whose price changes is a substitute, a complementary (either technically or in taste) or dissimilar good to our good n. A substitute commodity is a commodity which can be consumed or used instead of commodity n and the consumer or user obtains nearly the same satisfaction, for example Pepsi Cola and Coca Cola.

A complementary good is a good which is consumed or used together with good n. Technically, most vehicles have to use fuel in order to move. With respect to taste, some people can only take tea or coffee if there is sugar.

Dissimilar goods are unrelated and neither substitutes nor compliments. One may argue that sugar and a pen are unrelated. Depending on the degree of substitutability, price changes of substitutes affect demand of other substitutes:

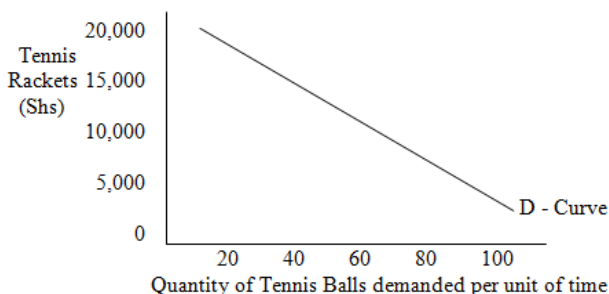


**Figure 2.2.** *Relationship between Demand and the Price of a Substitute*

When the price of Pepsi is 300/=, only 10 bottles of Coke are bought but when the Pepsi price rise to 500/=, more Coke will be bought and in this case 30 bottles.

In the case of compliments, the effect is different. If the price of one of the goods declines, more of it will be demanded - the increased demand of one will necessarily mean an increased demand of the other. Therefore in this case a fall in the price of one commodity will raise the demand of its compliment. In figure 2.3,

the cheaper the tennis rackets, the more the tennis balls are bought by tennis players.



**Figure 2.3.** *Relationship between Demand and the Price of a Complementary Good*

### *The Relationship between Demand and Changes in Income of a Consumer*

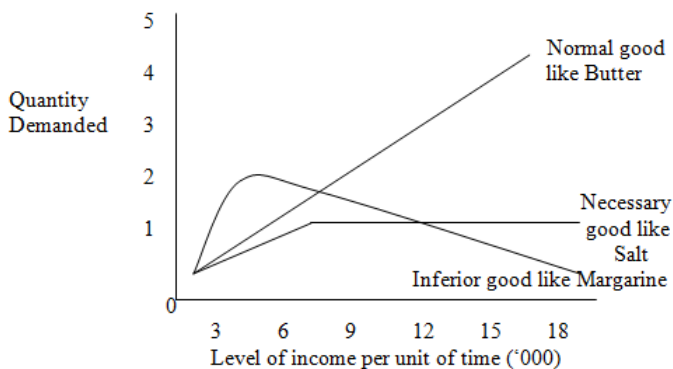
A rise in income increases a person's demand for goods. If one has low income, one may only afford a bottle of Pepsi once a week, but if s/he gets a rise in income then s/he can decide to have a bottle or two daily. Demand for Pepsi would increase.

An increase in income may also mean that one can afford things which were beyond his or her reach before. For instance, at a low income one would wish to drive but when he or she gets enough money, s/he can acquire a vehicle.

The direction of change of demand, if at all, after a change in income will depend on the type of commodity in question. In this respect one normally divide the goods into three types:

- (1) Normal goods.
- (2) Necessary goods with low satiety points.
- (3) Inferior goods.

We define a normal good as a good whose demand will increase as income increases, for example, butter. An inferior good behaves in the opposite fashion; its demand decreases as income increases, for example margarine. For some goods, especially necessary goods, with a low satiety level or point like salt, an initial increase in income will result in an increase in its demand. However, as the consumer gets enough of it, a further increase in income will not affect the amount of it consumed though the type may change, for example, changing to finer or more refined salt.



**Figure 2.4.** *Relationship between Income and Normal, Necessary, and Inferior Goods*

As incomes increase, the demand for inferior goods decline simply because consumers can now afford products of a higher quality. At relatively low incomes, however, income increase calls for more of the inferior goods but later falls out of favour as consumers can afford better commodities with increased incomes. Before their demand starts declining, they behave like normal goods and technically at that level they are. They only become inferior when their demand decreases with increasing income. It follows therefore that no good can be inferior at all times and for all consumers.

### *The Relationship between Demand and Changes in Taste, Fashion or Preference*

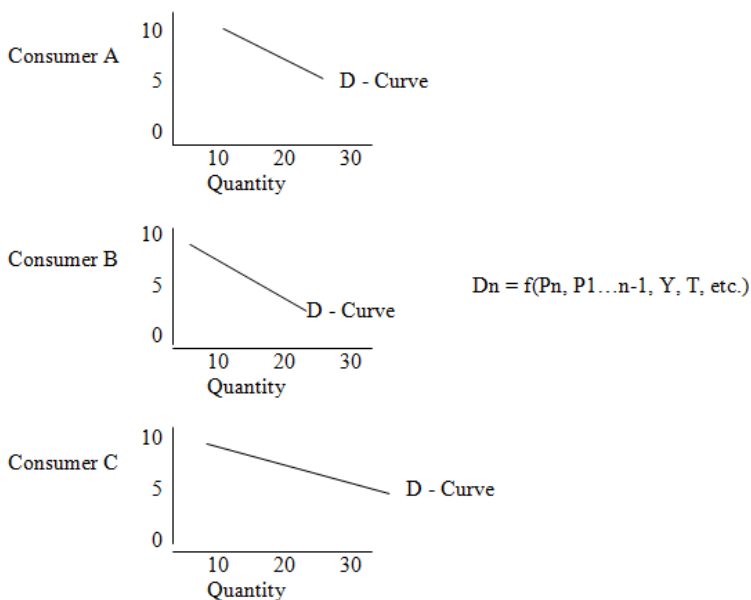
Demand will be influenced by taste, fashion or preference. These vary between people and between countries, and over a period of time even for the same person. Some people drink alcohol while others don't. Some prefer strong drinks while others prefer softer ones. One may prefer strong drinks while still a youth but moves to softer ones with time and vice versa.

There is a huge demand in Uganda for meat but this is not the case in India where cows are sacred animals. In the 1960s piped trousers and mini skirts were popular. In the 1970s bell-bottom trouser were instead popular and mini-skirts were burned in Uganda. In the 1980s piped trousers made a come-back but skirts were not very short. Taste and fashion here determined demand. It is important to remember that in the modern setting, the art of advertising plays a great role in influencing fashion, preference and taste particularly when consumers reach a point in income.

## Other Aspects of Demand

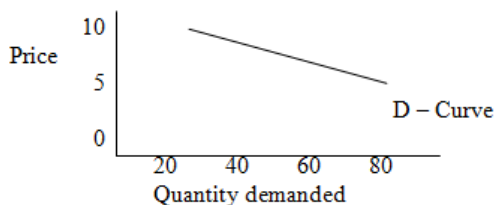
### *Total or Market demand Curve*

In figure 2.5 it is assumed that the market is made up of three consumers - A, B and C. To get their aggregate demand we sum up all their purchases at different prices. At 10/=, for example, the market demand is (10 + 8 + 10) 28 items and at 5/= (20 + 15 + 30) 65.



**Figure 2.5.** Market Demand Curves

To get the total demand curve, we plot the price against quantity, that is, 10/= and 5/= against 28 and 65 respectively, and join them with a smooth line:



**Figure 2.6.** Market Demand Curve

In addition to the four factors above which influence the individual's demand, among others, for a market demand, population and income distribution are commonly added factors.

Using our example, if instead of being three customers, they were two (A and B) then the total or market demand at 5/= would have been 18 instead of 28. A similar situation would arise if the income was distributed such that consumer C is unable to pay for the item. It is because of such possibilities that we include population and income distribution when considering aggregate or market demand.

It should be remembered that if, instead of three customers, we had more then the total amount demanded would be greater if the additional potential consumers had sufficient income to back their desires.

We can further summarise by saying that changes in demand may be caused by:

- (a) Change of price;
- (b) Change of demand conditions, that is, price of other goods, income, tastes, etc. These factors which affect demand other than price are known as the *demand conditions* and tend to remain unchanged for long periods of time.

Situation (a) was illustrated in section 2.2.2 when we were considering the relationship between demand for a commodity and its market price. We then said that when the price of Pepsi is 500/=, only one bottle would be bought and that if it went down to 300/=, 10 bottles would be bought. In such a situation it is only price that changes, and demand conditions remain unchanged.

Generally we expect the amount of a commodity demanded to increase when the price of the commodity falls and the amount to fall when the price of that commodity rises. There are, however, exceptions for example with conspicuous consumption goods like jewellery and when consumers expect prices to rise further. We shall discuss these exceptions later in the section about abnormal demand curves (section 2.9).

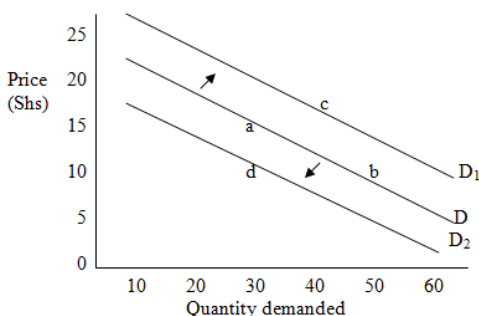
In situation (b) when the demand conditions change, a new situation presents itself. This time the price of the good remains constant yet the demand either increases or decreases. This involves the demand curve to *shift* to the right or left respectively as a result of favourable or unfavourable changes in the demand conditions.

At this point we can distinguish between an increase or decrease in the quantity demanded and an increase or decrease in demand. Under normal conditions an increase in the quantity

demanded (extension of demand) takes place when the price of a commodity falls. The reverse is true when it increases<sup>1</sup>.

An increase in demand takes place when demand conditions change favourably and results in a shift of the demand curve to the right. The reverse happens when they change unfavourably.

In figure 2.7, a movement from point **a** to **b** implies a movement along the same demand curve (*D*). It is an extension of demand or an increase in the quantity demanded. The opposite is true with moving from point **b** to **a**. These movements are brought about as a result of changes in price - situation (a) above.



**Figure 2.7.** *Movement along, and shift of, a Demand Curve*

A change from point **a** or **b** to **c** is a result of a shift of the demand curve to the right from *D* to *D*<sub>1</sub>. It is an increase in demand resulting from favourable changes in demand conditions.

Changing from point **a**, **b**, or **c** to **d** depicts a shift of the demand curve to the left - either from *D* or *D*<sub>1</sub> to *D*<sub>2</sub>. This is a decrease in demand brought about by unfavourable changes in demand conditions.

In the above two situations - increase or decrease in demand - the price remains intact but the amount demanded changes. These changes are therefore not brought about by changes in price.

NOTE: Such changes - in price and demand conditions - take place all the time, and may take place at the same time. When we are examining the effects of changes, however, we have to assume that other factors remain constant (*ceteris paribus*), while we consider the effects of changes in one.

<sup>1</sup> Under abnormal conditions (section 2.9), the opposite happens but it remains that it is *price* that brings about the changes in the quantity demanded - situation (a) above.

### *Causes of an Increase in Demand*

While discussing the factors that determine demand (2.2) we talked about these causes and for this reason, we are now going just to outline them:

1. With an increase in the price of a substitute, for example Pepsi and Coke.
2. With a decrease in the price of a complementary good, for example tennis balls and tennis rackets.
3. An increase in income or yield if  $x$  is a normal commodity, for example butter.
4. Decrease in income if  $x$  is an inferior good. When an income decreases say from 9,000/= per unit of time (Fig. 2.4) to 6,000/=, the amount of margarine bought increases.
5. If taste changes in favour of a good.
6. An increase in population can increase the market demand as more consumers are then available.
7. A more favourable or fair distribution of income of a nation. If poor people are given more money, the demand for various goods and services is likely to increase (a case for equitable distribution of income) unlike when wealth is concentrated in a few hands.

### *Causes of a Decrease in Demand*

In general, it is the reverse of the factors which account for an increase in demand:

1. With the decrease in price of the substitutes.
2. With an increase in price of a complementary good.
3. A decrease in income if  $x$  is a normal commodity.
4. An increase in income if  $x$  is an inferior good.
5. If taste changes against a good or service.
6. With a decrease in population.
7. With a move towards an unfair wealth or income distribution for some goods and services given a limited marginal propensity to consume for most products and services.

## **Determinants of Supply**

We noted in section one that the scarcity of an item helps to determine price when it is expressed concretely as a specific quantity supplied by sellers in a market at a given price. The supply of any good or service can therefore be defined as the quantity of a commodity or service which is offered for sale at a given moment at a given price. Supply does not simply mean the amount available, it refers to the amount that sellers are prepared to offer for sale at a particular time and price.

The idea of supply of an economically scarce good is perhaps more difficult to comprehend than the idea of demand for an economically useful good. All goods which are in limited supply are not necessarily economic goods. Limited supply of a scarce good or service will determine price only if that good or service is in demand or, as we said earlier, useful.

We can now address ourselves to the factors that determine an individual seller's willingness to make available his or her stock of goods or services. There are many factors which will affect the amount supplied but the following are particularly important:

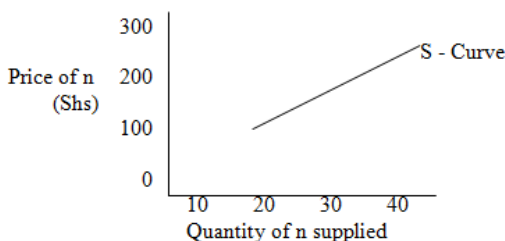
- (1) The market price of the commodity itself ( $P_n$ );
- (2) Prices of other goods ( $P_1 \dots P_{n-1}$ );
- (3) Prices of the factors used in its production ( $F_1 \dots F_m$ );
- (4) Goals or objectives of the producer ( $G$ );
- (5) Methods of production or technical knowledge ( $T$ ).

The supply function for product  $n$  can be written as  
 $S_n = f(P_n, P_1 \dots P_{n-1}, F_1 \dots F_m, G, T)$ .

### *The Relationship between Supply of a Commodity and Its Market Price*

The main motive of a firm producing a good or service is to maximise or earn some profit. The profitability of what is produced depends on whether the market price per unit is greater than the cost of production per unit. If the market price of the good is higher than per unit cost of production we would expect the commodity to be produced for sale (or supplied), but only if there exists demand for it.

On the assumption that the cost of production per unit is lower than the market price, the higher the price the greater will be the amount supplied. Figure 2.8 shows that when the price of  $n$  is 100/= only 20 units are supplied but as its price increases to 200/=, more is supplied to the tune of 35 items.



**Figure 2.8.** *Relationship between Supply and own Price*

### *The Relationship between a Seller's Supply of a commodity and the Prices of Other Commodities*

If prices of certain goods increase, producers may switch to the production of these goods. For instance, if the price of beans increase and that of peas either remain constant or decline, and suppose the rising price of beans make them more profitable, producers may switch to producing more beans and reduced peas. The supply of peas will then drop.

### *The Relationship between a Seller's Supply of a Commodity and the Prices of Factors used in Its Production*

If there is an increase in the prices of factors of production (land, labour, capital and enterprise), there is also likely to be a fall in production. This is a result of the producers of a good whose factor price has increased not having an incentive to produce more. The incentive is likely to slack because profit yield will probably be smaller compared with the producers of other commodities whose factor prices have remained the same. They may therefore seek other ways of producing goods of more profit yield.

For instance, if the cost of labour (wages) rises, it will be more expensive to produce beans which require plenty of labour and producers may now produce eggs instead which need less labour. This assumes that prices of both beans and eggs remain intact after the change in wages. It also assumes that originally it was equally profitable to produce either of the two and that the producer would not mind producing either. If the above holds, then there will be a re-allocation of resources towards the more profit providing commodity. This can be extended for many commodities, suppliers and prices.

### *The Relationship between a Producer's Goal and the Supply of a Commodity*

As we shall see later (3.4.5), firms may wish to maximise profits, sales, employment or income, among others. Depending on the type of market a producer is operating in, each objective or goal will lead to a different level of output and its change will, therefore, lead to a change of this level. For instance, if the goal is profit maximisation, the level of production will differ if one is operating under a monopoly situation versus perfect competition (4.3.3).

### *The Relationship between a Seller's Supply of a Commodity and Methods of Production*

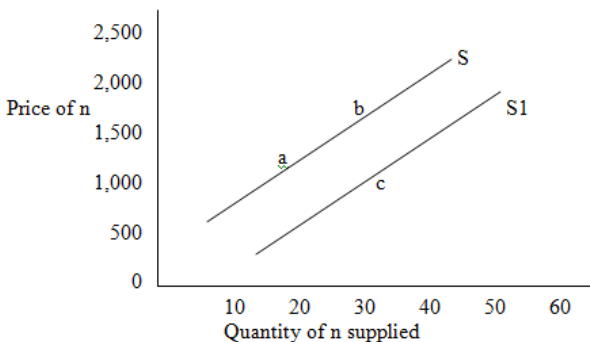
Improved methods of production can reduce costs and increase supply of goods and services because of increased productivity. This is particularly related with "productivity and technical progress" (3.4.3). If a new machine is invented and acquired, this will increase production and also the quality of the products or services produced. In this way supply and profits will increase sometimes at a lower cost and price.

### **Other Aspects of Supply**

Like in case of market demand (2.3.1), market supply is obtained by considering all producers depending on the type of market (chapter 4). Supply depends on, among other things, the price of the commodity in the market, the price of other commodities, prices of factors of production, the producers' goals, and methods of production. The factors which affect supply other than price are known as supply conditions. These factors, like in case of demand, tend to remain unchanged for long periods of time.

The relationship between supply of a commodity and its market price was illustrated earlier (2.4.2). There are exceptions to this phenomenon, for example, the supply of labour beyond a certain wage rate but these will be discussed later in the section on abnormal supply curves (2.9.2).

When there is a change in supply conditions, the supply curve will shift either to the left or to the right. If it shifts to the left, this will be a decrease in supply and when it shifts to the right, this will be an increase in supply. An increase or decrease in supply is different from an increase or decrease in the quantity supplied. The former is a result of a change in the supply conditions while the latter is a result of a change in price.



**Figure 2.9.** *Movement along, and a shift of, a Supply Curve*

A movement from **a** to **b** depicts an increase in the quantity supplied resulting from an increase in price and vice versa. A movement from **a** or **b** to **c** shows an increase in supply and vice versa a decrease in supply. This increase or decrease is brought about by changes in supply conditions.

Factors which account for an increase in supply, therefore, include:

1. An increase or improvement in technical knowledge: When new and better or more efficient machines or methods of production are introduced, production will increase.

2. When prices of other commodities decrease, this may make their production less profitable, other things being equal, and producers looking for profitability may decide to produce a commodity whose price has not decreased leading to its supply to increase.

3. As factor prices used in production of a commodity become cheaper, profitability will increase if its price and other things remains the same. This increased profitability will attract more producers into its production and its supply will increase as a result.

4. When goals changes in favour of producing an item, more of it will be supplied. With the coming of fashions requiring delicate care, the services thereof have increased such that beauty-parlours or saloons have increased.

The reverse or opposite of the factors which account for an increase in supply apply for a decrease in supply. There is at least one exception, however, and this is in connection with technical progress which is unlikely to decrease. Empirically, though, the level of technological utilisation, in spite of its availability, may slack. If this happens, supply will be less and this has taken place

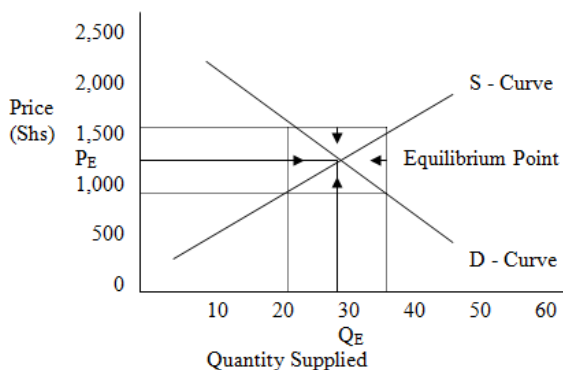
in many countries especially the developing countries at various times especially when they experience political problems.

### Equilibrium

We have so far discussed in general terms the major factors that determine demand and supply. This has enabled us to discover why demand and supply may increase or decrease. It has shown us that demand and supply are like two forces operating in opposite directions. These forces are balanced or in equilibrium at a market price, where the amount demanded equals the amount supplied. This price is called equilibrium price, and the amount supplied and demanded at this price, the equilibrium amount.

We now look at how demand and supply determine price in the market. Under competitive conditions where there are many buyers and sellers, each knowing what is happening in the market, the market price will be that where demand and supply are equal. At this point, the market is in equilibrium. There may be disturbance of this equilibrium but such departures from the equilibrium are normally temporary. There is always a return to a position of equilibrium as new market price is established with, again, demand being equal to supply. A change in price means that there has been a change from one equilibrium position to another. The change in the equilibrium position is itself the result of a change in either supply or demand or both. Any equilibrium position is a position of no change. It is a position which, given consumers' desires and given available means of satisfying these desires, represents the best choice both as to goods and services to consume and as to the means with which to supply what is wanted.

Figure 2.10 shows us what we have already noted, that greater supply than demand will lead to a lowering of prices; and a greater demand than supply will lead to an increase of price. When the price is 1,500/= the amount demanded is 20 units, that is consumers are willing to buy only 20 units while suppliers are willing to supply 35 units.



**Figure 2.10.** *Equilibrium Price and Quantity*

KEY:  $P_E = 1,250$  Equilibrium price

$Q_E = 28$  Equilibrium quantity supplied and demanded

If the price remained 1,500/=, suppliers would be left with 15 units unsold. But rather than go with so much unsold they might consider lowering the price so that they are not left with any stock. If consumers see that so much is left unsold, they may begin to offer lower prices.

Conversely, at a price of 1,000/= per unit, consumers are willing to purchase 35 units while suppliers are willing to sell only 20 units. Hence there will be more demanded than is supplied - the demand exceeding supply by 15 units.

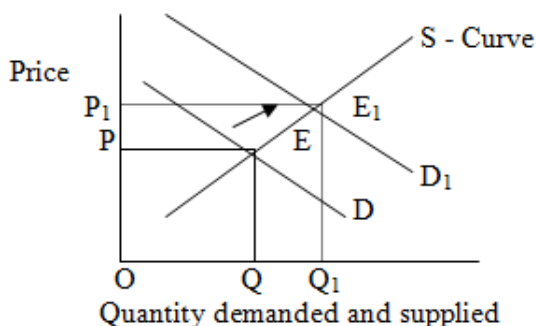
Suppliers are always ready to get as much profit as possible. They know that under most circumstances they would get increased profits by raising the price; at the same time consumers might be prepared to pay higher prices rather than go without the commodity. A saying goes "individual purchasers, being unable to fulfil all their requirements, may begin to offer higher prices in an effort to get more of the available goods; and suppliers, being able to dispose of more than their total production, may begin to ask higher prices for the quantities that they have produced".

We can summarise by saying that generally when demand exceeds supply, the market price will rise and when supply exceeds demand, the market price will fall. We assume, for the sake of simplicity, that suppliers do not demand their own products. If they did, then the equilibrium price would not be "a bargain" between suppliers and consumers.

The equilibrium price and quantity will remain in one place unless and until the demand or supply curve shifts. We noted

earlier why both the supply and demand curves may shift. It may be a result of changes in "demand and/or supply conditions".

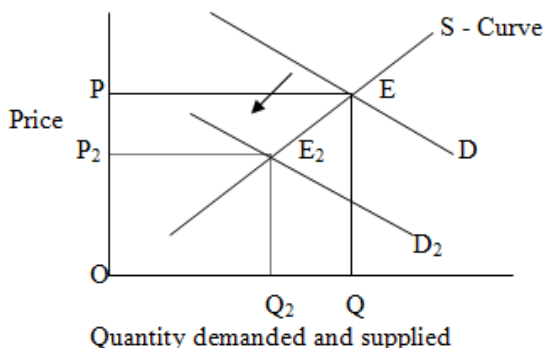
Considering first the effect on the equilibrium price of a shift in the demand curve:



**Figure 2.11.** *Shift of the Demand Curve to the Right*

In figure 2.11 the original demand curve (D), the original equilibrium (E), the original equilibrium price (OP) and quantity (OQ) are given. If demand increases then the demand curve will shift to D<sub>1</sub>. Now that the demand is greater there is bound to be a shortage. The new demand is OQ<sub>1</sub> while the supply, in the short-run, remains OQ creating a shortage QQ<sub>1</sub>. This shortage will cause the price to rise to OP<sub>1</sub> and the new quantity bought and sold at this new equilibrium price is OQ<sub>1</sub>. We can conclude that a shift to the right of the demand curve (an increase in demand) causes an increase in both equilibrium amount and equilibrium price.

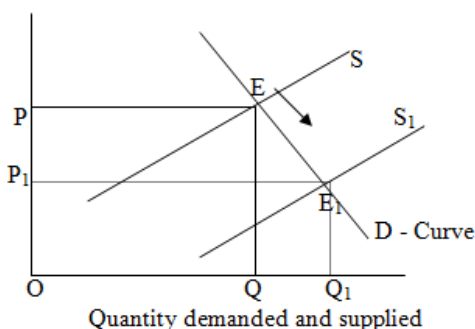
An opposite effect takes place when the demand curve shifts to the left - a decrease in demand:



**Figure 2.12.** *Shift of the Demand Curve to the Left*

In Figure 2.12 the original demand curve (D), the original equilibrium (E), the original equilibrium price (OP) and quantity (OQ) are shown. If demand decreases then the demand curve will shift to  $D_2$ . Now that there is less demand, there is bound to be a surplus. The new demand is  $OQ_2$  while the supply, in the short-run, remains OQ creating a surplus  $Q_2Q$ . This surplus will cause the price to drop to  $OP_2$  and the new equilibrium will be  $E_2$  with the new equilibrium price  $OP_2$  and quantity  $OQ_2$  bought and sold. We can thus conclude that a shift to the left of the demand curve (a decrease in demand) causes a decrease in both equilibrium amount and price.

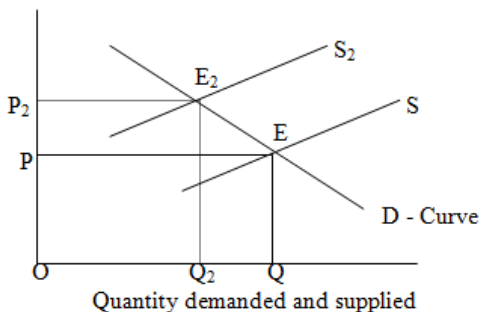
The effect on the equilibrium price and equilibrium quantity caused by an increase in supply (shift of supply curve to the right) can also be illustrated in Figure 2.13:



**Figure 2.13.** *Shift of the Supply Curve to the Right*

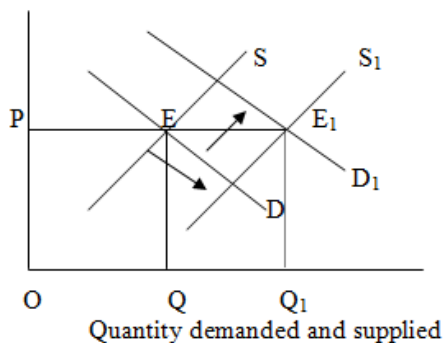
The increased supply will mean an excess of supply over demand ( $QQ_1$ ). This excess causes price to drop and as this price falls, quantity supplied decreases while the quantity demanded increases. In short, increased supply lowers the equilibrium price, decreases quantity supplied but increases quantity demanded.

Figure 2.14 shows a decrease in supply. Decreased supply will mean a shortage of supply over demand ( $Q_2Q$ ). This shortage causes price to rise to  $OP_2$  and as this price do rise, quantity supplied increases while the quantity demanded decreases to  $OQ_2$ . In other words, decreased supply rises the equilibrium to  $E_2$ , with increased quantity supplied but decreased quantity demanded.



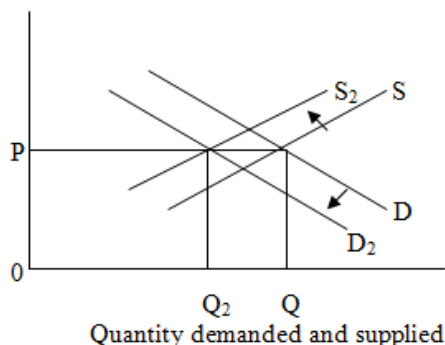
**Figure 2.14.** *Shift of the Supply Curve to the Left*

In practice demand and supply may change simultaneously. What happens then is that both the equilibrium price and the equilibrium amount bought and sold will change but this will depend on the degree of changes in both. When, for instance, demand and supply both increases by the same degree, the equilibrium price will not change though the equilibrium quantity bought and sold will increase:



**Figure 2.15.** *Shift of both Supply and Demand Curves to the Right*

When demand and supply decreases simultaneously by the same degree, the price will remain the same but the amount demanded and supplied will decrease:



**Figure 2.16.** *Supply and Demand Curves Shift to the Left*

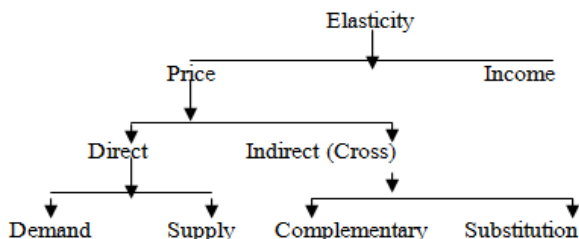
When the degrees differ, then the one which is greater will pull the equilibrium to the direction seen in the earlier changes in isolation, that is the equilibrium point, price, and quantity demanded and supplied.

We can now summarise the equilibrium discussion by saying that price is determined by demand and supply. This happens when these two operating in different directions are balanced. Supply and demand are balanced in equilibrium. The point of balance is the equilibrium price and the amounts supplied and demanded at this point are equal and this is referred to as the equilibrium amount. The point of equilibrium is considered as the point of best choice for both buyers and sellers. A change in the choices of buyers or in the ability of sellers to supply, results in a disturbance of the equilibrium and in the emergence of a new equilibrium. This new equilibrium may cover either the amount or price alone, or both the amount and price.

## Elasticity

### *Introduction*

Elasticity is a quantitative measure of the relationship between economic variables. It measures the degree of responsiveness of economic variables to changes in others. The elasticity tree below gives some of the most important types:



### *Elasticity of Demand and Price Elasticity of Demand*

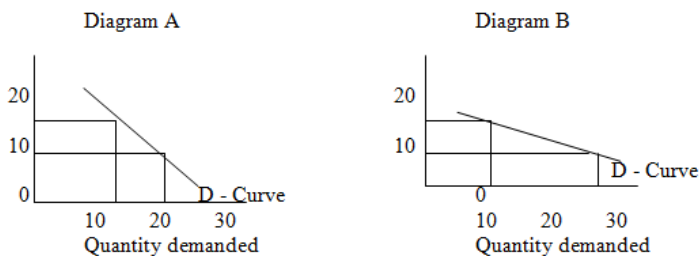
Traditionally, elasticity of demand is a proportionate change in the quantity demanded ( $Q_D$ ) divided by a proportionate change in price ( $P$ ) expressed as

$$E_D = \frac{\% \text{ change in } Q_D}{\% \text{ change in } P}$$

It is important to note that the above definition is also given for price elasticity of demand. The rationale of doing so being the feeling that price is the most important determinant of demand. In section 2.2 we saw that price is only one of the major items in the demand function, others being price of other commodities, income, and taste for an individual. For the market as a whole we also included the number of consumers and the income distribution. These are only the major ones and minor ones include things like sex, age, culture, race, social status, and climate.

There are cases when one may have to *differentiate between Price Elasticity of Demand and Elasticity of Demand*. In such a case the former has to be defined as above. For the latter, the denominator has to include all factors that determine demand.

Having made the above distinction, we can now discuss elasticity of demand using the traditional definition and normal demand curve. In figure 2.17 diagram A when the price fell from 15/= to 10/= per unit, the quantity demanded increased from 15 to 20 units. In diagram B the same fall in price meant that the amount demanded increased from 10 to 28. These diagrams illustrate that different commodities respond to price changes differently.



