

for making the things they want – labour, land, raw materials, factory buildings, machinery – are themselves limited in supply. There are insufficient productive resources in the world, therefore, to produce the amount of goods and services that would be required to satisfy everyone's wants fully. Consequently, to the economist all things are at all times said to be "scarce".

(ii) CHOICE AND OPPORTUNITY COST

Because there are not enough resources to produce everything we want, a choice must be made about which of the wants to satisfy. In economics, it is assumed that people always choose the alternative that will yield them the greatest satisfaction. We therefore talk of Economic Man.

Choice involves *sacrifice*. If there is a choice between having guns and having butter, and a country chooses to have guns, it will be giving up butter to the guns. The cost of having guns can therefore be regarded as the sacrifice of not being able to have butter. The cost of an item measured in terms of the alternative forgone is called its opportunity cost.

(iii) PRODUCTION POSSIBILITIES AND OPPORTUNITY COSTS

Limitations of the total resources capable of producing different commodities forces society to choose between relatively scarce commodities. This can be illustrated quantitatively by simple arithmetic examples and geometrical diagrams.

Suppose, to take an example, that a society can spend money on two products, guns and butter. The society's resources are limited; therefore there are restrictions on the amount of guns and butter that can be made, which can be shown by a "production possibility" or "transformation curve".

ALTERNATIVE PRODUCTION POSSIBILITIES		
POSSIBILITIES	BUTTER (Millions of pounds)	GUNS (Thousands)
A	0	15
B	1	14
C	2	12
D	3	9
E	4	5
F	5	0

Table 1.1: Full employment of scarce resources implies guns-butter trade off

The above possibilities can be illustrated graphically using a production possibility frontier. By production possibility frontier we mean; "A geometric representation of production possibilities of two commodities feasible within an economy, given a fixed quantity of available resources and constant technological conditions.

(v) Reliance on the Price Mechanism

Price mechanism is where the prices are determined on the market by supply and demand, and consumers base their expenditure plans and producers their production plans on market prices.

Price mechanism rations the scarce goods and services in that, those who can afford the price will buy and those who cannot afford the price will not pay.

(vi) Limited Role of Government

In these systems, apart from playing its traditional role of providing defence, police service and such infrastructural facilities as roads for public transport, the Government plays a very limited role in directly economic profit making activities.

Resource allocation in a free enterprise

Although there are no central committees organising the allocation of resources, there is supposed to be no chaos but order. The major price and allocation decisions are made in the markets. The market being *the process by which the buyers and sellers of a good interact to determine its price and quantity*.

If more is wanted of any commodity say wheat – a flood of new orders will be placed for it. As the buyers scramble around to buy more wheat, the sellers will raise the price of wheat to ration out a limited supply. And the higher price will cause more wheat to be produced. The reverse will also be true.

What is true of the market for commodities is also true for the markets for factors of production such as labour, land and capital inputs.

People, by being willing to spend money, signal to producers what it is they wish to be produced. **Thus what** things will be produced will be determined by the shilling votes of consumers, not every five years at the polls, but every day in their decisions to purchase this item and not that.

The “How?” question is answered because one producer has to compete with others in the market; if that producer can not produce as cheaply as possible then customers will be lost to competitors. Prices are the signals for the appropriate technology.

The “for whom?” question is answered by the fact that anyone who has the money and is willing to spend it can receive the goods produced. Who has the money is determined by supply and demand in the markets for factors of production (i.e. land, labour, and capital). These markets determine the wage rates, land rents, interests rates and profits that go to make up people’s incomes. The distribution of income among the population is thus determined by **amounts** of factors (person-hours, Acres etc) owned and the prices of the factors (wages-rates, land-rents etc).

Advantages of a Free Market System

Incentive: People are encouraged to work hard because opportunities exist for individuals to accumulate high levels of wealth.

Choice: People can spend their money how they want; they can choose to set up their own firm or they can choose for whom they want to work.

Competition: Through competition, less efficient producers are priced out of the market; more efficient producers supply their own products at lower prices for the consumers and use factors of production more efficiently. The factors of production which are no longer needed can be used in production elsewhere. Competition also stimulates new ideas and processes, which again leads to efficient use of resources.

Consuming 1 unit of X gives 15 utils of satisfaction, consuming 2 units gives 25 utils, and so on. The figure of marginal utility decline as each successive unit is consumed. If the consumer goes on consuming more and more units, eventually he reaches a point (the sixth unit) where additional units yields no extra satisfaction at all.

(i) Marginal utility approach

The downward sloping nature of the demand curve can be explained by using the **law of diminishing marginal utility**. For instance, consider a consumer who has to choose between two goods, X and Y, which have prices P_x and P_y respectively. Assume that the individual is rational and so wishes to maximise total utility subject to the size of the income.

The consumer will be maximising total utility when his or her income has been allocated in such a way that utility to be derived from the consumption of one extra shillings worth of X is equal to the utility to be derived from the consumption of one extra shillings worth of Y. In other words, when the marginal utility per shilling of X is equal to the marginal utility per shilling of Y. Only when this is true will it not be possible to increase total utility by switching expenditure from one good to another. This condition for **consumer equilibrium** can be written as follows:

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

Where MU_x and MU_y are the marginal utilities of X and Y respectively and P_x and P_y are the prices (in shillings) of X and Y respectively.

Any number of commodities may then be added to the equation. The table below gives **hypothetical** marginal utility figures for a consumer who wishes to distribute expenditure of K£44 between three commodities X, Y and Z.

Marginal utilities derived from each kg of:

Kg consumed	X (£8/kg)	Y (£4/kg)	Z (£2/kg)
1	72	60	64
2	48	44	56
3	40	32	40
4	36	24	28
5	32	20	16
6	20	8	12
7	12	4	8

In order to maximize utility, the consumer must distribute available income so that:

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = \frac{MU_z}{P_z}$$

From the table you can see that this yields, a selection where the consumer buys 2 kg of X, 4 kg of Y and 6 kg of Z. Hence:

$$\frac{48}{8} = \frac{24}{4} = \frac{12}{2}$$

If the consumer wishes to spend all the K£44, it is impossible to distribute it any other way which would yield greater total quality. This theorem is called the concept of **equi-marginal utilities**.

The demand curve

Suppose that starting from a condition of equilibrium, the price of X falls relative to Y. We now have a condition where the utility from the last shilling spent on X will be greater than the utility from the last shillings spent on Y. Mathematically this can be written as:

$$\frac{MU_x}{P_x} > \frac{MU_y}{P_y}$$

In order to restore the equilibrium the consumer will buy more of X (and less of Y), thus reducing the marginal utility of X. The consumer will continue substituting X for Y until equilibrium is achieved. Thus we have attained the normal demand relationship that, *ceteris paribus*, as the price of X falls, more of it is bought. We have therefore a normal downward-sloping demand curve. The demand curve we have derived is the individuals' demand curve for a product. The market demand curve can be then obtained by aggregating all the individual demand curves.

The explanation we have obtained here is of the price (or substitution) effect.

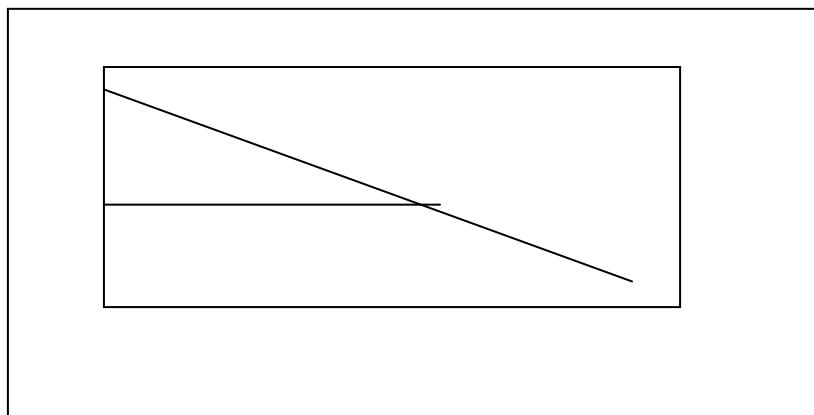
Market demand and consumers surplus.

Suppose that the market price of a cup of coffee is K£4 but the consumer was willing to pay £9 for the first unit, £8 for the second, £7 for the third, £6 for the fourth, £5 for the fifth and £4 for the sixth.

However, he pays the market price for all the six cups. The consumer thus earns a surplus on the first five units consumed i.e.

A measure of the difference between the value that consumers place on their total consumption of some commodity and the amount they actually pay for it.

For continuous demand curves, consumer's surplus can be measured by the area under the demand curve and above the price.



NB: The shaded area represents utility which the consumers received but did not pay for i.e. consumer surplus.

Mathematically it can be calculated as follows:

$$£5 + £4 + £3 + £2 + £1 = £15$$

organisations which could not produce profitably at the lower price would find it possible to do so at a higher price. One way of looking at this is that as price goes up, less and less efficient firms are brought into the industry.

Exceptional supply curves

In have some situations the slope of the supply curve may be reversed.

i) **Regressive Supply.** In this case, the higher the price within a certain range, the smaller the amount offered to the market. This may occur for example in some labour markets where above certain level, higher wages have a disincentive effect as the leisure preference becomes high. This may also occur in undeveloped peasant economies where producers have a static view of the income they receive. Lastly regressive supply curves may occur with target workers.

ii) **Fixed Supply.** Where the commodity is rare e.g. the “Mona Lisa”, the supply remains the same regardless of price. This will be true in the short term of the supply of all things, particularly raw materials and agricultural products, since time must elapse before it is physically possible to increase output.

b) Prices of other related goods

i) **Substitutes:** If X and Y are substitutes, then if the price X increases, the quantity demanded of X falls. This will lead to increased demand for Y, and this way eventually lead to increased supply of Y.

ii) **Complements:** If two commodities, say A and B, are used jointly, then an increase in the price of A shall lead to a fall in the demand for A, which will cause the demand for B to fall too.

c) Prices of the factors of production

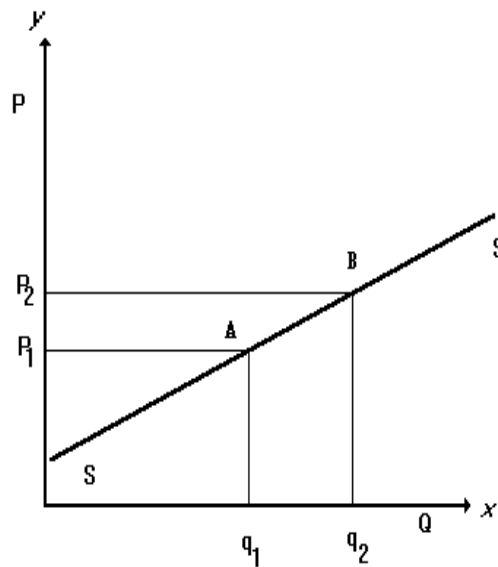
If the prices of those factors of production used intensively by X producers rise, so do the firms' costs. This cause supply to fall as some firms reduce output and other, less efficient firms make losses and eventually leave the industry. Similarly, if the price of one factor of production would rise (say, land), some firms may be tempted to move out of the production of land intensive products, like wheat, into the production of a good which is intensive in some other factor of production.

d) Goals of the firm

How much is produced by a firm depends on its objectives. A firm which aims to maximise its sales revenue, for example, will generally supply a greater quantity than a firm aiming to maximise profits (see markets). Changes in these objectives will usually lead to changes in the quantity supplied.

e) State of technology

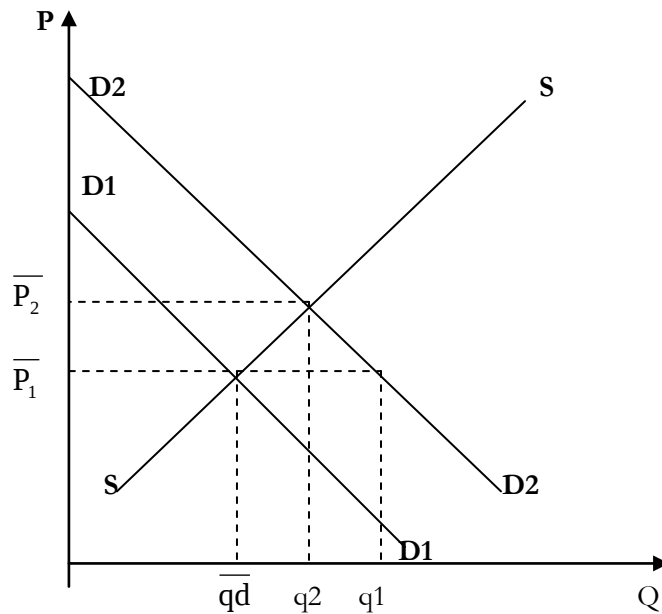
There is a direct relationship between supply and technology. Improved technology results in more supply as with technology there is mechanisation.



When price increases from P_1 to P_2 , quantity supplied increases from q_1 to q_2 and movement along the supply curve is from A to B. Conversely when price falls from P_2 to P_1 , quantity supplied falls from q_2 to q_1 and movement along the supply curve is from B to A.

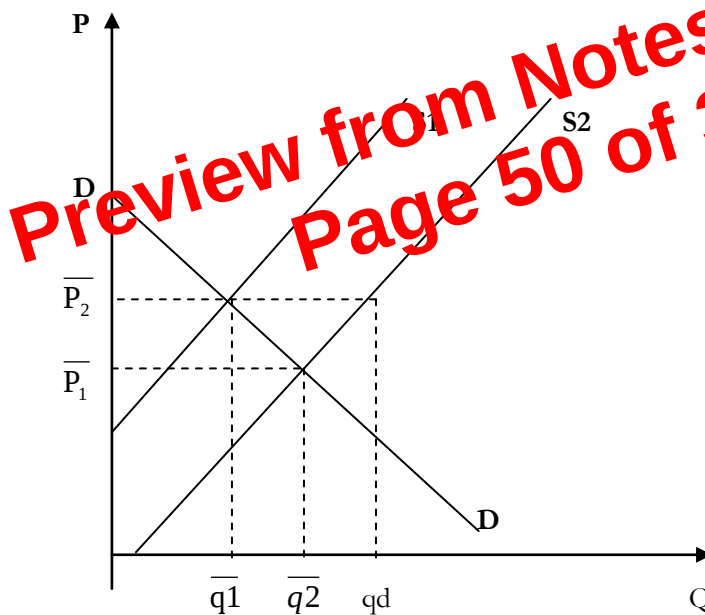
ii) Shifts in the supply curve

Shifts in the supply curve are brought about by changes in factors other than the price of the commodity. A shift in supply is indicated by an entire movement (shift) of the supply curve to the right (downwards) or to the left (upwards) of the original curve.



At the initial equilibrium price P_1 , quantity demanded falls from q_1 to q_d . But the quantity supplied is still q_1 at this price. Hence, this creates excess of supply over demand, and this causes price to fall to a new equilibrium level P_2 and quantity to fall to a new equilibrium level q_2 .

iii) Increase in Supply



DD is the demand curve and S_1S_1 the initial supply curve. If supply increases, the supply curve shifts to the right to position S_2S_2 . At the initial equilibrium price P_1 , quantity supplied increase from q_1 to q_2 . This creates a glut in the market and this causes the price to the new P_2 and the quantity increases to a new equilibrium level q_2 .

Factors determining Elasticity of demand

- Ease of substitution.
-
- Nature of the commodity i.e. whether it is a necessity of life, luxury or addictive.
- Consumers income.
- The number of uses to which the good can be put.
- Time factor.
- The prices of other products.
- Advertisements especially the persuasive ones.
- Whether the use for the good can be postponed.
- Human and economic constraints.

