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General Principles of Economics

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STUDY MATERIAL
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By

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Module 1 Introduction to Economics

General Definition of Economics:

The English word economics is derived from the ancient Greek word oikonomia—meaning the management of a family or a household.

It is thus clear that the subject economics was first studied in ancient Greece.

What was the study of household management to Greek philosophers like Aristotle (384-322 BC) was the "study of wealth" to the mercantilists in Europe between the sixteenth and eighteenth centuries.

Economics, as a study of wealth, received great support from the Father of economics, Adam Smith, in the late eighteenth century.

Since then, the subject has travelled a long and this Greek or Smithian definition serves our purpose no longer. Over the passage of time, the focus of attention has been changed. As a result, different definitions have evolved.

These definitions can conveniently be grouped into three:

(i) Smith's Wealth definition;

(ii) Marshall's Welfare definition; and

(iii) Robbins' Scarcity definition.

2. Adam Smith's Wealth Definition:

The formal definition of economics can be traced back to the days of Adam Smith (1723-90) — the great Scottish economist. Following the mercantilist tradition, Adam Smith and his followers regarded economics as a science of wealth which studies the process of production, consumption and accumulation of wealth.

His emphasis on wealth as a subject-matter of economics is implicit in his great book— 'An Inquiry into the Nature and Causes of the Wealth of Nations or, more popularly known as 'Wealth of Nations'—published in 1776.

According to Smith:

"The great object of the Political Economy of every country is to increase the riches and power of that country." Like the mercantilists, he did not believe that the wealth of a nation lies in the accumulation of precious metals like gold and silver.

To him, wealth may be defined as those goods and services which command value-in- exchange. Economics is concerned with the generation of the wealth of nations. Economics is not to be concerned only with the production of wealth but also the distribution of wealth. The manner in which production and distribution of wealth will take place in a market economy is the Smithian 'invisible hand' mechanism or the 'price system'. Anyway, economics is regarded by Smith as the 'science of wealth.'

3. Marshall's Welfare Definition:

Alfred Marshall in his book 'Principles of Economics published in 1890 placed emphasis on human activities or human welfare rather than on wealth. Marshall defines economics as "a study of men as they live and move and think in the ordinary business of life." He argued that economics, on one side, is a study of wealth and, on the other, is a study of man.

Emphasis on human welfare is evident in Marshall's own words: "Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being."

Thus, "Economics is on the one side a study of wealth; and on the other and more important side, a part of the study of man." According to Marshall, wealth is not an end in itself as was thought by classical authors; it is a means to an end—the end of human welfare.

4. Robbins' Scarcity Definition:

The most accepted definition of economics was given by Lord Robbins in 1932 in his book 'An Essay on the Nature and Significance of Economic Science. According to Robbins, neither wealth nor human welfare should be considered as the subject-matter of economics. His definition runs in terms of scarcity: "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses."

From this definition, one can build up the following propositions:

(i) Human wants are unlimited; wants multiply—luxuries become necessities. There is no end of wants. If food were plentiful, if there were enough capital in business, if there were abundant money and time—there would not have been any scope for studying economics. Had there been no wants there would not have been any human activity. Prehistoric people had wants. Modern people also have wants. Only wants change—and they are limitless.

(ii) The means or the resources to satisfy wants are scarce in relation to their demands. Had resources been plentiful, there would not have been any economic problems. Thus, scarcity of resources is the fundamental economic problem to any society. Even an affluent society experiences resource scarcity. Scarcity of resources gives rise to many 'choice' problems.

(iii) Since the prehistoric days one notices constant effort of satisfying human wants through the scarcest resources which have alternative uses. Land is scarce in relation to demand. However, this land may be put to different alternative uses.

2. **The Scope of Economics**

Economists differ in their views regarding the scope of economics. The scope of economics' is a broad subject and encompasses not only its subject matter but also various other things, such as its scientific nature, its ability to pass value judgments, and to suggest solutions to practical problems.

By making economics a human science, Robbins has unnecessarily widened the scope of the subject. Thus, in accordance with the view of Robbins, economics would also study the problem faced by Robinson Crusoe, who lives in an isolated island with no contact with the rest of the world.

1. Subject matter: If we take a broad view of the subject matter of economics we may say that, Economics is the study of all phenomena relating to wealth and value. It is one of the social sciences that deal with economic goods, the creation of wealth through the satisfaction of human wants, the explanation of wealth, value and price, the distribution of income and the mechanism of exchange and markets of an economy.

According to Robbins, economics is the study of the problem of using available factors of production as efficiently as possible so as to attain the maximum fulfilment of society's demands for goods and services. The ultimate purpose of economic endeavour is to satisfy human wants for goods and services.

The problem is that, whereas wants are virtually without limit, the resources—land, labour, capital and organisation—available at any one time to produce goods and services, are limited in supply, i.e., resources are scarce relative to the demands for them.

The fact of scarcity means that we must always be making choices. If, to take a simple example, more resources are devoted to producing motor cars fewer resources are then available for constructing roads or bridges or setting up schools and hospitals. Thus, economics is a science of scarcity or is a study of the problems of scarcity.

However, economics does not study the behaviour of human beings in the way other subjects like Physiology or Psychology study it. Economics is no doubt a Science, but it is not a pure (exact) science like Physics, Chemistry,

Biology or even Mathematics. Economics is a social science concerned with how we solve society's economic problems. Because of the abundance of economic data and the ample opportunity for scientific research in the real world, Samuelson calls it 'the queen of social sciences'.

But, it is not an exact science. It may also be added that, the study of modern economics is divided into two parts, viz., microeconomics or price theory (concerned with the behaviour of an economic agent or unit such as an individual consumer or business firm) and macroeconomics (concerned with the study of certain broad aggregates, such as national income, output, the level of employment, the price level or even the growth rate of the economy or the study of the economic system in its totality).

2. Science or Art:

For quite a long time there was controversy among economists as to whether it is a science or an art. The members of the English classical school, such as Adam Smith, T. R. Mathus and David Ricardo, held the view that it was a pure science whose task was just to explain the cause of economic phenomena such as unemployment, inflation, slow growth or even trade deficit.

3. Positive or Normative:

Another controversial aspect of economics is whether it should be neutral or pass value judgments. The members of the English classical school were of the opinion that economists were not supposed to make any normative statement or pass any value judgment on the desirability or otherwise of the economic decisions.

4. Problem-solving Nature:

The classical economists believed that economics could not solve practical problems, because there were non-economic (social, political, ethical, religious and other) aspects of people's lives.

The Importance of Economics

Economics is concerned with helping individuals and society decide on the optimal allocation of our limited resources.

The fundamental problem of economics is said to be scarcity - the idea that wants (demand) is greater than the resources we have. The economy faces choices on

- What to produce? - Is it worth spending more on health care?
- How to produce? - Should we leave it to market forces or implement government regulations.
- For whom to produce? - How should we distribute resources, should we place higher income tax on the wealthiest in society?

More specific questions include

How to manage the macro economy?

Both inflation and mass unemployment can be devastating for society. Economists argue that both can be avoided through careful economic policies. For example:

- Policies to reduce unemployment
- Policies to reduce inflation

If economics can contribute to reducing unemployment, then it can make a significant improvement to economic welfare. For example, the mass unemployment of the 1930's great depression led to political instability and the rise of extremist political parties across Europe.

However, the problem is that economists may often disagree on the best solution to these challenges. For example, at the start of the great depression in 1930, leading economists in the UK Treasury suggested that the UK needed to balance the budget; i.e. higher taxes, lower unemployment benefits. But, this made the recession deeper and led to a fall in demand.

It was in the great depression that John Maynard Keynes developed his general theory of Employment, Income and Money. He argued that classical economics had the wrong approach

for dealing with depressions. Keynes argued that the economy needed expansionary fiscal policy. - higher borrowing and government spending.

2. Overcoming Market Failure

It is considered that free markets offer a better solution than a planned economy (Communist) However, free markets invariably lead to problems such as

- The over production of negative externalities (e.g. pollution/congestion)
- The underproduction of goods with positive externalities (e.g. education, health care, public transport).
- Non-provision of Public Goods - (national defence, law and order)

An economist can suggest policies to overcome these types of market failures. For example

- Tax negative externalities
- Subsidise public services like health care and education.

The importance of economics is that we can examine whether society is better off through government intervention to influence changes in the provision of certain goods.

Some topical issues economists are concerned with

- Carbon Tax - should we implement a carbon tax to reduce global warming?
- Should we tax fatty foods?

Efficiency

Another area where economists have a role to play is in improving efficiency. For example economists may suggest supply side policies to improve the efficiency of an economy.

Individual Economics

Economics is also important for an individual. For example, every decision we take involves an opportunity cost - which is more valuable working overtime or having more leisure time?
In recent years, behavioural economics has looked at the diverse range of factors that influence

people's decisions. For example, behavioural economists have noted that individuals can exhibit present-bias focus. This means placing excess importance on the current time period and making decisions our future self may regret. This includes over-consumption of demerit goods like alcohol and tobacco and failure to save for a pension.

Efficiency v Equity

In classical economics, we often focus on maximising income and profit. However, this is a limited use of economics. Economics is also concerned with maximising overall economic welfare (how happy are people). Therefore economics will help offer choices between increasing output and reducing inequality.

- Efficiency v equality
- GDP and Happiness

Economics of daily living

In recent years, economists such as Gary Becker have widened the scope of economics to include everyday issues, such as crime, family and education and explained these social issues from an economic perspective. Becker places emphasis on the theory of rational choice. The idea that individuals weigh up costs and benefits.

Conclusion

Economics is important for many areas of society. It can help improve living standards and make society a better place. Economics is like science in that it can be used to improve living standards and also to make things worse. It partly depends on the priorities of society and what we consider most important.

2.Branches of Economics

- **Microeconomics** – concerned with individual markets and small aspects of the economy.
- **Macroeconomics** – concerned with the whole aggregate economy. Issues such as inflation, economic growth and trade.

Behavioural economics

Key people: Gary Becker, Amos Tversky, Daniel Kahneman, Richard Thaler, Robert J. Shiller,

Behavioural economics examines the psychology behind economic decision making and economic activity. Behavioural economics examines the limitation of the assumption individuals are perfectly rational. It includes

- Bounded rationality – people make choices by rules of thumb
- Irrational exuberance – People get carried away by asset bubbles.
- Nudges/Choice architecture – how the framing of decisions affects the outcome

Development economics

Key people: Simon Kuznets and W. Arthur Lewis, Amartya Sen and Muhammad Yunus.