**Figure 2.17.** *Elastic and Inelastic Demand Curves*

The responsiveness of the amount demanded of a commodity to a change in price is called elasticity of demand. Elasticity of demand may be defined as the rate at which the quantity bought changes as the price of the commodity changes. Elasticity of demand measures the ease with which people can put up with a small reduction in their consumption of a commodity as a result of an increase in its price or, alternatively, the ease with which they can be induced by a reduction in price to consume a little more of it.

In some cases a small change in price causes a very big change in the amount demanded, while in others a small change in price leaves the amount demanded almost unaffected. In the above example, the same change in price led to an increase in demand of 5 units in diagram A but 18 units in diagram B. Another hypothetical example follows in table 2.1.

Even though all the commodities in table 2.1 have been reduced by one shilling, it is obvious that the cheaper commodity will feel the impact much more than the expensive one. In this case the price reduction of one shilling for C from 400/= to 399/= might not be felt by the buyers as a change. But a reduction of one shilling for A is significant. What is important, therefore, is to know the percentage change in price of these various commodities.

**Table 2.1.** *Inelastic, Unit Elastic and Elastic Demand*

Item	Original Price	Price Decrease	Percentage Price Decrease
A	6.60	1.00	15.15
B	33.30	1.00	3.00
C	400.00	1.00	0.25

Original Quantity Demanded	Demand Increase	Percentage Increase in Quantity	Elasticity of Demand
12,000	900	7.5	$7.5/15.15 = 0.5$
167,000	5,010	3.0	$3/3 = 1.0$
10,000	100	1.0	$1/0.25 = 4.0$

Secondly, as in the case of price, it is the percentage change in quantity demanded that is most important. It is easy to calculate percentage change in price and quantity demanded when we know both the original quantities demanded and the original prices. The percentage change in price is obtained by expressing the change in price as a percentage of the original price. Similarly the percentage change in quantity demanded as a percentage of the original amount demanded. Generally then, percentage change

$$= 100 \times \frac{\text{the amount of change}}{\text{the original amount}}$$

Taking A as an example, a percentage change

$$= \frac{900 \times 100}{12,000} = 7.5$$

We do the same for B and C. The same method applies when we find the percentage changes in prices. If we compare these figures, we find that the demand for C is the most responsive because a small percentage change in price resulted in a bigger percentage change in quantity demanded. In case of A, a big percentage change in price resulted in a smaller percentage change in the amount demanded. It is the *proportionate* change that we are interested in most as it enables us to measure the degree of responsiveness.

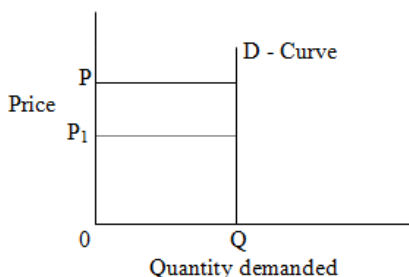
### *Elasticity Terms - Inelastic, elastic, unit elastic, perfectly inelastic, and perfectly elastic*

When elasticity is between 0 and 1, it is said to be inelastic; when it is one, it is unit elastic; when it is greater than one to infinite, it is elastic; when it is infinite, it is perfectly elastic and when zero, it is perfectly inelastic. Computations in table 2.1 reveal the following: A - 0.5; B - 1.0; C - 4.0

As implicitly said above, when the percentage change in quantity demanded is less than the percentage change in price, demand for that commodity is INELASTIC. Numerically it means that elasticity is less than one. When the percentage change in the quantity demanded is greater than the percentage change in price, that is when the elasticity is greater than one, we say that demand for that commodity is ELASTIC. When the percentage change in price results in an equal percentage change in quantity demanded, demand is said to be UNIT ELASTIC. In the example above,

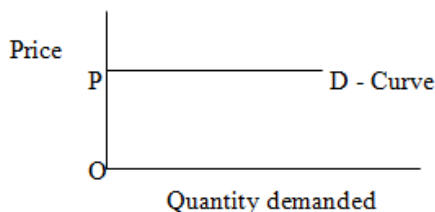
demand for A is inelastic, that for B unit elastic and that for C elastic.

Elasticity of demand has two limits - a situation where we have perfect inelasticity and another situation where we have perfect elasticity. If there is no change at all in the quantity demanded when price changes, elasticity of demand curve would be a straight vertical line:



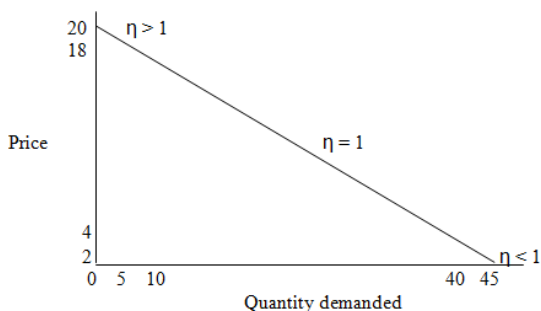
**Figure 2.18.** *Perfectly Inelastic Demand Curve*

Figure 2.18 indicates that the same quantity will be demanded irrespective of price changes. The other extreme case (figure 2.19) is when a very small change in price downwards will result in infinite amount demanded while a small change upwards will result in zero demand:



**Figure 2.19.** *Perfectly Elastic Demand Curve*

Figure 2.19 is a case of perfect elasticity of demand. Between these two extremes lie all possible shapes of demand curves showing the various degrees of elasticity. Figure 2.20 is a straight line demand curve depicting different degrees of elasticity at each point.

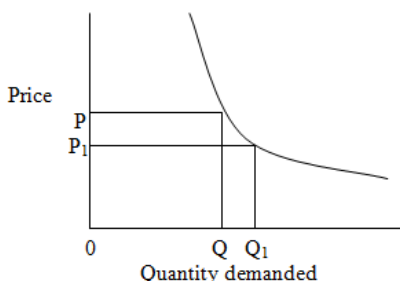


**Figure 2.20.** *Straight line Demand Curve with different degrees of Elasticity*

From 5 to 10 = $\frac{100\%}{2}$	Elasticity of demand is 20
From 19 to 20 = $\frac{5\%}{19}$	(elastic)
From 40 to 45 = $\frac{12.5\%}{40}$	Elasticity of demand is 0.25
From 2 to 1 = $\frac{50\%}{2}$	(inelastic)

Moving from elastic to inelastic and vice versa, one passes through a point where elasticity is equal to unit.

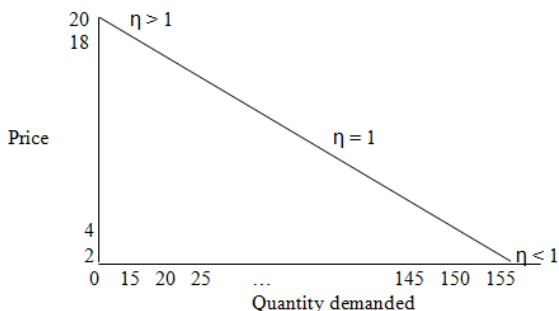
A *rectangular hypabola* (figure 2.21) is a curve along which the elasticity is uniform and unit. For a rectangular hypabola, any percentage change in price will be followed by the same percentage change in the quantity demanded. This was exemplified by elasticity of demand of B. This means that the revenue remains intact at any price, that is one cannot increase or decrease revenue as a result of price change.



**Figure 2.21.** *A Rectangular Hypabola*

In case of other types of elasticity, revenue is affected by a change in price. Figure 2.22 is an example for elastic and inelastic situations:

At 20/= an item, total revenue is 300/=		
At 19/=	"	380/=
At 18/=	"	450/=
'		'
'		'
'		'
At 3/=	"	435/=
At 2/=	"	300/=
At 1/=	"	155/=



**Figure 2.22.** *Elasticity Effect on Revenue*

Thus when the demand is elastic, we can increase total revenue by decreasing price. In our example, from 20/= to 19/= to 18/= an item. However, a point of unit elasticity will eventually be reached below which a decrease in price will result in a decrease in total revenue. This point of unit elasticity will be a point of maximum total revenue. In general, if elasticity of demand is greater than one, a fall in price will increase total revenue or expenditure and a rise in price reduces it. Conversely, if elasticity of demand is less than one, a fall in price decreases total expenditure or revenue and a rise in price increases it.

### *Factors that Affect Elasticity of Demand*

Elasticity of demand represents a consumer's willingness and ability to adjust his or her behaviour to changes in price. There are a number of factors which affect this willingness and ability. These include:

(a) *Time dimension:* Some people take time to respond and if they are not given ample time, their response may be zero. In this respect, therefore, how much time is available is important and in some cases the more of it, the better the response.

(b) *Availability of Substitutes:* Where a commodity has no substitutes, like salt, we would expect that commodity to have inelastic demand. In this case the price rise will not lead to a big change in the quantity demanded.

(c) *Items with low satiety points or level:* When a commodity has a low satiety point, like mineral or any other drinking water or soft drink for an individual, we would expect that commodity also to have inelastic demand. Its price change will not lead to big changes in the quantity demanded.

(d) *The nature of the commodity in terms of being essential or not:* People will tend to stop buying luxuries when their price rises given a constant income level. A price fall of a luxury commodity may mean that the percentage increase in the amount consumed may be greater than the percentage change in price. If, on the other hand, the commodity is a necessity, there is little change in the amount consumed as a result of the price change. It is possible in the case of necessities for the same amount, or almost the same amount, to be bought regardless of the change in price.

(e) *The art of a commodity:* To a great extent elasticity depends on how widely or narrowly a commodity is defined as viewed by a consumer. While it is true that food and shelter are necessities of life, and while it may also be true that the demand for food as a whole may be inelastic it does not follow that any one food item will have inelastic demand. For instance, bread or sugar is not a necessity in the sense that all food is. Hence the demand for a single type of food may be elastic or inelastic. The same reasoning goes with residences.

(f) *The efficiency of Market information, transport and communication:* Response often depends on how soon one gets informed. If price goes down but this information does not get to the consumers, response may be zero. Even if one gets to know that an item is cheap at point B, it may not be possible to respond in the absence of means of transport. There are cases when transport may not be necessary in order to respond, but in the absence of any form of communication nothing may be done leading to zero elasticity.

(g) *Effects of advertisement and propaganda:* This, in a way, is an extension of (f) above as a media of market information. In the modern setting, advertisement is very important in influencing

people's response. Propaganda may have a negative connotation but essentially plays the same role.

(h) *The level of income and standard of living:* Where the consumer's income is relatively low, and a certain commodity takes a relatively big portion of the income, we would expect high elasticity of demand. On the other hand, where the income level is relatively high we would expect low elasticity of demand.

The standard of living often goes together with a level of income. We would expect that a person with a high income level would necessarily enjoy a high standard of living. This may not always be so hence the response may vary accordingly. A fellow with a high income may enjoy a lower standard of living than another with a relatively lower income.

(i) *The pattern of taste, habit, preference and customs:* There will be low elasticity of demand, that is, inelastic demand if there are strong tastes, habits or preference of consumption as in the case of tobacco. When the price of tobacco rises, unless the rise is very big, the number of cigarettes smoked per day may not change significantly.

Customs affects the influence of all the above factors. Some cultures or customs prohibits the use of certain things and where they are very rigid, elasticity of demand will be zero no matter what happens. In a community where meat or pork cannot be taken, varying its price will not receive any response.

(j) *Expectations:* When we expect prices to decrease further, we may take our time to respond. This will make elasticity being very small but if it is the reverse then we would act immediately to take advantage of the decreased price.

(k) *Durability of goods:* If the price of goods which are durable decreases at a time one has just acquired one, it is most unlikely that s/he will buy more of the same. But if they are ordinary consumer goods, then the consumer may respond immediately or shortly after.

(l) *Complementary goods:* A case may arise when the price of a complementary good goes down while the other with which they go (either in taste or technically) has remained the same or has gone up. In such a situation, the fall in price may not receive the expected response. For instance, if the price of tennis rackets increase while those of tennis balls are falling, depending on the

respective magnitudes of price changes, more tennis balls may not be bought.

Sometimes the price of a commodity may fall while the other with which it goes is not available. In this case a fall in price is likely not to attract customers. The price of electric kettles going down may not attract customers when there is no electricity.

### *Importance and Policy Implications of Elasticity of Demand*

The practical economic significance of knowing the size of elasticity of demand for a commodity or service is that it relates price to the total amount of money spent by consumers on that good or service hence the relationship between elasticity of demand and the income of the producers.

It is important for the producer or the seller to know the price elasticity of demand before s/he can think of increasing or reducing the price of the commodity or service in question. An increase in price may reduce or increase the revenue to the seller (producer). The same thing happens with the reduction of price. A demonstration of the above was given earlier by figure 2.22.

In summary, we may say that

(a) If the elasticity of demand is greater than one, a rise in price means that consumer expenditure on that commodity or service will fall, that is, producers' total revenue will fall. To the producer, therefore, it pays to reduce price as this will lead to the total revenue to increase.

(b) If the elasticity of demand is less than one, that is demand is inelastic, an increase in price increases consumer expenditure on the commodity, that is, producers' total revenue increases. A reduction in price will reduce the producers' revenue.

(c) Where elasticity of demand is equal to one, an increase or reduction in price leaves total expenditure on the commodity unchanged hence the revenue.

### *Elasticity of Supply and Price Elasticity of supply*

In section 2.4 2 we saw that the supply of a commodity tends to increase as the price rises and falls as the price falls. When this kind of relationship is represented graphically we find that the supply curve slopes upwards to the right. When we read the information given by such a curve it is clear that sellers are normally willing to sell more of the commodity if its price is high relative to costs of production, and to sell less when the price of the commodity is low.

Figure 2.23 does show that the amount supplied responds to price but the responsiveness varies with different commodities. In

diagram A a change in price from 5/= to 10/= causes the quantity supplied to increase from 5 to 9 - a change of 4 units. In diagram B, a similar change in price causes the quantity supplied to increase from 12 to 26 - a change of 14 units.

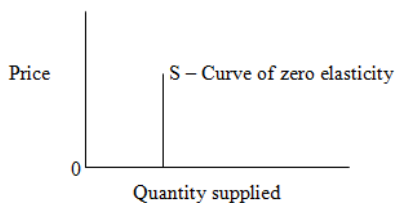


**Figure 2.23.** *Elastic and Inelastic Supply Curves*

This responsiveness of the amount of a commodity supplied to a change in price is called elasticity of supply. Elasticity of supply is defined in percentage terms. Traditionally, it is the percentage change in the quantity sold due to a percentage change in price. This is the ratio of the percentage change in quantity supplied over percentage change in price.

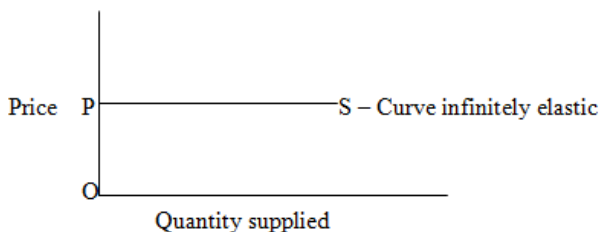
As we saw with respect to demand, the given definition is the same as for price elasticity of supply. For purposes of distinction, elasticity of supply may then be defined as a proportionate change in the quantity supplied over a proportionate change in all factors that affect supply - the whole supply function.

The elasticity of supply has two limits, zero elasticity and infinite elasticity as shown in figures 2.24 and 2.25 respectively. The case of zero elasticity is one in which the quantity supplied does not change as price changes. This would be the case, for instance, if suppliers persisted in producing the same quantity no matter what price. Alternatively it would be the case when the supply of a certain commodity cannot be increased.



**Figure 2.24.** *Perfect Inelastic Supply Curve*

The second extreme is the case of infinite elasticity. As shown by figure 2.25, at prices below  $OP$ , nothing at all will be supplied, but as soon as the price gets to  $OP$ , supply will rise from zero to an indefinitely large amount. This indicates that producers would supply any amount demanded at that price and above it.



**Figure 2.25.** *Perfectly Elastic Supply Curve*

Figure 2.19 demonstrated an infinite demand curve where an increase in price from  $OP$  would result in zero demand. Above we have said that a decrease in price from  $OP$  results in zero supply. We can, therefore, conclude that this infinite curve is a limiting case - movement either way would result in zero.

Between these two extremes (zero and infinite elasticity) we may have numerous possible shapes of supply curves showing various types of elasticity, one of which shows unit elasticity of supply where supply changes proportionately to price.

### *Factors that Affect Elasticity of Supply*

The main factors that determine whether the amount supplied will respond to price changes depends first on whether the quantity of that commodity can actually be increased, for instance, original paintings by an eighteenth century painter. Even if their price increases, since the painter would be dead, the supply of such paintings would not increase.

Secondly, it depends on the time involved - the longer the time period, the greater will be the possibility that quantity supplied may be increased. If the price of coffee increases, we would expect the farmers to increase the acreage of coffee plantations. But it may take time to increase the quantity of coffee supplied because a coffee tree takes time to give the first yield. For industrial production, it will still take some time, but probably shorter than required for agricultural production. Within this time suppliers will install new equipment or expand their plants so as to be able to expand their output. This would particularly be so if there was no excess capacity.

Factor flexibility or inflexibility will contribute to the ability to respond to price increase. If the former is true, it will be easier to respond. It may be impossible if the latter is the one which is true. This is partly a problem of specialisation a subject addressed in section 5.3.

Availability of reserves is another factor. If there is a substantial stock, price increase would easily be responded to. Where it is absent, it may take time or probably, be impossible. One purpose of International Commodity Agreements and Schemes for Stabilising Prices and Incomes is exactly this. They help in regulating elasticity of supply by stabilising stocks.

### *Indirect or Cross Elasticity*

*Demand:* In the case of elasticity of demand, we have only considered how the demand for a commodity responds to changes in the commodity's own price. But it is also important to know how demand responds to changes in the prices of other goods and services.

Direct elasticity of demand is a responsiveness of quantity demanded of any commodity to a change in its own price. Indirect or cross elasticity of demand is a responsiveness in quantity demanded of one commodity resulting from a change in price of another commodity or other commodities. Assuming two goods - x and y - then cross elasticity of demand can be expressed as

$$\frac{\% \text{ change in quantity demanded of } x}{\% \text{ change in Price of } y}$$

We would expect goods which are close substitutes to have high or positive cross elasticity of demand. For example, we would expect a small percentage change in the price of Pepsi to bring about a large percentage change in the quantity of Coke demanded. In case of dissimilar goods like pens and cement, we would expect

very low cross elasticity of demand. For complementary goods, we expect it to be negative.

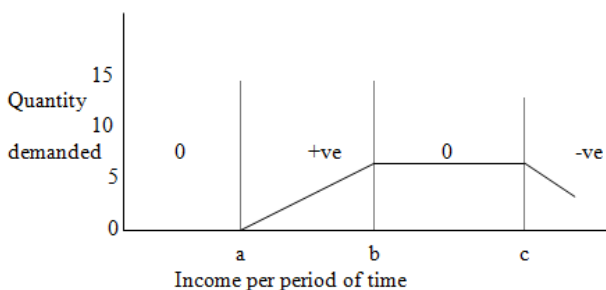
*Supply:* As with the demand function, the supply function includes prices of other commodities as a factor. We, therefore, can also talk about the indirect or cross elasticity of supply. It is a proportionate change in the quantity supplied of one commodity over a proportionate change in price of another commodity or other commodities.

Like in the case of indirect or cross elasticity of demand, cross elasticity of supply is affected by the factors that affect its elasticity. The respective factors were discussed earlier in sections 2.7.4 and 2.7.7 respectively.

### *Income Elasticity of Demand*

Income elasticity of demand measures the responsiveness of demand to a change in income and can be expressed as

$$E_y = \frac{\% \text{ change in the Quantity Demanded}}{\% \text{ change in income}}$$



**Figure 2.26.** *Different Types of Income Elasticity of Demand*

The reaction of demand to changes in income is likely to vary with the size or level of incomes. For example, at very low income (between 0 and a) nothing at all may be spent on new shirts. Our consumer would be buying second-hand shirts. Over this range the income elasticity of demand for new shirts will be zero. As income rises beyond a the consumer may begin to buy some new shirts and for a while the demand for these shirts will increase with rising incomes. Over the range ab income elasticity of demand for new shirts will be positive. After a point the consumer will have purchased enough new shirts so that any increase in income will not mean that his expenditure on new shirts will expand, and over

this range, bc, income elasticity of demand for new shirts will again be zero.

In some cases the consumer's income rising beyond  $c$  may mean that income elasticity for new shirts is negative. This means that as income increases demand of a particular commodity decreases. This can be a case of an inferior good. In figure 2.4 we saw that beyond a point in income demand for margarine decreases as income increases. This is a case of negative income elasticity of demand. In this case, if we assume that the consumer was buying new shirts which are relatively cheap, if his income increases further, he will stop buying such and switches to better quality new shirts. He may even start giving away some or all of them to his relatives/friends who are relatively less well-off.

In brief we can say that when income elasticity is zero it implies that there is no change in the quantity demanded in response to a change in income. When there is positive income elasticity, this means that an income increase will result in an increase in the demand for a commodity in question. In case of a negative income elasticity of demand, the income increase is followed by a decrease in demand of a commodity in question.

### *Summary*

We can summarise by saying that, at this level, the most talked about types of elasticity are of demand, supply and income. We, however, need to remember that all variables in economics are responded to when they are changed and these responses can be measured in terms of elasticity. Economic variables examples include those observed in our demand and supply functions.

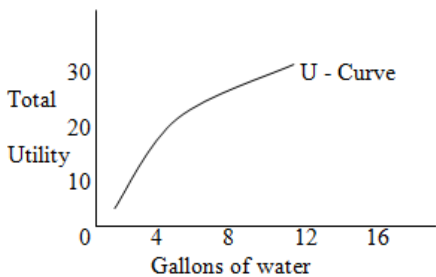
## Utility

### *Definition, Total and Marginal Utility*

Utility is synonymous to satisfaction and is, therefore, the satisfaction derived or obtained from any given consumption. Marginal utility is the satisfaction obtained from consuming the last or additional unit while total utility is the satisfaction derived from consuming one or more items.

Water, for example, has a high total utility than going to a cinema. However, if one has already had a number of gallons of water, giving up one in order to go for a film will have a lower marginal utility. In this case, the satisfaction derived from visiting a cinema is higher than that obtained from an additional or forfeited gallon of water.

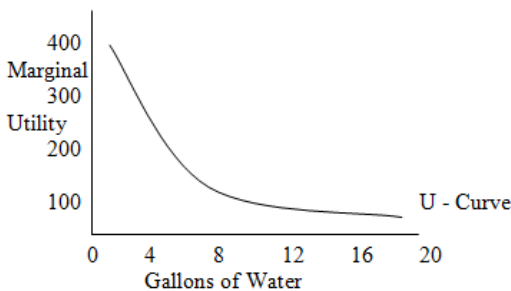
But the total satisfaction of visiting the cinema is less than the total utility of water in the first place - indeed, much, much less. Additions of a necessity, after a point, is less important than the first, for example, the first gallon of water is more important than the second, and the third is less important than the second, etc. This results into a diminishing marginal utility.



**Figure 2.27.** *Total Utility*

In figure 2.27, the steep rising of the total utility curve implies that the first gallons of water are extremely important while less and less satisfaction from each gallon with more gallons is depicted in figure 2.28.

Price is determined by the marginal utility not the total utility. This is why water, after the supply of a number of gallons, is much cheaper than going to the cinema. For example, one may be willing to pay about 200/=



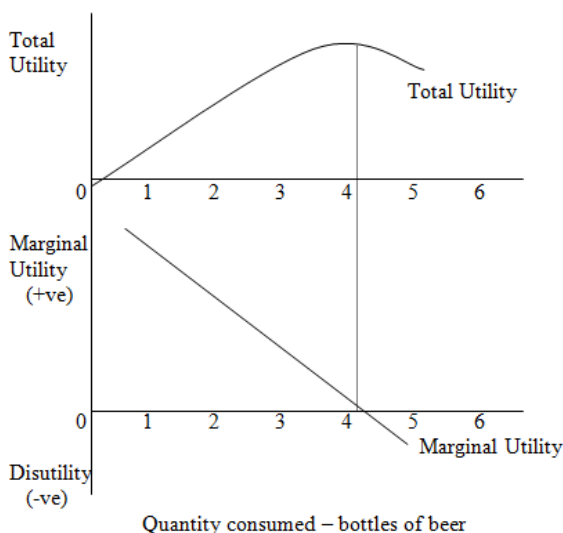
**Figure 2.28.** *Marginal Utility*

for a fourth gallon of water but may not be willing to pay the same for the eighth gallon. This means that the satisfaction one derives from the 8th gallon is worth less than 200/=. Each consumer, therefore, tries to equate price to marginal utility.

### *Disutility*

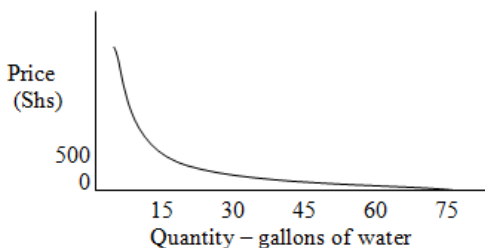
A point can be reached when the additional consumption does more harm than good. This is when marginal utility is negative, for example, too much drink or food. By doing harm, utility moves from being positive to being negative (disutility). In such a case, the total utility curve will rise up to a point when the additional utility is zero - the maximum total utility - and it will start to fall thereafter.

If goods were free, consumers would consume up to a point where marginal utility is zero. For instance, if water is free, a household would use up to forty gallons but a small change in price of a necessity like water would bring about a very big difference in the quantity demanded - from 75 to 15 gallons with a change of only about 500/ = in figure 2.30.



**Figure 2.29.** *Total and Marginal Utility Compared*

If all goods were free, the total population would want to consume more than would be readily available with the given supply of resources.



**Figure 2.30.** *Utility, Price, and Consumption*

Therefore, marginal utility must remain positive for at least some goods so that households get additional utility from consuming more of them.

### *Relationship between Marginal Utility and Price*

Marginal utility of good one is going to be equal to that of two if their prices are equal. When their prices are different, it depends on how much satisfaction is obtained from buying relative to the price.

For example: (a) Utility of satisfaction (utils) 160 and Price 100/=

(b) " " " 320 " " 200/=

Then one can buy either of the two but if

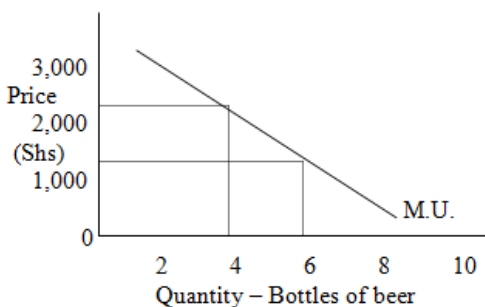
(a) Marginal Utility is 160 and Price 10/=

(b) " " 300 " " 20/=

Then one is likely to buy a).

### *Marginal Utility and the Demand Curve*

The more bottles of beer one buys, the less marginal utility is obtained from an additional purchase so the marginal utility curve keeps on falling



**Figure 2.31.** *Marginal Utility and the Demand Curve*

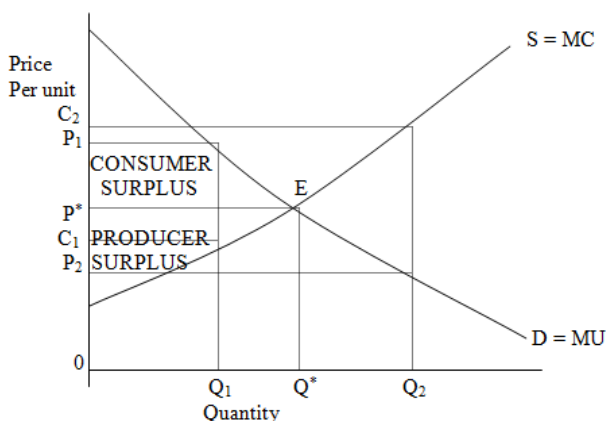
Hence the marginal utility curve is the demand curve regulated by price. The more the quantity increases, the lower is the marginal utility and the price until marginal utility is zero.

### *Consumer and Produce Surpluses*

Simply, a consumers' surplus is the difference between the price the consumer is willing to pay and what s/he actually pays while a producers' surplus is the difference between the price the producer is willing to charge and what s/he actually charges.

The consumer and producer surpluses in figure 2.32 represent the excess of consumer valuation over opportunity cost. The equilibrium price  $P^*$  divides this total area into two parts. The area above  $P^*$  is the consumers' surplus and that below, producers' surplus. It is the excess of producers' receipts over the minimum that would have to be paid to persuade them to produce a given quantity.

Since a firm will produce any unit that will at least cover its marginal cost, all that needs to be paid to call forth  $Q^*$  units of production is the area below the MC curve. Since actual receipts are the whole area,  $P^* \text{ times } q^*$ , the producers' surplus is the area between MC curve and the price  $P^*$ .



**Figure 2.32.** *Consumer and Producer Surpluses*

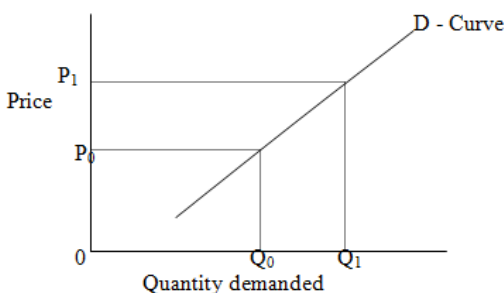
The two areas together represent the *sum* of consumers' surplus and producers' surplus. *Efficiency in allocation* is achieved when the sum of the surpluses is maximised. This occurs at the output  $Q^*$ , where  $P = MC$ . For any output less than  $Q^*$ , such as  $Q_1$ , a slight increase in output toward  $Q^*$  would lead to an addition to both consumers' and producers' surplus. This is because at the level

of output  $Q_1$ , consumers' valuation of the commodity,  $P_1$ , exceeds the opportunity cost of producing it,  $C_1$ . For any output greater than  $Q^*$  this is not the case. At  $Q_2$ , for example, the last unit costs  $C_2$  to produce but consumers only value it at  $P_2$ . Producing units beyond  $Q^*$  would subtract from the sum of producers' and consumers' surpluses.

## Regressive and Abnormal Curves

### *Regressive Demand Curve*

A regressive demand curve is a demand curve which does not follow the normal downward sloping implying an increase in the quantity demanded as the respective price decreases. Instead, this curve moves upwards implying that more of this commodity will be bought as its price increases.



**Figure 2.33.** *Regressive Demand Curve*

When the price is at  $P_0$  the quantity demanded is  $OQ_0$  but when the price increases to  $P_1$  the quantity demanded also increases to  $OQ_1$ . Goods' demand which behaves like this include that for Giffen goods and that of goods of ostentation<sup>2</sup>, the former attributed to Sir Robert Goffen. Fear of future or further price rise can lead to buying despite increased price so is the snob appeal and judging quality from prices.

Giffen goods are necessary goods for the day-to-day consumption. As their prices go up, less money is left to the consumer to buy other goods including the more expensive ones. As a result the consumer will buy more of these goods (the Giffen goods) in order to survive. In other words, the perverse income effect outweighs the substitution effect<sup>3</sup>.

<sup>2</sup> Often there is confusion between luxury and goods of ostentation plus staple foods with Giffen goods – these are not necessarily the same.

Exemplifying the foregoing, if the price of potatoes goes up, more money will be needed to buy potatoes. If the consumer originally would afford to buy rice to supplement potatoes at a meal, s/he will now be unable to buy this rice. As the optimal food for satisfaction remains the same, more potatoes will be required in order to get satisfied. As a result of the potatoes' price increase less money is available to afford rice and, instead, more potatoes are bought.

Goods of ostentation are the ones consumed just because they are expensive. This may be because one wants to show his or her social status or class, or derives satisfaction from having expensive things - the snob appeal. Let's take an example of a ring - if this ring is cheap, few high class ladies are likely to buy the ring but as its price goes up more of them are likely to buy it since wearing it now will have a high social stigma than originally. Similar arguments can be brought forward for some cloths, handbags, shoes, cars, televisions, mobile sets, etc.

Some consumers judge quality from price. The more expensive an item is, the more these people think it is qualitative and, therefore, buy more of it. There is some truth in this belief where consumers are protected by societies which check quality against price. Without such consumer protection, however, a mere increase in price may increase demand without the corresponding quality increase.