Practical Importance of the knowledge of Price Elasticity of demand

The practical importance of the measures of elasticity of demand is to be appreciated in various ways:

- From the point of view of individual consumers who tend to spend limited income on commodities with less elastic demand.
- From the point of view of business person who need to know the effects that changes in price will have on the sales revenue. For instance, if they know that demand for their product is relatively inelastic then increasing prices might help them to increase revenue. If on the other hand they are aware that source of their products have a high price elasticity of demand they will be more cautious when considering price increases for fear of losing revenue.
- From the point of view of firms in who may attempt to change the price elasticity of demand for their product through advertising, packaging, better service and other services to improve or help maintain sales.
- From the point of view of business people who may also want to know the price elasticity of demand as purchasers of inputs for use in their business.
- From the point of view of governments in trying to estimate the yield of a prospective market tax.
- From the point of view of devaluation policy aimed at improving the balance of payments.
- From the point of view of the effectiveness of price control and deregulation of some industries.
- From the point of view of wage bargaining among workers and employers and the government when fixing minimum wage legislation.

v) Income Elastic

Demand rises or falls by a greater proportion than income. Since income elasticity of demand can be either positive or negative, it is therefore very important to include the sign (+ or -) when stating the value of the co-efficient.

Importance of Income Elasticity

If a country is experiencing economic growth, the income of the people will increase. However, for those engaged in the production of goods with negative income elasticities, this will mean a declining demand for their product. Even products with positive income elasticities, there is a great variability of response.

Income elasticity therefore has a most important effect upon resource allocation. As such, prosperous areas of any economy are often those associated with products which have a high income elasticity. In recession the opposite will be true.

c) Cross Elasticity

Cross elasticity of demand measures the degree of responsiveness of the quantity demanded of one good (B) to changes in the price of another good (A). It is measured as follows:

$$Ex = \frac{\text{Percentage change in quantity demanded of B}}{\text{Percentage change in Price of A.}}$$

This may be written mathematically as follows:

$$Ex = \frac{\Delta QB / QB}{\Delta PA / PA}$$

$$= \frac{\Delta QB}{QB} \cdot \frac{PA}{\Delta PA}$$

In the case of complementary goods, such as cars and petrol, a fall in the price of one will bring about an increase in the demand for the other. Thus we are considering a cut in price (-) bringing about a rise in demand (+). This therefore means that for complements, the Ex is negative.

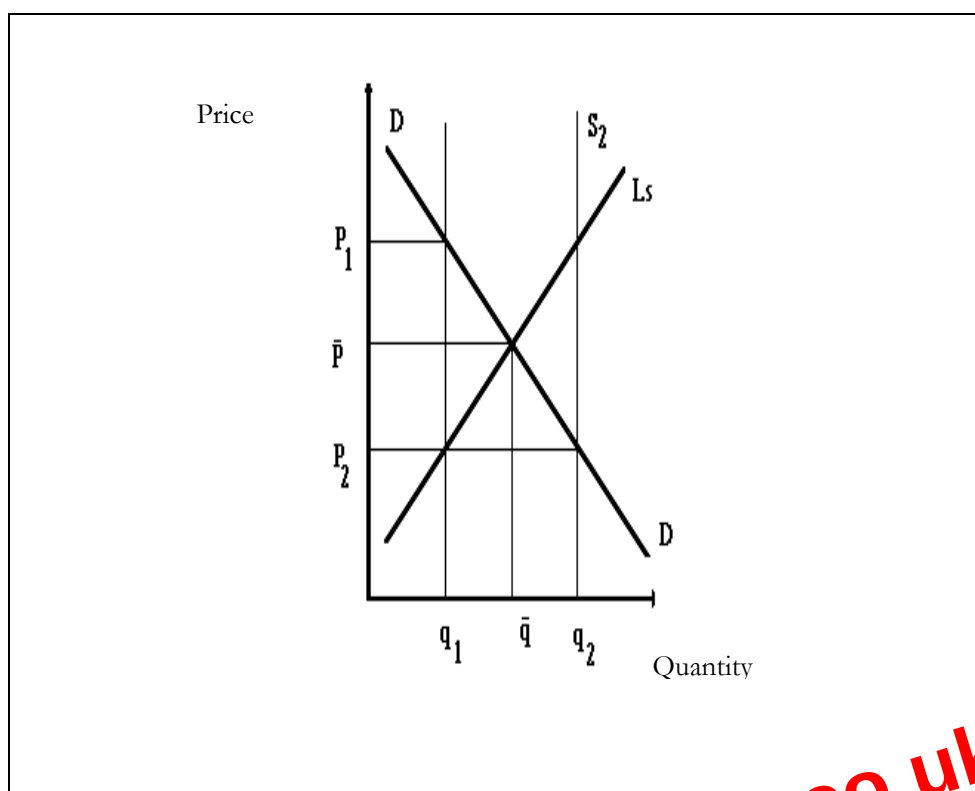
Conversely, substitute goods such as butter and margarine might be expected to have a positive Ex because a rise in price of one (+) will bring about a rise in the demand for the other (+).

The value of Ex may vary from minus infinity to plus infinity. Goods which are close to complements or substitutes will tend to exhibit a high cross-elasticity of demand. Conversely, when there is little or no relationship between goods then the Ex will be near zero.

Importance of Cross Elasticity

Knowledge of cross elasticity is necessary when the government wants to impose a tariff on an imported commodity to protect a domestic industry.

Firms need to know the cross elasticity of their products and substitute products when contemplating price rises.



DD is the demand curve and L_s the long run supply curve indicating what producers will be willing to produce and sell at different prices if production was entirely under their control. Thus, $\bar{P}$ is the expected equilibrium price and $\bar{q}$ the planned equilibrium quantity. Depending on the external factors mentioned above, actual output may be less than planned output e.g. at q_2 making the price P_2 or more than planned output e.g. at q_1 making the price P_1 .

The situation is made worse by the fact that these commodities are not easily stored, so that if the actual output falls short of planned output it cannot be supplemented from the stocks and if the actual output is greater than planned output it cannot be reduced which would prevent prices from being too low.

Besides the short run elasticity of supply is low, since once a given amount of the crop has been planted it is comparatively difficult to increase or decrease the resulting output. Hence high (or low) prices are likely to persist in the short term before additional supply can be made available.

Furthermore the demand for these products is also price inelastic, for they are either foods or raw materials, and in the latter case they usually form a small proportion of the total inputs. Thus, if actual output is in excess of planned output, it is difficult to sell off the excess without depressing prices excessively.

Equilibrium prices may also be difficult to attain because of lagged responses by producers to respond to price changes. In this case it is assumed that though producers are continually disappointed they never become wiser as a result and thus precipitate the price movement and that stocks of the commodity are not stored by producers or middle men in periods of low prices to be resold in periods of, otherwise high prices thus ironing out the unevenness of supply and price. This leads to the **cobweb theorem** (A dynamic model of supply and demand in which adaptive (or non-rational) expectations lead to perpetual oscillations in prices)

1. FACTORS OF PRODUCTION

The sum total of the economic resources which we have in order to provide for our economic wants are termed as *factors of production*. Traditionally economists have classified these under four headings. They are:

- i) Labour
 - ii) Land
 - iii) Capital
 - iv) Enterprise
- } primary factors
- } secondary factors

The first two are termed primary factors since they are not the result of the economic process; they are, so to speak, what we have to start with. The secondary factors, however are a consequences of an economic system.

i) Land

The term land is used in the widest sense to include all the free gifts of nature; farmlands, minerals wealth such as coal mines, fishing grounds, forests, rivers and lakes.

In practise it may be very difficult to separate land from other factors of production such as capital but, theoretically, it has two unique features which distinguish it.

Firstly, it is **fixed in supply**. As land includes the sea in definition, then we are thus talking about the whole planet, and it is obvious that we cannot acquire more land in this sense.

Secondly, land has no cost of production. The *individual* who is trying to **rent** a piece of land may have to pay a great deal of money but it never costs *society* as a whole anything to produce land.

ii) Capital

Capital as a factor of production can be defined either as the stock of wealth existing at any one time and as such, capital consists of all the real **physical** assets of society. An alternative formulation of capital is that it refers to all those goods, which are used in the production of further wealth.

Capital can be divided into **fixed capital**, which is such things as building, roads, machinery etc and **working capital** or **circulating capital** which consists of stocks of raw materials and semi-manufactured goods. The distinction is that fixed capital continues through many rounds of production while working capital is used up in one round; For example, a classroom would be fixed capital, while stocks of chalk to be used for writing would be circulating/working capital.

As stated previously, capital is a secondary factor of production, which means that results from the economics system. Capital has been created by individuals **forgoing current consumption**, i.e. people have refrained from consuming all their wealth immediately and have saved resources which can then be used in the production of further wealth.

The most mobile of the factors of production is probably the entrepreneur. This is because the basic functions of the entrepreneur are common to all industries. Whatever the type of economic activity there will be a need to raise capital, to organise the factors of production and to take the fundamental decisions on where, what and how to produce.

FACTOR INCOMES

The various incomes which the factors receive can be termed **factor rewards** or **factor returns**. Labour receives wages and salaries, land earns rent, capital earns interest and enterprise earns profit.

2. THEORY OF THE FIRM

The Theory of the firm is that branch of economics which studies how firms combine various inputs to produce a stipulated output in an economically efficient manner given technology and the various costs that they must meet to produce the various levels of output.

The firm is an entity, which produces any economic good under one management with the aim of maximizing its profits. It differs from the plant in that the plant is the unit of production in an industry while the firm is the unit of ownership and control. An industry is all the firms concerned with a particular line of production.

PRODUCTION FUNCTION ANALYSIS

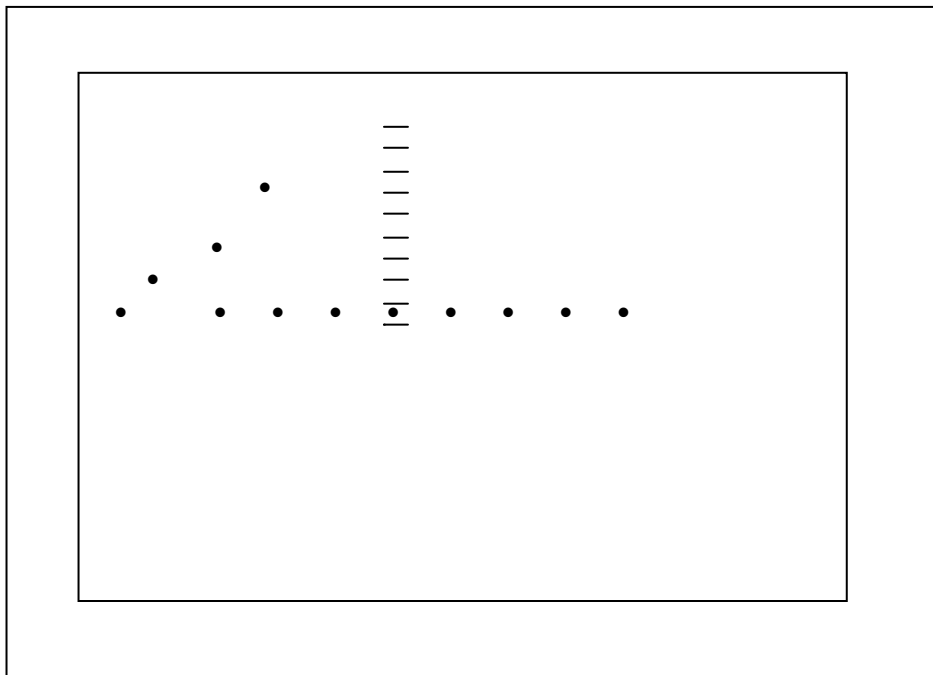
This deals with how firms combine various inputs to produce a stipulated output in an economically efficient manner, given technology.

a. Varying the proportions

In making a product, a firm does not have to combine the inputs in fixed proportions. Many farm crops can be grown by using relatively little labour and relatively large amounts of capital (machinery, fertilizers etc.) or by combining relatively large amounts of labour with very little capital. In most cases, a firm has the opportunity to vary the “input mix” However, before looking at how the firms combine the various factors we need to know some concepts which firms must take into account namely;

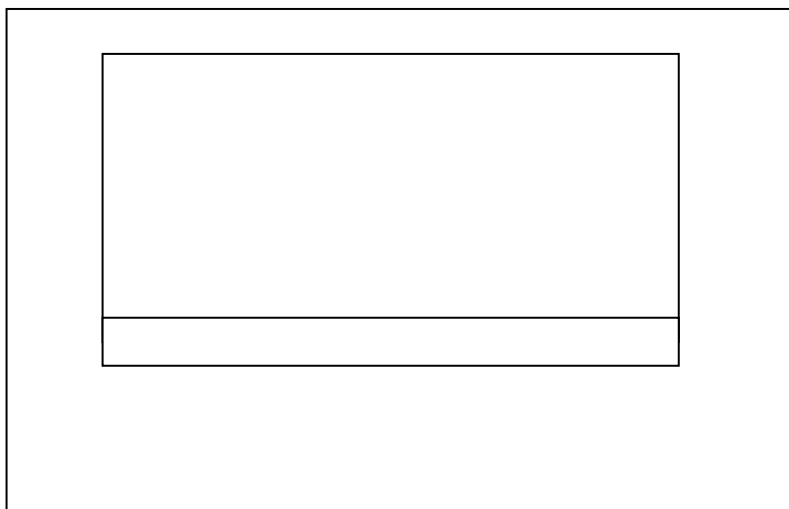
- i. **The short run:** The period of time in which at least one factor is fixed in supply i.e. cannot be varied.
- ii. **The long run:** The period, in which all factors may be varied, in which firms may enter or leave the industry.
- iii. **Variable (factor) Input:** This is a factor of production which varies with output in the short run and is one whose quantity may be changed when market conditions require immediate change in output.
- iv. **Fixed Input:** Is factor whose quantity in the short run cannot readily be changed when market conditions require an immediate change in output.
- v. **Total Physical Product (TPP):** This is the total output realized by combining factors of production.

Table 2

**Observations:**

- It can be observed from the Total Physical Product graph that it begins by rising, reaches maximum and then falls.
- Total Physical Product begins by increasing at increasing rate as shown by the slope of the curve up to the third worker, beyond this it increases at a decreasing rate then reaches a maximum and falls.

Table 3



60	10	100	
90	15	168	} Constant returns
120	20	224	
150	25	275	} Decreasing returns
180	30	300	

When land increases from 30 units to 60 units and labour from 5 units to 10 units, each has doubled or increased by 100%. Output increases from 41 units to 100 units i.e. by more than 100. When land increases from 60 to 90 units, each has increased by 50%. Output increases from 100 to 168 i.e. by more than 50%. In each of these cases when the inputs are increased in a certain proportion, output increases in greater proportion. We say that the firm is in a stage of increasing returns to scale.

This should not be confused with the stage of increasing returns in the short run. In the short run. In the short run the increasing returns to the variable factor, and the scale of production fixed.

When land is increased from 90 to 120 units and labour from 12 to 16 units, each has increased by $\frac{1}{3}$ or 33 $\frac{1}{3}$ % output increases from 168 to 224, i.e. by $\frac{1}{3}$ or 33 $\frac{1}{3}$ %. Thus, when the input factors are increased in a certain proportion, output increases in the same proportion. This is a stage of constant returns to scale.