Concerned with issues of poverty and under-development in poorer countries of the world. Development economics is concerned with both micro and macro aspects of economic development. Issues include

- Trade vs aid
- Increasing capital investment.
- Best ways to promote economic development
- Third World debt

Welfare Economics

Welfare economics is the study of how the allocation of resources and goods affects social welfare. This relates directly to the study of economic efficiency and income distribution, as well as how they affect the overall well-being of people in the economy. In practical application, welfare economists seek to provide tools to guide public policy to achieve beneficial social and economic outcomes for all of society. However, welfare economics is a subjective study that depends heavily on chosen assumptions regarding how welfare can be defined, measured, and compared for individuals and society as a whole.

4.Interrelation of Economics with Political Science , Management and Governance

A.Political Science

Economics is concerned with studying and influencing the economy. Politics is the theory and practice of influencing people through the exercise of power, e.g. governments, elections and political parties.

In theory, economics could be non-political. An ideal economist should ignore any political bias or prejudice to give neutral, unbiased information and recommendations on how to improve the economic performance of a country. Elected politicians could then weigh up this economic information and decide.

In practice there is a strong relationship between economics and politics because the performance of the economy is one of the key political battlegrounds. Many economic issues are inherently political because they lend themselves to different opinions.

Political ideology influencing economic thought

Many economic issues are seen through the eyes of political beliefs. For example, some people are instinctively more suspicious of government intervention. Therefore, they prefer economic policies which seek to reduce government interference in the economy. For example, supply side economics, which concentrates on deregulation, privatisation and tax cuts.
On the other hand, economists may have a preference for promoting greater equality in society and be more willing to encourage government intervention to pursue that end.

If you set different economists to report on the desirability of income tax cuts for the rich, their policy proposals are likely to reflect their political preferences. You can always find some evidence to support the benefits of tax cuts, you can always find some evidence to support the benefits of higher tax.

Some economists may be scrupulously neutral and not have any political leanings (though I haven't met too many). They may produce a paper that perhaps challenges their previous views. Despite their preferences, they may find there is no case for rail privatisation, or perhaps they find tax cuts do actually increase economic welfare.

However, for a politician, they can use those economists and economic research which backs their political view. Mrs Thatcher and Ronald Reagan were great champions of supply side economists like Milton Friedman, Keith Joseph, and Friedrich Hayek. When Reagan was attempting to 'roll back the frontiers of the state' – there was no shortage of economists who were able to provide a theoretical justification for the political experiment. There were just as many economists suggesting this was not a good idea, but economists can be promoted by their political sponsors. In the US, the Paul Ryan budget proposals were welcomed by many Republicans because they promised tax cuts for better off, cutting welfare benefits and balancing the budget. (1) A popular selection of policies for Republicans.

Economic thought independent of politics

On the other hand, economists who stick to data and avoid cherry picking favourable statistics may well come up with conclusions and recommendations that don't necessarily fit it with pre-conceived political issues.

Many economists may be generally supportive of the EU and European co-operation, but the evidence from the Euro single currency is that it caused many economic problems of low growth, deflation and trade imbalances.

Economics needs political support

If you study economics, you can make quite a convincing case for a Pigovian tax – a tax which makes people pay the full social cost of the good, and not just the private cost. This principle of making the polluter pay provides a case for Carbon Tax, congestion charges, alcohol tax, and tobacco tax e.t.c.

However, whether these policies get implemented depends on whether there is political support for them.

For example, a congestion charge was proposed for Manchester, but it was very heavily defeated in a referendum. A new tax is rarely popular. As an economist, I would like to see more congestion charging because it makes economic sense. But, what can make 'sense' to an economist can be politically unpopular.

The political appeal of austerity

Another interesting example is the political appeal of austerity. After the credit crunch, there was a strong economic case for expansionary fiscal policy to fill in the gap of aggregate demand. Politically, it can be hard to push a policy which results in more government debt. There may be an economic logic to Keynesian demand management in a recession – but a politician appealing to the need to 'tighten belts' and 'get on top of debt' can be easier slogans to sell the general public, rather than slightly more obtuse 'multiplier theories of Keynes'

Who runs the economy – Politicians or economists?

Another interesting case is the relationship between fiscal policy (set by government) and monetary policy (largely set by independent Central Banks)

In the UK and US (and Europe) fiscal policy has been relatively tight, given the state of the economy. As a consequence, it has fallen to Central Banks to pursue an expansionary monetary policy to offset the deficiencies of fiscal policy. If politicians pursue tight fiscal policy, Central Bankers have to adapt Monetary policy.

B.Management

Economics and Management are ideal intellectual partners, each particularly fitted to strengthen and cross-fertilize the other. Economics provides the broader understanding of economic activity within which all organizations function; management in turn analyses the character and goals of that functioning. **The management economics** is often a subsection of the economic science and thus in broader sense a special form of the social, culture and Geisteswissenschaften. Like the economic science it is based in principle on the fact that most goods are limited and must by the

participants be managed. It describes the economic functions of the enterprise within a national economy. In addition above all the optimal organization of the factors of production belongs apart from the company targets and the economical functions. In the broader sense also all households are enterprises.

Lionel Robbins defined Economics as “the science which studies human behavior as a relationship between ends and scarce means which have alternative uses."

In Management we use the term “objectives” for “ends” and the term “resources” for the phrase “scarce means”.

Management is about harnessing resources to achieve objectives.

Economics is the mother science on which management is based.

Economics is a descriptive science - it tells us what is going on, while management is a prescriptive discipline which requires us to take action.

Economists are very good at telling us what is going on, but often fail when they tell us what to do. This does not in any way impair their reputation as economists.

If a manager restricts himself/herself to telling what is going on, and does not take action, he /she will find his career terminated.

Module 2 Basic Concepts and Definition

Utility

Utility is a term in economics that refers to the total satisfaction received from consuming a good or service. Economic theories based on rational choice usually assume that consumers will strive to maximize their utility. The economic utility of a good or service is important to understand, because it directly influences the demand, and therefore price, of that good or service. In practice, a consumer's utility is impossible to measure and quantify. However, some economists believe that they can indirectly estimate what is the utility for an economic good or service by employing various models.

Commodity

A commodity is a basic good used in commerce that is interchangeable with other goods of the same type. Commodities are most often used as inputs in the production of other goods or services. The quality of a given commodity may differ slightly, but it is essentially uniform across producers.

When they are traded on an exchange, commodities must also meet specified minimum standards, also known as a basis grade. They tend to change rapidly from year to year.

Services

In **economics**, a **service** is a transaction in which no physical goods are transferred from the seller to the buyer. The benefits of such a service are held to be demonstrated by the buyer's willingness to make the exchange. Public services are those that society (nation state, fiscal union or region) as a whole pays for. Using **resources**, **skill**, **ingenuity**, and **experience**, service providers benefit service consumers. Service is intangible in nature.

Consumption

Consumption, defined as spending for acquisition of utility, is a major concept in economics and is also studied in many other social sciences. It is seen in contrast to investing, which is spending for acquisition of future income.

Different schools of economists define consumption differently. According to mainstream economists, only the final purchase of newly produced goods and services by individuals for immediate use constitutes consumption, while other types of expenditure — in particular, fixed investment, intermediate consumption, and government spending — are placed in separate categories (see Consumer choice). Other economists define consumption much more broadly, as the aggregate of all economic activity that does not entail the design, production and marketing of goods and services (e.g. the selection, adoption, use, disposal and recycling of goods and services).

Economists are particularly interested in the relationship between consumption and income, as modeled with the consumption function.

Production

Production is a process of combining various material inputs and immaterial inputs (plans, know-how) in order to make something for consumption (output). It is the act of creating an output, a good or service which has value and contributes to the utility of individuals. The area of economics that focuses on production is referred to as production theory, which in many respects is similar to the consumption (or consumer) theory in economics.

Economic well-being is created in a production process, meaning all economic activities that aim directly or indirectly to satisfy human wants and needs. The degree to which the needs are satisfied is often accepted as a measure of economic well-being. In production there are two features which explain increasing economic well-being. They are improving quality-price-ratio of goods and services and increasing incomes from growing and more efficient market production or total production which help in increasing GDP. The most important forms of production are:

1. market production
2. public production
3. household production

Income

Income is the consumption and saving opportunity gained by an entity within a specified timeframe, which is generally expressed in monetary terms.

For households and individuals, "income is the sum of all the wages, salaries, profits, interest payments, rents, and other forms of earnings received in a given period of time." (also known as gross income). Net income is defined as the gross income minus taxes and other deductions (e.g., mandatory pensioncontributions), and is usually the basis to calculate how much income tax is owed.

In the field of public economics, the concept may comprise the accumulation of both monetary and non-monetary consumption ability, with the former (monetary) being used as a proxy for total income.

For a firm, gross income can be defined as sum of all revenue minus the cost of goods sold. Net income nets out expenses: net income equals revenue minus cost of goods sold, expenses, depreciation, interest, and taxes.

Wealth

Wealth is the **abundance** of **valuable financial assets** or **physical possessions** which can be converted into a form that can be used for **transactions**. This includes the core meaning as held in the originating old English word *weal*, which is from an **Indo-European** word stem. The modern concept of wealth is of significance in all areas of **economics**, and clearly so for **growth economics** and **development economics**, yet the meaning of wealth is context-dependent. An individual possessing a substantial net worth is known as *wealthy*. **Net worth** is defined as the current value of one's assets less liabilities (excluding the principal in trust accounts).

Economic equilibrium

In **economics**, **economic equilibrium** is a situation in which economic forces such as **supply and demand** are balanced and in the absence of external influences the (**equilibrium**) values of economic variables will not change. For example, in the standard text **perfect competition**, equilibrium occurs at the point at which quantity demanded and quantity supplied are equal. **Market equilibrium** in this case is a condition where a market **price** is established through competition such that the amount of goods or services sought by **buyers** is equal to the

amount of goods or services produced by **sellers**. This price is often called the **competitive price** or **market clearing** price and will tend not to change unless demand or supply changes, and quantity is called the "competitive quantity" or market clearing quantity. But the concept of *equilibrium* in economics also applies to **imperfectly competitive** markets, where it takes the form of a **Nash equilibrium**.

2.

Economic and Non-economic Goods:

Material goods are further divided into economic and non-economic goods. Economic goods are those which have a price and their supply is less in relation to their demand or is scarce. The production of such goods requires scarce resources having alternative uses. For example, land is scarce and is capable of producing rice or sugarcane.

If the farmer wants to produce rice he will have to forgo the production of sugarcane. The price of rice equals the production of sugarcane forgone by the farmer. Thus economic goods relate to the problem of economizing scarce resources for the satisfaction of human wants. In this sense, all material goods are economic goods.

Non-economic goods are called free goods because they are free gifts of nature. They do not have any price and are unlimited in supply. Examples of non-economic goods are air, water, sunshine, etc. The concept of non-economic goods is relative to place and time. Sand lying near the river is a free good but when it is collected in a truck and carried to the town for house construction, it becomes an economic good.