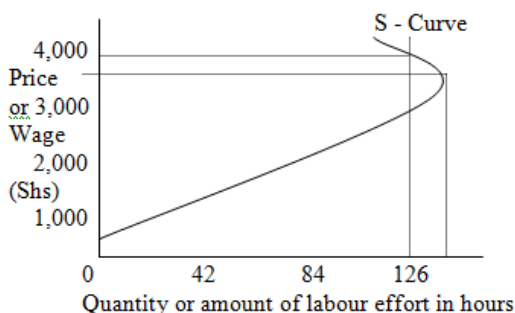
Also in an inflationary situation, people may buy more with an initial price rise as they may think that further price rises are just around the corner and they buy more now to beat this potential rise.

### *Regressive Supply Curve*

This is a supply curve which does not conform to the normal upward trend instead it shows that beyond a point, less will be supplied the higher is the price. One popular example here is the supply of labour.

<sup>3</sup> Giffen goods are inferior goods but not all inferior goods are giffen goods – giffen goods are a subset of the universal set of inferior goods.

J.K.E. Mubazi (2019). *Economics* ...



**Figure 2.34.** *Regressive Supply Curve*

At about 3,500/= per hour the worker is willing to work for about 140 hours a month but at 4,000/= s/he is only willing to work for about 126 hours may be to have time to ride a bike or drive around. The worker will now need more time to spend the income on things s/he had longed for - watching a television or video, listening to music, etc.

In some cases the total labour supply can be withdrawn if a target worker gets what s/he wanted. This is possible with respect to casual labourers who go to town to work so that they can get money to marry, buy a plot of land, open up a small shop, etc. In a case like this, the supply curve simply disappears.

### *Abnormal Curves - Summary*

Abnormal curves include those showing the demand curve for giffen goods, conspicuous consumption goods (easily seen or attractive items) and fixed demand (perfectly inelastic demand curves) plus infinite curves (the perfectly elastic ones). On the supply side, we have fixed supply curves where elasticity of supply is perfectly inelastic, perfectly elastic, and the backward bending (regressive) supply curves. Characteristics of these abnormal curves are similar to those mentioned as we were looking at the respective curves earlier.

## **Demand and Supply Theory**

### *Ceteris Paribus and the Equilibrium*

We can pause here to consider two minor sources of possible confusion concerning supply and demand. The first deals with the fact that in drawing up a demand schedule or curve, one always insists that "other things must be equal" or remain so. The second deals with the exact sense in which demand and supply are equal in equilibrium.

To draw up a demand schedule, for example, for potatoes, we vary its price and observe what would happen to its quantity bought at any one period of time, in which no other factors are allowed to change. Specifically, this means that as we change potatoes price, we must not at the same time change family income or the price of a competing product or anything else that would tend to *shift* the demand curve for potatoes. We do this because, like any scientist who wants to isolate the effects of one causal factor, we must try to vary only *one* thing at a time. This theory and that of the firm are thus based on *ceteris paribus*.

Equilibrium explains which price will the amount that consumers are willing to go on buying be just matched by the amount that producers are willing to go on selling. At this equilibrium intersection, and here alone, will everybody be happy - the buyers and the sellers - where *ex-ante* (planned) demand and supply are in equality. Such is an established normal or equilibrium price as opposed to market price. In case of the factors of production, they tend to be distributed among various industries or firms in such a way that their marginal productivities are equal - when there is no tendency for factors to move and this is an established equilibrium.

### *Limitations of the Price Mechanism*

Competitive price and quantity are determined by supply and demand but also depend on other factors. However, they are not in addition to supply and demand, but are included in the numerous forces which determine or act through supply and demand. For example, if the government prints more money and this give everyone a higher income - this will shift upwards the demand curves and prices will also go up. This will still leave the fact that competitive price is determine by supply and demand.

Competitive price is also determined by cost of production but this should not be added as a third factor to supply and demand. Competitive price is affected by the cost of production only to the extent that such cost affects supply. For instance, if Uganda gets free (donated) food from the European Union (EU) but in limited supply, then its price will not be zero but will be given by the intersection of the demand and supply curves. On the other hand, if it costs 1,000,000/= to print a book, but there is no demand for it, it simply will not be produced and would not command 1,000,000/= if it were produced.

## Alternative Methods of Allocation Resources

### *Working through the Law of Supply and Demand*

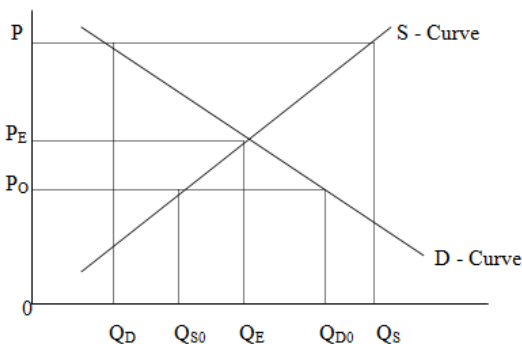
A government can affect price but it does it better by affecting supply or demand, or both. Government programmes for expanding farm output can raise income by increasing supply depending on elasticity. On the other hand, programmes by government cartels have been pursued all over the world: OPEC and oil to affect the oil price by controlling supply is one example.

These governments have not gone against the law of supply and demand. They have worked (not always to good purpose) through the law of supply and demand. The state has no secret economic weapons or tricks - what is true, to an extent, for the state is also true for individuals. Anyone can affect the price of potatoes as long as s/he has sufficient money to throw on the market or potatoes to hold off it.

It should be emphasised, however, that as soon as individual producers grow in size and become important enough to affect the price of the things they sell, they then cease to be perfect competitors in the strict sense, and their behaviour has to be analysed in terms of a blend of monopoly and competition.

### *Price Ceilings or bottoms and Rationing*

Governments sometimes set by law a maximum or minimum price. These interferences by law are quite different from government actions previously described, which work through supply and demand.



**Figure 2.35.** Price Ceilings and Bottoms

$P$  = Price set above the equilibrium;

$P_E$  = Equilibrium price;

$P_0$  = Price set below the equilibrium.

In case of  $P$ , demand ( $OQ_D$ ) is less than supply ( $OQ_S$ ) creating a surplus ( $Q_D - Q_S$ ). When price is set at  $P_0$ , demand ( $OQ_{D0}$ ) is greater than supply ( $OQ_{S0}$ ) creating a shortage ( $Q_{S0} - Q_{D0}$ ). A legal minimum or maximum price, without rationing, therefore, leaves a gap between demand and supply. Rationing or outright allocation as a solution is required if for any reason, market price is not to be permitted to rise high enough to bring quantity demanded down to the level of quantity supplied.

### *Equity and Resource Allocation*

We don't study competitive pricing for the beauty of the subject. Nor for its realism alone since often monopoly elements spoil the competitive picture. We study it for the light it throws on *efficient* organisation of an economy's resources.

Why then do politicians and the populace keep interfering or intervening with the mechanism? Primarily because man does not live by efficiency alone, is interested in the question: *efficiency for what and for whom?*

Most of the minimum and maximum prices are set in the name of "equity" - to help some group deemed deserving at the expense of some other group deemed already affluent and well-off. Just as Robin Hood "robbed the rich to help the poor" these devices try to create or restore a distribution of real income considered more equitable. Their advocates are willing to pay some price in the form of lower efficiency and higher waste to bring about "fairer" distribution of income.

### *Government Interference or Intervention and Optimum Allocation of Resources*

The concept of optimum allocation of resources refers to a situation when the limited resources are allocated for production or consumption in the best way possible. The equilibrium price seen earlier can exemplify optimal supply and demand situation.

Let us appraise government interference or intervention: "Surely does the government means well such that its interventions are not to be as harshly judged as those of a monopolist?" Well, it depends: where the government does know better than people what is really good and evil, its interferences may improve matters. An example might be opium and other drugs like cocaine and heroine. We may not treat the consumer as a sovereign who can decide how much opium is consumed, we adopt a paternalistic attitude, treating the consumer a little the way we treat the insane, minors, and other "incompetents". Society is similarly beginning to move against cigarettes.

But where soft drinks, for example, are concerned we usually are content to let the consumer spend his or her own income in his or her own way. We recognise that advertising can give us one set of tastes, which may not be intrinsically better than some other set, but in the interest of freedom, we do treat the consumer as sovereign.

## The Application of Price Theory to the Pricing of Factors of Production

### *Determinants of Demand for and Supply of Factors, and Factor Prices*

It is the service of a factor rather than the factor itself that takes part in production. The demand for factors is a derived demand - derived from the demand of goods and services they produce. If, for example, medical services have a high demand, the demand for medical doctors will also be high and if their supply is limited, their fees will go up in order to remove the excess demand. The reverse will happen if the supply of medical doctors is greater than the demand for their services.

The supply of factors depends on their price. If for instance the price of accountants - their wage, salary or consultancy fee - is too low compared to other prices, fewer students would be prepared to take up accountancy. Even the trained accountants may prefer to work elsewhere for higher rewards. The reverse is true if their price is very high.

In cases where there is an excess or under supply and demand, market forces will tend to move the price to the equilibrium position.

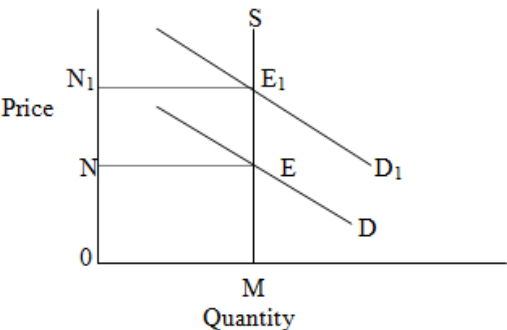
Factor prices include wage or salary for labour, the rate of interest for capital, rent for land or any other fixed factor and profit for entrepreneurship. We note that all factor prices can be referred to generally as prices for factors or factor use.

### *Implicit and explicit Costs*

The return to a factor of production is economically important regardless of how it happens to be owned. To an economist, the returns that go to factors of production owned by the firm itself are so important as to deserve a different name: in contrast to wages that are *explicitly* paid to outside labour, we define the concept of "implicit wages" as the return to the labour provided by the owner; and similarly, implicit rent and interest would be the returns to land or any other fixed factor and capital provided by the owner rather than hired from outside owners.

**Rent**, defined in the broadest economic terms, is 'the surplus earned by a factor over and above the minimum earnings necessary

to induce it to do its work'. Any factor may be said to earn rent if it receives a payment above the minimum for which it would be willing to work. Marshall's concept of 'quasi-rent', the payment to a factor in temporarily fixed supply, is a slight extension of this idea. 'Quasi-rent' will be eliminated over some time period whereas 'pure rent' will not be eliminated.



**Figure 2.36.** *Pure Rent Case*

Where a factor of production is inelastic in supply, its cost is "price-determined" rather than "price-determining" and its return is called a "pure economic rent". A higher price cannot elicit an increase in output; nor is the higher price necessary to bring out the existing output, for even at lower prices the same amount will still be forthcoming.

# 3. Production

## Definition of Production and why it is undertaken

### *The satisfaction of wants*

**P**roduction is aimed at satisfying people's wants. Man's earliest wants which took his energy were food, clothing and shelter. Civilisation multiplied people's wants so was the use of money. Under the present conditions of economic organisation, a vast range of goods is produced and new commodities are constantly introduced which has caused people to be both producers and consumers involving efforts and satisfaction of wants.

### *The Meaning of Production*

Briefly, production means changing either the form of something or its situation in space or time, or the provision of a service of some kind. This process involves the providers of goods and services, and the distributors all aiming at satisfying other people's wants.

Production is the making of goods for sale. However, it does not only include goods but also services. A service may not be directly productive but it does help the productive process, for example, the services of a medical doctor or a police officer.

The productive process includes not only the making of goods but also their distribution. Production and distribution are part of one process - it is impossible to have production without distribution and it is equally impossible to have distribution without production.

Production is for the market - the market being any place where buyers and sellers are in close contact with one another. Any increase in the extent of the market will stimulate production.

Improvements in distribution bring buyers and sellers into closer contact and, by so doing, increases the size of the market and hence stimulates production.

### *The Volume of Production and Economic Welfare*

The purpose of production is to increase the economic welfare of people. Welfare depends on the volume of production and its distribution among them, that is, the distribution of goods and services.

## **Wealth and its Ownership**

### *What is Wealth?*

The existence of a definite quantity of goods and services of all types in a country comprises the wealth of that country. Wealth is a stock of goods existing at a particular time that conforms to utility, that is, desirable, with money value, limited in supply and transferable. This meaning exclude intangible things but in a country's wealth, the quality of labour may be included though not transferable.

### *The ownership of wealth*

There are three distinguishable ownerships of wealth:

- (i) Personal wealth which comprise of personal belongings all of which presumably give satisfaction to their owner, have money value, limited in supply and transferable.
- (ii) Business wealth possess attributes of wealth although do not yield satisfaction directly but assist the production of other things. This kind of wealth is used as an agent of production.
- (iii) Social wealth consists of wealth owned collectively and include all property owned by the state or local authorities.

### *The wealth of the individual and of the community*

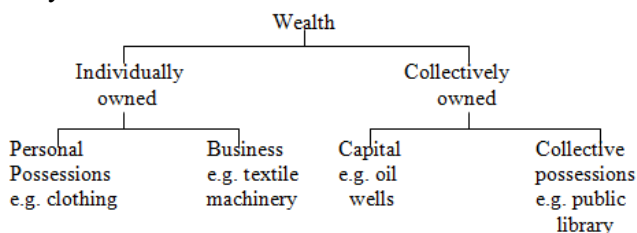
Individual calculation of wealth includes present value of saving certificates, national development bonds, saving bonds or shares in companies that one possesses as they can be turned into money with which one can purchase actual tangible goods and services that form real wealth. One can also add his or her potential earning capacity given his or her human capital.

In calculating the total wealth of the community, however, neither money nor government bonds must be included. Money is worthless in the absence of goods and services when required. Government bonds are merely transfers of purchasing powers from one group of people to another and represents no real assets. For the country, international assets and liabilities must be taken into

account, for example, foreign debt must be deducted and those owed to it must be added to the total. Like in the case of individual wealth, a country's stock of human capital can be added.

Under private enterprise, most wealth is owned by individuals, a minimum being collectively owned. It is, however, the ownership of business capital that has given rise to different economic and political systems. A capitalist believes that business capital should be owned privately, whereas a collectivist believes that it should be owned by the state.

The form of ownership of wealth determines the form of the economic system:



### *Poverty, Wealth and Income*

Poverty is either lack of wealth or insufficiency of income. It can also be taken to mean the ability to satisfy only a small proportion of one's wants.

Poverty can be defined in different ways and the different definitions may lead to the selection of different groups as the poor. It can be defined as the inability to attain a minimum standard of living, assumed to be a certain amount of money.

According to the most commonly employed definition, the poor are those individuals and families whose resources are so limited that they are excluded from the patterns of consumption and activities that make up minimum acceptable standard of living of the society they live in. Thus, poverty is not understood as the mere inability to satisfy the necessities that ensure physical survival, but rather as the involuntary lack of goods and exclusion from activities considered as necessary by the society as a whole.

## **The Factors of Production**

### *Introduction*

There are five factors of production: land, labour, capital, entrepreneur and time. Quite often time is ignored and the entrepreneur is considered as a special type of labour. In such a case, only three are considered as factors of production. However,

without enough time nothing can be produced and without the entrepreneur or organiser, nothing can be accomplished.

In order to produce anything, the factors labour, capital and the entrepreneur work on the land. The level of production and its efficiency depends on how these factors are combined.

A factor of production is a productive service rendered by human beings, natural resources, and manmade capital goods. There are at least four interrelated problems in factor uses:

- (1) Their requirement is a derived demand which in return determine their prices;
- (2) Their prices determine their demand and supply;
- (3) Their stock can increase or decrease overtime as according to their current and expected future prices;
- (4) Income distribution depends on their prices and ownership.

One of the most important factors in factor demand is physical usefulness which determines cost and profit therefore their productivity and prices. Thus a factor demand, among other things, depends on:

- (1) The output level of the firm using it;
- (2) Price and productivity of the factor.

### *Entrepreneur*

Most economists in the Western countries regard the entrepreneur as a separate factor of production to labour because s/he is a unique type of labour. The entrepreneur is the organiser of the factors of production. S/he is not an inventor but an innovator. The innovator is a person who introduces new products and techniques of production. S/he is not a discoverer but is a person who sees the profitable possibilities of producing new products with new methods of production.

Traditionally, the entrepreneur is the owner of the enterprise. Therefore s/he is the risk bearer. If the enterprise is a success, then s/he reaps the profits. If it is a failure then s/he bears the costs.

There are two kinds of risk:

- (a) Risk that can be insured against, for example, fire, theft, and damage.
- (b) Risk that cannot be insured against. This is known as uncertainty: Production is for the market - it is in anticipation of demand. If demand does not materialise then the entrepreneur will not sell the products and will incur losses. Such a business risk cannot be insured against.

Today there are three main forms of business enterprise:

- (a) The one man business;
- (b) The partnership;

(c) The joint stock company (JSC) or the limited liability company.

In the one man business, it is easy to identify the entrepreneur. S/he is the owner of the business or the enterprise, bears the risks and manages it. S/he makes all the business receipts and is responsible to no one else. S/he decides what to produce or to sell, how much, what factors to employ and where to locate the enterprise.

In the partnership, the entrepreneurial functions of ownership, risk bearing and receipt making, for example, are shared by the partners but it is still reasonably easy to identify the entrepreneur.

Under the joint stock company, it is no longer possible to point to one person and say s/he is the entrepreneur. The major functions of risk bearing and decision making are divorced in the JSC. The owners of the company are the shareholders who might be a million in any JSC. The shareholders are jointly the owners and therefore they bear the risks of the enterprise. If the company is successful, they are paid dividends in proportion to their shareholding on the company's profit. If the company loses, they bear the loss.

Decision making in the JSC is in the hands of the Board of Directors. They run the company on behalf of the shareholders and very often a Director may have few shares in the company.

In very large joint stock companies, the companies are often divided into divisions each being autonomous with all its management running that part of the company. Authority is delegated from the Board of Directors to various divisions of the management - each division being responsible for the decision making. Marketing is as important as production and in many cases today the marketing side of the firm helps to decide what type of product is produced and in what quantities.

### *Land*

Land may be regarded as a gift of nature the properties of which are already there. Classical economists argued that land was different from other factors because it was a gift of nature. Furthermore, they said that, unlike other factors of production, land was absolutely fixed in supply. This is true only of the total area of land but it is not true if we consider the uses to which it can be put. For example, the total area of Uganda is about 90,000 square miles (about 237,000 square kilometres)<sup>4</sup>. This is fixed but the total area of

<sup>4</sup> Land survey in 1962 estimated it to be 236,509, that of 1967, 236,706. That of 1974, given more polished survey methods on the Kenya/Uganda border gave it as 241,038 and that of 1984, given adjustments at the Uganda/Sudan border gave it as 241,139.

land in Uganda devoted on the growing of coffee is not fixed. If the price of coffee increases considerably then more land will come under coffee cultivation and therefore there will be less land devoted to other purposes.

**The law of diminishing returns** states that as the proportion of one (or a few or some) factor (factors) in a combination of other fixed or constant factors is increased after a point, first marginal, then average and finally total product will diminish.

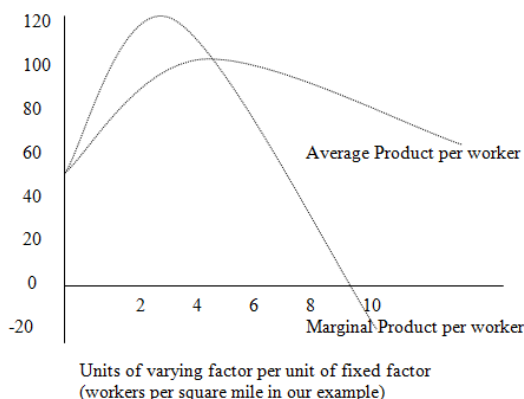
The law of diminishing returns applies to short-run conditions and says nothing about what might happen in the long-run. The short-run is that short period of time in which it is not possible to vary the combination of factors. It is that period of time in which there is no technical progress.

Three basic assumptions are essential for the validity of the law:

- (1) There are no economies of scale;
- (2) There is no technical progress;
- (3) Proportions in which the factors can be effectively combined should not be fixed but variable.

**Table 3.1. Total, Average, and Marginal Wheat Production**

PER SQUARE MILE		PER WORKER	
Number of Workers	Total Output	Average Product	Marginal Product
1	50	50	50
2	164	82	114
3	285	95	121
4	400	100*	115
5	500	100*	100
6	576	96	76
7	630	90	54
8	656+	82	26
9	656+	73	0
10	640	64	-16



**Figure 3.1. Average and Marginal Product**

One would expect output to double if we doubled all the factors. In our example above, however, the factor land is fixed while the other factor (workers) is variable. In this example, between one and four men per square mile we will have increasing returns (over proportional) - both marginal product (up to 3 workers) and average product are increasing. This is because one worker cannot utilise the land efficiently. If a second worker is added to the labour-force, efficiency would increase and average output would go up. The same thing would happen with the addition of the third and the fourth. Average output is at a maximum (proportional) at the fourth and fifth men per square mile. After the fifth man, average output will fall but total output will continue to increase up to the eighth (under proportionately). When the tenth is added to the labour-force, total output will begin to diminish because at this point labour is getting in each other's way.

**Marginal Product** is the addition to total product brought about by adding one more unit of a variable factor, in our example labour. The addition of the second worker, for instance, to the labour-force increases output by 114 units. **Average Product** is total product divided by the number of workers employed, product per worker.

As long as marginal product is greater than the average product, then average product will continue to rise. After the fifth worker, marginal product falls below the average product and therefore average product will fall. In our example, the optimum population for the land is five workers per square mile - after the fifth, each worker's share will fall.

**Malthus** applied the law of diminishing returns to a theory of population. He, during the industrial revolution in Britain - a time when population was increasing rapidly (geometrically), he saw the dangers of over population. He believed that unless there was some control of population growth, standards of living would fall back to subsistence level. To him food was growing at an arithmetical rate.

Malthus was wrong in England - he could not foresee the tremendous improvements in techniques of production that affected the diminishing returns. However, Malthus was not wrong in Ireland where there was no industrial or an agrarian (agricultural) revolution - the great famines of the 1840s. Malthus may be right in various parts of the world today for example, in some parts of Latin America, South-East Asia, and Africa.

### *Labour or Human Resources*

Labour or Human Resources is human effort expended to earn income. This could be brain power (human capital) or manual work and it covers both skilled and unskilled workers. The supply of

labour in any one country depends on the number of people who are able and willing to work, and the number of hours worked.

When we consider the labour supply we should exclude the young, the aged, the sick, the disabled, and people not able to work or are work-shy. It is therefore possible to have two countries with equal populations but different supplies of work effort. We should also remember that the work done by workers may be influenced by education and therefore by the skills that the workers have. The efficiency of labour can also be improved by providing health services, further education and training, and better working conditions.

The **population** of a country is the number of men, women and children in that country at a particular moment in time. In population, we are normally interested in size, age structure, and rate of increase or decrease as well as the following distributions: sex, geographical and employment.

The *size of the population* of the world or any one country<sup>5</sup> is the result of differences in birth and death rates in the past. The future size of the population depends on differences in birth and death rates now. Birth rate 40/1000 means that per every 1000 people of the country, 40 children are born each year. Death rate 20/1000 means that of every 1000 people, 20 die each year. The difference between our example of birth and death rates is 20/1000 - the rate of population increase of 2 per cent per annum. It is the rate of population increase which determines the future size and age structure of the population.

Up to the year 1650, world population grew very slowly - in some periods it actually decreased in certain areas, for example, during the great plague of 1381 in Europe. This was because, although birth rates were high, the death rates were often twice as high.

After 1700 the population of Western Europe began to increase gradually and this increase speeded up during the 19th century largely due to the falling death rates while the birth rates remained high. The death rates fell because of improvements in medical facilities and in sanitation. The work of Messrs Luis Pasteur (a French chemist concerned with rabies, fermentation, yeast, alcohol, etc.), Joseph Lister (of the Glasgow Hospital and concerned with carbolic acid and cleanliness in operation theatres), Edward Jenner (smallpox), and Harvey did much to improve medical treatment and the death rate fell rapidly.

<sup>5</sup> For a country, emigration and/or immigration may have a role to play. J.K.E. Mubazi (2019). *Economics ...*

The rapid increase in Europe took place during the 19th century. In some countries like Italy and Germany, the increase came later and continued in the 20th century. In all countries of Europe, the rate of increase has slowed down. With mandatory education, children became an economic liability. This was especially so after the factory act which forbade the use of child labour. There was now an incentive to limit the size of the family. A growing middle-class found it to its advantage to practice birth control.

Much of the population explosion in Europe was defused or spread to other continents. If this was not possible and there was no industrial and agrarian revolution, there might have been a severe natural disaster or check on population.

In Africa as a whole there is no absolute population problem except for a few countries like Egypt and Nigeria, that is, there is plenty of land and population density per square mile is low. The population growth has been slow until very recently due to a high death rate. However, there are signs that the population will increase very rapidly in the next twenty to thirty years. This is due to a high birth rate and a rapidly falling death rate.

Since independence, East African countries have greatly improved social and health services - hospitals and schools have been built or enlarged, many doctors and nurses have been trained. Thus the death rate has fallen fast and the most important constituent of the death rate, the infant mortality, has fallen very fast.

Uganda has a relative population problem. There is plenty of good fertile land and, with the exception of a few parts like Kigezi, the density per square mile is low. Uganda's problems arise out of a rapidly increasing population. More people have to be fed, housed, given medical facilities and found work. More hospitals, houses and health services will be needed. The more resources are diverted to providing these services, the less are available for increasing means of production. There is always a danger that the population might grow faster than the means of production. If this happens, then the standard of living will fall and this is one symptom of overpopulation.

***The Economics of Population - The Age Structure:*** A *stable population* is the one which is increasing slowly. This is perhaps the ideal population growth given its age distribution. There is a high percentage of workers to normal workers. Further, the gradual increase in numbers insures a growing market which acts as a stimulus to production.

A *rapid increasing population* is a familiar feature of some developing countries in Africa, Latin America and Asia. Here the rapid increase in population is due to a rapid fall of death rates while

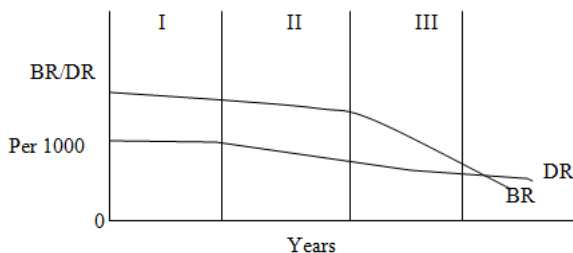
birth rates remain high. The order of population increase is between 2.5 per cent to 3.5 or 4.0 per cent per annum. This has severe economic consequences: there is a very high proportion of population under the age of twenty. These are consumers who need housing, food, education and health services. They are a severe strain on the economic resources of a developing country. If resources have to be diverted to provide them, then this will seriously hinder development plans' implementation of such nations. Furthermore, in the next twenty years, this group will be in the child-bearing age and the numbers of potential mothers might be doubled. This is the basis of a further large increase in the population. Unless family habits change, there is a danger that the population might increase faster than the means of production and, in such circumstances, the standard of living would fall. Such countries will then be showing symptoms of overpopulation.

*A declining population* is a situation depicted where mostly the death rate is greater than the birth rate. Such a situation took place in the countries of the Western Block in the late 1930s when the birth rate was very low (16 per 1000) and did show signs of falling further. There were more people in the age range 30 to 50 than 0 to 20. Economically a declining population is as bad as one which is increasing too fast. If numbers are falling, then the market is shrinking; there is less incentive to produce therefore specialisation is limited. In time there will be a shortage of labour and also a waste of resources.

It appeared in the 1930s that many Western European countries would be faced with the problems of a declining population in the near future. After 1945, many of these countries instituted programmes whereby generous tax and financial assistance were made available to many couples with children. Others included family allowances and other child benefits: free education and subsidised meals.<sup>6</sup> All this was aimed at encouraging people to have children. In Britain the birth rate rose to 18-19 per 1000.

***The theory of demographic transition*** tries to explain the changes in population over the years. It capitalises on birth and death rates, ignoring technology and incomes. It can be illustrated by figure 3.2.

<sup>6</sup> Such programmes are still common in Western Europe where a housewife with children may be better-off financially than another working.



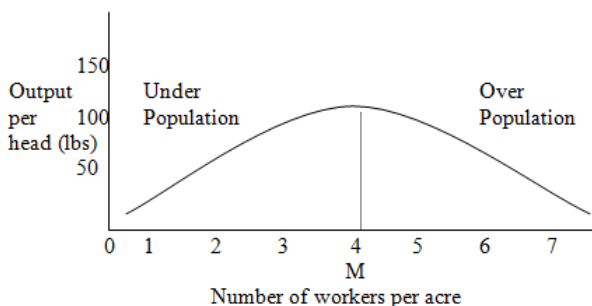
**Figure 3.2.** *Stages of Demographic Transition*

The first stage in figure 3.2 is characterised by high birth (BR) and death rate (DR), the former being attributed to the absence of birth control. The reasons for a high death rate include poor health conditions and medical care.

The second stage in figure 3.2 indicates that while the birth rate is still high, the death rate has started declining steadily. This is so because birth control is not yet in practice but health conditions have improved. This implies a high population growth rate.

In the third stage in figure 3.2 both the birth and death rates are declining because now birth control practices have taken root. At this stage, population growth is very low - about 1 per cent.

If the stage three conditions are not halted, time will come when the birth and death rates are equal implying stationary population. A fifth stage can be experienced when the death rate overtakes the birth rate leading to a declining population.



**Figure 3.3.** *Under and Over Population*

With reference to the law of diminishing returns, land, in this case, is fixed and labour is variable. OM is the optimum population where the average output is at its highest. Any point below M would show symptoms of under population - average output would rise if population is increased. Overpopulation is any point beyond

M where an increase in population results in a fall of the average output.

Overpopulation can be said to be a situation where the population is growing faster than the means of production thus resulting in falling average output. However, we cannot state that a particular country is overpopulated, we can only state that at this moment in time given the present technical knowledge and use of resources a country shows symptoms of overpopulation. For example, on this basis we can argue that some parts of South-East Asia and some Latin American countries are overpopulated. But we are merely saying that they are overpopulated at this moment in time. Given their resources, with improvements in technological knowledge and better use of resources, it may be that these countries can support much larger populations than that existing at present at a very much higher standard of living.

We don't judge overpopulation by the density per square kilometre. For example, the Netherlands has one of the highest densities per square kilometre in the world but at the same time it has a very high standard of living and is a net exporter of food. Furthermore, most Western European countries have a much higher density per square kilometre than many Asian and African countries yet these European countries have much higher standards of living and at the same time suffer from a shortage of labour of some kind. However, there are some cases where there is a very high density per square kilometre which can be said to be overpopulated. Here the population would be growing faster than the growth of production.

The symptom of under-population is where there isn't enough labour to utilise the land properly and an increase in the population would result in an increase in the average output per head. On this basis we can argue that certain parts of the world are under populated, Siberia and Australia for example. Nonetheless, we must be careful here: land and labour are not the only factors of production. Capital (i.e. machines) is very important. Very often capital can be used to supplement labour or as a substitute for labour - a shortage of labour can often be compensated by capital. In Canada and Australia living standards are high, density per square kilometre very low but no one would argue that the prairies are under utilised because of the shortage of labour. Here the farms are highly mechanised and production great.

There are, however, large stretches of Canada and Australia which have not been developed because of the shortage of labour. In this sense, we can say that these countries are under populated

because, even though the living standards are high now, production will increase much faster if this land could be exploited.

***The geographical distribution of Uganda's population*** shows that there is a growing exodus from the rural to the urban areas. This is the same pattern elsewhere in Africa as it was not during the past hundred years. The towns, therefore, are growing fast and in many cases the numbers of people in towns are growing too fast for the authorities to deal with.

A number of reasons accounts for this phenomenon:

(1) Since independence the capital city has grown in economic importance - it is the centre of government and commerce. Naturally, there has been a greater deal of new construction in the city with the result that more employment has become available.