When land is increased from 120 to 150 units and labour from 20 to 25 units, each has increased by 25%. Output increases from 224 to 275 units i.e. by less than 25%. When land increases from 150 to 180 and labour from 25 to 30 units, each has increased by 20%, output increases from 275 to 300 i.e. by less than 20%. In both of these cases, when the inputs are increased in a certain proportion output increases in less. The firm is said to be in a stage of decreasing returns to scale not to be confused with diminishing returns to the variable factor in the short run.

IMPORTANT ANALYSIS

In the long run it is possible for a firm to produce the same output using different combinations of two factors of production. For instance if the two factors of production, are capital and labour, then labour may be substituted for capital or vice versa. Thus for instance an output of 69 units of X can be produced by using units of capital and one unit of labour or six units of labour and one unit of capital.

If the various combinations of factors of production which produce the same amount of output are plotted on a graph this produces an isoquant or equal product curve.

COLLUSIVE OLIGOPOLY

Collusive oligopoly refers to where there is co-operation among the sellers i.e. co-ordination of prices. Collusion can be Formal or Informal.

i. FORMAL COLLUSIVE OLIGOPOLY

This is where the firms come together to protect their interests e.g. cartels like OPEC. In this case the members enter into a formal agreement by which the market is shared among them. The single decision maker will set the market price and quantity offered for sale by the industry. There is a central agency which sets the price and quantities produced by the firms and all firms abide by the decisions of the central agency. The maximized joint profits are distributed among firms based on agreed formula.

ii. INFORMAL COLLUSIVE OLIGOPOLY

Informal collusive oligopoly can arise into two cases, namely:

- Where the cartel is not possible may be because it's illegal or some firms don't want to enter into an agreement or lose their freedom of action completely.
- Firms may find it mutually beneficial for them not to engage in price competition. When in outright cartel does not exist then firms will collude by covert gentlemanly agreement or by spontaneous co-ordination designed to avoid the effects of price war.
- One such means by which firms can agree is by price leadership. One firm sets the price and the others follow with or without understanding. When this policy is adopted firms enter into a tacit market sharing agreement.

There are two types of price leadership, namely:

By a low-cost firm

When there is a conflict of interest among oligopolists arising from cost differentials, the firms can explicitly or implicitly agree on how to share the market in which the low-cost firm sets the price. We can assume that the low cost firm takes the biggest share of the market.

Price leadership by a large firm

Some oligopolists consist of one large firm and a number of smaller ones. In this case the larger firm sets the price and allows the smaller firms to sell at that price and then supplies the rest of the quantity. Each smaller firm behaves as if in a purely competitive market where price is given and each firm sells without affecting the price because each will sell where $MC = P = MR = AR$.

NON-COLLUSIVE OLIGOPOLY

Operates in the absence of collusion and in a situation of great uncertainty. In this case if one firm raises price, it is likely to lose a substantial proportion of customers to its rivals. They will not raise price because it is in their interests to charge a price lower than that of their rivals.

If the firm lowers price it will attract a large proportion of customers from other firms. The other firms are likely to retaliate by lowering price either to the same extent or a large extent. The first firm will retaliate by lowering the price even further.

As the firms will always expect a counter-strategy from rival firms, each price and output decision the firms comes up with is a tactical move within the framework of a broader strategy.

Put in its simplest form we can express this as an identity:

National output $\equiv$ National Income $\equiv$ National Expenditure.

(i) Using Total Expenditure for Calculating National Income

The expenditure approach centres on the components of **final demand** which generate production. It thus measures GDP as the total sum of expenditure on **final goods and services** produced in an economy. It includes all consumers' expenditure on goods and services, except for the purchase of new houses which is included in gross **fixed capital formation**. Secondly we included all general **government final consumption**. This includes all current expenditure by **central and local** government on goods and services, including wages and salaries of government employees. To these we add **gross fixed capital formation or expenditure on fixed assets** (buildings, machinery, vehicles etc) either for replacing or adding to the stock of existing fixed assets. This is the major part of the investment which takes place in the economy. In addition we add the **value of physical increases in the stocks, or inventories**, during the course of the year. The total of all this gives us **Total domestic expenditure** (TDE). We then add expenditure on exports to the TDE and arrive at a measure known as **Total Final Expenditure**. It is so called because it represents the total of all spending on final goods. However, much of the final expenditure is on **imported goods** and we therefore **subtract spending on imports**. Having done this we arrive at a measure known as **gross domestic product at market prices**. To gross domestic product at market price we **subtract the taxes on expenditure** levied by the government and add on the amount of subsidy. When this has been done we arrive at a figure known as **Gross Domestic Product at factor cost**. National Income however is affected by **rent, profit interest** and dividends paid to, or received from, overseas. This is added to GDP as net property income from abroad. This figure may be either **positive or negative**. When this has been taken into account we arrive at the gross national product at factor cost. As production takes place, the capital stock of a country wears out. Part of the gross fixed capital formation is therefore, to replace worn out capital and is referred to as **Capital Consumption**. When this has been subtracted we arrive at a figure known as the **net national product**. Thus, summarising the above, we can say:

$$Y = C + I + G + (X - M)$$

Calculating National Income from Total Expenditure

<u>Country Y National Expenditure (in £millions)</u>	<u>1999</u>
<i>Expenditure of Consumers</i>	
Food	27,148
Alcoholic drink	13,372
Tobacco	6,208
Housing	27,326
Fuel and light	9,395
Clothing	12,114
Household goods and services	12,274
Transport and communications	31,475
Recreation	16,541
Other goods and services	<u>23,356</u>
Total	179,209
Less: Adjustment of non-profit making bodies	<u>(443)</u>
	178,766
	178,766
Add: Expenditure of non-profit making bodies	<u>3,661</u>
	182,427

may be provided publicly, such as in the case of health care or education or they may be acquired by direct purchase. It also includes the less easily quantifiable aspects of living such as terms and conditions of employment and general living environment.

National Income figures can be used to measure the standard of living at a particular point of time and over time. This is done by working out the per capita income of the country. **By per capita income we mean: the value of goods and services received by the average man.** Per capita income is obtained by dividing the National Income by the Total population. If the per capita income is high, it can be deduced that the standard of living is high.

PROBLEMS OF USING PER CAPITA INCOME TO COMPARE STANDARD OF LIVING OVER TIME

- 1) The composition of output may change. e.g. more defence-related goods may be produced and less spent on social services, more producer goods may be made and less consumer goods, and there may be a surplus of exports over imports representing investment overseas. Standards of living depend on the quantity of consumer goods enjoyed.
- 2) Over time prices will change. The index of retail prices may be used to express the GNP in real terms but there are well known problems in the use of such methods.
- 3) National Income may grow but this says nothing about the distribution of that income. A small group may be much better off. Other groups may have a static standard of living or be worse off.
- 4) Any increase in GNP per capita may be accompanied by a decline in the general quality of life. Working conditions may have deteriorated. The environment may have suffered from various forms of pollution. These non-monetary aspects are not taken into account in the estimates of the GNP.
- 5) Finally the national income increases when people pay for services which they previously carried out **themselves**. If a housewife takes an office job and pays someone to do her housework, national income will increase to the extent of both persons' wages. Similarly a reduction in national income would occur if a man painted his house rather than paying a professional painter to do the same. Changes of the above type mean that changes in the GNP per capita will only imperfectly reflect changes in the standard of living.

PER CAPITA INCOME AND INTERNATIONAL COMPARISONS

Per capita income figures can also be used to compare the standards of living of different countries. Thus if the per capita income of one country is higher than that of another country, the living standard in the first country can be said to be higher. Such comparisons are made by aid giving international agencies like the United Nations and they indicate the relevant aid requirements of different countries.

But there are major problems in using **real income per head** (per capita income) to measure the standard of living in different countries. First there is the whole set of **statistical problems** and,

secondly, there are a number of difficult **conceptual problems** or problems of interpretation.

- i. **Inaccurate estimates of population:** The first statistical problem in calculating income per head particularly in less developed countries is that we do not have very accurate population figures with which to divide total income.

- ii. **Specific items which are difficult to estimate:** Another data problem, as already mentioned, is that data for depreciation and for net factor income from abroad are generally unreliable. Hence although we should prefer figures for “the” national income, we are likely to fall back on GDP, which is much less meaningful figure for measuring income per head. Inventory investment and work-in-progress are also difficult items to calculate.
- iii. **Non-marketed subsistence output and output of government:** some output like subsistence farming and output of government are not sold in the market. These are measured by taking the cost of the inputs. In one country, however, salary of doctors for instance, might be higher and their quality low compared to another country. Although the medical wage bill will be high, the “real consumption” of medical care in the former might be lower. Since “public consumption” is an important element in national income, this could affect comparisons considerably.

Also in making international comparisons it is assumed that the compiled national income figures of the countries being compared are equally accurate. This is not necessarily the case. If, for example, in one country there is a large subsistence sector, a lot of estimates have to be made for self-provided commodities. The national figures of such a country will, therefore, be less accurate than those of a country whose economy is largely monetary or cash economy.
- iv. **Different degrees of income distribution:** If the income of one country is evenly distributed, the per capita income of such a country may be higher than that of another country with a more evenly distributed income, but this does not necessarily mean that most of its people are at a higher living standard.
- v. **Different Types of Production:** If one country devotes a large proportion of its resources in producing non-consumer goods e.g. military hardware, its per capita income may be higher than that of another country producing largely consumer goods, but the standard of living of its people will not necessarily be higher.
- vi. **Different forms of Published National Income figures:** The per capita income figures used in international comparisons are calculated using the published figures of national income and population by each country. For meaningful comparisons, both sets of national income figures should be in the same form i.e. both in real terms or both in money terms, the latter may give higher per capita income figures due to inflation, and thus give the wrong picture of a higher living standard. On the other hand, if both sets are in money terms the countries being compared should have the same level of inflation. In practice, this is not necessarily the case.
- vii. **Exchange Rates:** Every country records its national income figures in its own currency. To make international comparisons, therefore, the national income figures of different countries must have been converted into one uniform currency. Using the official exchange rates does this. Strictly speaking, these apply to internationally traded commodities, which normally form a small proportion of the national production. The difficulty is that these values may not be equivalent in terms of the goods they buy in their respective commodities i.e. the purchasing power of the currencies may not be the same as those reflected in the exchange rate.
- viii. **Difference in Price Structures:** Differences in the relative prices of different kinds of goods, due to differences in their availability, mean that people can increase their welfare if they are willing to alter their consumption in the direction of cheaper goods. The people in poor countries probably are not nearly as badly off as national income statistics would suggest, because the basic foodstuffs, which form an important part of their total

each year's quantity is priced at its base-year prices and then summed. We then speak, for example, of GDP at constant prices, or REAL GDP. Changes in constant-price GDP give a measure of real or quantity changes in total output.

Equilibrium Income

In this model, aggregate desired expenditure has three components: Consumption, Investment and Government Expenditure:

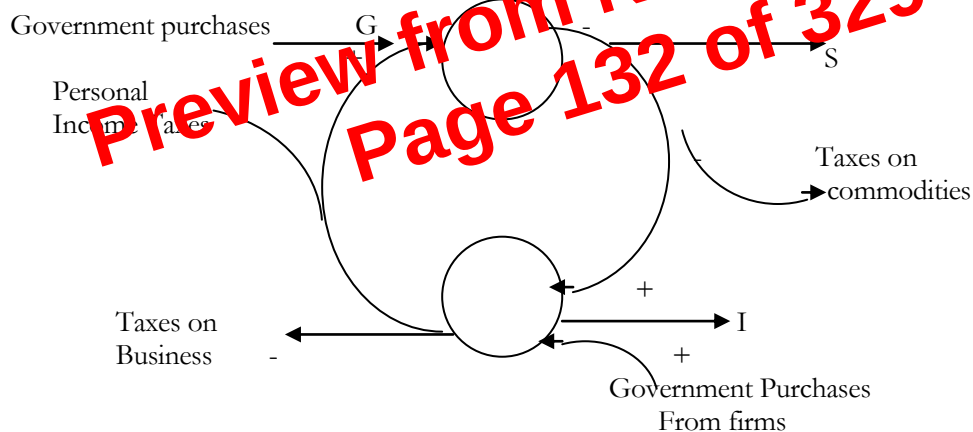
$$E = C + I + G$$

However, in the Governed Economy, taxes levied by the government are a second withdrawal. If the government taxes firms, some of what firms earn is not available to be passed on to households. If the government taxes households, some of what households earn is not available to be passed on to firms. Whatever subsequently happens to money raised, taxes withdraw expenditure from the circular flow.

In the Governed Economy, however, government expenditure is a second injection. Such expenditure creates income for firms that does not arise from the spending of households, and it creates income for households that does not arise from the spending of firms. Whatever the source of funds, government spending injects expenditure into the circular flow.

Letting **G** stand for Government Expenditure, **T** for Taxes, **J** for injections and **W** for withdrawals, we can say the National Income is in equilibrium when total withdrawals, savings plus taxes, is equal to **total injections, investment plus government expenditure**. The equilibrium condition for national income can thus be written as:

$$W = J, \text{ or } S + T = G + I$$



Open Economy:

None of the three economies considered so far are engaged in trade with Foreign Countries. Such economies are often referred to as Closed Economies. In contrast, open economies engage in significant amounts of foreign trade, so that some of the goods produced at home are sold a

broad while some of the goods sold at home are produced abroad. The model is more applicable in real life.

A mathematical approach to national income equilibrium.

Equilibrium analysis also has applications in the area of national income. A simple Keynesian

LESSON FIVE

MONEY AND BANKING

LEARNING OBJECTIVES

At the end of the lesson the student should be able to:

- Explain why money is considered a dynamic force in modern economies.
- State clearly the functions of a central bank and commercial banks.
- Explain fully the process of credit creation by commercial banks.
- Explain fully the meaning of monetary policy and instruments of monetary policy.
- Explain the various theories that explain the demand for money.
- Explain the various theories of interest rate determination.

CONTENTS

11. Money
12. The Banking System
13. Money and Capital Markets

ASSIGNED READINGS:

Modern Economics by Robert Mudida Chapter 11

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- iii. They provide safe and non-inflationary means for debt settlements through the use of cheques, in that no cash is actually handled. This is particularly important where large amounts of money are involved.
- iv. They act as agents of the central banks in dealings involving foreign exchange on behalf of the central bank and issue travellers' cheques on instructions from the central bank.
- v. They offer management advisory services especially to enterprises which borrow from them to ensure that their loans are properly utilized.

Some commercial banks offer insurance services to their customers eg. The Standard Bank (Kenya) which offers insurance services to those who hold savings accounts with it.

Some commercial banks issue local travellers' cheques, e.g. the Barclays Bank (Kenya). This is useful in that it guards against loss and theft for if the cheques are lost or stolen, the lost or stolen numbers can be cancelled, which cannot easily be done with cash. This also safe if large amounts of money is involved.

Bank Deposit

Bank notes and coins together constitute the currency in circulation. But they form only a part of the total money supply. The larger part of the money supply in circulation today consists of bank deposits. Bank deposits can either be a current account or deposit account. These are created by commercial banks and the process is called credit creation.

Credit Creation

The ability of banks to create deposit money depends on the fact that bank deposits need to be only fractionally backed by notes and coins. Because the bank does not need to keep 100 per cent reserves, it can use some of the money deposited to purchase income-yielding investments.

Illustration

i. A Single Monopoly Bank

Consider first a country with only one bank (with as many physical branches as is necessary) and assume that the bank has found from experience that it needs only to hold 10% of cash as a proportion of total deposits – proportion of transactions that customers prefer to settle by means of cash, rather than cheque. Now imagine the balance sheet of the bank look like this:

Initial Position of single bank

Liabilities	£1,000	Assets	£1,000
Deposits	1,000	Cash	100
		Loans	900
Total	1,000	Total	1,000

Deposits are shown as liabilities, since the bank can be called up to repay in cash any amounts credited to customers in this way. Assets consist of cash held by the bank, plus loans, which represents the obligations of borrowers towards the bank. The cash ratio is the ratio of cash held (£100,000) to its liabilities (£1,000,000), and is 10 per cent in this case.