It is now scarce in relation to its demand and fetches a price. There was a time when water could be had free from the wells and rivers. Now when it is stored and pumped through pipes to houses it is sold at a price to consumers. Thus what is a free good today may become an economic good with technological advancement. For example, air which is a free good becomes an economic good when we install air conditioners, room coolers and fans.

What is the diffrence between economic wants and non economic wants ?

Economic wants are normally referred to as the desires which are normally satisfied after taking goods, service or in other cases leisure while on the other hand, Non economic wants are normally human needs which need to be satisfied without involving monetary value or cost.

Non-economic wants may include air or water.

Every human being keeps himself occupied in some activity to satisfy human wants; such activities are known as human activities. These activities are broadly classified as economic and non-economic activities. While economic activities are those conducted with an aim of earning money or acquiring wealth, non-economic activities are performed free of cost, with service motive. The fundamental differences between economic and non-economic activities are discussed in the article. Have a look. Economic activity refers to a human activity related to production and consumption of goods and services for economic gain. Non-economic activity is an activity performed gladly, with the aim of providing services to others without any regard to monetary gain. Economics activities are those activities which are associated with the production, exchange, distribution, and consumption of merchandise, at every level of the society. These activities are performed with the sole aim of earning money and producing wealth, to satisfy human wants, with limited resources. These activities form a basis for the economic development of the country as it adds value to the gross domestic product. Non-economic activities refer to a human activity undertaken sheerly out of love, affection, sympathy or patriotism. These activities are conducted voluntarily with an aim of rendering services to others for free, i.e. it cannot be measured in terms of money. It includes all those activities which are performed for the satisfaction of human sentiments that can be social, religious, cultural, personal, recreational, charity, patriotic.

3. **Scarcity in economics**

Definition: Scarcity refers to resources being finite and limited. Scarcity means we have to decide how and what to produce from these limited resources. It means there is a constant opportunity cost involved in making economic decisions. Scarcity is one of the fundamental issues in economics.

Examples of scarcity

4. Land – a shortage of fertile land for populations to grow food. For example, the desertification of the Sahara is causing a decline in land useful for farming in Sub-Saharan African countries.

5. Water scarcity – Global warming and changing weather, has caused some parts of the world to become drier and rivers to dry up. This has led to a shortage of drinking water for both humans and animals.

6. Labour shortages. In the post-war period, the UK experienced labour shortages – insufficient workers to fill jobs, such as bus drivers. In more recent years, shortages have been focused on particular skilled areas, such as nursing, doctors and engineers

7. Health care shortages. In any health care system, there are limits on the available supply of doctors and hospital beds. This causes waiting lists for certain operations.

8. Seasonal shortages. If there is a surge in demand for a popular Christmas present, it can cause temporary shortages as demand as greater than supply and it takes time to provide.

9. Fixed supply of roads. Many city centres experience congestion – there is a shortage of road space compared to number of road users. There is a scarcity of available land to build new roads or railways.

Module 3 Demand and Supply

1.1 The Law of Demand

Introduction to the Law of Demand:

The law of demand expresses a relationship between the quantity demanded and its price. It may be defined in Marshall's words as **"the amount demanded increases with a fall in price, and diminishes with a rise in price".** Thus it expresses an inverse relation between price and demand. The law refers to the direction in which quantity demanded changes with a change in price.

On the figure, it is represented by the slope of the demand curve which is normally negative throughout its length. The inverse price- demand relationship is based on other things remaining equal. This phrase points towards certain important assumptions on which this law is based.

Assumptions of the Law of Demand:

(i) There is no change in the tastes and preferences of the consumer;

(ii) The income of the consumer remains constant;

(iii) There is no change in customs;

(iv) The commodity to be used should not confer distinction on the consumer;

(v) There should not be any substitutes of the commodity;

(vi) There should not be any change in the prices of other products;

(vii) There should not be any possibility of change in the price of the product being used;

(viii) There should not be any change in the quality of the product; and

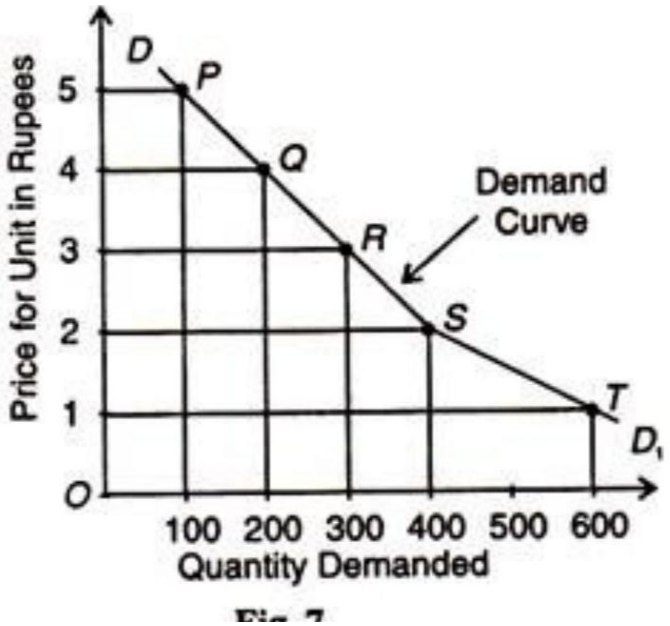
(ix) The habits of the consumers should remain unchanged. Given these conditions, the law of demand operates. If there is change even in one of these conditions, it will stop operating.

Given these assumptions, the law of demand is explained in terms of Table 3 and Figure 7.

Demand Schedule

Price (Rs)	Quantity Demanded
5	100 Units
4	200 Units
3	300 Units
2	400 Units
1	600 Units

The above table shows that when the price of say, orange, is Rs. 5 per unit, 100 units are demanded. If the price falls to Rs.4, the demand increases to 200 units. Similarly, when the price



declines to Re.1, the demand increases to 600 units. On the contrary, as the price increases from Re. 1, the demand continues to decline from 600 units.

In the figure, point P of the demand curve DD_1 shows demand for 100 units at the Rs. 5. As the price falls to Rs. 4, Rs. 3, Rs. 2 and Re. 1, the demand rises to 200, 300, 400 and 600 units respectively. This is clear from points Q, R, S, and T. Thus, the demand curve DD_1 shows

increase in demand of orange when its price falls. This indicates the inverse relation between price and demand.

Exceptions to the Law of Demand:

(i) War If shortage is feared in anticipation of war, people may start buying for building stocks or for hoarding even when the price rises.

(ii) Depression:

During a depression, the prices of commodities are very low and the demand for them is also less. This is because of the lack of purchasing power with consumers.

(iii) Giffen Paradox:

If a commodity happens to be a necessity of life like wheat and its price goes up, consumers are forced to curtail the consumption of more expensive foods like meat and fish, and wheat being still the cheapest food they will consume more of it. The Marshallian example is applicable to developed economies.

(v) Ignorance Effect:

Consumers buy more at a higher price under the influence of the "ignorance effect", where a commodity may be mistaken for some other commodity, due to deceptive packing, label, etc.

(vi) Speculation:

Marshall mentions speculation as one of the important exceptions to the downward sloping demand curve. According to him, the law of demand does not apply to the demand in a campaign between groups of speculators. When a group unloads a great quantity of a thing on to the market, the price falls and the other group begins buying it. When it has raised the price of the thing, it arranges to sell a great deal quietly. Thus when price rises, demand also increases.

(vii) Necessities of Life:

Normally, the law of demand does not apply on necessities of life such as food, cloth etc. Even the price of these goods increases, the consumer does not reduce their demand. Rather, he purchases them even the prices of these goods increase often by reducing the demand for comfortable goods. This is also a reason that the demand curve slopes upwards to the right.

1.2 **The Law of Supply: Explanation, Assumption and Exception**

Introduction to the Law of Supply:

The law of supply reflects the general tendency of the sellers in offering their stock of a commodity for sale in relation to the varying prices.

It describes seller's supply behaviour under given conditions. It has been observed that usually sellers are willing to supply more with a rise in prices.

"Other things remaining unchanged, the supply of a commodity rises i.e., expands with a rise in its price and falls i.e., contracts with a fall in its price.

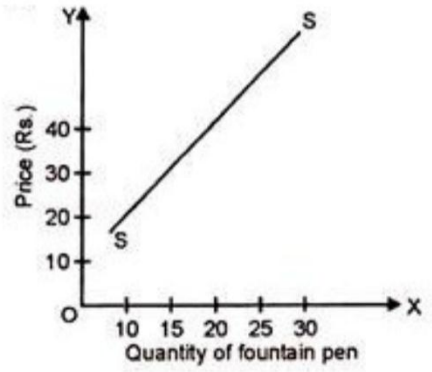
In other-words, it can be said that—"Higher the price higher the supply and lower the price lower the supply."

The law thus suggests that the supply varies directly with the change in price. So, a larger

Market Supply Schedule

Price of Fountain Pen Rs.	Quantity Supplied (in '000 per week)
10	10
20	13
30	20
40	25

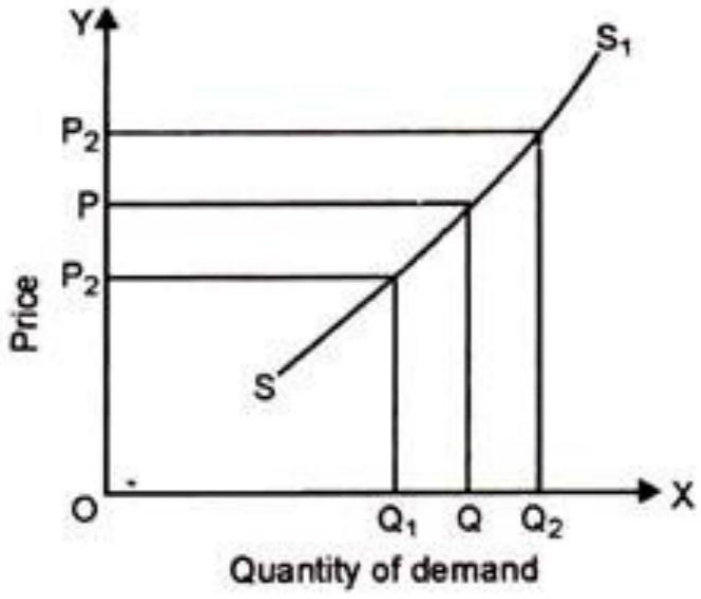
This can be shown by diagram as follows:



amount is supplied at a higher price that at a lower price in the market.

Explanation of the Law:

This law can be explained with the help of a supply schedule as well as by a supply curve based



on an imaginary figures and data.

Here, in this diagram the supply curve SS is sloping upward. It suggests with the supply schedule, that the market supply tends to expand with the rise in price and vice-versa. Similarly, the upward slopping curve also depicts a direct co-variation between price and supply.

This law can be shown in this way also.