(2) Wages have been in favour of urban areas - they are higher in urban areas than in rural areas. Consequently there is an incentive for people to try to find jobs in the towns. Because they often have relatives in town to stay with, they are prepared to wait some time before they find employment.

(3) Urban areas offer more facilities in the form of social-services: theatres, more hospitals and schools, etc.

(4) A large proportion (relative to population) of development expenditure is on improving facilities in towns and encouraging industries in them.

(5) The tax system is biased in favour of the wage earner staying in the town and against the peasant farmer. The farmer is then faced with three alternatives:

(a) To give up cash farming and retreat into subsistence agriculture. This is bad for the economy and is also bad for the farmer because s/he loses the standard of living.

(b) S/he can change from growing export crops to market gardening for local markets. This is not an attractive proposition partly because of well-intentioned efforts by the government to control the prices of food. This hurts the rural population to the benefit of the urban dweller.

(c) The farmer can give up farming and migrate to town. This often happens sometimes leaving a wife/husband and children to take care of the farm but the danger is that they lose interest in it. This is particularly bad for the economy because agriculture accounts for a big proportion of Uganda's exports and the prosperity of this nation largely depends on its success.

***The economic consequences of rural exodus for the urban areas*** are that the urban areas are growing too fast in population and they cannot deal with the rapidly growing urban population. More houses, schools and hospitals are needed. They also have to be

found work. Already parts of Kampala are overcrowded and once a shanty town arises, it often becomes a permanent feature of the city. The large numbers of the unemployed are a source of social and political unrest. More resources have to be diverted to try to maintain law and order therefore less is available for development.

There must be some population policy like slowing down the rate of population increase and/or discouraging rural exodus. The bulk of the population depend on the land for their living therefore if there is to be rational economic development then the land must not be neglected. Farming provides much of Uganda's income and will do so for many years to come. Positive steps must, therefore, be taken to have farming prospectus which may ease the rural exodus and give the city and towns a chance to deal with problems already facing them.

### *Capital*

Capital, to an economist, is wealth used in the production of further wealth - it is a producer good. Capital does not satisfy immediate wants - it is used in the production of consumer goods which satisfy wants at a later date.

Capital may be regarded as fixed or liquid. Fixed capital includes such things as machines, factories, roads, ships, and railways. Liquid capital is money. Capital may be regarded as wealth because, like other forms of wealth, its ownership is transferable. However, capital is different from other forms of wealth in that it can be used to produce further wealth. A lady's diamond ring, for example, may be worth £10,000. It is wealth but it is not really capital because it cannot normally be made to create further wealth. A machine, on the other hand, helps to produce goods - it helps to create further wealth.

The disadvantage of fixed capital from the individual's point of view as a means of holding wealth is that it cannot be disposed of quickly without the danger of losses being incurred. The advantage of fixed capital is that it helps to produce further wealth.

How the individual holds wealth is thus very important from the point of view of development. If there is stability, there will be more investment, that is, greater incentive to add to one's fixed capital. There will be more investment and future production. If there is insecurity or instability, investment becomes more risky - people will tend to hold their assets in the easily disposable form.

If there is substantial instability then people will also not trust liquid capital, that is, money. There may be, for example, inflation which would lower the value of money and therefore people will try to either:

- (1) Convert an unstable currency to stable ones or
- (2) Convert their money holdings into such assets as gold, jewel or a foreign currency which are stable or appreciate in value.

The importance of capital is that it makes labour more efficient and thereby increases production. But capital involves waiting and sacrifice. In order to add to a stock of capital, we have to do without consuming now. This present sacrifice increases the stock of capital and makes possible greater production of consumer goods at a later date. The act of adding to the stock of capital goods may be called investment.

We have said that when capital is used in conjunction with labour, it makes labour more efficient. However, in many cases, capital is introduced by the entrepreneur not to supplement but to replace labour. The introduction of machines often leads to frictional unemployment of certain forms of labour thus trade unions often view new machinery with hostility.

The most controversial aspect of capital is its ownership. Capital may be classified as private and public. In a purely socialist state, the means of production would be in the hands of the people. Nearly all capital would be owned by the government on behalf of the people. There would be very little private capital. On the other hand, in a capitalist state, there would be a preponderance of private capital. In the real world, however, there is no such a thing as purely socialist or capitalist state. There is private and public capital in all states. Obviously in socialist states, there tends to be more public than private capital and vice versa.

How much capital should be in private or public hands or control is a matter for the politics of a country. In Britain, for example, there is a mixed economy - the basic utilities are government owned and controlled but there remains a large section of industries which is privately owned. In the United States private capital is more important than public capital. In China there is less private capital.

Capital is wealth used in creation of more wealth. Sometimes it is difficult to state whether a good is a capital good or a consumer good. Many consumer goods are durable, that is, they are not consumed immediately but lasts, for example, a motor-car. Normally we would classify a motor-car as being a durable consumer good because it is used to give satisfaction to its owner. However, if a car is used as a taxi, it can then be classified as being a capital good.

It can be argued that the skill of labour is capital. Socialist economists argue that no capital could come into being without the skill of labour therefore in a sense capital is an extension of labour.

The experience of Germany seems to vindicate this point: at the end of the Second World War, most of the capital equipment in German had been totally destroyed. Yet by 1960 Germany had been rebuilt by its people and was already the strongest economic power in Europe. The capital equipment of Germany had been destroyed in the war but the skill of its workers had not been destroyed.

However, Germany was not rebuilt by the efforts of its people alone. The Germany economic miracle owed a great deal to the American generosity: thousands of millions of dollars were pumped into German. The point here is this: capital accumulation is impossible without refraining from consumption, that is, without saving. The skill of labour alone will not build up capital. The rebuilding of German was due to the skill of German labour and the availability of American savings to German in the form of aid partly through the International Bank for Reconstruction and Development (IBRD).

***Capital and Economic Development:*** One feature of a developed economy is a large stock of capital used in conjunction with skilled labour to produce wealth. Underdeveloped countries have a severe shortage of both capital (fixed and liquid) and skilled labour. Any plan which seeks to foster economic growth must aim at increasing a country's stock of capital and its supply of skilled labour. Generally speaking, the greater is the stock of capital and the supply of skilled labour, the higher is the standard of living of the country, that is, the greater is national income. In the short-run, it is possible to increase the national income without increasing the stock of capital. This can be done by using the present stock of capital more intensively and not making any allowances for depreciation. This involves using capital equipment until it is worn-out. This is known as *capital consumption*.

## Factors in Production

### *Supply Curve of the Firm and that of the Industry*

To get the aggregate supply of a good, we must add the supply of the independent producers or firms of the good. To get the market supply, we sum up all firms' supply.

An industry's supply is obtained by adding, at the same price, all firms' supply that exists in the industry at the time of measurement. This supply is quite similar to the market demand in its construction hence the respective curve construction is similar.<sup>7</sup>

<sup>7</sup> Also see Chapter 4 for various Market Structures.  
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### *Production for Subsistence and for the Market*

Subsistence production implies production mainly for home consumption. Under subsistence production, there is very little surplus and this surplus is often unintended. This little surplus can be exchanged when the situation permits.

On the other hand, production for the market implies that the producer intends to dispose of the products. With producing for the market specialisation is necessary if one can benefit from production. One specialises in producing certain things and obtains the rest that are needed from the market or other producers in exchange for one's products. To facilitate this process, an acceptable medium of exchange is necessary.

The basic difference between subsistence and producing for the market is that the former tries to be self-sufficient while the latter expects to get what s/he doesn't produce by giving up some of what s/he produces.<sup>8</sup>

In practice, however, these sectors often overlap - they are not mutually exclusive. As we have just seen, part of the subsistence products can be marketed. Also some of the products primarily produced for the market can be locally consumed by the producer. In Uganda, coffee and cotton could be a case in point - part of the coffee and cotton can locally be used though they are largely produced for the market. In any case, most Ugandans produce for both sectors and quite often they can operate in bias of either depending on the prevailing conditions.<sup>9</sup>

### *Productivity and Technical Progress*

The concept of productivity explains how and why different factors of production contribute to production. A factor is productive if it is able to add to the total production when it is employed in production.

There is a difference between a rise in production and a rise in productivity. A rise in production can be attained without a rise in productivity, for example, by employing more people and machines, production can go up. A rise in productivity implies that the same number of factors can produce more than originally.

<sup>8</sup> Advantages of specialisation may be considered as advantages of producing for the market. The disadvantages of specialisation are the demerits of producing for the market to a large extent. Conversely, disadvantages of specialisation are largely the merits of subsistence or self-sufficiency production and vice versa.

<sup>9</sup> See the population section (3.3.4) particularly "the geographical distribution of Uganda's population" on 'rural-exodus' factors.

Technical progress improves productivity and leads to greater production given the same amount of factors, having increased their marginal products. Technical progress can improve some or all the factors of production. Education or training can improve labour's productivity and machinery innovations can improve on their productivity, for example, a new tractor may be more efficient than the older one.

### *Location of Economic activities*<sup>10</sup>

(1) *Raw Materials*: A number of industries require the raw materials to be very close to them because it may be costly to transport them from a distance. It may also be impossible (given that they are perishable) or difficult (for bulk ones) to bring the raw materials to the industrial headquarters. Such industries or economic activities are said to be *rooted*. Examples include cement factories set where the limestone is naturally located like in Tororo in Uganda.

(2) *Availability of Factors of Production*: Some economic activities require that they be set in a place where the factors of production are easily available. In the first place, land must be available before an economic activity can be undertaken. Unless one can get labour to operate the machines, nothing can be produced hence the need of their availability. One hardly can build an industry in a desert where there are no people unless it is a danger to them. Capital in all its forms (physical, liquid and human) is a necessity and it should also be easily available. Lastly the organiser has always got to exist to put all the pieces together.

(3) *Market Accessibility*: Some industries need to be located near markets of their products. Such are referred to as *tied* activities. In case the final products are perishable or bulky, it pays to locate the industry near the market of such items.

(4) *Existence of External Economies of Scale*: Here the drive is to save on the operational costs. Economies arising outside the firm can render it unnecessary, for example, to train your own people, buy your own vehicles, doing your own advertising and constructing your own access roads. Existence of such economies leads to *polarisation* effects like Nairobi in East Africa or Kampala in Uganda.

(5) *Government Intervention*: For equity, political, social or any other reason, a national government can intervene in the location of industries in a nation. Reasons of this interference

<sup>10</sup> Note that this part is not sufficiently detailed but more fresh can be easily added. J.K.E. Mubazi (2019). *Economics* ...

include a fair distribution of employment opportunities, income, and social and economic infrastructure.

Means of intervention include tax-relief and/or subsidies to businesses willing to locate in economically depressed areas; nationalisation or taking over of firms on the verge of collapsing in the rundown areas so that the government pumps in money to revive them. The government can itself undertake building new industries in the backward regions to enhance the spread-effect.

(6) *Social-Cultural factors*: In spite of the desire of the entrepreneur to set up an economic activity in an area, social factors may stand in the way. For example, people in the countryside may object a construction of a film theatre or night club in their area hopping that this may lead to undesirable social behaviour or noise. A pork packing firm may be objected on cultural or religious grounds in a predominantly Moslem region.

(7) *Environmental factors*: An industry likely to have pollutant by-products or wastes may not be desirable. Rivers and lakes of fresh waters may be polluted and fishing negatively affected. Air pollution can also be a possibility and this can lead to serious health problems. This concern is very prevalent in developed nations with particular reference to Nuclear Power stations and nuclear waste disposal, lead-poisoning from car fumes, acid rain, and industrial emissions. Concern has also grown in developing countries hence the World Bank's office of environmental affairs.

(8) *Power Availability*: Economic activities which require a lot of power to run need to be located near the source of power. This is particularly so if there is a high loss of power in the transmission process (power lines) or the source of power materials are very bulky like coal.

### *Alternative Objectives of a Firm*

Firms have various objectives among which are:

- (1) Profit maximisation;
- (2) Sales maximisation;
- (3) Welfare objectives, for example, employment and income maximisation.

These objectives can be short-term or long-term. Profit maximisation is often a short-run objective while sales maximisation is often a long term objective. Welfare objectives are particularly important for the long-term survival of a firm. Unless people have jobs to earn a living, a firm may collapse due to lack of effective demand. Welfare objectives are very important for government firms, corporations, and nationalised industries, for the well-being of the citizens or voters.

Given the short-term and the long-term objectives, decisions are also based on the extent of the foresight. Long-term decisions depend very much on future expectations thus long-term investments requires a high degree of confidence in the future (a high Keynesian animal spirit). Expected returns have to justify the envisaged investment in relation to the next possible alternative use of the same capital. If setting up firm A will not yield the same or more returns as it would be in the case of setting up firm B, then firm A will be abandoned in favour of B.<sup>11</sup>

The main determinant of opportunity cost of an investment is the alternative use that very capital could have been put to use. In order for the firm to win, its expected returns should be the highest.

### *Other factors*

Firms' objectives are also affected by mores and laws of the society, and they depend, among other things on:

- (1) Ownership and control of the firm;
- (2) Organisation of the firm;
- (3) Market structure of inputs and outputs.

Given objectives, the time element is very important since it affects the number and scope of plans.

Firm's objectives can be viewed from these dimensions:

- (1) Profit maximisation - a positive aspect;
- (2) Power position acquisition - maintaining and strengthening. The standard measure here being normally the percentage share of the market not profit;
- (3) Social objective - when at a loss can be subsidised;
- (4) Employment criterion (also social).

We need to note that profit maximisation as an objective has loopholes among which are:

- (1) Exploitation accusation;
- (2) Competitors entry;
- (3) Government takeover;

and these can lead to less than maximum profits in the longer run.

Objectives have an inbuilt time dimension: In the short-run, for example, the producer tries to equate revenue to cost and then watch the market. Also profit maximisation through re-investment involves time.

<sup>11</sup> Also see the opportunity cost section (1.1.3).  
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### *Evaluation Factors*

The factors affecting the evaluation of the expected yields over time include:

(1) *Constance of Employment*: If the firm is not pretty sure of whether it will be able to retain its employees, then it can be difficult to evaluate expected yield because the workers may leave anytime. The firm can, under this uncertainty, try to give inducement to encourage them to stay.

(2) *Complementary Factors' Availability*: If there is no certainty as to whether one will be able to get all the factors in time then it can be difficult to evaluate future yield. Also prices of these factors could be very uncertain.

(3) *Market Stability*: This is particularly so in respect to the export markets. If retaliation in terms of protection by other countries against your goods is very apparent, then evaluation is not easy. Local consumption can also be uncertain if, say, there is a danger of possible mass unemployment as a result of mass-close downs.

(4) *Reliability of the Capital Equipment*: If spare parts cannot be obtained exactly when they are required, evaluation can be difficult. The same applies to replacement capital or maintenance staff. Confidence in the efficiency of the working equipment is desired for purposes of future yield evaluation.

### *Private versus Public Investment*

Private investment arises out of individuals' initiatives to establish economic activities. Public investment, on the other hand, arises out of government or public entity initiative.

Private investment can be criticized from a number of fronts: Often it is argued that when individuals invest, they don't lead to optimum investment for development as they tend to maximise private other than social benefits. It is also argued that private investment tend to be myopic or short sighted in that it usually tries to deal with short-run problems.

Private investment is often based on the efficiency of the market mechanism in allocating limited resources. Major criticisms of market mechanism include that:

(i) Indicators can be very weak particularly in developing nations to bring about desirable changes and often it forms a very small portion of these countries' economies.

(ii) Even when the indicators are strong enough, they may be unreliable in reflecting the social opportunity cost.

Public investment has the advantage of trying to deal with the problems resulting from private investment. Public investment is

often co-ordinated through national plans. Economic planning also works on the social-cultural frame-work which can be growth inhibitive. It tries to reduce the use of price mechanism for the efficient allocation of resources.

Public investment is particularly essential or useful in situations when the required capital is indivisible. In such a situation the capital required may be beyond the reach of private investors. Basic economic infrastructure attracts national investment because private investors are not interested and the government get involved to facilitate production by constructing roads, railways, airports, hospitals, and schools which enhance production and acts as external economies to the private investors.

Planning exist when a government makes a deliberate and continuing attempt to accelerate the rate of economic progress in addition to altering the institutional management which inhibits it. It makes social, political and economic changes conscious and co-ordinated over time so as to influence and determine development in the short, medium and long runs.

A difference between nationalisation and public investment should be noted: In respect to the former, the government decides, for one reason or another, to take over economic activities originally owned privately. It can be partial or whole - it is partial if the former owners retain some influence in the enterprise and whole if the government takes over all the responsibility. Public ownership often is criticized on grounds that management is not very durable since the interest in the enterprise from a personal point of view lacks. This generally leads to inefficiency in organisation and consequent loss of production or productivity momentum.

### *Choice of Technique in Public and Private Sectors*

A technique of production is a way various factors of production are combined in order to get output. The combination of these factors depends very much on the availability of the factors and whether they are substitutes or complementary. The choice between various combinations by either the public or private sector need not differ though there is a tendency of welfare considerations predominating the public choice like employment, income distribution, and political, while the private sector may be more interested in short-run gains with respect, for example, to profit maximisation.

There are basically two versions of technology: Either capital or labour intensive. Capital intensive is a situation where relatively more capital is used in production in relation to labour like in more

developed countries (MDCs). Labour intensive is the reverse - a situation where relatively more labour is used in production like in the labour rich less developed countries (LDCs). It is controversial as to which technique is the most appropriate since each has advantages and disadvantages.

### *Arguments for labour - Intensive Technique of Production in East Africa*

1. It can, in the short-run, offer employment to a large proportion of the presently unemployed;
2. Price for labour, both skilled (local) and unskilled is cheaper in East Africa compared to that of capital;
3. To an extent, it promotes industries and encourages putting up new ones with increased effective demand;
4. For a variety of social and ethnic backgrounds, since labour intensive techniques encourage variety production, it can be needed or beneficial.

### *Problems of labour Intensive Means of Production in East Africa*

1. The money wage is often higher than the equilibrium wage that is justified by the interaction of supply of and demand for labour. On the other hand capital is subsidised via measures intended to attract foreign investment. These can make labour more expensive than capital.
2. The employment created can be short-lived especially if there is inflation in the country, as is generally the case in East Africa, and products cannot be sold easily.
3. Higher capital-outlay per employee for an employer who wishes to provide social services and other fringe benefits to the employees or where this is a must, for example, social security contributions by the employers.
4. Requirement of a bigger number of supervisory human resources that may be expensive or difficult to get.
5. Lack of standardisation may lead to low quality products and lead to discontent among consumers.
6. Cheap labour may lead to inefficiency, low productivity and regulating too many complex processes.
7. Frequent strikes can, at times, be a threat, for example, for higher wages. It can be noted, however, that strong unions do not really exist in this region.
8. Requirement of greater re-investment to maintain the employment level while saving potential is often reduced.

9. Requires high expenditure on education, training and offering experience to trainees.

### *Advantages of Capital Intensive Means of Production in East Africa*

1. With it, it is possible or easier to exploit the internal economies of scale.
2. Given more production, a linkage created can create more jobs over time.
3. Capital is easily available from developed nations.

In general capital intensive means of production will, or is likely to, minimise the problems of labour intensive means of production outlined above.

### *Problems of Capital Intensive Technique in East Africa*

1. Capital is often used by foreigners and this lead to little spill-over or multiplier effects within East Africa.
2. Most capital was designed for developed countries with higher levels of literacy and bigger markets. When they are used here, they are often misused or underused because we are less used to them or our markets are too small. We can hardly export our manufactured goods.
3. Suppliers of capital are outside East Africa therefore the multiplier effects of their production benefit foreigners.

In the final analysis government policy has got a big role to play in directing the choice of technology and, indeed, in production itself by using the appropriate technology in its own operations. We have seen that such factors like available technology, employment considerations, and profit maximisation, affect the choice in the short, medium and longer runs.

# 4. The Market Mechanism

## Introduction

### *The Concept of a Market*

**I**n everyday speech a market means a place where people buy and sell things. The economist's concept of a market is much wider than this. It means a situation where a group of buyers and sellers of a commodity or service are brought in close contact with one another. This contact may be physical or by letter or by telephone, or on the net, or anything of the like.

Markets can be broadly divided into:

- (i) Factor markets which deal with factors of production (land, labour, capital and entrepreneurs).
- (ii) Commodity or product markets which deal with goods and services.
- (iii) Financial (money and bond) markets which deal with currencies, securities, bonds, etc., that is, financial instruments.

Markets or market structures can be classified on the basis of:

- (a) The number and importance of individual buyers and sellers in the market.
- (b) The degree of differentiation of products being bought and sold in the market.

### *Perfect Market*

A perfect market exists where there is only one price for the same quality of identical goods and services. This will occur when there is competition between many buyers and sellers, and perfect

communication between them; when transactions are numerous and frequent, and information about supply and demand is known.

## Perfect Competition

### *Necessary Conditions*

For competition to be perfect, the following conditions are necessary:

1. Large numbers of buyers and sellers.
2. Perfect knowledge.
3. Homogeneity of products or services.
4. Freedom of entry and exit into/from the market.
5. No transport costs.

### *(1) Large numbers of buyers and sellers*

When there is a very large number of buyers and sellers in the market, then the isolated action of any individual buyer or seller has no noticeable effect on price or quantity traded in the market. If there are many sellers, any can increase or decrease the amount of the commodity s/he is offering for sale without fear that her or his action will affect price. Similarly, when there are many buyers, any one of them can increase or decrease her or his usual purchases without fear that this will raise or lower the price in the market as a whole. Where there are very large numbers, all participants in the market are price-takers.

### *(2) Perfect knowledge*

This ensures that all buyers and sellers are aware of what is going on in all parts of the market. In particular they must know about prices ruling in all parts of the market. This condition is necessary to ensure that no one seller can lower or raise her or his price without everybody knowing about it. If s/he were to lower the price, all buyers would come to her or him; but since all sellers know about this action, they would all lower their prices by the same amount so that it would not pay any buyer to change. Similarly, if a seller were to raise the price in conditions where all buyers know about prices elsewhere, s/he would lose all the customers and would be forced out of business. The consequence of having perfect knowledge about conditions in the market is that buyers and all sellers take these conditions, in particular prices, as given.

### *(3) Homogeneity of products or services*

This necessitates that all sellers must be selling a product or service which is accepted by each seller and by all buyers as being

identical or homogeneous. This will ensure that no seller will put up the price on grounds that her or his product or service is of a higher quality. A uniform price rules for a homogeneous product or service throughout the market.

#### *(4) Freedom to enter and leave the market*

This condition enables anyone who wishes to enter or leave the market as a seller or a buyer to do so. There must be no restrictions on entry into or exit from the market. This ensures that the number of buyers and sellers, the first condition, can always remain very large.

#### *(5) No transport costs*

Where there are no transport costs there is no undue advantage by buyers or sellers because of the distance involved in the process of going to buy or sell the commodity or service. Where, however, these costs would exist, it would be necessary that all buyers and sellers have the same transport costs. This ensures that buyers and sellers remain in the same relative situation.

#### *Conclusion*

The above conditions ensure between them that there is perfect competition in the sense that there is competition free from all monopoly elements or free from the possibility of any one buyer or seller having influence on price and total amount traded by her or his own individual action. In actual life, however, it is practically impossible to find an example of perfect competition satisfying all conditions because there exist imperfections. These include lack of perfect knowledge by buyers and sellers, influence of advertising, irrationality, price fixing agreements, immobility of factors, and prohibitive transport costs.

#### *Other Assumptions for Pure Competition*

1. Rational participants where producers try to maximise profits and consumers, satisfaction (utility).
2. Perfect divisibility of goods and services which ensures that there is no bulk advantage.
3. The demand for the product of an individual or firm is perfectly elastic. If the firm or individual tries to raise the price of its/her/his products, buyers will immediately find other sources of supply. (This is implied in the perfect knowledge condition above).
4. Independence in decision making with regard to how, and how much, to produce or consume.

5. Short-run assumption making the plant being nearly fixed and, therefore, diseconomies of scale possible. However, some economies of scale are similarly possible in case of an initial under-capacity utilisation.

### *Costs*

When an economist considers the cost s/he includes the minimum earnings which help to keep an employee in employment rather than working elsewhere. On the other hand an accountant may not consider this opportunity cost. For instance:

Expenditure	18,000,000/=
Minimum earning	3,000,000/=
Total business earning	25,000,000/=

In this case an economist's profit is 4,000,000/= excluding the opportunity cost while an accountant may take the profit to be 7,000,000/=. If total revenue amounted to 20,000,000/=: an economist would leave this business and lend or keep the money. S/he would find a job where s/he would be paid the 3,000/= in form of a salary or wage rather than staying in business while earning only 2,000/=. For an accountant, 2,000/= may still be a profit.

Normally average revenue which is total revenue divided by total output, includes the normal profit (this opportunity cost). Thus if the average revenue is equal to the average cost ( $AR = AC$ ), a businessperson will stay in business because s/he will be getting just enough to keep her or him there - the normal profit. Anything below this will drive her/him out of business but anything above it will constitute super-normal profit and, under perfect competition, this will attract in competitors.

### *Production Runs*

(1) Short-run: this is a period within which no change of factor proportions is possible.

(2) Medium-run: this one is long enough for some changes to be contemplated.

(3) Long-run: change here is possible but depends on flexibility and easiness to substitute.

(4) Very long-run: production adjustment is much easier and depends largely on the technology, type of goods and quality of factors.

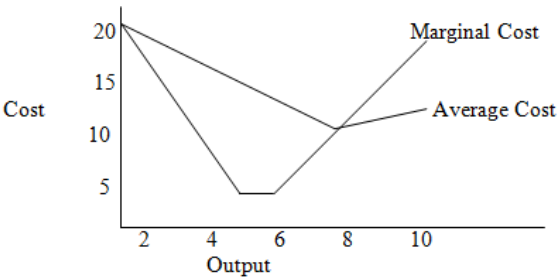
### *The Shape of the Average Cost (AC) and Marginal Cost (MC) curves*

Average cost is total cost divided by the total output while marginal cost is an additional cost incurred as a result of producing one more unit. Average cost will always decline first and then

increase, and its lowest point is a point where efficiency of a particular firm is at its best. As long as the marginal cost is lower than the AC, the AC will decline. The above facts are shown by table 4.1 and figure 4.1.

**Table 4.1.** *Total, Marginal, and Average Costs*

Output	COST		
	Total	Marginal	Average
1	20	20	20
2	38	18	19
3	53	15	18
4	63	10	16
5	67	4	13
6	71	4	12
7	80	9	11
8	92	12	11.5
9	107	15	12
10	127	20	13



**Figure 4.1.** *The Relationship Between Marginal and Average Costs*

There are basically three types of costs: fixed (overhead or unavoidable contractual), variable (avoidable contractual) and payments to the entrepreneur<sup>12</sup>. Fixed costs are those which don't alter proportionately to the level of output - they are generally constant. Examples include maintenance costs, interest payments, rates or local taxes, some fuel bills, rent, and some administrative costs. Variable costs are the costs of production which vary with the level of output - as output increase, total variable costs also increase. For example, as a school gets bigger, it needs more equipment, will use more fuel and will need to employ more labour in terms of teachers, cleaners, etc.

<sup>12</sup> Profits under private ownership are often referred to as non-contractual costs.  
 J.K.E. Mubazi (2019). *Economics ...* KSP Books

Some costs are fixed in the very short-run but variable over a longer period (supplementary costs) while others are variable only in the very short-run (prime costs).

Although total variable costs will increase as production increases, the increase will be less than proportionate to the increase in production. This is because the entrepreneur will be able to combine variable factors more efficiently with specialisation. Thus as production increases, the AC will fall or decline because:

1. Fixed costs are a large proportion of the total cost at low levels of production and don't increase.
2. The average variable cost fall due to efficiency of the entrepreneur in using the factors of production - enjoying internal economies of scale.

The total AC cannot fall or decrease all the time. This is because it becomes more and more difficult to combine the factors efficiently and also as demand for these factors increase with increasing production, their price will increase therefore the cost of production. Thus the AC curve is U-shaped - the bottom of this U representing the optimum size of the firm. At this bottom of the curved shape of a boat, the unit cost of production (average cost) is at a minimum. As long as the MC (the pace maker) is lower than the AC, the AC curve will fall.

The MC curve will always cut the AC curve from below at its lowest point. At this point MC is rising and beyond this point the AC will rise. At low levels of production MC will always be below AC because MC has no element of fixed costs in it. We can work out the MC by the addition of variable cost brought about by producing one more unit. Once we get beyond the optimal level of production, MC is rising very fast because variable costs are rising fast as it becomes more and more difficult to combine factors efficiently leading to the AC curve to rise too.

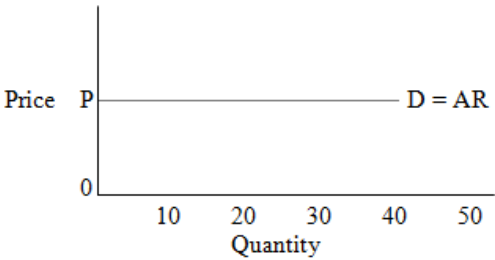
In the perfect competition ideal, the firm has to operate at its most efficient level if it is to exist or stay in business. We shall see that under monopoly the firm operates below its most efficient level in order to maximise profits. Factors, under perfect competition, will be guided through the price mechanism into those occupations where they are most profitable. Entrepreneurs will employ factors up to the point where their marginal revenue (productivities) are equal.

### *A Firm and an Industry under Perfect Competition*

A firm faces a perfectly elastic demand implying that it is able to sell all that it produces at the going price (Fig. 4.2) while an

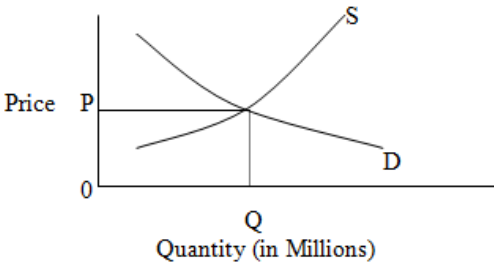
industry at large faces a normal demand and supply (Fig. 4.3). For the industry, price is determined by the interaction of all demands and supplies on the market.

We have seen that market prices are determined through the operation of the forces of supply and demand. Conditions of perfect competition imply that all firms and sellers must charge the same price. Consequently, the individual producer or seller is free to put as much as is produced on the market at the ruling price.



**Figure 4.2.** *A Firm under Perfect Competition*

Figure 4.3 shows the determination of price in the market. Price OP is the equilibrium price determined by the total supply and total demand. Figure 4.2 above shows that once the price in the market has been determined, the



**Figure 4.3.** *An Industry under Perfect Competition*

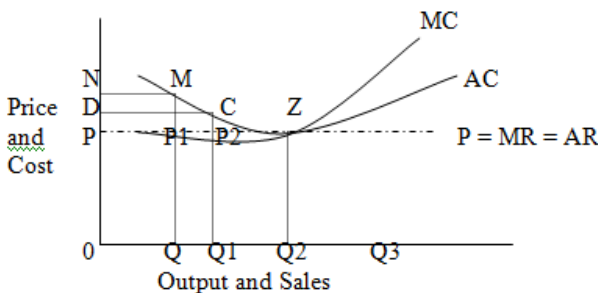
individual seller or producer takes it as given and the demand faced is perfectly elastic. One can sell all that is produced at the price OP.

*The Equilibrium of a Firm under Perfect Competition*

A private firm is usually in business to make profits and the level of these profits will depend on the difference between the

income which the firm derives from the selling of its products or services and costs incurred in their production.

Under perfect competition, the individual firm has no influence on price on its own, that is, price is given for the individual firm, being determined by the total supply of the industry and the total demand for the industry's products or services. Whether or not a firm under perfect competition is able to make profits will depend entirely on its ability to lower its costs of production by using factors efficiently. Assuming that the producer aims at maximising profits, the costs of production and expected revenue will set a limit on the output of an individual producer.



**Figure 4.4.** *Equilibrium of a Firm under Perfect Competition*

Total Revenue	= Total Sales x Price
Total Cost	= Total Output x Average Cost

Under perfect competition, a firm is in equilibrium when it is maximising profits. The point of profit maximisation is where  $P = MR = AR = MC = AC$ . At this point a firm is producing at its optimum output - at the bottom of the AC curve. Theoretically, it is using its factors of production in the most efficient way possible. If it produces below or above this level, it will incur losses thus it is an equilibrium because it gains nothing by either expanding output beyond  $OQ_2$  or contracting it to less than  $OQ_2$ .

