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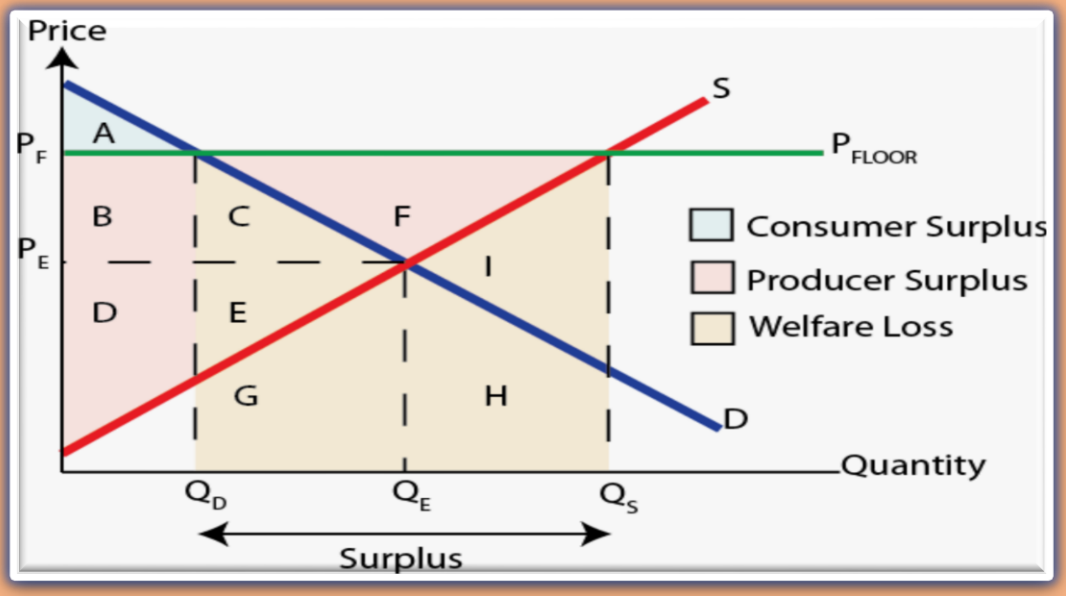
ECONOMICS

GRADE 11



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UNIT ONE

THEORY OF CONSUMER BEHAVIOR AND DEMAND

1.1 Theory of Consumer Behavior

Consumer is an individual or household who uses/consumes final goods and services with primary objectives of maximizing utility.

The Theory of consumer behavior is a description of how consumers allocate income among different goods and services to maximize their well-being. It answers the question: "How can a consumer with a limited income decide which goods and services to buy with the objective of maximizing their utility?" It deals with how consumers allocate their income across various goods and services and explain how these allocation decisions determine the demands for the various goods and services.

Utility is the level of satisfaction/pleasure that the consumer can derive from consumption of goods and services or by undertaking a certain activity. It is the power of a good or service to satisfy a certain human need.

Total utility is the total amount of satisfaction that one can derive from the use of a certain bundle of goods and services or by undertaking a certain activity.

Marginal utility (MU) is the extra/additional level of satisfaction that a consumer gets because of changing consumption by one unit.

The law of diminishing marginal utility says that as the amount of a good consumed increases, the marginal utility of the good decreases.

There are two basic approaches to the problem of comparison of utilities. These approaches are:

1. **The Cardinalist Approach, and**
2. **The Ordinalist Approach.**

1.2 The Cardinal Utility Theory

Cardinal utility assumes that utility is measurable in absolute or cardinal numbers. The unit of measurement is called "utils".

The cardinalist school postulates that utility can be measured. The advocates of this school have

given various suggestions for the measurement of utility. With the assumption of complete knowledge of market conditions and income levels over the planning period i.e. under certainty, some economists have suggested that utility can be measured in monetary units, say, by the amount of money the consumer is willing to sacrifice for another unit of a commodity.

The consumer faces limited money income, and this shows that scarcity of resources and hence, choice is mandatory.

Equilibrium of the Consumer under the Cardinal Utility Theory

We want to find the best choice for the consumer, and this is defined by the point at which the marginal utility ratios for any two goods equals the price ratios and the consumer spends his/her entire income. Thus, in a theory of cardinal utility, the size of the utility difference between two bundles of goods and services is supposed to have some sort of significance.

If there are more commodities, the condition for the equilibrium of the consumer is the equality of the ratios of the marginal utilities for the individual commodities to their prices. Symbolically, assuming that there are N commodities: X, Y, Z, ……..N, the equilibrium is attained when:

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

In the case of several commodities, the utility derived from spending an additional unit of money must be the same for all commodities. If the consumer derives greater utility from any one commodity, he/she can increase his/her welfare by spending more on that commodity and less on the others, until the above equilibrium condition is fulfilled.

Suppose that the consumer consumes two commodities X and Y then at optimum point:

$\frac{MU_x}{MU_y}=\frac{P_x}{P_y}$ or $\frac{MU_x}{P_x}=\frac{MU_y}{P_y}$ and income =expenditure

1.3 Derivation of the Demand Curve

Based on the definition for consumer optimum, we can derive the demand curve for a consumer. The derivation of the demand curve is based on the concept of diminishing marginal utility. If the marginal utility is measured using monetary units, the demand curve for a commodity is the same as the positive segment of the marginal utility curve (see Figure).

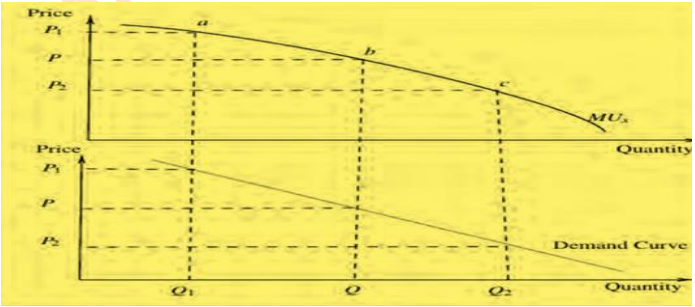


Figure . Derivation of demand curve

Note

The negative section of the MUx curve does not form part of the demand curve since negative prices do not make sense in economics.

Critiques of the Cardinal Utility Approach

There are some weaknesses of cardinal utility approach.

- ✓ The satisfaction derived from various commodities can not be measured objectively. The attempt by Walras to use subjective units (Utils) for the measurement of utility does not provide any satisfactory solution.
- ✓ The additivivty of utility is questionable since there is no objective measure of utility

Activity

- Assume that **Fenet** has decided to increase the consumption of tea from her current amount of 4 units to 5 units. If the total utility that Feneta gets from increasing her consumption increases from its previous value of 40 utils to 50 utils, what is the amount of marginal utility that she gets from the 5th cup of tea?

Solution; The marginal utility of the 5th cup of tea=$\frac{50\ utiles-40\ utiles}{5-4}$ =10 utiles

The Ordinal Utility Theory and Preferences

Preferences

Preference is the ability of the consumer to state or express choices given alternatives. If a consumer faces two consumption bundles, say, X and Y, three things might happen.

a. He/she may prefer X to Y, we can write it as X>Y**.** it means that the x-bundle gives the consumer higher utility than the y-bundle.
b. He/she may prefer Y to X ,we can write the choice as Y>X. it means that the y-bundle gives the consumer higher utility than the x-bundle.
c. when a consumer gets the same level of satisfaction from any two combinations of goods, we say that the consumer is **indifferent** between the two goods or is unable to make choice of one good over another. This case is written as X~Y**.**

The ordinal utility approach argues that utility cannot be measured in cardinal numbers as suggested by the cardinalist approach. The ordinal utility concept is based on the fact that it may not be possible for consumers to express the utility of various commodities that they consume in absolute terms, like, 1 util, 2 utils, or 3 utils, but it is always possible for the consumers to express the utility in relative terms. Consumers would also be able to rank commodities in the order of their preference as 1st, 2nd, 3rd and so on.

Note

The ordinal utility theory assumes that the consumer can rank or order commodities according to his/her choice or preference

Assumptions of Ordinal Utility Theory

1) Rationality: The consumer is assumed to be rational , he/she aims at the maximization of his/her utility, given his/her income and the market prices. It is also assumed that the consumer has full knowledge (certainty) of relevant information.

2) Utility is Ordinal. It is taken as axiomatically true that the consumer can rank his/her preferences (orders the various baskets of goods and services) according to the satisfaction of each basket. Unlike the cardinal utility theory, he/she need not know perfectly the amount of satisfaction. It suffices that he/she expresses his/her preference for the various bundles of commodities. That means it is not necessary to assume that utility is cardinally measurable, but only ordinal measurement is required.

3). Diminishing marginal rate of substitution (MRS): the marginal rate of substitution is the rate at which a consumer is willing to substitute one commodity (x) for another commodity (y) without affecting the total satisfaction of the consumer. Marginal rate of substitution is the slope of the indifference curve.

4).Complete ordering: all possible combinations of goods can be ordered into preferred, indifferent or inferior combinations when compared to a given combination of the goods.

5).The total utility (U) of the consumer depends on the quantities of the commodities consumed, i.e. $U = f(x_1, x_2, x_3, \ldots Xn)$

6).Preferences are transitive or consistent:

- ✓ **Transitive preference** implies that if the consumer prefers market basket A to market basket B, and prefers B to C, and then he/she must also prefer A to C.
  If A > B and B > C, then A > C.
- ✓ **Consistency of preference** implies that if market basket A is preferred to market basket B (A>B) then, B cannot be preferred to A at another time (B not >A) for the same consumer.
  If A > B, then B ⊁A.
- ✓ **Limited money income:** the consumer is confronted with limited money income so that optimization is mandatory. This assumption is used to show the scarcity concept in economics.
- ✓ **Non – satiation assumption**: consumers always prefer more of a good to less and they are never satisfied or satiated. For example, if they are confronted with any two consumption bundles A and B, A is preferred to B if A contains at least more of one commodity.

Indifference Curve set and Map

The ordinal utility approach is based on the two very important tools or instruments. One is

the indifference curve while the other is budget line.

Indifference set (schedule): this is a tabular presentation of the various combinations of goods from which the consumer derives the same level of utility. It is a combination of goods for which the consumer is indifferent, preferring none of the consumption bundles.

Table 1.1 below is a typical indifference schedule that a consumer faces when comparing two goods. The consumer faces four different possible ways (A to D) of combining his/her consumption of the two goods leading to the same level of satisfaction. All the four combinations of the two good X and Y give the consumer an equal level of total utility. Thus, the individual is indifferent between the combination presented as A, B, C or D.

Looking at Table 1.1 combination B shows that the consumer faces 3 units of good (X), the orange, and 15 units of good (Y), the banana and this generates the same utility as any other combination that is indicated in the table, say combination D where the consumer has 7 units of orange, and 6 units of banana. In this movement, the consumer is buying more of one good (X) and less of another good (Y).

Table 1.1 Indifference schedule of a consumer for orange and banana consumption

Bundle(combination)	A	B	C	**D**
Orange(X)	1	3	5	7
Banana(Y)	23	15	9	6

Indifference curves: an indifference curve is a line that shows various combinations of two goods that provide the consumer with the same level of utility or satisfaction. It is the locus of points (combinations or bundles of goods), which yield the same utility (level of satisfaction) to the consumer, so that the consumer is indifferent between the combinations. An indifference curve is an iso-utility curve.

If we draw a graph based on the data in Table 1.1 above on a two-dimensional X-Y plane, we get an indifference curve as shown. This is the conventional shape of an indifference curve.

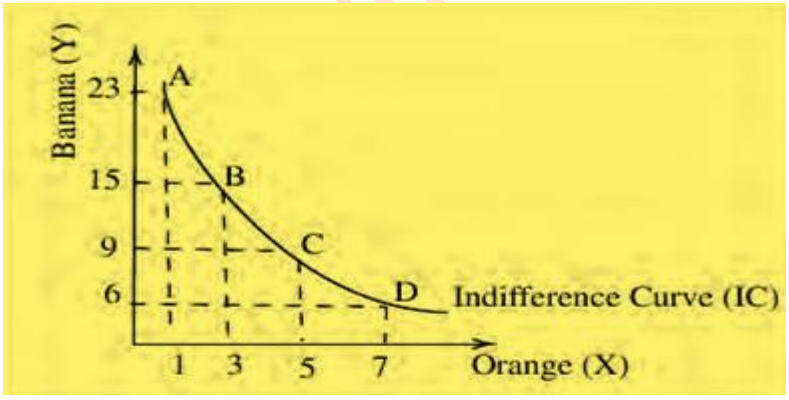


Figure .An indifference curve

Note

An **indifference curve** is an **iso-utility curve**. It shows different ways of combining two goods X and Y that give the buyer the same level of satisfaction.

When a consumer moves on the same indifference curve from point A to B, for instance, the consumer buys more unit of the X-good but must give-up in return some units of the Y-good to remain on the same level of satisfaction obtained at combination A. Any movement on an IC shows that consumer's willingness to substitute one good for another without affecting overall satisfaction.

Indifference map: this is a set or a collection of indifference curves with different levels of satisfactions. It is the entire set of indifference curves, which reflects the complete set of tastes and preferences of the consumer.

In Figure higher indifference curve refers to a higher level of satisfaction and a lower indifference curve shows lesser satisfaction. IC_2 reflects higher level of utility than that of IC_1.Any consumer has lots of indifference curves, but not just one.

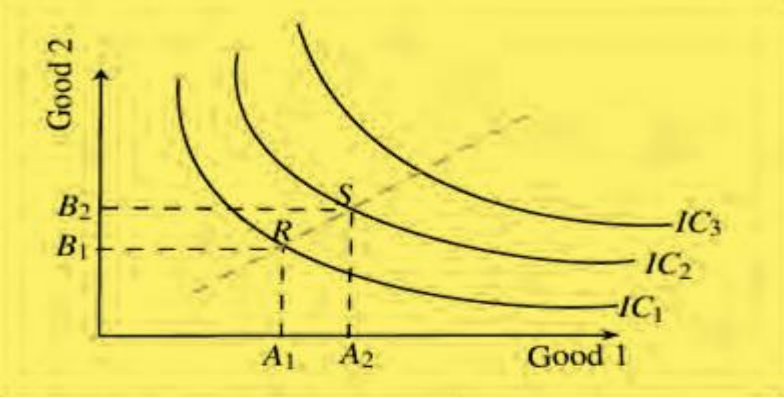


Figure. Indifference Map

If we compare consumption points R and Sin Figure, we see that consumption basket S contains more of both goods A and B (A_2, B_2) compared to consumption basket given by R (A_1, B_1). Since more is preferred to less by assumption, the total satisfaction that is obtained from combination S must exceed the total satisfaction from combination R. Hence, the consumer must prefer S to R. Therefore, points on the upper indifference curves represent higher utility.

Note

A consumer faces an infinite number of indifference curves representing different satisfaction levels.

Properties of Indifference Curves

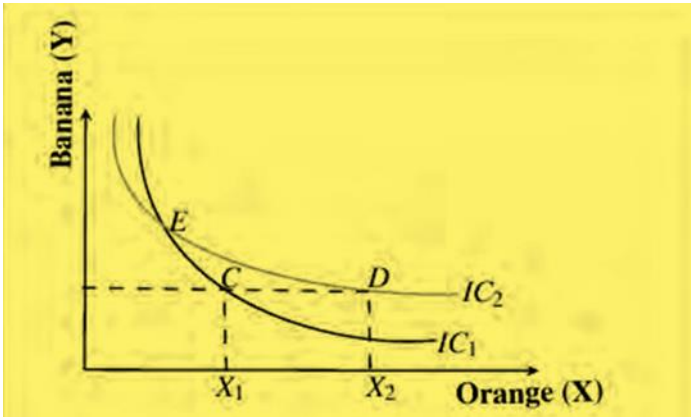
Indifference curves have certain unique characteristics.

a) Well-behaved indifference curves are negatively sloped. This denotes that if the quantity of one commodity (X) decreases, the quantity of the other commodity (Y) must increase, if the consumer is to stay on the same level of satisfaction.

b) The further away from the origin an indifference curve lies, the higher the level of

utility it denotes. Bundles of goods on a higher indifference curve are preferred by the rational consumer.

c.Indifference curves do not intersect each other: if they do intersect, the point of their intersection would mean two different levels of satisfaction from a single combination of goods, which is impossible. When ICs intersect, the transitivity rule is violated. Figure 1.4. shows that the problem with intersecting ICs. Combination E and C are on the IC_1 and hence, the consumer is indifferent between them. Similarly, combinations E and D are on the same IC_2, and hence, must lead to the same utility. The transitivity rule means that the consumer should be indifferent between combinations C and D which is not true. The consumer prefers D to C as it contains at least more of the X good relative to C. Hence, indifference curves cannot intersect with each other.



Figure, Intersecting Indifference curve

d.Indifference curves are convex to the origin: this implies that the slope of an indifference curve decreases (in absolute terms) as we move along the curve from the left downwards to the right. This assumption implies that the commodities can substitute one another at any point on an indifference curve, but are not perfect substitutes.

The Marginal Rate of Substitution (MRS)

Marginal rate of substitution of X for Y is defined as the number of units of commodity Y that must be given up in exchange for an extra unit of commodity of X so that the consumer maintains the same level of satisfaction. It is the rate at which one commodity can be substituted for another while keeping the level of satisfaction the same. When a consumer continues to substitute X for Y, the rate goes on decreasing as the two goods are assumed to be imperfect substitutes in a standard case.

$$MRS_{xy}=\frac{Number\ of\ units\ of\ Y\ given\ up}{Number\ of\ units\ of\ X\ gained}$$

The MRSX,Y is a standard notation which shows how we want to increase consumption of the first commodity (X) by sacrificing the second commodity (Y). It is the negative of the slope of an indifference curve at any point for any two commodities such as X and Y, and is given by the

slope of the tangent line at that point. Note that the slope of indifference curve is give as:

$$MRS=\frac{\Delta Y}{\Delta X}$$

*Because of the reduction in Y, MRS is negative***.**

However, we multiply the value we get from the above expression by negative (-1) and express MRSX,Y as a positive value. For interpretation purpose, we convert the negative MRS to positive MRS. In addition; note that MRS is defined only for a movement along the same indifference curve.

In general, as the amount of Y increases, the marginal utility of additional units of Y decreases. Similarly, as the quantity of X decreases, its marginal utility increases.

Overall, the MRS decreases as we move downwards to the right. The diminishing slope of an indifference curve in absolute terms is the main reason why we have a convex IC in the standard case.

Marginal Utility and MRS

A utility function U(X, Y) can be used to measure the marginal rate of substitution (MRS). When calculating MRS we are moving on the same indifference curve, and hence there is no change in the total level of satisfaction. Consider a change in the consumption of each good, (ΔY, ΔX), that keeps utility constant so that the consumer is moving along the same indifference curve.

Then, we must have:

$$MU1 * \Delta X + MU2 * \Delta Y = \Delta U = 0$$

Overall, the change in total utility due to such substitutions should be zero as far as the consumer is on the same indifference curve.

Solving for the slope of the indifference curve we have,

$$MRS_{x,y}=\frac{\Delta Y}{\Delta X}=-\frac{MU_x}{MU_y}$$

Marginal rate of substitution (MRS) is defined as the negative of the marginal utilities ratios. The negative sign shows that the possibility of trade-off or substitution between the two goods.

Special Types of Indifference Curves

1. The Case of Perfect Substitutes

Substitute goods are goods which can serve similar needs of the consumer. For example, Coca Cola and Pepsi, Tea and coffee, Bread and 'Injera' may be considered as examples of substitute goods.

If the two goods X and Y are perfect substitutes to each other, the indifference curves will be downward sloping straight line. Hence, the marginal rate of substitution between the two goods will be constant. In other words, two goods are perfect substitutes if the consumer is willing to

substitute one good for the other at a constant rate. We say that the MRS between the two goods remains the same or it is constant.

Note

Indifference curves *for perfectly substitutable goods are* ***a downward sloping straight line****.*

The utility function is given as **U(X, Y) = aX + bY**, where **a** and **b** are constants and X and Y are goods with perfect substitutability. In order to reflect this constant slope, the indifference curve is drawn as a straight line as shown in Figure 1.5 panel a.

2.Perfect Complements: these are goods which are to be consumed always jointly at a constant rate. A typical example is where a consumer wears a left shoe with a right shoe. The combination is 1:1 in this case. Utility is defined by such combinations and having more of only the right shoe, keeping the left shoe constant at one does not change total satisfaction.

In terms of the shape of the indifference curve, we have a new shape due to the assumptions about the two goods. If two commodities are perfect complements the indifference curve takes the shape of a right angle as indicated in panel b of Figure 1.5 panel b. Suppose that an individual prefers to consume left shoes (on the horizontal axis) and right shoes on the vertical axis in pairs.

Note

An indifference curve for perfectly complementary goods is ***L-shaped line.***

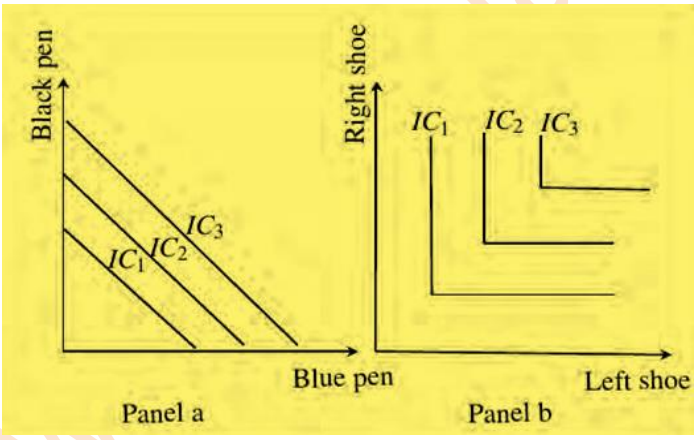
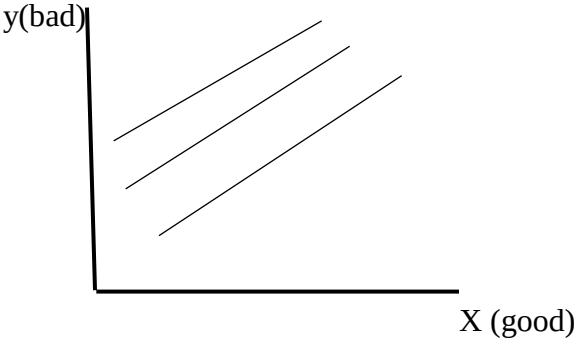


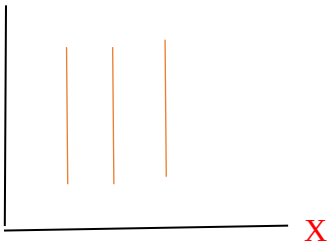
Figure. special case of indifference curves

3.The Case of 'bad' and 'good' Commodities If one of the two commodities is 'good' and the other is 'bad' (for example, alcohol ('bad') and milk ('good')), the consumer needs some compensation for every unit of the 'bad' commodity he consumes. A bad is a commodity that the consumer doesn't like to consume. And this compensation is by extra unit consumption of the 'good' commodity. This implies that the consumer increases his consumption of the 'good' commodity for increase in consumption of the 'bad' commodity. In such a case, the indifference

curve will be upward sloping. The level of satisfaction increases as we move closer to the axis of the 'good' commodity.



4. **The Case of Neutrals** A good is a neutral good if the consumer doesn't care about it one way or another. Let's say that the consumer is neutral about good Y and likes good X. Then in this case, the indifference curves will be vertical lines' (neutral)



Activity

1.Is it possible to substitute the two goods under perfect complements?

2.Can you wear two left-foot shoes or two right-foot shoes at a time and get the same level of satisfaction as wearing one left foot shoe and one right foot shoe? Why?

Solution;Under perfect complements, the goods are to be consumed together at a pre-defined proportion and there is no way that one is substituted for another. Hence, under perfect complements, the MRS is zero (i.e. there is no substitution between the two goods).The consumergets utility only from a pair of the two goods.Two left shoe and one right shoe leads to the same utility as one right shoe and one left shoe.The extra one shoes does not affect utility.

The Budget Line or the Price Line

The budget line can be defined as the locus of points of all the combinations of the two commodities that cost exactly the consumer income. In other words, the budget line shows that the basket of goods that consumers can purchase, given their income and prevailing market prices.

Assumptions to Draw a Budget Line

In order to draw the budget line facing the consumer, the following assumptions are important.

- There are only two goods, X and Y, bought in quantities X and Y
- Each consumer is confronted with market determined prices, Px and Py, of good X and good Y respectively
- The consumer has a known and fixed money income (M).

The Budget Constraint or Budget Equation

If the consumer spends all his/her income on two goods (X and Y), we can express the budget constraint as:

$M=P_xX+P_yY$, where, P_x = price of good X, P_y = price of good Y, X = quantity of good X, Y= quantity of good Y, and M = consumer's money income.

The budget constraint is sometimes called the "budget equation". According to the above budget equation, the amount of money spent on X plus the amount spent on Y equals the consumer's money income.

For example, a household has 100 Birr per month to spend on bread (X) at Birr 4 each and Sugar (Y) at Birr 20 each. That is $P_x = 4$, $P_y = 20$, M = 100birr.

Therefore, our budget line equation will be: $4X + 20Y = 100$.

Consumption alternatives	**A**	**B**	**C**	**D**	**E**	
Bread(X)in Number	0	5	10	15	20	25
Sugar (Y) in kgs	5	4	3	2	1	0
Total expenditure	100	100	100	100	100	100

Table. Alternative purchase possibilities of the two goods

At alternative A, the consumer is using all his/her income to buy the Y-commodity (sugar). Mathematically, it is the y-intercept (0, 5). And at alternative F, the consumer is spending all his/her income on the purchase of good X. Mathematically; it is the X-intercept (25, 0). These are the two extreme values on the budget line. We may present the income constraint graphically by the budget line which is derived from the budget equation.

To draw the budget line graph, we use these two points. The slope of the budget line can be easily estimated by using these two coordinates.

Given a budget equation as

$$M=P_XX + P_YY .$$

We can re-write this in terms of good Y (the good on the Y-axis) as follows. We need to go through two steps. First, take the PxX to the left of the equality and then, divide the whole equation by Py, the coefficient of Y. Hence, we have

$$M - XP_X = YP_Y .$$

And rearranging we can derive the general equation of a budget line as:

$Y=\frac{M}{P_y}-\frac{P_x}{P_y}X$ where $\frac{M}{P_y}$is vertical intercept(Y-intercept)

The horizontal intercept (i.e., the maximum amount of X the individual can consume, or purchase given his/her income) is given by:

$$\frac{M}{P_y}-\frac{P_x}{P_y}X=0$$

Since quantity of y when we calculate X-intercept should be zero. This implies that,

$\frac{M}{P_y}=\frac{P_x}{P_y}X$

We can derive a formula to calculate the maximum amount of X that the consumer can buy as;

$X=\frac{M}{P_x}$

Hence, the values of the two intercepts can be easily computed by taking the ratio of income to the price of the good into consideration.

Using the data in the Table 1.2, we can see that the X-intercept equals 25 (i.e. M/PX = 100/4) and the Y-intercept equals 5 (i.e. M/Py = 100/20).

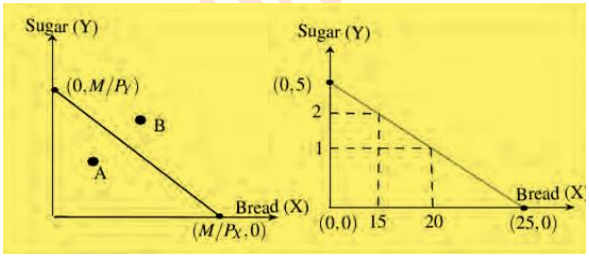


Figure. Derivation of the Budget Line

Given any budget line, there are two possible areas that are indicated by point A and point B. The area outside the budget line (such as point B on the graph) represents non-feasible (unattainable) areas for it is beyond the reach of the consumer. The total expenditure of combinations outside the budget line is beyond the income of the consumer unless income is

increased. On the other hand, the area inside (such as point A) or on the budget line represents feasible or achievable expenditure.

When a consumer is inside his/her budget line, it shows that his total expenditure is less than his/her total income. This shows that he/she has some money left to spend. In consumer theory, we assume that the consumer uses all incomes for consumption purpose and savings do not generate utility. Hence, we expect the consumer to be on the budget line where income is equal to expenditure.

Slope of the Budget Line

The slope of a budget line is given by as the negative of the ratio of the prices of the two goods. It is defined as a ratio of the price of the good on the X-axis to the price of the good on the Y-axis. The definition is standard, and the slope can be measured as

$$-\frac{P_x}{P_y}$$

To see how the slope is calculated use the two intercepts. Slope is defined as the vertical distance over horizontal distance. Hence,

$$\text{Slope}=\frac{\Delta Y}{\Delta X}=\frac{Y_2-Y_1}{X_2-X_1}$$

Using the values of the coordinates, the slope becomes;

$$\text{Slope}=\frac{o-\frac{M}{P_y}}{\frac{M}{P_X}-O}=-\frac{\frac{M}{P_y}}{\frac{M}{P_X}}=\frac{M}{P_y}*\frac{P_x}{M}=-\frac{P_x}{P_y}$$

Factors Affecting the Budget Line

Any change in the price of the goods or the income of the consumer results in a shift in the budget line. Let us examine the impact of these changes one by one.

How the three important properties of a budget line change. These are changes in the slope, the X-intercept, and the Y-intercept of the budget line due to the suggested changes being considered.

Effects of Changes in Income

If the income of the consumer changes (keeping the prices of the commodities unchanged) the budget line also shifts (changes). Increase in income causes an upward shift of the budget line that allows the consumer to buy more goods and services. In contrast to this, a decrease in income leads to a downward shift of the budget line that leads the consumer to buy less of the two goods. In order to show this, what we need to do is to calculate the new X and Y intercepts with the new income. Since the X-intercept is given as M/Px, a rise in income increases the maximum amount of good X that the consumer can buy. Similarly, the maximum amount of good Y that the consumer can buy is given by M/Py and an increase in income increases the

quantity that can be bought of good Y. Connecting these two points will give us a new budget line. Figure 1.7 presents a parallel shift in budget line due to changes in consumer income.

It is important to note that the slope of the budget line (the ratio of the two prices) does not change when income rises or falls. The budget line shifts from Bo to B_1 when income decreases and to B_2 when income rises.

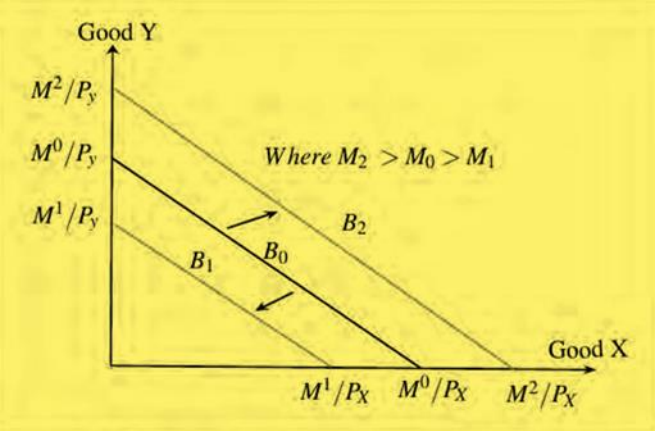


Figure. Effects of change in income

Effects of Changes in Price of the Commodities

Changes in the prices of good X or good Y causes a rotation in the position of the budget lines. In Figure 1.8 below, a price rise of good X (panel a) results in the inward rotation from B_0 to B_1. A fall in the price of good Y in panel (b) is reflected by the outward rotation of the budget line from B_0 to B_1.We can notice that changes in the prices of the commodities change the position and the slope of the budget line.