In the figure above OX axis shows quantity of demand and OY axis shows price. SS_1 line is the line of supply when the price of the commodity is OP then quantity of supply is OQ.
When the price rises from OP to $OP_2$and then supply also rises from OQ to OQ_2. Similarly, if price is reduced from OP to OP_1, then supply will reduce from OQ to OQ_1.
By seeing the diagram the conclusion can be drawn that when price rises supply increases and when the price reduces the supply reduces.

Assumptions Underlying the Law of Supply:

1. No change in the income:

There should not be any change in the income of the purchaser or the seller.

2. No change in technique of production:

There should not be any change in the technique of production. This is essential for the cost to remain unchanged. With the improvement in technique if the cost of production is reduced, the seller would supply more even at falling prices.

3. There should be no change in transport cost:

It is assumed that transport facilities and transport costs are unchanged. Otherwise, a reduction in transport cost implies lowering the cost of production, so that more would be supplied even at a lower price.

4. Cost of production be unchanged:

It is assumed that the price of the product changes, but there is no change in the cost of production. If the cost of production increases along with the rise in the price of product, the sellers will not find it worthwhile to produce more and supply more. Therefore, the law of supply

will be valid only if the cost of production remains constant. It implies that the factor prices such as wages, interest, rent etc., are also unchanged.

5. There should be fixed scale of production:

6. There should not be any speculation:

The law also assumes that the sellers do not speculate about the future changes in the price of the product. If, however, sellers expect prices to rise further in future, they may not expand supply with the present price rise.

7. The prices of other goods should remain constant:

Further, the law assumes that there are no changes in the prices of other products. If the price of some other product rises faster than that of the product in consideration, producers might transfer their resources to the other product—which is more profit yielding due to rising prices. Under this situation and circumstances, more of the product in consideration may not be supplied, despite the rising prices.

8. There should not be any change in the government policies

Exceptions

1. Exceptions about Future Price:

In this connection if the seller expects a rise in the price in future, he may withhold his stock of the commodity. He will therefore reduce his supply in the market at the present price. Similarly, if he expects a further fall in price in future, he will try to dispose of the commodity and will supply more even at a lower price.

2. Supply of Labour:

Supply of labour after a certain point, when the wage rate rises, its supply will tend to diminish. Why such situation because workers normally prefer leisure to work after receiving a certain amount of wage.

3. Rate of Interest and Savings Position:

When there is rise in the interest rate, more savings are induced. But after a certain point of rise in the rate of interest households may tend to save less than before due to high income from the interest. In that case savings tend to decline even with a rise in the rate of interest.

From the points written above we can observe that the supply tends to fall with a rise in prices at a point. This paradoxical situation of supply behaviour is represented by a backward sloping or regressive supply curve over a part of its length

3. Elasticity of Demand

A change in the price of a commodity affects its *demand*. We can find the elasticity of demand, or the degree of responsiveness of demand by comparing the percentage *price* changes with the quantities demanded. In this article, we will look at the concept of elasticity of demand and take a quick look at its various types.

The variables on which demand can depend on are:

1. Price of the commodity
2. Prices of related commodities
3. Consumer's income, etc.

Elasticity of Demand

To begin with, let's look at the definition of the elasticity of demand: "Elasticity of demand is the responsiveness of the quantity demanded of a *commodity* to changes in one of the variables on which demand depends. In other words, it is the percentage change in quantity demanded divided by the *percentage* in one of the variables on which demand depends."

The variables on which demand can depend on are:

1. Price of the commodity
2. Prices of related commodities
3. Consumer's *income*, etc.

Let’s look at some examples:

1. The price of a *radio* falls from Rs. 500 to Rs. 400 per *unit*. As a result, the demand increases from 100 to 150 units.

2. Due to *government* subsidy, the price of wheat falls from Rs. 10/kg to Rs. 9/kg. Due to this, the demand increases from 500 kilograms to 520 kilograms.

In both cases above, you can notice that as the price decreases, the demand increases. Hence, the demand for radios and wheat responds to price changes.

Types of Elasticity of Demand

Based on the variable that affects the demand, the elasticity of demand is of the following types. One point to note is that unless otherwise mentioned, whenever the elasticity of demand is mentioned, it implies *price elasticity*.

Price Elasticity

The price elasticity of demand is the response of the quantity demanded to change in the price of a commodity. It is assumed that the consumer’s income, tastes, and prices of all other goods are steady. It is measured as a percentage change in the quantity demanded divided by the percentage change in price. Therefore,

{Price Elasticity} = E_p = \{{Percentage change in quantity demanded}}{{Percentage change in price}

Or,

E_p = \{\{\{Change in Quantity} \times 100}{{Original Quantity}}}{\{{Change in Price} \times 100}{\{Original Price}}}*Ep* =Original PriceChange in Price×100 Original QuantityChange in Quantity×100

= \{\{Change in Quantity}}{\{Original Quantity}} \times \{\{Original Price}}{\{Change in Price}}=Original QuantityChange in Quantity×Change in PriceOriginal Price

Income Elasticity

The *income elasticity* of demand is the degree of responsiveness of the quantity demanded to a change in the consumer's income. Symbolically,

E_I = \frac {\{Percentage change in quantity demanded}}{\{Percentage change in income}}*EI* = Percentage change in incomePercentage change in quantity demanded

Cross Elasticity

The *cross elasticity of demand* of a commodity X for another commodity Y, is the change in demand of commodity X due to a change in the price of commodity Y. Symbolically,

E_c = \frac{\Delta q_x}{\Delta p_y} \times \frac{p_y}{q_x}*Ec*= Δ*py*Δ*qx*×*qxpy*

Where,E_c*Ec* is the cross elasticity,\Delta q_xΔ*qx* is the original demand of commodity X,\Delta q_xΔ*qx* is the change in demand of X,\Delta p_yΔ*py* is the original price of commodity Y, and\Delta p_yΔ*py* is the change in price of Y.

3. The Law of Diminishing Marginal Utility

This is an important law under Marginal Utility Analysis. Alfred Marshall, British Economist defines the law of diminishing marginal utility as follows:

"The additional benefit which a person derives from a given increase in the stock of a thing diminishes with every increase in the *stock* that he already has."

This law is based on the fundamental tendency of human nature. Human wants are virtually unlimited. However, every single want is satiable. Hence, as we consume more and more units of a good, the intensity of our want for the good decreases. Eventually, it reaches a point where we no longer want it.

In other words, as we consume more units of a good, the extra satisfaction that we derive from the extra unit keeps falling. However, it is important to remember that the marginal utility declines NOT the total utility.

An Illustration

Let us see an example. The table below presents the total and marginal utility derived by Peter from consuming cups of tea per day.

As seen in the table above, when Peter consumes one cup of tea in a day, he derives a total utility of 30 utils (unit of utility) and a marginal utility of 30 utils. When he takes two cups per day, the total utility rises to 50 utils but the marginal utility falls to 20. This trend continues until the last row where the marginal utility is negative. This means that if Peter consumes 11 or more cups of tea per day, then he might fall sick. Here is a graph representing the table:

Quantity of Teas	Total Utility	Marginal Utility
1	30	30
2	50	20
3	65	15
4	75	10
5	83	8
6	89	6
7	93	4
8	96	3
9	98	2
10	99	0
11	95	-4

Relationship between Total and Marginal utility

3. As the total utility rises, the marginal utility diminishes
4. When the total utility is maximum, the marginal utility is zero.
5. As the total utility starts diminishing, the marginal utility becomes negative.

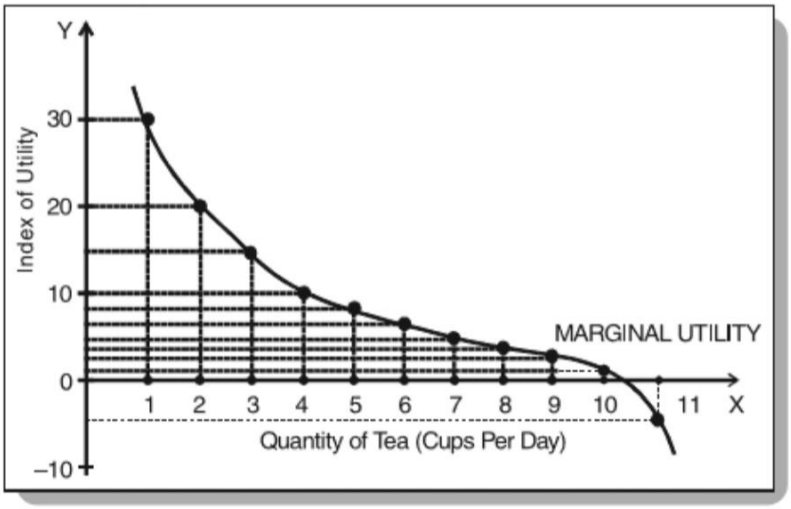


Fig. 1 : Marginal utility of tea consumed

This law helps us understand how a consumer reaches equilibrium in case of a single commodity. Typically, a consumer utilizes a commodity until its marginal utility becomes equal to the market price. This ensures that he derives maximum satisfaction by being in equilibrium in respect of the quantity of the commodity.

In case of a fall in the price of the commodity, the equality between marginal utility and price gets disturbed. Therefore, the **consumer** will consume more units of the good leading to a fall in the marginal utility. He continues consuming until the equilibrium is achieved. On the other hand, in case of a rise in the price of the commodity, he will consume less and achieve equilibrium too.

Limitations of the Law

The **law** of diminishing marginal utility applies only under certain assumptions:

6. Homogeneous units – The different units of a commodity are identical in all respects. The income, taste, temperament, habit, etc. of the consumer also remains unchanged.
7. Standard units of consumption – The units of consumption consist of standard units. If a man is thirsty, then water should be given in units of a glass. If you give him a spoonful of water, then the second spoon would conceivably have higher utility than the first.
8. Continuous consumption – There is a continuous consumption of units. That is, there is no gap between the consumption of two units.

9. Not applicable to prestigious goods – The law does not apply to prestigious goods like gold, cash, etc. where a greater quantity can increase the lust for it.

10. Related goods – If you don't have sugar, then you will consume less tea. Hence, the utility of goods can be affected by the absence of related goods.

4. Law of Equi-Marginal Utility

This law is based on the principle of obtaining maximum satisfaction from a limited income. It explains the behavior of a consumer when he consumes more than one commodity.

The law states that a consumer should spend his limited income on different commodities in such a way that the last rupee spent on each commodity yield him equal marginal utility in order to get maximum satisfaction.

Suppose there are different commodities like A, B, …, N. A consumer will get the maximum satisfaction in the case of equilibrium i.e.,

$MU_A / P_A = MU_B / P_B = \ldots = MU_N / P_N$

Where MU's are the marginal utilities for the commodities and P's are the prices of the commodities.

Assumptions of the Law

There is no change in the price of the goods or services.