In figure 4.4, if the firm produces at an output of  $OQ$  then total revenue is  $OQP_1P$  and total cost of producing  $OQ$  is  $OQMN$ , and the firm is incurring losses  $PP_1MN$ . Supposing it increases output to  $OQ_1$  then total cost will be  $OQ_1CD$  and the firm is still incurring losses ( $PP_2CD$ ) but the losses are now getting smaller.

If the firm expands output to  $OQ_2$  where  $P = MR = MC = AR = AC$  then total revenue is  $OQ_2ZP$  and total cost is  $OQ_2ZP$  - they are equal. At this point a firm is maximising profits. If it expands output to  $OQ_3$ , it will start incurring losses again because costs are

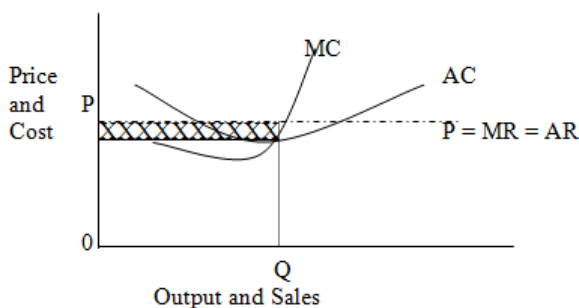
rising while average revenue remains the same thus total revenue is less than total cost ( $TR < TC$ ). Under perfect competition, therefore, a firm has to produce at its most efficient level if it is to earn maximum profits.

**RULE:** As long as the MR is greater than MC, a firm will increase profits or minimise losses by expanding output up to the point where  $MR = MC$ . Beyond this point, MC is greater than MR and therefore additions to costs are greater than additions to revenue leading to profits to fall or losses to increase. Under perfect competition, the point of equilibrium is where  $MR = MC$  but this is also the point where  $P = MR = AR = MC = AC$

### *Short-run conditions*

#### *i. A firm earning surplus profits:*

- Possible causes are (i) High demand.  
(ii) Efficient production and entrepreneur.  
(iii) Better machines.



**Figure 4.5.** *A Firm Earning Surplus Profits under Perfect Competition*

**Notes:** KEY: [XXX] = Surplus profits

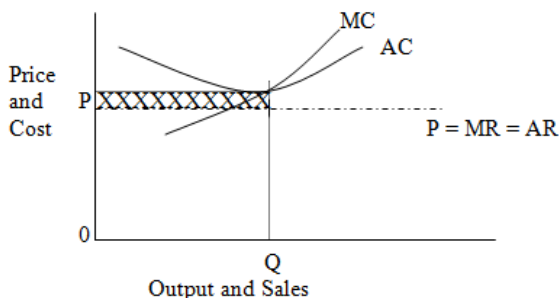
Here a firm is earning surplus profits in the short-run where  $MR = P = AR$  is higher than the AC at the point of equilibrium. Because we assume, among other things:

- (1) Perfect knowledge.
- (2) No transport costs.
- (3) Freedom of entry in the industry.

New competitors will enter the industry. Total supply will increase and price will fall until all firms in the industry are only earning normal profits in the long-run.

#### *ii. A firm losing money (making losses):*

- Possible causes are (i) Lack of inputs.  
(ii) Unproductive machinery.  
(iii) Inefficient entrepreneur.



**Figure 4.6.** *A Firm Making Losses Under Perfect Competition*

**Notes:** KEY: [XXX] = Surplus profits

A firm or a number of firms may be incurring losses in the short-run. In this case, with freedom of exit and rationality, it or they will leave the industry and total supply will fall. With the fall in supply, the price will go up to a point where all the firms remaining in the industry are just earning normal profits.

### *Definition of Equilibrium - Firm and Industry*

The long-term equilibrium of a firm under perfect competition is where

$P = MR = MC = AR = AC$ . At this level of production a firm has no desire to either expand or contract production. An industry is in equilibrium under perfect competition when there is no tendency for firms to either enter (fig. 4.5) or leave (fig. 4.6) the industry.

## **Monopoly**

### *Introduction*

An absolute or pure monopolist has control over the supply of a good or service for which there is no close substitute. Thus, in theory, a firm under monopoly is synonymous with an industry, that is, a firm is the industry.

A situation of monopoly arises when there is one supplier (seller) or a number of suppliers acting as one seller instead of competing against each other in the selling of a particular commodity or service.

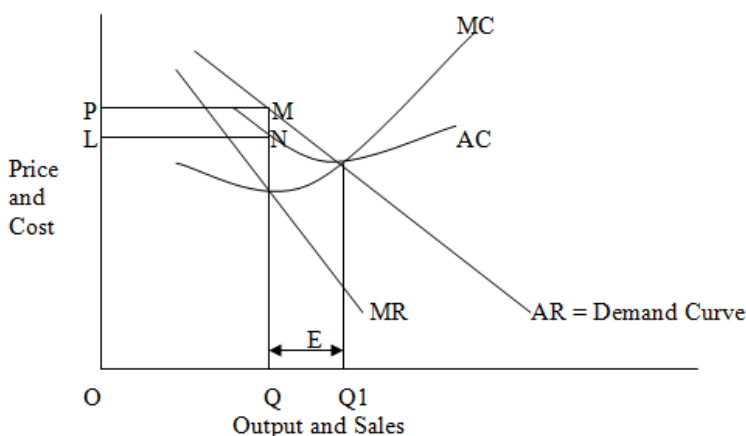
Under monopoly, cross elasticity of demand is zero and the demand curve is often inelastic. Independence in decision making exists and the monopolist is able to influence price. S/he can either fix price or supply but not both.

### *Equilibrium of a Firm under Monopoly*

The *only* condition for equilibrium of the firm under monopoly is that  $MR = MC$ , a point at which profit is maximised.

A monopolist, in theory, is a sole supplier of a good or service which has no close substitute(s) therefore the firm under monopoly is synonymous with the industry. If a firm alters supply by five per cent then the total supply of the industry will also alter by the same magnitude. Consequently, a firm controls supply and is therefore able to influence price. If demand is given, a firm can raise price by restricting output, that is, by restricting supply.

It must be remembered that since an absolute or pure monopolist is the sole supplier of a good or service, s/he can only sell more and more of that good or service at lower and lower prices. This explains why the AR curve must slope from top left to bottom right and the MR curve must be below it. The AR is in fact a demand curve showing that more and more can only be sold at lower and lower prices.



**Figure 4.7.** *Equilibrium of a Firm under Monopoly*

$E$  = Excess capacity or resource waste

Equilibrium: Output =  $OQ$ ; Price =  $OP$ ; Total Cost =  $OQNL$

Total Revenue =  $OQMP$ ;

Super normal or Surplus profit =  $PMNL$

Under monopoly, the more inelastic is demand for a product or service, the greater is the *power* of the monopolist to restrict output in order to raise price so as to increase profits.

### *Equilibrium of a Firm under Monopoly and Perfect competition compared*

The only condition for the equilibrium under monopoly is that  $MR = MC$ . As long as  $MR$  is greater than  $MC$ , the entrepreneur will expand output because s/he will increase profits by doing so. Beyond the equilibrium point, profits will fall because additions to costs are greater than additions to income.

Under perfect competition, however, the equilibrium is at the bottom of the  $AC$  curve and the optimum level of output coincides with profit maximisation. The entrepreneur, under perfect competition, has to endeavour to use the factors of production as efficiently as possible if s/he is to maximise profits.

Under monopoly, on the other hand, profit maximisation does not coincide with the optimum size of the output of the firm. The monopolist does not produce at the most efficient level, that is, at the bottom of the  $AC$  curve rather s/he restricts output in order to raise price and profit maximisation is where  $MC = MR$  but this is below the optimum level of output hence the excess capacity.

### *The Factors that influence the Basis or Degree of Monopoly Power*

1. Where one firm or a group of firms working together *controls* a large proportion of the total supply of a commodity or service.

2. *Mergers*: Where a number of firms decide to combine their assets either because they want to achieve greater economies or because they want to exploit the market more effectively.

3. *Take-over*: Where one prosperous firm takes over the assets and organisation of all the other firms in the industry.

4. Where a *large specific plant* is required, that is, where the technical size of the firm is large - case of large indivisible capital. In this case there are very few firms and there must be some degree of monopoly power. Entry into the industry is very expensive thus prospective profits must be high if existing firms are likely to meet new rivals. Heavy industry is such an example like ship building, iron and steel, and petrol chemicals.

5. Where *duplication* of services is wasteful. This generally applies to public utilities or natural monopolies. Examples include transport, power, water supply, and communications.

6. *Market constraints*: The market for the commodity or service may be too small to permit the existence of more than one firm.

7. *Branded Goods and Patent Law or Rights*: Branding make goods look different while they are not substantially different, for

example, Pepsi and Coke. This gives each brand some degree of monopoly power.

Patent law or rights creates a situation where a firm is not allowed, by law, to produce an item, even if it can, under a name already in production. This also creates some degree of monopoly power.<sup>13</sup>

8. *Statutory legislation*: This is where the government sets up a body to produce or to supply a given commodity or service.

9. *Local Monopolies*: This can be a result of space difficulties, for example, a small shop-keeper on the outskirts of a town has a certain degree of monopoly power in the locality.

Local monopoly may be a result of law or full blockage - where the local authority legalises some firms to operate while others are prevented, for example, on health or expertise grounds through, for instance, licensing.

10. *Natural and Physical factors*: Where the commodity can be found in one place, the producer becomes a monopolist. Examples include some instances of absolute comparative advantages in international trade.

11. *Tariffs*: In modern usage, a tariff is a tax on imported goods. Most countries employ tariffs to protect their local industries thereby granting local firms monopoly in the home market.

12. *Caution*: Cautious policies towards establishing an activity through, for example, uncertainty may prevent potential competitors from entering the market. This is a case of insufficient Keynesian "animal spirit".

### *Theoretical Evils or Criticisms of a Monopolist*

The theoretical evils of monopoly arise mainly out of the ability to influence price and how s/he arrives at the equilibrium position. In theory there is no good in monopoly.

1. A monopolist does not produce at the most efficient level of production, that is, at the bottom of the AC curve. S/he restricts output in order to raise price thereby earning surplus profits and *exploiting* the consumer.

2. There is *mal-distribution* of income and resources because the consumer has to spend more income on the monopolist's product than s/he would under perfect competition. S/he has less income remaining to spend on the products of other producers and

<sup>13</sup> There is an ongoing fight against counterfeit products (fakes) at knock-off prices going on in various countries in respect to famous brand-names and counterfeit laws.

is, therefore, unable to express demand as freely as s/he would like. S/he cannot maximise satisfaction and other producers are unable to grow to the size that they would do if there was free competition.

3. Because a monopolist has no competitors, there is theoretically little incentive to aim at efficiency or to *innovate*. Lack of varieties then reduces consumer choice.

4. Since a monopolist restricts output to where  $MR = MC$ , there is resultant *excess capacity and wastage of resources*, that is, a monopolist is not reaching the full extent of the economies of scale.

5. Entering the industry is restricted either through some legality or through the size of a monopolist. This cuts out *competition* which is necessary in order to get some form of *industrial efficiency*.

### *Reality*

In reality we cannot condemn all forms of monopoly undertakings. We have to judge each individual case on its own merits. The yard-stick that we use in judging monopolies is to decide whether or not "the monopoly is acting in or against the public interest". The judgment basis, more often than not, rest on a theoretical concept of perfect competition and monopoly. However, there are occasions when monopoly is justified if we consider that it is in the national interest.

In countries where monopolies are regulated, inquiries into the running of large-scale enterprises are made and cases are referred to such organisations from time to time for judgement. However, the judgement is not final, it is really a recommendation to the government - the government does not always accept those recommendations.

### *Some Aspects Considered in Controlling Monopoly*

1. Satisfying social needs and welfare;
2. Consumer sovereignty and demand satisfaction;
3. Democracy, Nationalism and Equity;
4. Business efficiency, Stability and Progress.

The question then arises as to under what circumstances are these aspects best catered for. For example, is the consumer sovereignty and satisfaction best catered for by small production units under individual hands? Are the criteria of democracy, national interest and equity best served by cooperatives than large capitalists? Some public utilities have been established in order to balance various advantages and disadvantages of monopoly.

### *Possible Advantages of Monopoly*

1. Less wasteful use of resources through avoiding duplication which may exist under competition.
2. A monopolist is more likely and able to finance research and to have long-term planning which may help improve methods of production.
3. Cheaper products or services in public utility undertakings are possible.
4. It can facilitate the installation of expensive plants that may be required by the entire market.

### *Price Discriminating Monopoly*

This reduces the consumer surplus and its basis include.

1. *Different demand elasticities in different markets:* As we saw earlier, the degree of monopoly power is influenced by the elasticity of demand. When two markets have differing demand elasticities, a monopolist is able to charge a higher price in a market with a more inelastic elasticity of demand.
2. *Impossibility of resale-ability, seepage, communication or leakage:* Such leads to markets being effectively separated.
3. *Lack of close substitutes:* We said that a monopoly's product should not, theoretically, have close substitutes. However, the more distant are the possible substitutes, the better for the discriminating monopolist in question.
4. *Existence of irrationality:* Under perfect competition we said that consumers should be rational in a sense that they should, at all times, seek to maximise utility. There are, however, cases when this is not the case. The more it is not so, the better for the discriminating monopolist.

*Forms of price discrimination* include:

1. *Personal basis:* Charging different prices for the same service depending on personal basis is practiced by many service providers like medical doctors and tailors.
2. *Age group or status:* In many countries children and pensioners or senior citizens are charged lower than others for the same service. Also security personnel or students, as a status, may enjoy similar treatment.
3. *Location and knowledge:* Customers in different locations may be charged differently. Also when one's knowledge is gauged, s/he might be taken for a ride.
4. *Product itself:* The product sold in different markets may weigh differently though labelling may indicate the same weight. The same goes with quality. In cases such as these, different consumers may, in actual fact, pay the same price for different

products. Different brand names can also be used for purposes of charging different prices for the same good.

5. *Barriers reflected in pricing*: Examples here include telephone rates being a function of time. It is more expensive to ring in the morning busy time than in the afternoon. Many students ring their friends in evenings in order to pay less and many people prefer to make international calls at less busy time partly for the same reason.

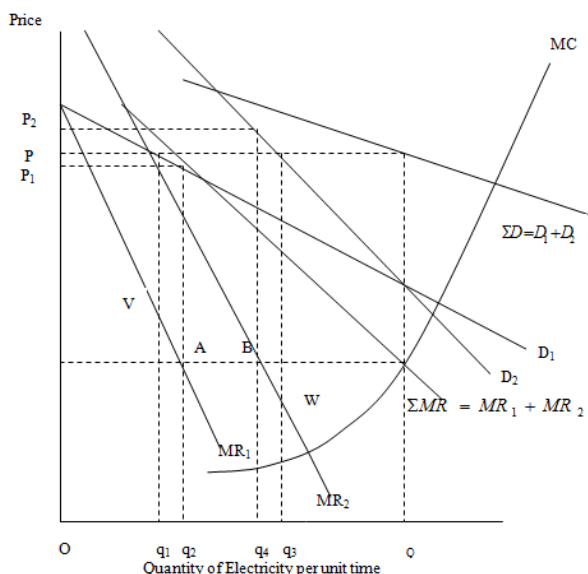
Postal, water and power rates also vary as according to use. For instance water and power rates often differ for domestic and industrial use. Business cards are cheaper than normal letters. Water rates are lower for industrial users than private consumers so are the power rates.

Price discrimination can be extended to international trade. This can lead to "dumping", the selling of items below the AC in export markets. Predatory dumping refers to the temporary selling of a commodity at below cost or at a lower price abroad in order to drive foreign producers out of business.

### *Profit Maximisation under Conditions of Discriminating Monopoly*

The price-discriminating profit maximising monopolist will produce an output and distribute it among markets in such a way that marginal revenue in each market equals marginal revenue in every other market and is also equal to *total* marginal costs, that is profits of a discriminating monopolist will be at a maximum when the MR in each market is equal to the MC of the whole output.

Figure 4.8 represents an hypothetical situation faced by the firm in charge of supplying electricity in Uganda. There are two demand curves -  $D_1$  for commercial market and  $D_2$  for household market. The elasticity of demand for electricity by commercial users is higher than that of household users since large commercial users may find it possible not only to use substitute sources of power but also to generate their own electric power if the price of electricity becomes prohibitively high. Since it would not pay an individual household to try to generate its own power, the firm is able to practice price discrimination by charging a higher rate for domestic use than for commercial use.



**Figure 4.8.** Profit Maximisation under Conditions of Discriminating Monopoly

Monopoly output under price discrimination is determined by the intersection of the monopolists marginal cost schedule (MC) with the aggregate marginal revenue curve (MR).

If there is no possibility of discrimination, the firm in charge of supplying electricity in Uganda, in order to maximise profits, will produce output OQ, charging a price OP. But note, then, that with output  $Oq_1$ , provided to market 1 (the commercial market) and  $Oq_3$  provided to market 2 (the household market), the marginal revenue in the first market exceeds that in the second market (shown by points V and W, respectively). This suggests that if the firm in charge of supplying electricity in Uganda can discriminate as between commercial and household users, they will increase total revenue if they simply shift sales from market 2 (household) to market 1 (commercial users), charging in each case what the market will bear (i.e., the price will go down in market 1 and up in market 2). This process will be continued until  $q_2$  is sold in market 1 and  $q_4$  in market 2, at which point the marginal revenue (MR) in each market indicated by points A and B, are equal to one another. There is no use switching any more sales as between markets; the firm in charge of supplying electricity in Uganda can no longer improve its total revenue and profit position. So long as the firm in charge of supplying electricity in Uganda is free to charge different

rates for the same product (unit of electric power), that is separate their markets so that there can be no 'arbitrage' between them, it will maximise total profit by equating MR in each market to MC of its whole output.

### *Types of Monopoly Organisations*

#### *i. Association of Independent Firms*

Quite often this is a simple *gentleman's agreement*, for example, the tax drivers in Kampala who remain independent but have a loose gentleman's agreement on fares. A more important gentleman's agreement is that which exists between Imperial Chemical Industries (ICI) and Unilever - ICI agrees not to enter the soap and detergent industry if Unilever keeps out of the chemical industry.

Sometimes the association of independent firms is more concrete than gentleman's agreement. Often enough there is an agreement by the major firms in an industry which affects their freedom of action in disposing output, but which leave them free to pursue independent policies. Such an association is known as CARTEL. It is a *voluntary association of producers for controlling output*.

*Voluntary association of firms for controlling prices* is the most common form of monopoly agreement between firms not to sell below agreed minimum prices, for example, car manufacturers in the United Kingdom.

A **cartel** is a selling syndicate and an association of firms through which all the products of the group are marketed. The selling syndicate is then able to take full advantage of market situations. They often practice discriminating monopoly - the selling at different prices in different markets. The great merit of a cartel of agreement from the producers' point of view is that it permits the monopoly advantages to be reaped in spite of the fact that there might be many firms and no firm would be in a commanding position.

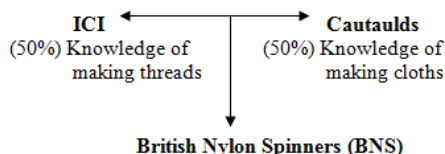
The stimulus towards cartel agreement is generally to be found in economic depressions. This is particularly so in heavily capitalised industries where the emergence of excess capacity and cut-throat price competition would hurt the producers most. The cartel, however, is subject to great stress because an agreement may often break down. This is particularly probable if members cheat on each other like producing a different quantity from that agreed upon.

### *ii. The Fully Unified Monopoly*

This second category of monopoly organisation brings a substantial proportion of the output of the industry under unified control. Firms may retain their own legal names but they are in reality no longer independent. They are subject to unified control. The means of achieving this monopoly include:

- (i) The holding company - a company formed to hold the shares of subsidiary companies;
- (ii) The merger - 50/50;
- (iii) The Take-over.

Hypothetical example:



### *iii. Motives and/or Reasons behind Monopoly Organisations*

They include:

1. Desire to strengthen and control the market;
2. Withstanding foreign competition;
3. Reaping the benefits of economies of scale;
4. Eliminating cut-throat competition;
5. Promoting the production of a new product;
6. Government directive.

NOTE: The first item is often the strongest motive. It is rare for a complete merger to dominate an industry; generally one firm dominates an industry and act as a price leader, for example ICI – chemicals; Unilever – soap; Madhivani - sugar and sugar products in Uganda.

### *iv. Monopoly and Industrial Efficiency*

#### *1. Association of Independent Firms*

With the gentleman's agreement there is no doubt that the efficiency is impeded because the chief purpose of this agreement is to protect the existing capital value. Prices are set at a level which covers the cost of production of the least efficient firm. The gentleman's agreement tends to arrest technical innovation; cost of production tends to be higher and raises prices.

#### *2. Cartel*

A *cartel* is a more rigid form of gentleman's agreement. There are agreements on output and on price and resultant excess

capacity. In most cartel agreements, the efficient firms are obliged, to some extent, to carry the less efficient. The standard of output is based on some past performance which may exceed a firm's present ability to supply. The cartel system tends to prove a hindrance to the growth of young, progressive and efficient firms. Any revision to the standard of output or cartel is generally contested by the older firms.

There may be some advantages to be derived from cartelisation *if* selling is unified (as in cooperatives) then the selling costs of the firms may be cut presumably to the benefit of both the firms and consumers.

### 3. *Fully Unified Monopoly*

A stronger defence or justification can be made out for the fully unified monopoly. With its complete pulling of resources, the fully unified monopoly has great opportunities to lower costs of production by combining processes and concentrating production. A fully unified monopoly is able to reap considerable benefits from economies of scale. The rate of technical innovation is greater than in cartel arrangements. Many firms such as Imperial Chemical Industries (ICI) have a very impressive record in research and technical innovation. They offer stability, quality of products and lower prices than would be possible under free competition. This is because such large firms are able to reap the benefits of economies of scale. Furthermore, when large numbers of small firms compete against one another, they often sacrifice quality in order to lower price. Under such conditions, each small firm is constantly fighting for its survival and is unable to plan for the future.

Fewness of numbers, however, does not necessarily mean absence of competition. For example, Unilever and Proctor and Gamble dominate the soap and detergent industry in North America and Europe; they are in an oligopolistic <sup>14</sup> position nevertheless competition between them is furious.

## Imperfect Competition

### *Introduction*

As was seen at the onset of this chapter, market structures are generally defined in terms of:

- (a) The number and importance of individual buyers and sellers in the market, and
- (b) The degree of differentiation of product being bought and sold.

<sup>14</sup> See Oligopoly later - section 4.4.3  
J.K.E. Mubazi (2019). *Economics ...*

**Chart 4.1. Imperfect Competition Characteristics and Structure**

Nature of goods	Homogeneous (Perfect or Pure)	Heterogeneous (Imperfect)
No. of participants		
Many	Competition	Competition
Few (Strictly $2 < N < 10$ )	Oligopoly (Oligopsony – buyers)	Oligopoly or oligopolistic competition
One	Monopoly (Monopsony – buyer)	Price discriminating monopoly

Market	Producers	Commodity
Monopolistic competition	Many	e.g. raw materials like steel
Perfect or Pure oligopoly	Few	Homogeneous e.g., automobiles
Imperfect oligopoly	Few	Differentiated e.g., cigarettes
Duopoly Homogeneous	Few	Homogeneous

### *Monopolistic Competition*

#### *Introduction*

Under monopolistic competition, there are many small firms, each of which make a product or offer a service that is a little different from that of its competitors. As in the case of perfect competition, there exists free entry and exit, and the fact that there are many sellers implies that no one firm controls a significant proportion of total market sales and no output decisions of a single selling unit will affect the output decisions of any other seller or induce a direct reaction from any other seller. Thus, there will be very little interdependence or price-output rivalry. Examples include restaurants, service stations and bakeries.

The term 'monopolistic competition' should now be self-explanatory. Since an individual seller has a product or service which no other seller can exactly duplicate, s/he is in a sense a monopolist and is free to vary prices and output. Since there are many close substitutes, however, the actual range of price and output variation is significantly smaller than that of a single firm monopolist who has no such substitutes. The existence of many small sellers, each acting independently of one another, gives this market structure an aspect of competition; hence the term "monopolistic competition". However, the closer similarity is to perfect competition since the relative range of price output variations is quite narrow and the demand curve generally faced by the monopolistic competitor is highly elastic over its entire range.

#### *The Monopolistic Competitor's Product Demand Curve*

A monopolistic competitor's demand curve is highly elastic although product differentiation causes it to be less than infinitely

elastic as would be the case in perfect competition where no differentiation exists.

With regard to position, the demand curve of an individual competitor while unaffected by any isolated action of other competitors is highly sensitive to the prices charged by the rivals as a group. If *d* in Figure 4.9 below is taken as an hypothetical demand curve of a product by one producer, we see that this schedule shows an extremely narrow range of prices (£96 to £102) at which our producer can sell any of the product. The high elasticity of this demand curve reflects the fact that, at any price above £102, s/he will only be able to sell a negligible amount of products, while s/he need not reduce the price below £96 in order to sell practically all of the products that s/he is able to produce per month (perhaps 20).

The actual range within which our monopolistic competitor is free to vary the prices will be determined in the first instance by the relation of total industry demand to the aggregate supply of all sellers of the product and secondly by the range of prices charged by all other competitors, since the relatively high cross elasticity of demand between their products or services and his or hers effectively narrows the actual range of variability. It follows that any increase in aggregate supply resulting from the entry of new firms into the industry will tend to depress the 'general' range of prices within which each monopolistic competitor is free to act. This lower average price will be reflected in a leftward shift of individual demand curves of monopolistic competitors with the result that a lower range of actual prices will be established. Supply restrictions or increased industry demand will have the reverse effect.

The shape or slope of the separate demand curves of monopolistic competitors will depend upon the extent to which a producer is able to differentiate the particular product or service from that of the other sellers and the degree to which consumers are induced to purchase this product or service rather than that of another producer. To the extent that the cross elasticity of demand between the goods or services of a producer and similar goods or services produced by other competitors is low relative to the cross elasticity of demand for other producers' goods or services with those of our producer, we say that the demand curve of our seller will be less elastic at all possible prices than that of the competitors.

A second and more common method of product or service differentiation in monopolistically competitive industries is the use

of advertising or sales promotion to reduce the elasticity of individual demand curves.

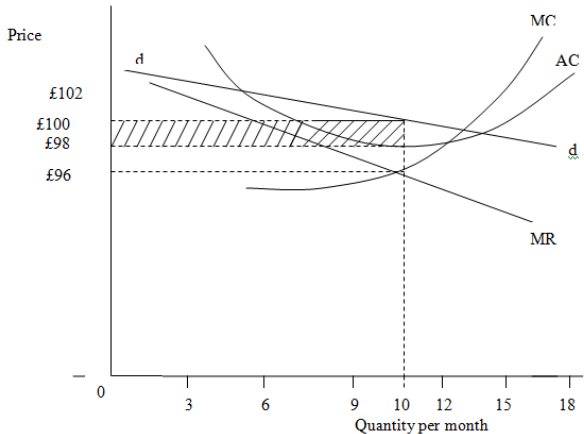
### *Equilibrium of the firm under Monopolistic Competition*

The demand curve for a firm under monopolistic competition, like that for a pure monopolist, slopes downwards. Each firm's product or service is a little different from those or that of its competitors. Each firm therefore can raise its price at least a little without losing all its customers, because some customers attach more importance than others to the special style or location or other marketing advantage the firm offers. Given this downward-sloping demand curve, the short-run profit-maximising position is found in the same way as that for a pure monopolist: the level of output is determined by the intersection of the MC and MR curves, and the price charged is determined by the height of the demand curve at that point.

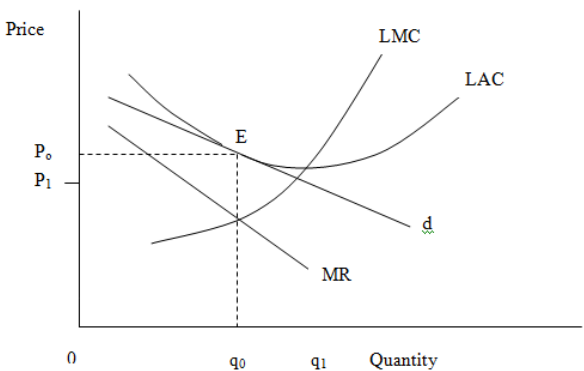
But this short-run equilibrium cannot also be a long-run equilibrium under monopolistic competition in normal or most circumstances. The reason is freedom of entry. In the short run position shown in Figure 4.9, the firm is earning a pure economic profit. This is shown by the fact that price exceeds average total cost. But high profits attract new firms. As new firms enter the market, the demand curves of firms that are already there will shift down-wards. The reason is that although the new firms' products or services are not the same, they are to some extent substitutes for those of the original firms. If the original firms improve their products or services, or market them more aggressively, those efforts will raise their average total costs. The downward shift in the demand curve of the original firms or the upward shift in their AC curves, or both, will continue until there are no more profits to attract new firms. The result will be the long run equilibrium position that is shown by figure 4.10.

The long run equilibrium position is sometimes said to be a sign of poor performance. For one thing, as under pure monopoly, each firm turns out too little of its product or service. The gap between price and MC indicates potential added production ( $q_0q_1$ ) that would increase economic efficiency. In addition, under monopolistic competition a firm does not operate at the lowest point of its long run average cost curve. The actual deviation of prices and outputs from perfect competition, however, depends ultimately on the elasticity of the demand curve faced by the monopolistic competitor. The greater the elasticity, the less will be the deviation, and this, in turn, depends on the degree of product differentiation. If there were fewer firms, each producing a greater

amount of output, the same quantity of goods and services could be provided at a lower total cost.



**Figure 4.9.** *Short-run Equilibrium under Monopolistic Competition*



**Figure 4.10.** *Long-run Equilibrium under Monopolistic Competition*

However, not all economists accept the criticisms of monopolistic competition just noted. A variation on the argument admits that there are differences among products or services but points out that the differences are valuable in themselves. Suppose it were true, as the theory of monopolistic competition suggests, that prices would be a little lower if there were fewer barbershops, each one not quite as conveniently located; or fewer retail shops, each one a little more crowded; or fewer flavours of ice cream. Would a move in that direction benefit consumers? Not if consumers are willing to pay something for variety.

## *Oligopoly: Competition among the few*

### *Introduction*

The term "competition" has two meanings in economics. In the phrase "perfect competition" it refers to the market structure. In contrast, when used as the verb "to compete", competition refers to business rivalry. Two firms are said to compete if they treat each other as rivals in their efforts to do the best they can in the marketplace.

As we pointed out earlier, there is no *rivalry* in perfect competitive markets because each firm sees every other firm as too small to have much of an impact on market conditions. Rivalry is absent from pure monopoly because there is only one firm in the market. And as long as members obey the rules they agree to, rivalry is absent in a cartel.

In most markets, however, rivalry plays too big a role to be pushed into the background. Most markets have more than a single firm but fewer than the number required for perfect competition. Most also lack formal agreements among competing firms to refrain from business rivalry. Such markets are known as OLIGOPOLIES. We reserve the terms 'pure oligopolies' and 'differentiated oligopolies' to cover situations in which there are few sellers of either a homogeneous or a non-homogeneous but highly substitutable product.

In an oligopoly it matters very much to each firm what its rivals do, and not just in relation to price. In many markets an oligopolist must be prepared to respond to moves that its competitors make in terms of style changes, product innovations, customer service, and advertising as well.

### *Awareness*

When dealing with perfect competition, monopoly or monopolistic competition, the individual seller is assumed to be cognizant of a unique and well defined schedule representing the relationship between prices secured for his or her product and quantities sold at these prices. The fact that his or her demand curve is either perfectly elastic or negatively sloped has important implications in terms of optimal price-output combinations, but the crucial point is that each seller is *fully aware* of the nature of his or her demand curve in these situations. This is not the case under oligopoly.