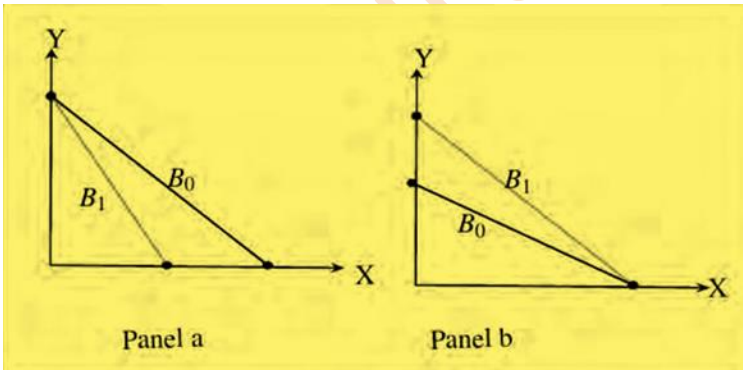


Figure. Effects of change in price

1. What would happen if price of X falls, while the price of good Y and income remain constant?

Since the Y-intercept (M/PY) is constant, the consumer can purchase the same amount of Y by spending the entire money income on Y regardless of the price of X. We can see from

Figure. that a decrease in the price of X, money income and price of Y held constant, pivots the

budget line outward, as from AB to AB'.

The consumer can buy higher quantities of X due to the decrease in price of X. The X intercepts shifts outward. The budget line rotates outward as indicated in the Figure 1.9

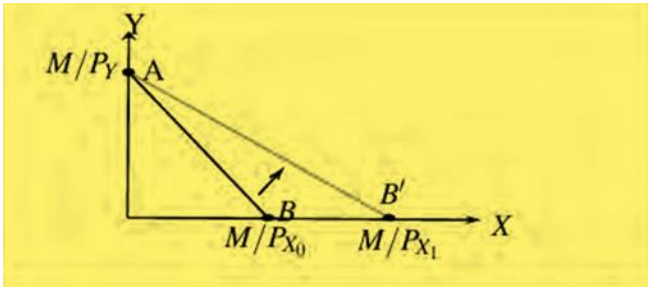


Figure. Effects of a decrease in price of X

2. What would happen if price of X rises, while the price of good Y and incme remain constant?

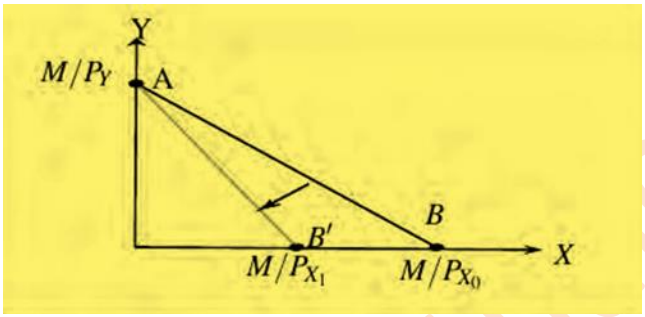


Figure. Effects of an increase in price of X

Since the Y intercept M/PY is constant, the consumer can purchase the same amount of Y by spending the entire money income on Y regardless of the price of X. We can see from Figure that an increase in the price of X, money income and price of Y held constant, pivots the budget line inward, from AB to AB' .

Activity

1.Show the effect of a rise in price of good Y if the price of good X and income remain constant.

Answer:The effect increase in price of good Y,other things remainings. One is the Y-intercept and the other is the slope of the budget line.The budget line becomes flatter due to the rise in price of good Y and the maximum amount of of good Y that can be purchased decreased following the increase in price of product Y.

2.What will be the effect of a proportionate (equal) increase in the prices of the two goods on the position of the budget line?

Answer: Proportional increase in price of both goods(X and Y),income remaining thje same

,reduced the quantity of the two goods that the consumer can by with the given income.

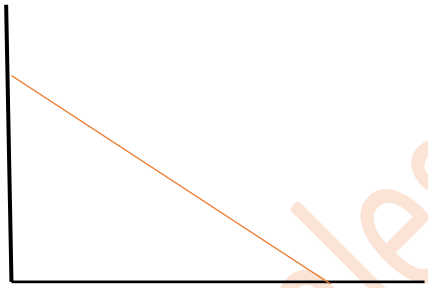
3.Assume that student Bereket has monthly pocket money of Birr 60 to spend on two goods (say tea and coffee) whose respective prices are Birr 3 and Birr 6.

a.Draw the budget line.

Answer; $M=P_tT+P_cC$

$60=3T+6C$

When Bereket spends all of his income only on the consumption of good Y .he can buy a maximum of 10 units of coffee (the Y-intercept is 0,10).However ,when he spends all of his income on the consumption of only tea ,then the X-intercept is(20,0).By using thesev two points ,we can draw the budget line as follows;



b.What happens to the original budget line if the income increases by 50%?

Answer;If income decreased by by 50%,then the new income will be reduced to 30 .As a result the budget line will be shifted inward.This forces the the person to buy less quanity of the two goods.The equation for the new budget linde can be solved as follows;

3T+6C=30

c.What happens to the original budget line if the price of tea doubles?

Answer;If the price of tea doubles ,the equation of the budget line will be :6T+6C=60.Therefore .the X-intercept decreases to 10 units(equals to $60/6$) while the Y-intercept is remains the same at 10 units.

d.What happens to the original budget line if the price of coffee falls to Birr 3?

Answer;If the price of coffee decreased by 3,the budget line will be 3T+3C=60.The Y-intercept increase to 20 units (equals to $60/3$) while the X-intercept remains the same at 20 units.

1.4 Optimum/Equilibrium of the Consumer

The consumer is at equilibrium when he/she maximizes his/her utility his/her income and the market prices of commodities. Under the indifference curves theory, two conditions must be

fulfilled for the consumer to be in equilibrium.

The first condition is that the marginal rate of substitution be equal to the ratio of commodity prices.

$MRS_{xy}=\frac{MU_x}{MU_y}=\frac{P_x}{P_y}$ This is a necessary but not sufficient ondition for equilibrium.

The second condition is that the indifference curves be convex the origin. This is the sufficient condition for equilibum.

Graphically, the consumer optimum or equilibrium is depicted in Figure

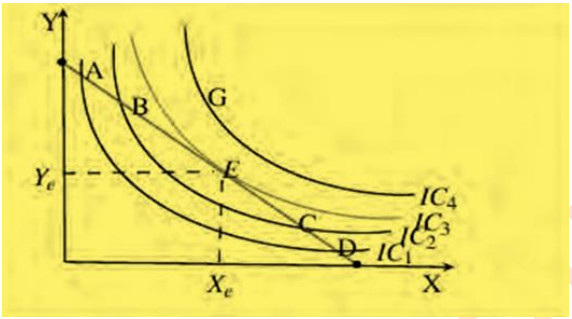


Figure. Consumer equilibrium

At point 'A' on the budget line, the consumer gets IC_1 level of satisfaction. When he/ she moves down to point 'B' by reallocating his/her total income in favor of X he/she derives greater level of satisfaction that is indicated by IC_2. Thus, point 'B' is preferred to point 'A'. Moving further down to point 'E', the consumer obtains the greatest level of satisfaction (IC_3) relative to other indifference curves. Combinations represented by points like 'G' are beyond the reach of the consumer or are unattainable with the existing income and price of the goods.

Therefore, point 'E' (which represents combination X and Y) is the preferred position by the consumer since he/she attains the highest level of satisfaction within his/her reach and point 'E' is known as the "point of consumer optimum". This equilibrium occurs at the point of tangency between the highest possible indifference curve and the budget line. Put differently, equilibrium is established at the point where the slope of the budget line is equal to the slope of the indifference curve.

Effects of Changes in Income and Prices on Consumer's Equilibrium

Note

Changes in income and prices of the two goods are the main factors that cause a change in the position of the budget line, and hence optimum position.

Let us first consider the effect of a change in income on the equilibrium of the consumer all other things remaining constant. From our discussion on the budget line, we noted that an increase in the consumer's income (all other things held constant) results in an upward parallel shift of the

budget line. This allows the consumer to buy more of the two goods. On the contrary, when the consumer's income falls, ceteris paribus, the budget line shifts downward, remaining parallel to the original one.

Consider the case of an increase in income. Following the shifts in the budget line outward, the consumer will be able to meet one of the many ICs which were not previously achievable. This creates a new equilibrium position. A further increase in income shifts the budget line outward and hence another equilibrium position will be achieved and so on. We have several consumer optimum positions following the change in income as shown in Figure 1.12. The points R and S show that the new optimum points following the increase in income.

If we connect all the points representing equilibrium market baskets corresponding to all possible levels of money income, the resulting curve is called the **income consumption curve (ICC).** ICC is a locus of points representing various combinations of the two commodities that are purchased by the consumer at different levels of income, all other things remaining the same. The ICC joins the points of consumer optimum (equilibrium) as income changes (ceteris paribus). Or, it is the locus of consumer equilibrium points resulting when only the consumer's income varies**.**

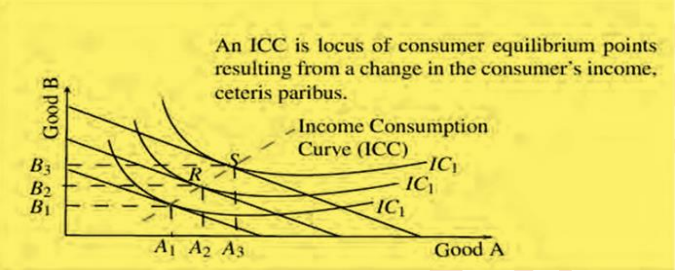


Figure. Income consumption curve(ICC)

Figure shows that the ICC of a normal commodity case. Normal goods are goods for which consumption increases with income. Examples are meat and milk. There are other goods called "inferior good" of which consumption decreases as income of the consumer increases. Traveling by public bus is a typical example of an inferior good. Note that for some people travelling by bus could be a normal good if they were travelling on foot previously. In general, however, as income increases or as people get richer, they tend to reduce their consumption of inferior goods.

Price Consumption Curve and Deriving the Demand Curve

Here, we study the effect of change in price on the consumption of goods holding money income constant. In the discussion of budget line, we saw that an increase in the price of good X, for example, decreases the maximum amount of good X that the consumer can buy without affecting the vertical (Y) intercept of the line. In this case, the budget line rotates inward on the X-axis as presented in Figure

A decrease in the price of X will result in outward rotation of the budget line and this enables the consumer to buy more of good X. If we connect all the points representing equilibrium market

baskets corresponding to each price of good X, we get the **price- consumption curve**.

The price-consumption curve is the locus of the utility-maximizing combinations of products that result from variations in the price of one commodity when other product prices, the income and other factors are held constant.

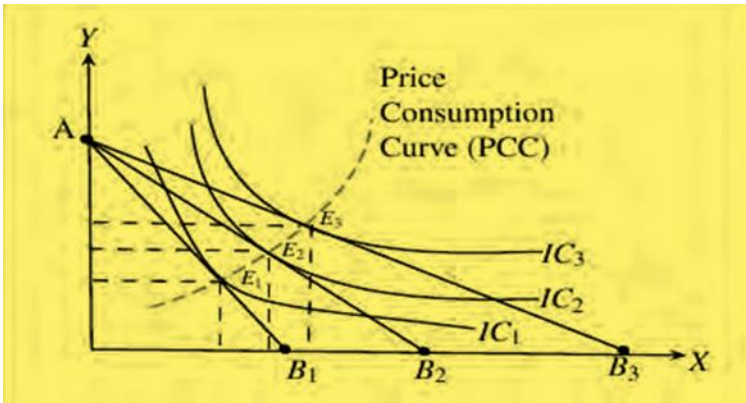


Figure. The price consumption curve

Note

Based on Figure:

- ✓ Budget line AB1 is drawn for the original price.
- ✓ When the price of good X decreases, we have a new budget line given by AB2.
- ✓ A further decrease in price of good X leads to a new budget line AB_3.
- ✓ With the three possible budget lines, the consumer faces three equilibrium points which are indicated at E1, E2 and E3.
- ✓ Connecting such optimum points leads to the PCC.

We can derive the demand curve of an individual for a commodity from the price consumption curve. Below is an illustration of deriving the demand curve when price of commodity X decreases from Px1 to Px2 to Px3 .

The successive decrease in price of good X will rotate the budget line outward. The consumer reaches new optimum points as indicated by the intersection between the new budget line and a new IC (such as point b or point c in Figure).

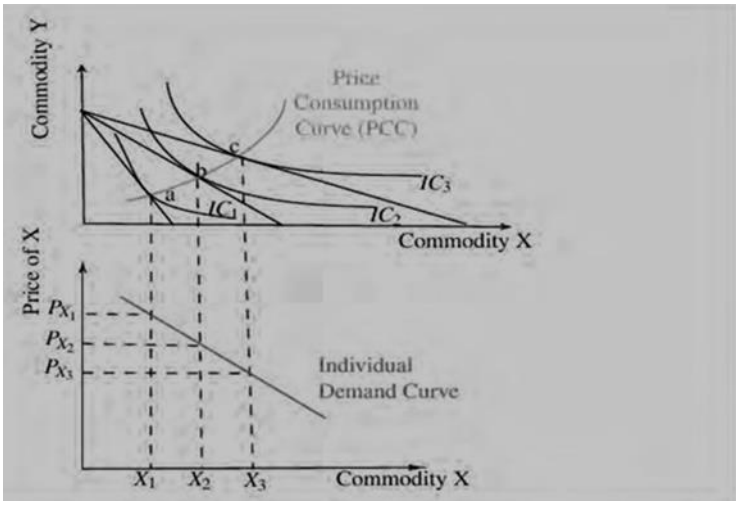


Figure. Price consumption curve and the demand curve

The lower panel of Figure shows how we can derive the demand for an individual consumer from utility maximization pints. The demand curve is derived from the PCC which was constructed by changing the price of one of the two goods. Note that demand shows an inverse relationship between price of a good and quantity demanded at equilibrium.

Review Questions

Part I: True or False

Write 'True' for the correct statements and 'False' for the incorrect ones.

1. An indifference curve shows the constant utility line to the consumer.
2. The budget line shows the amount of utility that a consumer generates from his/her consumption.
3. The marginal rate of substitution is constant as we move down the indifference curve.
4. On an indifference map, higher indifference curves represent higher utility.
5. In consumer theory, the consumer has an infinite income to spend on goods and services.

Ans;

1.False 2.False 3.False 4.True 5.False

Part II: Multiple Choices

For the following questions choose the correct answer from the given alternatives.

1. Which one of the following is not a property of a standard indifference curve?

   A. Indifference curves are downward sloping.

B. Indifference curves do not cross.

C. Indifference curves are convex to the origin.

D. Indifference curve have a constant slope.

2. Indifference curves that intersect would violate:

A. the diminishing marginal utility assumption

B. the transitivity property of indifference theory.

C. the completeness of preference theory.

D. none of the above

3. When a consumer wants to maximize his/her utility, he/she can do that by:

A. maximizing the marginal utility obtained from only one good.

B. saving more money and spending less on the goods.

C. consuming outside his/her budget line.

D. finding a point of tangency between his/her budget line and his/her indifference curve.

4. Given two commodities X and Y and level of income M, if price of good X increases (money income and price of Y remaining the same), which of the following is true?

A. The budget line rotates to the right.

B. The budget line rotates inward for the X commodity.

C. The slope of the budget line remains the same.

D. Both the X and Y intercept changes together.

5. Which one of the following curves shows the relationship between equilibrium quantities of two goods and the various levels of income?

A. income consumption curve (ICC)

B. price consumption curve (PCC)

C. demand curve

D. indifference curve (IC)

Ans;

1.D 2.B 3.D 4.B 5.A

Part III: Distinguish Terms

Explain the difference between the pair of terms in 1-5 below.

1. Cardinal and ordinal utility theory.

Answer;Cardinal utility assumes that utility can be measured in absolute number.while Ordinal approach assumes that it is difficult and not necessary to measure utility in absolute values .Only ranking or relative measurement is enough.

2. Indifference curve and indifference schedule.

Answer;Indifference curve is a graph that connects points of equal or same utility while indifference schedule is a tabular presentation of alternatives points that lead to the same utility.

3. Linear indifference curves and L-shaped indifference curves.

Answer;Linear indifference curves shows that the two goods are perfect substitutes while L-shaped indifference curve are for perfect complements.

4. Price consumption and income consumption curves.

Answer;Price consumption curve (PCC)is a line that connects several points for aconsumer as the price of one of the two goods change .An income consumption curve (ICC)on the other hand is drawn to connect different optimum combinations of the two goods as income of the consumer is allowed to change.

5. Slope of budget line and slope of indifference curve.

Answer;Slope of budget line measures market rate of exchange between any two goods and is given by the price ratios of the two goods .while the slope of indifference curve shows consumers willingness to exchange commodities.The slope of indifference curve is called **"marginal rate of substitution(MRS)."**

Part IV: Work Out

For the following question, provide the required solution neatly and clearly.

Assume that the total expenditure of a consumer on two goods X and Y is E = Birr 2900, and prices of goods X and Y are P_X= Birr 50 and P_Y = Birr 40. The marginal utility from consumption of X and Y is given as MU x = X and MU y = 4Y

Required:

a. Formulate his/her budget equation.

Solution;The budget constraint is given as $M=P_xX+P_yY$.Hence by substituting the values for our consumer ,we get :$2900=50X+40Y$

b.Calculate the slope of the budget line.

Solution;The slope of budget line is given by the price ratios .hence slope= $\frac{P_x}{P_y}=\frac{50}{40}=1.25$

c.Work out the optimum quantities of the two goods that the consumer would buy.

Solution;The consumer optimum condition is : $\frac{MU_x}{MU_Y}=\frac{P_x}{P_Y}$

Using the given values for our case ,$\frac{X}{4Y}=\frac{50}{40}$,by cross multiplication we get 40X=200Y

This gives us another equation given as X=5Y.

Using this new equation and combining with the budget constraint equation ,we can solve for the optimal values.

Frome the budget constraint we have 2900=50X+40Y and from the optimal condition we have X=5Y.

Final step is to substitute X as follows.

2900=50X+40Y then; 2900=50(5Y)+40Y

2900=250Y+40Y

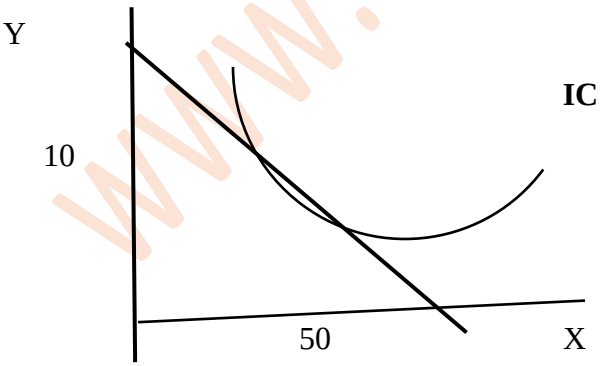
2900=290Y

Y=10 divide bothsides by 290

And corresponding value for X =5Y=5(10)=50

Therefore the optimal values of X and Y to be consumed at optimal level are 50 and 10 respectively.

d.Draw a graph to show your answers.



UNIT TWO

MARKET STRUCTURE AND THE DECISION OF FIRM

2.1 Market

In ordinary sense market is a physical place where commodities are bought and sold.In economics the term market does not necessarily refers to a particular place ,but to the **mechanism/arrangement** by which buyers and sellers of a commodity are able to contact each other.It is a structure in which the buyers and sellers of a commodity remain in contact.

Market are classified into diffetent types on the basis of factors such as ;

- The degree of competition among firms in a market
- The number of sellers and buyers
- The nature of commodity
- The mobility of goods and factors of production and
- The knowledge of buyers and sellers.

The types of market structure are the following;

- Perfectly competitive market
- Pure monopoly market
- Monopolistically competitive market and
- Oligopoly market

Perfect Competition Market

A perfectly competitive market has several distinguishing characteristics. The main features include:

1. Many Buyers and Many Sellers

There are many consumers with the willingness and ability to buy the product at a certain price and many producers with the willingness and ability to supply the product at a certain price. Since each firm supplies only small part of the total market supply any firm cannot affect the market price by altering (increasing or decreasing) its output.

The prices for goods and services are determined by the interaction of all consumers and producers in the market, i.e. the interaction of demand and supply forces. Then, every firm will assume this price as a given and make its decision accordingly.

2. Homogeneous Products

The industry or market is defined as group of firms supplying homogeneous products (goods or services). That is, products supplied by the different firms are **exactly** the same. Example, salt supplied by two sellers are identical to the extent that buyers are unable to differentiate which firm supplied which product. The assumption of large number of sellers and product homogeneity together imply that an individual firm operating in a perfectly competitive market is a ***price taker***. Thus, a competitive firm faces a completely horizontal or **perfectly elastic** demand curve for its product indicating that it can sell any amount of output only at the ongoing market price

3. Free Entry/Exit

Unlike imperfect markets, entry into and exit from a business is not blocked in a perfectly competitive market. In other words, firms have freedom of movement or there is no barrier that restricts firms from entry into and/or exit out of a perfectly competitive market.

4. Firms Aim to Maximize Profit

The objective of firms in perfect competition is profit maximization. To this end firms operate (produce and sell) at a point where the marginal cost of production meets the marginal revenue from sales.

5. Absence of Government Intervention

This is to say there is no government regulation or intervention in the market in any way, say through imposing tariffs, granting subsidies, rationing, etc., which are considered as disturbances to the market.

6. Perfect Mobility of Factors of Production

This implies that all factors of production, such as labor and raw materials, are free to move from one sector to another or from one firm to another. That is, workers can change their jobs without any restriction for labor is not unionized and the supply of raw materials is not monopolized either by one or few firms. This also implies full employment of resources.

7. Perfect Information for Both Consumers and Producers

It is assumed that in a perfectively competitive market both sellers and buyers have complete information and knowledge of the market. The implication is that the current and future price of products, quality of products supplied by different firms, etc., are certainly known. In other words, information is costless: there is no uncertainty about future prices, and no non-price competition exists under a perfectly competitive market.

Demand, Revenue and Cost Curves

In Figure 2.1, price is on the **Y**-axis and quantity is on the **X**-axis. Panel A represents the industry and Panel B represents the case of a firm. The market demand curve is **DD** and the market supply curve is **SS**. Furthermore, the point at which the market's demand and supply

curves intersect with each other is the equilibrium point. The price at this level is the equilibrium price and the quantity is the equilibrium quantity. All firms receive this price in a perfectly competitive market. As a result, in the perfectly competitive market firms are the price-takers and the industry is the price-maker. This implies that every individual firm in such markets faces a horizontal demand curve, indicating that the firm can sell whatever quantity (Q) of goods at the market-determined price. The average revenue curve is the demand curve of the firm.

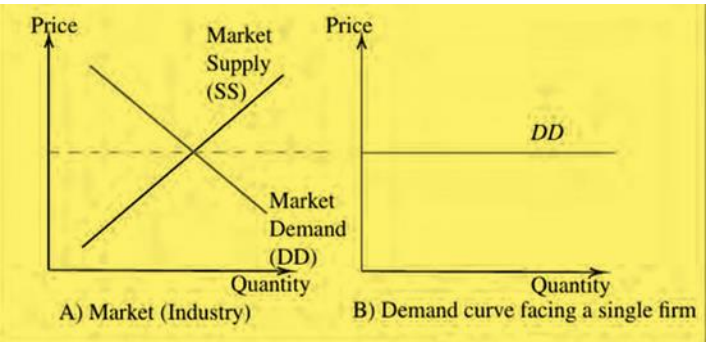


Figure. Determination of market price

A firm earns revenue by selling the good that it produces in the market.

Boxes sold(Q)	Price	TR(birr)	AR(birr)	MR(birr)
0	10	0	-	-
1	10	10	10	10
2	10	20	10	10
3	10	30	10	10
4	10	40	10	10
5	10	50	10	10

Table. Total Revenue and Marginal Revenue

A total revenue curve plots the quantity sold or output on the X-axis and the revenue earned on the Y-axis. Figure shows that the total revenue curve of a firm. The curve is actually a straight line because the firm is a price taker in the market. The constant price is what makes the total revenue curve of a straight line.

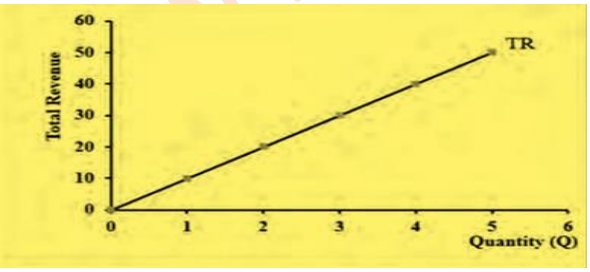


Figure. Total Revenue of perfect competition

As it is shown in Figure (A) the demand curve for perfectly competitive market is

Downward-sloping.

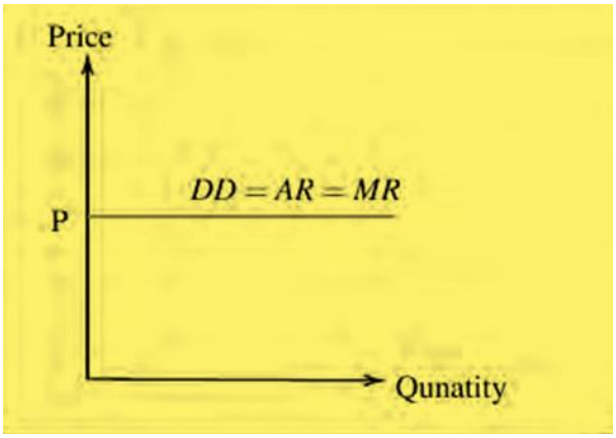


Figure. Firm price line

As shown in Figure 2.3, the demand (DD) curve for an individual firm is horizontal and equals to the equilibrium price (P) of the market or average revenue (AR) and to the marginal revenue (MR) of the firm. (P = AR = DD = MR).

Remember that: $TR = P$ x Q

$$AR=\frac{TR}{Q}=\frac{PQ}{Q}=P$$

$$MR=\frac{change\ in\ TR}{change\ in\ Q}$$

As shown in Figure 2.4, the ATC curve tends to have a **U-shape.** That is ATC tends to fall at first and then rise as the output level increases. The marginal cost curve falls briefly at first, and then rises. Marginal costs are derived from variable costs and are subject to the principle of variable proportions.

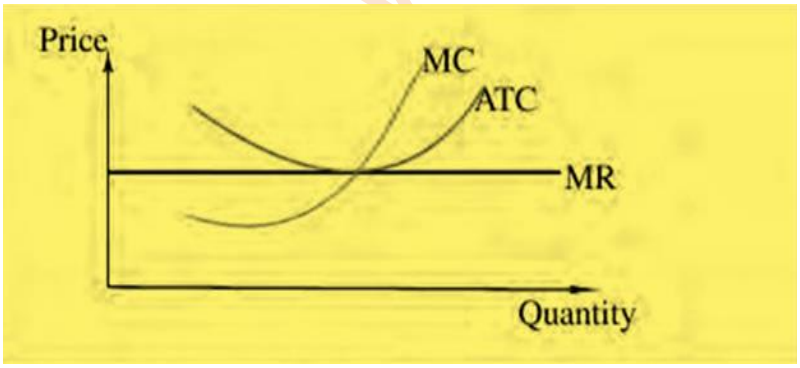


Figure Marginal Revenue,Marginal Cost,Average Cost of the Firm

Note

From Figure one can conclude that:

- ✓ ***When the average cost declines, the marginal cost is less than the average cost.***
- ✓ ***When the average cost increases, the marginal cost is greater than the average cost.***
- ✓ ***When the average cost stays the same (is at a minimum or maximum), the marginal cost equals the average cost.***

A perfectly competitive firm faces a perfectly elastic demand curve for its product.That means buyers are willing to buy any number of units of output from the firm at the market price. When the firm chooses what quantity to produce, then this quantity along with the prices prevailing in the market for output and inputs will determine the firm's total revenue, total costs, and ultimately, level of profits.

Profit=Total Revenue-Total Cost

Or Profit=(Price)(Quantity produced)-(Average Cost)(Quantity Produced)

The Short-Run Equilibrium of Firm

The short run is a period of time in which the quantity of at least one input is fixed and the quantities of the other inputs can be varied. The long run is a period of time in which the quantities of all inputs can be varied. There is no fixed time that can be marked on the calendar to separate the short run from the long run. The short-run and long-run distinction varies from one industry to another.

In order to explain the equilibrium of a competitive firm in the short run we can use two different approaches:

1. Total revenue (TR)- total cost (TC) approach and
2. Marginal revenue (MR)-marginal cost (MC) approach

1. Total Revenue - Total Cost Approach

A perfectly competitive firm can sell as large a quantity as it wishes, as long as it accepts the prevailing market price. Total revenue is going to increase as the firm sells more, depending on the price of the product and the number of units sold. Total revenue for a perfectly competitive firm is a straight line sloping up as shown in Figure. The slope is equal to the price of the good. Total cost also slopes up, but with some curvature as shown in Figure.

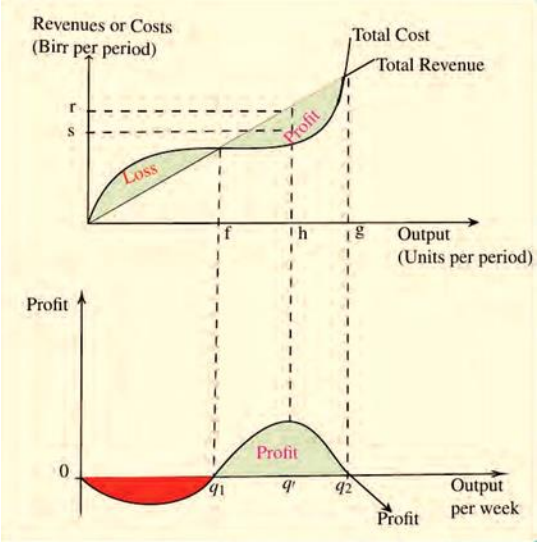


Figure. Total Cost and Total Revenue of the firm

In short run using total revenue – total cost approach the firm is at equilibrium when: $\Pi = R(Q) - C(Q)$ is maximum. The maximum profit will occur at the quantity where the gap of total revenue over total cost is **largest.** In Figure 2.5 the horizontal axis shows that the quantity produced; the vertical axis shows both total revenue and total costs. The firm is at equilibrium by producing ***'q'*** level of output.

2.Marginal Revenue – Marginal Costs Approach

The marginal revenue curve shows that the additional revenue which is gained from selling one more unit. Notice also that marginal revenue in a perfectly competitive market does not change as the firm produces more output.

$$MC = \frac{Change\ in\ TC}{Change\ in\ Q}$$

Marginal cost changes as the firm produces a greater quantity.

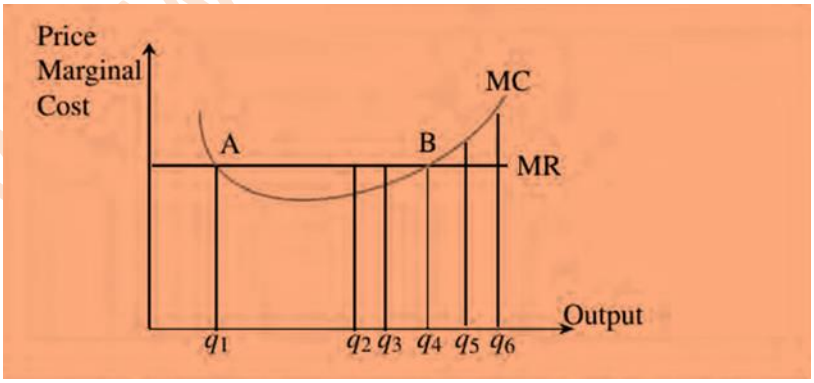


Figure. Marginal Revenue and Marginal cost of the firm

For a perfectly competitive firm, the marginal revenue (MR) curve is **a horizontal straight line** because it is equal to the price of the good, which is determined by the market, shown in Figure.

The marginal cost (MC) curve is initially downward-sloping showing that this is a region of increasing marginal returns at low levels of output, but is eventually upward-sloping at higher levels of output as diminishing marginal returns kick in.

In short-run using marginal revenue – marginal cost approach there are two conditions for the equilibrium of the firm is when:

1. MR - MC = 0 or MR = MC (e.g. points q and q in Figure 2.6).
   $\frac{\Delta \text{Ⅲ}}{\Delta x} = \frac{\Delta TR}{\Delta Q} - \frac{\Delta TC}{\Delta Q} = 0$ 2.
2. The second condition for equilibrium requires that the MC be rising at the point of its intersection to the MR curve. This means that the MC must cut the MR curve from below, i.e. the slope of the MC must be steeper than the slope of the MR curve. In Figure 2.6 the slope of the MC is positive at q4 while the slope of the MR is zero at all levels of output. As a result, it is not q1, but q4 which is the equilibrium point as it satisfies the two conditions.