The consumer has a fixed income.

The marginal utility of money is constant.

A consumer has perfect knowledge of utility.

Consumer tries to have maximum satisfaction.

The utility is measurable in cardinal terms.

There are substitutes for goods.

A consumer has many wants.

Limitation of the Law

There are some limitations to this law. They are

The law is not applicable in case of knowledge. Reading books provides more knowledge and has more utility.

This law is not applicable in case of fashion and customs.

This law is not applicable for very low income.

There is no measurement of utility.

Not all consumer care for variety.

The law fails when there are no choices available for the good.

The law fails in case of frequent price change.

Importance of the Law

This law is helpful in the field of production. A producer has limited resources and tries to get maximum profit.

This law is helpful in the field of exchange. The exchange is of anything like some goods, wealth, trade, import, and export.

It is applicable to public finance.

The law is useful for workers in allocating the time between the work and rest.

It is useful in case of saving and spending.

It is useful to look for substitution in case of price rise

5. Indifference Curve

A popular alternative to the marginal utility analysis of demand is the Indifference Curve Analysis. This is based on consumer preferenceand believes that we cannot quantitativelymeasure human satisfaction in monetary terms. This approach assigns an order to consumer preferences rather than measure them in terms of money. Let us take a look.

What is an Indifference Curve?

An indifference curve is a curve that represents all the combinations of goods that give the same satisfaction to the consumer. Since all the combinations give the same amount of satisfaction, the consumer prefers them equally. Hence the name indifference curve.

Here is an example to understand the indifference curve better. Peter has 1 unit of food and 12 units of clothing. Now, we ask Peter how many units of clothing is he willing to give up in exchange for an additional unit of food so that his level of satisfaction remains unchanged.

Peter agrees to give up 6 units of clothing for an additional unit of food. Hence, we have two combinations of food and clothing giving equal satisfaction to Peter as follows:

1 unit of food and 12 units of clothing

Indifference Map

An Indifference Map is a set of Indifference Curves. It depicts the complete picture of a consumer's preferences. The following diagram showing an indifference map consisting of three curves:

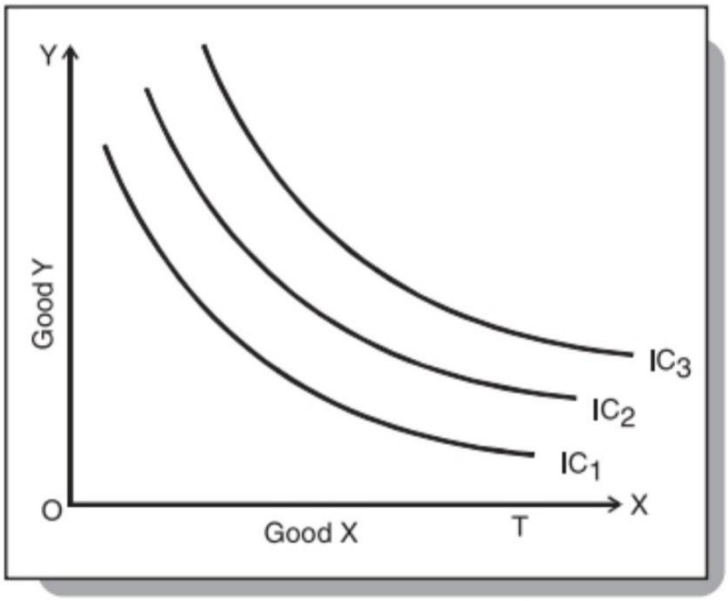


Fig. 2 : Indifference Map

2 units of food and 6 units of clothing

Explanation of Consumer's Surplus by Prof. Hicks:

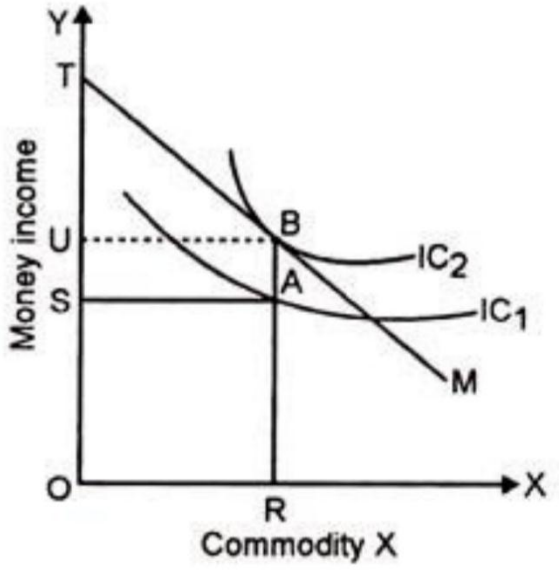
The concept of Consumer's Surplus was rehabilitated by Prof. J. R. Hicks even without the measurement of utility. In this connection Hicks has said that the best way of looking at Consumer's Surplus is to regard it as a means of expressing in terms of money income, the gain which accrues to the consumer as a result of all in price.

Hicks in his "Indifference Curve Analysis" takes resources to the external behaviour of a man whereby a man prefer one situation to another and with the help of this ordinal utility function, finds out the Consumer's Surplus.

For example:

Let us suppose that the consumer does not know the price of commodity X. He chooses to have the combination A on IC_1 i.e., OR of X commodity and OS amount of money. In other-words he is prepared to pay for OR commodity of X commodity and OS amount of money. In other words he is prepared to pay for OR commodity of X the TS amount of money.

Now let us suppose he knows the price of X which is indicated by TM budget line. The consumer finds that he can get on to a higher indifference curve with the same income. The consumer's new equilibrium is represented by B the tendency between IC_2 and TM. At this point



consumers combination is OR amount of X commodity + UO amount of money.

In other-words, the consumer has to spend only TU amount of money as compared to TS which he is prepared to pay for the same amount of X commodity. Thus, Consumer's Surplus equivalent to SUBA. We can thus conclude that in indifference curve analysis Consumer's Surplus signifies a passage from a lower to a higher indifference curve which environment makes possible for an economic subject.

Module 4 Theory of Production and Cost

1. Factors of Production

Anything that helps in production is the factor of production. These are the various factors by mean any resource is transformed into a more useful commodity or service.

They are the inputs for the process of production. They are the starting point of the production process. Factors of production are the parameters which affect the output of production.

Types of Factors of Production

Factors of Production

Look around yourself. What will you see? Tables, chairs, other furniture, doors, television, wardrobe, and so many other manmade things. Does it ever come to your mind how are these things made? How is the iron chair made? How is the wooden table made? You know that wooden furniture is made up of wood. How can one get wood? Of course from trees. The iron chair was first a piece of iron. But how is that chair gets its shape? These woods and iron are some factors of production. These are the raw materials which finished themselves into final goods like chairs and tables. In this section, we are going to know the factors of production.

Production

It is a process of combining various inputs to make something for consumptions. Production is an outcome of economic activity. For making or producing something, we need some tangible and intangible materials.

These materials are the various factors of production. Consider a simple example of paper crafting. To make an origami, we need paper, money to buy it, and the most important technique of folding.

Let us understand what we mean by the factors of production and their types.

Factors of Production

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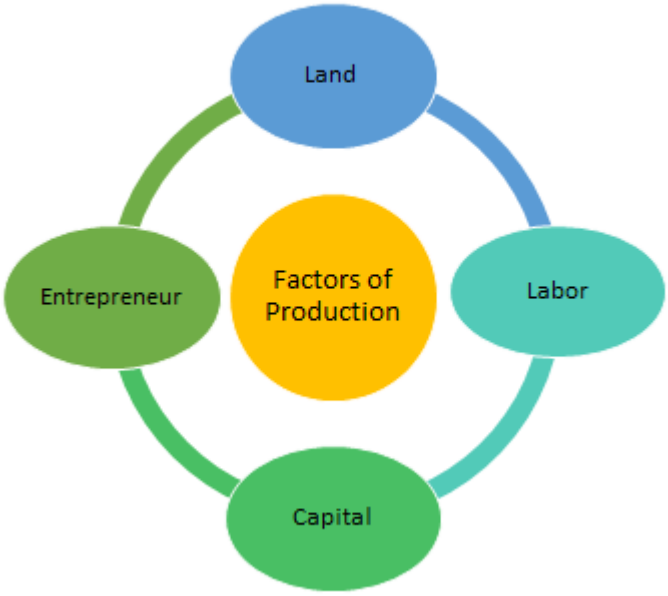
Types of Factors of Production

Factors of production have been categorized into four types.



Land

It refers to all natural resources. All natural resources either on the surface of the earth or below the surface of the earth or above the surface of the earth is Land.

One uses the land to produces goods. It is the primary and natural factor of production. All gifts of nature such as rivers, oceans, land, climate, mountains, mines, forests etc. are land.

The payment for land is rent.

Characteristics of Land as a Factor of Production

1. The land is a free gift of nature.
2. The land has no cost of production.
3. It is immobile.
4. The land is fixed and limited in supply.

Types of Land

1. Residential
2. Commercial
3. Recreation
4. Cultivation
5. Extraction
6. Uninhabitable

Labor

All human effort that assists in production is labour. This effort can be mental or physical. It is a human factor of production. It is the worker who applies their efforts, abilities, and skills to produce.

The payment for labour is the wage.

Characteristic

1. It is a human factor.
2. One cannot store labour.
3. No two types of labour are the same.

Types of Labor

1. Unskilled
2. Semi-skilled
3. Skilled
4. Professional

Capital

Capital refers to all manmade resources used in the production process. It is a produced factor of production. It includes factories, machinery, tools, equipment, raw materials, wealth etc.

The payment for capital is interest.

Characteristics

1. Capital is a manmade factor of production.
2. It is mobile.
3. It is a passive factor of production.

Types of Capital

1. Fixed

2. Working

3. Venture

Entrepreneur

An entrepreneur is a person who brings other factors of production in one place. He uses them for the production process. He is the person who decides

1. What to produce

2. Where to produce

3. How to produce

A person who takes these decisions along with the associated risk is an entrepreneur.

The payment for land is profit.

Characteristics

1. He has imagination.

2. He has great administrative power.

3. An entrepreneur must be a man of action.

4. An entrepreneur must have the ability to organize.

5. He should be a knowledgeable person.

6. He must have a professional approach.

2.

Law of Variable Proportions

The Law of Variable Proportions or Returns to a Factor plays an important role in the study of the Theory of Production. In this article, we will look at the meaning, explanation, *stages*, *significance*, and reasons behind the operation of the Law of Variable Proportions.

Law of Variable Proportions or Returns to a Factor

This law exhibits the short-run production functions in which one factor varies while the others are fixed.

Also, when you obtain extra output on applying an extra unit of the input, then this output is either equal to or less than the output that you obtain from the previous unit.