Suppose now a customer deposits (liabilities) in this initial position will be:

Given the increase in cash received, the additional deposits created will depend on the fraction of cash retained as backing. The ratio $\Delta D/\Delta C$ of deposits created to increase in cash is referred to as the **bank deposit multiplier**.

Limits on the process of bank deposit creation

On the **demand side**, there may be a lack of demand for loans, or at least of borrowers who are **sufficiently credit worthy**. On the supply side, the volume of bank deposits will not in general rise and fall as a result of changes in the amount of cash held or deposited by the public, since the **public's currency requirements tends to be fairly stable**, and roughly proportional to the volume of transactions.

3. MONEY MARKETS

The expression "**money markets**" is used to refer to the set of institutions and individuals who are engaged in the borrowing and lending of large sums of money for short periods of time (overnight to three months). The money market is not located in a place – it is rather a network of brokers, buyers and sellers.

Most money market transactions are concerned with the sale and purchase of near money assets such as bills of exchange and certificates of deposit.

Function of Money Markets

The money markets are the place where money is "wholesaled". As such the supply of money and interest rate which are of significance to the whole economy is determined there.

It is also used by the central bank to make its monetary policy effective.

CAPITAL MARKETS

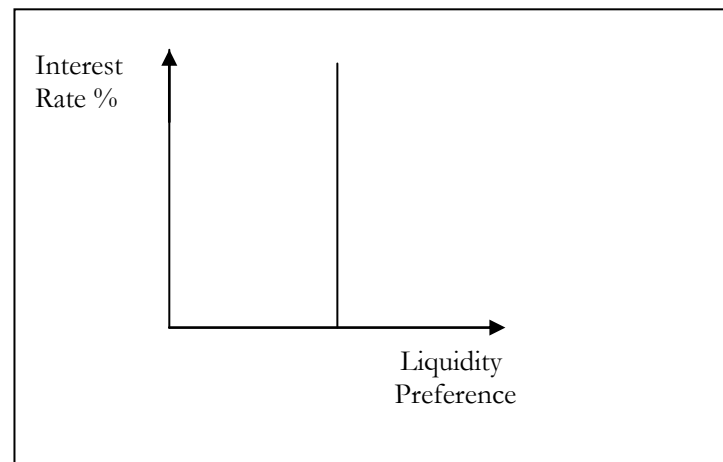
Markets in which financial resources (money, bonds, stocks) are traded i.e. the provision of longer term finance – anything from bank loans to investment in permanent capital in the form of the purchase of shares. The capital market is very widespread.

It can also be defined as the institution through which, together with financial intermediaries, savings in the economy are transferred to investor.

Interest and the Keynesian Liquidity Preference Theory

Interest is a factor income in that it is considered to be payment to or return on capital in the sense that it is payment to those who provide **loanable funds**, which are used for the purchase of capital assets. The payment of interest to the providers of loanable funds may be justified on the following grounds:

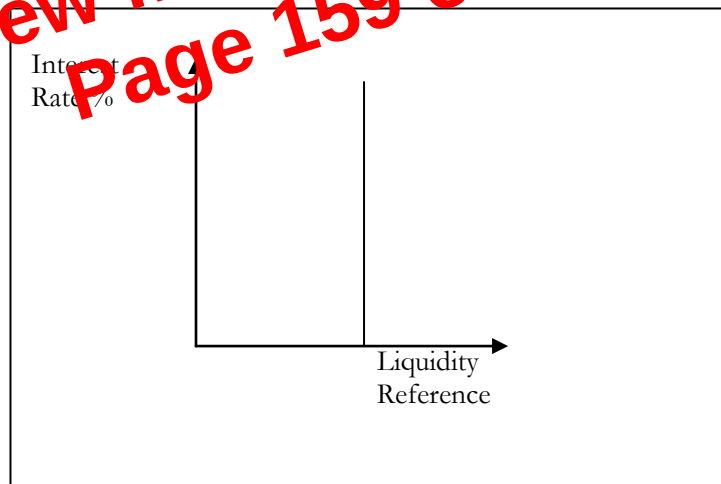
- The lender postpones present consumption and enjoyment and interest is paid as **persuasion** for him/her to make this sacrifice.
- There is risk of default in that the borrower may fail to pay back and interest is paid as persuasion for the lender to undertake this risk.
- There is loss of purchasing power due to increases in prices over time, and interest is paid as compensation for this loss.



b. Precautionary Demand for Money

Individuals and businessmen require money for unseen contingencies, Keynes hypothesized that individuals' demand and institutional factors in society to be considered in the short run.

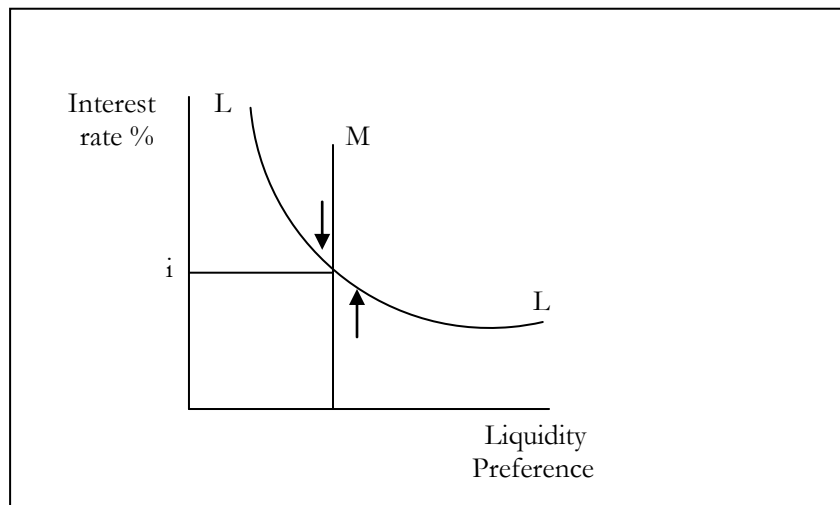
Money demanded for these two motives is called active balances, because it is demanded to be put to specific purposes. The demand for active balances is independent of the rate of interest. Hence the demand curve for active balances is perfectly inelastic.



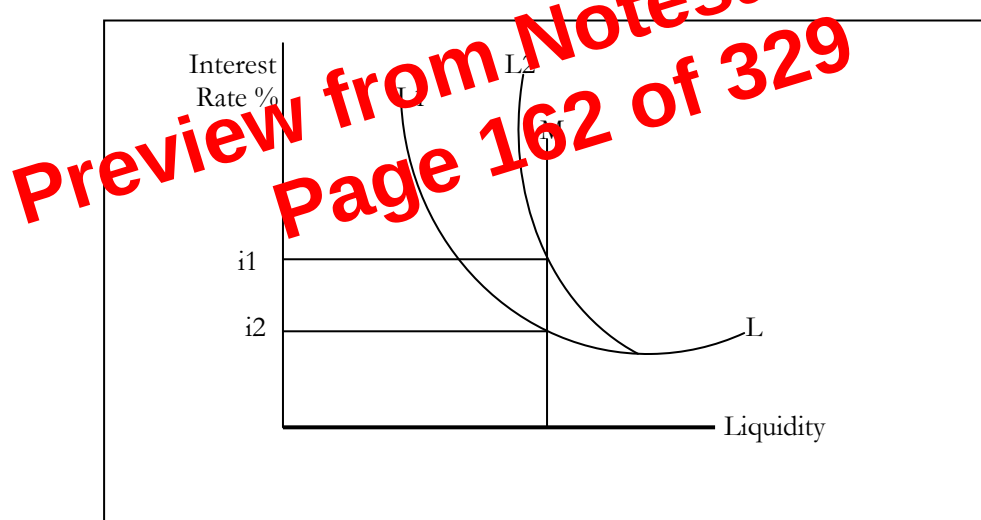
c. Speculative Demand for Money

Finally, money is demanded for speculative motives. This looks at money as a store of value i.e. money is held as an asset in preference to an income yielding asset such as government bond.

The equilibrium rate of interest is determined by the interaction of demand and supply forces, and this corresponds to the point of intersection between the demand curve and the supply curve.

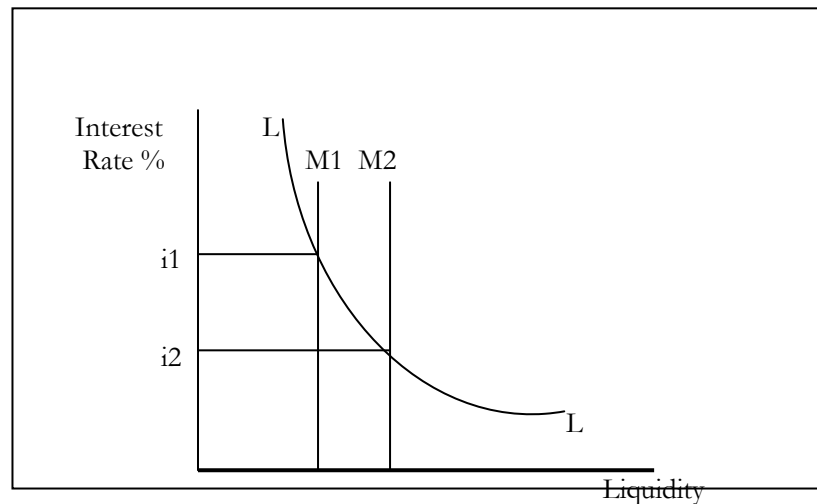


i is the equilibrium rate of interest. Above it there is excess supply over demand and the interest rates will be forced downwards. Below it there will be excess demand over supply and interest rates will be forced upwards. An increase in the supply of money will cause interest rates to fall down because people will need less persuasion to part with money. An increase in supply is indicated by a shift to the right of the supply curve.



When supply increases from $M1$ to $M2$, interest rates falls from $i1$ to $i2$. Conversely, fall in the supply of money (indicated by a shift to the left of the supply curve) causes interest rates to rise because people will need more persuasion to part with the money. Thus when supply falls from $M2$ to $M1$, interest rate will rise from $i2$ to $i1$.

An increase in the demand for money (indicated by an upward swing of the demand curve will cause interest rate to rise.



An increase in demand from L_1 to L_2 causes interest rate to rise from i_2 to i_1 . This is because at the initial rate of interest the increase in demand creates excess of demand over supply which causes interest rates to rise.

Conversely, when demand falls (indicated by downward swing of the demand curve) interest rate falls as at the initial rate of interest there will be excess of supply over demand. Thus, when demand falls from L_2 to L_1 , interest rate falls from i_1 to i_2 .

THE IS – LM MODEL

IS – LM analysis aims to find the level of income and rate of interest at which both the commodity market and money market will be in equilibrium.

The IS curve is locus of points representing all the different combinations of interest rates and income levels consistent with equilibrium in the goods or commodity market.

The IS curve is shown in the diagram below:

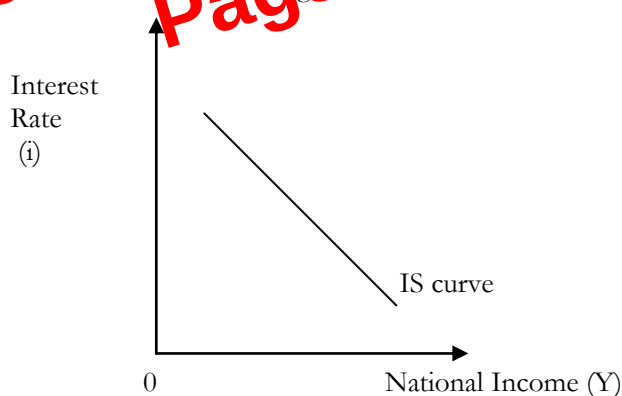


Figure: The IS curve

The IS curve is a linear function in the two variables Y and I .

The LM curve is a locus of points representing all the different combinations of interest rates and income levels consistent with equilibrium in the money market. The LM curve is shown in the following diagram.

therefore agriculture stagnates, education is limited, and health poor; the lack of capital and technical progress keeps incomes low, we thus have a 'vicious circle'.

It is therefore argued that if "under population" and "over population" can exist, somewhere in between there must be an "optimum" or best of population i.e. that size of population which with the existence stock of land, capital and knowledge, would give rise to the maximum output per capita are subject to constant change. An increase in the national stock of capital, improvements in the techniques of production, and in the fertility of land will all tend to increase the size of the optimum population.

b) Problems of high population growth rates

Whether an increase in the size of a population brings economic advantages or disadvantages depends very much on the size of the existing population in relation to the other economic resources available to it; in other words whether it is above or below the optimum size. When population is growing fast and there is a large excess of births over deaths, the proportion of people in the younger age groups will be increasing. A large increase in the numbers of young dependants can be a serious barrier to economic growth. The economic resources needed to care for growing numbers of children and to educate them might have been devoted to industrial development and training. Alternatively, the same resources could have been used to give a small number of children a much better education.

An increase in the number of children now will bring about an increase in the number of workers in the future. New workers need capital, however, even if it is only simple plough. Economic growth depends very much on increasing the amount of capital per worker.

When a country is heavily dependent on the world market for a major part of its requirement of food and basic materials, a rapidly rising population might give rise to serious balance of payment problems. Quite apart from the need to import more food, creating work for the increasing numbers will require larger imports of raw materials and other capital goods. To pay for these additional imports, the country will have to achieve a substantial increase in its exports.

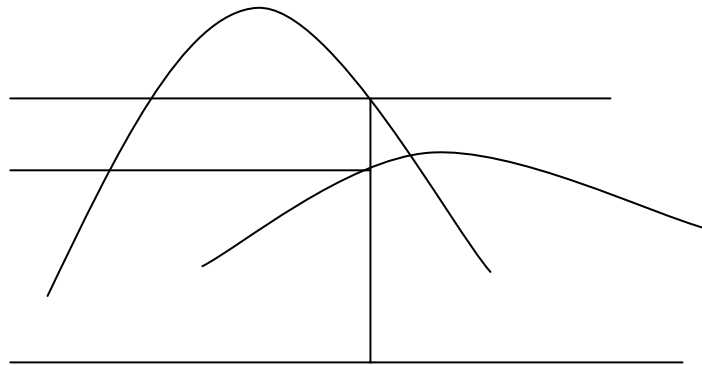
A country with a high birth rate and high death rate will have a larger proportion of young people in its population.

c) Beneficial effects of High Population Growth Rates

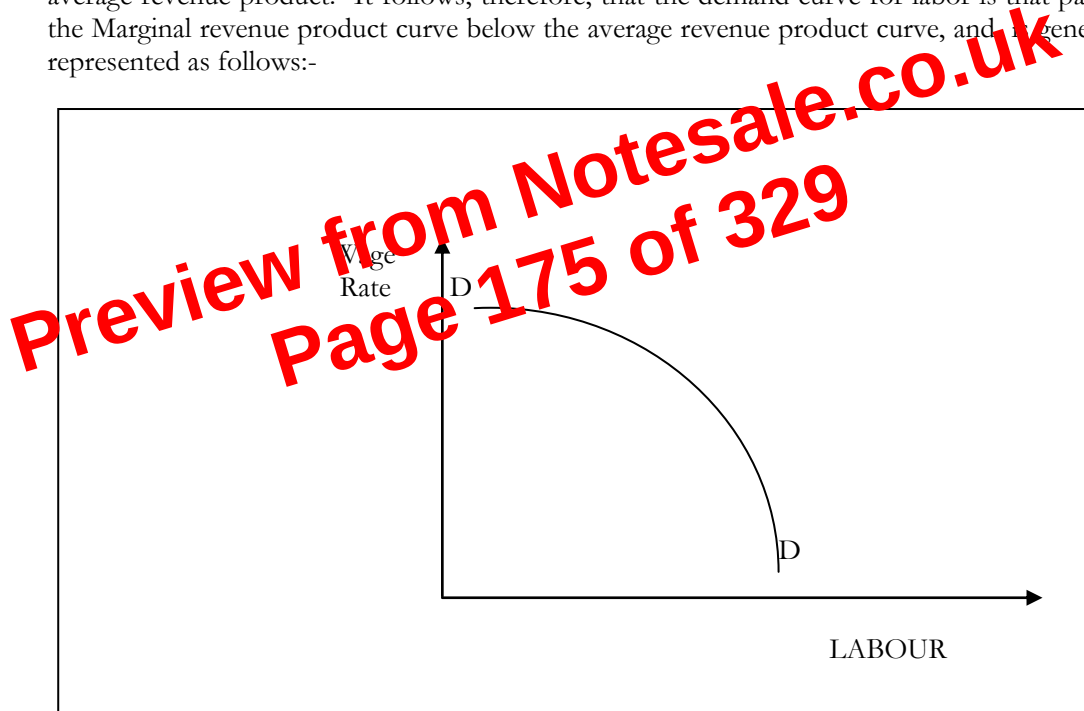
A number of influential economists have argued that population growth may either be harmless as far as real income growths is concerned or even beneficial.