Note that as the marginal revenue received by a perfectly competitive firm is equal to the price of the profit- maximizing rule for a perfectly competitive firm it can also be written as P = MC.

The answer depends on the relationship between price and average total cost.

1. If the market price received by a perfectly competitive firm leads it to produce at a quantity where the price is greater than average cost, the firm will earn profits.
2. If the price received by the firm causes it to produce at a quantity where price equals average cost, which occurs at the minimum point of the AC curve, then the firm earns zero profits.
3. If the price received by the firm leads it to produce at a quantity where the price is less than average cost, the firm will incur losses.

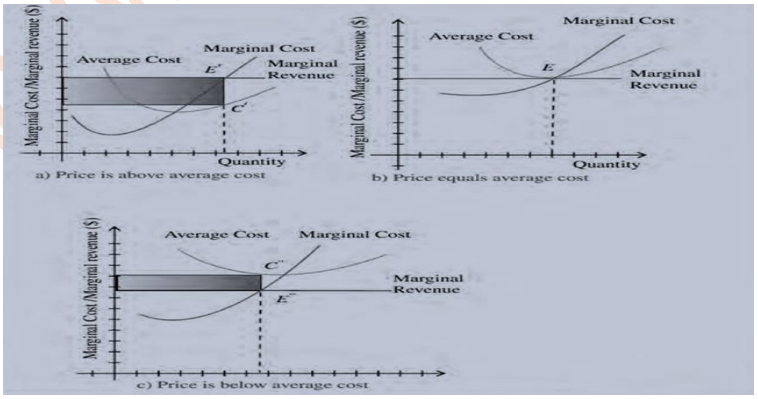


Figure. Profit maximization in perfectly competitive market

- ☞ The possibility that a firm may incur losses raises a question: why firmsfail to avoid losses by shutting down and not producing at all?Does maximizing profit (producing where MR = MC) imply an actual economic profit?

As shown in Figure , the answer is that shutting down can reduce variable costs to zero, but in the short run, the firm has already paid for fixed costs. As a result, if the firm produces a quantity of zero, it would still make losses because it would still need to pay for its fixed costs. So, when a firm is experiencing losses, it must face a question: should it continue producing (break even) or should it shut down?

If price falls in the zone between the shutdown point and the zero profit point (breakeven point), then the firm is making losses but will continue to operate in the short run, since it is covering its variable costs. However, if price falls below the price at the shutdown point, then the firm will shut down immediately, since it is not even covering its variable costs. The intersection of the average variable cost curve and the marginal cost curve, which shows the price where the firm would lack enough revenue to cover its variable costs, is called the "shutdown point" " (see Figure).

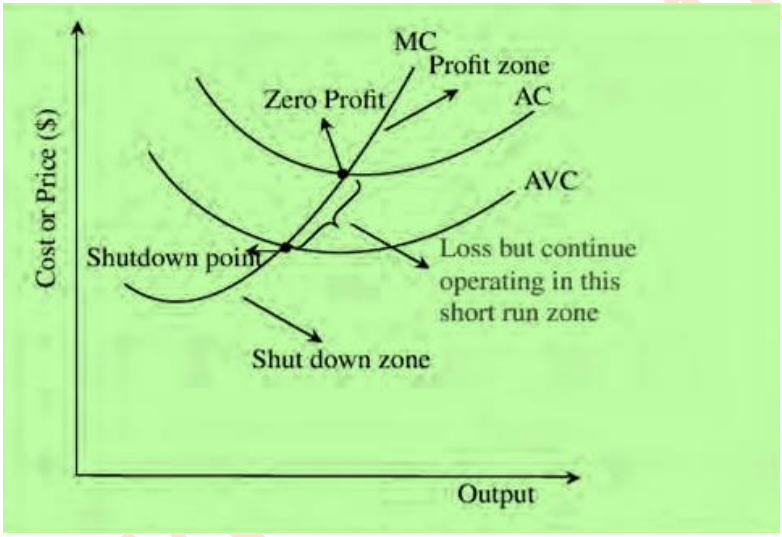


Figure. Profit/Loss and Shutdown

Activity

A perfectly competitive firm has a cost function of $C = Q^2 + 20Q + 700$ and the equilibrium price is Birr 100. Find:

a. The profit maximizing level of output.

b. The maximum level of profit.

Answer;a.$C=Q^2+20Q+700$,THEN $MC=\frac{\Delta TC}{\Delta Q}=\frac{dTC}{dQ}=\frac{d(Q2+20Q+700}{dQ}=2Q+20$

Equilibrium condition under perfectly competitive market P=MC

$100=20Q+20 \leftrightarrow 80=2Q \leftrightarrow Q=40$

b.π=TR-TC

$TR=p*q \leftrightarrow TR= 100*40=4000 \leftrightarrow TR=4000$

$TC=Q^2+20Q+700 \leftrightarrow TC=(40)^2+20(40)+700 \leftrightarrow TC=3100$

$\pi=4000-3100=900$

Short Run Supply Curve of a Firm

Short run is a period in which supply can be changed by changing only the variable factors, fixed factors remaining the same. The supply curve indicates the relationship between price and quantity supplied. In other words, supply curve shows the quantities that a seller is willing to sell at different prices. That way, if the firm shuts down, it has to bear fixed costs. That is why in the short run, the firm will supply commodity till price is either greater or equal to average variable cost. Thus a firm will continue supplying the commodity till marginal cost is equal to price or average revenue. As a result short run supply curve of a perfectly competitive firm is that portion of marginal cost curve which is above average variable cost curve.

From Figure 2.9, it is clear that there is no supply if price is below OP1. At price less than OP_1, the firm will not be covering its average variable cost. At OP_1 price, OQ_1 is the supply. In this case, firms' marginal revenue and marginal cost cut each other at M and OQ_1 is equilibrium output.

If price goes up to OP2, the firm will produce OQ_2 output. This firm's short run supply curve starts from A upwards through B (SS).

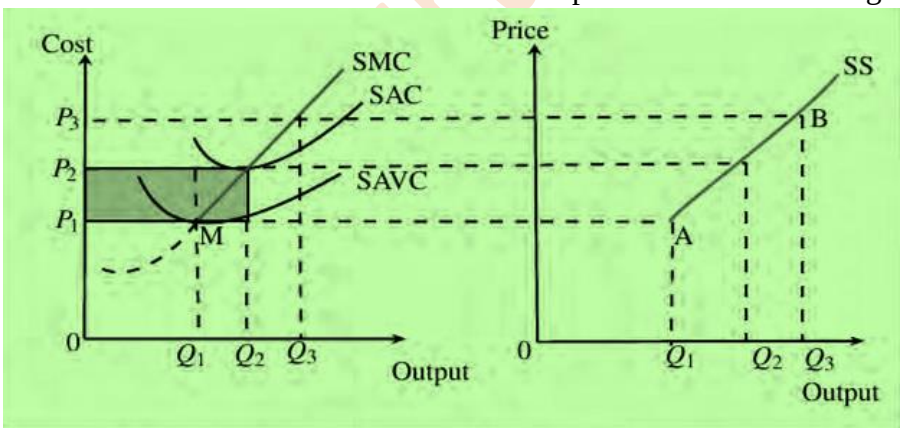


Figure. supply curve of the firm

Short run supply curve of a competitive industry will always slope upwards since the short - run marginal cost curve of the industrial firms always slope upward.

Long run-equilibrium of Firm

In the long run, a firm achieves equilibrium when it adjusts its plant to produce output at the minimum point of its long-run average cost (LAC) curve. This curve is tangential to the market price defined demand curve. In the long run, a firm just earns normal profits. If a firm earns supernormal profits in the short run, then the industry will attract new firms into it. Eventually, this leads to a fall in prices of the goods and an increase in prices of the factors as the industry expands. These changes continue until the LAC curve is tangential to the demand curve.

On the other hand, if firms make losses in the short run, then they leave the industry in the long run. This results in a rise in price and a drop in costs as the industry contracts. These changes continue until the remaining firms in the industry cover their total costs and make normal profits.

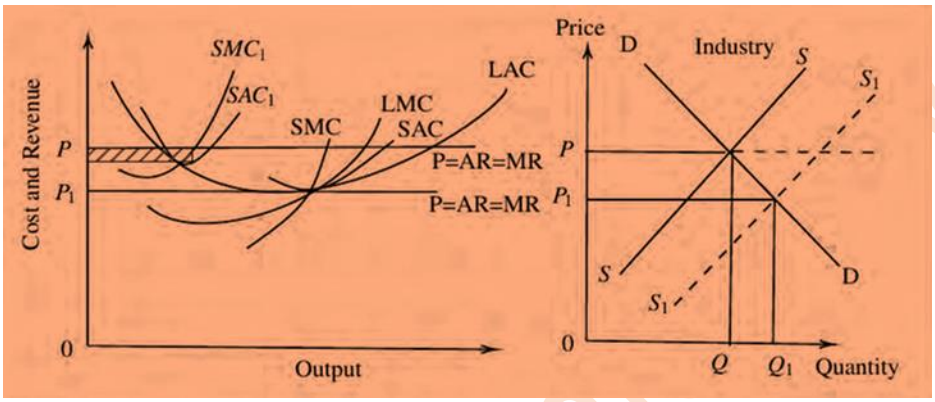


Figure. Long-run equilibrium (perfectly competitive market firm)

In Figure 10, OP is the price and the firm which is making supernormal profits by working with the plant whose cost is SAC_1. Therefore, the firm has an incentive to build new capacity and move along its LAC. Simultaneously, the excess profits attract new firms to the industry.

This leads to an increase in the quantity supplied, shifting the supply curve to the right and a fall in the price, until it reaches the point OP_1. At OP_1, the firms and the industry are in long-run equilibrium.

Condition for Long - Run Equilibrium of a Firm

For a firm to achieve long-run equilibrium, the marginal cost must be equal to the price and the long-run average cost. That is, LMC = LAC = P. The firm adjusts the size of its plant to produce a level of output at which the LAC is minimum.

Therefore, in the long-run, we have: SMC = LMC = SAC = LAC = P = MR

2.2 Pure Monopoly Market

Main characterstics of monopoly market

1.The existence of a single seller and many buyers in the market. A monopoly firm has no rivals;

rather it is the only firm in its industry.

2. The product or service of a monopolist is unique or does not have close substitutes.

3. A monopolist is a price-maker for its product/service. . It selects from its demand curve the price that corresponds to the quantity that the firm has chosen to produce in order to earn the maximum profit possible. A firm that acts as a "price setter" possesses monopoly power.

4. Entry to and exit out of the market are difficult (if not impossible). The entry of new firms, which eliminates profit in the long run in a competitive market, cannot occur in the monopoly model.

Demand, Revenue and Cost under Monopoly

The demand curve as perceived by a perfectly competitive firm is not the overall market demand curve for that product. However, the firm's demand curve as perceived by a monopoly is the same as the market demand curve. The reason for the difference is that each perfectly competitive firm perceives the demand for its products in a market that includes many other firms; in effect, the demand curve as perceived by a perfectly competitive firm is a tiny slice of the entire market demand curve. In contrast, a monopoly perceives demand for its product in a market where the monopolist is the only producer.

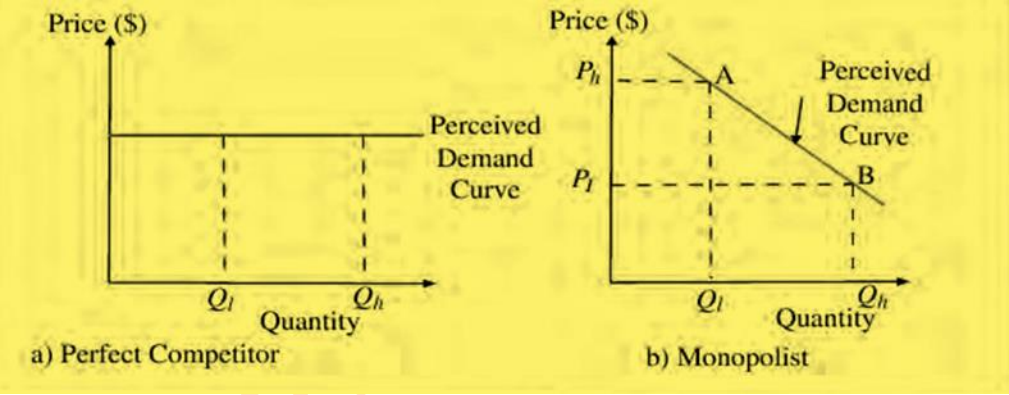


Figure. The perceived demand curve

As shown in Figure , a monopolist perceives the demand curve that it faces to be the same as the market demand curve, which for most goods is downward-sloping. Thus, if the monopolist chooses a high level of output (Qh), it can charge only a relatively low price (Pl); conversely, if the monopolist chooses a low level of output (Ql), it can then charge a higher price (Ph). The challenge for the monopolist is to choose the combination of price and quantity that maximizes profits. The marginal revenue curve for a monopolist always lies beneath the market demand curve.

As shown in Figure, the monopolist's MR and demand have the same vertical intercept. As output increases, marginal revenue decreases twice as fast as demand, so that the horizontal intercept of MR is halfway to the horizontal intercept of demand. This is because when the

market demand curve is conditional, the marginal revenue curve for a monopolist lies beneath the demand curve.

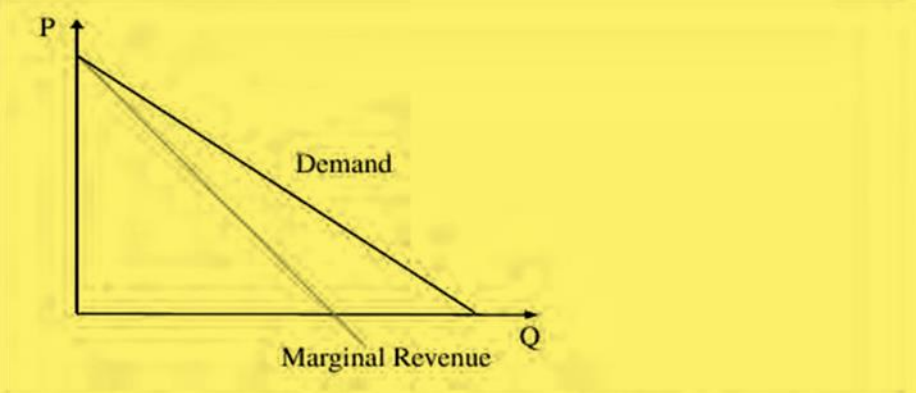


Figure. Monopolist Mariginal Revenue and Demand curve

The shapes of the total cost curves, average cost curves and marginal cost curves confronting a monopolist are the same as those faced by a perfectly competitive firm. The cost curves (TC, AC and MC) have their typical shape as discussed in "perfect competitive market". Total revenue, by contrast, is different from perfect competition. Since a monopolist faces a downward - sloping demand curve, the only way it can sell more output is by reducing its price.

It is assumed that the shapes of cost curves confronting a monopolist are the same as those faced by a perfectly competitive firm. Most will have low marginal costs at low levels of production, reflecting the fact that firms can take advantage of efficiency opportunities as they begin to grow. Marginal costs get higher as output increases.

Short-run equilibrium under Monopoly

Short - run Equilibrium of the monopolist is a point where profits are maximized or losses are minimized. There are two approaches that indicate the equilibrium position, namely, total revenue - total cost (total approach) and marginal revenue-marginal cost (marginal approach).

1. **Total Revenue-Total Cost Approach**

Analogous to the perfectly competitive firm, the monopolist reaches maximum profit when it produces and markets output levels that result in a greatest positive difference between total revenue and total cost, (or minimizes loss when, the negative difference between total revenue and total cost is least).

We can illustrate profits for a monopolist with a graph of total revenues and total costs, using the data for the monopoly firm in Table . Total revenue for the monopoly firm first rises, then falls. Low levels of output bring in relatively little total revenue as the quantity is low. High levels of output bring in relatively less revenue as the high quantity pushes down the market price. The total cost curve is upward sloping and the curve grows steeper as output increases. Profits will be highest at the quantity of output where total revenue is most above total cost (at three unit

quantity demanded). The profit-maximizing level of output is not the same as the revenue-maximizing level of output, which should make sense, because profits take costs into account and revenues do not.

	Price($/hair cut)	Quantity Demanded(hair cuts/hrs)	Total Revenue($)	Marginal Revrenue($/hair cut)	TC($)	Marginal Cost($/hair cut)	Profit
A	20	0	0	-	12	-	-12
B	18	1	18	18	17	5	1
C	16	2	32	14	23	6	9
D	14	3	42	10	30	7	12
E	12	4	48	6	40	10	8
F	10	5	50	2	55	15	-5

Table. Total Revenue and Total Cost for the Monopolist firm

Hence, as shown in Figure. the firm maximizes profit by producing and selling 3 units of output.

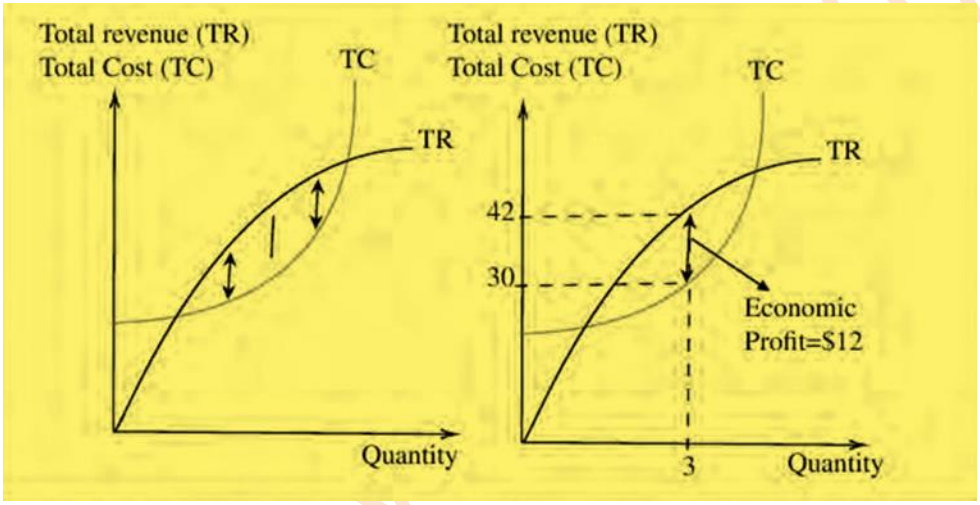


Figure. Monopolist short run equilibrium using TR and TC approach

Monopolies have downward-sloping marginal revenue curves that are different from the good's price. According to this approach, a monopolist maximizes its profit or minimizes its loss if the following two conditions are satisfied:

1. Marginal cost is equal to marginal revenue.

2. The slope of marginal cost is greater than the slope of the marginal revenue at the point of equality.

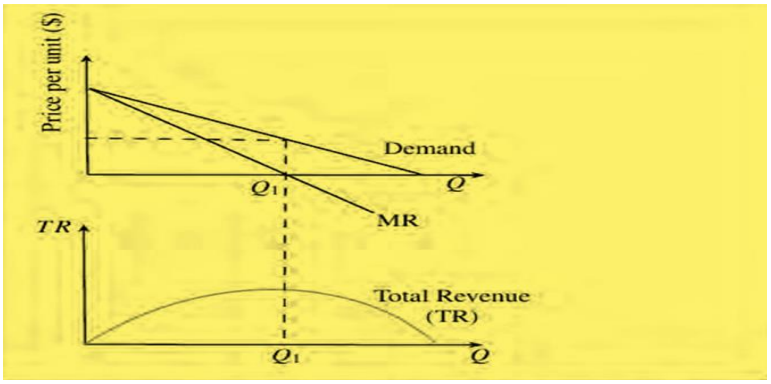


Figure. Monopolist demand curve MR curve

In Figure, AR is the average revenue curve and MR is the marginal revenue curve. The AR curve is falling and the MR curve lies below AR. The monopolist is in equilibrium at E where MR = MC. The monopolist produces OM units of output and fixes price at OP. At OM output, the average revenue is MS and average cost is MT.

Therefore the profit per unit is MS - MT = TS. The total profit is average profit (TS) that is multiplied by output (OM), which is equal to HTSP. The monopolist is in equilibrium at point E and produces OM output at which it is earning maximum profit.

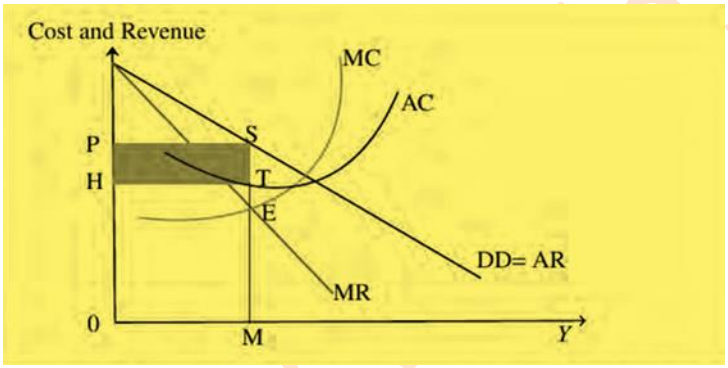


Figure. Price and output determination in monopoly market

There are three possibilities for a firm's equilibrium in monopoly. These are:

1. The firm earns normal profits if the average cost is equal to the average revenue.
2. It earns super-normal profits if the average cost is less than the average revenue.
3. It incurs losses if the average cost is greater than the average revenue.

Price Discrimination under Monopoly

Price discrimination occurs when a monopolist sells different units of output at different prices.

There are three degrees of price discrimination which are practiced by the monopolist. There are

three types of price discrimination – first-degree, second-degree, and third-degree.

1. **First degree (or perfect/primary) price discrimination**

It requires the monopoly seller of a good or service to know the absolute maximum price (or reservation price) that every consumer is willing to pay. By knowing the reservation price, the seller is able to sell the good or service to each consumer at the maximum price he/she is willing to pay, and thus transform the consumer surplus into revenues. So, the profit is equal to the sum of consumer surplus and producer surplus. The marginal consumer is the one whose reservation price equals to the marginal cost of the product. The seller produces more of his/her product than he/she would to achieve monopoly profits with no price discrimination, which means that there is no deadweight loss. This is sometimes referred to as "take or-leave-it" price discrimination

2.**Second degree price discrimination, or nonlinear pricing**

It occurs when prices differ depending on the number of units of the good bought, but not across consumers. That is, each consumer faces the same price schedule, but the schedule involves different prices for different amounts of the goods purchased. Quantity discounts or premium are the obvious examples. Price varies according to quantity demanded. Larger quantities are available at a lower unit price. This is particularly widespread in sales to industrial customers, where bulk buyers enjoy higher discounts. In reality, different pricing may apply to differences in product quality as well as quantity. For example, airlines often offer multiple classes of seats on flights, such as first class and economy class. This is a way to differentiate consumers based on preference, and therefore, allows the airline to capture more consumers' surplus.

3.**Third degree price discrimination,** means charging a different price to different consumer groups and it is the most common type. The monopolist divides the entire market into submarkets and different prices are charged in each submarket. Therefore, third-degree price discrimination is also termed as "market segmentation". If a monopolist is faced with two or more markets, completely separated from each other each having a demand curve with different elasticity, then the monopolist is required to allocate its output between the different markets so that it can maximize profit in all markets. Profit in each market is maximized only when MC = MR in each market. Thus, the monopolist allocates its output between the markets so that in all the markets MC = MR. For instance, railways charge lower fares to senior citizens and Students get discount in cinemas, museums, and historical monuments.

There are several factors or bases for price discrimination:

- ✓ income of the consumers,
- ✓ geographical location,
- ✓ age,
- ✓ quantity of purchase,
- ✓ relationship with the seller,
- ✓ frequency of visit to the shop, are a few among others.

2.3 Monopolistic Competition Market

The monopolistic competition lies between the two extremes of pure competition and monopoly. Monopolistic competition is a blend of competition and monopoly. Put differently, monopolistic competition possesses some elements or characteristics of perfect competition and draws some elements from pure monopoly. The competitive element arises because there are many sellers, each of which is too small to significantly affect the other sellers. In addition, firms can enter and leave a monopolistically competitive industry. Thus, the major elements of perfect competition found in monopolistic competition are:

1 .the existence of many small firms which are unable to significantly affect each other (when seen individually), and

2.the possibility of entry and exit.

The monopolistic element arises from product differentiation. That is, since the product of each seller is similar but not identical, each seller has a monopoly power over the specific product it sells. This monopoly power, however, is severely limited by the existence of close substitutes. In other words, even if the product of a monopolistic competitor is unique and this grants the firm some power of price-making (just like a pure monopolist), the product has close substitutes (unlike that of a pure monopolist) which limits the power of a monopolistic competitor.

Product Differentiation and Demand Curves

Product differentiation is generally intended to distinguish the product of one producer from that of the others in the 'industry'. A firm whose product has close substitutes (strong competitors) is busily engaged in trying to make its product *better* or *look better* than the substitute products. That is, monopolistically competitive firms have to secure some market share by making their products "different".

Product differentiation can be real or fancied.

Real product differentiation: exists when there are differences in the specification of the products (chemical composition/ingredients), or differences in the factor inputs, or the location of the firm that determines the convenience with which the product is accessible to the consumer, or the services offered by the producer during times of sale. For more clarity, two brands of soap (say, B-29 and Peacock) are said to be really differentiated either:

- ✓ if they are made of different ingredients, or
- ✓ if the producer (or retailer) of one is more conveniently accessible to consumers than that of the other, or else
- ✓ if there is a difference only in the quality of services say the whole distributors of the two brands offer to their buyers.

As long as there is a difference in what the consumer or the buyer actually gets, whether it is a difference of chemical composition or a difference of the accompanying service, the product

differentiation is real.

Fancied (spurious/imaginary) product differentiation: exists when the products are basically the same but the consumer is persuaded, via advertising or other selling activities, that the products are different. It is established by advertising, difference in packaging, difference in design, or simply by brand name. As a hypothetical example, even if Fine and Abyssinia pocket tissue papers might be of the same quality for an individual in all aspect, the individual may still tilt towards witnessing the superiority of one only because of the difference in color of packaging. This is just one example of spurious product differentiation; think of such differences between/among close substitutes in your locality.

Whatever the case, the aim of product differentiation is to make the product unique in the mind of the consumer.

The demand curves

One major implication of product differentiation is that the producer has some power in the determination of its product's price. The firm is not a price-taker but a price-maker even though it faces the keen competition of close substitutes offered by other firms. Hence, product differentiation gives rise to a negatively sloping demand curve. This demand curve is less than perfectly elastic as the firm can alter price, but more elastic than the demand curve a pure monopolist faces because of the availability of close substitutes in monopolistic competition.

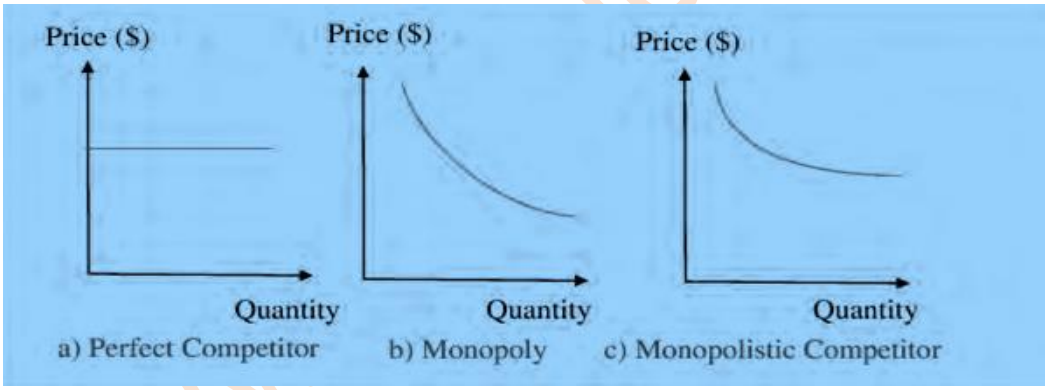


Figure:perceived demand for firms

A monopolistically competitive firm perceives a demand for its goods that is an intermediate case between monopoly and competition. The demand curve that a perfectly competitive firm faces is perfectly elastic (panel a), meaning it can sell all the output it wishes at the prevailing market price. The demand curve that a monopoly faces (panel b) is the market demand. It can sell more output only by decreasing the price it charges. The demand curve that a monopolistically competitive firm faces Panel c) falls in between. The demand curve as a monopolistic competitor faces is not flat, but rather downward-sloping, which means that the monopolistic competitor can raise its price without losing all of its customers or lower the price and gain more customers. Since there are substitutes, the demand curve facing a monopolistically

competitive firm is more elastic than that of a monopoly where there are no close substitutes.

Costs under Monopolistic Competition

From the theory of costs (you covered in Microeconomics I), recall that the average variable cost (AVC), average total cost (ATC) and marginal cost (MC) are all U-shaped. Chamberlin adopted this shape of costs of the traditional theory of the firm. The average variable cost (AVC), marginal cost (MC) and average total cost (ATC) curves are all U- shaped implying that there is only a single level of output which corresponds to optimal production.

Nevertheless, there are some new concepts that Chamberlin added to the traditional theory of costs. He introduced the selling costs to the theory of the firm for the first time. The recognition of product differentiation provides the rationale for the selling expenses incurred by a firm. He also argued that the selling-costs curve is U-shaped, i.e., there are economies and diseconomies of scale of advertising as output changes. The cost of advertising per unit of output initially declines and then eventually rises as output expands. Thus, there is a level of output where the ATC of advertising is minimized.

The U-shaped selling costs, added to the U-shaped production costs, yield U-shaped average, average variable, and marginal cost curves. Hence, whenever you come across the costs (or cost curves) of a monopolistically competitive firm, remember that they include both production and selling costs.

Short- run Equilibrium under Monopolistic Competition

The monopolistically competitive firm decides on its profit-maximizing quantity and price in much the same way as a monopolist. A monopolistic competitor, like a monopolist, faces a downward-sloping demand curve, and so it will choose some combination of price and quantity along its perceived demand curve.

In the short-run in monopolistic competition there are two marginal conditions that must

be satisfied for the profit to be maximum:

1.Necessary or first order condition: marginal revenue is equal to marginal cost (MR= MC) and

2.Supplementary (sufficient) or second order condition: marginal revenue curve cuts marginal cost curve from the lower side.

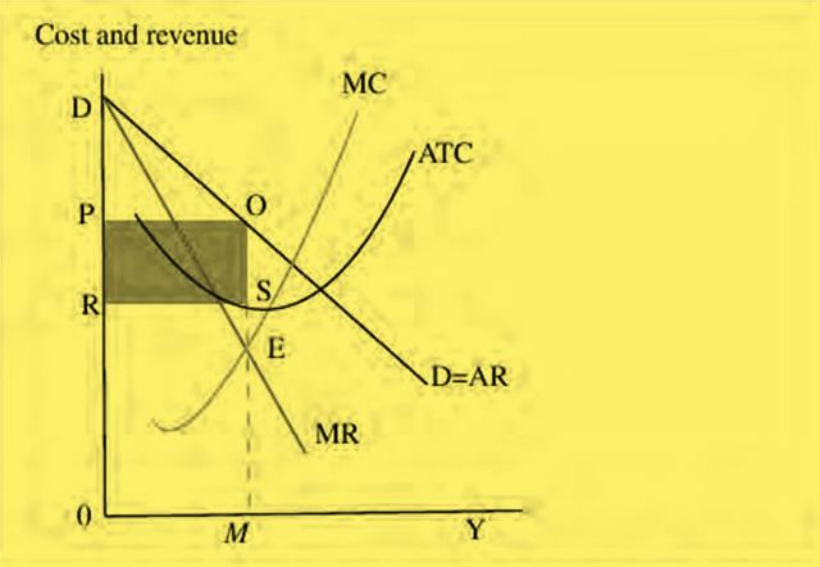


Figure. Monopolistic Competition firm with profit

As shown in Figure , MC and AC are the short period marginal cost and average cost curves. The downward sloping average revenue and marginal revenue curves are AR and MR. The equilibrium point is E where MR = MC. The equilibrium output is OM and the price of the product is fixed at OP. The difference between average cost and average revenue is SO. The output is OM. So, the supernormal profit for the firm is shown by the rectangle POSR. The firm by producing OM units of its commodity and selling it at a price of OP per unit realizes the maximum profit in the short run.