The Law of Variable Proportions concerns itself with the way the output changes when you increase the number of *units* of a variable factor. Hence, it refers to the effect of the changing factor-ratio on the output.

In other words, the law exhibits the relationship between the units of a variable factor and the amount of output in the short-term. This is assuming that all other factors are constant. This relationship is also called returns to a variable factor.

The law states that keeping other factors constant, when you increase the variable factor, then the total product initially increases at an increases rate, then increases at a diminishing rate, and eventually starts declining.

Why is it called the Law of Variable Proportions?

As one input varies and all others remain constant, the factor ratio or the factor proportion varies. Let's look at an example to understand this better:

Let's say that you have 10 acres of land and 1 unit of *labour for production*. Therefore, the land-labour ratio is 10:1. Now, if you keep the land constant but increase the units of labour to 2, the land-labour *ratio* becomes 5:1.

Therefore, as you can see, the law analyses the effects of a change in the factor ratio on the amount of out and hence called the Law of Variable Proportions.

In this example, the land is the fixed factor and labour is the variable factor. The table shows the different amounts of output when you apply different

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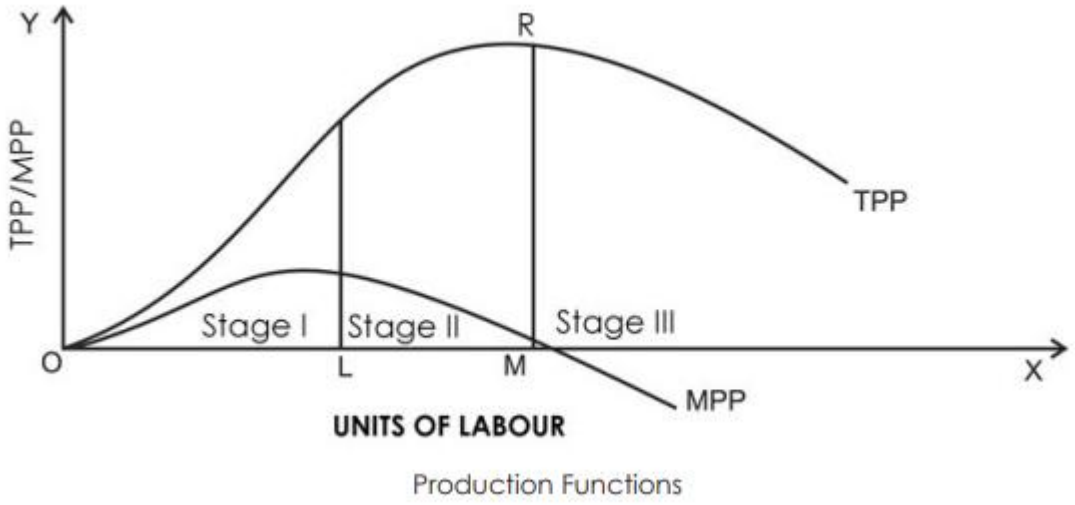
Law of Variable Proportions Explained

Let's understand this law with the help of another example:

Fixed Factor : Land (Acres)	Variable Factor: Land (Units)	TPP (Total Physical Product) (Quantity)	MPP (Marginal Physical Product) (Quantity)	
1	0	0	-	
1	1	2	2	Stage I
1	2	6	4	
1	3	12	6	
1	4	16	4	Stage II
1	5	18	2	
1	6	18	0	
1	7	14	-4	Stage III
1	8	8	-6	

In this example, the land is the fixed factor and labour is the variable factor. The table shows the different amounts of output when you apply different units of labour to one acre of land which needs fixing.

The following diagram explains the law of variable proportions. In order to make a simple presentation, we draw a Total Physical Product (TPP) curve and a Marginal Physical Product (MPP) curve as smooth curves against the variable input (labour).



Production Functions

Three Stages of the Law

The law has three stages as explained below:

7. Stage I – The TPP increases at an increasing rate and the MPP increases too. The MPP increases with an increase in the units of the variable factor. Therefore, it is also called the stage of increasing returns. In this example, the Stage I of the law runs up to three units of labour (between the points O and L).

8. Stage II – The TPP continues to increase but at a diminishing rate. However, the increase is positive. Further, the MPP decreases with an increase in the number of units of the variable factor. Hence, it is called the stage of diminishing returns. In this example, Stage II runs

between four to six units of labour (between the points L and M). This stage reaches a point where TPP is maximum (18 in the above example) and MPP becomes zero (point R).

9. Stage III – Now, the TPP starts declining, MPP decreases and becomes negative. Therefore, it is called the stage of negative returns. In this example, Stage III runs between seven to eight units of labour (from the point M onwards).
10.

Significance of the three stages

Stage I

A producer does not operate in Stage I. In this stage, the marginal product increases with an increase in the variable factor.

Therefore, the producer can employ more units of the variable to efficiently utilize the fixed factors. Hence, the producer would prefer to not stop in Stage I but will try to expand further.

Stage III

Producers do not like to operate in Stage III either. In this stage, there is a decline in total product and the marginal product becomes negative.

In order to increase the output, producers reduce the amount of variable factor. However, in Stage III, he incurs higher costs and also gets lesser revenue thereby getting reduced profits.

Stage II

Any rational producer avoids the first as well as third stages of production. Therefore, producers prefer Stage II – the stage of diminishing returns. This stage is the most relevant stage of operation for a producer according to the law of variable proportions.

2.2 Returns to Scale

We know now that the law of diminishing returns discusses the relationship between factors of production and production output. However, remember that it operates within the boundaries of the short run. What actually happens in the long run? Let us look at returns to scale and Cobb Douglas Production Function.

Returns To Scale

It is important to realize that the study of production completely differs according to the time frame. Recollect that we take the help of the *law of diminishing returns* to study production in the short run, whereas in the long run, the returns to scale are at the helm.

Again, the long run is a long enough period in which we can alter both fixed and variable factors. Thus, in the long run, we aim to study the effect of the changes in all the inputs on the production output.

However, these changes are not random. All the factors are increased or decreased together. This is also known as changes in scale, hence the name return to scale.

Thus, in the long run, we proportionately vary the inputs and observe the relative change in production. Of course, the return to scale can be of three types- increasing, decreasing and constant.

Constant Returns to Scale

For constant returns to scale to occur, the relative change in production should be equal to the proportionate change in the factors.

For example, if all the factors are proportionately doubled, then constant returns would imply that the production output would also double. Interestingly, the production function of an economy as a whole exhibits close characteristics of constant returns to scale.

Also, studies suggest that an individual firm passes through a long phase of constant return to scale in its lifetime. Lastly, it is also known as the linear homogeneous production function.

Increasing Returns to Scale

Here, the proportionate increase in production is greater than the increase in inputs. Note that upon expansion, a firm experiences increasing returns to scale. The indivisibility of factors is another reason for this.

Some factors are available in large units, such that they are completely suitable for large-scale production. Evidently, if all the factors are perfectly divisible then there might be no increasing returns. Further, specialization of land and machinery can be another reason.

Decreasing Returns to Scale

An incidence of decreasing returns to scale would mean that the increase in output is less than the proportionate increase in the input. Generally, this happens when a firm expands all its inputs, especially a large firm.

When the firm expands to a very large size, it becomes difficult to manage it with the same efficiency as before. Hence, the increasing complexity in management, coordination, and control eventually leads to decreasing returns.

3.

Economies and Diseconomies of Scale

When we talk about the scale of *production* of a firm, we often hear about the fact that large-scale production, usually, helps in reducing the cost of production. Economies of scale refer to these reduced costs per unit arising due to an increase in the total output. Diseconomies of scale, on the other hand, occur when the output increases to such a great extent that the cost per unit starts increasing. In this article, we will look at the internal and external, diseconomies and economies of scale.

Internal economies – economies of production that the firm accrues when it increases the output leading to a drop in the cost of production. These arise due to endogenous factors like entrepreneurial efficiency, talents of the **management** team, type of machinery, etc. These economies arise within the firm and help the firm only.

External economies – these are the benefits that each member firm of the industry accrues due to the expansion of the entire industry.

Internal Diseconomies and Economies of Scale

While studying returns to scale, we observed that they increase during the initial stages, remain constant for a while, and then start decreasing. The reason is simple – initially, the firm enjoys internal economies of scale and after a certain limit, it suffers from internal diseconomies of scale. Let's look at the types of economies and diseconomies:

Technical

Large-scale production is linked to technical economies. When a firm increases its scale of operations, it needs to use a more specialized and efficient form of capital equipment and machinery. Such machinery helps to produce larger outputs at a lower unit cost.

Further, as the scale of production increases and the amount of labor and other factors becomes larger, the firm manages to reduce costs by introducing a degree of division of labor and specialization.

However, beyond a certain point, the firm experiences diseconomies of scale. This happens because after reaching a large enough output, the firm utilizes almost all possibilities of the division of labor and employment of efficient machinery.

Post this, any increase in the size of the plant causes the costs to rise. When the scale of operations becomes too large, the management finds it more difficult to control and coordinate the operations.

Managerial

As the output increases, the firm can apply the division of labor to the management as well. For example, the production manager can look after production, the sales manager can look after sales, etc. When the scale of production increases further, the firm divides each department into sub-departments like sales is divided into advertising, exports, and service.

Thus helps in increasing the efficiency and productivity of the management team since a specialist manages each sub-department. Further, the firm has the option to decentralize decision-making authority enhancing the efficiency further. Therefore, specialized management allows the firm to reduce managerial costs.

However, as the firm increases its scale of operations beyond a certain limit, the management finds it difficult to control and coordinate between departments. This leads to managerial diseconomies.

Commercial

As a firm increases its volume of production, it requires large amounts of raw material and components. Hence, it places a bulk order for such material and components and enjoys discounted pricing for them.

Economies are also achieved during sales. If the sales staff is working under-capacity, then the firm can sell additional output at little extra cost.

Further, as the scale of production increases, the advertising cost per unit fall. Hence, the firm benefits from economies of advertisingtoo. After an optimum level, these economies start becoming diseconomies though.

Financial

When a firm wants to raise finance, a large-scale firm has many benefits like:

Better security to bankers

Well-known

Can raise finance at lower costs, etc.

However, after the optimum scale of production, the financial costs rise faster due to the increased dependence on external finances.

Risk-bearing

A firm enjoys the economies of risk-bearing if it has a large-scale operation with diverse and multi-production capabilities. However, if the diversification increases the economic disturbances rather than covering them, then the risk increases.

External Diseconomies and Economies of Scale

External diseconomies and economies of scale are very important to a firm. These are a result of the expansion of output of the entire industry and not limited to an individual firm. They are available to one or more firms in the following forms:

Cheaper Raw materials and Capital Equipment

At times, the expansion of an industry results in new and cheaper sources of raw material, machinery, and other capital equipment. It also results in an increased demand for the various types of materials and equipment required by the industry.