### *Reactions*

The fundamental problem in oligopoly is that the outcome of any individual decision will depend on the *reactions* of rival

producers and so long as the initiator of the action cannot predict with certainty what his or her rivals will do, then pricing, output and the long run effects of oligopoly will become highly indeterminate.

### *Building the Theory of Oligopoly*

#### *(i) Introduction*

It is much more difficult to state a theory of oligopoly than it is to state a theory of pure competition or monopoly. The theories of competition and monopoly presented earlier do focus on decision making by a single firm under given conditions. These conditions are assumed not to be affected by the decisions the firm itself makes. Under pure competition it is possible to isolate the firm's actions because the firm is so small; under monopoly the firm to be studied is assumed to be isolated from rivals. The ability to isolate the decisions of a pure competitor or a monopolist greatly simplifies the task of theory building.

Also the need to focus on the interaction of many firms rather than on the behaviour of each firm by itself makes it hard to come up with a complete theory of oligopoly.

#### *(ii) Oligopolistic Interdependence and theory precision*

Industries that are dominated by a few large firms raise the problem of *oligopolistic interdependence*. This refers to the need for each firm to take the likely reactions of its rivals into account when planning its market strategy. Even with given cost and demand conditions, there is no "best" price and quantity decision for the oligopolist. Instead, there are a number of possible strategies, each of which is more or less suitable, depending on what the firm's rivals do. Thus applying the pricing rules to any given case always requires judgement. No simple theory can say when a given price move should be made, or predict the outcome of a series of moves by a firm and its rivals.

This notion of interdependence and uncertainty is at the core of oligopoly theory. Consequently, the analysis to follow will lack some of the precision and authority of the theory of perfect competition and the theory of monopoly since oligopoly theory covers a wide range of possible market situations each depending on the nature of the competitive (or non-competitive) relationship between particular sellers. In a few important real market instances, however, we will be able to speak with some degree of precision about the theoretical effects of certain oligopolistic structures.

Another reason for our lack of precision in trying to present any 'general theory' of oligopoly stems from the existence of two basic conflicting forces that make oligopolistic decisions difficult to determine:

(i) There is the common desire on the part of the few sellers of any product or service to *maximise the total or joint potential profit* that might accrue to the industry as a whole.

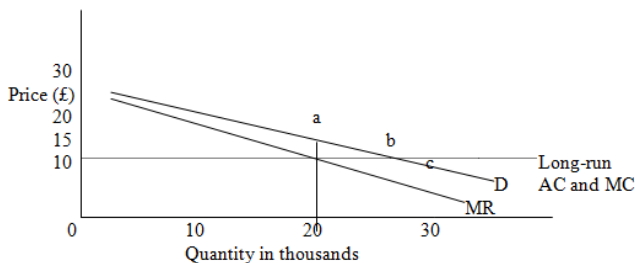
(ii) Even though joint profit maximisation represents a common desire of all oligopolists, there often exists a *fundamental antagonism* among rival firms concerning the *division* of spoils and the control of the markets, with the result that there often develops a certain degree of *mutual distrust*.

Thus, even though all are interested in maximising joint profit, the mutual distrust that often arises when a few sellers control substantial shares of particular markets can result in a number of possible outcomes none of which can be fully predictable so long as these two fundamental conflicting motivations are prevalent.

### *Range of Possible Prices and Output levels for an oligopoly*

Although the simple theories of monopoly and perfect competition do not fit the complex world of oligopolistic interdependence, they do provide a framework within which we can discuss the theory of oligopoly.

Let us assume that the industry we are looking at is dominated by a few large firms, with perhaps some small ones at the fringe. Profits are maximised for these firms by a price £15.00 and an output of 20,000 units per month, which corresponds to a point directly above the intersection of the MC and MR curves. At this point the firms can be said to enjoy a *shared monopoly* or collusive oligopoly. Such a monopoly is, in effect, a cartel without formal agreement or enforcement mechanisms.



**Figure 4.11.** *Shared Monopoly or Collusive Oligopoly*

KEY: a      Shared Monopoly or Collusive Oligopoly  
       b      Price range for oligopoly

### c Cut-throat competition

The opposite extreme is *cut-throat competition* - price competition so complete that pure economic profit is impossible. This extreme is shown by the intersection of the demand and MC curves (b). Cut-throat competition among oligopolists could duplicate the price-output performance of perfect competition. In the long run, no lower price could be sustained without driving firms and resources out of the industry.

The range of price-output combinations that an oligopoly can achieve, then, includes the extremes of shared monopoly and cut-throat competition and the segment of the demand curve between the two extremes. Where, given this range, will any given oligopoly end up depends on the balance struck between the risks and benefits of the cooperation needed to achieve shared monopoly or collusive oligopoly.

The risks include that:

(i) the rivals with whom one seeks to cooperate will not respond in kind, for example under price leadership, cutting price secretly;

(ii) even if a firm does achieve a degree of cooperation with its present rivals, the fruits of the effort will have to be shared with new firms attracted by the resulting higher profits;

(iii) if cooperation is pursued too openly, the firms will be found to be in violation of the anti-trust laws or their equivalent in different countries, or accused of being unpatriotic in countries like Uganda.

The benefits of shared monopoly or collusive oligopoly are clear enough to keep cut-throat competition at bay at least some of the time, but the risks increase as rivals edge their way upward and to the left along the demand curve. As a result, it seems likely that most oligopolies operate somewhere between the two extremes (a) and (c).

### *Barriers to Entry into Oligopolistic Industries*

For our purposes here, a barrier to entry may be defined as any factor that prevents a new firm from competing on an equal footing with existing firms.

Sometimes barriers to entry into oligopolistic industries are created on purpose by national or local governments. In such cases the government stops short of creating a pure monopoly but still limits the number of firms to a number below that which would exist under conditions of free entry.

A second kind of barrier to entry is ownership of a non-reproducible resource. For example, entry into extractive industries

is limited at least in some cases, by the fact that existing firms already own the best available natural resources. In other markets the non-reproducible resources are human. Entry into show-business may be difficult, for example, if the top stars are all under contract in existing firms. Whatever the reason, ownership of a non-reproducible resource gives existing firms an advantage over new ones and in this way acts as a barrier to entry.

Patents and copyrights, another class of barriers to entry, are important in both oligopoly and monopoly. A patent or copyright can be treated as a restrictive regulation, or it can be treated just like ownership of any other non-reproducible resource.

As the term is used here, a barrier to entry is something that prevents new firms from duplicating the performance of existing ones in terms of cost or quality of product. It does not mean that every effort or expense that a firm must undertake to enter a market should be thought of as barrier. To start a new firm, an entrepreneur must take risks, find investors, recruit workers, attract customers, and so on. All these things are hard work - hard enough to discourage some people from making the effort. But the need for hard work is not a barrier to entry in the economic sense.

## *Informal Theories of Oligopoly*

### *Introduction*

In the light of the discussion so far, the job of a theory of oligopoly can be viewed as that of finding the point on the demand curve that any given industry will reach. There have been many attempts to construct formal theories that would solve this problem. Some of these attempts are discussed in the next section but none of these theories is really satisfactory. They either raise as many questions as they answer or apply only to narrow cases.

As a result, much writing on oligopoly deals with informal theories that, while they are less elegant than formal ones, are more realistic. These theories consist of conjectures about the conditions that tend to make cooperation by oligopolists easier or more difficult. Some of the most common theories in those theories are the following:

### *Price leadership*

Price leadership can be either voluntary or involuntary. Voluntary price leadership gives us our first and most accurate illustration of tacit collusion. By tacit, we mean that *no formal organisation* exists to regulate prices, output, and profits, but producers still recognise the benefits of cooperation and are willing

to follow the pricing policies of a single leading firm, often the dominant firm, in the industry.

When the oligopolistic industry is made up of one or two very large firms and many smaller sellers, then the *dominant firm(s)* will often set the price for the industry and let the smaller firms then sell all that they wish at this given price level. The dominant firm is thereby able to approximate monopolistic practices. The smaller firms are also quite satisfied since the price that is established by the leader will often be higher than the price which would have resulted if these small firms were forced to compete for the remaining demand that was not satisfied by the output of the dominant firm. In effect, this example of price leadership might be described as one of 'live and let live'. In return for their tacit agreement not to organise themselves in an attempt to capture a larger share of the market, the smaller firms are permitted to sell all they want at the going price of the dominant firm(s) without the fear of being 'priced' out of the market by the industry leaders. Even here, however, firms must of course take account of the output of other firms.

A less tacit and more involuntary form of price leadership would arise when an industry had a few sellers one of which was able to produce this industry's product at substantially *lower costs* than the others. It, therefore, means that the less efficient firms must also charge this price otherwise their profits might be 'competed' or 'priced' away by the low cost firm. So long as one firm retains its cost advantage, the other oligopolists will have no other recourse but to follow the pricing policies of the leading firm. To do otherwise might generate a price war, which would result in smaller joint profits and perhaps even losses for the less efficient producers.

### *Barometric Price leadership*

In any industry someone has to be the first to change prices if market conditions change. Even if one firm is usually the first to make a move, its role may be no more than that of a *barometer*. It tells the others that the pressure of demand or cost has made a price change necessary.

### *Nature of the Product*

The nature of the product also affects the ease or difficulty of coordination. A homogeneous product with a smooth flow of orders tends to make coordination easier. A variable product with an irregular flow of orders tends to make it more difficult. With a variable product, there are simply too many things to coordinate. It

is not enough that all firms tacitly agree to sell at the same price. They also have to agree on a set of price variations for changes in quality, fast or slow delivery, size of order, and so on. Under these conditions, an agreement to raise the price above the competitive level, even if it can be sustained, is unlikely to lead to higher profits. It is more likely to lead to an outbreak of competition in terms of quality, scheduling, volume discounts, and so on. These things will add to the cost of doing business until excess profits disappear.

### *Information*

Coordination under oligopoly, if possible at all, is likely only in a market where firms have fairly good information about what their rivals are doing. Clearly, there can be no tacit understanding that all firms will charge the same price or follow a price leader if prices are kept secret. So there is little doubt that secrecy is an enemy of coordination under oligopoly.

### *Growth and Innovation*

The rates of growth and innovation in a market are a final factor that is likely to affect the ease or difficulty of coordination among rival oligopolists. In a market where product features, production techniques, and the personalities of buyers and sellers do not change from year to year, an agreement among firms, whether tacit or overt, will never have to be revised. In a market where things change quickly, any agreement will soon be made obsolete by changing conditions or disrupted when new buyers or sellers enter the market. Given the uncertainties of tacit agreements, and the fact that overt ones are illegal or unpopular, one would expect that the faster the pace of growth and change, the less successful rival firms will be at coordinating their activities.

### *Formal Theories of Oligopoly*

#### *The Cournot Theory and its variations*

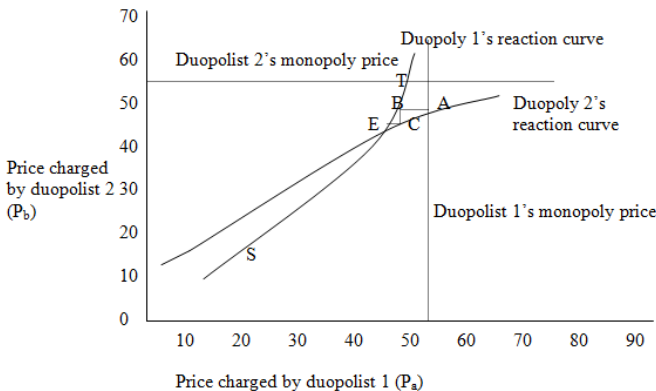
##### *Introduction*

The oldest attempt at a theory of oligopoly began with a work published by Augustin Cournot in 1838. Cournot recognised the problem of oligopolistic interdependence - the need for each firm to take its rivals' behaviour into account when deciding on its own market strategy. The way to understand the behaviour of rival firms, he thought, was to make a simple assumption about the way each firm would react to the moves of its rivals.

In his initial statement of the problem, Cournot assumed that each firm would act as if it did not expect its rivals to change their

levels of output even if it changed its own output level. Later theorists who expanded Cournot's theory, however, usually made price rather than quantity the crucial variable. In the price-based version of the Cournot theory, each firm is assumed to set its price as if it expected other firms in the industry to leave their prices unchanged.

Figure 4.12 shows how the *price-based Cournot theory* might work for an industry under duopoly. Each firm has a definite price that will yield maximum profits for each possible price that its rival may charge. These prices are shown in the form of the firms' *reaction curves*.



**Figure 4.12.** *Price-based Cournot Theory Reaction Curves*

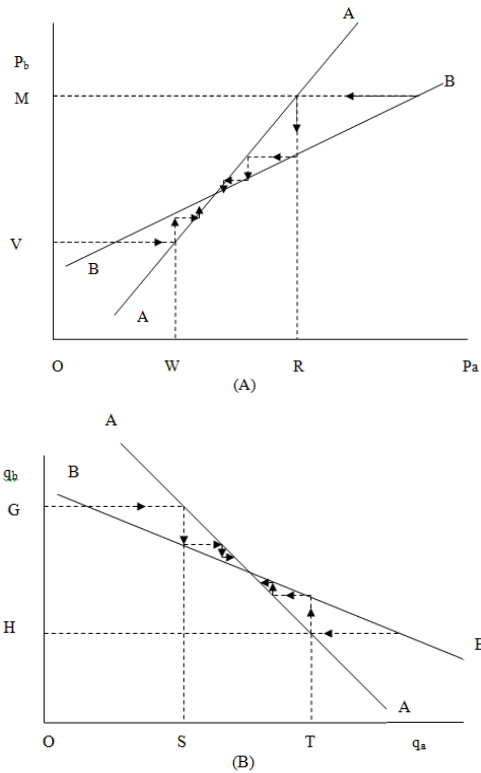
Duopoly 1's reaction curve indicates that it will charge £20 if its rival charges £15 (Point S). If duopolist 2 charges 55, duopolist 1 will charge £48 (point T). In the limiting case, duopolist 2 may charge so much that it will price itself out of the market, leaving duopolist 1 with a pure monopoly. In that case, duopolist 1 will maximise its profits by charging £54, as shown by the line labelled "Duopolist 1's monopoly price", Duopolist 2's monopoly price is shown in the same way. The two reaction curves can be derived from the cost and demand curves of the duopolists. The derivation can be found in many advanced texts.

Given these reaction curves, the oligopoly story, according to Cournot, can be told somewhat as follows: Imagine that at first duopolist 1 is the only producer of the good in question. Since it has a pure monopoly, it maximises profits by setting a price of £54. Then duopolist 2 enters the market. Under the Cournot theory, this will set its price as if it expected duopolist 1 to go on charging £54

forever. Given this assumption, duopolist 2 sets its price at £48 as shown by point A on duopolist 2's reaction curve.

At this point duopolist 1 begins to notice its rival. Seeing that duopolist 2 has taken away many of its customers with its much lower price, it moves to point B on its reaction curve, cutting its own price to £45.

Duopolist 2, who enters the market on the assumption that duopolist 1 would maintain his price at £54, must react next. Given duopolist 1's £45 price, s/he cuts the price to £42 (point C). This sparks a price cut by duopolist 1 and after a series of ever-smaller moves and counter moves, the prices of the two converge to an equilibrium of £40 at point E.



**Figure 4.13.** *Stable Price and Output Reaction Patterns under Duopoly*

*Stable Price and Output Reaction Patterns*

At prices above the intersection of the two reaction curves, each duopolist has an incentive to undercut his/her rival's price. At prices below the intersection, each duopolist has an incentive to charge more than his/her rival. Thus, given the assumptions, there

is only one price that the market can reach as shown by Figure. 4.13(A) above. Similarly, output reactions may be stable as shown by Figure 4.13(B).

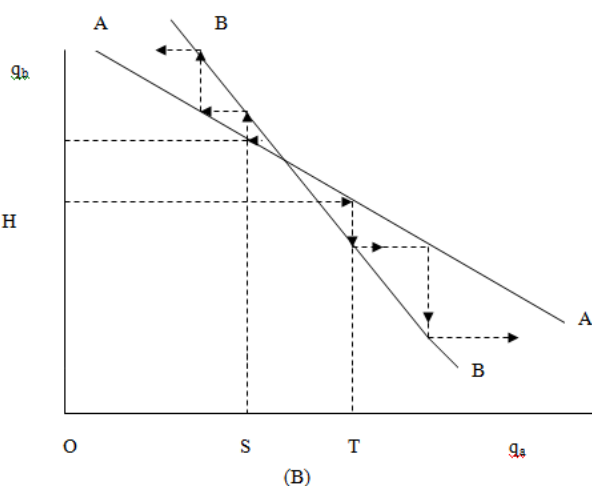
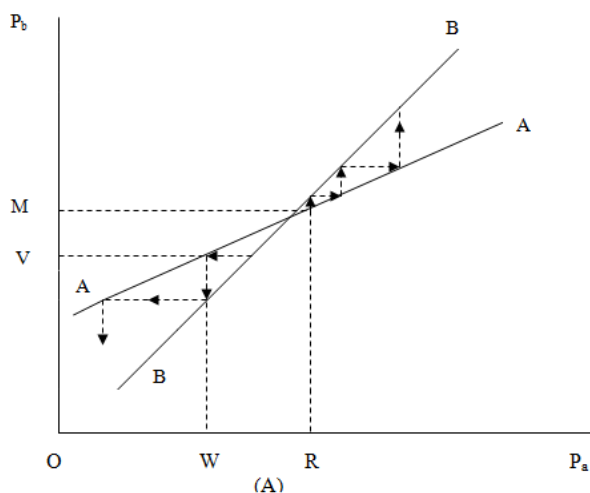
#### *Unstable Price and Output Reaction Patterns*

Here a rise in the price charged by duopolist 2 will lead to duopolist 1 to raise his/her price and vice versa, but *duopolist 1's reaction function cuts that of duopolist 2 from above, rather than from below* as we move out from the origin. Experimentation shows that a movement away from the point of intersection will lead to further outward movements - the situation is *unstable*. In the most realistic case, if duopolist 2 lowers his/her price, duopolist 1 will lower his/hers, but this will cause duopolist 2 to lower his/her still further - there will be a 'price war', presumably until one or the other is put out of business, **OR** they decide that they are simply going to kill each other off and they get together - adopt a policy of open or tacit collusion - and go back to the original price as shown in Figure. 4.14(A) below. Similarly, output reactions may be unstable as shown Figure 4.14(B).

Oligopoly situations thus suggest the possibility of a wide variety of behaviour patterns, and highly uncertain outcomes.

#### *Expanding Cournot theory to allow more firms*

One appealing feature of the Cournot theory is that as it is expanded to allow multi-firm oligopolies, it can be shown that the equilibrium price moves steadily away from the monopoly price and toward a price equal to MC. Thus the Cournot equilibrium for an industry with one firm is equal to the monopoly price; the Cournot equilibrium for an industry with an infinite number of firms is equal to the competitive price; and the Cournot equilibriums for oligopolies of various sizes are ranged along a continuum between these two extremes.



**Figure 4.14.** *Unstable Price and Output Reaction Patterns under Duopoly*

### *Cournot Theory Criticism*

There is one feature of the Cournot story that has always bothered economists. The structure of the theory depends on each duopolist's assuming that her/his rival will not react to her/his price changes. Yet daily life in the Cournot world proves that assumption to be wrong. In our example duopolist 2 enters on the assumption that the first will pay no attention to the fact that s/he comes in and takes away a large chunk of her/his sales. But duopolist 1 does react, as does the second. Instead of this mindless

price war, wouldn't each have second thoughts about her/his price cutting, fearing her/his rival's reaction? The Cournot theory seems not to face up to this possibility.

### *The Kinked Demand Curve Theory*

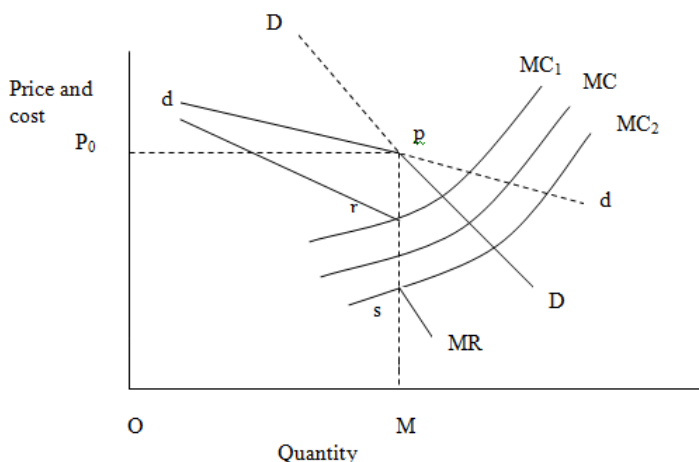
We come finally to the last, most elegant and most often used theoretical description of a particular type of oligopoly situation in which the forces of antagonism and distrust among rivals are so strong that no collusive agreement among them is possible. Each seller sets her/his own price independently but is always uncertain about the responses that any independent price-output changes will elicit from her/his rivals. Under such conditions, the theory of oligopoly was developed which attempts to demonstrate why the phenomenon of price rigidity is often a characteristic feature of unorganised, non-collusive oligopolies in which each firm becomes extremely wary of changing prices and will wish, therefore, to *minimise uncertainty* by following a policy of price rigidity.

It was a century after Cournot, in 1939 that this theory of oligopoly came along. It was proposed at about the same time by the British economists R. L. Hall and C. J. Hitch and the American economist Paul M. Sweezy. Like the Cournot theory, the Kinked Demand Curve theory begins from a simple assumption about how oligopolists will react to price changes made by their rivals.

In order to construct a possible demand curve that might reflect this tendency towards price rigidity, the following conditions must be present:

- (1) the industry is a relatively mature one in the sense that each individual oligopolist already has an established price and a satisfactory sales volume;
- (2) if one firm lowers its price it can expect the others to follow suit in order to retain their individual market shares; and
- (3) if one firm increases its price, the others are *not* likely to duplicate this price rise.

Figure 4.15 below shows how the market looks to an oligopolist who makes the last two assumptions. The given price,  $P_0$ , is the prevailing market price. If the firm cuts price below  $P_0$ , other firms will also lower their prices. Sales in the industry as a whole will expand. The firm in question will keep about the same share of the market and will move down the lower slope of the demand curve (PD). In contrast, if the firm raises its price, the others will not follow suit. Instead of keeping its share of the market, our firm will lose customers to its rivals. As a result, the part of the firm's demand curve above  $P_0$  is much more elastic than the part below.



**Figure 4.15.** *The Kinked Demand Curve*

The  $dpD$  is a composite demand curve -  $dp$  elasticity reflects product substitutability and the greater, the flatter while  $pD$  is the normal market demand curve for the whole industry. Basically the producer faces two demand curves because of uncertainty of the possible outcome of his or her actions. The  $DD$  mainly when others go into action in response and  $dd$  when they don't.

Now we bring  $MC$  and  $MR$  into the picture. The  $MR$  curve has a step in it that corresponds to the kink in the composite demand curve. To the left of step ( $rs$ ),  $MR$  is very high, showing that revenue will be lost quickly if the firm moves up the very elastic part of the demand curve  $dp$ . To the right of the step,  $MR$  is much lower, showing that little extra revenue can be obtained by moving down the less elastic part of the composite demand curve  $pD$ . As it is drawn, the  $MC$  curve cuts the  $MR$  curve right at the step. The prevailing price is an equilibrium price for the firm, since it will be unprofitable to move in either direction.

The greater is the elasticity of  $dp$  and the less for  $pD$ , the longer is the gap or step - the difference between the two marginal revenues. Thus the step length depends on the elasticities of the two demand curves ( $DD$  and  $dd$ ) hence their respective marginal revenue curves. The step length indicates the extent to which  $MC$  can fluctuate without causing the necessity of price or output change. For example,  $MC_2$  yields the highest profit while  $MC_1$  the least, yet both satisfy the profit maximising point of  $MR = MC$ .

The kinked demand curve equilibrium for an oligopolist is a very stable kind of equilibrium. Unlike a pure monopolist, the oligopolist with a kinked demand curve will not change its price or

output in response to small or medium sized changes in cost. Not only can price rigidity weather the storm of changing costs within some range (rs), but it also should be uninfluenced by short run changes in demand.

Realising that price competition would be disastrous so long as his or her demand schedule is 'kinked' at the going price, the individual oligopolist will tend to engage in various forms of *non-price competition* such as advertising and sales promotion as well as product improvement in order to induce consumers to switch to his or her product. In addition to seeking increased profits and a larger share of the market, oligopolists will often use large-scale advertising campaigns merely to preserve their individual shares of the market and to make it extremely difficult and expensive for new firms to enter the industry. By building up a 'loyal clientele', advertising programmes serve as a counterforce to the basic feeling of uncertainty that pervades this particular type of oligopolistic industry.

### *Appraisal*

Like the Cournot theory, the Kinked Demand Curve theory is simple and elegant. Its assumptions about the way each oligopolist views its rivals' actions are clearly more plausible than Cournot's. But the Kinked Demand Curve theory has a major flaw of its own. Although it explains why an oligopolist might be reluctant to change his or her price once the price was set, it fails to explain how the price comes to be set at any particular level in the first place. The theory thus provides an answer to a question that is not central to the analysis of oligopoly.

### *Monopsony, Oligopsony, and Duopsony*

#### *Introduction*

Monopoly power need not only exist in the product market; it might just easily exist in the factor market as well. A resource market situation in which there is a single buyer of a specific factor of production is called monopsony and the single buyer a monopsonist. Oligopsony is distinguished by the fact that there are a few firms (buyers), two in case of duopsony, using a particular resource. Monopsonistic competition is a situation where there are many buyers of a particular resource, but there is differentiation within the resource category which causes particular buyers to prefer the resource of one seller to that of another. Although the analysis to follow will concentrate on monopsony, it could equally be extended to duopsony, oligopsony and monopsonistic competitions.

### *The Monopsonist's Factor Supply Schedule*

The theoretical analysis of the monopolist in the factor market is quite similar to that of the monopolist in the product market. Just as the monopolist faces the total demand schedule for the product which s/he sells, the monopsonist faces the entire supply schedule for the factor s/he employs. Therefore, the monopsonist must consider that s/he will incur an additional cost over and above the higher price that has to be paid to the marginal factor in order to persuade the marginal factor, just as it costs the monopolist something in terms of lower product prices to induce the market to purchase more of her/his product.

Unlike a firm that is a perfect competitor in the market where it buys its inputs, a monopsonist is not a price taker. For such a firm the wage rate is not given; instead, the wage that must be paid increases as the number of workers hired increases. Normally, if a monopsonist decides to raise her/his wage offer in order to attract new workers, s/he must also raise the wages of the workers who are already on her/his payroll by a comparable amount. To do otherwise - that is, to pay newly hired workers more than those who had been on the job for some time - would be harmful to work morale. But the need to pay a higher wage to all workers, not just those who are newly hired, means that the monopsonist's marginal factor cost (MFC) is actually higher than the wage rate paid to the new workers themselves.

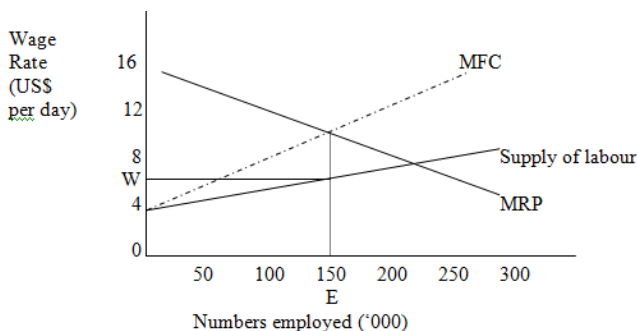
Since the monopsonist is the only buyer of a particular factor, the factor supply curve faced by her/im will be positively sloped. We recall that in case of perfect competition, MFC will always be equal to the factor price since the competitive firm faces a horizontal factor supply curve. Thus, each additional unit of the factor that is bought adds an amount to the firm's total cost equal to the resource price.

The monopsonist's demand curve for a resource is based on the same principle as factor demand curves of other market structures - that is, the demand curve for a factor is the marginal revenue product (MRP) schedule of that factor. The general principle for profit maximisation is the same for the monopsonist as for the perfect competitor - that is the monopsonist will hire a factor up to the point where the additional revenue brought in by the last unit of the factor hired is just equal to the extra cost of hiring that factor.

### *Monopsony Equilibrium - determination of wages*

The quantity of labour required to maximise profits is found at the point where the MRP intersect MFC. The equilibrium wage rate is not shown by the intersection of the MFC and MRP curves.

Instead, the rate is equal to the height of the supply curve directly below the intersection. Hence when a labour market is in monopsony equilibrium, the wage rate is lower than both the MFC and the MRP of labour. The marginal productivity theory of distribution, therefore, does not apply in a monopsonistic labour market. In such a market workers are paid a wage that is less than their contribution, at the margin, to the employer's revenue.



**Figure 4.16.** *Wages Determination under Monopsony*

**KEY:** MFC = Marginal factor cost  
 MRP = Marginal revenue product of labour curve.  
 E = Equilibrium employment  
 W = Equilibrium wage.

The essential difference between monopsony and perfect competition in the factor market is reflected by the price that is paid to factors in each situation. In the case of monopsony, profit maximisation will dictate a factor price equal to average costs even though this marginal factor brings in larger volume of marginal revenue. Under competitive conditions factors will be paid a return that is equivalent to, not less than, their MRP. The monopsonist, being the only purchaser of a given resource, is able to restrict the quantity that is purchased and pay a price or wage that is less than the factor's MRP.

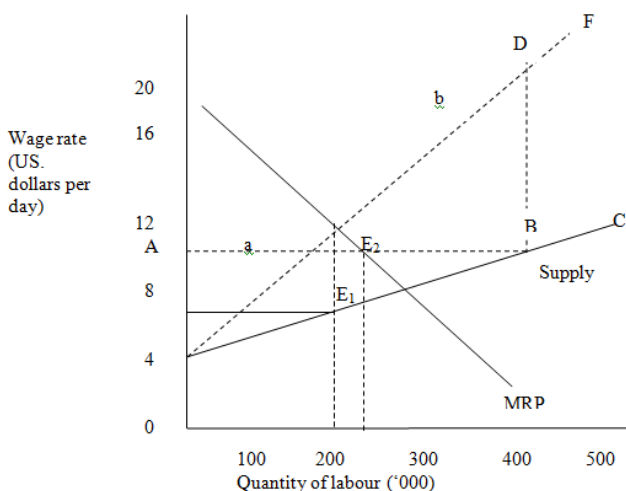
To the extent that the monopsonist stops short of the factor employment level at which MRP equals price, monopsony is said to lead to the true exploitation of resources. Since MFC and MRP exceeds factor price, units of the resource are paid less than what any one of them contributes to the total receipts of the firm. The monopsonist will purposely restrict the quantity of factors hired and hold down their price.

### Monopsony and Labour Unions

The problem of what it is that unions maximise stems largely from the trade-off between wages and jobs that most unions face. There is one case in which unions do not face that trade-off, however, that is the case in which a union faces an employer who is a monopsonist.

To begin with, workers are assumed to be unorganised. In figure 4.17, the equilibrium quantity of labour hired, shown by the intersection of the employer's MRP curve and the marginal labour cost curve (b), is 200,000. The wage rate, shown by the height of the supply curve for the quantity of labour, is US\$7.00 per day. This equilibrium point is labelled  $E_1$ .

When we consider what happens if the workers unionise and threaten to go on strike if they are not paid US\$10 per day. As Figure 4.17 indicates, the union's action puts a kink (BD) in the labour supply curve - ABDF. What is more important, along the horizontal part of the new labour supply curve the monopsonist's marginal labour cost is equal to the wage rate. The union says, in effect, that the firm can hire as many workers as it wants at no more and no less than US\$10 per day - which means that changes in the quantity of labour hired no longer require changes in the wage rate.



**Figure 4.17.** *Labour Unions' Power and Its Effects under Monopsony*

KEY: a = Marginal labour cost with union

b = Marginal labour cost without union

The monopsonist is a price-taker up to 425,000 workers.

Suppose that the union is strong enough to make the monopsonist accept its wage demand on a take-it-or-leave-it basis. The new equilibrium will then be found where the new marginal labour cost curve (ABDF) intersects the MRP curve, at  $E_2$ . The wage rate there is US\$10 a day, and 240,000 workers per day are employed. Both the wage rate and employment are higher than in the previous monopsonistic equilibrium.