2, 4 The Concept of Industry and Product Group

The word "industry" refers to all the firms producing a homogeneous (identical) product. But under monopolistic competition the product is differentiated. Therefore, there is no **"industry"** but only a "group" of firms producing a similar product. Each firm produces a distinct product and is itself an industry. An operational definition of product group is that the demand for each single product is highly elastic and it shifts appreciably when the prices of other products in the group change. In other words, products forming the group should have high price and cross elasticity. In the product group, the demand for each product has high cross elasticity so that when the price of other products in the group changes, it shifts the demand curve. We will call the firms that are producing close substitutes "product groups". For example, a firm producing soap, shampoo and chocolate cannot be called an industry.

Equilibrium of the Firm

As for a firm under any type of market structure, the best level of output for a monopolistically competitive firm is determined by the equality of marginal revenue and marginal cost (i.e., MR = MC).

Oligopoly Market

Oligopoly is a market in which a few dominant sellers sell differentiated or homogeneous products under continuous consciousness of rivals' action. In oligopoly, due to the small number of large firms and hence, the large market share of each firm, the actions of one firm affect and are affected by the actions of the other firms in the market, and this is known as "strategic interdependence". At least some firms have large market shares and thus, can influence the price of the product. The oligopolistic firms are aware of their interdependence and always consider their rivals' reaction when setting prices, output goals, advertising budgets and other business policies. When the firms sell homogeneous products such as cement, steel or aluminum, they are called "pure oligopolies" whereas if the firms are selling differentiated products, such as cold drinks and automobiles, they are called "impure" or "differentiated oligopoly". Examples of oligopoly are the pharmaceutical market, the automobile, the steel, the photographic equipment and the beverage (including soft drinks) industries.

Duopoly is a special case of an oligopoly where two firms operate and have power over the market. The aircraft manufactures Boeing and Airbus can be considered as duopolies.

There are two types of oligopoly: **collusive** and **non-collusive** oligopoly

Collusive Oligopoly

Collusive oligopoly refers to a form of oligopoly in which the competing firms collude so as to minimize competition and maximize joint profit by reducing the uncertainties arising due to rivalry and selling the goods and services at a monopoly price. The oligopolists enter into a contract to establish the levels of price and output, in the market and the products sold are homogeneous. In this type of oligopoly firms know that if they increase or decrease their prices will be a shift in the demand curve, as the products that are offered by the entire firm are homogeneous so customers can purchase them from any of the firms. By deciding not to compete with each other, the firms can set up a monopoly price on the output to be produced by each firm. By doing this, oligopolists can achieve the maximization of joint profit, (i.e. by working as a single firm). In fact, firms enter into pricing agreements with each other instead of competing or price wars. Such agreements both explicitly (or formal) and implicit (or informal) may be called "collusion". Collusion can be of two types:

1.**Cartels:** the word 'cartel' is used for those agreements whereby a common sales

agency exists which carries out the selling activities of all the member firms.

Producer firms enter into a formal agreement that states the price and output, of all firms that are members of the cartel. So in a cartel firms, jointly fix the price and output policy by way of agreements.

2.**Price leadership:** when a formal collusive agreement becomes difficult to launch, oligopolists sometimes operate on informal tacit collusive agreements. One of the most common forms of informal collusion is price leadership. Price leadership arises when one dominant firm initiates

price changes and other firms follow. There is an implicit understanding between the oligopolists to coordinate prices, whereby the dominant firm initiates the price changes and all the other firms follow, or match the change in price.

All firms will aim to achieve more strength and power over rival firms. As a result, in an oligopolistic industry, a few powerful competitors emerge that cannot be eliminated easily by other powerful firms. Under these circumstances, some of firms act together or collude with each other to reap maximum advantage.

Non-collusive Oligopoly

Non-collusive oligopoly refers to the oligopoly in which firms are in competition with each other. They compete with each other and determine independently the price of their products. In other words, it is a market in which there are few firms, each firm pursues its own price and output policy independent of the rival firms. Thus, every firm tries to increase its market share through competition. This is because, there are only a few big firms in the market, there is cut-throat competition. Therefore, in this market, aggressive advertisement develops brand loyalty. The firms survive in a strategic environment, as they begin with a particular strategy without colluding with competitors.

In a non-collusive oligopoly:

1.Firms are independent of each other.

2.There are a large number of firms.

3.There are fewer barriers to.

4.There are strict government regulations.

5.Each firm develops an expectation as to what rivals firms are about to do.

Firms in a non-collusive oligopoly have to consider the possible actions of competitors and how to react. This means non-collusive oligopoly is characterized by price inflexibility. Each firm attempts to increase its market share by way of competition.

There are four popular models of the non-collusive oligopoly:

- ✓ Cournot's duopoly model,
- ✓ Bertrand's duopoly model,
- ✓ Stackelberg's duopoly model and
- ✓ the 'Kinked-Demand Curve' model.

	Collusive Oligopoly	Non Collusive Oligopoly
Meaning	Refers to a form of market in which sellers eliminate the competition through a formal agreement	A situation where each firm has its own price and output policy independent of rival firms

Collusion	The few sellers collude to cartels yo avoid competition	Competition is preferred to collusion as a means of profit maximization
Price and output decision	The price and output decision of a cartel are mutual	Each firm has its own price and output decision
Interdependency	Firms decision are interdependent each other	Firms decision are independent of rival firms in the market
Competition	There is no competition in the market due to collusion	There is cut-throat competition among the firms
Selling costs	There is need to incur expenditure to create brand loyality	Firms make aggressive advertisement and develop brand loyality
Creation of monopoly	This market is like a monopoly as cartels have full control over the price and can earn monopoly profit	There is no such market formation under this market

Review Questions

Part I: True or False

Write "True" for the correct statements and "False" for the incorrect ones.

1.oligopolistic firms are aware of their interdependence and always consider their rivals' reaction when setting prices, output goals, advertising budgets and other business policies.

2.The firm's demand curve as perceived by a monopoly is the same as the market demand curve.

3.The most important variable that determines the long-run equilibrium of monopoly markets is the adjustment to the number of firms in the market.

4.Monopolistic competitive market involves many firms which are competing against each other but selling products that are distinctive in some way.

5.A firm will exit a market if the revenue it gets less than its total cost.

Answer;

1.True 2.False 3.True 4.False 5.False

Part II: Multiple Choices

For the following questions choose the correct answer from the given alternatives.

1.Which of the following is a unique characteristic of oligopoly?

A.production of a standardized product

B.the use of advertising and product development

C.mutual interdependence among firms in the industry

D.the existence of barriers to entry including patents and copyrights

2.Under conditions of oligopoly firms may collude in order to:

A.avoid the outcome associated with uncertainty of the other firm's reaction.

B.increase competition

C.increase market power

D.both A and C

3.Which of the following statements about oligopoly is false?

A.Under conditions of oligopoly entry into the market is difficult.

B.Each firm in an oligopoly makes decisions without regard for the actions of other firms.

C.Game theory is used to analyze the behavior of firms in an oligopoly.

D.Firms in an oligopolistic market often have an incentive to collude.

4.Which of the following is not a characteristic of perfect competition?

A.A large number of buyers and sellers

B.the existence of only zero profit in the short run

C.uniform price

D.the absence of transparent cost

5.Product differentiation is a typical feature of:

A.oligopoly

B.monopoly

C.pure competition

D.monopolistic competition

6.A monopoly is less preferable to perfectly competitive market because:

A.Without competition there is no pressure on the firm to be efficient.

B.Under certain circumstances different consumers are charged different prices for the same product or services.

C.The market price under monopoly is greater than the marginal cost of additional output.

D.All of the above.

7.In a perfectly competitive market, the firm is in the long-run equilibrium when:

A.MR = ATC = MC = P.

B.Price is stable.

C.The price is greater than the average cost.

D.None of the above.

8.A profit-maximizing monopolist:

A.Follows the same rules for profit maximization as the perfectly competitive firm.

B.Will set price equal to marginal cost in order to determine the maximizing output.

C.Will set marginal cost equal to average revenue in order to determine the maximizing output.

D.None of the above.

9.Price discrimination by a monopolist can only be beneficial to it if:

A.Advertising costs do not rise.

B.Price elasticity of demand is the different in both markets.

C.It creates a barrier to entry.

D.Consumers can move freely from one market to another.

10.If the marginal cost of a firm is rising and greater than its marginal revenue, the firm should:

A.shut down in the short run

B.increase output to increase revenue and profit

C.remain at the same level of output since any change would lead to larger losses

D.decrease output

Answer;

1.C	3.B	5.A	7.A	9.C
2.A	4.B	6.D	8.A	10.C

Part III: Discussion Questions

Discuss the following questions briefly.

1.Suppose demand for a pure monopoly falls so that its profit-maximizing price is below average variable cost. How much output should the firm supply? Hint: draw the graph.

Answer;When price is below AVC,the firm suffers a loss if it shuts down and produce no out put .if it stay in operation and produced the level of out put where MR=MC,it would lose all of its fixed costs plus some variable costs.If it shuts down,it only loses its fixed costs.

2.How do you differentiate monopolistic completion from oligopoly market?

Answer;The difference between oligopoly and monopolistic competition is that the number of buyer and seller,nature of entry and exit of firms,price determination,the status of the firm with other firms whether independent or dependent,and the basis of products.

Part IV: Work Out

For the following question provide the required solution neatly and clearly.

1.A monopolist with the cost function C=1/2Q2 faces a demand curve Q=12-P

a.What will be its equilibrium price and quantity?

Solution;The monopolist will be at equilibrium where MR=MC,

MR=12-2Q

MC=Q

Q=4

P=8

b.If for some reason the firm behaves as if it were in a perfectly competitive industry, what will the equilibrium price and quantity be?

Profit=TR-TC

For monopolist

TR=PQ=8*4=32,TC=8

Profit=32-8=24

For competitive firm

If the firm behaves as perfectly competitive industry then P=MC,P=6

MC=P,MC=Q,P=Q=6

TR=PQ=6*6=36, TC=18

Profit=TR- TC=36-18=18

c.How much money will the firm require to forgo monopoly profits and behave competitively instead?

Answer;The firm forgo 6(24-18) monopoly profits to behave like clompetitive firm.

UNIT THREE

NATIONAL INCOME ACCOUNTING

3.1 Nature of National Income Account and Its importance

National income accounting is the accounting system that is used to measure aggregate economic activities. It is an official measurement of the flow of income and product in each economy. Such an aggregate economic activity or total output (income) of an economy for given period can be represented by Gross domestic product (GDP) or gross national product (GNP).

National income accounting practice is good for an economy for the following reasons.

- ✓ It enables us to know the level of output of an economy.
- ✓ To observe the long-run trend of the economy.
- ✓ It helps in policy formulation since it can be used as evidence in policy making.
- ✓ It makes cross-country comparison easier.

The Concept of Gross Domestic Product (GDP) and Gross National Product (GNP)

A.The Concept of Gross Domestic Product (GDP)

Gross domestic product (GDP) is the market value of all final goods and services which are produced in a country each year. GDP captures the value of all current final products which are produced within the boundary of a country without considering the ownership of the products. What matters is that the goods are produced within the territory.

Note

Gross domestic product (GDP): the total market value of all final goods and services produced annually within a country's borders each year.

B.The concept of Gross National Product (GNP)

Gross national product (GNP) is the total market value of goods and services which are produced by the nationality of a given country for a given period. From this definition we can easily identify that unlike GDP, GNP includes some outputs that are produced by a citizen of a country who is living abroad and excludes the output produced by foreign resources in each country. GNP captures market values of final goods which are produced by nationals of a country wherever they are. It does not include production by non- nationals even though they operate in the country in question.

Note

Gross national product (GNP): the total market value of all final goods and services which are

produced annually by resources of a country irrespective of the location of these resources.

The major difference between the two is how they treat income that is received by foreign resources and national resources. The concept of net foreign factor income (NFFI) captures this deviation between GDP and GNP. NFFI is the difference between the aggregate amount that a country's citizens and companies earn abroad and the aggregate amount that foreign citizens and overseas companies earn in that country. NFFI could be generally considered not to be substantial in most nations since payments which are earned by citizens and those paid to foreigners more or less offset each other. NFFI is sometimes written simply as net factor income (NFI).

Therefore, GNP can be obtained from GDP by adding net factor payment to GDP.

GNP= GDP- net foreign factor income .

This applies where net factor payment or income is the difference between factor payment from aboard and factor payment to abroad. In other words, payments of factor income (wage, profit and rent) to the rest of the world are subtracted from receipts of factor income from the rest of the world. For example, Ethiopians who own apartments in New York earn rental income for their building. This income earned is included in USA GDP but not in the GNP of USA, but it is included in GNP of Ethiopia.

Note

***GDP** is a flow concept and not a stock measure.*

A stock is a quantity which is measured at a given point in time, whereas a flow is a quantity measured per unit of time. **A flow** shows the amount of new addition to the existing value while a stock shows the total accumulated value of something. Note that a flow represents the change in the stock.

Stock measure	Flow measure
A person's wealth	Income and expenditure
The number of unemployed people	Number of people losing their jobs
The amount of capital in the economy	Amount of investmeny
The government debt	Government budget deficit

Approaches of Measuring National Income (GDP/GNP)

There are three ways to compute GDP. These are: the expenditure, the income, and the value- added approaches.

The Expenditure Approach

Expenditure approach of measuring GDP involves adding the ***market value*** of all

final products in the economy over a given period of time. To compute GDP using the expenditure approach, add the amount of money that is spent by buyers on final goods and services. A **final good** (or service) is a good in the hands of the final user, or ultimate consumer. Examples include orange juice or mobile phones.

The words "**final goods and services**" are important in computing GDP for not all goods are final goods. This is because some goods are intermediate goods. . Intermediate goods are goods that are used as inputs in the production of other goods. For example, production of oranges by a farmer can be considered as an intermediate input since a juice maker can use it to produce an orange juice. On the other hand, production of wheat flour could be both a final and an intermediate good. It is a final good when it is bought by final consumer or intermediate good when it is used by a bakery to make a bread or cakes from the flour. In this case, the bread or cakes should be taken as final products. Hence, there is high risk of double counting in GDP measurement in this approach. Double counting is counting a good more than once when computing GDP. If we measure the expenditure on both the wheat flour produced and the cakes in GDP computation, we will overestimate the GDP since we are double counting.

Note

Intermediate god: *a good that is an input in the production of a final good.*

The expenditure approach

The expenditure approach of GDP accounting represents the demand for final goods and services. This demand (expenditure) for domestically produced goods is comprised of four main components depending on what makes the expenditure. These are consumer expenditure (C), business investment (I), government expenditure (G) and foreign expenditure or net export (NX).

Consumption spending (C): spending made on domestically produced final goods and services by household. It is divided into three major sub categories. Expenditure made on durable goods, non-durable goods and services. Durable goods are goods whose life span is expected to be more than 3 years. Examples include household equipment such as sofas, beds, tables, etc. Non-durable goods are goods which last for a short time such as cloth and food. Services include the work done for consumers by individuals and firms, such as haircutting, cleaning, training and doctor visiting.

Business investment spending (I): spending on goods and services which are used for production of other goods. It includes business fixed investments such as spending on new plants and equipment by firms, residential investment and inventory investment. Residential investment is the purchase of new housing by households. Inventory investment refers to changes in inventories of goods.

Government purchase or spending (G): spending made on domestic goods and services by federal, state and local government. It includes investment made by government on different types of infrastructures, military equipment and spending made for services of government employees.

Net export (NX): represents the value of goods and services that are exported minus the value of purchases from the rest of the world. Foreign residents, firms and governments sometimes purchase Ethiopian-produced goods and resources and these purchases are referred to as exports (X). Purchases made by Ethiopians from other countries are referred to as imports (M). Net export is sometimes called the "trade balance".

It shows that the expenditure made on domestically produced goods and services by foreigners, which is income for domestic producers.

$NX \square X - M$

Activity

1. What do you think would be the sign of the net exports (NX) of Ethiopia? Discuss this in groups of four and report what you have discussed to the whole class through one of your group members.

2. Is Ethiopia exporting more relative to imports? Why? Or Why not?

Answer: The sign of the net exports (NX) of Ethiopia is negative and hence the answer to question 2 is "no".The trade balance has been negative for many years as Ethiopia continues to import goods and services more than it exports.According to reports by the National Bank of Ethiopia(NBE),2020),the total export value was close to 3%ot the GDP,but the total import bill was close to 13% in 2019/20 showing a huge disparity.

Net exports (NX) can be positive or negative depending on the relative magnitudes of X and M. If exports are greater than imports, then NX is positive; if imports are greater than exports, then NX is negative.

Finally, the GDP by expenditure approach can be computed as the sum of the four major expenditures in the economy. The contribution of each of these elements depends on country-

specific situations but the personal consumption expenditure (C) takes a lion's share.

GDP = C + I + G +NX.

Activity

Which of these GDP components (i.e. C, I, G and NX) play the major role in GDP of Ethiopia?

Answer:The private consumption expenditure is the dominant part of the GDP in Ethiopia.It is the main driver of the GDP values and accounts for 70% of the GDP by expenditure.

The Income Approach

In the case of income approach, we add the returns (income) to factors of production such as labor, land, capital and profits in the economy. In this approach, depending up on the owner of factor input, the components of GDP include the following:

- ✓ Employment compensation payment made for labor in the form of wages and salaries.
- ✓ Rent payments for use of land, building and other capital inputs.
- ✓ Interest income which is received by households on their saving deposit.
- ✓ Profit payments made to the owner of firms in return for the output produced after deduction of the cost of production.

Aggregating the above returns to factor input gives the national income of an economy. So, to arrive at GDP, we add back ***indirect business taxes (IBT)*** and ***depreciations*** to the national income. Indirect business taxes like sales taxes are payments that represent the difference between what buyers pay for final product and what sellers receive. They are income to the government. Similarly, depreciation is capital consumption allowance (CCA) which represents consumption of fixed capital which can be considered as a cost of production. Depreciation is estimated saving from profits for future maintenance of the equipment. Depreciation and IBT are added as non-factor incomes in the income approach of measuring GDP.

Note

There are three ways or approaches to measure GDP. The expenditure approach, the income approach, and the value-added approach.

Product or Value-added Approach

Production of goods and services typically involves distinct stages. Each stage involves separate market transaction and flow of income. For example, there are four different stages having their own market transaction in production of bread. The farmers first grow the wheat and then sell it to the miller. Next, the miller converts to flour and sells to a baker. Finally, the baker sells the bread to the consumer.

Under such cases, GDP can be estimated by calculating the value added at each stage of production. Value addition at a given stage is the difference between the price of the final good and the price of the intermediate input bought. We simply sum up the value added at each stage of production. It is the monetary value contributed to a final good at each stage of production.

Note

Whether we follow the expenditure approach or the income approach, we end up with the same value of GDP.

Circular Flow of Income and the GDP

In any economy, we have a continuous circulation of production, income generation and expenditure involving different sectors of the economy. The expenditure of one agent becomes an income for the other and vice versa. There is a circular flow of income and expenditure in the economy.

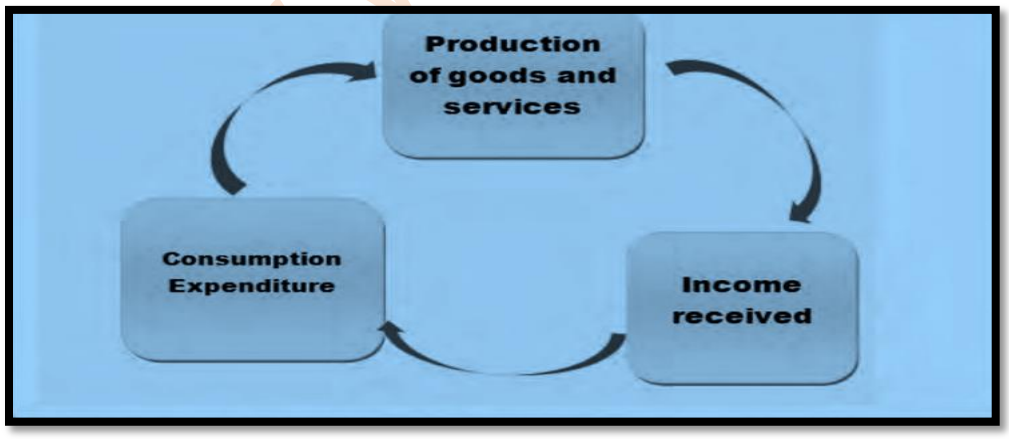


Figure. The circular flow of income and expenditure

Adding up all the spending on the current final goods is the same as adding all the relevant incomes. Every transaction that affects expenditure must affect income and every transaction that affects income must affect expenditure.

Activity

Consumption expenditure	**6000**
Non-durable goods	**4000**
Durable goods	**500**
Services	**1500**
Investment	**1000**
Non-residential fixed investment	**600**
Residential fixed investment	**300**
Inventory investment	**100**
Govenment purchase	**4500**
Federal	**2500**
Regional	**2000**
Net export	**-1500**
Export	**2500**
Imports	**4000**

Table. GDP data of hypothetical country

Assuming a hypothetical economy with the values shown in Table 3.1, calculate the GDP by using expenditure approach.

Answer: GDP=C+I+G+NX

GDP=6000+1000+4500-1500

GDP=10,000 m ETB

3.2 Problems with GDP Measurement

GDP measurement has some common problems

- Problems of Double counting
- The existence of a large informal sector or the underground economy
- There are also several non-productive transactions such as: public transfer payments, unemployment compensations, monetary payments to the poor and social security and subsidy.
- Other problems are that some goods are not traded, e.g. voluntary works, government services, do-it-yourself activities etc. and it is also difficult to account for improvement in quality.

The solution to these problems is to take care while registering the sale of used items. The service of the broker or the agent is new and should be registered but the used time is already registered during its production period. Non-productive transactions should not be registered. The values of informal sector activities and goods and services for own consumption or self-service should be estimated and included in the GDP.

The GDP Deflator and the Consumer Price Index

Nominal and Real GDP values

There are two types of GDP values: **nominal GDP** and **real GDP**.

Nominal GDP values goods and services at current prices whereas Real GDP values goods and services at constant prices. Real GDP rises only when the amount of goods and services has increased, whereas nominal GDP can rise either because output has increased or because prices have increased.

Mathematically, GDP is the sum of market values (P_i *Q_i) of all current final goods for all consumers. Assume an economy with only two products (apples and oranges), the GDP can be estimated as:

$$GDP = Price\ of\ Apples \times Quantity\ of\ Apples + (Price\ of\ Oranges \times Quantity\ of\ Oranges)$$

Hence, $GDP = \sum_{i=1}^{n}(P_i\ Q_i)$; where

n =number of consumers and

i=commodities.

The difference between nominal and real GDP is which price to use to evaluate the quantities. Real GDP is GDP adjusted for price changes. It is GDP computed using a base- year price.

Nominal GDP rises much more rapidly than real GDP since prices tend to move upwards over time. The difference between the growth rate of nominal and real GDP occurs because the price of goods is rising over time or there has been inflation. That is, real GDP shows what would have happened to expenditure on output if quantities had changed but prices had not. For the base year, for instance, real GDP equals nominal GDP since they both use the same price and quantity. Hence, the deviation of the nominal GDP from the real GDP would be larger during inflation.

Growth in real GDP is associated with changes in real factors such as changes in available amount of capital and labor resources in the economy. Changes in the efficiency with which factors of production work is another source of productivity change and hence causes real GDP changes. Through productivity change, same factors produce more output.

Due to this, growth rate in nominal GDP tends to overstate (exaggerate) changes in macroeconomic performance when the economy suffers from a higher inflation rate. The growth rate of the real GDP is the most common and better indicator of changes in macroeconomic performance over time.

The GDP Deflator and other Measures of General Price

Policy makers use change in the general level of price to measure the performance of an economy in combination with the level of GDP. To measure the general price of an economy, they use the **GDP deflator**, **consumer's price index (CPI)** and **producer price index (PPI)**. The GDP deflator is a broad measure of changes in general prices in the economy.

Note

GDP deflator is the ratio of nominal GDP to real GDP.

GDP deflator

GDP deflator sometimes called the "implicit price deflator". It is defined as the ratio of nominal GDP to real GDP. Mathematically:

$GDP_{deflator}=\frac{Nominal\ GDP}{Real\ GDP}=\sum_{i=1}^{n}\frac{PQ_i}{P_bQ_i}*100$ where P is current price of goods

P_b- is base year price and Q_i- is quantity of good produced.

The GDP deflator measures the price of output (goods) which are relative to its price in the base year. It shows whether the price of goods increases or decreases in reference to the base year price.

For example,assume that NGDP = 950m USD and RGDP = 750m USD. Hence, the GDP deflators will be:

$$\text{GDPdeflator}=\frac{950m\ USD}{750m\ USD}*100=\frac{95}{75}*100=127\%$$

This means that 27% of the change (increase) in GDP is due to a rise in general price compared to the base year price of 100.

Note

Note that if there was no increase (no change) in general price, NGDP=RGDP and GDP deflator equals to 1.

Alternatively, as the name indicates, GDP deflator can be used to deflate nominal GDP to get real GDP.

$$\textbf{RGDP}=\frac{NGDP}{GDP_{deflator}}$$

Activity

Given: Actual data on GDP values of the Ethiopian economy for the

(2019/20) fiscal year by the National Bank of Ethiopia (NBE).

NGDP = 107, 660 million US $

RGDP = 67,287.5 million US $

Required: Calculate the GDP deflator and interpret.

Solution;

$$\textbf{GDPdeflator}=\frac{NGDP}{RGDP}*100=\frac{107{,}660M\ US\$}{67{,}287.5M\ US\$}*100$$

GDP deflator=160 %,This shows 60% 0f the increase in GDP is due to a rise in price level.

Consumer Price Index (CPI)

The consumer price index (CPI) is the most used price index to measure the general price level

of an economy. It represents the price of a fixed basket of goods and services that are purchased by a typical consumer which is relative to price of the same basket of goods and services in some base year. CPI can be calculated as follows:

$$\text{CPI} = \frac{\textit{Cost of a basket of goods in current year}}{\textit{Cost of the same basket of goods in the base year}} * 100$$

For example, if a typical consumer buys 10 units of banana and 3 units of coffee, then the CPI for the two-consumption good can be computed as follows:

$$\text{CPI} = \frac{10 \times \textit{current price of banana} + 3 \times \textit{current price of coffee}}{10 \times \textit{base year price of banana} + 3 \times \textit{base year price of coffee}} * 100$$

CPI for the indicated goods shows how much the basket of goods' costs currently relative to what it costs in the base year.

As an alternative to the consumer price index, sometimes the cost of producer goods is measured by the producer price index. Producer price index measures the price of typical basket of goods which are bought by firms.

Comparing these types of price indices, we can see that there are some differences. Firstly, the GDP deflator measures the price of both consumer and producer goods which are produced in the economy, whereas CPI measures the prices of goods and services that are bought by consumers only. Thus, an increase in the price of goods bought by firms or the government will show up in the GDP deflator but not in the CPI. Secondly, the GDP deflator includes only those goods which are produced domestically; imported goods are not part of GDP and do not show up in the GDP deflator. Hence, an increase in prices of imported goods affects CPI, but not the GDP deflator. Lastly, CPI is computed using a fixed basket of goods whereas the GDP deflator allows the basket of goods to change overtime as the composition of GDP changes.

The CPI is used to measure a change in general price (inflation) level in the economy. Inflation is the rate of growth in the CPI between two periods. Mathematically,

$$\text{Inflation rate} = \frac{CPI_{Y_2} - CPI_{Y_1}}{CPI_{Y_1}} * 100\%$$

3.3 Other Measures of National Income Account

We have also common measurements other than the GDP in economics. Two of them are worth mentioning; net domestic product (NDP) and national income (NI). Net domestic product

equals gross domestic product (GDP) minus the capital consumption allowance (depreciation). Mathematically, it is written as follows.

NDP =GDP – Capital consumption allowance

On the other hand, national income equals the sum of payments which are received by resource owners. In other words, it is total income earned by Ethiopian citizens and businesses, no matter where they reside or are located. Put simply, national income is the sum of the payments for resources (land, labor, capital, and entrepreneurship). It equals income that is received by workers (wage), rent payment, profit and net interest rate.

National income= Compensation of employees + Proprietors' income+ Corporate profits + Rental income of persons + Net interest

Compensation of employees: this consists of wages and salaries which are paid to employees plus employers' contributions to social security and the monetary value of other forms of benefits.

Proprietors' income: includes all forms of income that is earned by self-employed individuals.

Corporate profits: include all the income that is earned by the shareholders of corporations. Some of the profits of corporations are paid in the form of dividends, some are kept within the firm to finance investments (these are called "undistributed profits" or "retained earnings") and some are used to pay corporate profits taxes. The portion of corporate profits used to pay corporate profits taxes is counted as income "earned" by households even though households do not receive the income.

Personal rental income: the income that is received by individuals for the use of their non-monetary assets such as land, houses and offices.

Net interest: the interest income which is received by Ethiopian households and government minus the interest they paid out to the rest of the world.

Note

Sole proprietorship and corporations are types of businesses ownerships. Sole

proprietorship is when there is a s. ingle owner. Corporations are legal entities which are owned by many people through shareholding

Personal Income

Personal income is a measure of the income that people actually receive. In economics, there is distinction between income earned and income received. Income received is that part of income to be received by people. People may not be able to receive some part of their earned income. A simple example is social security contributions and tax deductions from income. Taxes are deduction from people's income and hence, they introduce difference between income earned and income received. Similarly, undistributed profits are another example of income earned but not received. Undistributed profits are earned by shareholders but not received by them. Instead, the undistributed profits are usually reinvested by the corporation. On the contrary, there are incomes received but not earned. An example of this type is social security benefits or support to poor or needy people by government and non-governmental organizations. This is usually called "transfer payment". In order to estimate personal income from national income, we take these and other adjustments into consideration.

Personal income is equal to national income minus such major earned-but-not- received items as undistributed corporate profits, social insurance taxes (social security contributions), and corporate profits taxes, plus transfer payments (which are received but not earned).

Personal Income = National income - Undistributed corporate profits - Social insurance taxes - Corporate profits taxes + Transfer payments

Disposable Personal Income

The portion of personal income that can be used for consumption or saving is referred to as disposable personal income or simply disposable income. It is equal to personal income minus personal taxes (especially income taxes). Sometimes, disposable income is referred to as spendable income, take-home pay, or after-tax income.

Disposable income =Personal income – Personal taxes

Per capita GDP

Per capita GDP shows the amount of GDP per person. It shows what an average individual earns in the economy for a given year. It is computed by taking the ratio of the GDP to the total population. Look at the following formula.

Per capita GDP $= \frac{GDP}{Population}$

We can compute two types of per capita GDP based on the type of GDP we use in this formula. Per capital real GDP is the ratio of real GDP to population. Per capita nominal GDP, however, is the ratio of nominal GDP to the population. Hence,

Per capita real GDP $= \frac{RGDP}{Populatio}$

and Per capita nominal GDP $= \frac{NGDP}{Populatio}$

GDP is usually measured by using market price, but sometimes people use factor cost to measure it. Factor cost refers to the total cost of factors of production. i.e. land, labour, capital and entrepreneurship. The market price of the goods and services will include indirect taxes such as product taxes.

Note

Market Price = Factor Cost + Net Indirect Taxes

= Factor Cost + Indirect Taxes – Subsidies, since Net Indirect Tax is Indirect Taxes – Subsidies.

GDP and Income Distribution

Although GDP is a good measure of economic performance over years, it does not show income distribution. The best we can do is to study average earnings like per capita GDP. We cannot observe who is earning what from GDP computations and this has been one of the limitations of GDP analysis.

Hence, from GDP values we compare average values such as changes in per capita GDP or per capita income to trace changes in the economy. Income distribution has been one of the key challenges in many economies and economists have made a move to go beyond the

study of GDP to capture income distributions. Inequality measures, poverty analysis, and other development indicators are now common in government economic policy analysis.

Review Questions

Part I: True or False

Write "True" for the correct statements and "False" for the incorrect ones.