Hence, such materials/equipment can be purchased from other industries on a large scale. This, eventually, leads to a lower cost of production and lower price. Therefore, firms using these materials/equipment get them at lower prices.

Technological External Economies

Usually, when an entire industry expands, new technical knowledge is discovered leading to new and improved machinery for the said industry. This changes the technological coefficient of production and enhances the productivity of the firms in the industry. Hence, the cost of production reduces.

Development of Skilled Labor

As the industry expands, the labor gets accustomed to managing various production processes and learns from the experience. This increases the number of skilled workers which in turn has a favorable effect on the levels of productivity.

Growth of Ancillary Industries

When a certain industry expands, many ancillary industries start specializing in the production of raw materials, tools, machinery, etc. These ancillary industries offer the materials/machinery at a low price.

Similarly, some ancillary industries also start processing industrial waste and create a useful product out of it. Overall, it leads to a lower cost of production.

Better Transportation and Marketing Facilities

An expanding industry, usually, results in better transportation and marketing networks. These aspects help reduce the cost of production in the firms from the industry.

It is important to note that, certain disadvantages can neutralize the advantages of the expansion of industry and cease the external economies of scale. These are external diseconomies. When an industry expands, the demand for certain materials and skilled labor increases.

If these factors are in short supply, then their prices can increase. Further, the geographical concentration of firms from the industry can lead to higher transportation costs, marketing costs, pollution control costs, etc.

Types of Costs

Fixed Costs (FC) The costs which don't vary with changing output. *Fixed costs* might include the cost of building a factory, insurance and legal bills. Even if your output changes or you don't produce anything, your fixed costs stay the same. In the above example, fixed costs are always £1,000.

Variable Costs (VC) Costs which depend on the output produced. For example, if you produce more cars, you have to use more raw materials such as metal. This is a *variable cost*.

Semi-Variable Cost. Labour might be a semi-variable cost. If you produce more cars, you need to employ more workers; this is a variable cost. However, even if you didn't produce any cars, you may still need some workers to look after an empty factory.

Total Costs (TC) = Fixed + Variable Costs

Marginal Costs – Marginal cost is the cost of producing an extra unit. If the total cost of 3 units is 1550, and the total cost of 4 units is 1900. The marginal cost of the 4th unit is 350.

Opportunity Cost – Opportunity cost is the next best alternative foregone. If you invest £1million in developing a cure for pancreatic cancer, the opportunity cost is that you can't use that money to invest in developing a cure for skin cancer.

Economic Cost**.** Economic cost includes both the actual direct costs (accounting costs) plus the opportunity cost. For example, if you take time off work to a training scheme. You may lose a weeks pay of £350, plus also have to pay the direct cost of £200. Thus the total economic cost = £550.

Accounting Costs – this is the monetary outlay for producing a certain good. Accounting costs will include your variable and fixed costs you have to pay.

Sunk Costs**.** These are costs that have been incurred and cannot be recouped. If you left the industry, you could not reclaim sunk costs. For example, if you spend money on advertising to enter an industry, you can never claim these costs back. If you buy a machine, you might be able to sell if you leave the industry. See: *Sunk cost fallacy*

Avoidable Costs. Costs that can be avoided. If you stop producing cars, you don't have to pay for extra raw materials and electricity. Sometimes known as an escapable cost.

Explicit costs – these are costs that a firm directly pays for and can be seen on the accounting sheet. Explicit costs can be variable or fixed, just a clear amount.

Implicit costs – these are opportunity costs, which do not necessarily appear on its balance sheet but affect the firm. For example, if a firm used its assets, like a printing press to print leaflets for a charity, it means that it loses out on revenue from producing commercial leaflets.

Market Failure

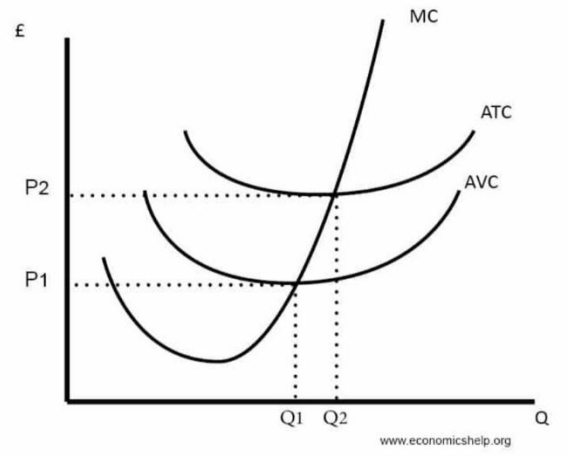
11. Social Costs**.** This is the total cost to society. It will include the private costs plus also the external cost (cost incurred by a third party). May also be referred to as 'True costs'

12. External Costs**.** This is the cost imposed on a third party. For example, if you smoke, some people may suffer from passive smoking. That is the external cost.

13. Private Costs. The costs you pay. e.g. the private cost of a packet of cigarettes is £6.10

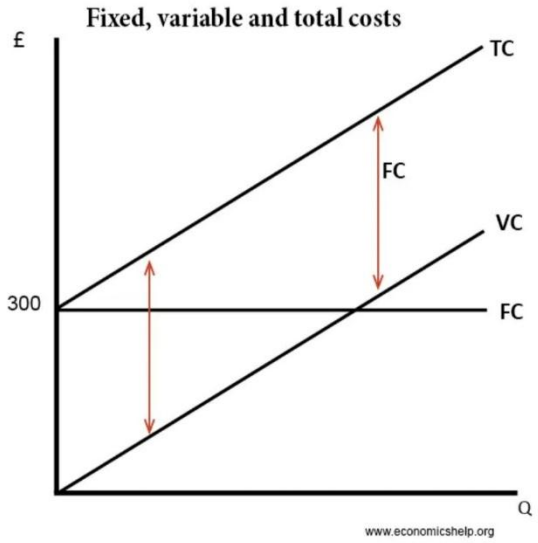
14. Social Marginal Cost. The total cost to society of producing one extra unit. Social Marginal Cost (SMC) = Private marginal cost (PMC) + External marginal Cost (XMC)

Average Cost Curves



- ATC (Average Total Cost) = Total Cost / quantity
- AVC (Average Variable Cost) = Variable cost / quantity
- MC = Marginal cost.
- AFC (Average Fixed Cost) = Fixed cost / quantity

Total costs



Total cost (TC) = Variable cost (VC) + fixed costs (FC)

Module 5 Market Structure and Price Determination

1.

Meaning of the Term 'Market':

In ordinary sense, market means a place where goods are bought and sold. But, to an economist, the term *'market'* does not refer to a place. In economics, market refers to a group of buyers and sellers dealing in a particular commodity (e.g., gold market, oil market, car market, fruit market, etc.).

A market is thus a trading zone where buyers and sellers are in such close contact that a single price for commodities of uniform quantity prevails. A market is created whenever sellers of a good or service are brought into contact with the buyers and a means of exchange is made.

The medium of exchange may be money or goods itself (i.e., barter). Whatever the medium of exchange, exchange agreements between buyers and sellers are reached through the operation of the forces of demand and supply.

Market, in economics, may thus be defined as any process of exchange between buyers and sellers. Thus, a market is an arrangement or an institution that enables buyers and sellers to get information and to do business or arrange exchange of goods with each other. Pindyck and Rubin-Feld say that **"A market is a collection of buyers and sellers that interact, resulting in the possibility of exchange."**

Classification of Market:

Broadly, a market is classified into product market where goods are transacted, and a factor market where inputs are bought and sold. A goods market exists for both durable and nondurable and perishable goods.

A. According to the extent of area covered, a market is classified into local, national, and international. In a local market, perishable goods are transacted. A uniform price prevails over the local market.

There are some goods bought and sold almost at the same price (barring taxes) all over the country the markets for these commodities are national. Gold market is international in character in the sense that buyers and sellers all over the world come in contact with each other.

B. Marshall has classified market in accordance with the time period.

He considers four kinds of market:

(i) The very short period market

(ii) The short period market

(iii) The long period market

(iv) The very long period market.

It is to be remembered that the**'period'** is not a calendar time. Above all, it depends on the nature of business and the nature of the commodity. A particular business may not have a long run view.

C:Market may be perfect or imperfect. In a perfect market quite a large number of firms compete in the supply of a single product. But in an imperfect competition, number of sellers may not necessarily be large. Markets can also be classified according to the nature of the competition among buyers and sellers. We may have pure or perfect competition, monopoly, monopolistic competition, oligopoly, etc.

Differences between these four markets classified on the basis of degree of competition can be presented in a tabular form (Fig. 4.1).

Perfect competition is characterized by the following main features:

(i) There are large numbers of sellers

(ii) Sellers and buyers are price-takers

(iii) Products produced are homogeneous

(iv) There is freedom of entry and exit.

Monopoly market exists when

(i) There exists only one seller producing a commodity that has no close substitutes in the market

(ii) The monopolist behaves as a price-maker

(iii) Entry is completely blocked.

Monopolistic competition is an admixture of both perfect competition and monopoly. It combines the features of these markets. In this sense, monopolistic competition is a realistic market. Perfect competition and monopoly, in the true sense, are not found in reality.

Monopolistic competition has the following characteristics:

(i) There exist several or many sellers

(ii) Sellers sell differentiated products, that is, product of one seller is a fairly close substitute for those of other sellers

(iii) Sellers have some influence over the price of their products

iv) There is freedom of entry and exit

An oligopoly market has the following attributes:

(i) There exists small number of sellers

(ii) Sellers may sell homogeneous or differentiated products

(iii) Each oligopoly seller considers the effect of his action (namely, price) on other rival sellers (thus, sellers recognize their interdependence)

(iv) Entry is restricted

In other words, if any of the features of perfect competition are found to be absent then the market is to be called an imperfect one.

There are several forms of imperfect competition:

Monopoly, monopolistic competition, and oligopoly.

Market structures thus range from the theoretical extremes of perfect competition and monopoly. In practice, we focus on the levels of market imperfection lying between these extremes. We have chosen two parameters—the number of firms in a market and the influence of any one firm on the market

If the number of firms in any market is too high (too low), and if the influence of any one firm on the market is virtually nil (or too high), the market is said to be a perfectly competitive one (monopoly). Monopolistic competition and oligopoly lie between these market forms.

Criteria for the Classification of Markets:

Three criteria for the classification of markets are often suggested.

These are:

(i) Substitutability of products criterion

(ii) Interdependence criterion

(iii) Ease of entry criterion

The first criterion takes into account the existence and closeness of substitutes while the second criterion takes into account the reactions of competitive sellers. This criterion is closely related to the number of firms within the industry and the degree of product differentiation. The last criterion is the condition of entry which takes into account the *'ease of entry'* in various markets.