However, there is a limit on the power of a union facing a monopsonist to raise wages without losing jobs. This limit is set by the extent to which the original monopsony wage fell short of the competitive wage. Once the wage rate begins to exceed the level at which the supply and MRP curves intersect, further rises reduce employment. In fact, in Figure 4.17 above the wage of US\$10 per day is already in the trade-off region. Maximum employment is reached at US\$8 a day, which is equal to the competitive wage.

Enlightened minimum wage legislation, like union claims, therefore can induce the monopsonist to behave as if s/he were a perfect competitor. We should recognise also the fact that trade unions can be quite harmful both to their own cause and to the general efficient allocation of resources by negotiating for a minimum wage that is far above existing productivity standards. For example, if a minimum wage or a wage claim was established at US\$14 per day, the net effect would be to reduce employment to less than 200,000 with the further result on the product side that less output would be produced at a higher unit price especially where the monopsonist is also likely to be a monopolist in the product market. Thus, one must be aware of the very difficult nature of minimum wage legislation or wage claims and of the possible harmful as well as beneficial effects of the countervailing power of trade unionism.

### *Sources of Monopsony Powers and how to deal with them*

There are two principal conditions that give rise to monopsony powers, namely, the limited supply of skilled resources and the lack of factor mobility. With respect to the limited supply of skilled resources, government minimum wage legislation and the countervailing power of trade unions can act to move the underlying economic conditions that give rise to monopsony powers, that is, the existence of an upward sloping factor supply curve.

Lack of resource mobility is more of a social, cultural, and institutional problem. It is important to recognise the fact that 'monopsonistic exploitation' in its true economic sense can only

result when a factor is in limited supply, that is, when the resource buyer faces an upward sloping factor supply curve. When speaking, therefore, in strictly 'economic' terms we must be very careful how we use the term 'exploitation' or 'exploitation of the masses'. The fact that the mass of unskilled labourers receive very low wages might merely reflect the fact that, at the margin, the productivity of these people is really quite low and that in a purely economic sense they are actually being paid a wage that reflects their marginal revenue products.

It would, therefore, be beyond the scope of the economist to claim that factor immobility is an economic problem that must be solved solely by economic measures to stimulate resource movements. The fact remains, however, that much of the existing wage differentials for similarly skilled labourers might be removed if people were made more aware of existing potentials in other geographic areas in which they are free to move if they so desired. Mobility, however, as a term used in economics, does not mean that all workers must be ready to pack up and move all their belongings and sever all tribal or community ties at the slightest indication of a wage differential. The amount of actual movement necessary to prevent monopsony exploitation from occurring in its most extreme form usually will be quite small. The possibility or even the likelihood of migration is the important factor which can effectively alter the supply curve of labour. In some economies the primary problem with respect to factor mobility is that of directing the mobility which already exists into economically desirable channels. It is the people who are ready and willing to take up their belongings and seek material advancement who must be made aware of existing potentialities.

When speaking of mobility, we must not restrict ourselves solely to the concept of 'geographic' mobility. 'Vertical' mobility - moving from lower to higher skilled jobs - and 'horizontal' mobility - moving among different jobs of relatively equal skills - are probably much more subject to effective government influence than is purely geographic mobility. With regard to vertical mobility, the expansion of education opportunities both in the academic and technical field can operate to channel larger numbers of people both young and old toward the higher paying, higher skilled level of occupations. With respect to horizontal mobility, the dissemination of accurate information on vocational opportunities can assist in inducing both the potential and existing labour force away from lower paying occupations towards those requiring similar skills but paying higher wages. We may note that in cases where opportunities for vertical or horizontal mobility are

associated also with the need for geographic movement, the government can play an active role in bringing about this desired mobility by subsidising the movement of those people who are willing to change their location but lack the required funds to achieve this endeavour. Since one of the main causes of labour immobility is the lack of dislocation funds, some system of mobility subsidisation, if not abused, might contribute substantially to the removal of one of the conditions that give rise to monopsony power and inefficient resource allocation.

### *Bilateral Monopoly*

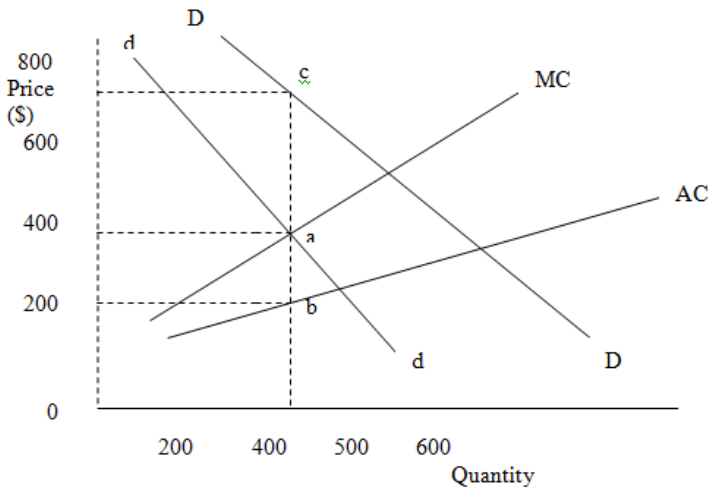
#### *Nature*

This is a market situation in which both the buyer and the seller have some monopsony and monopoly power and neither behaves as a price taker. It is a situation in which a monopolistic seller of a product or factor faces a monopsonistic buyer.

Conditions of bilateral monopoly can exist or often will be closely approximated in primary commodity markets and in some labour markets. In primary commodity markets the monopolistic seller might be a large single cooperative or group of cooperatives while the monopsonistic buyer could be a national marketing board. In the labour market, bilateral monopoly will exist, for example, when the monopolistic seller is a single trade union and the monopsonistic buyer represents the only firm that purchases the particular skill of labour that is organised into this trade union. Thus, almost all wage negotiations between trade unions and management would fall in the category of bilateral monopoly in the factor market.

#### *Illustration - the three possible outcomes*

In Figure 4.18 below we assume a profit maximising monopolist (A) and monopsonist (B) who later sells off the products: The monopolist (B) possesses a marginal revenue product schedule  $dd$  constituting its demand curve (MR) for the commodity in question.  $DD$  is the demand curve for the commodity by the buyer off the monopsonist (B) near monopoly conditions, hence its negative slope, representing the average revenue or average price at that market.



**Figure 4.18.** *Possible Outcomes under Bilateral Monopoly*

On the other side of the bilateral situation, we consider the cost functions of the monopolist (A) who sells his products to the monopsonist (B). We assume that A's average costs of production for different quantities are represented by schedule AC and its marginal cost by MC. Given these demand situations of B and cost conditions of A, the basic question of bilateral monopoly theory is "what price-quantity solution will emerge?" The three possible outcomes are:

#### *(1) Perfect Monopsonistic Discrimination*

If we view the situation solely in terms of the objectives of B, we know that this single buyer will wish to obtain the full monopsonistic benefits from the transaction. To achieve this, B will wish to purchase that quantity at which its  $MR = MC$ . Under ideal monopsonistic conditions of perfect discrimination, B's MC will be equal at any output to A's MC of producing the last unit that s/he sells. In other words, the ideal situation from the point of view of the monopsonist (B) would be one in which s/he is able to purchase the commodity from A at a price which just equals the MC of producing the last unit sold. Thus, the A's supplying MC curve is also the marginal outlay (or cost) schedule of the perfectly discriminating monopsonist B, and the supplying monopolist's AC curve is correspondingly the AC or average outlay schedule to B. The monopsonist (B) will, therefore, wish to buy 425 items as determined by the point at which  $MR = MC$ . It will want to pay an

average price of \$200 (point b) for these 425 items, or just enough to cover the average costs of A in order to keep in business, that is A earns no 'monopoly profits'. B will be able to resell these 425 items at an average price of \$720 per item (point c) and consequently accrue a total profit of \$221,000 ( $\$520 \times 425$ ) from this ideal situation.

### (2) *Perfect Monopolistic Discrimination*

This second possibility is the one in which the monopolistic (A) seller would stand to reap the entire profit from the bargain. This perfectly discriminatory monopolistic situation will occur when A sells that quantity at which the  $MC = MR$  of the last item sold. In an 'ideal' monopolistic situation, the MR schedule would be identical with B's MR schedule, since under ideal conditions from the point of view of A, it would be able to obtain the same marginal receipts as B is able to get on selling the items. In short, A would reap all the possible benefits that could be derived from the ultimate sale. In terms of Figure 4.18, the monopolist (A) would wish to sell the same quantity, 425 items, at which  $MC = MR$ , as the monopsonist (B), and at an average selling price of \$720. (This is the price, \$720, at which B would resell). A would, therefore, be able to appropriate the full potential profits of \$221,000.

The first two possible situations represent the extremes in which

(i) the monopsonist (B) obtains all the possible profits while A just manages to cover its costs, or

(ii) the monopolist (A) obtains all the possible profits while B serves merely an intermediary role and earns no profit.

In either case the same output is available at the same average price. The crucial issue revolves around the question of which bargaining party will appropriate the profits. But why should the outcome be of an 'all or nothing' nature to both the buyer and the seller? Another alternative is the one where *joint profits* are maximised with both A and B sharing in some way the potential profits of \$221,000.

### (3) *Indetermination and Relative Bargaining Powers*

This is the most likely of the three possible outcomes. Both the buyer (B) and seller (A) recognise that they are in agreement as to the amount that should be produced (425) and the price at which it should be resold (\$720). They each know that there are potential profits of \$221,000 to be earned either individually or jointly. The fundamental problem, however, lies in their basic disagreement over the average price at which the items should pass from A to B.

B would like to buy the 425 items at \$200 each while A would like to sell the same 425 items at \$720 each. Alternatively, the price may be set at any level between this 'bargaining range' of \$200 and \$720. Theoretically, the actual resulting transfer price will be indeterminate. Depending on the relative bargaining strength of A and B, the transfer price may fall anywhere between \$200 and \$720.

The outcome of collective bargaining (be it price or wage) under bilateral monopoly cannot be predicted by economic analysis alone. Economic analysis can only state a range of outcomes within which a settlement can take place. The actual outcome depends on the relative bargaining strength and skill of the two sides.

### **Summary and Realism versus Relevance of the Notion of Perfect Competition**

Our discussion of the gamut or scope of market structures is now complete. For most part, the presentation has conformed to the orthodox theoretical picture of classical and neoclassical market structures. We have found that some particular structures appear to have considerable applicability (e.g., monopoly, monopolistic competition and monopsony) while others are less prevalent but certainly nonetheless existent. It is crucial, however, that economists and future economic advisers and planners be fully cognizant of the theoretical nature and comparative effects of the whole gamut of market structures. With perfect competition serving as our theoretical norm we can analyse the impact of various non-competitive market situations on economic efficiency and resource allocation in terms of a *partial static equilibrium* analysis.

Before we conclude our analysis of market structures, let us pause briefly to look again at the notion of perfect competition. Do markets in any way conform to the theoretical competitive model, and, if not, what is the relevance of studying perfect competition? The answer to the first part of this question is a 'qualified no'. Certainly *many* aspects of 'pure' competition are approximated in agriculture and small-scale retail trades. But, on the whole, the competitive model does not present a very realistic picture of pricing policies. What about the relevance of perfect competition?

Interspersed or intermingled throughout the preceding sections was the notion of the competitive model as the norm and standard of criterion for judging the economic implications of non-competitive markets. To the extent that such an objective norm can be established, then perfect competition is extremely relevant to an

intelligent evaluation of any economic system. Perfect competition assists us in developing norms of desirable performance applicable to any industry, regardless of structure. Although it is oversimplified to such an extent that it is often removed from reality, perfect competition provides us with a relatively simple model within which the general functioning of the price system may be observed. In fact, if its oversimplification and artificiality help us to understand how a free price system would efficiently operate to produce and distribute goods and services and to allocate scarce resources, then the competitive model will have intrinsic virtue as an aid in learning the elements of pricing and resource allocation in more complicated economic processes.

Aside from normative issues, analysis of the perfectly competitive economy helps us to understand the economic basis of most arguments for and against government intervention in the economy. In fact, the economic theory of socialism has as its fundamental basis this very notion of a perfectly competitive model which, if unattainable under a system of private ownership of the means of production, ought to be sought by means of government regulation and control. In short, even if perfect competition is a relatively rare real world market phenomenon, it still possesses considerable relevance both as a model of optimal economic efficiency and as a simple set of criteria which can serve as a standard for enlightened public intervention into certain areas of economic activity.

## **Planning and Competition Compared**

### *Introduction*

All economies are faced with scarcity. This means that resources to satisfy our needs are limited in comparison to our wants and, as a result, resources have to be allocated between the various uses to which they could be put.

We have noted how this allocation is affected by the behaviour of consumers and producers acting through the markets where prices are established by the forces of supply and demand, that is, the price mechanism.

Competitive conditions allow a lot of buyers and sellers, each knowing what is happening in the market. Consumers can then make their wants known and producers are guided to produce what is most wanted. They are guided by price movements and the expected profits.

This would be the case on the assumption that producers are interested in producing as cheaply as possible and getting as much profit as possible. In the end this will result in a reallocation of

resources from the less profitable to the more profitable enterprises or industries.

Briefly, the market economy is seen as a means of registering those various choices made by each consumer subject to individual income constraint. The business translates the choices into production decisions in the pursuit of profits.

It can be said that the price mechanism is at its best when organised as a perfectly competitive system. However, it can be noted that perfect competition is a very rare type of market form; most markets are imperfectly competitive. Because of this, it follows that the way in which resources are allocated between various uses is not in fact the best. Hence governments find it necessary to intervene and attempt to improve upon the working of the price mechanism.

### *Advantages of the Price Mechanism*

(1) It can operate to allocate resources between different uses in the present - represented by consumer goods and services industries, and capital goods industries. It thus plays the role of a planning Bureau but unlike a Bureau, it costs nothing, and it requires no complex administrative set-up; it is automatic.

(2) Under perfect competition, efficiency is encouraged because firms tend to produce maximum output at minimum cost.

(3) It encourages consumer sovereignty by allocating resources according to consumers' preferences.

### *Defects of the Price Mechanism*

(1) In practice things do not work out as smoothly as the advantages seem to suggest. One of the conditions for successful working of the price mechanism is perfect knowledge by consumers and sellers. The problem, however, is that it is not always possible to know what prices are being charged in the market. You cannot know how much is being charged by every producer and as a result you may not necessarily buy from the cheapest source.

To make matters worse, consumers may be led to believe that one commodity is different from the other and therefore deserves a higher price. In actual fact the quality and content may be the same. Apparent differences may be caused by successful advertisement or just sheer ignorance. You may, for instance, have come across various advertisements for what appear to be different soaps. This is intended to convince consumers that the soaps are different when in fact they are not as significantly different as the advertisements would have us believe.

(2) *Monopoly*: Another problem which price mechanism encounters in practice is the existence of monopoly.

(3) *Inequity*: Unequal income distribution leads to unequal distribution of possessions. The rich can easily dictate what would be produced at the expense of the poor whose purchasing power is too small to attract resources into the firms that produce what they require.

(4) *Leissez-faire*: Policies that advocates freedom from government interference in industrial affairs may promote unemployment and instability.

(5) *Social versus Private costs*: Price mechanism does not effectively deal with the problem of "divergence between social and private advantage". What may be profitable to an investor may be a social disaster to the community particularly over a period of time. If consumers' tastes are to be the guide for what should be produced, producers might go in for what is not "socially advantageous to produce". In cases such as these, the government may intervene to save the situation so that what private producers do is in the interests of the community as a whole.

(6) *Capital accumulation and Development*: If a country wants very rapid development, it may be necessary to direct capital into channels which benefit long-term economic development plans rather than short-term profitability.

### *Planning as an alternative to price mechanism*

The defects of the price mechanism are the reasons that make it necessary to plan. As was earlier discussed under "Private versus Public investment" (3.4.8), planning implies a deliberate effort made to consider alternative ways of achieving stated goals. Development planning may be taken to mean the construction and authorisation of economic, social and political programmes. This consists of a determination of goals, or objectives of the programme, an enumeration of the available resources, consideration of the alternative policies, and a check on the consistency of the programme.

### *Arguments for and against Planning*

We plan largely because of the inadequacy of the price mechanism in light of the defects seen above. The market economy allocates resources on the basis of innumerable uncoordinated decisions. These decisions may result in waste, high cost and sometimes duplication. Centralised co-ordination may help to avoid them. Where there is a need to achieve a rapid structural transformation of the economy the price mechanism may be either

an ineffective means or very slow means of effecting the changes required. Development planning involves forecasting and deliberately determining and influencing the growth of the economy on the assumption that the conditions envisaged will remain the same. A method of iteration can be used given changed circumstances in order to see the probable results of a plan.

In spite of the above, however, a number of objections have been raised against planning:

(1) *Democracy*: Planning undermines the free working of the economic system under predominantly competitive conditions. This competitive system, it is argued, is more democratic than central planning which makes provision for the availability of what planners *think the people should have* rather than for *what they want*.

(2) *Efficiency*: There is no reason to believe that planners are more efficient than private businesses and, to make matters worse, if planners make mistakes, they are likely to have more widespread consequences than the mistakes of individual producers whose success depends upon satisfying the consumers' wishes.

(3) *Wastefulness*: The adherents of the price mechanism have opposed interference by asserting that inefficient plans, which are easy and common to have, result in a waste of scarce resources.

### Conclusion

Even if there may be some truth in the arguments against planning and although planning may not be necessary for economic development, since the price-mechanism may not always operate adequately a government has to step in and do something.

It may be remembered that planning does not necessarily mean overlooking or neglecting the "price-mechanism". Market forces need not be disregarded. Just because an economic system is centrally planned, we need not assume that it does not respond to consumer values and that the consumer has to take whatever is given. Market forces are often used as guides to planners.

## 5. Business Enterprises

### Commerce/Shopping

**M**asquerading under such various titles as Principles and Practice of Commerce, Elements (or Structure) of Commerce, Commercial Practice, Business Economics, Business Knowledge and General Commercial Knowledge, the subject of Commerce as a branch of economic activity figures in most schemes of commercial and secretarial training. As a subject it has never given much satisfaction either to teachers or to students, probably because of the difficulty of organizing the extensive range and variety of its institutions and operations into a co-ordinated body of knowledge that could create a clear and balanced picture of the business world.

To appreciate the nature and purpose of commercial activity as a whole the student must know how the present system of national and international exchange, with its associated activities of transport, finance, insurance, advertising, and so on, has developed, and *why*. S/he must know something not only of the principal methods and agencies currently employed in business, but also of the main factors that have led to their adoption or which influence their effectiveness. S/he must be encouraged to think about commerce as a whole and to appreciate the interdependence of the various departments of economic life - the interdependence, for example, of commerce and industry, specialisation and exchange, trade and transport and the scale of production in relation to the size of the market. In a word, s/he must be aware that man's commercial activities have a scientific

basis and of the significance of elementary economic principles as bearing upon commercial development and current practice.

Commerce and Economics are closely related; both deal with the same subject-matter - with production, the different forms of business enterprise, marketing, finance, transport, and so on. But whereas Commerce is concerned to show *how* the business world works, it is the purpose of Economics to show *why* it works as it does and to seek out ways of improving its efficiency. The two subjects have different aims and serve different ends. Each, nevertheless, has something to contribute to the other. The student of Economics who has commercial background is better equipped for her/his studies than one who has not, while the student of Commerce is better able to appreciate the business world if s/he understands the link between economic theory and commercial practice. But it is neither necessary nor desirable to stress this link any further than to show, for example, why people/firms specialise, why some businesses remain small and others large, why prices are sometimes high and sometimes low, why it is necessary to regulate the supply of money, why countries must balance their overseas trade and why they sometimes buy from others things they could produce more cheaply for themselves. On the other hand the link should be established securely enough to reveal the relationship between economic theory and commercial practice.

And so is Law. It helps considerably if we take account of those aspects of the law that control commercial institutions and regulate their activities. Some laws, such as those governing partnerships, joint stock companies and the public corporations, determine the forms of business enterprise, while others, relating to such matters as contracts, sale of goods and negotiable instruments, shape the pattern of business transactions and the relevant documents.

Commerce as a subject extends over the entire field of man's business relationships. It is the one subject of the commercial course round which others may be built to provide a unified system of commercial know-how. It is therefore helpful to draw upon the resources of related subjects for material to improve understanding and deepen impressions of what is studied in Commerce. Associations must, however, be confined to what is strictly relevant and essential to the main purpose of a study of Commerce, which is to provide a balanced view of the world of business and its activities.

## Types of Business Units

### *Introduction*

#### *1. Private Enterprises*

- i. Sole proprietorship or one-man business
- ii. Partnership

- iii. Limited Liability or Joint Stock Company
- iv. Private non-profit making enterprises like the co-operative societies.

## 2. *Public Enterprises*

- i. Municipal undertakings.
- ii. Nationalised industries and/or Parastatals.

## *Private Enterprises*

### *1. Sole Proprietorship or One-Man Business*

This is the most common business or enterprise. The majority of businesses are small one-man business in every country. Here the owner of the business is the entrepreneur and runs the business personally. S/he puts up the capital and reaps the reward if there is any. Sometimes s/he employs an assistant.

#### *Advantages of the Sole Proprietorship or One-Man Business*

(1) The owner is *independent*. S/he is self-employed and is not troubled by any one else. S/he doesn't have to consult with anyone before making a decision. Therefore, it is argued, s/he can make decisions quickly.

(2) *Personal Contact*: The owner of the one-man business has personal contacts with the customers. This is a decided advantage if s/he is offering a personal service, for example, a medical doctor, hair dresser or if s/he has a unique skill or service to offer.

(3) It is *easy to set up* a one-man business because a great deal of capital is not required.

(4) *Market influence*: In some cases the size of the market is insufficient for large-scale enterprise. Here the one-man business provides a useful service.

#### *Disadvantages*

(1) The proprietor has *unlimited liability*. If s/he runs into financial problems, creditors, for example, can go as far as selling her/his household properties in order to pay the debts.

(2) One-man businesses are often too small to exploit the benefits of the *economies of scale*. For example, they cannot buy, produce or sell in bulk. The business may not enjoy the advantages of division of labour since the owner acts as a manager, accountant, etc.

(3) The proprietor normally has very *limited capital* therefore expansion of the business is retarded and s/he is more likely to run into financial difficulties. Also, s/he finds it difficult to borrow

money because banks are not willing to lend money without some guarantee that it will be repaid.

(4) The one-man business lacks *continuity*. When the proprietor dies, there is no guarantee that the business will continue. Either the children may not want to continue in business or the business might be crippled by death or estate duties.

(5) Although the sole proprietor can make the decisions quickly, generally speaking, s/he finds it difficult to make any decision at all. An indication of *inefficiency* is the fact that s/he has to keep the business open 16 to 17 hours a day, seven days a week in order to make any profit at all.

(6) Because the individual turnover per business is small, the *competition* between small one-man businesses is often intense. In order to compete price-wise, some small businesses may have to sacrifice quality or resort to cheating.

(7) If a small one-man business *discovers* a new process of production, it cannot exploit it because of its lack of finance. For example, Fleming discovered Penicillin but then it was first made in the United States much later.

### *Partnership*

A partnership is a logical extension to the one-man business or sole proprietorship. It enjoys most of the advantages of the one-man business and suffers from most of its disadvantages.

The advantage of a partnership over a one-man business is that it generally has more capital available to it and is therefore *financially stronger*. Furthermore, two or more heads are better than one, and partnerships are particularly useful in such professions as Medicine, Chartered Accountancy and Law. Very often a younger person *teams* up with an older one thus giving a partnership the benefit of new ideas and experience.

### *Disadvantages*

(1) Except for the limited partnership, this type of business enterprise still suffers from *unlimited liability*.

(2) *Control* in the partnership is in the hands of the partners and no decision can be made without consultations between partners.

(3) Like the one-man business, the partnership often lacks *continuity*. If a partner dies, the successor(s) might like to sell the business and get the money while the other partner(s) might not have enough money to buy it up.

(4) Just like the one-man business, the partnership may be crippled by *death duties* if one or more of the partners die.

(5) It is *difficult to raise money* because all the partners have to trust each other and know everything about the business before being willing to provide money. Banks also may be reluctant to lend money to such a business. Shares are not normally transferable.

### *Limited Companies*

In a limited company the members' liability is limited to the amount they subscribed to the company. The company and its owners who are called *shareholders* are regarded in law as two separate entities, not one. Thus the property of the shareholders which is not connected with the company is not affected. In Uganda, for example, companies have to follow the regulations of the Companies Act. These companies are often divided into two major types - the private and public companies.

#### *The Private Limited Company*

The shares of this type of business can circulate among the members (who have to be at least two and no more than fifty) but cannot do so to the outsiders without agreement between the members. The private joint stock company cannot raise finance by floating shares on the stock market. Furthermore, the private joint stock company is not obliged by law to publish a balance sheet every year hence a great advantage being that it retains firm control of the company. Not having to publish its losses or profits enables the control of its asset value.

A private joint stock company has *greater financial* strength than either the one-man business or the partnership yet the *family control is retained*. However, it may go public because:

- (1) It wishes to avoid crippling death duties.
- (2) Of the desire to raise finance to cover the development course of a new process of production.
- (3) It needs to break a new bridge in the company or just as a part of natural process of growth.

#### *The Public Joint Stock Company*

This files its memorandum and articles of association together with a statement of its nominal capital and particulars of its directors with the registrar of companies. The memorandum gives details of the name of the company, the situation of its offices, the objects of the company, the liabilities of its members and the amount and nature of its share capital. The Articles of Association regulate the internal affairs of the company, for example, meetings and voting power of the shareholders. After examining the documents, the registrar will issue the certificate of incorporation and the new company will acquire a legal existence.

Before the company can issue shares to the public, it must file a prospectus or a statement indicating the assets, past earnings and future prospects of the company. The minimum number of shareholders has to be seven.

The shares can be of different types, for example:

(i) *Ordinary shares*: The owners of these shares carry the greatest risk because they have no guaranteed income or dividend as it is called. But shareholders of ordinary shares have the right to vote at company meetings and influence policy. If business is good, dividends will be high; however, there is always the risk of losing money if the company, for any reason, goes out of business.

(ii) *Preference shares*: These normally have a fixed rate of dividend and their holders are paid before the ordinary shareholders. However, they have no control (no voting power) over the running of the business except where their own rights as shareholders are concerned<sup>15</sup>.

(iii) *Debentures*: This is another way a company can raise money apart from selling shares. Holders of debentures are not owners of the company as shareholders are. They are merely money lenders who receive interest and not dividends, and receive it whether the company is making a profit or not.

#### *Advantages of the Public Limited Company*

(1) The individual investor is guarded against unlimited liability for the company's debts.

(2) The existence of the limited company is not affected by the changes in the general composition of its membership.

(3) The different types of shares attract a variety of investors.

(4) Control and ownership are separated, and specialist managers and directors may be employed.

(5) Small savers may be encouraged to invest.

(6) They facilitate large scale production.

#### *One-man, Partnership and Public Limited Company compared*

Clearly the basic advantage of a *one-man business* is that the proprietor is her/his own boss though the risks are great. In a *public limited liability company* the risk is spread and in addition "it makes it possible to tap the savings of a large number of people without

<sup>15</sup> Shareholders of public companies are the owners but not necessarily the people who manage and run the business. Day-to-day decisions will be taken by directors who are employees of the Company.

requiring them to take part in the management of the company". Nor do they have to know or trust each other as in a *partnership*.

### *Disadvantages of the Public Limited Company*

(1) It may be claimed that the separation of control and ownership creates bureaucracies remote from shareholders.

(2) Some public limited companies grow so large that they become difficult to administer efficiently.

### *Cooperatives*

Another form of economic organisation is the cooperative. This is rather like a joint stock company except that voting is generally not by number of shares owned but by number of persons in the cooperative. Generally too, membership depends on direct participation in the activity of the cooperative either as a producer or a consumer. Another source of difference is that profits are often shared out on the basis, not of shares owned, but on the basis of volume of direct participation in the activities of the cooperative. The individual who sells the largest volume of produce from her/his garden through the cooperative also receives the largest share of the profit. Similarly, the individual who buys the largest volume of merchandise through the cooperative also receives the largest share of profit.

### *Arguments for Cooperatives*

(1) They have the ability to mobilise self-help.  
(2) It is easier for them to attract external assistance.  
(3) They often avail an established base for many business activities.

(4) Ideologically they tend to have left-wing or socialist tendencies.

(5) Their economic benefits include being channels of various government and other interventions.

(6) They are potentially more likely to exploit economies of scale.

### *Cooperative drawbacks or causes of ineffectiveness*

(1) Bad debts, for example inability to meet financial obligations.

(2) Over-due payments or shortage of funds.

(3) Poor and untrained management.

(4) Faltering support by members in difficult times.

(5) Dominance by well-off segments of the society.

(6) Government interference, for example being used for income distribution, not planned for.

### *Public Enterprises*

There are instances when an economic activity's capital is fully owned by the state. But there are also a large number of economic organisations where the state owns shares, and often the majority of the shares. The corporations are rather like public or joint stock companies, but because the state is the owner or majority owner, their accounts are presented in the National Assembly or its equivalent every year through the appropriate Ministry. Again through the appropriate Ministry the state appoints directors of the corporations.

Public corporations may be good because the state may start them in areas where private companies fear to go. They can also afford to produce even when there are no profits for a long time because the government will subsidise them.

Public enterprises also include the municipal undertakings like Town Councils in Uganda and parastatal bodies. In countries where there are nationalised industries, they also belong here. Nationalised industries are economic units which begin as private entities or industries but for one reason or another are taken over by the government. These reasons include:

- (1) Desire to control by industries;
- (2) Desire to command heights of development planning;
- (3) Desire to eliminate or minimise foreign ownership;
- (4) Desire to rescue a bankrupt or declining industry;
- (5) Desire to eliminate or minimise unemployment, or desire for fair income distribution, for example, by increasing employment through labour-intensive methods of production;
- (6) Ideological reasons, for example, desire to minimise private control;
- (7) For balance of payments reasons, for example, to minimise capital flight or reduce imports of, say, raw materials and other inputs;
- (8) Desire to allocate scarce resources more efficiently than the private inter-play promises to;
- (9) To make planning easier given its greater control;
- (10) To increase savings and investments potential by setting an example and reinvesting.

Nationalisation is often common where:

- (1) Public utilities are necessary;
- (2) Natural monopolies exist;
- (3) Collective goods are offered.

Some problems or defects are inherent in light of such a move and these include how to go about the:

- (1) Form of ownership and management;
- (2) Pricing policy;
- (3) Efficiency and responsibility since these may deteriorate;
- (4) Possible delays of public accountability;
- (5) Government interference in pricing;
- (6) Conflict between national interest and balancing the budget of the enterprise or making a profit;
- (7) Compensating the former owners;
- (8) Possible monopoly and monopsony results.

Other practical or ideological problems arise regarding deciding on what should or should not be nationalised - a problem compared to problems in connection with monopoly control (see 4.3.7). Guiding lines are often the advantages of the price mechanism or private ownership (see 4.6.2) which include:

- (1) More efficiency;
- (2) More dedicated entrepreneurs;
- (3) Greater flexibility to take advantage of changes, for example, in demand and taste;
- (4) Possible re-investment given good business climate;
- (5) Government being often too busy to deal efficiently with small business problems and, in some cases, being unable to commit the required funds and personnel to these enterprises.

However, basic disadvantages of private ownership (see 4.6.3) to bear in mind include possible:

- (1) Monopoly tendencies;
- (2) Uneven income-distribution;
- (3) Existence of excess capacity;
- (4) Inability to reconcile private and government activities in planning;
- (5) Anti-social behaviour on part of the private players;
- (6) The involvement of the private partners in purchasing political favours through all sorts of corruption acts;
- (7) Sabotages to government industrial planning;
- (8) Danger of foreign control by, for example, multinationals.

Other forms of government participation are either financial or non-financial. The non-financial include:

- (1) Improving the investment climate;
- (2) Providing training;
- (3) Offering encouragements;
- (4) Giving official approvals;
- (5) Providing various incentives;

- (6) Supportive and conducive external policies;

The financial ones operate through, for example:

- (1) Fiscal means like the tax incentives;
- (2) Subsidies;
- (3) Direct sponsor;
- (4) Development cooperatives or banks;
- (5) Joint ventures.