1. GDP is the market value of all goods which are produced in a country over many years.
2. The income approach of measuring GDP leads to a higher value for the GDP.
3. The GDP deflator is sometimes called an "implicit measure of general price".
4. CPI is the most widely used measure of cost of living.
5. An increase in GDP shows a rise in income differences among the people.

Answer:

1.False 2.False 3.True 4.True 5.False

Part II: Distinguishing Terms

Write the difference between the terms in 1-5 below.

1. Gross domestic product (GDP) and gross national product (GNP)
   GDP is boundary limited while GNP is based on nationality of the owner of resources.

2 .The three approaches of measuring GDP.

The three approach that can be used to measure GDP are expediture ,income and product approach.The expediture is based on adding up the relevant expediture in the economy for a specific period.The income approach is based on adding the income received by factors production.The product or value added approach is based on considering the market value of the final product or summing the value addedat each stage.

3 .Real GDP and nominal GDP.

Real GDP is computed by assuming a base year or constant price while Nominal GDP is based on current price.

4.Per capita GDP and national income.

Nationa income measures the income received by factors of production.Percapita income is a measure of average income level earned by citizens of a country.

5.Stock and flow variables

A stock variable shows the total amount available, while a flow variable measures changes to the amount of a variable.

Part III: Work Out

For the following question, provide the required solution neatly and clearly.

Consider an economy that produces and consumes only two goods. Assume that these goods are wheat and automobiles. In Table 3.4, there are data for two different years measured in Ethiopian Birr (ETB). Based on this data, answer the following question. Assume quantity of wheat produced is in ***tons***.

Table

	Year	
	2000	2021
Price of 100 kg of wheat	1000	2000
Price of one automobile	80000	300000
Quantity of wheat produced	2000	2400
Number of car assembled	1000	1500

Using the year 2000 as **the base year**, compute: nominal GDP, real GDP and the GDP price deflator for the year 2000 and 2021.

Solution:

Assumption :The year 2000 is the base year

Required :NGDP,RGDP and GDP deflator for the year 2000and 2001.

Assumtion :The year 2000 is the base year.

For the year 2000,the current price and the base year price are the same.Hence ,nominal and real GDP values are the same.

NGDP=$\sum_{i=1}^{2} P\,2000Q2000$ and RGDP =$\sum_{i=1}^{2} P2000Q2000$

$NGDP_{2000}$=10*2000000+80000*1000=20m=80m=100m

$RGDP_{2000}$=10*2000000+80000*1000=20m=80m=100m

$GDP_{deflator}=\frac{NGDP}{RGDP}*100=\frac{100m}{100m}*100=100$

For the year 2021 ,the current price and the base year price are different

NGDP=$\sum_{i=1}^{2} P\,2021Q2000$ and RGDP =$\sum_{i=1}^{2} P2021Q2021$

$NGDP_{2021}$=20*2400000+300000*1500=40m+450m=498m

$RGDP_{2021=}$10*2400000+80000*1500=24m+120m=144m

$GDP_{deflator}=\frac{NGDP}{RGDP}*100=\frac{498}{144}*100=346$

This shows the price increase or inflation is more than three-times over the period 200—2021.

UNIT FOUR

CONSUMPTION, SAVING AND INVESTMENT

4.1 CONSUMPTION

Income is either spent or saved. The consumption decision is crucial for short-run analysis because of its role in determining the total or aggregate demand. In general, consumption accounts for two-thirds of GDP, so fluctuations in consumption are a key element of booms and recessions.

Households decide how much to spend on goods and services and save depending on their income after tax. Income that is left in the hand of consumers after tax is deducted is called disposable income. It is calculated as gross income (Y) minus personal taxes (T). This is the amount of income that determines household consumption. The consumption spending of individuals depends on their real personal disposable income(Y-T).

Note

$Y_d \equiv Y - T$. *where Y is gross income, T is personal income tax, and Yd is the disposable income.*

The relationship between consumption and disposable income is summarized in John Maynard Keynes's *General Theory of Employment, Interest and Money,* which was published in 1936. Keynes made the consumption function central to his theory of economic fluctuations, and it has played a key role in macroeconomic analysis ever since. For Keynes, there is a non-linear positive relationship between consumption spending and disposable income. Households save a greater proportion of their income if their real income increases more than the increase in consumption. But for simplicity let us assume a linear relationship between consumption and disposable income.

Linear relationship means that the rate of change in consumption as income changes remains the same or is constant. In general, consumption is directly related to disposable income and is positive even at zero disposable income.

Hence, it is given as:

$$C \equiv C_0 + cY_d, \quad 0 < c < 1$$

where Yd is the disposable income and C0 is the minimum consumption that a household needs to survive at zero income. It is sometimes called autonomous consumption since it is independent of income.

Autonomous consumption is independent of disposable income. It is the y-intercept of the consumption function. An autonomous consumption changes due to changes in factors other than the disposable income. For example, when a person becomes ill, his/ her

consumption of medical care increases although his/her income is the same. During holidays, people spend more and this shifts the consumption curve up.

Note

When income equals zero, consumption will not be zero. Consumption is greater than zero. This is called an "autonomous consumption". People can use their past income or borrow money from friends and relatives to consume when their income is zero.

Induced consumption+autonomuus consumption =Total consumption

In the equation above, **c(Yd)** depends on disposable income and is called "**induced consumption"** since this part of the consumption depends on or is induced by income.

Combination	A	B	C	D	E	F	G
Income	0	150	300	450	600	750	900
Consumption Spending(ETB)	80	105	210	315	420	525	630

Table. Consumption Schedule

Table shows the alternative amount of consumption expenditure by a household for various income levels. Note that when income is zero (combination A), consumption spending equals 80 ETB. This is the amount of autonomous consumption. As income increases, consumption spending also increases, but the rate of increase in consumption is lower than that of the rate of increase in income.

Average Propensity to Consume (APC)

Keynes posited that the ratio of consumption to income, called the average propensity to consume, falls as income rises. APC is the ratio of the total consumption expenditure (C) to the total income (Y) at a given level of income in an economy. It is a measure of tendency to consume income on average.

Hence, APC can be calculated as:

$APC=\frac{C}{Y_d}$

If a consumer has 4000 ETB and makes consumption expenditure of ETB 3000, the APC for this household will be:

APC= 3000/4000

=0.75

On average, the household allocates 75% of its income on to consumption.

The value of APC may be greater than 1, because when income is at a very low level, consumption exceeds income to meet the very basic necessities. This implies that saving

becomes negative for such consumption levels.

Marginal Propensity to Consume (MPC)

The small (c) in the consumption function, which is the coefficient of the disposable income, is the slope of the consumption function and it is called **marginal propensity to consume (MPC).**The marginal propensity to consume shows the rate of change in a household's tendency to consume due to a change in income. It is the unit increase in consumption for any unit increase in disposable income of the consumer.

Marginal propensity to consume=$\frac{\text{Change in consumption}}{\text{Change in disposable income}}$

Or in symbolic notation;C=$\frac{\Delta c}{\Delta Y_d}$, where the symbol "Δ" stands for "change in."

Since it is expected that any rise in disposable income will be partly spent and partly saved, c is strictly less than one and greater than zero (0<c<1).

Note

Under the Keynesian consumption function, first, the marginal propensity to consume c is between zero and one. Second, the average propensity to consume falls as income rises. Third, consumption is determined by current income.

Suppose disposable income of a consumer increased from 1000 ETB to 2000 ETB and he/ she increased his/her consumption from the original value of 800 ETB to 1400 ETB. The change in disposable income is 2000 -1000 = 1000 . The change in consumption equals to 1400 – 800= 600 . Hence, the MPC equals to 600 / 1000 = 0.6 . We multiply the result by 100 to express it as a percentage. Thus, the household spent 60% of the new income on consumption. By assumption, he/ she will save the remaining 40% which equals to 400 ETB. Alternatively, if c =0.8 , it implies that the household spends 80% of each additional income earned on consumption of goods and services and saves the remaining 20%.

Assume your family consumption function is of the type indicated in Table 4.1 and is given by C =80 +0.7Yd . The autonomous consumption is 80 and the slope equals to 0.7. If the disposable income of the consumer is estimated to be 800 ETB, we can calculate the induced consumption and the total consumption of the consumer. The induced consumption will be 0.7 *800 =560 . Consequently, the total consumption will be the induced consumption (80) plus the induced consumption (560) and this equals to 640.

Note

The properties of MPC

- ✓ *MPC values lie between **zero** and **1**. Zero means no change in consumption and 1 shows maximum (total) consumption of the new income.*
- ✓ *MPC decreases with an increase in income. In other words, MPC of the poor is higher than MPC of the rich. The poor people tend to consume a higher proportion of their income relative the rich people.*

Figure below presents the consumption function. Several points are worth noting from the graph. First, the consumption function is an increasing function of income. It is an upward-sloping line. Here, on the x-axis we measure the disposable income, and, on the y-axis, we measure the level of consumption. We have assumed a constant MPC and hence, the consumption function is a linear line. Second, the consumption line does not pass through the origin. Its y-intercept is always positive (given by C0) in the graph. This is the amount of the autonomous consumption. Third, the slope of the consumption function is the MPC and the graph is drawn as flatter or steeper liner depending on the magnitude of c. A steeper consumption function represents a consumption function with higher MPC and a flatter consumption function shows a smaller MPC.

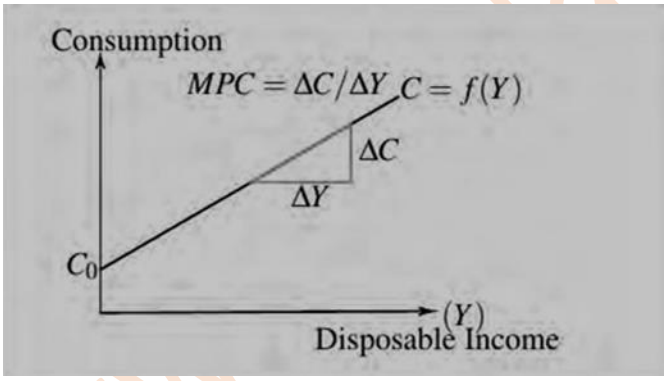


Figure. Consumption curve

As the graph shows, when disposable income changes, MPC also changes causing a change in APC. The initial source of change in the model is the change in disposable income.

Note

Marginal propensity to consume (MPC): *the ratio of the change in consumption to the change in disposable income.*

Note that consumption can be affected through three ways. Those are change in MPC, change in disposable income and change in the autonomous component .

4.2 Determinants of Consumption Expenditure

Note also the distinction between consumption spending by households and national consumption expenditure. We can aggregate the household consumption expenditure to generate national consumption expenditure. Generally speaking, consumption expenditure is a macroeconomic variable and it is crucial to any economy's performance. There are at least six main determinants of consumption.

The major determinants of consumption expenditure at individual and national levels are:

- ***Money income:*** income is the primary determinant of consumption. An increase in income results in an increase of consumption expenditure. When income decreases, consumption expenditure tends to decrease too.
- **Distribution of income:** consumption expenditure per unit of income is more for poor people than the rich people.
- **Level of direct taxes:** a higher level of direct taxes leads to a lower level of personal disposable income, and thus to a decrease in consumption expenditure. This principle also acts inversely.
- **Expectation about future income and prices:** if prices and incomes are expected to rise in the future, present consumption will increase. When people expect a fall in either income or prices, they tend to lower current consumption.
- **Rate of interest:** increases in the rate of interest leads to a reduction of consumption expenditure and an increase in saving. This is true because interest rate acts as cost of holding money outside banks and financial institutions. This principle also acts inversely.
- **Level of wealth:** A higher wealth level leads to higher consumption expenditure. This principle also acts inversely.

Saving

Savings is the difference between disposable income and consumption. The part of income which is not spent on consumption is called "savings". Disposable income can be used only for consumption or saving; that is, $Y_d \square C \square S$. Hence, saving is the difference between income and consumption. People save what is left after spending for consumption.

Therefore, $S = Y_d \square C$. Since $C = C_0 + cY_d$, the saving function can be derived by substituting the consumption function. Hence:

$S \square Yd \square \square C_0 \square cY_d \square$, distributing the minus sign, we have:

$S \square Yd \square C_0 \square cY_d$, collecting the similar terms together

$S \square \square C_0 \square (1 \square c)Yd$.

Note that the $-C_0$ is the amount of dis-saving associated with the autonomous consumption discussed above. When people are consuming with zero income, they are either borrowing or drawing on the wealth or previous savings.

Note

*Note that **saving** and **savings** are not the same. Saving refers to the act of depositing money while savings refer to the already accumulated money. Saving is a **flow concept** while **savings is a stock concept.***

Savings can be increased through two ways. One is to increase income. With increased income there is higher tendency to save. Second, saving can be increased by decreasing consumption. If a person manages to reduce his/her consumption, this leads to improved saving.

Average Propensity to Save (APS)

Average propensity to save is the ratio of total savings (S) to total income (Y). It is part of total income which is saved. It captures the tendency of the consumer to save on average.

APS is defined as:

APS=$\frac{S}{Y_d}$,but S=Y_d-C,by Substitution,we have have

APS=$\frac{Y_d-C}{Y_d}$,simplify this

APS=1-$\frac{C}{Y_d}$

APS= 1- *APC*, since APS=$\frac{C}{Y_d}$

For example, if a household saves 500 ETB each month from a disposable income of 2000 ETB, the average propensity to save can be estimates as;

APS=$\frac{S}{Y_d}$=$\frac{500}{2000}$= *0.25 . On average, the household saves 25% of its income.*

Marginal Propensity to Save

The Marginal propensity to save is the ratio of the change in saving to the change in disposable income. It is the slope of the saving function and is given by $1 \square c$.

Note

Marginal propensity to save (MPS): the ratio of the change in saving to the change in disposable income.

$$\text{Marginal propensitytosave} = \frac{Change\ in\ saving}{Change\ in\ disposable\ income}$$

$$\text{MPS} = s = \frac{\Delta S}{\Delta Y_d} = 1\text{-}c$$

where the symbol "□" stands for "change in".

Note

Note the properties of MPS

- ✓ *MPS values lie between zero and 1. Here, zero means no change in saving and 1 shows maximum (total) saving out of the new income.*
- ✓ *MPS increases with an increase in income. In other words, MPS of the poor is less than MPS of the rich.*

Determinants of Saving

The major determinants of saving at the individual and national levels are:

- ✓ Level of income: as stated above, as income increases, saving also increases. But the rate of increase in saving is less than the rate of increase in income. This is because, with an increase in income, consumption increases, but by less than the increase in income.
- ✓ Distribution of income: saving increases when income inequality increases. This is because the tendency to save is greater for rich people than poor people.
- ✓ Expectation about future prices and income: if prices are expected to fall in the future, present consumption is less, and hence, saving is more. Similarly, an expected future increase in income reduces present saving, and the inverse is also true.
- ✓ Rate of interest: a higher rate of interest induces greater saving. This principle also acts inversely.
- ✓ Level of wealth: a lower wealth level leads to a lower saving level. This principle also acts inversely.
- ✓ Level of direct taxes: a higher level of direct taxes produces a lower level of personal disposable income and hence, reduced savings. This principle also acts inversely.
- ✓ Individual nature: saving is directly related to the nature of the individual. For example, a miser saves more than a spendthrift.

The Relationship between Saving and Consumption

If marginal propensity to save is given to be 0.6, marginal propensity to consume will be 1- 0.6 which equals to 0.4. Since any change in disposable income can change only consumption or saving, the marginal propensity to consume (MPC) plus the marginal propensity to save (MPS) must be equal to 1.

Marginal propensity to consume + Marginal propensity to save = 1

Symbolically, MPC + MPS = 1

Mathematically, this is adding c and 1-c .

In general, APS+ APC =1

, i.e. the average propensity to save plus the average propensity to consume equals to 1 (unity). The proof is very simple. From our earlier discussion, we know that:

$Y_d \equiv C + S$, i.e. income equals consumption plus saving. Dividing both sides of the equation by Y, we get:

$\frac{Y_d}{Y_d} = \frac{C}{Y_d} + \frac{S}{Y_d} \leftrightarrow 1 = APC + APS,$

since APC is consumption divided by disposable income and APS is saving divided by disposable income.

In order to study the relationship between consumption and saving graphically, let us introduce and study the properties of the 45° reference line. A 45^0 reference line shows equality between the value of the variable on the x-axis and the y-axis.

Hence, if we measure income on the x-axis and the total expenditure (C+S) on the y-axis, the 45^0 reference line shows locus of points where $Y \equiv C + S$.

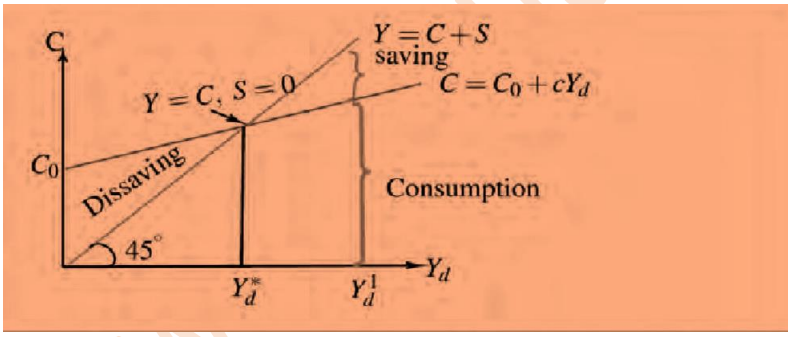


Figure. The Releationship Between Consumption and Saving

Y = C - S is called the "expenditure equals income" line. Its significance is that each point on this line shows that expenditure equals to income. Comparing the consumption function curve with the 45° line for any point tells us whether consumption is equal to, greater than or less than income level.

From Figure , we can observe a very important relationship between saving and consumption. When the consumption function crosses the x-axis, it shows the point at which income equals consumption, and hence, there is no saving. When income is above Y_d * , consumption is less than income and there is positive saving. On the contrary, when income is less than Y_d * ,

consumption exceeds income and there is dissaving

4.3 Investment

Investment may mean putting savings into assets or objects that become worth more than their initial worth or those that will help produce an income with time. In an economic outlook, an investment is the purchase of goods that are not consumed today, but are used in the future to generate wealth. In a strict sense, investment should lead to an increase in stock of capital, finished goods or raw materials.

Investment Types

There are different ways of categorizing investment. It can be divided into two as induced and autonomous. Sometimes we divide investment as private and public investment depending on who makes the investment.

Gross Investment and Net Investment

Gross investment or gross capital investment is a company's capital investment before deducting depreciation. Gross investment is the total amount that the economy spends on new capital. This figure includes an estimate for the value of capital depreciation since some investment is needed each year just to replace the used-up or worn-out plant and machinery.

Note

- ✓ *The value of a piece of equipment decreases as we use it in the production process and this is called **depreciation** of capital. Any investment that is made for the purpose of compensating for such depreciation which is caused by production in a current year is not real investment; rather, it is what is sometimes known as **replacement investment**.*

Net investment is the gross investment minus the depreciation on the existing capital.

Net investment =Gross investment -Depreciation

If gross investment is higher than depreciation, then net investment will be positive. A positive net investment increases the productive capacity of the economy.

Autonomous Investment

Autonomous investment is the expenditure on capital formation, which is independent of the change in income, rate of interest or rate of profit. This approach is generally taken in the government sector. Autonomous investment is income inelastic – it is not affected by changes in income level. Generally, government makes autonomous investment because of the welfare consideration.

Induced Investment

Induced investment is investment which is made with the motive of earning a profit or income. This kind of investment depends directly upon profit expectations. It is income- elastic. Factors like prices, wages and interest changes which affect profits influence induced investment.

If national income goes up, induced investment also goes up – an increase in income induces investment. This occurs because an increase in national income leads to an increase in the demand for goods and services, which increases investor interest in meeting that demand, and therefore leads to investment. Thus, we can say that induced investment takes place when levels of income and demand in the economy go up.

The Investment Functions

Induced investment is a positive function of income..

The autonomous investment is a horizontal line and is independent of the income or profit level. The induced investment varies directly with profit or income. When income rises, more investment projects are profitable and hence more investment. Panel (a) of Figure shows the nature of induced investment while panel (b) shows the graph of autonomous investment.

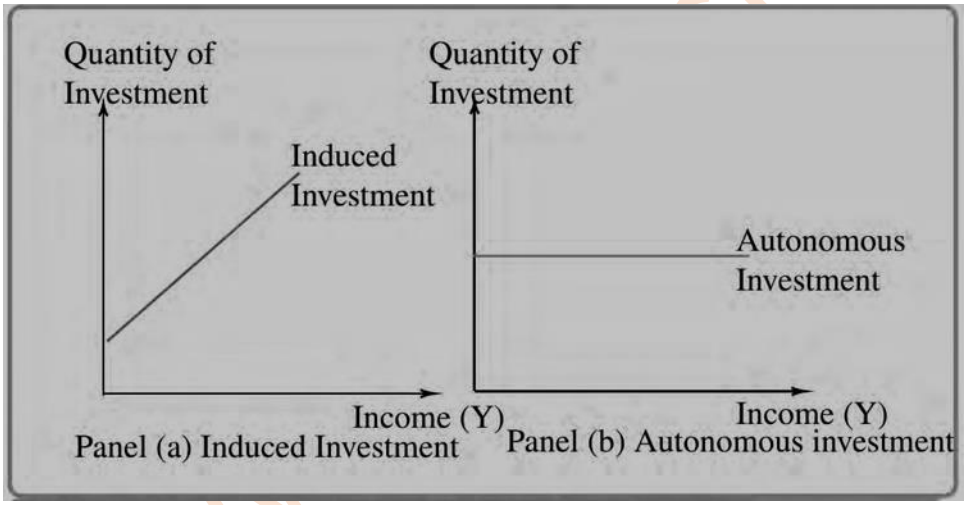


Figure . Autonomous and Induced Functions

Alternatively, investment can also be divided as private investment and public investment. The criterion in this case is who makes the investment.

Private Investment

Private investment is an investment, which is made by the private sector in the form of new machinery, and equipment, the building of new factories, increases in inventories.

Public Investment

Public investment is investment by the state, whether through central or local government or

through publicly owned industries or corporations. The origin of public investment is associated with the need to provide certain goods, infrastructure or services that are deemed to be of vital national interest and cannot be provided by the private sector. Examples include investment to provide police services and national defense, supply of electricity, clean water, and sewage services, etc.

Public investment can be divided into three broad classes:

a.Physical investment refers to tangible investment in infrastructure (for example, transport, telecommunications and buildings) while

b. human or intangible investment is on education, skills, and knowledge.

c.Consumption investment refers to investment in consumption of goods and services (for example, social security benefits and pensions).

Today, there is a growing pressure on governments to reduce their public investment in areas where the private sector can operate. There is a growing demand for privatization of state-owned industries and deregulation of markets. Now, governments spend more money on goods and services which are provided by the private and not-for-profit sectors through the development of various public-private partnerships.

Interest rates

Note

- ✓ ***There are two types of interest rates that affect profitability of investment and hence income. These are nominal interest rate and real interest rate.***

Nominal interest rate refers to the interest rate before taking inflation into account. Hence, it is not corrected for inflation. Nominal interest rates are the interest rate that the bank pays. Almost all the interest rates that are reported in the newspaper are nominal rates.

Real interest rate is an interest rate that has been adjusted to remove the effects of inflation. Real interest rates reflect the real cost of borrowing and capture changes in purchasing power. To calculate the real interest rate, we subtract the actual or expected rate of inflation from the nominal interest rate.

If i denotes the nominal interest rate, r the real interest rate, and the rate of inflation, then the relationship among these three variables can be written as . The real interest rate is the difference between the nominal interest rate and the rate of inflation. For example, if the nominal interest rate is 15% and the inflation is 8%, the real interest rate is 7%. If you save your money in a bank, you will receive the nominal interest rate but because of the inflation, the real gain is the amount of the real interest rate (in this case 7%).

Determinants of Investment

Investment depends on **interest rate, income, expectations about future sales and business taxes.**

- As the interest rate rises, the cost of a given investment project rises and businesses invest less. Interest rate measures the cost of borrowed funds used to finance investment funds. Thus, if interest rate increases, the cost of investment increases. Due to this, the investment becomes less profitable and these would cause decline in the quantity of investment demand.
- Businesses invest because they expect to sell the goods they produce. If businesses become optimistic about future sales, investment spending grows and aggregate demand increases. If businesses become pessimistic about future sales, investment spending contracts and aggregate demand decreases.
- Businesses naturally consider expected after-tax profits when making their investment decisions. An increase in business taxes lowers expected profitability. With less profit expected, businesses invest less. As investment spending declines, aggregate demand declines. A decrease in business taxes, on the other hand, raises expected profitability and investment spending.

Note

- ✓ Investment depends on three very important factors: interest rate, expectations about future sales and business taxes.

If national income goes up, induced investment also goes up. The reason is that an increase in national income leads to an increase in the demand for goods and services and in investors' interest in supplying them, which leads to increased investment.

Furthermore, there are other factors which affect the performance of existing investments. The Ethiopian Central Statistical Agency (CSA) and the World Bank (WB) collect information on the main challenges that firms face. These factors are most often reported as key challenges that affect the performance of firms.

The main factors include:

- ✓ lack of infrastructure such as access to electricity, road, land, water and communication
- ✓ access to finance
- ✓ rules and regulations such as tax rules, customs duties and other procedures
- ✓ lack of raw materials
- ✓ practices of the informal sector
- ✓ lack of market for output

Role of Investment in Economic Growth

Economic growth refers to an increase in the total output of a nation over time. Investment means expenditure on capital spending such as machineries and equipments. Investment influences the rate of economic growth because it is a component of aggregate (total) demand (AD) in the economy and more importantly influences the productive capacity of the economy. Hence, investment boosts economic activities.

Investment adds to the stock of capital, and the quantity of capital available to an economy is a crucial determinant of its productivity. Investment thus, contributes to economic growth.

Investment changes the capital stock. Capital investment refers to a company's acquisition of assets such as real estate, manufacturing plant, machinery, computers, vehicles and production equipment. Capital investments are long-term investments and they allow companies to generate revenue for many years by adding or improving production facilities and boosting operational efficiency.

A business does not see an immediate increase in revenue when it makes investments in capital goods. Changes in the capital stock shift the production possibilities curve and the economy's aggregate production function.

Accelerator theory investment

According to the accelerator theory, such rises in demand for goods and services will trigger a rise in demand for investment.

Accelerator theory *states that capital investment outlay is a function of output.*

If a firm operates in an industry where demand is rising and there is excess demand for the goods in the market, the firm is expected to respond to this situation. Firms that are operating in this industry respond to this growth in demand in different ways, which may include expansion of production and full utilization of the existing capacity to produce. Some companies also meet such increase in demand by selling their existing inventory.

Alternatively, a company in an industry may respond to the sustained rise in demand for its product by investing more in capital goods, equipment and technology with the aim of increasing its production capacity. In this case, the firm increases its investment spending. This enables the firm to meet the growing demand and narrow the gap between demand and supply.

Thus, demand for capital goods (investment) is driven by a change in demand for products being supplied by the company. This triggers the accelerator effect, which states that when there is a change in demand for consumer goods (an increase or decrease), there will be a higher percentage change in demand for capital goods.

Overall, this relationship says that when consumption spending increases, demand also increases and this in turn will lead to an increase in investment demand. The accelerator effect happens when an increase in national income (GDP) results in a proportionately larger rise in capital

investment spending.

Let **Yt** be the level of output or gross domestic product (GDP), in time period **t**. Let **Kt** be the capital stock available in period t and It the level of investment in period **t**. Assume also that **Kt-1** is the capital stock at **t -1** period. Then, investment can be estimated as:

$It = Kt - Kt\text{-}1$

If we assume that investment spending at a given time is some proportion α of the total

output or the GDP (Y) we can write:

$$Kt = \alpha Yt \text{ and } K_{t-1} = \alpha Y_{t-1}$$

Going back to the investment equation, and substituting the capital equation, we have:

$I_t = Kt\text{-}Kt\text{-}1$

$It = \alpha Yt - \alpha Yt\text{-}1$, by replacing out the capital equation.

$It = \alpha Yt - \alpha Yt\text{-}1$, by factoring out the common term,α

$It = \alpha(\Delta Y)$, where is called the accelerator coefficient.

Investment demand is a function of changes in output or GDP in the economy, which represents the total demand in the economy. This means that changes in demand or income accelerates investment.

Review Questions

Part I: Multiple Choices

For the following questions choose the correct answer from the given alternatives.

1. The average propensity to consume (APC) is:

A.calculated by dividing total income by total consumption

B.always assumed to be less than unity

C.constant for all consumers

D.assumed to vary directly with income

2. When the marginal propensity to consume (MPC) is unity:

A.the average propensity to save is zero

B.the consumption function intersects the 450 line

C.the marginal propensity to save is equal to zero

D.the desired savings are zero

3.The distance between the origin and the point from which the consumption function starts on the vertical axis is a measure of:

A. saving C. fixed consumption

B. income D. disposable income

4. An increase in expected future income would:

A. increase today's desired consumption

B. increase future consumption

C. decrease today's desired consumption

D. lead to no change in consumption

5.Dissaving means:

A. the same thing as disinvesting

B. that households are spending more than their current incomes

C. that saving and investment are equal

D. that disposable income is less than zero

Answer:

1.B 2.C 3.C 4.A 5.B

Part II: Short Answer

For the following questions, provide short answers accordingly.

1. Summarize the relationship between MPS and MPC.

Answer :Marginal propensity to consume measures the tendency to consume each extra income while MPS measures the tendency to save by consumes from an extra income .

MPC +MPS=1

2. Distinguish between autonomous and induced consumption.

Answer;Autonomous consumption is the minimum amount of consumption that people must have what ever their income.This amount of consumption exit even if income equals to zero.Induced consumption is the portion of consumption that varies with the amount of income and this part consumption is zero when income level is zero.

3.What are the factors that affect consumption?

Answer;The key factors that affect consumption are;

- ✓ Income
- ✓ Expectation about future income and price
- ✓ Tax and distribution of income

4. What are the main factors that determine or affect the level of investment?

Answer;Investment depends on several very important factors.such as;

- ✓ Interest rate
- ✓ Income expectation about future sales
- ✓ Busiuness taxes

5.What does the accelerator theory shows?

Answer;The acceletor theory argues that investment spending in an economy is related to demand for goods and services.When consumption spending increases ,demand also increases and this inturn will lead to an increase in investment demand.

Part III: Work Out

For the following question, provide the required solution neatly and clearly.

1. If autonomous consumption (a) = 60, and MPC = 0.8, write down the consumption and saving equations. Find the value of consumption and saving when income is 500.

Solution:If autonomous consumption,a=60, and MPC=0.8,then

C=60+0.8Y and S= -60+0.2y

When income is 500 C=60+0.8(500)=60+400=460

When income is 500 S=-60+0.2(500)=-60+100=40

2. Given: assume that the consumption behavior of a household is estimated as shown in

Required:

Combination	A	B	C	D	E	F	G
Income	200	225	250	275	300	325	350
Consumption	205	225	245	265	285	305	325

a) marginal propensity to consume B and C

To find Marginal Propensity to Consume(MPC) use any two combinations such as a movement from B to C.

MPC=c=$\frac{C_2-C_1}{Y_2-Y_1}=\frac{245-225}{250-225}=\frac{20}{25}=0.8$

b) formulate the consumption function

C=c_0+Cy,use any combination from the table such as

(Y=300 and C=285) to solve for the autonomous consumption level.

C=c_0+0.8Y

285=c_0+0.8(300)

c=285-240=45

C=45+0.8Y

c) formulate the saving function

Saving function easily derived as Y-C since Y=C+S

Hence ,S=Y-(45+0.8Y)

S=Y-45-0.8Y

S=-45+0.2Y

d) the level of saving when income equals 600

S=-45+0.2Y, since Y=600
S=-45+0.2(600)
S=-45+120
S=75
This means that the difference (600-75)=525 is used for consumption.

UNIT FIVE

TRADE AND FINANCE

5.1 Overview of Domestic Trade

Domestic trade refers to the exchange of goods or services within an individual country or territory. It is sometimes called "local trade" or "internal trade". Under domestic trade, the market is constrained by the borders of that country and all the products must be bought and sold by people who live within the domestic market.