An expanding population will create increased demands for goods and services and growing markets tend to stimulate investments and create employment. A growing population will be able to take more of specialized production and economies of scale. Comprehensive road and networks, power supplies and other public utilities can only be operated at relatively low average cost when there is a relatively larger population to ensure full utilization.

A country with growing a population and hence a young age structure will be more mobile. With increasing numbers entering the working population, expanding industries will have little trouble in recruiting labour. A more rapid rate of technical progress is possible when the population is expanding, because new industries, new factories and new techniques of production can come into operation alongside the older ones. With static or declining population these changes might have to wait for the redundancy of the other older equipment. It is also argued that pressure on the



At this wage rate the firm will employ L units of labour. At this level of employment, R is the average revenue product. Thus, the total revenue of the firm is represented by area $ORBL$, and Labour cost is represented by area $OWAL$. Thus, the firm makes loss (on labour above) represented by area $RWAB$. The firm will, therefore, not employ labour at wage rates above average revenue product. It follows, therefore, that the demand curve for labor is that part of the Marginal revenue product curve below the average revenue product curve, and is generally represented as follows:-



This theory has been criticized for following reasons:

- a) It is too theoretical a concept, since it does not appear to agree with what actually takes place.

The argument of productivity can only be used in cases where the output of the firm can be measured. Where output cannot be used, e.g. it is difficult to measure the productivity of civil servants. In some cases productivity can fall due to factors beyond the control of the workers, and salaries of the workers cannot be reduced e.g. the efficiency of traffic police can fall due to increased traffic, but this does not mean that police should have reduced salaries.

3. The profit argument

If firm profits increase, workers can claim to have a share in them on the basis that they contributed to the increase. This argument is justified if it can be proved that the increase in profits is due to increased efficiency of the workers. If, for example, it is due to increased investment in advertising by the firm, the benefits should go to the investor.

4. The differential argument

This argument is justified if the two firms have the same profit level and if the efficiencies of the workers in the two firms are the same. Otherwise it is not justified.

Weapons of Conflict

The trade unions and the employers (or their associations) have many ways of enforcing their demands on each other. They include:

Strikes: The strike is the union's ultimate weapon. It consists of the concerted refusal to work of the members of the union. It is the strike or the threat of a strike that backs up the union's demand in the bargaining process.

Picket lines: Are made up of striking workers who parade before the entrance to their plant or firm. Other union members will not cross a 'picket line'.

The lock out: Is the employer's equivalent of a strike. By closing his plant he locks out the workers until such a time the dispute is settled.

Black list: Is an employers' list of workers who have been discharged for unions' activities and who are not supposed to be given jobs by other employers.

Strike-breakers: Are workers who are used to operate the business when union members are on strike.

FACTORS AFFECTING THE ABILITY OF TRADE UNIONS TO GAIN LARGER WAGE INCREASES FOR ITS MEMBERS

The basic factor is elasticity of demand for the type of labour concerned. The elasticity of demand for any particular type of labour will vary according to four factors:

1. The physical possibility of substituting alternative factors of production for labour:

If wages rise, labour will be relatively more expensive than the factors which will tend to be substituted for it. The extent to which this is possible will depend on technical considerations. The more substitution is possible, the greater will be the elasticity of demand of labour.

- v. Long-term unemployment may also lead to vandalism, football, hooliganism and increases in the crime rate and insecurity in general.

The cost to the exchequer (Ministry of Finance)

There is increasing dependency ratio on the few who are employed in the form of:

The loss of tax revenues which would otherwise have been received: This consists mostly of lost income tax but also includes lost indirect taxes because of the reduction in Spending.

The loss of national insurance contributions which would otherwise have been received.

The economic cost

Unemployment represents a terrible waste of resources and means that the economy is producing a lower rate of output than it could do if there were full employment. This leads to an output gap or the loss of the output of goods and services as a result of unemployment.

REMEDIES FOR UNEMPLOYMENT

The measures appropriate as remedies for unemployment will clearly depend on the type and cause of unemployment. Broadly they can be divided into:

- Demand management or demand side policies
- Supply side policies.

Demand management policies

These policies are intended to increase aggregate demand and, therefore the equilibrium level of national income. They are sometimes called fiscal and monetary policies. The principal policy instruments are:

- Supporting declining industries with public funds
- Instituting proper demand management policies that increase aggregate demand including exploiting foreign and regional export markets. This can be done by increasing government expenditure, cutting taxation or expanding the money supply.
- Promoting the location of new industries in rural areas which will require an improvement of rural infrastructure.

Supply-side policies

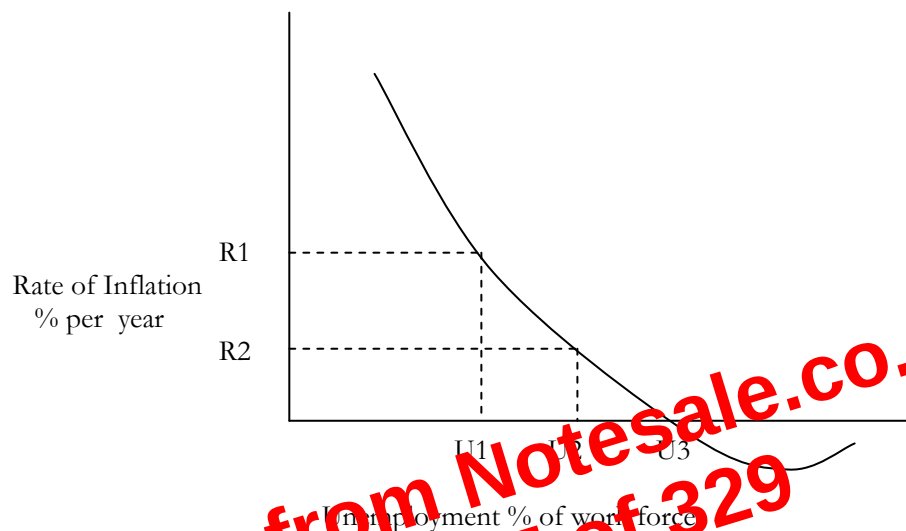
Supply-side policies are intended to increase the economy's potential rate of output by increasing the supply of factor inputs, such as labour inputs and capital inputs, and by increasing productivity. They include:

- Increasing information dissemination on market opportunities.
- Reversing rural-urban migration by making rural areas more attractive and capable of providing jobs. This particularly is the case in developing countries where rural-non-farm opportunities offer the longest employment opportunities.
- Changing attitude towards work i.e. eliminating the white-collar mentality and creating positive attitudes towards agriculture and other technical vocational jobs.

which can only be filled by using prices. In the simplified Keynesian model then, the relationship between inflation and unemployment is as follows.

If there are unemployed resources in the economy and aggregate demand increases then unemployment will be reduced and prices will remain steady. If whenever the economy is already at the full employment level, any additional increase in aggregate demand will force up prices but have little effect on the level of real output and employment.

In the 1950s the nature of the relationship between inflation and unemployment was stated in more precise form by Prof. A. W. Philips. He studied the relationships between the variables over the period 1862 and 1958 for the UK. The statistical relationship he found can be represented in diagrammatic form as in the figures below.

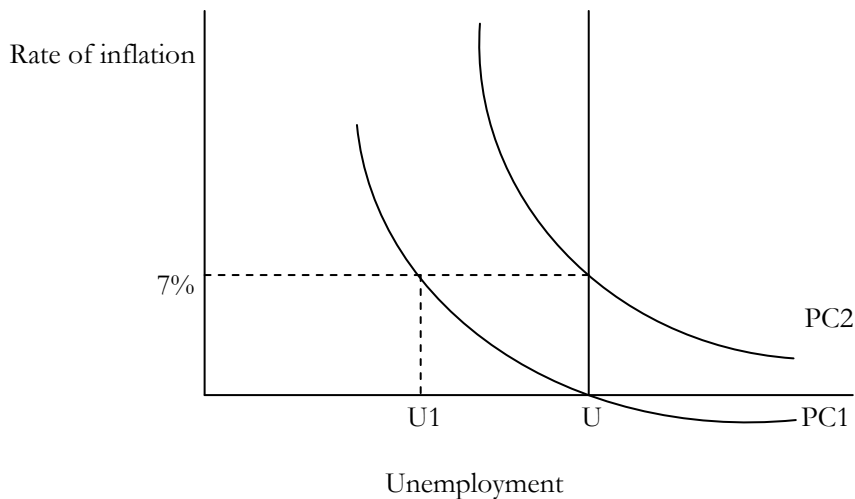


The negatively sloped curve indicates that the lower the rate of unemployment, the higher the rate of inflation. At a low rate of unemployment like U_1 , when aggregate demand is high and there are inflationary pressures, the Philips curve suggests there will be a high rate of inflation R_1 . When unemployment rises to U_2 the inflation falls to R_2 . Finally when unemployment falls to U_3 the rate of inflation has fallen to zero and any further increase in unemployment is predicted by this model to give negative inflation/falling prices.

Because of the empirical evidence in support of this relationship over a long period, in most countries, politicians and their economic advisors felt confident during the 1950s and 1960s that they could by appropriate demand management exercise a degree of control over unemployment. They could then trade off lower unemployment for a little more inflation.

The behaviour of inflation and unemployment in the 1970s however, casts doubts on what had seemed to be a well established relationship. In contrast with previous experience both inflation and unemployment increased during the 1970s giving rise to the phenomena labeled "stagflation". Though inflation came down in many countries in the 1980s and 1990s, the level of unemployment remains alarmingly high. In brief, the relationship predicted by the Philips model no longer held. A new theory, or at least a significant amendment to the existing theory was required to explain the relationship between the variables. This was supplied by monetarists and the neo-classicals. This amended theory attributes a major role to expectations which various key groups within the economy have about future levels of inflation and redefines the concept of full employment from the Keynesian one of demand deficient or

involuntary unemployment to the rate at which there exists no inflationary pressure on wages. This 'natural rate of unemployment' exists where the demand and supply of labour are in rough overall balance in the labour market. The magnitude of this natural rate of unemployment depends, it is claimed, on such factors as the effectiveness of the labour market, the strength of trade unions, the level of social security benefits and the extent of competition or monopoly. The amended model of the relationships between inflation and unemployment can be elaborated upon more easily by the use of a diagram similar to that below and widely referred to as the 'expectations-augmented Philips curve'.



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- **To control the level of economic activity**

The government uses the budget to implement fiscal policy, i.e. the regulation of the economy through governments expenditure and taxes.

TYPES OF BUDGETS

1. Deficit budget

If the proposed expenditure is greater than the planned revenue from taxation and miscellaneous receipts, this is a budget deficit. The excess of expenditure over revenue will be met through borrowing both internally through the sale of Treasury Bills and externally from other organisations.

2. Balanced budget

If the proposed expenditure is equal to the planned revenue from taxation and other miscellaneous receipts, this is a balanced budget. Usually, balanced budgets are not presented, unless the expenditure is very limited. It would mean the government would have to over-tax the population which can create disincentives. It is to avoid this that the tax revenue is supplemented by borrowing.

3. Surplus budgets

If the proposed expenditure is less than the planned revenue from taxation and other miscellaneous receipts, this is a surplus budget. Usually, surplus budgets are not presented for they are deflationary and can create unemployment as the government takes out of the economy more than it puts back.

TAXATION

Taxation is the process of imposing compulsory contribution on the private sector to meet the expenses which are incurred for a common good.

Functions or Purposes of Taxation

The functions of taxation can be discussed from the activities of the government it is meant to achieve.

These are:

a. Raise revenue

The revenue is required to pay for the goods and services which the government provides. These goods are of two types – public and merit goods. Public goods, such as defence and police are consumed collectively and no one can be prevented from enjoying them if he wishes to do so. These goods have to be provided by governments. Merit goods, such as education and medical care, could be, and often are, provided privately but not necessarily in the amounts considered socially desirable and hence governments may subsidize the production of certain goods. This may be done for a variety of reasons but mainly because the market may not reflect the real costs and benefits of the production of a good. Thus, the public may be subsidized because the market does not take account of all the costs and benefits of the public transport system.

b. Economic stability

These are imposed to maintain economic stability in the country. During inflation, the government imposes more taxes in order to discourage the unnecessary expenditure of the individuals. During deflation, taxes are reduced in order to enable the individuals to spend more money. In this way, the increase or decrease helps to check the big fluctuations in the prices and maintain economic stability.

c. Fair redistribution of income

A major function of taxation is to bring about some redistribution of income. First, tax revenue provides the lower income groups with benefits in cash and kind. Second, the higher income groups, through a system of progressive taxation, pay a higher proportion of their income in tax than the less well-off members of the society.

d. Pay interest on National debt

Taxes are also levied by the government to pay interest on national debt.

e. Optimum allocation of resources

Taxes are also imposed to allocate resources of the country for optimum use of these resources. The amounts collected by the Government from taxes are spent on more productive projects. It means the resources are allocated to achieve the maximum possible output in the given circumstances.

f. Protection policy

Taxes are also imposed to give protection to those commodities which are produced in the country. The government thus imposes heavy taxes on the import of such commodities from the other countries. In the view of these taxes, the individuals are induced to buy local products.

g. Social welfare

The government imposes taxes on the production of those commodities which are harmful to human health e.g. excise duty on wines, cigarettes, etc.

PRINCIPLES OF AN OPTIMAL TAX SYSTEM

When taxes are imposed certain conditions must be fulfilled. These conditions are known as Principles or canons of taxation. According to Adam Smith who first studied the principles of taxation, these are equity, certainty, economy and convenience.

CLASSIFICATION OF TAXES

Taxes can be classified on the basis of:

a. Impact of the taxes

It means on whom the tax is imposed. On the other hand, incidence of the tax refers to who had to bear the burden of the tax. In this case the taxes may be:

- Direct or
- Indirect

- It can lead to fiscal-drag where wage and price inflation cause people to pay higher proportion of income as tax.

PROPORTIONAL TAX

Is where whatever the size of income, the same rate or same percentage is charged. Examples are commodity taxes like customs, excise duties and sales tax.