## Specialisation

### *Introduction*

One of the reasons why there is low output in a subsistence economy is because producers do not take advantage of specialisation. Each producer makes an effort to produce a small amount of everything and in the end fails to produce enough for her/his requirements.

Specialisation is a situation whereby a producer concentrates on the production of one commodity or the provision of one type of service and then uses the proceeds to obtain what s/he does not produce in order to satisfy her/his needs. Alternatively, specialisation is the breaking down of the productive process into separate tasks, each task being carried out by a specialist. For example, in a hospital which specialises on medical treatment, there are various specialist departments with specialist doctors.

Specialisation is one of the most important means of increasing the volume of production and its efficiency. It lengthens the process of production but makes each stage much more efficient. We should, however, note that:

(1) By specialisation we do not mean complete concentration on one thing necessarily, but mean that a very large part of the producer's time is spent on one line of production. For instance, the fact that a teacher specialises on teaching does not mean that s/he cannot grow a few crops or market garden. However, s/he would regard teaching as the main source of income or occupation.

(2) Specialisation does not necessarily mean that when a person specialises in one line of production, s/he is unable to produce anything else efficiently. Take an example of a wife who is a good cook and at the same time a good teacher. It may be necessary for such a woman to employ a cook (though she may not be as good) and then concentrate on teaching where she may be more useful to the nation and at the same time earn a higher income for herself

## *Advantages of Specialisation*

### *(1) People are better suited for some jobs than others*

It is unusual for a person to be good at all trades. One person may be a good carpenter but a poor brick layer; another may be a good medical doctor but a poor teacher. By allowing people to specialise in the field in which they are most gifted, the quality and quantity of all goods and services can be increased.

### *(2) Degree of skill increases*

A specialist is a person who concentrates her/his mental and physical abilities on one particular task. By so doing s/he can acquire greater skill at that job and at times can take steps to obtain further relevant training. The quality and the speed of her/his work are improved. Indeed, "practice makes perfect".

### *(3) Saving time*

When a person performs a single operation again and again s/he saves time because s/he does not have to change tools and because s/he does not have to walk from place to place. If one has to do many jobs, one wastes time moving from one to another.

### *(4) Use of Machinery*

In the modern age capital equipment is becoming more and more important. Specialisation is essential in order to make use of such equipment. It is impossible to invent a machine to do all jobs but it is possible to invent machines to do particular tasks.

### *(5) Minimising training costs*

If man had to produce all her/his own requirements, s/he would need to develop many skills but s/he would not be able to develop any high degree of skill in any particular field. Further, if one person were to train as a medical doctor, carpenter and mechanic it would require many years and by the time s/he finished training s/he would be so old that the number of years s/he would be effectively productive would be reduced. Specialisation would solve the above two problems and by so doing saves on costs of training.

### *(6) Reduces fatigue*

It is great that specialisation reduces fatigue of workers. This may be so in the sense that the worker does not have to keep walking around from job to job. However, repetition of tasks could lead to mental fatigue.

## *Disadvantages of Specialisation*

### *(1) Boredom and monotony*

Constant repetition of a task can lead to acute boredom and monotony. People lose interest in the work they do. If your job is screwing up the front wheel of a bicycle, day after day, you may get

so bored that you may do it badly. Some factories try to overcome this boredom by playing music for their workers.

(2) *Decline of craft-skill*

Specialisation leads to large-scale production which is only possible with standardisation. In this case there is lack variety and a decline in craft-skill.

(3) *Greater risk of unemployment*

When people specialise they lose their economic independence - one has to rely on other people to produce most of the things s/he requires. When s/he is a specialist s/he faces the danger of becoming fictionally and structurally unemployed. Frictional unemployment arises when a person is replaced by a machine. Structural unemployment arises when the country's economic structure changes, for example, when an industry is in decline like coal mining in Britain and sisal in Tanzania. If you can do many things, you are more likely to protect yourself against unemployment.

In modern economics, the level of income and employment depends largely on the level of trade. If trade breaks down, thousands of workers will become unemployed. Also because specialisation lengthens the process of production, if there is a break-down anywhere in the chain, it will affect workers employed elsewhere in the chain. For example, if workers in the ironworks go on a strike then workers in the other stages will become temporarily unemployed.

(4) *Necessity to exchange*

Specialisation makes us economically interdependent and we exchange a surplus of one thing for a shortage of another. Exchange is another word for trade and trade can only grow if there is a convenient medium of exchange, money. Under a barter system, trade is hindered and therefore specialisation is limited but money facilitates it. The need to exchange might be an inconvenience in itself.

(5) *Creation of sectionalism*

People who specialise in one job may concentrate on promoting their own interest at the expense, perhaps, of the community at large. You are likely to find, for instance, a teacher trade union which will push for better conditions for themselves in total disregard of other members of the community. At times the clash between unions and the government can become quite serious. Similarly, in society specialisation tends to divide people from each other because they work in separate places. This may be bad for society as a whole.

(6) *Specialisation is risky*

If you depend on other people for certain goods and services, and the supply of these goods and services is interrupted, you can get into

serious trouble. Greater specialisation means greater dependence on exchange and this involves greater risks of not being able to get what you want when you want it. If you produce everything yourself, such risks are much smaller. The problem, however, is that it may not be possible to produce all that you need.

### *Kinds of Specialisation*

(1) *Specialisation of Labour*: This implies a situation where each individual specialises in the area where s/he is most gifted or competent. This can also be looked at as division of labour.

(2) *Specialisation of Capital*: Capital equipment tends to be highly specialised though the degree of specialisation may vary. For instance, a pen can be used for writing and drawing but a type-writer can only be used for writing. Capital goods are also the result of specialisation by inventors and manufacturers.

(3) *Specialisation of Land*: Some land may be better suited for some crops but not others and nature itself has specialised in the distribution of resources. For instance, oil is not found everywhere and some land may be useless for agriculture but solid enough to build on.

### *Specialisation as Limited by the Market*

Specialisation requires that there are facilities for *exchange* therefore specialisation and exchange go together. Unless what one specialises in producing can be sold, and unless the producer is able to use the proceeds of what s/he has produced to buy the goods and services that s/he needs, then specialisation may not be possible.

The extent of the market also limits the scope of specialisation. The market is any place where buyers and sellers are in close contact with one another. The larger the market, the greater is the incentive to produce. The size can be increased through improvements in transport and communication. The size of the market is also, to some extent, influenced by custom and climate.

Specialisation of land, labour and the use of specialised machinery leads to greater production but there is no point in producing a great deal of a particular commodity or service if there is no market for it, if it cannot be sold. For instance, there is no logical reason for a person in Uganda specialising in making warm clothing when there is not likely to be sufficient demand for warm clothing in Uganda. Therefore the greater the market, the greater is the degree of specialisation that is possible.

## Economies of Scale and the Survival of Small Firms

### *Introduction*

Production can be organised as a sole proprietorship or one man business, or as a partnership, or as a company, depending on the manner of ownership. In each case we call any one of them a *firm*. A firm is simply a business unit under one control. A firm may be situated in one place or it may have a number of branches. Each of the branches is called an establishment. Firms which use or produce more or less the same raw materials or commodity form an industry. For example, we can talk of the cotton or cloth industry - the former being based on the used raw materials while the latter on end product. It is possible to have a company which is the industry.

Establishments, firms and businesses can be of any size. A firm may vary from a small shop to a big factory. An industry may be as small as the gold mining industry or as large as the coffee industry in Uganda.

### *Economies of Large Scale Production*

As establishments, firms, industries get larger, there are certain advantages which are possible but which are impossible in small scale production. These are usually called "economies of large scale production" or "economies of scale" or just "economies" for short.

Economies of scale are a function of size. They explain why, and to what extent, unit cost of production (average cost) tend to fall as output is increased. Many economics textbooks state that economies accrue to establishment or plant rather than the firm. It is no longer possible to make this differentiation.

There are internal and external economies. External economies are external to the firm but internal to the industry. The most important feature of external economies is that they benefit all firms, irrespective of size, equally.

Internal economies are economies of size. They arise out of the policies of individual firms. An increase in production results in a fall of the average cost of production (unit cost). For example, if we have two firms A and B, and firm A takes advantage of a new process of production to increase its own production, then it will benefit from economies of scale. Firm B will not benefit from any internal economies unless it decides to do likewise.

If a firm can see that if it expands production, it will reap the benefit of the internal economies resulting in lower unit cost of production then it will be in the interest of that firm to expand as long as it can sell its output without any fall in profit.

### *Types of Internal Economies of Scale*

#### *(1) The economies of increased dimensions*

These can be classified as *technical economies*. It is more economical to use a large machine than a small one. A large shop can buy a lorry to carry its goods instead of making frequent trips by a van or a bicycle. A small shop would find it very uneconomical to buy a lorry because it would not be able to fill it. A lorry may carry ten times as much as a van, but it will not cost ten times more to buy or to run; for instance, only one person will be needed to drive the lorry, while ten drivers would be needed to drive the ten vans needed to carry the same amount of goods. Obviously, operating on large scale is going to be more economical but it would be pointless for a small shopkeeper to buy a lorry for it would not be used half the time because there would be no demand for its use.

Capital goods, like machines, have to be a certain minimum size to do their job. A car must be big enough for people to get into and this will determine how big the production line will have to be to make the car.

It is also more economical to use a large factory or plant where several stages of production can be carried out. If you melt iron ore and make it into pig iron and then turn it into steel and then into pipes or corrugated iron sheets, all in one place, using, for example, one furnace, it will be more economical than moving the iron from one place to another for the next stage of production using several furnaces.

#### *(2) Economies in using factors of production*

With specialisation it is possible to employ highly specialist people and highly specialised capital equipment. A large firm or establishment can also make better use of managerial talent. For instance, a head of a school for only two classes is an example of uneconomical use of resources if s/he can quite easily run a school with twelve classes. In business, a manager in a small firm has to do a lot of things; recruiting staff, deciding what to produce, advertising, selling and so on. Larger scale makes greater *specialisation* possible. The same manager, if s/he was good enough, could join a large firm and concentrate on long-term planning and co-ordination of specialist departments. Large firms can afford to set up these specialist departments to engage in research, marketing, and advertising which are important for cheaper production costs, greater sales and therefore greater output and above all employ specialist personnel. Also large firms can allow managers to travel abroad to get acquainted with the latest methods of production.

#### *(3) Economies in marketing*

The larger the firm, the more benefit it can obtain from marketing economies, for example, if it buys its raw materials in bulk, it can get special discount rates; if it sells in bulk, it can reduce its transport costs. Tenders and contracts for supplying large quantities of goods benefit both the seller and the purchaser. The seller has a guaranteed market and the purchaser can buy goods that are much cheaper.

Some large firms may do their own whole-selling and run their own transport division thereby eliminating payments to third-parties. Large firms can also employ specialists to sell goods or services. For instance, motor companies employ salespersons who are good at persuading people to buy their car by assessing what the would-be purchaser is looking for and point out appropriate advantages. To a bachelor, s/he will point out its elegance and speed. To the married with a family, s/he will stress its carrying capacity, reliability and economy. A large firm which has a large output can afford to advertise heavily because the cost of advertising per article will remain low.

#### (4) *Financial economies*

One of the ways of expanding a business is to obtain a loan from a bank or to sell shares. A large concern is often able to borrow from financial institutions at more favourable rates of interest than a small concern. Large firms have an advantage in obtaining capital in this way because they tend to have more guarantees or securities to offer in the form of their buildings and other assets. Also large firms tend to have better managers who will use the capital in a more profitable way. People thinking of investing money by buying shares in a company will probably prefer to invest in a large firm because they feel their money will be more secure. As a result, large firms find it easier to obtain the capital required for expansion.

#### (5) *Research economies*

In the modern world, research is essential for any industry. Only large scale production units can afford to spend the millions involved in some projects. For instance, oil exploration can only be carried out by large companies like Shell and Total that can afford to spend millions on drilling and geological mapping which at times may bring no return.

### (6) *Welfare economies*

Big companies may provide welfare services to their employees. The efficiency of the workers can be increased by improving the conditions under which they work, for example, providing canteens, schools and other facilities. These can only be provided by large firms like Sugar Works in Uganda.

### *External Economies*

These are economies of concentration of industries. External economies benefit all firms in the industry equally irrespective of size. They are external to the firm but internal to the industry. They arise out of the industrial concentration and not from the policy of any individual firm. They include better transport facilities, specialist markets, specialist educational establishments and specialist skilled labour. All firms benefit from the availability of these things.

### *Disadvantages of Large Scale Production or Diseconomies of Scale*

These arise internally when the firm get too big for the entrepreneur's ability to manage. Costs begin to rise, the firm gets bureaucratic, decision making becomes difficult, bottlenecks appear in production and production rises more slowly than costs.

In very large firms, organisation and control may be slowed down because of the complications of administering a large number of people. Decisions may take a long time to put into practice. There may also be clashes between different sections of the company over policy; say, between the production and marketing sides. For such firms, one has to have very good managers for large scale production to be beneficial.

Over-concentration of industry can lead to external diseconomies which hinder the productive process. This often arises out of transport bottlenecks. Some industrial cities and towns do suffer from parking space and congestion.

### *The Survival of Small Firms*

What we have said tends to suggest that the advantages of large scale production greatly outweigh disadvantages so that businesses should aim at expanding. Although there are many advantages to be got from large scale enterprise, the majority of business enterprises are small. How do we *account* for the survival or existence of small firms, some of which are quite profitable?

#### (1) *Business optimism*

Most people have business optimism - they save their money and they set up a small business. They do not have the resources for

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expansion and often they go bankrupt. Invariably, for each bankruptcy, there is another business optimist willing to try her/his hand in business.

(2) *Market size*

The size of any business enterprise is determined by the size of the market. Whenever the market is small, there is no incentive for a large scale enterprise. In such a situation, small businesses are common. If a firm specialised in the production of sports cars in Uganda, it would not be able to expand because the number of rich men and women who can afford sports cars is small, that is the market for such cars is small.

(3) *Individuality*

Whenever people desire individuality rather than standardisation, small scale enterprises are common. The personal service of a tailor has greater attraction to some women than the standardised ready-made clothes found in many big stores or shops.

(4) *Space*

Dispersion of population, transport difficulties and costs offer protection for the small enterprise. The small shop on the outskirts of the city has some degree of monopoly power - it is not worthwhile a large supermarket opening here. The cost and bother of travel induces customers to go to the small shop even though one has to pay more, rather than travel to town.

Successful bread-making depends on getting the bread to customers in a very short time. If transport is very good or customers are highly concentrated in town it is possible to employ large scale methods of production. However, it is quite likely that difficulty of transport and scattered customers will mean that production will also be scattered and small. You will therefore have a series of bakeries all over the country.

(5) *Technical size*

The technical size of some operations is small - the greater the degree of craft-skill involved, the less easy it is to substitute manual skill with capital.

(6) *Resale price maintenance*

A manufacturer is only concerned with getting as many outlets for the products as possible because this will normally mean greater sales. Therefore s/he often sets a price for the products which allows sufficient retail outlet thus all sellers of cigarettes charge the same price and all earn exactly the same profit on each packet that they sell. Here the large retail outlet has no advantage over the small shopkeeper where prices are fixed by the manufacturer.

(7) *Cooperation*

In retailing and in agriculture, the small enterprise can get some of the benefits of economies of scale, for example, Marketing, Financing, Research and Technical through cooperating with one another. The peasant coffee farmers of East Africa could be successful in surviving against competition from estate coffee growing in Latin America on this account.

(8) *Lack of management skill*

A firm may stay small because it does not have the managerial ability to expand. An owner manager may not be willing to take the risks involved in expansion or may not have the necessary knowledge to be able to expand the scale of production.

(9) *Size of firms may vary all the time*

Some small firms of the past are the big ones of today. Likewise, large firms today may get smaller depending on the changing business circumstances. This possibility of variation may account for the existence of small firms side-by-side with large firms.

# Appendix

## Introduction

**T**his appendix gives the reader 115 revision questions relevant to the subject matter covered in the text. Some questions, however, may require a greater exposure than availed in the text but most can be sufficiently attempted using the material at hand.

To guide the user further, the questions have been divided into relevant sections. Most questions can be squarely placed in particular sections, some transgress a little into sections while others belong to chapters as a whole. Such rough categorisations have been made before each sub-set. The detailed 'guide through the text' will assist understanding the indicated sections.

In sub-sections where there are relatively more questions you will notice that the questions are designed to address the subject matter from many fronts. This is deliberate - it is not intended to avail many questions per se but to give the user a variety of ways the topic material can be of use. Another advantage of the revision questions is, therefore, apparent: it can serve as a 'guide through the text' in a sense that by seeing these questions, one can have an insight into some of what the text is all about.

## Revision Questions

### *Introduction*

1.
  - (a) Why is Economics concerned with human wants other than need?
  - (b) Why does the principle of opportunity cost arise in Economics?
  - (c) Why is the concept of choice important in Economics?
2. What do you understand by the term "opportunity cost"? How is it related to the problem of scarcity?
3.
  - (a) Explain the term 'scale of preference'.
  - (b) Why is the concept of opportunity cost important in making economic decisions?

### *Determinants of Demand*

4. How may a substantial increase in the retail price of a staple food affect a consumer's demand for:
  - (a) Other staple foodstuffs;
  - (b) Luxury goods.
5. Analyse the effect, in theory, on a price of a motor car of an increase in
  - (a) The price of steel;
  - (b) The price of petrol;
  - (c) Fares of public transport;
  - (d) Consumers' incomes.

### *Determinants and other aspects of Demand*

6.
  - (a) What is effective demand?
  - (b) What factors may lead to a change in demand for a product?
7.
  - (a) Assuming there is no increase in price of a commodity, how would you explain a decrease in the demand for such a commodity?
  - (b) What factors may affect the market demand without affecting the individual demand?
8.
  - (a) With the aid of diagrams, distinguish between an "extension of demand" and a "decrease in demand".
  - (b) Briefly state what brings each about.

### *Determinants and other aspects of Supply*

9. What are the factors which account for a decrease in supply of a commodity? Explain.
10. Explain the difference between an increase in supply and an increase in the quantity supplied.
11. Under what circumstances would the supply curve for a product shift to the right?
12. Explain the factors that may cause a change in supply at a constant price.

### *Elasticity*

13.
  - (a) Define price elasticity of demand.
  - (b) What factors determine the price elasticity of demand?
  - (c) 

Price of X (Shs.)	Quantity of X sold (Kgs)
10	20
8	30
4	32
  - (i) Calculate the price elasticity of demand for the commodity as the price drops.
  - (ii) Is the demand curve elastic, inelastic or unitary?
14.
  - (a) How does each of the following factors affect the elasticity of demand?
    - (i) Necessity;
    - (ii) Habit;
    - (iii) Convenience.
  - (b) What is the importance of price elasticity of demand?
15.
  - (a) Differentiate between direct and indirect price elasticity of demand and supply.
  - (b) What does an economist mean when s/he says that *over a short period* demand may be *more elastic than* supply while over a long period supply may be more elastic than demand?
16. "The demand for beer in Uganda is inelastic." Explain what you understand by this statement and give reasons why it is probably true or not true.
17. What do economists mean by the term "elasticity"? How can the concept guide policy in the field of:
  - (a) Pricing of commodities;
  - (b) Taxation;
  - (c) Foreign trade.

18.
  - (a) Define income elasticity of demand. Explain two examples of goods that have a high income elasticity of demand.
  - (b) Explain the concept of price elasticity of supply. Under what circumstances would you expect it to be larger and when would you expect it to be small?
19.
  - (a) How do the concepts of elasticity and inelasticity help to explain the instability of agricultural price?
  - (b) What measures can the government take to curb this instability as an economic problem?
20. What is price elasticity of supply? Why is the price elasticity of supply usually lower for agricultural products than for manufactured goods?

### *Utility*

21.
  - (a) What is meant by the statement that "a good possesses utility"?
  - (b) Using an illustration, show the relation between marginal utility, total utility, and price.
22. Define and indicate clearly the relationship between total utility, marginal utility and value.
23. A consumer considering the purchase of a bottle of beer asks: "Is it worthwhile?" Discuss the implications of this question within the context of consumer behaviour.
24. One of the marginal rules for optimal decision making stipulates that an activity should, if possible, be carried to a point where its marginal satisfaction is zero. Comment.
25. Why would one expect more of a good to be demanded at a lower price than at a higher price?
26.
  - (a) Use a diagram to explain the law of diminishing marginal utility.
  - (b) Distinguish between consumer's surplus and producer's surplus.

### *Utility, Regressive and Abnormal Curves*

27. Explain why people tend to buy more when the price of a commodity falls. What are the exceptions to this phenomenon?
28.
  - (a) What is meant by an exceptional demand curve?

- (b) Under what conditions may the demand of a commodity not decline when its price increases?

### *Alternative methods of allocating resources*

29. How can price control in a reasonably competitive market be inefficient?
30. What are the objectives of setting a minimum price? What are the consequences of setting a maximum price?
31. What is a price ceiling (maximum price legislation)? Describe the reasons why a price ceiling might be established and the problems likely to result from such a policy.
- 32.
- (a) How and for what reasons may government introduce price controls?
  - (b) Why may such controls not always succeed?

### *The application of price theory to the pricing of factors of production*

- 33.
- (a) What name is given to the payment made to each of the factors of production for the services that they render?
  - (b) Define economic rent. Explain why all rent paid for land is called economic rent.

## **Theoretical Basis of Supply and demand**

### *General*

34. How is market price determined? Why are prices of agricultural goods generally more unstable than manufactured goods?
- 35.
- (a) State and illustrate the law of supply.
  - (b) Give some instances when supply may not conform to the law stated above.
36. Commodities P and Q are jointly supplied. How is an increase in the demand for P likely to affect the price of Q? Use graphs to illustrate your answer.

### *Entrepreneur*

37. Explain the functions of an entrepreneur and where s/he is to be found in modern industry.

### *Land*

- 38.
- (a) Define “land” as a factor of production.
  - (b) What is land productivity dependent upon?
- 39.
- (a) How is land different from other factors of production?
  - (b) Explain the law of diminishing returns.
40. With unlimited land and limited labour would production be subject to the law of diminishing returns?

### *Land and Labour or Human Resources*

- 41.
- (a) Evaluate the relevance of the Malthusian theory of population to your country.
  - (b) Briefly, present an explanation of the Malthusian population Trap.
- 42.
- (a) What reasons can you give to support the view that Malthusian theory of population is not relevant to Uganda.
  - (b) Discuss the major economic problems arising out of the present population structure of your country.

### *Labour or Human Resources*

- 43.
- (a) Explain the following terms
    - (i) Labour force;
    - (ii) Efficiency of labour.
  - (b) Explain how the size and quality of a country's labour-force may be improved.
44. Why may a population of a country decline? What are the likely effects of a decrease in a country's population?
- 45.
- (a) What are the determinants of population growth?
  - (b) How is the natural growth rate of population determined?
  - (c) How does rapid population growth affect development?
46. Countries A and B are less developed countries. Country A is overpopulated while B is under-populated:
- (a) What economic consequences would each of these two countries experience as a result of their population sizes?
  - (b) Give *two* measures each country should take to avoid overpopulation and under-population respectively.
47. How and why do we control population?

48. What do you understand by demographic transition? Locate your country in this perspective.
- 49.
- (a) Outline the theory of demographic transition.
  - (b) To what extent does Africa has a population problem and how can it be solved?
50. What test would you apply to decide whether or not a country is over-populated?
51. How would you define optimum population and how would you relate this concept to the economic position of your country?
- 52.
- (a) What is meant by the expression 'rural-urban migration'?
  - (b) How can rural-urban migration in your country be reduced?
53. Comment on the following economic trends in African economies:
- (a) Rising population;
  - (b) Rural-urban migration.
54. 'In spite of urban unemployment, people still go to towns in search of jobs'.
- (a) Explain the reasons for this phenomenon.
  - (b) What are the effects of this rural-urban migration?

### *Labour or Human Resources and Capital*

- 55.
- (a)
    - (i) What constitutes the labour-force of a country?
    - (ii) Which factors determine the rate of growth of the labour-force?
  - (b) Discuss the major human resource problems facing developing countries.

### *Capital*

- 56.
- (a) What are the merits and demerits of remaining liquid?
  - (b) Is the ownership of capital of any importance?
57. What are the arguments for and against investment in human capital?
- 58.
- (a) What is education?
  - (b) Give the features that qualify education to be an investment.

59.

- (a) What reasons would you give to justify your government's expenditure on education?
- (b) What major economic problems has the present education system in your country created?

*Production for subsistence and for the Market*

60.

- (a) What is meant by 'subsistence sector'?
- (b) Give at least "two" features associated with subsistence production.

61. What are the main differences between production for exchange and production for subsistence?

*Location of economic activities*

62.

- (a) What factors determine the location of an industrial firm?
- (b) With specific examples account for the distribution of industry in your country.

63.

- (a) Give a reason to justify each of the following:
  - (i) The location of a cement factory at Tororo where there is relatively little demand for cement in Uganda.
  - (ii) The establishment of furniture workshops in towns where there are no raw materials for making furniture.
- (b) Name and briefly explain any two ways in which the government may influence the location of an industry in a country.
- (c) For what reasons would a government in a developing country try to influence the location of an industry?

*Choice of technique in public and private sectors*

64.

- (a) Distinguish between labour and capital intensive techniques of production.
- (b) What arguments are usually advanced in favour of labour intensive techniques of production in developing economies?

65. Compare and contrast labour and capital intensive techniques of production in the process of development.

66. "Since the East African countries have an abundance of unemployed labour, they should concentrate on the adoption of labour intensive techniques of production." Discuss.

67.

- (a) What is appropriate technology?

- (b) "Most LDCs have been frustrated by the imported technologies." Elaborate.

### *Costs*

68.

- (a) What is the relationship between marginal cost and average cost?
- (b) Distinguish between normal profit and pure profit.
- (c) Should a firm close down if it cannot cover its average costs?

69. Assume you are running your own private school and you have 150 students. Give and explain three examples of the fixed (unavoidable contractual) and variable (avoidable contractual) factors employed. Are there any supplementary and prime costs in your enterprise? Explain.

### *Perfect market/competition*

70. In a perfectly competitive market, it is assumed that all transactions take place at the same price. What characteristics of a perfectly competitive market justify this assumption?

71.

- (a) How is price and output determined under perfect competition?
- (b) Distinguish between the equilibrium position of a firm and an industry in perfect competition.

72.

- (a) What are the requirements of a "perfect market"?
- (b) How does a perfectly competitive industry bring economic efficiency?

73.

- (a) What is a perfectly competitive market situation?
- (b) Using relevant diagrams, distinguish between the short-run and the long-run equilibrium of a firm which maximises profits under perfect competitive conditions.

### *Monopoly*

74. How, exactly, does a monopolist decide the price s/he will charge for the product in order to maximise profits?

75. Will the output of the industry tend, in theory, to rise, remain the same or decline if perfect competition is replaced by a monopolist?

76. How is the elasticity of demand relevant to the fixing of prices under conditions of monopoly? Discuss the

- circumstances under which a monopolist could charge different prices.
77. What do you consider to be the main undesirable features of monopoly in modern capitalist economies?
- 78.
- (a) Define and give reasons for the existence of monopoly.
  - (b) Suggest some advantages and disadvantages of monopolies.
- 79.
- (a) What are natural monopolies?
  - (b) What is the basis of monopoly?
  - (c) "Since monopolies restrict output and charge high prices, they should be abolished". Comment.
- 80.
- (a) What is meant by the term 'pure monopoly'?
  - (b) Explain why state monopolies may be desirable in developing countries despite the evils of monopoly.

### *Monopolistic competition*

81. Comment briefly on each of the following statements which are some of the assumptions on which economists base the theory of monopolistic competition:
- (a) All firms produce basically the same product rendered different from its rivals by differentiation.
  - (b) Much money is spent on advertising.
  - (c) Price increases do not always cause a customer to change to another firm's product.

### *Oligopoly*

82. Give reasons why price agreements in oligopoly market structures often fail to materialise for long. Suggest measures that could improve on the stability of price agreements under oligopoly.

### *Monopsony, Oligopsony and Duopsony*

- 83.
- (a) Explain what is meant by the term "collective bargaining."
  - (b) Discuss the circumstances under which trade unions might be more successful in raising the wages of their members.
- 84.
- (a) What is meant by marginal productivity theory of wages?

- (b) Explain why marginal productivity theory of labour may not adequately explain how wages are determined.
- 85. Why is the bargaining power of trade unions generally more limited in LDCs than in MDCs?
- 86.
  - (a) Explain what is meant by the term 'mobility of labour'.
  - (b) Give the factors that lead to immobility of labour.
  - (c) How can these factors be dealt with?

### *Bilateral Monopoly*

- 87. What is meant by bilateral monopoly relationship between Trade Unions and Employers?
- 88. "The notion of free in the term 'free enterprise' should be interpreted as the freedom to set up an enterprise rather than the freedom to do anything one wishes with the enterprise including preventing others from setting up enterprises." Evaluate this statement.
- 89.
  - (a) Explain the meaning of the expression 'consumer sovereignty'?
  - (b) Discuss the role of prices in a free enterprise economy.
- 90. Discuss the role of the price mechanism in a capitalist or free enterprise economy.
- 91.
  - (a) Define a market economy.
  - (b) What are the significant features of a market economy?
  - (c) What are the disadvantages of a market economy?
- 92.
  - (a) Explain how price mechanism allocates resources.
  - (b) When may price mechanism fail to allocate resources efficiently?
- 93. What is the basic difference between private market economy and centrally planned economy?
- 94. Explain why developing countries undertake development planning. Why do some of these countries usually fail to implement successfully their development plans?

### **Market Comparisons**

- 95. Compare the equilibrium of the firm and industry in both short-run and long-run periods under perfect competition and monopoly.
- 96. How is perfect competition different from monopoly?
- 97. Explain the major differences between "perfect" and "imperfect" competition.

98. Distinguish between short-run and long-run cost curves and use them to explain economies of large-scale production. Explain briefly how a monopolist uses the marginal cost and marginal revenue to determine the optimum level of price and output.
99. "Monopolistic competition involves a less economic use of resources than perfect competition". Do you agree? Give reasons.
100. What is the distinction between the long-run equilibrium position of a firm under perfect competition and a firm under monopolistic competition?
101. Explain:
  - (a) The view that resources are allocated more efficiently under perfect competition than under monopoly;
  - (b) How the low-cost firm determines the price under oligopoly.
102. Distinguish between monopolistic competition and perfect oligopoly.
103.
  - (a) State the differences and similarities between perfect competition and perfect oligopoly.
  - (b) Give examples of perfect oligopoly supply situation in your country.
104.
  - (a) Explain how wages are determined in a perfectly competitive market for labour.
  - (b) What other forces have tended to influence the amount of wages paid to workers in your country?

## **Business Enterprises**

### *Commerce/Shopping*

105.
  - (a) How is commercial activity in your country related to historical developments in commercial activity?
  - (b) What relationship is there between
    - i. Commerce and Economics.
    - ii. Commerce and Law.

### *Types of Business Units*

106. What are the main types of business units operating in your country and what are their main sources of finance?
107. What are the advantages and disadvantage of:
  - (a) One-man business or sole proprietorship;
  - (b) The Partnership;

- (c) The Joint Stock Company.
- 108.
- (a) Why may a private limited company become a public company?
  - (b) Identify the entrepreneur in the public company and describe briefly her/his functions.
109. Why is the form of ownership of the means of production for the functioning of an economic system very important?
110. Why do governments establish enterprises despite the existence of the privately owned? What problems can result from this move and how can they be overcome?
111. Discuss the case for and against the nationalisation of manufacturing enterprises.
112. Compare the relative merits of nationalisation and government participation in manufacturing industry as a means of achieving desired economic goals.

### *Specialisation*

113. Of what use is specialisation? Is it always beneficial to specialise?

### *Economies of Scale and the Survival of Small Firms*

114. Why is it that with the existence of economies of scale, firms do not continue expanding indefinitely?
- 115.
- (a) What are the internal and external economies and how do they arise.
  - (b) Why is it useful to distinguish between internal and external economies?

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