Domestic trade can be further divided into retail trade and wholesale trade. Retail trade involves selling goods and services for direct consumption while wholesale trade involves agents other than a standard consumer. Wholesale trade is the backbone of the domestic market. A retailer is normally the final seller of a product. A retailor makes its purchases from wholesalers and sales are made to the customers directly. Retailers have a credit arrangement with wholesalers to buy the goods and can repay after their sales are made in cash. Retailers sell goods in small quantities relative to wholesale trade and are distributed all over the country where consumers live.

Why do we need to engage in domestic trade?

Domestic trade plays a crucial role in the economic growth of a country.

- ✓ it improves the standard of living of the residents of the country as well as the employment rate of the country.
- ✓ improves the economic performance of a country by improving resource distribution and efficiency. For example, under capitalism, domestic trade develops due to private ownership of the means of production.
- ✓ It encourages investment and development within the country .
- ✓ It eliminates the country's dependence on foreign sources of goods and services. Political issues, international disagreements and wars have less effect on the economy when a country has a strong domestic trade. Under such situations, countries with few manufacturing plants are likely to struggle during wartime, since they have difficulty obtaining goods, services and equipment.
- ✓ The transaction costs which are associated with making sales tend to be much lower for domestic markets due to a lack of tariffs and customs duties, as they have a shorter distance to travel.

The biggest problem and limitation of domestic trade is the limit to the selection of products which are available for sale. In a pure domestic trade market, countries only trade what they have managed to produce, and some countries have limited capacity and resources to meet their demand. Hence, countries may not meet the demand of their people by relying only on their domestic trade patterns. This is why today, all countries engage in international trade and would like to benefit from international specializations and differences in endowments.

Basis of International Trade

1.Difference in factor endowments

2 Divisin of labor(specialization)

3.Gains from exchange of goods and services
4.Price differentials
5.Difference in supply conditions
6.Difference in demand conditions

In general, the immediate cause for trade among nations is the difference in the prices of goods and services.

The major advantages of engaging in international trade include:

- It makes the most efficient use of the world resource possible through encouraging specialization or division of labor among nations.
- Each trading nation will gain as world output increases because of specialization and division of labor. The gains are in the form of more aggregate production, large number and greater diversity of quality goods.
- International trade relations help harmonize international political relations.
- Foreign competition tends to induce efficiency in the home nation and maintain the quality of their products.
- It helps domestic firms to exploit economies of scale of production through expanding markets.
- It promotes learning through technology exchange.
- Cultural exchange and ties among different countries develop when they engage in trade.

The Mercantilists' View on Trade

Mercantilists are a group of writers who appeared in Europe (especially in England) during the period 1500–1800 G.C. They also appeared in other countries such as Spain, France, Portugal and the Netherlands. They were concerned with the process of nation building, i.e. how to make a given nation powerful economically and politically. They wrote essays on international trade that advocated an economic philosophy known as "mercantilism".

The underlying view of the mercantilists was the belief that a country's wealth is based on the holdings of precious metals like gold. According to them, for a nation to be powerful economically and politically, the nation should accumulate as much gold and precious metals as possible which were used as the medium of exchange at that time.

To accumulate large amount of gold and precious metals, a country should export more than its imports. Exports were considered good because they generate revenue to the exporting nation, but imports were considered bad since they imply payments to other countries. Increasing export would enable a country to obtain a large amount of gold and precious metals; whereas decreasing

imports would prevent the country's holdings of gold and precious metals being depleted.

Thus, if a country could achieve a favorable trade balance (a surplus of exports over imports), it would enjoy payments that are received from the rest of the world in the form of precious metals, primarily gold and silver. Such surplus receipts contribute to a rise in domestic output and employment.

To promote a favorable trade balance, the mercantilists advocated government regulation of trade. They advocated the imposition of tariffs, quotas and other commercial policies to minimize imports to protect a nation's trade position. This situation implied that international trade was a zero-sum game, in which one country's economic gain was achieved at the expense of another.

The Classical Trade Theories

Classical economics refers to the economic thought of the period from the mid-eighteenth to the mid-nineteenth century. This is roughly the period from the 1760s –the 1850s. Adam Smith and David Ricardo were among the principal advocates of this economic thought. Classical economic theory was essentially about growth and development of a country. They wanted to investigate the nature and causes of the wealth of nations and the distribution of the national product among the factors of production.

a.Adam Smith's Principle of Absolute Advantage

Adam Smith (1723-1790) was a Scottish philosopher and an economist, educated at the Universities of Glasgow and Oxford and subsequently a Professor of Moral Philosophy at Glasgow University. He was a leading advocate of free trade on the grounds that it promotes the international division of labor.

In 1776, Adam Smith published his famous book, "An Inquiry into the Nature and Causes of the Wealth of Nations", in which he attacked the mercantilist view on trade and advocated free trade as the best policy for all nations. According to Smith, trade between two nations is based on absolute advantage.

According to Smith, nations could benefit from international exchange of goods by concentrating on the production of goods that they could make most cheaply. He advocated a laissez faire (pronounced "lay-zay fair") approach to economic systems which argue that economic affairs of society are best guided by the decisions of individuals. Laissez faire is French for "let people do as they choose" or "allow to do".

The proper role of the government was to see that the market was free to function by removing the barriers to effective operation of the market.

He argued that mutually beneficial trade can be achieved based on what he referred to as "absolute advantage". This is sometimes called "absolute cost advantage". The absolute cost advantage is the ability of one country to produce one of the two goods at a lower cost relative to its trading partner. For example, Ethiopia produces coffee at a lower cost and sells it to many European countries, hence, Ethiopia has absolute advantage in the production of coffee. On the other hand, European countries, such as Germany and France, have an absolute advantage in the production of processed goods such as machines and perfumes. We say Ethiopia has absolute cost disadvantage in the production of these items, and hence needs to import them from countries with absolute advantage.

Smith argued that trade is mutually beneficial, and it is a positive-sum game, but not a zero- sum relationship as assumed by the mercantilists. He presented a powerful argument for expanding trade and reducing the many trade controls that characterized the mercantilist period. The view of Adam Smith and his colleagues about international trade is called "classical thoughts".

Note

Mutually beneficial trade *between two nations will take place if each country has an absolute cost advantage in the production of one of the two goods according to the absolute advantage principle of Adam Smith.*

Assuming a two-country and two-product model, international trade and specialization will be beneficial when one country has an absolute advantage (that is, can produce a good using less resources) in the production of one good, whereas another country has the absolute cost advantage in the production of the another good. Smith felt that it was far better for a country to import goods that could be produced overseas more efficiently than to manufacture them at home. In other words, countries would import goods in the production of which they had an absolute disadvantage against the exporting country. On the other hand, countries would export goods in the production of which they had an absolute advantage over the importing country.

Note

A ***positive sum game*** *is a situation where all players can receive a positive return (benefit) in their collaboration.*

A ***zero-sum game****, on the other hand, is an arrangement where one party loses, and another party takes the whole gain from their interaction or collaboration.*

To illustrate the mutual gains from trade, look at the following simplifying assumptions.

- ✓ There are only two countries and two goods.
- ✓ Labor is the only factor of production, and it is homogeneous and fixed in amount.
- ✓ The value or price of a good is equal to the amount of labor time which is used in the production of the good. This is the labour theory of value.
- ✓ Labor is mobile within a country, but immobile internationally.
- ✓ Labor is fully employed in both countries.
- ✓ The level of technology that is used to produce the goods is constant.
- ✓ Transportation costs are zero.
- ✓ Money is not used as a medium of exchange, rather the two countries engage in barter trade, i.e., goods are exchanged for other goods.
- ✓ The institutional setting is perfect competition.

Given the above assumptions, Table demonstrates that mutually beneficial trade is possible between, two countries. Let us assume trade between Ethiopia and China of coffee and cloth production. For simplicity, assume that each country is endowed with 2 units of labor only.

Ethiopia has an absolute advantage in the production of coffee while China has an absolute advantage in the production of cloth. The absolute advantage is indicated by difference in productivity. To put the example clearly, Ethiopia produces 4 kgs of coffee as opposed to the 1 kg of coffee per labor hour in China. Hence, Ethiopia is more effective in coffee production and

has an absolute cost advantage. Regarding the cloth production, China is more productive since one laborer hour produces 5 yards of cloth as opposed to 2 yards in Ethiopia. The total output before trade is 5 kgs of coffee and 7 yards of cloth. This situation is sometimes called "autarky".

Note

***Autarky** is a situation where there is no international trade and a country is Assumed to be self-sufficient.*

Assume that the two countries will completely specialize in the production of a good in which they have absolute advantage. As indicated in Table Ethiopia will move all its resources towards the production of coffee and China will produce only clothes. With 2 units of labor, Ethiopia will produce 8kgs of coffee and China will produce 10 yards of cloth. Before trade, total world production is 5kgs of coffee and 7 yards of cloth, if the two countries use 1 labor to produce each good.

Now, let us introduce international trade. Assume that the two countries want to trade some of the excess amount of the goods they have produced through specialization. Assume also that the rate of exchange is 1 kg of coffee for 1 yard of cloth (1:1) for simplicity and they want to exchange 4 units of the goods. From this, we can understand that Ethiopia sales 4 units of coffee and would receive 4 units of cloth in return.

After trade, consumption equals to 4kgs of coffee and 4 yards of cloth in Ethiopia and 4kgs of coffee and 6 yards of cloth in China. In this way, the total gains due to specialization and trade is 2kgs of coffee and 4 yards of cloth. The lion share of the gains from trade goes to China and this is due to productivity difference and the assumed terms of trade or rate of exchange. This example can be taken as a proof showing that both countries could benefit from trade and, thus trade is not a zero-sum game.

Before Trade		**Ethiopia**	**China**
Coffee		4	1
Cloth		2	5
Specialization	Coffee	8	0
	Cloth	0	10
Trade	Coffee Cloth	sell 4 buy 4	Buy 4 sell 4
After trade	Coffee Cloth	4 4	4 6
Gains from trade	Coffee Cloth	0 2	3 1
Total gain due to trade		**2**	**4**

Table. Gains from trade due to specialization according to absolute advantage

Limitations of the Theory

There are at least two major weaknesses in Smith's analysis of international trade.

- ✓ The initial assumptions that labor is the only factor of production and that it is homogeneous could be challenged.
- ✓ Smith's concept of absolute advantage explains only a small part of the world trade, such as those between developed and developing countries. Most of the world trade, especially trade among developed countries, cannot be explained by absolute advantage.

Finally, the principle of absolute advantage does not show what will happen if one country has an absolute advantage in the production of both goods. This task was left to David Ricardo, a British economist, who formulated the principle of comparative advantage, sometimes referred to as the principle of comparative costs.

David Ricardo's Principle of Comparative Advantage

David Ricardo (1772–1823) was a British Economist who is best remembered for his theories of Rent and comparative cost. His interest in economics was aroused from reading Smith's book, The Wealth of Nations in 1799. He is credited for formalizing the concept of comparative advantage.

The original idea of comparative advantage dates to the early part of the nineteenth century. David Ricardo formalized the idea by using a simple numerical example in his 1817 book entitled, The Principles of Political Economy and Taxation. In what follows, the assumptions of Ricardo's model and the definition of comparative advantage are presented. This is followed by numerical example for illustration.

The following are the assumptions of Ricardo's law of comparative advantage:

- there are two-countries, two goods, and labor as the only factor of production.
- The goods are homogeneous (identical) across firms and countries, and labor is homogeneous within a country but heterogeneous (non-identical) across countries.
- the factor of production is mobile between alternative uses and within a country, but immobile internationally.
- the labor theory of value is employed, i.e. the cost of a good is determined by the amount of labor used to produce.
- The level of technology is fixed with constant costs of production.
- There is full employment.
- The economy is characterized by perfect competition and free trade.

- There are no government-imposed obstacles to economic activity, and
- Transportation costs are zero.

According to Ricardo's principle of comparative advantage, even if a nation is more efficient (that is, has an absolute advantage) than another nation in the production of both goods, there is still a basis for mutually beneficial trade. The more efficient nation should specialize in the production and export of the goods in which its absolute advantage is greater and import the goods in which its absolute advantage is smaller. Similarly, the less efficient nation should specialize in the production and export of the goods in which its absolute disadvantage is smaller and import the goods in which its absolute disadvantage is greater.

Note

According to the comparative advantage principle of international trade proposed by David Ricardo, mutually beneficial trade between two countries could take place even if one country has an absolute cost advantage in the production of both goods.

	1 unit of automobile	1 unit of wine
Ethiopia	100 hrs of labor	80 hrs of labor
germany	40 hrs of labor	60 hrs of labor

Table. David Ricardo principle of comparative advantage

As can be observed from Table, in Ethiopia, it takes 100 hours of labor to produce 1 unit of automobile, while it takes 80 hours of labor to produce 1 unit of wine. In Germany, it takes 40 hours of labor to produce 1 unit of automobile, while it takes 60 hours of labor to produce 1 unit of wine. Thus, according to this example, Germany has an absolute advantage (that is, uses fewer labor hours) in the production of both goods.

From Adam Smith's perspective, there is no basis for trade because Germany is more efficient in the production of both goods, and Ethiopia has an absolute disadvantage in both goods.

Based on the comparative advantage of Ricardo, however, we can see that Germany is relatively more efficient in the production of automobiles than of wine and that Ethiopia's relative disadvantage is smaller in the production of wine.

In other words, automobile production is relatively cheaper (or wine production is relatively more expensive) in Germany.

This situation is illustrated by using the concept of opportunity cost (relative cost) as indicated in Table below, which is derived from Table . In this context, the opportunity cost of automobile production is defined as the amount of wine that must be given up in order to produce one more unit of automobile. Similarly, the opportunity cost of wine production is defined as number of units of automobiles that must be given up in order to produce one more unit of wine.

	1 unit of automobile	1 unit of wine
Ethiopia	$\frac{100}{80} = 1.25$	$\frac{80}{100} = 0.8$
Germany	$\frac{40}{60}$=0.67	$\frac{60}{40}$=1.5

Table. David ricardo principle of comparative advantage opportunity cost of production

Table. Shows that in Ethiopia, 1 unit of automobile is equivalent to 1.25 units of wine, while 1 unit of wine is equivalent to 0.8 units of automobile. On the other hand, in Germany, 1 unit of automobile is equivalent to 0.67 units of wine, while 1 unit of wine is equivalent to 1.5 units of automobile.

Therefore, Ethiopia has a comparative advantage in the production of wine as the opportunity cost of wine in terms of automobiles is lower in Ethiopia (as indicated by the single asterisk in Table above).

Similarly, Germany has a comparative advantage in the production of automobiles, as the opportunity cost of automobile in terms of wine is lower in Germany (as indicated by the double asterisk in Table above). Thus, according to Ricardo, even when one country has an absolute advantage (i.e. is more efficient) in the production of both goods, a mutually beneficial trade can still exist because of the differences in opportunity costs (or relative costs).

Activity

Explain the difference between absolute advantage and comparative advantage.

Answer ;The absolute advantage is a situation where one country can produce one of the two good at a lower cost relative to its tradind partner,while comparative advantage occurs when a country specialize in production of a good in which it has a greater absolute advantage .

Criticisms

One of the critiques of Ricardo comes from the fact that he assumed the labor theory of value in which labor was assumed to be the only factor input which is homogeneous, but labor is one among several factors of production and is not homogenous. Another drawback of Ricardo's theory is the assumption of constant returns to scale and thus, constant cost of production in both nations.

5.2 Balance of Payment Components

The balance of payments record of a country is a systematic record of all economic transactions of a country with the rest of the world during a given period of time. It is a double entry system of record of all economic transactions between the residents of the country and the rest of the world that is carried out in a specific period of time.

Any transaction in BoP involves debit and credit items.

As a general rule, credit items in BoP accounts reflect transaction that give rise to payments

inward to the home country. The main items that are registered as credit include exports, foreign directed investment inflow to the home country, receipts of interest and dividends by the home country from earlier investment abroad. These credit items are recorded with a plus sign.

Debit items in the balance of payment accounts reflect transactions that give rises to payment outward from the home country. The main items are imports, investments made in foreign countries by domestic nationals and payments of interest and dividends by the home country on earlier investments which are made by foreign investors. By convention, debit items (which lead to a payment of outflow) are recorded with a minus sign.

The BoP of a given country is one of the most important economic indicators which are used by policy makers to predict the effect of international conditions on the domestic economy.

It shows that how many goods and services that the country has been exporting, importing and whether a country has been borrowing from or lending to the rest of the world.

There are two main accounts in the balance of payment: the **current account** and **the capital account**

The Current Account (CA)

The current account includes transactions in goods, services, investment incomes, and current transfers. The current account records inflows and outflows of foreign currency resulting from flows of goods, flows of services and unrequited (or unilateral) transfers.

It is composed of three balances: trade balance, net services and net transfers.

Trade balance: shows that the balance in the trading of merchandise goods by excluding trade in services. Hence, it is narrower than the current account. Trade balance shows that balance of export and import of goods by excluding current transfer income and trade in services. The implication is that;

- When the value of exports is more than that of imports, the country is said to a trade surplus or favorable (or positive) foreign trade.
- When import values are more than export values, the country is said to have a trade deficit, i.e. unfavorable (or negative) foreign trade.
- When the value of exports equals the value of imports, we call it a trade balance.

Net services: the difference between the export and import of services is called “net services”. There are many services that are made use of in international trade, for example, shipping, insurance and banking services. Ships must be hired for transporting goods from one country to another. The merchandise which is carried by the ships has to be insured for any loss and damage in transit. Banking services are used to facilitate receipts from and payments to foreign dealers. The net receipt of such services is recorded as net services in BoP.

Net transfers: transactions such as gifts, remittances, donations, etc., are unrequited or unilateral receipts and payments, because residents of a country receive them 'for free'. This is to say that nothing has to be paid in return, either at present or in the future, for such receipts.

The difference between the receipts and payments of such transfers is known as "net transfers". Hence, current account balance is the sum of trade balance, net services and net transfers during a given period of time.

The Capital Account (KA)

The capital account includes transactions in financial instruments and central bank reserves. The capital account records transactions concerning the movement of financial capital into and out of a country. Capital comes into a country by borrowing, sales of overseas' assets and investments in a country by foreigners. These items are said to be capital inflow and recorded as credit items while capital that leaves the country due to lending, buying of overseas' assets and purchases of domestic assets which are owned by foreigner residents. These items represent capital outflow and are recorded as debit. The balance on capital account measures the outflow and inflow of funds' purchase and sales of asset abroad. It may be positive (surplus) or negative (deficit). (BoP) is the sum of current account balance (CA) and capital account balance (KA).

CA +KA= BoP

When a country is in current account deficit, it must pay the differences between imports and exports from a surplus in the capital account surplus. If there is no surplus or the surplus in the capital account is not enough to cover the deficit in the current account, the country will pay the difference from the official reserve accounts. The country needs to settle its bills. This is why countries enter into a situation where they have to restrict or control international trade flows.

Balance of Payment Statement

By adding the balance on the capital account and the balance on the current account, we get the complete balance of the payments account. When receipts and payments are equal, the balance of payments is said to be in balance. If the total BoP receipts are more than the payments, the excess goes to a third account, the Foreign Exchange Reserves. In addition to this, when payments exceed receipts, there is a depletion of foreign exchange reserves.

Trade Policies and Strategies

Trade policies refer to actions and arrangements that are taken by a country to encourage or restrict international trade. When the interventions aim to discourage international trade, the policies are "restrictive policies". Trade restriction is a policy that is introduced by countries on the trade of goods and/or services between two or more countries to limit the volume of trade and associated transactions. There are two broad measures which are used to restrict trade flows. Trade restrictions are imposed on foreign trade, particularly on imports.

Trade restrictions are broadly of two types as price related and quantity related restrictions.

Imposition of a tariff is an example of price restriction while import quota is an example of quantity restriction.

Tariff restrictions: are in the form of taxes on the import of goods, called "custom duty" or "import duty". Such taxes raise the price of imported goods in the domestic market. These high prices of imported goods are expected to reduce their demand in the domestic market and thus, to act to restrict imports. Note that tariff increase government revenue.

Quantitative restriction (Import quota): these restrictions take the shape of fixing the maximum quantity of goods that are permitted to be imported. Thus, the government may determine the total import quota of goods, i.e. the total amount of goods that can be imported, and can allot this quota to various importers. Nothing beyond the quota can be imported. This naturally limits the quantity of imports.

Reason for trade restrictions

There are several reasons for restricting trade including:

- to protect domestic jobs (job protection argument)
- to protect small and infant industries (infant industry argument)
- to maintain the domestic standard of living
- to equalize production costs
- for the purpose of national security
- for cultural and sociological considerations

Furthermore, there are two broad trade strategies that countries use to enhance macroeconomic performances. These are import substitution (IS) strategy and export promotion (EP) strategy.

- Import substitution strategy aims to replace imported items by domestic products through special support packages to promote domestic producers. The idea of import substituting industrialization was a popular strategy in many developing countries over the period from the early 20th century until the late 1970s.

  This strategy was born due to lack of access to imports or shortage of foreign currencies to pay for them. Import substitution strategy has at least two important effects. The first is that infant or young industries are protected from competing with cheap imports via tariff barriers, various quantitative restrictions and other measures. Second, the tariffs on imports help to increase government revenue.

Note

Import substitution is a trade and economic policy that advocates replacing imports with domestic production.

- There are alternative ways of defining export promotion (EP) strategy which gives preferential treatment to the export sector to generate revenue in foreign currency. This

entails providing incentives over and above those which would prevail in a neutral strategy.

Note

Export promotion refers to the act of policy measures which actually or potentially enhance exporting activity at the company, industry, or national level.

5.3 Exchange Rate Determinations

The foreign exchange market sometimes called "forex market" or "currency market" is a place where the trading of one currency for another takes place.

The demand for foreign currencies arises due to factors such as tourists visits to another country, import demand for goods from other nations and demand to invest abroad. The supply of a nation's foreign currency arises from earnings such as from tourist expenditure, export earnings and foreign direct investment.

Exchange rate is simply the price of one currency in terms of another currency. There are two major systems of exchange rates. There are fixed exchange rate and flexible exchange rate systems. In this section, we will study each of them and differentiate between nominal and real exchange rates.

Nominal and Real Exchange Rate.

Nominal exchange rate refers to the rate at which currency can be exchanged for another currency. The nominal exchange rate is the number of units of the domestic currency that can purchase a unit of a given foreign currency. There are two ways of expressing the exchange rate. We can express the price of one unit of foreign currency in terms of domestic currency or the price of one unit of domestic currency in terms of foreign currency. For example, at the time of going to press, Ethiopia buys 1 USD for close to 45 ETB. That means the price of 1 USD is 45 ETB, so the exchange rate for USD is equal to 45 ETB. Hence, the nominal exchange rate is 45. Similarly, the exchange rate between European Euro and Ethiopian Birr is close to 53.

Note

Nominal exchange rate is usually expressed as the domestic price of the foreign currency.

Alternatively, it is possible to express foreign exchange in the value of the foreign currency. Hence, exchange rate equals the price of one unit of domestic currency expressed in terms of foreign currency. This is the amount of a USD used to buy one unit of ETB. Currently, 1ETB buys just 0.022 USD. In this way, the exchange rate equals to 0.022. In this subject and in most economic analysis, the first definition of exchange rate is used (i.e. price of one unit of a foreign currency as measured by the local currency).

When a person buys a foreign currency, he/she is interested in what can be bought with that currency. The real exchange rate tells us how many goods and services in the domestic country

can be exchanged for the goods and services in a foreign country.

Definition of real exchange rate (RER) depends on the type of nominal exchange rate that we use. We can use the foreign currency value or the domestic value per unit of foreign currency. For our discussions, let us use the domestic currency that is required to buy one unit of a foreign currency (i.e. 1 USD equals 45 ETB).

Under this assumption, the real exchange rate is the ratio of the price level abroad and the domestic price level, where the foreign price level is converted into domestic currency units via the current nominal exchange rate. The real exchange rate between two currencies is the product of the nominal exchange rate and the ratio of prices between the two countries.

The real exchange rate is represented by the following equation:

Real exchange rate=Nominal exchange rate*$(\frac{Foriegn\ price}{Domestic\ Price})$

RER=e$\frac{p^*}{p}$

Where, in our example, e is the nominal ETB-USD exchange rate, P* is the average price of a good in the foreign market, and P is the average price of the good in Ethiopia.

The real exchange rate tells us how many times more or less goods and services that can be purchased abroad (after conversion into a foreign currency) than in the domestic market for a given amount. As indicated above, the nominal exchange rate between ETB and USD is 45. If the price of a burger is 60 Birr in Ethiopia and 5 USD in the USA, the real exchange rate will be:

Real exchange rate=$\frac{45\ ETB}{1\ USD}$*$[\frac{5USD/1USD\ Burger}{60ETB/1Ethiopian\ Burger}]$

Real exchange rate=$\frac{225/USD\ Burger}{5/Ethiopian\ Burger}$

Real exchange rate=$\frac{225}{USD\ Burger} * \frac{Ethiopian\ Burger}{5}$

Real exchange rate=$\frac{3.75\ Ethiopian\ Burger}{USD\ Burger}$

Hence, 5 USD will buy 3.75 more units of burger in Ethiopia than in USA with the existing nominal exchange rate and prices of burger in the USA and Ethiopia.

Note that if price of burger increases to ETB 100 due to, say inflation, the real exchange rate becomes 2.25. This means that the same 5 USD would buy 2.25 extra units of burger in Ethiopia as opposed to the previous value of 3.75. ***Note*** *If the* ***real exchange rate*** *is 1, it costs the same amount of money to buy a given good in both countries.*

Now, let us consider how exchange rate is determined in a given economy. There are two different methods of determining the price of foreign currency (exchange rate): **fixed** and **flexible exchange rate system**.

Fixed Exchange Rate Systems

A fixed exchange rate is a situation where the price of one currency in terms of another currency is fixed by a government or national bank.

Using a fixed exchange rate system has some advantages which include stability of the value of local currency and provision of greater certainty for exporters and importers, and help, the government maintain low inflation.

Under a fixed exchange rate system, a change in exchange rate requires intervention by the government or the central bank and we say that there is either devaluation or revaluation of a currency. If we measure the exchange rate as the price of 1 unit of the foreign currency in terms of local currency, devaluation refers to an increase in the foreign exchange rate while revaluation is the opposite.

- Devaluation of a local currency is generally expected to encourage export earnings and discourage imports. With devaluation, imports become expensive while exports become cheaper in the international market.

Floating Exchange Rate Systems

A floating or flexible exchange rate is a regime where the price of the domestic currency is set by the foreign exchange market based on the interaction between supply and demand of the currencies. Floating exchange rates is more common in the real world. A floating exchange rate does not mean that countries do not try to intervene. This is usually the case of managed floating where a government or central bank manipulates its currency's price, in order to maintain a currency price which is favorable for international trade.

Note

The National Bank of Ethiopia (NBE) closely follows the determination of the exchange rate between Ethiopian Birr and other foreign currencies in Ethiopia in line with the managed floating system.

A change in the value of exchange rate under a flexible exchange rate regime constitutes appreciation or depreciation. Given our definition of the exchange rate as the price of 1 unit of the foreign currency, appreciation refers to a decrease in the foreign exchange rate while depreciation is the opposite. If the exchange rate between United States Dollar (USD) and Ethiopian Birr (ETB) increase from its value of 45 to 50, we say that there is depreciation of

ETB, if the exchange rate decreases to 30, for instance, we say the Birr has appreciated.

Regional Integration and Globalization Practices in the Ethiopian Context

Regional integration is the process by which two or more countries agree to cooperate and work together to achieve peace, stability and wealth. Regional integration is an arrangement among countries to meet a pre-defined common goal. Integration aims to reduce costs for both consumers and producers and to increase trade between the countries that are involved in the agreement. Regional integration is sometimes called "economic integration".

The regional agreement is based on one or more written agreements that describe the areas of cooperation in detail. There are different degrees of integration. The simplest being free trade area and the final stage is political integration.

Note

Regional integration, or economic integration, *is an agreement among nations to reduce or eliminate trade barriers and agree on macroeconomic policies.*

Advantages and Disadvantages of Economic Integration

Advantages of economic integration for all member countries.

- ✓ trade benefits,
- ✓ employment benefits, and
- ✓ improved political cooperation.

Note

Economic integration creates three advantages to member countries: trade benefits, employment benefits and improved political cooperation.

Dis advantages of economic integration

- Trade diversion refers to the possibility of shifting trade from an efficient non- members country to a less efficient member country. Due to the agreement, member countries might be forced or encouraged to trade with member countries although there might be non-member countries that can supply the good cheaper which induces inefficiency in the system.
- Firms may relocate their business in cheaper countries due to the opening of borders. This may lead to loss of jobs and unemployment in the high-cost member countries.
- It also implies erosion of national sovereignty. Members of economic unions typically are required to adhere to rules on trade, monetary and fiscal policies which are established

by the management of the economic union external to any nation. This sometimes creates inconsistencies with pressing national issues and goals.

There are four main types of regional economic integrations with different levels of integration:

Free trade area: this most basic form of economic cooperation in which member countries remove all barriers to trade between themselves. They are free to independently determine their own trade policies with non-member nations. An example is the North American Free Trade Agreement (NAFTA).

Customs union: this form of regional integration builds on the agreement under free trade area and restricts member countries to trade with non-member countries in a similar manner. Hence, barriers to trade are removed between member countries and members agree to use a common trade policy against non-member countries.

Common market: this type of regional integration allows for the creation of economically integrated markets between member countries. Trade barriers, including any restrictions

on the movement of labor and capital between member countries, are removed. Like customs unions, in common market there is a common trade policy for trade with non-member nations. In this regional integration, the primary advantage to workers is that they no longer need a visa or work permit to work in another member country of a common market. An example is the Common Market for Eastern and Southern Africa (COMESA).

Economic union: this is final stage of economic integration. Under economic union, countries enter into an economic agreement to remove barriers to trade and adopt common economic policies. An example is the European Union (EU).

Globalization Practices in Ethiopian Context

Globalization refers to the increasing interdependence of world economies, population and cultures. The main drivers could be the growing scale of cross-border trade of commodities and services, the flow of international capital and the wide and rapid spread of technologies. Globalization reflects the increased interconnectedness and interdependence of peoples and countries.

Some of the benefits globalization includes

- ✓ access to new markets and technology,
- ✓ exposure to a new way of life and culture and
- ✓ an improved standard of living.

- ✓ increases global competition, which drives prices down and creates a larger variety of choices for consumers..

Globalization has affected the Ethiopian economy positively and negatively .

Ethiopia has managed to attract world class investors and technologies and the cities and urban life has substantially changed due to access to technology and information. The economy has registered a rapid growth rate over several years and Addis Ababa has flourished as the capital city of the African continent (i.e. the Headquarters of Organization of African Union).

The downsides of globalization include loss of cultural identity and exploitation of employees in foreign countries which is also a problem in Ethiopia.

Review Questions

Part I: Multiple Choices

For the following questions choose the correct answer from the given alternatives.

1.A study of international trade is important because:

A.it is different from domestic trade.

B.trade is one of the important determinants of growth.

C.international trade is an important component of the world economy.

D.all of the above

2.Mercantilists:

A.recommended free international trade for all countries.

B.argue that international trade is not important for the development of a country.

C.proposed that international trade should be based on the absolute advantage of economies.

D.recommended international trade based on the status of the trade balance.

3.A trade quota is:

A.an explicit limit on the amount of exports of a good from a country.

B.an explicit limit on the amount of imports of a good into a country.

C.a tax only on exports.

D.a tax only on imports.

4.According to absolute advantage theory of Adam Smith:

A.international trade should be regulated and there should be no free trade.

B.international trade should take place only when countries have absolute advantage

C.all countries should engage in international trade

D.poor countries do have a strong potential to trade with rich countries

5.David Ricardo's comparative advantage is superior to Adam Smith's theory in the sense that:

A.it focuses on comparative advantage than absolute advantage.

B.his argument favors free trade.

C.he proved that even countries with absolute cost disadvantage can benefit from trade.

D.A and C

6. An exchange rate measures the:

A.price at which one can exchange one good for another good.

B.price at which one can exchange one resource for another resource.

C.discounted price one received when returning defective goods for exchange.

D.price at which one can exchange one currency for another currency.

7.If the dollar price of the Ethiopian Birr increases, then the:

A.Ethiopian Birr has appreciated while the USD has depreciated.

B.Ethiopian Birr has depreciated while the USD has appreciated.