Its advantage is that it's much simpler than progressive taxation.

REGRESSIVE TAX

A tax is said to be regressive when its burden falls more heavily on the poor than on the rich. No civilized government imposes a tax like this.

DIGRESSIVE TAX

A tax is called digressive when the higher incomes do not make a due contribution or when the burden imposed on them is relatively less.

Another way in which digressive tax may occur is when the highest percentage is set for that given type of income one which it is intended to exert most pressure; and from this point onwards, the rate is applied proportionally on higher incomes and decreasing on lower incomes, falling to zero on the lowest incomes.

ECONOMIC EFFECTS OF TAXATION

a. A deterrent to work

Heavy direct taxation, especially when closely linked to current earnings, can act as a serious check to production by encouraging apathy, and making men disinclined to work. However, indirect taxation may actually increase the incentive to work, since the more money is then required to satisfy the same wants, indirect taxes having made goods dearer than they were before.

b. A deterrent to saving

Taxation will clearly reduce people's ability to save since it leaves them with less money to spend. Taxation may, therefore, act as a deterrent to saving. However, this will not always be the case, as it will depend on the purpose for which people are saving.

c. A deterrent to enterprise

It is argued that entrepreneurs will embark upon risky undertakings only when there is a possibility of earning large profits if they are successful. Heavy taxation of profits, it is said, robs them of their possible reward without providing any compensation in the case of failure. As a result, production is checked and economic progress hindered. It may be, too, that full employment provides conditions under which even the less efficient firms cannot fail to make profits, and so there may be greater justification for taxation of profits, and so there may be greater justification for taxation of profits under such conditions.

system (which reduces, the total output available for everyone).

Secondly, a fiscal policy which is meant to control unemployment may cause inflation if it achieves full employment or policies to combat inflation might call for a cut in public expenditure which in the short-run may lead to a higher rate of unemployment and a less equitable distribution of income and wealth.

Also the policy of maintaining low council houses rents on equity grounds results in long waiting list; this may be undesirable on efficiency grounds as it acts as a barrier to labour mobility and this in turn may increase unemployment.

A fiscal policy meant to cure balance of payments may not just reduce demand for imports but also reduces demand for domestically produced goods. This in turn can have a knock on effect in the form of lower output and higher unemployment.

Difficulties in using fiscal policy

There are several problems involved in implementing fiscal policy. They include:

Theoretical problems

Monetarists and the Keynesians do not seem to agree on the efficacy of fiscal policy. Monetarists claim that budget deficits (or surpluses) will have little or no effect upon real national income while having adverse effect upon real national income while having adverse effects upon the interest rates and upon prices.

The net effects of the budget

Unlike the simple Keynesian view that various types of budgets have different effects, the empirical evidence is that the net effects of taxes and government expenditure are influenced by the marginal propensities to consume of those being taxed and governments expenditure.

The Inflexibility of government finances

Much of the government's finances are inflexible. One of the reasons for this is that the major portion of almost any department's budget is wages and salaries, and it is not possible to play around with this to suit the short-run needs of the government.

Discretionary and automatic changes

Discretionary changes are those which come about as a result of some conscious decision taken by the government, e.g. changes in tax rates or a change in the pattern of expenditure.

Automatic changes come about as a result of some changes in the economy, e.g. an increase in unemployment automatically increases government expenditure on unemployment benefits.

In fact it is the case that deficits tend to increase automatically in times of recession and decrease in times of recovery. (These fiscal weapons which automatically increase in times of recession and decrease in times of recovery are referred to as brick stabilizers). It is possible for a government to compound the effects of a recession by raising taxes in order to recover lost revenues. This, according to Keynesians, would cause a multiplier effect downwards on the level of economic activity.

Policy conflicts

When devising its fiscal policy, the government must attempt to reconcile conflicting objectives of policy. For example, there is commonly supposed to be a conflict between full employment and inflation, i.e. that the attainment of full employment may cause inflation. (See page 14)

Information

It is very difficult to assemble accurate information about the economy sufficiently quickly for it to be of use in the short-run management of the economy.

- Mechanistic problems which may prevent the instruments from being effective, as for example the existence of excess liquidity in the system preventing open market operations from being effective.

Interest rates

- Decreasing the rate of interest may not encourage investment but increasing the interest rate tends to lock up liquidity in the financial system.
- Governments may also be unwilling to put up interest rates because, as so many voters are house buyers, this is extremely unpopular.
- With a large national debt to service, governments are less willing to raise interest rates as this will raise their own expenditure.
- Finally, with so many foreign deposits in their monetary system (sector), each percentage rise in interest rates means a drain of foreign currency on the balance of payments.

Liquidity and the multiple contraction of deposits

Many of the instruments of monetary policy depend upon limiting liquidity, which has a multiple effect upon bank deposits through their liquidity ratios. If however, banks keep surplus liquidity this will protect them against such measures as open market operations and special deposits.

The efficacy of open-market sales is also affected by who purchases the securities. For open-market sales to be effective it is necessary that sales to be the general public, if the securities are bought by the banks they will have little effect upon their liquidity since most of them count as liquid assets.

The velocity of circulation

Theoretically it is possible for decreases in the money stock (M) to be offset by rises in the velocity of circulation (V).

Other problems

Funding may be effective in controlling liquidity, but it is expensive since the rate of interest on long-term debt is usually much higher than on short-term debt. Considerable funding of the debt might therefore have the undesirable consequences of increasing long-term interest rates.

6. TYPES AND CAUSES OF INFLATION

Meaning

The word inflation has at least four meanings.

- A persistent rise in the general level of prices, or alternatively a persistent fall in the value of money.
- Any increase in the quantity of money, however small can be regarded as inflationary.
- Inflation can also be regarded to refer to a situation where the volume of purchasing power is persistently running ahead of the output of goods and services, so that there is a continuous tendency of prices – both of commodities and factors of production – to rise because the supply of goods and services and factors of production fails to keep pace with demand for them. This type of inflation can, therefore, be described as persistent/creeping inflation.

viii. Inflation and Unemployment

For many years, it was believed that there was a trade-off between inflation and unemployment i.e. reducing inflation would cause more unemployment and vice versa.

Measures to control inflation

An inflationary situation can effectively be addressed/tackled if the cause is first and foremost identified. Governments have basically three policy measures to adopt in order to control inflation, namely:

Fiscal Policy: This policy is based on demand management in terms of either raising or lowering the level of aggregate demand. The government could attempt to influence one of the components $C + I + G (X - M)$ of the aggregate demand by reducing government expenditure and raising taxes. This policy is effective only against demand-pull inflation.

Monetary Policy: For many years monetary policy was seen as only supplementary to fiscal policy. Neo-Keynesians contend that monetary policy works through the rate of interest while monetarists' viewpoint is to control money supply through setting targets for monetary growth. This could be achieved through what is known as medium term financial strategy (MTFs) which aims to gradually reducing the growth of money in line with the growth of real economy – the use of monetary policy instruments such as the bank rate, open market operations (OMO) and variable reserve requirement (cash & liquidity ratios).

Direct Intervention: Prices and incomes policy: Direct intervention involves fixing wages and prices to ensure there is almost equal rise in wages and other incomes alongside the improvements in productivity in the economy. Nevertheless, these policies become successful for a short period as they end up storing trouble further, once relaxed will lead to frequent price rises and wage fluctuations. Like direct intervention, fiscal and monetary policies may fail if they are relied upon as the only method of controlling inflation, and what is needed is a combination of policies.

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apply, leading to increasing scarcity of such products, and a rise in their prices.

Technical progress in manufacturing

Although technical progress in the industrialized countries should, through the market mechanism, have been shared between the industrial producers and the producers of primary products, according to Raoul Presbich, this desirable development has been frustrated. On the one hand, industrial monopolistic practices and trade union action producing cost-push inflation in the developed countries have persistently raised money wages in these countries and, with these, the prices of manufactured goods. In contrast, competition among primary producers, and the ineffectiveness of trade unions in the agricultural sectors of these economies, has kept down the prices of raw materials. In fact the benefits of any cost-reducing innovation in these countries is likely to be passed on, as a result of competition, to industrial consumers in the form of reduced prices.

4. INTERNATIONAL TRADE ARRANGEMENTS AND AGREEMENTS.

International Commodity Agreements (ICAS)

International Commodity Agreements (ICAS) represents attempts to modify the operation of the commodity markets so as to achieve various objectives such as price stabilization of price enhancement. Support for such intervention stems from apparent weaknesses in the operation of market forces in achieving an efficient allocation of resources, appropriate levels of privately held stocks in some commodities and an equitable distribution of income from their export as between exporters and importing countries.

ICAS are to be distinguished from producers' or exporters' cartels by the feature of consumer agreement to the scheme and representation on the governing body.

Objectives of ICAs

Most schemes have as their main objective to stabilize and/or increase the world price of commodity, producers' incomes, foreign exchange earnings of exporting countries and governing revenues from taxes on the commodity. More stable prices are desired because wildly fluctuating prices may cause hardship and are likely to increase the costs of both producers and consumers through increasing uncertainty and producing exaggerated responses in production and consumption. Where these responses are lagged one or more seasons behind the price change they can be particularly damaging in producing 'cobweb' cycles. High current prices for coffee, for example, may stimulate planting of new coffee trees that will only

bear fruit five or more years hence when the prices may become, as a result very depressed. More stable earnings for producers becomes a particularly important objective when the producers are small farmers with low incomes and little or no reserves, though most countries have national measures such as marketing boards which try to stabilize producers' earnings. Greater stability in export revenues should reduce uncertainty in economic planning and where taxes are geared to export revenues, as is the case for many primary exports, this objective is reinforced.

The aim of raising prices, incomes or export earnings above the levels that would prevail without intervention has to be seen as a form of disguised economic aid or as compensation for declining terms of trade. The charters of several ICAS also include the aim of expanding the markets for their primary products by developing new uses, reducing trade barriers and increasing sales promotion.

As is often the case in economics, many of these objectives are mutually incompatible. A world price stabilized within narrow limits could cause greater instability in export earnings for some commodities, whereas a raised price may involve lower incomes and will certainly militate

accounts they will balance. It follows therefore that when reference is made to a balance of payments “deficit” or “surplus”, this only looks at a part of the total transactions, e.g. that part involving trade in goods and services, which is termed the “Balance of Payments on the **current account**”

If the value of exports exceed the value of imports the balance of payments is said to be in **Trade Surplus**. This is regarded as a favourable position because a persistent trade surplus means lower international debts. Also, a trade surplus is regarded as a sign of success in the country’s trade with other countries and is, therefore, politically desirable.

On the other hand, if the value of imports exceed the value of exports, the balance of payments is in **trade deficit**. This is an unfavourable position because a persistent balance of payment trade deficit means the country’s foreign exchange reserves are being run down and so is its ability to pay for its imports and settle its international debt. Also persistent balance of payments trade deficit is regarded as a sign of failure in the country’s trade with other countries and is therefore politically undesirable

Structure of the Balance of Payments

The balance of payments is divided into three accounts:

a. The Current Account

This records all transactions involving the exchange of currently produced goods and services and is subdivided into

i Visibles:

A record of all receipts from abroad the export of goods and all expenditures abroad on the import of goods. When these are compared, this is known as the “**balance of trade**” (though it would be properly called the “balance of visible trade”).

ii. Invisibles:

A record of all receipts from abroad in return for **services rendered** and all expenditure abroad for foreign services. It also includes receipts of **profits** and **interest** earned by investments abroad, and similarly profits and interest paid abroad to foreign owners of capital in the country are included in Expenditure. The comparison of all the debits (Expenditure abroad) and credits (receipts from abroad) arising from visibles and invisibles is known as the “**balance of payments on current account**” and is the best indicator of the country’s trading position.

If the value of exports exceeds the value of imports the balance of payments is said to be in **Trade Surplus**. This is regarded as a favourable position because a persistent trade surplus means the country’s foreign exchange reserves are rising and so its ability to pay for its imports and settle its international debts. Also a trade surplus is regarded as a sign of success in the country’s trade with other countries and is, therefore, politically desirable.

On the other hand, if the value of imports exceeds the value of exports, the balance of payments is in **trade deficit**. This is an unfavourable position because a persistent balance of payments trade deficit means that the country’s foreign exchange reserves are being run down and so is its ability to pay for its imports and settle its international debts. Also a persistent balance of payments trade deficit is regarded as a sign of failure in the country’s trade with other countries and is therefore politically undesirable.

been unrecorded net exports while a negative entry means that there have been unrecorded net imports.

Equilibrium and Disequilibrium in the Balance of Payments

If on the **current account**, the value of exports is equal to the value of imports, the balance of payments is said to be equilibrium. If the two values are not equal, the balance of payments is in disequilibrium. This could be due to a trade surplus with the value of exports exceeding that of imports or due to a trade deficit with the value of imports exceeding that of exports.

In either case, a balance of payments disequilibrium cannot last indefinitely. For if this is due to a trade deficit, the country will try and move it. This is because a persistent trade deficit i.e. **a fundamental disequilibrium** poses several problems for an economy, namely:

- In short run a deficit allows a country's peoples to enjoy higher standard of living from the additional imports that would not be possible from that country's output alone in the longer term the decline of the country's industries in the face of international competition will inevitably result in lower living standards.
- A persistent trade deficit means that the country's foreign exchange reserves are being run down and so it its ability to pay for its imports and settle international debts.
- Also, a persistent balance of payments trade deficit is regarded as a sign of failure in the country's trade with other countries, and is therefore not politically desirable.

Policies to cure Balance of Payment deficits

The measures available to tackle balance of payments deficit include short term measures such as **deflation, import controls, devaluation** of a fixed exchange rate or a managed downward float of the exchange rate in the short run and foreign exchange controls and long term measures such as Export promotion and Import Substitution.

Short-Term Policies

Deflation is a policy of reducing expenditure with the intention of curing a deficit by reducing the demand for imports. This reduction of expenditure may be achieved by the use of either **fiscal** or **monetary** policy. In addition to reducing demand for imports however, deflationary measures may also have expenditure switching effect upon the balance of payments. The depression of demand may cause the domestic inflation rate to fall relative to that of competitor countries and thus increase the price competitiveness of exports. Consumers in other countries may then switch their demand towards the country's exports, whilst its own residents switch away from imports, preferring instead to buy home produced substitutes. The difficulty posed by deflation is that it not only reduces demand for imports but also reduces demand for domestically produced goods. This in turn can have a knock on effect in the form of lower output and higher unemployment.

Import controls have immediate effect on the balance of payments. **Quotas** and **embargos** directly prevent or reduce expenditure on imports, while import duties or tariffs discourage expenditure by raising the price of imports, while import duties or tariffs discourage expenditure by raising the price of imports. Import controls also have their limitations and problems. They do not tackle the underlying cause of this disequilibrium i.e. the lack of competitiveness of a country's industry and what is more they are likely to invite retaliation to the long-term detriment of themselves as well as their trading partners. It is also the case that trade agreements such as GATT limit the opportunities for member countries to make use of import controls and the use of subsidies to encourage exports.

ii. Long-Term Policies

One long term option of tackling balance of payments deficit is **export promotion**. In the long run this is the best method of improving a balance of payments. If the general level of efficiency in an economy can be raised, then exports will benefit. Efficiency can be promoted by mergers in exporting firms (thereby reaping economies of scale), research and economic growth – for it is felt that once an economy is growing it is generating the necessary dynamism and technological improvement that will feed through into a better export performance.

A second long-term option is **Import Substitution**. The replacement of imports by home products can be achieved by economic planning. If the defects of home products can be analysed, and the likely future trends in demand can be forecast, then domestic firms can take the necessary action both to improve their product and to expand their capacity. Government support for certain industries can also be helpful here.