C.Ethiopian Birr and the USD have depreciated.

D.both Ethiopian Birr and USD have appreciated.

Answer;1,D 2.D 3.B 4.B 5.D 6.D 7.A

Part II: Work Out

For the following questions, provide the required solution neatly and clearly

Table:considerthe follwind hypothetical table represents the total factor productivity of two countries(Ethiopia and India)to produce computers and coffee

	Ethiopia(output per labour hr)	**India(output per labour hr)**
Computer	50	70
Coffee	120	90

1. Identify the goods on which the two countries have comparative advantage.
2. Calculate the net gain in world output in the production of computers and coffee due to trade (assume complete specialization).

Solution;

Countries	Computer	Coffe	Opportunity cost of computer	Opportunity cost of coffee
Ethiopia(output per labour hr)	50	120	2.4	0.42
India(output per labour hr)	70	90	1.29	0.78

1.Ethiopia does have an absolute advangtage in the production of coffee.Cosidering the opportunity cost ,we see that the opportunity cost of producing one unit of coffee is cheaper in Ethiopia(0.42),Hence Ethiopia has a comparative advantage in the production of coffee.In India the opportunity cost of producing computers (1.29) is less than in Ethiopia (2.4). India has a comparative advantage in the production of computers.

2.If we assume specializations according to the comparative advantage examined above and only two inputs,we have the following

- ☞ World out put before trade
  - ✓ 120 computers 210 units of coffee
- ☞ With complete specialization
  - ✓ Ethiopia produces only coffee and the amount equals to 240 units of coffee (120+120)
  - ✓ India produces only computers and the amount equals to 140 units of producing computers(70+70)
  - ✓ Overall there is 20 units gain in computer production and 30 unit gain in production of coffee due to specialization.

UNIT SIX

ECONOMIC DEVELOPMENT

6.1 Economic growth and Economic Development

What is Economic growth and Economic Development

Economic Growth refers to the rise in the productive capacity of the economy over time to bring about increase in the levels of national output and income. It is measured as changes in the GDP or GNP of a country.

Economic Development: - is more than economic growth, it is broader and encompasses a number of issues. It may define as a high level and uniformly accessible material wellbeing. It is the degree of betterment as well as equity in distribution of material welfare among a society. It is not a mere increase in the level of income or output.

Development is actually more general and multidimensional process. It includes – removal of poverty, malnutrition, access to clean water, raising life expectancy, reduction in infant mortality, increased access to schooling, etc.

Economic development refers to a fundamental change in the structure of the economy. Structural change refers to changes in the nature and relative importance of sectors in the economy. Development is the transformation of the economy via changes that are the key elements of the economy. That includes;

- falling share of agriculture and a rising share of non-agricultural sector (such as industry) in the GDP,
- rising share of population living in urban areas rather than in rural areas,
- increases in the rates of accumulation of capital;
- changes in demographic compositions
- Change in employment structure, etc.
- Economic Development also implies that the country must participate in the process that brought major structural changes.

Economic development is a process where there is improvement in the lives of all people in the country. This involves not only living standards, such as greater availability of goods and

services (and the ability to purchase them) but also the promotion of attributes such as self-esteem, dignity and respect, and the enlarging of people's freedom to choose and to take control of their own lives. While a country may grow richer through the growth of its real output, it does not necessarily mean that it will develop.

GDP growth rate $= \frac{(GDP\ in\ current\ period(Gt) - GDP\ in\ previous\ period(Gt-1)}{GDP\ in\ the\ previous\ period(Gt-1)} * 100$

Economic growth rate typically refers to the increase in the inflation-adjusted market value of the goods and services that are produced by an economy over a specific period. It is conventionally measured in percentage terms since it is the easiest way to make a comparison over time and space. Usually, the real inflation-adjusted GDP is also used for the calculation since it removes the effect of the rising price level. Furthermore, economists often focus on the percentage change in the real GDP per capita because it improves the comparison between countries and also isolates the effect of changing the population.

Example:

Here is an example for GDP growth rate calculation in a given economy. The real GDP in 2017 is 17,304,984 dollars and in 2016 it was 16,920,328 dollars.

Applying the GDP growth rate formula:

GDP growth = (17,304,984 - 16,920,328) / 16,920,328 * 100 = 2.27%.

GDP growth $= \frac{(17,304,984 - 16,920,328)}{(16,920,328)} * 100$

Therefore, the real GDP growth in 2017 compared to the previous year was 2.27%.

6.2 Measures of Productivity

Productivity is commonly defined as a ratio between the output volume and the volume of inputs. In other words, it measures how efficiently production inputs, such as labor and capital, are being used in an economy to produce a given level of output. Productivity is considered to be a key source of economic growth and competitiveness and, as such, is basic statistical information for many international comparisons and country performance assessments. There are different measures of productivity and the choice between them depends either on the purpose of the productivity measurement and/or data availability. One of the most widely used measures of productivity is gross domestic product (GDP) per hour worked. This measure captures the use of labor inputs better than just output per employee.

Higher productivity means producing more from a given amount of inputs or producing a given amount with fewer inputs. Productivity, in economics, measures output per unit of input, such

as labor, capital, or any other resource. It is often calculated for the economy as a ratio of gross domestic product (GDP) to hours worked. Productivity can thus be measured as:

Productivity=$\frac{Out\ put}{Input}$

Productivity can be increased by the following ways:

1. Increasing the output using the same input.
2. Reducing the input by maintaining the output as constant.
3. Increasing the output to a maximum extent with a smaller increase in input.

Output is measured by the gross national product (GNP) or gross domestic product (GDP).

Measurement and international comparison of growth and development

Conventional Measures of Development and their Limitations

The dominant conventional measures of growth and development are the Gross National Product (GNP) or Gross Domestic Product (GDP) and their corresponding per capital values. These national income (GNP/GDP) measures are used for the measurement of economic development in several ways. For a given country over two or more years, the absolute value of national income or per capital income is compared for different years. The difference between the values for various years then reflects the growth rate over the period. The level of per capita income is taken as a measure of the average standard of living of the population, while the growth rate measures improvements in the standard of living.

This income measure of development is also used to compare the economic performance of different countries. Thus, the level of national income or per capita income and their growth rates can be compared internationally. The poverty datum line, as the measure of the critical minimum level of per capita income below which individuals are deemed to be living in absolute poverty, is also derived from the income measure of development.

Limitations of conventional income measures:

The calculations of the GNP/GDP based measures suffer from a number of shortcomings.

- ✓ It ignores essential factors that should be incorporated.

Alternative measures of level of development

By the beginning of the 1970s, a momentum started to gather around the need for an earnest search of alternative indicators of development. Aside from the aforementioned deficiencies

encountered in measuring income itself, this search has been prompted by the following considerations:

- The failure of the GNP/GDP measures to reflect the impact of growth on the pattern of income distribution
- The inability of the GNP/GDP measures to reflect the welfare impact of the goods and services produced as well as the likely costs to society of certain patterns of growth.
- The invalidity of the GNP/GDP indicator as a measure of well being in situations where growth has actually deepened poverty and income inequalities, increased unemployment and affected the environment adversely.

The understanding and measurement of development has shifted from **one dimension**, i.e. income, to **multiple dimensions**, i.e. capabilities and freedoms. An increasing GDP is often seen as a measure of welfare and economic success. However, it fails to take into account for the multi-dimensional nature of development or the inherent short-comings of capitalism, which tends to concentrate income and, thus, power in the hands of few.

The weaknesses inherent in the use of GDP as a measure of development have led to the creation of other measures. UNDP publishes a number of different human development indicators, many of which are composites of other weighted indexes. The main indexes are:

- Human Development Index (HDI)
- Inequality adjusted Human Development Index (IHDI)
- Gender Inequality Index (GII)
- Multidimensional Poverty Index (MPI)
- Gender Empowerment Measure (GEM)

Human Development Index (HDI)

Mahbud ul Haq and Amartya Sen developed the HDI. They were aiming to develop a crude index, but one that was a better indicator of well-being and capability than GNP per capita, and could be built using data that were available for most countries in the world. HDI is important because it not only gives a better indication of well-being but also it is better than measuring income alone. It has been used in the Human Development Report which was published since 1989. The Human Development Index (HDI) is a composite criterion consisting of three indicators of development to measure the level of welfare of the people of a country:

- ✓ Life expectancy indicators (LEI) – this refers to life expectancy at birth the number of years a newly born baby is expected to live. High life expectancy at birth indicates that a high level of development and vice versa.
- ✓ Educational attainments indicators (EAI) – this refers to the level of education which is

attained by the people of the country on an average basis. The constituents of educational attainments are:

a. adult literacy rate

b. gross enrollment ratio

Adult literacy measures the percentage of people aged 15 and over who can understand, read and writes a short and simple statement in their everyday life. The gross enrolment ratio shows the percentage of population enrolled at primary, secondary and university level. A higher gross enrollment ratio represents a higher level of development.

- ✓ Standard of living indicators (SLI) - real GDP per capita is considered as the indicator of the standard of living of the people. When we divide the GDP at constant price by the total population of the country, we get real GDP per capita. Real GDP per capita is also known as **"real per capita income".** Higher per capita real income usually represents a higher standard living.

In 2010, a revised HDI was developed to account for inequality in a country. This is sometimes referred to as an IHDI, or the Inequality-adjusted Human Development Index, and is considered far more accurate than the initial HDI, though some still find the old formula useful in some applications.

$$\text{HDI}=\frac{Actual\ Value-Minimum\ Value}{Maximum\ Value-Minimum\ Value}$$

$$\text{Life Expectancy}=\frac{LE-25}{85-25}$$

$$\text{Education Index}=\frac{2}{3}\text{ALI}+\frac{1}{3}\text{GE}$$

$$\text{Where,Adult Literacy Index(ALI)}=\frac{ALI-0}{100-0}$$

$$\text{Gross Enrolment Index(GEI)}=\frac{(CGER-0)}{(100-0)}$$

$$\text{Income Index}=\left[\frac{\log(GDP_{pc})-\log(100)]}{\log(4000)-\log(100)]}\right.$$

Logarithm is used to account for the diminishing marginal utility of income.

where: LE: life expectancy ALR: adult literacy rate

CGER: combined gross enrolment ratio

GDPpc: GDP per capita at PPP in USD

Note

$$\text{HDI}=\frac{1}{3}(\text{Income Index})+\frac{1}{3}(\text{Life expectancy Index})+\frac{1}{3}(\text{Education Index})$$

The HDI can be arrived at by first constructing the individual indices of the above three components and then taking the simple average of the indices. To construct the relevant indices, the UNDP first fixes the maximum and minimum values of each indicator for a particular year and then, with the help of the formula below, one can arrive at the achievement level of the country concerned in respect of a particular indicator.

$$\text{Achievement level}=\frac{Actual\ value-Minimum\ value}{Maximum\ value-minimum\ value}$$

Example: the life expectancy at birth of a particular country is 65 years. Assuming maximum value and minimum value of life expectancy to be 80 and 20 respectively for a particular year, the life expectancy index can be calculated as follows:

$$LEI=\frac{65-20}{80-20}=\frac{45}{60}=\frac{3}{4}=0.75$$

As calculated above, the individual indices of educational attainments and adjusted real GDP per capita can be found for a particular year. Then, by taking simple arithmetic average of all the three indices, we can get human development index for the country concerned.

$$\text{HDI}=\frac{LEI+_{EAI}+SLI}{3}$$

It is clear that the HDI emphasizes the quality of life in contrast to the national and per capita income which only focuses on quantitative aspects of development.

6.3 Ethiopia's HDI Value and Rank

Ethiopia's HDI value for 2019 was 0.485 which put the country in the low human development category, positioning it at 173 out of 189 countries. Between 2000 and 2019, Ethiopia's HDI value increased from 0.292 to 0.485, an increase of 66.1 percent. Table 6.1 reviews Ethiopia's progress in each of the HDI indicators. Between 1990 and 2019, Ethiopia's life expectancy at birth increased by 19.5 years, mean years of schooling increased by 1.4 years and expected years of schooling increased by 5.7 years.

Evaluation of HDI and its Relevance to Developing Countries

Critics argue that the HDI assigns weights to certain factors that have equal trade-offs, when these measurements may not always be equally valuable. For example, countries could achieve the same HDI through different combinations of life expectancy and GNI per capita. This would imply that a person's life expectancy has an economic value. An additional year of life would add to the GNI and would thus, be different in countries with different GNI per capita.

It also correlates factors that are more common in developed economies. For example, a higher level of education would tend to lead to higher GNI per capita. The HDI also fails to take into account factors such as inequality, poverty, and gender disparity. A country with a high value for GNI per capita would indicate a developed country, but what if that GNI is reached by marginalizing certain genders or ethnic classes? And what if that GNI is achieved by a small percentage of the population that is wealthy and therefore excludes the poor?

Furthermore, the values of the factors that make up the HDI are bounded between 0 and 1. This means that certain countries that already have high GNIs, for example, have little room to improve in terms of GNI score even if their GNI continues to grow and improve. This same parameter affects the logic of the life expectancy score.

Capability Approach

The capability approach was first articulated by the Indian economist and philosopher Amartya Sen in the 1980s, and remains most closely associated with him. He argues that the "capability to function" is what really matters for status as a poor or non-poor person. As Sen put it, "Economic growth cannot be sensibly treated as an end in itself. Development has to be more concerned with enhancing the lives we lead and the freedoms we enjoy. That is, we should look at people's capabilities: their abilities and possibilities to live a good life make choices about their education, economic activities, and their freedom to participate in decision making. Development has the role of strengthening autonomy and substantive freedoms, which allow individuals to fully participate in economic life. Hence, economic development occurs when individual agents have the opportunity to develop the capacities that allow them to actively engage and contribute to the economy.

In the aggregate, this should lower transaction costs and increase social mobility. The capability approach goes directly to the quality of life that people can actually achieve. This quality of life is analyzed in terms of the central concepts of functioning and capability.

"Capabilities" are what people can achieve if they so choose, such as being well-nourished, getting married, being educated, and travelling; "functioning" refers to the use that a person makes of the commodities at his/her command. Whether someone can convert a set of means to resources and public goods into a functioning (i.e. whether he/she has a particular capability) crucially depends on certain personal, sociopolitical, and environmental conditions, which, in capability literature, are called 'conversion factors.' Capabilities have also been referred to as "real" or "substantive freedoms" as they denote

the freedoms that have been cleared of any potential obstacles, in contrast to mere formal rights and freedoms. Freedom is integral to Sen's approach which distinguishes between people's capabilities (what they can potentially be and do) and what they choose to do with them (their actual functioning).

Consider that a rich and healthy person who, for religious reasons, fasts for a specified period thus temporarily reducing his calorie intake below that considered to be the basic need. Consider also a poor female farmer who does long hours of hard physical work in the fields for low payment and cannot afford to buy sufficient food for herself and her children. The rich man had the possibility of being well nourished and chose to fast whilst the poor women was so disadvantaged by the labor market that she had no options. Over the short term at least, the man's daily calorie intake (his functioning of being well nourished) may have been less than the women but nevertheless his potential (capability) to be well nourished was much greater than hers. The capability approach has been employed extensively in the context of human development, for example, by the United Nations Development Programme, as a broader, deeper alternative to narrowly economic metrics such as growth in GDP per capita.

Sustainable Development

Sustainable development can be defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. Sustainability goals, such as the current UN Sustainable Development Goals, address the global challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice.

Thus, sustainable development recognizes that growth must be both inclusive and environmentally sound to reduce poverty and build shared prosperity for today's population and to continue to meet the needs of future generations. It entails efficient and carefully planned use of resources to deliver both immediate and long-term benefits for people, the planet and prosperity. The three pillars of sustainable development–economic growth, environmental stewardship, and social inclusion across all sectors of development, from cities facing rapid urbanization to agriculture, infrastructure, energy development and use, water availability, and transportation.

6.4 Millennium Development Goals (2000-2015)

The international development agenda has been actively led by the United Nations (UN) and its technical agencies and funds from their inception in the late 1940s. Until the 1990s, the approach was fragmented and disjointed, initiated by its specialized agencies or funds

at various World Summits and Conferences to address three dimensions of development — economic, social, and environmental. The Millennium Declaration and Millennium Development Goals (MDGs) saw the convergence of the development agenda of the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), World Health Organization (WHO), United Nations Children's Fund (UNICEF), United Nations Educational, Scientific and Cultural Organization (UNESCO), and other development agencies.

The MDGs have provided a unified focus in the development community unlike anything that preceded them. The eight goals listed in table 6.2 are ambitious: to eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria, and other diseases; ensure environmental sustainability; and foster a global partnership for development. The goals were then assigned specific targets deemed achievable by 2015 based on the pace of past international development achievements.

The eight Millennium Development Goals

Goals	Activities
Goal 1	eradicate extreme poverty and hunger
Goal 2	Achieve universal primary education
Goal 3	Promote gender equality
Goal 4	Reduce child mortality
Goal 5	Improve maternal health
Goal 6	Combating HIV/AIDS,malaria and other diseases
Goal 7	Ensure environmental sustainability
Goal 8	Develop a global partnership for development

The MDGs were revolutionary in providing a common language to reach global agreement. The eight goals were realistic and easy to communicate, with a clear measurement/ monitoring mechanism. The MDGs generated new and innovative partnerships, galvanized public opinion, and showed the immense value of setting ambitious goals. By putting people and their immediate needs at the forefront, the MDGs reshaped decision-making in the developed and developing countries alike. It helped to lift more than one billion people out of extreme poverty, to make inroads against hunger, to enable more girls than ever before to attend school, and to protect our planet. Yet inequalities persist and the progress has been uneven. The world's poor remain overwhelmingly concentrated in some parts of the world. Progress tends to bypass women, who continue to die during pregnancy or from childbirth-

related complications and those who are lowest on the economic ladder or are disadvantaged because of their age, disability, or ethnicity.

6.5 The Sustainable Development Goals (2015-2030)

Substantial progress has been made regarding the MDGs. The world has already realized the first MDG of halving the extreme poverty rate by 2015. However, the achievements have been uneven. The MDGs expired in 2015 and the focus is now on building a sustainable world where environmental sustainability, social inclusion, and economic development are equally valued. The 2030 Agenda for Sustainable Development, adopted by all United Nations member states in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 (SDGs), which are an urgent call for action by all countries, developed and developing, in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth– all while tackling climate change and working to preserve our oceans and forests.

The 17 SDGs to transform out world

Goals	Activities
Goal 1	No poverty
Goal 2	Zero Hunger
Goal 3	Good Health and well-Being
Goal 4	Quality education
Goal 5	Gender equality Clean water and sanitation
Goal 6	Affordable and clean energy
Goal 7	Decent work and economic growth
Goal 8	Industry,innovation and infrastructure
Goal 9	Reduced inequality
Goal 10	Sustainable cities and communities
Goal 11	Responsible consumption and production
Goal 12	Climate Action
Goal 13	Life below water
Goal 14	Life on Land
Goal 15	Peace and justice strong institutions
Goal 17	Partnership to achieve the goal

Agenda 2063

The new 2030 Agenda for Sustainable Development supports a sustainable future for the human kind by integrating social, economic and environmental dimensions of development. Compared to the MDGs, 17 SDGs are more ambitious in scope and universal in coverage by setting targets both for developing and developed countries. These goals adopted a more comprehensive approach towards development by integrating social, economic and environmental dimensions of development.

Agenda 2063 is Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. It is the continent's strategic framework that aims to deliver on its goal for inclusive and sustainable development and is a concrete manifestation of the pan- African drive for unity, self-determination, freedom, progress and collective prosperity pursued under Pan-Africanism and African Renaissance. The genesis of Agenda 2063 was the realization by African leaders that there was a need to refocus and reprioritize Africa's agenda from the struggle against apartheid and the attainment of political independence for the continent, which had been the focus of the Organization of African Unity (OAU), the precursor of the African Union; and instead to priorities inclusive social and economic development, continental and regional integration, democratic governance and peace and security amongst other issues aimed at repositioning Africa to becoming a dominant player in the global arena.

As an affirmation of their commitment to support Africa's new path for attaining inclusive and sustainable economic growth and development, African heads of state and government signed the 50th Anniversary Solemn Declaration during the Golden Jubilee celebrations of the formation of the OAU /AU in May 2013. The declaration marked the re-dedication of Africa towards the attainment of the Pan African Vision of an integrated, prosperous and peaceful Africa, driven by its own citizens, representing a dynamic force in the international arena, and Agenda 2063 is the concrete manifestation of how the continent intends to achieve this vision within a 50 year period from 2013 to 2063.

Performance of Ethiopian Economy against MDGs and SDGs

The national and sectorial policies and strategies of the FDRE focuses on eradication of poverty and implementation of development interventions that would have returns satisfying all the nation-wide demands/needs while ensuring inter-generational equity. Ethiopia's principal endowments are the country's vast land and human resources. The development policy of the country focuses on the need for accelerated and comprehensive economic growth, economic infrastructure development, social development and expediting the building of a democratic system in a manner that is centered on the development of its people. The implementation of the policies are envisaged to ensure food security in the whole country and at every household level to eradicate poverty in all its forms, to ensure gender equality, to withstand climate change and bring about prosperity of the nation.

Ethiopia has been pursuing pro-poor policies, implementing development plans and programs within which global development frameworks such as the MDGs, the Brussels Program of

Action and its successor, the Istanbul Program of Action for Least Developed Countries have been mainstreamed with remarkable achievements in economic growth, social development and environmental management. This, in turn has, helped in gaining replicable development experiences over the last decade and half.

Countries around the world have taken a number of lessons from the challenges they faced while implementing the Millennium Development Goals (MDGs). These lessons added significant value while designing the Sustainable Development Goals (SDGs). Like other countries, Ethiopia has prepared a medium-term plan that the Second Growth and Transformation Plan (GTP II), covering the period from 2015 to 2020 and ten years Prosperity Plan (2020-2030) which also forms an integral part of the country's post-2015 development agenda. The SDGs are highly relevant for Ethiopia: in addition to covering the entire unfinished agenda of the MDGs, they also address a range of economic and environmental issues critical to the realization of human's rights.

Ethiopia is globally recognized for having taken ownership of the MDG agenda and integrating it into successive national development plans (UNDP and NPC, 2015), from the Sustainable Development Poverty Reduction Programme (SDPRP) (2002/03 to 2004/05) to the First Growth and Transformation Plan (GTP I) (2010/11 to 2014/15). Ethiopia has successfully achieved six of the eight MDGs, and made significant progress with respect to the remaining two: MDG 3 and MDG 5, (UNDP and NPC, 2015). The government has also formulated a Climate Resilient Green Economy (CRGE) strategy, and established the bold vision of becoming a middle-income, carbon-neutral economy by 2025.

Despite Ethiopia's strong performance on the MDGs, low implementation capacity and scarce financial resources were among the many challenges it faced during the period. These weaknesses had a negative impact on project and service delivery, and contributed to a high trade deficit, low agricultural production, savings-investment gap, and inflation pressure that threaten the macroeconomic stability of the country.

Following the adoption of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) in September 2015, Ethiopia has proactively mainstreamed, aligned the SDGs with the Second Growth and Transformation Plan (GTP II) which spans from 2015/16 to 2019/20 and implementing. GTP II is Ethiopia's blueprint for national development over the five-year period from 2015 to 2020. It is set within the context of Ethiopia's long-term vision of becoming a lower middle-income country by National Level Implications of SDGs Implementation in Ethiopia in 2025. It also incorporates a range of development priorities, including national and sectorial policies and strategies, the 2030 Agenda for Sustainable Development, and Africa's Agenda of 2063. It draws on lessons which are learned from implementing the MDGs and GTP I and the international and regional economic conditions such as the market price fluctuation of products, inputs and outputs of the country and the regional trade and economic integration prospects (NPC, 2015).

In order to achieve the 2030 SDGs, national development priorities have been identified in the

GTP II, which is the first 5 year-phase (2015/16 to 2019/20) of the long-term national development plan (2019/20 to 2029/30) ten years prosperity plan which is now under implementation.Theseinclude:

1.ensuring that the agriculture development sector remains the mainstay of the nation's accelerated economic development

2.expediting change in the economic structure of the nation by transforming the manufacturing industry development.

3.enhancing the economy to its full economic capacity through increased focus oncompetitiveness, efficiency, productivity and quality

4.Correcting the imbalance between overall demand and supply

5.fostering the development of the construction industry and projects' management capacity

6.institutionalizing urban administration and management compatible with the accelerated urbanization, industrialization and structural changes in the economy

7.creating enabling environment for the transformation of domestic investors

8.providing support to human resources development through building technologic capacity

9.building climate resilient green economy and

10.eliminating rent-seeking behaviors and ensuring the predominance of developmental frame of mind.

Informed by these experiences and having recognized future opportunities, Ethiopia has accepted with strong government commitments and endorsed the 2030 Agenda for Sustainable Development by the House of People Representatives with full sense of national ownership to implement it and its Sustainable Development Goals (SDGs) as an integral part of its national development framework, the Second Five Year Growth and Transformation Plan (GTP II). Furthermore, the Government of Ethiopia formulated a 10-year Prosperity Plan for the period 2019/20 to 2029/30 which is fully aligned with the 2030 agenda of SDGs.

There exist, huge gaps in the developmental capacity in all sectors and at all levels to ensure executing and implementing the national policies and to satisfactorily implement the SDGs. Misperceptions among the executive bodies and the implementing bodies, deficiency in their level of motivations and in their sense of ownership and in delivering efficient services are among the main challenges to be addressed. However, efforts are being made across the nation to scrutinize the policies in light of ensuring their implementing ability at all levels and in light of identifying any policy gaps based on evidences and filling the policy gaps by authorities. In general, it can be stated that the ten years Prosperity plan has been harmonized and integrated with the three dimensions of the SDGs and would reach successful ends.

Review Questions

Part I: Multiple Choices

For the following questions choose the correct answer from the given alternatives

1.Economic development refers to:

A.economic growth

B.economic growth plus changes in output distribution and economic structure

C.sustainable increases in gross national product

D.both A and C

2.The common measure of economic development is:

A.the level of health and education of the population

B.the rate of population growth

C.per capita GDP

D.all of the above

E.none of the above

3.Sustainability is the use of a resource that does not cause long term depletion of resources or affect the diversity of the ecosystem.

A. true B. false

4.The formula to calculate economic growth from 2001 to 2002 is given by:

A.[(GDP2002 + GDP2001)/ GDP2001]*100

B.[(GDP2002 – GDP2001)* GDP2001]*100

C.[(GDP2002 – GDP2001)/ GDP2001]*100

D.[GDP2001 – GDP2002]*100

5.The three measure of welfare indicators (infant mortality, life expectancy and adult literacy) can be composed as:

A.purchasing power parity

B.physical quality of life index

C.Human Development Index

D.the Laspeyres index

6.The Human Development Index (HDI) summarizes of social performance in a single composite index, combining:

A.disparity reduction rate, human resource development rate and the composite index

B.longevity, education and living standard

C.minimum schooling, adult literacy and tertiary educational attainment

D.human resource training, development and R&D

7.Longevity is a proxy for in the Human Development Index:

A.health and nutrition C. infant mortality

D. purchasing power parity

B.living standard

8.Sen's welfare theory relies on individuals':

A.accomplishments

B.capabilities

C. wealth

D. education

9.Progress that meets the needs of the present without compromising the ability of future generations to meet their own needs is:

A. the tragedy of commons C. net primary productivity (NPP)

D. the impossibility theorem

B. sustainable development

10.Developing nations have:

A.lower infant mortality rate

B.greater degree of equality in the income distribution

C.Lower rate of illiteracy

D.None of above

Answer;

1. B 2.A 3.A 4.C 5.C 6.B 7.A 8.B. 9.B 10.D

Part II: Discussion Questions

Discuss the following questions briefly.

1.Explain the similarities and differences between economic growth and economic development.

Answer

- ✓ Economic growth and econimic development are different in scope.
  Economic growth is related to a quantitative sustained increase in percapita income or out put while economic development implies both output changes and chnanges in technical ,institutional,social arrangements.

2.What are the main components of the Human Development Index (HDI)?

Answer;

- ❖ Human development index(HDI) is a composite criterion consisting of three indicators of development to measure the level of welfare of the people of the country.

- ✓ Life expectancy indicators(LEI)-this refers to life expactancy at birth i.e that number of years a newly born baby is expected to live.Having life expectancy at birth indicates a high level of development and vice versa.
- ✓ Educational Attainments indicators(EAI)-this refers to the level of education attained by the people of the country on an average basis.it consists of adult literacy and the gross enrollment ratio.
  - Adult literacy measures the percentage of people aged 15 and above who are understand and read and write a shorte note and simple statement inthiert every day life .s
  - The gross enrollement rate shows the percentage of populations enrolled at primary ,secondary. And universtiy level.the higher enrollment ratio represents higher level of development,
- ✓ Standard of Living Indicators(SlI)-real GDP per capita is considered as the indicator of the standard of living of the people. High per capita real income usually represents a higer standard living.

3.Explain the concept of Sustainable development and its relation with SDGs

Sustainable development recognizes that growth must be both inclusive and environmentally sound to reduce poverty and build shared prosperty for today populations and to continue to meet the needs of future geneations.

UNIT 7

MAIN SECTORS, SECTORIAL POLICIES AND STRATEGIES OF ETHIOPIA

7.1 Overview of Agricultural Policies and Strategies

Uni-modal Agricultural Strategy

Uni-modal agricultural strategy is a strategy by which the agricultural transformation is achieved through intensification of small-scale peasant farms. It is based on the concept that specific peasants are not separated from their means of production and retain a degree of control over land and family labor in spite of international secular differentiations (e.g. in Japan, Thailand and China).

Characteristics of uni-modal agricultural strategy

- The development and diffusion of highly divisible innovations that promote output expansion within the existing agrarian structure (small-size holdings) is the central element of this approach
- It is a pro-poor growth strategy
- It enhances small-landholders' access to modern inputs such as improved seeds, fertilizers, and provides them to farmers on revolving-credit bases
- The focus is on the production of food crops as a means of ensuring food security

Advantages of uni-modal strategy:

- It protects the existence of a differentiated peasant group/class.
- It protects peasants from eviction.
- It creates a huge potential for the government to gain political support.
- It reduces poverty in the rural economy.
- It provides individual peasants with access to modern technologies.
- It reduces outgoing migration from rural areas.

Limitations of uni-modal strategy:

- The focus is on food crops rather than on high-value products for the market.
- There is no means by which the shortage of knowledge regarding market information and weather conditions can be improved.
- There is no way the shortage of infrastructures that is due to the smallholders' fragmented settlement patterns can be improved.
- Due to the small-size holdings, it is difficult to employ large-scale agricultural inputs.

- There are no controls to increased price of agricultural inputs.

7.2 Bi-Modal Agricultural Strategy

This strategy advocates the practices both of the intensification of small peasant farms and of commercialization. It is based on a dualistic structure of farm units (as in the case of Mexico and Columbia) which proposes that commercialization and commoditization inevitably generate differentiation in agrarian societies, whereby rural producers are set apart into agricultural capitalists and landless agricultural employees.

Characteristics of the bi-modal approach

- ✓ It supports a strong principal commercial sector.
- ✓ It is based on the belief that entrepreneurial individuals should be allowed to accumulate land.
- ✓ The differentiation of individuals who invest more in farming and those who develop business should be supported.

Advantages of bi-modal approach

- ✓ It supports individual rights to acquire land.
- ✓ It invites more capital and technology investment for agriculture.
- ✓ It promotes large-scale diversification.
- ✓ It allows the transfer of technology.

Limitations of bi-modal approach

- ✓ It creates differentiation in the rural society.
- ✓ Lack of off-farm job opportunities.
- ✓ It promotes the eviction of small peasants/poor people.
- ✓ It deprives the majority of the rural population of land.

Overview of Agricultural Policies and Strategies of Ethiopia

The government in Ethiopia has implemented various agricultural policies such as market liberalization, structural adjustment, agricultural-Led industrialization, sustainable development and poverty reduction program, participatory and accelerated sustainable development to eradicate poverty and successive growth and transformation plans I and II and the current ten years Prosperity Plan to raise productivity in agriculture. Since 1991, the government has abolished all subsidies and price support measures to agriculture. A structural adjustment program reduces the role of the government and increases the role of demand and supply forces in the allocation of resources in the Ethiopian economy. All these policy interventions have been implemented to increase agricultural productivity and production which, in turn, reduce poverty and food insecurity.

Specific Policies and Strategies of the Agricultural Sector

Pre-1974 Policies and Strategies

Mainly the priority focus was given to industry (manufacturing), minerals and electric power development, but, unlike the first five year plan, some attention was given to agriculture. There were targets for the production of agricultural marketable products like cereals, cotton, cattle, and coffee; and for the rate of growth of agriculture were set.

To achieve the production targets three main approaches were outlined:

a.Execution of land reform,

b.Introduction of tools implements and machinery as well as elementary training of the producers so as to raise productivity,

c.Per capita income and consumption so as to transform the subsistence economy into a monetized economy.

The land reform policy was completely ignored, a fact which basically accounted for the failure and above all, there was lack of progress in policy measures and organizational programs, which were essential for the success of the plan. Because of all these, the agricultural sector could not develop as much as it was anticipated in the plan.

In the later era of the regime, it is argued that modernization of peasant subsistence agriculture in all areas of the country simultaneously is hardly possible, but no time should be lost in making a start in strategically selected areas in which good results can soon be seen. This being the strategy, two main approaches for the development of Ethiopia agriculture were indicated in the third five-year plan.

These were the package program and the development of large-scale commercial farms:

1.Large-Scale Mechanized Commercial Farm (LSMCF): The main objective of this path was to facilitate agricultural exports and to create new employment opportunities. As the name implies, LSMCF requires bringing extensive areas of land under cultivation with the use of modern agricultural inputs such as modern technology, machinery, equipment (tractors and combines), chemical fertilizers and hired labor, in contrast to the family labor which is used in the small-holder farming system. The government took some fiscal measures to encourage the expansion of these farms in the country. Among the resulting policy measures were credit arrangements, tax holidays for the first five years for investments in excess of 200,000 Birr, low land use fees, tax-free import of heavy machinery, and possibilities of remitting profits to investor countries of origin. As a result, some foreign-owned profitable plantations were developed. They mostly produced food and fiber. However, these results were too small to achieve the given incentives. They accounted for almost 5% of the total agricultural output and 3% of the total area that was cultivated. The 1974 popular uprising led to the nationalization of these farms and their conversion into state farms in 1975.

2.Establishment and development of package projects: The basic objective of donors and the

government in initiating the package project in Ethiopia was to repeat the success of the Green Revolution of India in Ethiopia. The Green Revolution was a type of agrarian revolution which was characterized by the large-scale use of improved and high yield variety (HYV) seeds and other inputs. The package approach was successful in improving the productivity of farmers in Mexico, India, Bangladesh, Israel, etc.

There were two types of package projects: comprehensive package projects and minimum package projects.

Comprehensive Package Projects were designed to supply important inputs such as chemicals, fertilizers, improved seeds and farm tools, credits, pesticides, and know-how. The supplies of these inputs were for the purpose of:

- ✓ raising the living standard of the peasants;
- ✓ creating labor-intensive employment opportunities;
- ✓ encouraging peasant participation in the development process; and
- ✓ expanding experimental stations for propagating new ideas in agricultural technology and providing improved farm tools.

Some of the comprehensive package projects were;

- ✓ Chilalo Agricultural Development Unit (CADU)
- ✓ Welayita Agricultural Development Unit (WADU)
- ✓ Adaa District Development Package Project (ADDP)

Some achievements were observed in these project areas.For example, income of participating farmers increased, productivity in crops and livestock was increased significantly, and the adoption of modern inputs expanded in the project areas.

But there were also some adverse effects, including an increase in the eviction of tenants. Another problem which is associated with these projects was their huge cost. Because of these problems, the comprehensive package project was too difficult to be duplicated in other areas of the country.

Therefore, a relatively less costly package program, known as the "minimum package program", was launched, substituting for the comprehensive package projects which covered larger areas.

The minimum package program is designed in order to raise production and income of smallholders quickly over a wide area with a minimum reliance on scarce resources. These projects involved the diffusion of a **few proven imports of agriculture** such as chemical fertilizer, improved seeds, and farm implements. The small amount of resources allocated made the projects unsuccessful.

Specific Agricultural Policies and Strategies during the Derg Regime

The Derg regime changed the previous national development strategy, placing the emphasis on a centrally planned economy. Industry-led development was deployed as the main development

strategy. Rural land and other productive assets were nationalized, and land was distributed among farmers. Commercial farms were put under government control, and land tenancy was abolished. Furthermore, private commercial laborers and commercial farming were marginalized, and large collectivization programs were promoted through resettlement and civilization programs.

The new policy paradigm was manifested in different sectors of the economy. The comprehensive and the minimum package projects were launched during the Imperial Regime were continued in the Derg period. CADU was transformed into Arsi Rural Development Unit (ARDU) and then to Bale-Arsi Rural Development Unit (BARDU), which resulted in the thinning of resources over wide areas. Finally, all these projects were transformed into Peasant Agricultural Development Extension Projects (PADEP) which was organized along pluralist principles.

The government also organized the small holders along socialist lines for the purpose of the collective production and marketing of agricultural output and distribution of inputs. In general, the agricultural sector policies of the military government were characterized by the following:

- ✓ nationalization of all private and commercial farms;
- ✓ prohibition of private investment in the agricultural sector;
- ✓ involuntary collectivization of peasants into peasant associations, and intoproducers' and service cooperatives;
- ✓ forced villagization and settlements;
- ✓ government control of virtually all agricultural input and output markets;
- ✓ forced food-grain quota deliveries at predetermined low prices; and
- ✓ restriction of the movement of agricultural outputs from one part of the countryto another.

These improper government interventions were the primary reasons for the lack of success in the development of the agricultural sector, in particular, and the national economy, in general.

Post-1991 Agricultural Policies and Strategies

The 1991 economic policy document of the Transitional Government of Ethiopia declared that collectivization and villagization as undesirable and liberalized both agricultural markets. The overriding objective of the government was given as attaining fast economic development. The government adopted Agricultural Development-Led Industrialization (ADLI) in 1994, which revolved around enhancing the productivity of smallholder agriculture and industrialization based on the utilization of domestic raw materials via adopting labor-intensive technology. The essence of this strategy rests on the belief that the agricultural sector can serve as the driving force for the rest of the economy. This means that the strategy aims at better use of the massive agricultural labor force in rural areas. It has internal forward and backward linkages with the industrial sector. This strategy has been adopted by the government to fit in the Ethiopian context.

An extensive extension program which had been launched in 1994/95 was the Participatory Demonstration and Training Extension System (PADETES). In this system, packages of fertilizer, improved seed and credit, as well as information on input use and better agricultural practices were delivered to the vast majority of smallholders in the rural areas by government. In this regards, improvement of productivity through extending the use of modern technology had attracted the attention of government. However, even though government had extended different packages, particularly the fertilizer credit package, the average agricultural output failed to sustain the high population growth. The Sustainable Development and Poverty Reduction Program was an integrated rural and agriculture development strategy which was launched in 2002 on account of the limited success of PADETES. It was the first full Poverty Reduction Strategy Paper (PRSP) that was developed and implemented by the Ethiopian government through:

- ✓ Strengthening agricultural extension services
- ✓ Training extension agents in Technical and Vocational Education and Training (TVET) and training farmers in Farmers Training Centers
- ✓ Water harvesting and irrigation
- ✓ improved marketing opportunities
- ✓ Restructuring peasant cooperatives
- ✓ Supporting micro-finance institutions.

However, heavy dependency of the agricultural sector on the amount and timing of rainfall means that the output continuously fluctuates. In addition, the agricultural sector's productivity did not show significant improvement.

The developments of large-scale commercial agriculture were also emphasized for inter sectorial linkages. To achieve these objectives, the following instruments were used in the Plan for Accelerated and Sustained Development to End Poverty (PASDEP):

- ✓ constructing farm-to market roads;
- ✓ development of agricultural credit markets;
- ✓ specialized extension services for differentiated agricultural zones and types of commercial agriculture;
- ✓ the development of national business plans and tailored packages for specializedexport crops (such as spices, cut flowers, fruits and vegetables);
- ✓ area irrigation through multi-purpose dams;
- ✓ measures to improve land tenure security, and to make land available wherefeasible for large-scale commercial farming; and
- ✓ Reforms to improve the availability of fertilizer and seeds.

Recent Developments in Agricultural Sectors

Ethiopia is endowed with abundant agricultural resources and has diverse ecological zones. Agriculture is the mainstay of the economy. The Present government of Ethiopia has identified key priority intervention areas to increase productivity of smallholder farms and expand large-

scale commercial farms. Under the new administration, the government has renewed emphasis to develop the agriculture sector and ensure food security.

Among the top priorities identified by the government are:

- ✓ small and large-scale irrigation development,
- ✓ financing agricultural inputs, increasing productivity of crops and livestock,
- ✓ improving agricultural production methods using mechanization,
- ✓ post-harvest loss reduction,
- ✓ developing a research-based food security system, and natural resource management.
- ✓ Home-Grown Economic Reform Agenda, the government is looking to the agro-processing sector as one engine to spur future economic growth.

7.3 Problems of the Agricultural Sector

Agricultural Problems:

A.Natural problems: these problems are related to recurrent drought and its negative effects. Almost all the farming and livestock practices in the highlands of Ethiopia depend on rainfall. The variability of rainfall in time and amount affects the country's crop production and live-stock rearing; millions of cattle have died.

B.Human made problems: these are negative effects that result from the social and economic practices.

- ✓ **Land fragmentation:** in rural Ethiopia, where the average landholding size isshrinking over time, land fragmentation and over-cultivation are inevitable.
- ✓ **Lack of infrastructure:** transportation and communication facilities are poorly developed in rural Ethiopia. About 75% of rural household farms are located far away from transportation and communication lines, and this that prevents farmers from accessing proper markets and information about prices for their products.
- ✓ **Lack of credit facilities**: this prevented farmers from using even the meager resources available at hand. Now, however, reforms have created accesses to micro-finance loans, opening the gate to increasing small holder productively.
- ✓ **Lack of effective land-ownership entitlement:** without effective land ownership entitlement, there will be poor work attitudes, improper use of common resources, and poor output.
- ✓ **Erosion and land degradation:** erosion and degradation, contribute to the recurrence of drought. Without preventative measures, this situation will accelerate in the near future, putting millions of hectares out of use.
- ✓ **Traditional practices:** these are rural practices that result in misusing work time, unproductive consumption and retaining resources especially livestock resources unscientifically, resulting in very low output per ox, sheep, goat, etc.
- ✓ **The use of backward technology**.
- ✓ **Inadequate rural markets**.

Possible Remedies:

Reduce the prevailing heavy dependence on rain-fed agricultural practices by:

- ✓ promoting the use of local streams and lakes for irrigation purposes of various scales
- ✓ promoting and expanding the storage of rain water in shade to reduce the rate ofevaporation and to enable people to store water for longer periods of time
- ✓ expanding the number of afforestation and reforestation schemes through a structured and financed agency or office
- ✓ production of drought-resistant crops in drought-prone areas so that the recurrence of acute shortages of food will be minimized
- ✓ pursue an effective land-ownership right so that the farmers will develop long-term developmental commitments
- ✓ promotion of extension services supported with consistent capacity-building tasks
- ✓ promote committed literacy campaigns to help farmers understand price and farm-technique information
- ✓ promote infrastructure facilities as per their availability

Specific Policies and Strategies of the Industrial Sector

Modern economic history has proven time and again that the socioeconomic transformation of a certain society can rarely be achieved without industrialization. The astounding success of several Asian economies over the past half-century shows evidence of the role of industrialization as the surest way to reduce poverty. However, industrialization is not a structural inevitability. Industrialization requires careful management of policy options and consistent monitoring of sectorial dynamics.

The Imperial Regime (pre-1974)

A conscious move to stimulate industrial growth began in the mid-1950s. The plan envisaged achieving industrial development through the development of import- substituting light industries which produced consumer goods for the domestic market. In the plan it was anticipated that foreign direct private investment would play the leading role in financing the investment capital required for the sector.

Various policy measures were introduced to encourage investment in manufacturing including protection of the domestic industry through high tariffs and banning of certain imports, fiscal incentives, and provision of credit. The plan also foresaw other roles for the government in boosting industrial development including infrastructure and human resource development and direct investment in selected sectors mainly those which require high capital such as oil refinery, cement, sugar, and textile.

The driving philosophy of the industrial policy in the imperial period can be characterized as in favor of market and private sector but sought gaps whereby the government should play a role including direct ownership in selected sectors. In practice, the incentive structure was biased

towards import-substituting, larger, capital-intensive, and foreign- dominated industrial activities.

The implementation of these initiatives attracted foreign investors and gave boost to the manufacturing sector in Ethiopia. However, by the end of the plan period, the overall industrial base of the country remained weak and was characterized by a dual structure – a rudimentary small-scale and handicraft sub-sector and a modern medium-large-scale sub- sector, each contributing about half of the manufacturing value added. In this period the modern medium- and large-scale manufacturing sector (MLSM), which employs ten or more people and use power-driven machinery, was predominantly foreign owned.

The Derg Regime (1974-91)

The military government nationalized most of the MLSM enterprises, which were later reorganized under state corporations. The government also declared 'a socialist economic policy' and introduced various restrictions on the private sector and the market. Private investment was restricted to not exceed half a million Birr (approximately a quarter of a million US$) and entrepreneurs could participate in only one venture. Price controls were instituted covering a wide range of products and the labor market was highly regulated. Imports were also subjected to quantitative restrictions and higher tariffs in this period.

The manufacturing sector exhibited a sharp decline particularly in the first few years following the revolution. In 1977/78 the government initiated a successive production campaign locally known as 'zemecha' to improve productivity mainly through increasing capacity utilization and have partly reversed the declining trend. Nevertheless, the government had no industrial policy per se until the mid-1980s. The main focus of the industrial development plan in this period was to promote the import-substituting and labor intensive industries. The Public sector investment was considered as the main mechanism in progress towards industrialization. In March 1990, the regime adopted a mixed economic policy to shift the country from one of a centrally managed economy to a modest liberal economy. This initiative was, however, too late and short-lived without bearing fruit, as there was a regime change in May 1991.

The Post-1991 Regime

In 1998, the Ethiopian government adopted an export promotion strategy in an effort to address the lack of progress in export diversification. The strategy aimed at promoting high value agricultural exports (e.g. horticulture products and meat) and labor-intensive manufacturing products (clothing, textiles, leather and leather products).

This strategy was, nonetheless, relatively narrow in scope. A comprehensive industrial policy was then formulated in 2002/03. In 2002/03, after a decade in power, the EPRDF-led government formulated a comprehensive industrial development strategy (IDS). The IDS is based on the Agricultural Development Led Industrialization (ADLI).

The Industrial Development Strategy (IDS) adopted in 2003 emphasized:

- ✓ export-led industrialization, and focused on labor-intensive industries,
- ✓ the development of infrastructure to support rapid economic growth, and
- ✓ the development of small enterprises for massive job creation and poverty reduction

Fundamental principles of the strategy are:

- ✓ considering the Private Sector as an Engine of the Industrial Development Strategy
- ✓ Implementing the Agricultural Development Led Industrialization Principle.
- ✓ Implementing the export-led industrialization principle.
- ✓ Focusing on the expansion of labor-intensive industry direction.
- ✓ Implementing effective domestic-foreign investment partnership method.
- ✓ Implementing the direction where the government will play a leading managerialrole.
- ✓ Implementing the principle that encourages the active participation of thepublic.
- ✓ That industrial policy was more concretized into action by various sub-sector strategies and by the successive development plans.

The 2003 IDS declared priority sectors for government direct support which include:

- ✓ textile and garment, meat
- ✓ leather and leather products
- ✓ other agro-processing industries (e.g. sugar and sugar related industries)
- ✓ construction industry and the micro and small enterprises (MSEs)

The strategy recognizes the role of the private sector as an engine in the industrialization process. It argues for the need to make concerted efforts to enhance the private sector to discharge its leading role given that it was weakened by the deliberate policy of the previous regime. The document also made a clear distinction between 'rent-seeking' and 'developmental' capitalists and the need to curtail the former and promote the latter. In contrast to the neo-liberal advice the strategy explicitly argues for a strong role of the state; not merely as a facilitator but also as a leader (i.e., providing direct support, coordinating and guiding the private sector). Inspired by the East Asian experience the, government has recently introduced the language of 'developmental state' as its policy principle regarding the state-business relationship. The strategy cites two important mechanisms in which the government could engage:

- ✓ promote the private sector; creating a conducive environment,
- ✓ provide direct support for selected sectors.

Industrial Park Development in Ethiopia

Since the 1960s, an increasing number of countries have embarked on the road to promote industrialization and economic restructuring through industrial parks. For developing countries, industrial parks can maximize resource integration for limited production factors within a certain spatial scope. By attracting labor and capital-intensive domestic and foreign investment in manufacturing and service industries, industrial parks not only increase job opportunities, wages

and skills of local workers but establish links to global value chains through participating in international competition, making full use of comparative advantages to promote the upgrading of industrial structure, and constantly improving the country's position in the international division of labor. Currently, the industrial park economy has become a global trend.

Industrial park development in Ethiopia is characterized by:

- ✓ investment area opens for domestic and foreign direct investment).
- ✓ state-of-the art industrial parks under construction.
- ✓ located along key economic corridors, connected to ports by road and electric- powered railway lines with close proximity to high labour force pool.

Anchored on the principles of:

- ✓ Specialized Parks: enhancing economy of scale and efficiency through the development of specialized/clustered industrial parks
- ✓ Export Promotion: government provision of industrial park incentives targeted at increased export performance and competitiveness
- ✓ Sustainability: maintaining high environmental standards through the use ofrenewable energy and zero liquid discharge (ZLD) technology
- ✓ Vertical Integration: enhancing forward and backward linkages in the economy
- ✓ Skills development and competitiveness: developing workers' skills for enterprise competitiveness.

The industrial parks in Ethiopia have contributed significantly to the nation's industrial development in terms of creating employment, increasing government revenue and export, diversifying the industrial products, attracting foreign director investment, and attracting foreign exchange. Some newly built industrial parks have also started to implement sophisticated technology and introduce it to the local manufacturing sector.

Problems of the Industrial Sector Post 1991

1.Lack of finance: the agricultural sector not been capable of generating the required surplus for the industrial sector. Industries are highly import-dependent. This means that they have not been net savers and hence, have no surplus. Given such a low saving rate, it is difficult to undertake industrial investment. High collateral requirements by the formal lending institutions have aggravated the problem of financial shortage.

2.Marketing problems: the market problems arise due to:

- ✓ Weak domestic demand for manufacturing output — this is due to the subsistence nature of agriculture on which the vast majority of the people rely for food, etc. As a result, the purchasing power of the people is very low.
- ✓ Lack of marketing information about both local and export markets.
- ✓ Strong competition from cheap imports.

- ✓ A consumer bias against local products.

3.Technological Problems: these may reveal themselves in one of the following ways:

- ✓ Lack of sufficient information on appropriate technology. This is related to the shortage of local institutions involved in technological support services.
- ✓ The technology in Ethiopia today is not developed based on available local raw materials. This limits the linkage. It rather makes the shortage of foreign currency of the country. The ratio of imported raw material is too high for Ethiopian local manufacturing to flourish. The situation is worse in basic iron and steel, and motor vehicles, trailers, and semi-trailers
- ✓ The technology is also capital-intensive. This approach is basically not recommended for economies like Ethiopia where unemployment is rising.

4.Input related problems: the high cost and shortage of foreign exchange for imported inputs has resulted in a shortage of raw materials as the second most serious problem, the most serious of which are market-related problems. There are also other problems policy problems and human-resource-related problems in relation to lack of skilled manpower and absence of industrial discipline and work ethics. These and other problems do not only limit new investments, but also reduce the productive capacity of the already existing enterprises.

Possible Remedies for the problems of Industrial Sector

By way of creating a conducive business environment for the development of the private sector, the following concrete intervention areas among others are required:

- ✓ maintaining macroeconomic stability
- ✓ building a functioning and well-regulated financial sector
- ✓ creating dependable infrastructure services
- ✓ developing skilled and effective human resource
- ✓ creating efficient civil service and legal framework
- ✓ developing industrial zones in the major cities and towns with all required infrastructure facilities

In addition improving the ease of doing business has been singled out as one of the priority areas for economic reform in Ethiopia. This strategy, which is aimed at improving the investment climate for local and foreign businesses, will be critical in the coming years as Ethiopia shifts from public-sector led growth to one increasingly driven by private sector players. In particular, maintaining the momentum of domestic investment while also sustaining current FDI inflows will be dependent on offering a much improved investment climate that removes key bottlenecks to doing business and widens the scope of investable opportunities.

The Service Sector Policies and Strategies in Ethiopia

This sector is composed of various sub-sectors include trade, hotels and restaurants, transport and communication, education, banking and insurance, public administration and defense,

health, and other services. The service division includes a wide variety of industries, but they can be categorized into primarily consumer-oriented (providing a service directly to a consumer), primarily business-oriented (providing a service directly to another business) or mixed (providing services to both businesses and individual consumers). Alternately, the activities of the services division can be described in reference to their economic activities as: physical, intellectual and aesthetic.

- ✓ **Physical activities:** involve working with objects; examples include repairing cars, hairdressing and cooking.
- ✓ **Intellectual activities**: involve providing education or training at such levels as university and vocational school.
- ✓ **The aesthetic activities:** entail providing consumers with artistic experiences such as those offered by museums, theater performances, art shows, and musical performances.

Education Sector Policies and Strategies

Pre-1974 generally speaking, in this era the government did not adopt strategies for the education sector. The Imperial Government initiated a comprehensive study of the education system. The education sector review (ESR) recommended attaining universal primary education, ruralizing the curricula through the inclusion of informal training, equalizing educational opportunities, and relating the entire system to the national development process. However, the ESR was not published until February 1974.

Post-1974: the military government dismantled the feudal socioeconomic structure through a series of reforms that also affected the educational sector. By the early 1975, the government had closed Haile Selassie I University and all senior secondary schools had deployed some 60,000 students and teachers to rural areas to participate in the government's development through cooperation campaign (commonly referred to as Zemecha). In 1975, the Derg Regime nationalized all private schools. Education for socialist consciousness, education for production and education for science and research were the objectives and directives set during the military government. The Military Government also worked towards a more even distribution of schools by concentrating its efforts on small towns and rural areas that had been neglected during the Imperial Regime.

Post-1991: the gross enrollment ratios for primary and secondary education have since showed a Post 1991, the ESDP (Education Sector Development programme) was launched. This program has the following six components:

1.Primary education: this includes the construction, expansion, and rehabilitation of primary schools; curriculum revision and development; upgrading of teachers' skills; and increasing the supply of textbooks.

2.Secondary education: expansion of school services; curriculum revision and development; and increases in the supply of educational equipment and material.

3.Technical-vocational training: under this component, there are plans to expand programs that train students in technical and vocational fields.

4.Teacher training: this includes the upgrading and expansion of training institutions; in-service (on-the-job) training of primary school teachers; curriculum revision and development; introduction of distance learning and alternative education methods; and the training of school directors or coordinators in school management.

5.Tertiary education: the goal is to meet the growing demand for teachers, engineers, health specialists, public administrators, and others.

6.Institutional capacity building: upgrading the Ministry's and Regional Education Bureaus' skills in planning, financial management, implementation, monitoring and evaluation of policies and strategies.

7.4 Problems of Education Sector

- ✓ problems of relevance, quality, accessibility and equity
- ✓ great disparity between the relatively developed and undeveloped regions and between rural and urban areas
- ✓ gender inequality
- ✓ insufficient participation of stakeholders
- ✓ inadequate facilities, insufficient training of teachers, overcrowded classes, and shortage of books and other teaching materials
- ✓ quality of the education is not up to standard level
- ✓ financial and resource constraints;
- ✓ lack of alternatives in resource mobilization in addition to the public budget;
- ✓ high drop-out rate

Possible Remedies

- ✓ Expand the participation of parents, teachers and communities in education affair.
- ✓ Provide adequate student textbooks, teaching materials and various school facilities.
- ✓ Narrow the inequalities.
- ✓ Inspect the private education sector to ensure the minimum necessary quality,standard of certification, service fees, etc.
- ✓ Improve the quality of teachers, in terms of training and motivation.

The Health Sector Policies and Strategies

The Ethiopian health care delivery system has historically been unable to respond quantitatively and qualitatively to the health needs of the people. Definite policies and strategies for the development of health service were not formulated until 1963. However, efforts were made to include the health sector into the development plans. After the 1974 revolution, Ethiopia embarked upon different approaches towards solving health-sector problems, through the declaration of primary health care in a ten-year development plan in 1978. In these approaches,

priority was given to creative types of strategies. It was highly centralized and there was little collaboration between public and private providers.

The Ethiopian Transitional and Federal Government formulated the 1993 Health Policy and Strategy. Goals of the Federal Government and the regional administrations included reorganizing health services to make them more cost effective and efficient so that they contribute more to the overall socioeconomic development effort of the country. Following the change of government in 1991, a number of political and socioeconomic reform measures were put in place. Two of these were the development and introduction of a new National Health Policy in 1993 and the formulation of a comprehensive rolling 20-year Health Sector Development Plan (HSDP) in 1997. Both are the results of the critical assessment and analysis of the nature and causes of the country's health problems. The HSDP is now in its third phase (HSDP III). The major goals of the health policy are:

- ✓ decentralization of the health care system,
- ✓ development of preventive, facilitative, and curative components of health care,
- ✓ assurance of accessibility of health care for all segments of the population,
- ✓ and the promotion of private-sector and NGO participation in the health sector.

The national health policy focuses on a comprehensive health service delivery system to

address:

- ✓ communicable diseases
- ✓ malnutrition
- ✓ improving maternal and child health

The health service delivery system is decentralized with the responsibility for implementation being largely devolved to the districts, which operate on the basis of block funding for the sector. The policy emphasizes inter-sectoral collaboration, particularly in ensuring family planning for efficient family health and population planning, in formulating and implementing an appropriate food and nutritional policy, and in accelerating the provision of safe and adequate water for the urban and rural populations.

The health policy has also identified the priority intervention areas and strategies to be employed to achieve the health policy objectives. Major components of the health care strategies are:

- ✓ preventive and curative health service
- ✓ curative and rehabilitative care
- ✓ drugs and medical supplies
- ✓ health information, documentation, and processing
- ✓ organization and management of the health delivery system
- ✓ human-resource development and management
- ✓ research and development
- ✓ financing the health care delivery system

The most significant childhood and maternal illnesses and communicable diseases are: COVID-19, HIV/AIDS, malaria and tuberculosis (TB)

7.5 Problems of the Health Sector

- ✓ limited physical access to health facilities and the absence of health care facilities
- ✓ the available health care facilities are unevenly distributed across regions
- ✓ inadequate budgetary allocation and low levels of management
- ✓ low quality of the facilities
- ✓ maternal, infant, and child mortality rates are still high
- ✓ Inadequate and poorly maintained infrastructures and equipments, shortage of trained health personnel, and the unavailability of drugs and pharmaceutical supplies.

Possible Remedies

- ✓ Strengthen and expand existing health programs.
- ✓ Provide family planning services at all levels of health service delivery stations.
- ✓ Strengthen reproductive health content in health education programs.
- ✓ Strengthen and expand training of health personnel in collaboration with relevant institutions.
- ✓ Set standards for the provision of family planning services.

The Transport Sector

During the military government, the transport sector was put under close state regulation and control. The entire commercial truck and passenger transport system was under strict control of the government through Proclamation No.107/1976. The policy changes in the sector that occurred on May 8, 1992 heralded the deregulation of the freight transport industry. The major liberalization of the transport industry began with government Proclamation No. 14/1992. This emphasizes the promotion of efficiency and equitable distribution. Following the 1992 Proclamation, many of the private commercial freight and passenger transport activities left the corporation and formed their own independent association. Some, however, continued as associates of government enterprises.

The other content of the new policy allows:

- ✓ free entry into existing associations,
- ✓ obtaining licenses to form new associations

The Tourism Sector

Tourism should have been one of Ethiopia's largest industries. This is because Ethiopia has so many historical and natural sites and diverse cultural tourism attractions, but unfortunately the country has been unable to realize the economic benefits it deserves from the sector.

In 2009, the government launched a tourism development policy to increase tourist arrivals and optimize returns from the sector. The guiding principles are:

- ✓ guiding the sector in a broad-based development framework
- ✓ developing existing and new tourism attractions and products
- ✓ expanding the infrastructure and tourist services that are vital for the growth of the sector
- ✓ ensuring that the country benefits from the sector by being sufficiently competitive in international tourism markets
- ✓ solving the serious limitations in capacity that are apparent in the industry

Due to too little attention and lack of finance, most of the issues included in the policy document are still in the process of implementation.

Major Challenges of the Tourism Sector and Suggested Solutions

Tourism has a considerable and unexploited potential in the development of the Ethiopian economy. But the sector has major obstacles that prevent it from growing as expected. Some of these are due to lack of:

- ✓ coordination among tourism stakeholders
- ✓ attention to domestic tourism
- ✓ awareness and incentives among the local people
- ✓ trained labor
- ✓ infrastructure
- ✓ quality service provision
- ✓ promotion work

Improving transportation facilities, allocating an adequate government budget, improving management to enhance the quality of the sector, providing manpower training and promoting the country's tourism resources can address the challenges of the tourism sector.

Review Questions

Part I: True or False

Write "True" for the correct statements and "False" for the incorrect ones.

1.The current development strategy adopted in Ethiopia is Industrial Development Led Agricultural Strategy.

2.The uni-modal approach gives priority to the intensification of agricultural practices for smallholders.

3.The current approach to improving agricultural sector is the bimodal approach.

4.The Derg Regime used Export Promotion Industrial Strategy.

5.The industrial development strategy of Ethiopia is in line with the ADLI.

Answer

1.False **2.True** 3.False 4.False **5.True**

Part II: Multiple Choices

For the following questions choose the correct answer from the given alternative.s

1.The bimodal approach pursues:

A.the intensification of the small holder farm system

B.the promotion of large scale farming

C.the promotion of exportable agricultural products

D.all of the above

2.Which one of the following is true about the policy reform during early transitional government (1991-1994)?

A.Declared collectivization and villagization as undesirable.

B.Agricultural Development Led Industrialization (ADLI) strategy was endorsed during this period.

C.Removal of substantial taxation of agriculture, market liberalization and devaluation.

D.The FDRE constitution was endorsed during this period.

E.All of the above.

3.Which of the following is odd:

A.Chilalo Agricultural Development Unit

B.Welayita Agricultural Development Unit

C.Arsi Rural Development Unit

D.none of the above

4.The first poverty reduction strategy to be introduced by the EPRDF was:

A.plan for accelerated and sustainable development to end poverty.

B.peasant agricultural development extension projects

C.poverty Reduction Strategy Paper

D.agricultural development led industrialization

E.all of the above

5.Which of the following is false about GTP II?

A.It is operated within the framework of the ADLI.

B.It recognizes the wider developmental needs of rural areas.

C.It promotes agricultural sector development.

D.GTP II's main objectives and pillars are different from that of GTP I.

E.All of the above.

Answer

1.B 2.E 3.C 4.C 5.D

Part III: Discussion Questions

Discuss the following questions briefly.

1.Discuss the shortcomings of the industrial development strategy of the EPRDF.

Answer;

- Marketing problems
- Lack of finance
- Technological problems
- Input-related problems

2.What are the major objectives of Agricultural Development Led Industrialization?

Answer;At the program level ,ADLI consists of the following

- Ensuring accelerated economic growth through a rural-cantered development program srategy which mainly focuses on the development of the agricultural sectors out put using "a package program"
- Ensuring accelerated economic growth to improve the living standards of urban dwellers
- Adopting an effective education stragey
- Pursuing preventive and primary health care strategy

3.What are the major problems and possible remedies for the education sectors?

Answer;

Problems;

- Greater disparity between the relatively developed and under developed regions between rural and urban areas

- Enrolement of girls at every level of education is lower than that of boys
- Inadequete facilities,insufficient training of teachers ,overcroweded classes and shortage of teaching materials.
- High rate of drop-out and repetition rate

Possible remedies;

- Expand the participation of parents,teachers comunities in policy
- Provide adequate teaching materials
- Narrow the gap or disparity among regions