6. INTERNATIONAL LIQUIDITY

International liquidity is the name given to the **assets which central banks** use to influence the external value of their currencies. It can also be defined as the **means available for settling international indebtedness**. There are five main types of international liquidity:

- Gold
- Convertible national currencies
- Borrowing facilities
- International reserve assets
- Currency swaps

Gold

Although currently no country uses gold as international currency, gold has a long history of use as commodity money and has almost universal acceptability. Gold is still regarded as money in international transactions and is an international reserve currency i.e. countries can hold their foreign exchange reserves in terms of gold and it is acceptable in international payments and is convertible.

The great advantage of gold as an international currency is the confidence people have in its ability to maintain its exchange value. This stems mainly from the knowledge that world supplies of gold cannot easily and quickly be augmented.

Nevertheless, it is clearly wasteful to employ vast resources of men and capital to produce gold merely in order to store it away in central banks. Besides, it is scarce i.e. not each country has it.

Convertible National Currencies

Currencies are convertible when holders can freely exchange them for other currencies. There are several advantages in using a particular national currency as an international standard of value and as an international reserve asset. Unlike gold its costs of production and storage are negligible and the reserve asset is in the same form as the currency used by traders and investors. The supply can easily be increased or diminished to meet the needs of world trade.

The problem with this facility is that for the other countries to hold convertible currency, the country to which it belongs must be in constant trade deficit because it must import from other countries and pay them in its currency. But a prolonged deficit will cast doubt on the ability of that country to maintain the exchange value of its currency. Another problem is that if the

- a. An increased demand for imports;
- b. A decreased foreign demand for exports

Other factors influencing Exchange Rates

- i. **Inflation:** Other things being equal, a country experiencing a high rate of inflation will experience a lower demand for its goods while its trading partners goods whose rate of inflation is low will now appear cheaper to citizens who will thus buy more. Thus demand for its currency will decrease while the demand for its trading partners' currencies will increase, and both the factors will cause a depreciation in the external value of its currency. If on the other hand, a domestic rate of inflation is lower than that of its trading partners these factors will be expected to work in reverse.
- ii. **Non-trading factors:** Exchange rates are also influenced by invisible trade, interest rates, capital movement speculation and government activities.
- iii. **Confidence:** A vital factor in determining the exchange rate is confidence that most large companies "buy forward" i.e. they buy foreign currency ahead of their needs. They are thus very sensitive to factors which may influence future acts such as inflation and government policy.

Thus, the exchange rate at any particular moment is more likely to reflect the anticipated situation on country rather than the present one.

Effects of Fluctuations in Exchange Rates

When a country's currency depreciates, exporting firms may have a competitive advantage but businesses which rely on imports for raw materials or components will find costs rising. This may make them less competitive on both domestic and foreign markets.

If the domestic currency appreciates then imports will become cheaper to domestic customers and exports more expensive to foreign customers. This will result in a fall in demand for the business's goods abroad and increase competition from imports in the home markets.

7. INTERNATIONAL FINANCIAL INSTITUTIONS

In July 1944, a conference took place at Bretton Woods in New Hampshire to try to establish the pattern of post-war international monetary transactions. The aim was to try to achieve free convertibility, improve international liquidity and avoid the economic nationalism which had characterized the inter war period.

The result was that two institutions were established: in 1946, the International Bank for Reconstruction and Development (IBRD); and in 1947 the International Monetary Fund.

The International Monetary Fund

The International Monetary Fund is a kind of an embryo World Central Bank. Its objectives are:

- i. To work towards the full convertibility of currencies by encouraging the growth of world trade.
- ii. To stabilize exchange rates between currencies.
- iii. To give short-term assistance to countries having balance of payments problems.

Where: ΔQ_A is the change in quantity demanded of A
 ΔQ_B is the change in the quantity demanded of B
 ΔQ_P is the change in price of A
 P_A is the original price of A

Cross price elasticity of demand is positive for substitutes and negative for Complements. If a firm is in a competitive industry it is not in its interests to raise the price of its product, but it may be in its interests to lower price. For in the former case it will lose a substantial proportion of its customers to its rivals while in the latter case, it may acquire a substantial proportion for its consumers from its rivals. For products which are close substitutes, a fall in the price of one e.g. due to an increase in supply will benefit the producers of the other because the demand for the other product will rise. On the other hand, a rise in the price of one e.g. due to taxation may be to the disadvantage of the producers of the other as the demand for the other product will fall. If in the case of a price fall, the fall in the price of the first product is due to fall in demand for its products this will not benefit the producers of the second products. Conversely, if the rise in price of the first product is due to an increase in demand for it, this will benefit the producers of the second product.

- b) Income Elasticity of demand is a measure of the degree of responsiveness of the demand of a good to changes in the consumers income. It is measured as follows:

$$Y_{ed} = \frac{\Delta Q}{(Q_1 + Q_2)/2} \div \frac{\Delta Y}{(Y_1 + Y_2)/2}$$

$$= \frac{\Delta Q}{(Q_1 + Q_2)/2} \times \frac{(Y_1 + Y_2)/2}{\Delta Y}$$

$$= \frac{\Delta Q}{\Delta Y} \times \frac{(Y_1 + Y_2)/2}{(Q_1 + Q_2)/2}$$

Substitution as follows:

$$\begin{aligned}\Delta Q &= +20 \\ Q_1 &= 100, Q_2 = 120 \\ \Delta P &= 1000 \\ Y_1 &= 50000, Y_2 = 6000\end{aligned}$$

$$\frac{20}{(100 + 120)/2} \div \frac{1000}{(5000 + 6000)/2}$$

$$\frac{20}{110} \div \frac{1000}{5500}$$

$$\frac{20}{110} \times \frac{5500}{1000}$$

$$\frac{20}{1000} \times \frac{5500}{110}$$

LESSON 5

1. Liquidity preference as applied to an individual refers to the desire to hold one's assets as money rather than as income-earning assets. Liquidity preference therefore involves a loss of the income that might otherwise have been earned. There are two schools of thought to explain liquidity preferences, namely the Keynesian Theory and the Monetarist Theory.

According to Lord John Maynard Keynes, a British economist there are three motives for holding money:

The Transaction Motive

A certain amount of money is needed for everyday requirements, the purchase of food and clothing and other ordinary expenses. How much is necessary to hold for these purposes will depend mainly on 3 factors.

- a person's income
- the interval between one pay-day and the next
- habit

Generally, the higher the income, the more money will be held. The weekly wage-earner will need to hold less than a person who receives his salary monthly, for in the first case, a sufficient amount has to be held to cover expenses for only one week, whereas the other man has to make provision for four weeks.

The Precautionary Motive

People hold money in reserve to cover unanticipated contingencies which might arise in the period of a sudden purchase of an opportune advantage. The amount held will depend mainly on the **outlook of the individual**, how optimistic he is, both as regards events and the **possibility of borrowing at short notice** should the need arise. But, taking the community as a whole, the amount set aside for the precautionary motive is, in normal times, likely to be tied fairly closely to the level of national income.

The Speculative Motive

Another major reason for holding money is in order to speculate on the course of future events. If one thinks prices are now very low and will soon rise, the tendency is to buy now and to put off selling until prices rise. If one thinks prices are high now and will soon fall, the tendency is to sell now and to postpone buying until prices have fallen.

This emphasizes the role of money as a store of wealth. Speculative Balances are wealth held in the form of money rather than interest earning assets because of expectations that the prices of those assets may change.

When households decide how much of their monetary assets they will hold as money rather than as bonds (and other interest earning assets), they are said to be exercising their **Preference for Liquidity**.

In contrast with the above view, monetarists tend to deny the importance of the speculative factor, claiming instead that the main factor is the transactions demand. They argue that the demand for money is interest inelastic and that people hold money largely to finance spending on goods and services. Any increase in the quantity of money can, they agree, produce some changes in interest rates but the main effect is not on investment and output, but on prices as people spend their increased money holding mainly on goods and services. The effect of this

additional spending is to bid up the price of goods. Monetarists explain this effect by reference to some version of the quantity theory of money summarized in the basic equation $MV = PT$, where M stands for stock of money, V is its velocity of circulation; P is the average price and T is the number of transactions taking place in a given period. Assuming V is relatively constant because the institutional features of an economy change only slowly and that T is fixed at its maximum, once a situation of full employment is reached, then it is argued any change in the quantity of money M can only be accommodated by variations in prices.

Modern monetarists following the work of Milton Friedman have refined the quantity theory, pointing out that the demand for money depends on several factors such as total wealth, expected rates of return on wealth, the rate of inflation, the ratio of human to non-human wealth and tastes and preferences.

RECONCILING THE NEED FOR LIQUIDITY, PROFITABILITY AND SECURITY

- A commercial bank's assets represent the use which has been found for the money put at its disposal mainly by depositors. The **distribution of these assets** shows how the bank reconciles the need for security, liquidity and profitability.

A part from cash and buildings, the assets consists solely of various types of loans. **In arranging these assets, the bank's aim is to earn profits.** However, in doing so, it must bear in mind liquidity and security for the funds it is using belong to its depositors and the bulk of its depositors are payable on demand.

Liquidity and profitability pull in opposite directions. The shorter the period of the loan, the greater the liquidity but the lower the rate of interest hence profitability.

Security and liquidity tend to go together, for if a loan is not secure it cannot in any sense be liquid. The role of the different types of assets in reconciling profitability and liquidity can be seen by looking at the items in detail.

- The following are the main assets held by a commercial bank.

1. **Cash:** Partly in the bank tills, partly in the bank's account with the Central Bank. Required for day-to-day needs and earns no interest and hence the bank seeks to minimize the holdings.
2. **Money at call:** Lent to the Money Market for very short periods. Low rate of interest. Very liquid and secure.
3. **Bills:** Treasury, Local Authority and some commercial bills. Higher rate of interest than money at call but not quite liquid.
4. **Investment:** in gilt-edged securities: More profitable but least liquid. Generally loans for up to six months.

The banks seek to balance liquidity and profitability in its operation but this will be constrained by regulatory reserve requirements issued by the Central Bank.

The lack of information is compounded by the costing and pricing of African products. A significant number of industries in African countries costs and price their products in such a way that they price themselves out of the African market. The lack of price competitiveness of African products is also due to the fact that most of the industries produce well below capacity either because of lack of the foreign exchange needed for the importation of necessary raw materials and intermediate inputs or because the plant sizes or scales are too large for the markets for which they were established.

- **Policy-induced factors** make cooperation difficult. Inward-looking policies of individual countries resulting in the protection of uncompetitive domestic producers against imports irrespective of sources, and stringent trade and payments controls instituted to deal with the persistent balance of payments problems have adversely affected the volume of trade among African countries. As international transactions must satisfy various trade and exchange regulations, business transactions are invariably subject to excessively long and costly regulations, and administrative procedures which are further disincentives to sub-regional trade and economic links.

Some aspects of monetary and fiscal policies of countries also hinder cooperation. These include the different exchange rate policies, exchange control regimes and over-valuation of the exchange rate.

- There are also problems pertaining to the clearing house. The clearing and payments mechanism was established in some cooperation arrangements to promote the use of local currencies in intra sub-regional trade to ease the foreign exchange constraint. A critical problem is that of the accumulation of payments arrears.
- Another problem that weakens integration is the multiplicity of organizations/agencies in one sub-region. A possible explanation might lie in the colonial heritage of African countries and their economic dependency status. During the period immediately before or after independence, the formation of many intra sub-regional groupings was based on linguistic ties and historical links or on personal relationships between the African elite, or between African leaders and leaders in metropolitan or donor countries. The multiplicity of organizations in the sub-regional arrangements weakens the integration process. It leads to costly competition, conflict, inconsistencies, duplication of efforts, fragmentation of markets and reductions in the growth potential of the sub-regional arrangement.

The ninth set of problems is **those that are inherent in the very nature of multinational economic cooperation**. These are not peculiarly African. They plague integration movements in other regions, including the developed world. However, it should be recognized that in view of the weakness of African economies their negative impact will be more acute in African and could produce stresses and strains among the participating countries that not only might slow down an integration process but might cause its suspension or break-up. The problems in question are a package of issues relating to tariff barriers, customs duties and costs and benefits.

The economic weakness and relative stagnation of African economies are a major obstacle to integration because of their negative impact of the government policies.

Sub-Saharan Africa entered the 1990s poorer than it was in the 1970s and 1980s. African countries are faced with mounting economic problems, minimal or zero growth rates, low domestic savings and investment, scarcity of foreign exchange, balance-of-payments difficulties and a heavy debt burden. A period of economic weakness is not a favourable time to formulate long-term plans to promote intra-sub-regional/regional trade, liberalize national markets and embark on medium-term and long-term plans to establish multinational project sectoral linkages, and to programme the sub regional harmonization of macroeconomic policies. Pressures are such that governments will give priority to

**KENYA ACCOUNTANTS AND SECRETARIES NATIONAL EXAMINATIONS
BOARD**

CPA PART 1

CPS PART 1

ECONOMICS

TUESDAY: MAY 2002
Answer FIVE questions.

TIME ALLOWED: 3 hours
All questions carry equal marks.

QUESTION I

The following table represents a production function of a hypothetical firm in the short-run.

Output (units)	Total cost (sh)
0	150
10	210
20	260
30	410
40	455
50	560
60	680
70	750
80	920

- (i) Define marginal cost and give an estimate of the marginal cost of producing the 20th unit of capital. (4 marks)
- (ii) Find the average fixed cost and average variable cost when the firm produces 50 units of output. (4 marks)
- (b) Supposing the marginal propensity to consume (MPC) in an economy is 0.8. If the level of investment in this economy increases by twenty million shillings while holding other factors constant; calculate:
- (i) The change in the equilibrium level of income. (3 marks)
- (ii) Autonomous change in spending. (3 marks)
- (iii) Induced change in consumption. (2 marks)
- (c) Highlight the factors that influence the decision to invest. (4 marks)
- (Total: 20 marks)**

QUESTION TWO

- (a) Define elasticity of supply and briefly explain any five factors that influence the elasticity of supply. (10 marks)
- (b) Explain why elasticity of supply for agricultural commodities is low. (6 marks)
- (c) The demand for a commodity is twenty units when the prevailing market price equals eighty shillings per unit. However, when the price rises to one hundred shillings, quantity demanded rises to thirty units.
- Calculate both arc and point elasticities of this commodity. (4 marks)
- (Total: 20 marks)**

**KENYA ACCOUNTANTS AND SECRETARIES NATIONAL EXAMINATION
BOARD**

**CPA PART 1
CPS PART 1**

ECONOMICS

MONDAY: 3 DECEMBER 2001

Time Allowed: 3 hours

Answer any FIVE questions.

ALL questions carry equal marks.

QUESTION ONE

- (a) In a certain economy the marginal propensity to save is 0.2 and the autonomous consumption equals 400.

- (i) Formulate the consumption function. (3 marks)
- (ii) If the Government's expenditures were increased by 50% what would be resultant change in National Income. (3 marks)

- (b) The demand and supply schedules for carrots in a certain market are given below:

Price per ton Sh. '000	Quantity demanded per month (Thousands of tons)	Quantity supplied per month (Thousands of tons)
2	110.0	5.0
4	90.0	46.0
8	67.5	100.0
10	62.5	125.0
12	60.0	122.5

Determine the equilibrium quantity and price by graphical method. (8 marks)

- (c) Explain how the concept of elasticity guides decisions in the following situations:

- (i) Government's tax policy on household consumption. (2 marks)
- (ii) Devaluation policy to encourage exports and discourage imports. (2 marks)
- (iii) Price discrimination by monopolist. (2 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Using indifferent curve analysis demonstrate how a household's equilibrium point is attained. (5 marks)
- (b) By focusing on an inferior good, use the indifference curve analysis to demonstrate and explain the income and substitution effects. (10 marks)
- (c) Based on the analysis in (b) above, distinguish between an inferior good and a Giffen good. (5 marks)

(Total: 20 marks)

commodity that is sold will have resulted from the value added to it by successive stages of production.

(c) It is difficult to compare the national income of one country with that of another country for the following reasons:

- (i) Different countries use different currencies and the exchange rate may not accurately reflect the internal purchasing power of a given currency. In addition, exchange rates in many countries fluctuate considerably especially since floating exchange rate systems are widely used.
- (ii) Different countries have different definitions of what is to be included in national income and comparisons should take into account these different definitions. For example, many developed countries exclude the subsistence sector in their measurement of national income but to do so in developing countries would significantly undervalue their national incomes.
- (iii) Even though income per capita may be similar among different countries, standards of living may differ considerably because of substantial differences in income distribution. A high national income may, for example, not be well distributed among the population of a given country.
- (iv). Different countries have different needs and tastes and so commodities that are valuable in one country may not be valuable in another country. For example, northern countries spend considerably higher sums of money on heating which is unnecessary in tropical countries.
- (v) An increase in national income may have come about because of longer working hours or inferior working conditions which may be associated with a decline in the standard of living.
- (vi) Differing levels of unemployment among countries make it difficult to establish the net effect on the standard of living.

(d) The level of national income of a country is influenced by demand-side and supply-side considerations. The level of national income of a country is influenced fundamentally by the level of injections and withdrawals. Injections refer to an exogenous addition to the income of firms or households, for example, in the form of investment, government expenditure and exports. Injections exert an expansionary pressure on national income and they are magnified through the actions of the multiplier. The value of the multiplier therefore considerably influences the level of national income. Withdrawals or leakages refer to any income that is not passed on in the circular flow of income for example, savings, taxation and imports. Withdrawals are also magnified by the actions of the multiplier and they exert a contractionary pressure on the level of national income. Injections and withdrawals influence the level of national income through their effect on aggregate demand and therefore deal with demand side considerations that influence the level of national income.

The level of national income of a country is, however also influenced by supply-side factors. A vital consideration in this case is the quantity and quality of factors of production available. For example, the existence of a highly skilled labour force will have a positive effect on the level of national income. The existence of vast natural resources such as petroleum and the capacity to exploit them will also have a positive effect on the level of national income. The ability to properly utilize resources also depends on the level of technology available and the institutional framework in a given country.

ANSWER THREE

- (a) (i) Seasonal unemployment is caused by annual variations of seasons. This implies that at any given time of the year there are likely to be workers who are laid off because of a seasonal fall in the demand for the services they offer. This type of unemployment is common in sectors such as agriculture and tourism which are characterized by seasonal variations. This type of unemployment leads to fluctuations in economic growth with growth being higher during the peak seasons.

Casual unemployment arises because workers are employed for a specific job and when the job is completed, such workers become eventually unemployed, for example, construction workers. The effect of casual unemployment on economic growth is that economic growth is lower during times of high casual unemployment.

- (ii) Disguised or hidden unemployment arises where individuals normally have jobs for which they are paid but they could be withdrawn without reducing output. This could arise because their efforts actually contributed nothing to output (in which case their marginal product is zero) or since others already engaged in a particular authority would increase their own productivity if some workers migrated to other sectors of the economy. Disguised unemployment is common in developing countries especially in the civil service and in the agricultural sector in rural areas. Labour which is in disguised unemployment contributes nothing to national product and economic growth.

Unproductive or open unemployment arises when a person is willing to work at the prevailing wage rate but is not able to secure a job. This type of unemployment is especially common in the urban modern sector in many developing countries. Thus, for example, the employment opportunities in urban areas may be insufficient to absorb all the people settled in urban areas. Unproductive unemployment represents a waste of productive resources and economic growth is lower when there is unproductive employment than it would have been the case had the labour been productively employed.

- (b) The following policies, if implemented could alleviate the problem of unemployment:

- (i) Employment creation depends on the ability of countries to achieve sustained economic growth. Thus, internal constraints to economic growth which are to some extent within the control of the government should be addressed. For example, if the government provides an enabling macroeconomic environment foreign investment will be encouraged which in turn will contribute to employment creation.
- (ii) Considerable emphasis for employment creation should be placed on the informal sector given that the possibilities for employment creation in the formal sector are limited in many developing countries. The availability of cheap finance is fundamental factor in this context.
- (iii) Government policies should aim at removing factor price distortions such that as the price of labour relative to capital falls, labor-intensive production technologies are encouraged.
- (iv) In order to deal with seasonal unemployment a diversification of economic activities especially during seasons of low demand can be introduced.
- (v) Intensive rural development can help to curb urban unemployment which arises from high levels of rural-urban migration. This development can, for example, take

“Other things being constant, as more and more units of a given commodity are consumed, the additional satisfaction derived from the consumption of each successive unit will decline”.

- (c) Price elasticity of demand is a measure of the degree of responsiveness of the quantity demanded of a commodity to changes in its own price. It is measured by the following formula:

$$\text{Price elasticity of demand (P}_{ED}) = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

If the coefficient of the above ratio is greater than 1, the quantity demanded of the given commodity is said to be elastic. If the coefficient of the above ratio is less than 1, the quantity demanded of the given commodity is said to be inelastic. Where the coefficient is equal to 1, quantity demanded is said to possess unitary price elasticity of demand.

In order to avoid the measure of elasticity being sensitive to units in which quantities and prices are measured, the price elasticity of demand is expressed as a proportionate change in quantity demanded that occurs in response to a proportionate change in price.

- (d) Income elasticity of demand is a measure of the degree of responsiveness of the demand of a product to changes in income. Its coefficient is expressed by the following formula:

$$\text{Income elasticity of demand (E}_y) = \frac{\text{Proportionate change in demand}}{\text{Proportionate change in income}}$$

Income elasticity of demand is positive for normal goods and negative for inferior goods. Where the coefficient of income elasticity of demand is greater than one, this implies that the demand is income elastic. Where the coefficient is less than one, this implies that demand is income inelastic and a given change in income leads to a less than proportionate change in demand. Where the coefficient is equal to one, income demand rises or falls in the same proportion as income and is said to be unitary income elasticity.

- (e) The substitution and income effects of a price change are two **analytically** different effects that come into play when the price of a given commodity changes.

The substitution effect of a price change refers to the change in the quantity demanded of a given commodity resulting from a price change when the level of real income is held constant.

The income effect of a change in the price of a given commodity is the change in the quantity demanded resulting exclusively from a change in real income, all other prices and money income being held constant.

The notion of substitution and income effects is useful because it demonstrates that a price change affects the quantity demanded of a given commodity in two conceptually different ways. The substitution effect implies that the quantity demanded varies inversely with the price. The income effect, on the other hand, is positive for normal goods and is negative for inferior and Giffen goods.

ANSWER EIGHT

- (a) Funds can be raised to finance government activities in the following ways:

Firstly, from direct taxes. Examples include income tax on individuals and corporation tax.

Secondly, from indirect taxes. An example is Value Added Tax (V.A.T).

Since $MV = PT$

This implies that:

$$P = \frac{MV}{T}$$

If V and T are assumed to be roughly constant values, P will then vary directly with increases or decreases in M which is the money supply. Any growth in the money supply M over and above the potential of the economy to increase (T) will cause inflation. A policy implication of this theory is that the government should allow some growth in money supply as part of its monetary policy, provided the economy is also growing.

- (b) The following are the main limitations of applying credit control instruments in developing countries:

Firstly financial markets and institutions in many developing countries are disorganized with many developing countries operating under a dual monetary policy system whereby an organized money market co-exists with a large disorganized money market. This is accompanied by a limited quantity and range of financial assets.

Secondly, the scarcity of viable projects and creditworthy borrowers implies that commercial banks in developing countries are less sensitive to changes in their cash bases, for example, arising from a change in the liquidity ratio. If for example, commercial banks have a higher level of liquidity than the legal minimum liquidity ratio, a reduction in reserve assets may not lead to a reduction in credit.

Thirdly, in developing countries investment may not be very sensitive to changes in interest rates because factors such as business expectations may be more critical in determining investment. In addition, many developing countries often experience high rates of inflation which could imply that real rates of interest are negative.

Fourthly, people in developing countries often do not deposit their money in financial institutions such as commercial banks. This factor makes it more difficult for the monetary authorities to use instruments of credit control effectively.

Fifthly, many of the commercial banks in developing countries are merely overseas branches of private banking institutions in developed countries. This factor provides them with the possibility of turning to their parent organizations for funds in the event of a credit squeeze by local authorities.

Sixthly, the prevalence of corruption and resource mismanagement in many developing countries hinders the effective application of credit control instruments such as selective credit control.

- (c) Non-bank financial institutions operate in both money and capital markets but they tend to concentrate their borrowing and investment operations in instruments that are distinct from those used by commercial banks. Examples include building and life insurance companies. The role of non-banking financial institutions in economic growth and development institutions in economic growth and development is as follows:

Firstly, non-banking financial institutions foster efficiency by encouraging competition with commercial banks in the financial markets which benefits both savers and borrowers in terms of improved services. Greater efficiency has a positive effect on economic growth and development.

- (c) A monopoly is a market structure where the supply of a given commodity is under the control of a single firm. A monopoly market structure is often characterized by barriers to entry such as legal barriers or where a single firm controls the source of raw materials. The existence of barriers to entry enables a monopolistic firm to earn supernormal profits both in the short run and long run. Figure 5.2 illustrates the profit maximizing output for a monopolistic firm.

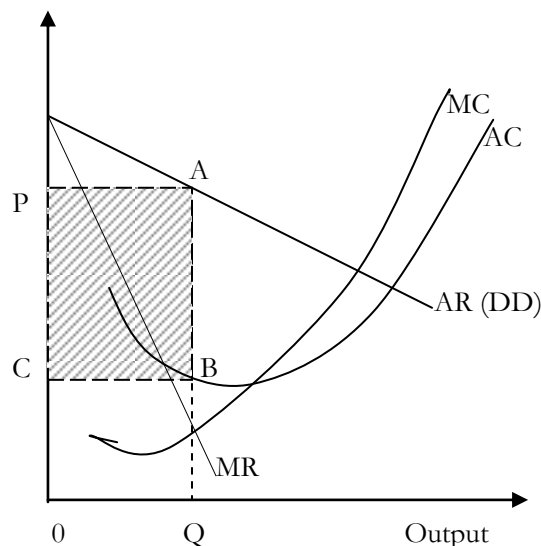


Figure 5.2 The profit maximizing output for a monopolistic firm

Figure 5.2 represents the profit maximizing output for a monopolistic firm where marginal cost = marginal revenue and where the MC curve cuts the MR curve from below. The monopolist therefore maximizes profits at output level Q. At this level of output the monopolist earns supernormal profits represented by the shaded area PCBA and charges a price for P for its products.

ANSWER SIX

- (a) (i) A production function refers to the relationship between the output of a commodity and the inputs required to make that commodity.

Formally, a production function has the following general form:-

$$Q = f(L, K, T, \text{etc})$$

Where:

Q is output

L is labour

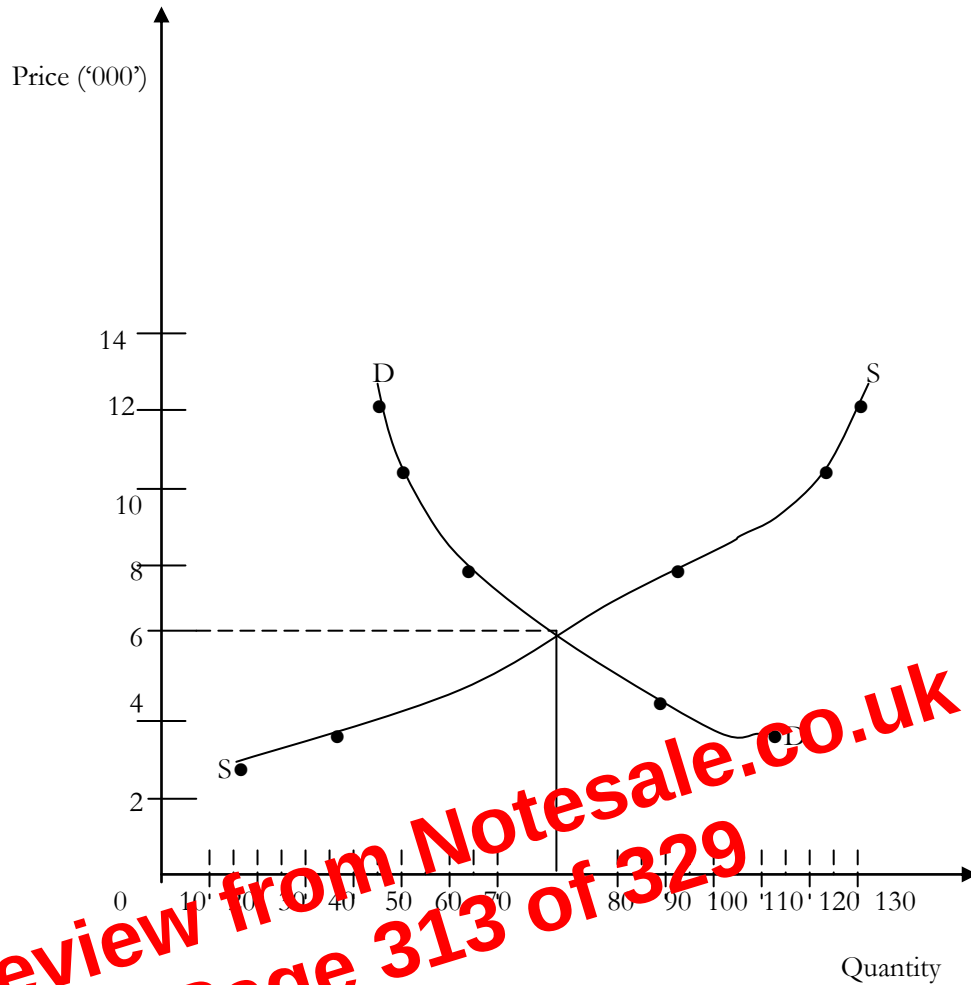
K is capital

T is technical progress etc. refers to the fact that other inputs may also be relevant. A production function is typically used in the content of the theory of the firm.

- (ii) Fixed factors of production are those factors of production which cannot be changed in quantity.

Fixed factors of production exist in the short run when it is not possible to vary the quantity of at least one factor of production. Examples of factors of production that may be fixed in the short run include land and factories.

b)



Equilibrium price = 6,000shs.

Equilibrium = 76,000 tons

- (c) (i) Price elasticity of demand can guide the government's tax policy on household consumption since the government tends to tax commodities with inelastic demand such as cigarettes more heavily in an attempt to increase its tax revenue. Commodities with elastic demand are generally taxed less heavily since their quantity demanded is very responsive to changes in price that could arise because of an increase in taxation.
- (ii) Devaluation refers to a cheapening of the domestic currency in terms of a foreign currency. Devaluation has the effect of lowering the price of exports and increasing the price of imports and is therefore used by some governments with a view to correcting a balance of payments deficit. Devaluation is only likely to be successful if the price elasticities of demand for imports and exports are high. This would imply that a devaluation has the effect of stimulating exports and discouraging imports and therefore helping to correct the balance of payments deficit. If the price elasticities of demand for exports and imports are low the devaluation is not likely to be successful.