2. Price Determination under Perfect Competition

Under perfect competition, many factors influence the determination of the price of goods. In this *article*, we will look at the equilibrium of the industry and the equilibrium of a firm as important factors behind price determination under perfect competition.

Equilibrium of the Industry under Perfect Competition

In economic terms, an industry consists of many independent firms. Each firm has a number of factories, farms or mines, as required. Each such firm in industry produces a homogeneous *product*. Equilibrium of the industry happens when the total output of the industry is equal to the total demand. In such a scenario, the prevailing price of a commodity is its equilibrium price.

We know that under competitive conditions, the interaction of *demand* and supply determines the equilibrium price as shown below:

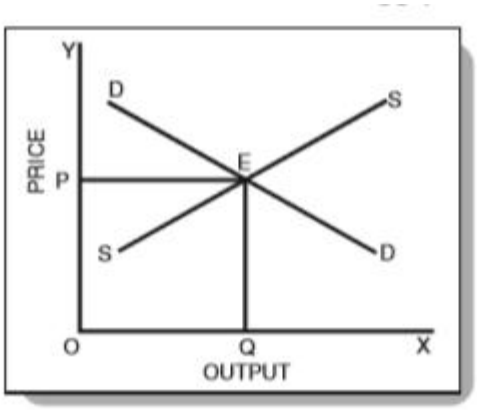


Fig. 1 : Equilibrium of a competitive industry

In Fig. 1 above, OP is the *equilibrium price*. Further, OQ is the equilibrium quantity sold at that price. Now, the equilibrium price is the price at which both the demand and supply are equal. In other words, no buyer, who wanted to buy at that price, goes dissatisfied and no seller, who wanted to sell his goods at that price, goes dissatisfied either.

Note that with the demand remaining the same, if the price is higher or lower than OP, then the market is not in equilibrium. Also, if goods are lesser or higher than the demand, the equilibrium is not attained.

Equilibrium of the Firm under Perfect Competition

A firm is in *equilibrium* when it maximizes its profits. Hence, the output that offers maximum profit to a firm is the equilibrium output. When a firm is in equilibrium, there is no reason to increase or decrease the output.

In a competitive *market*, firms are price-takers. The reason being the presence of a large number of firms who produce homogeneous products. Therefore, firms cannot influence the price in their individual capacities. They have to follow the price determined by the industry.

The following figure shows a firm's demand curve under perfect competition:

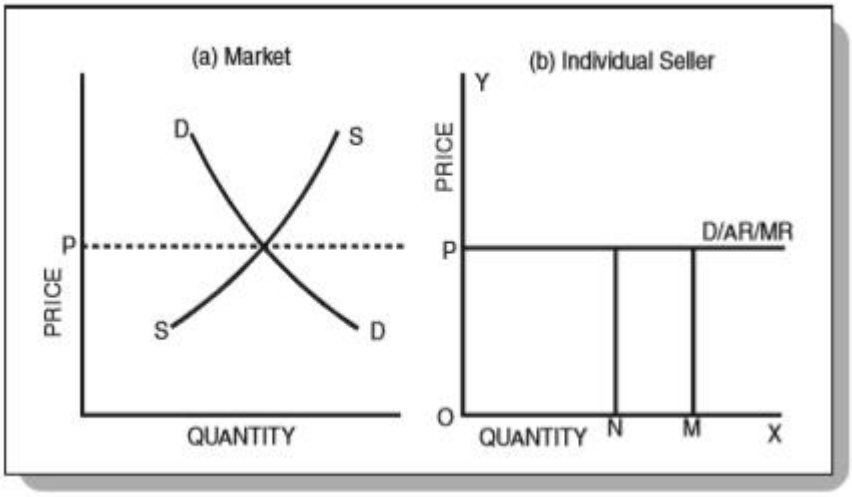


Fig. 2 : The firm's demand curve under perfect competition

From Fig. 2 above, you can see that the industry price, OP, is fixed throughout the interaction of demand and supply of the *industry*. Firms have to accept this price. Hence, they are price-takers and not price-makers. Hence, they cannot increase or decrease the price OP.

Therefore, the line P acts as a demand curve for such firms. Hence, in perfect competition, the demand curve of an individual firm is a horizontal line at the level of the industry-set market price. Firms have to choose the level of output that yields maximum *profit*.

Conditions for the equilibrium of a firm

To attain an equilibrium position, a firm must satisfy the following two conditions:

They must ensure that the marginal revenue is equal to the marginal cost (MR = MC).

1. If MR > MC, the firm has an incentive to expand its production and sell additional units.
2. If MR < MC, the firm must reduce the output since additional units add more cost than revenue.
3. The firm gets maximum profits only when MR = MC.

1. The MC curve must have a positive slope and cut the MR curve from below.

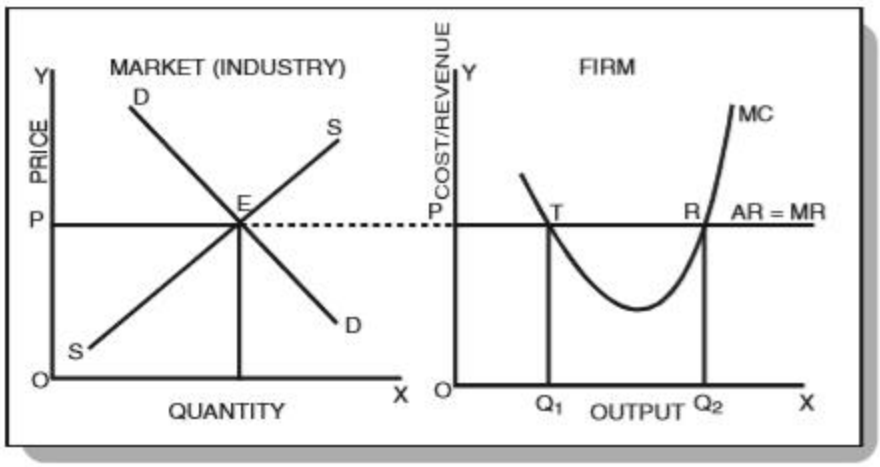


Fig. 3 : Equilibrium position for a firm under perfect competition

In Fig. 3 above, DD is the demand curve and SS is the supply curve. They equilibrate at point E and set the market price as OP. Under perfect competition, firms adopt OP as the industry price

and consider the P-line as the demand curve or AR – average revenue curve (perfectly elastic at P).

Since all units are equally priced, the MR curve is a horizontal line and is equal to the AR line. Observe that the curve MC cuts the MR curve at two points – T and R. At point T, the MC curve cuts the MR curve from above whereas at point R it cuts the MR curve from below. Therefore, according to the conditions of equilibrium of a firm, point R is the point of equilibrium and OQ_2 is the equilibrium level of output.

Monopolistic Competition

In monopolistic competition, the market has features of both perfect competition and *monopoly*. A monopolistic competition is more common than pure competition or pure monopoly. In this *article*, we will understand monopolistic competition and look at the features, price-output determination, and conditions for equilibrium.

Price-output determination under Monopolistic Competition: Equilibrium of a firm

In monopolistic competition, since the product is differentiated between firms, each firm does not have a perfectly elastic demand for its products. In such a market, all firms determine the price of their own products. Therefore, it faces a downward sloping demand curve. Overall, we can say that the *elasticity of demand* increases as the differentiation between products decreases.

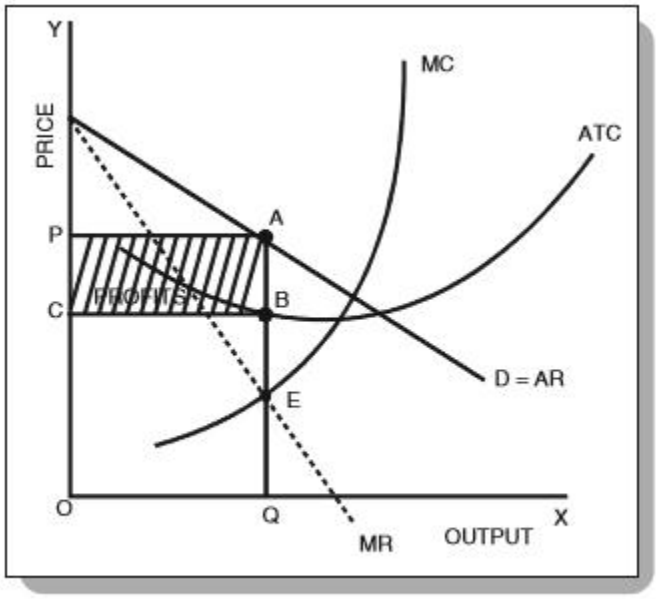


Fig. 1 : Short run equilibrium of a firm in monopolistic competition : Super-normal profits

Fig. 1 above depicts a firm facing a downward sloping, but flat *demand* curve. It also has a U-shaped short-run cost curve.

Conditions for the Equilibrium of an individual firm

The conditions for price-output determination and equilibrium of an individual firm are as follows:

2. MC = MR
3. The MC curve cuts the MR curve from below.

In Fig. 1, we can see that the MC curve cuts the MR curve at point E. At this point,

4. Equilibrium price = OP and
5. Equilibrium output = OQ

Now, since the per unit cost is BQ, we have

1. Per unit super-normal profit (price-cost) = AB or PC.
2. Total super-normal profit = APCB

The following figure depicts a firm earning losses in the short-run.

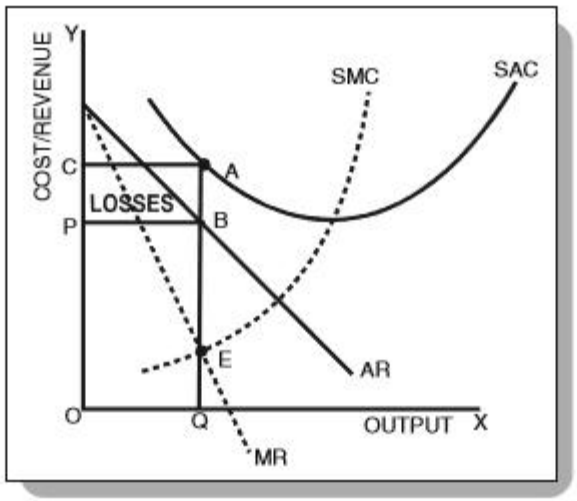


Fig. 2 : Short run equilibrium of a firm in Monopolistic Competition – With losses

From Fig. 2, we can see that the per unit cost is higher than the price of the firm. Therefore,

1. AQ > OP (or BQ)
2. Loss per unit = AQ – BQ = AB
3. Total losses = ACPB

Long-run equilibrium

If firms in a monopolistic competition earn super-normal profits in the short-run, then new firms will have an incentive to enter the *industry*. As these firms enter, the profits per firm decrease as the total demand gets shared between a larger number of firms. This continues until all firms earn only normal profits. Therefore, in the long-run, firms, in such a market, earn only normal profits.

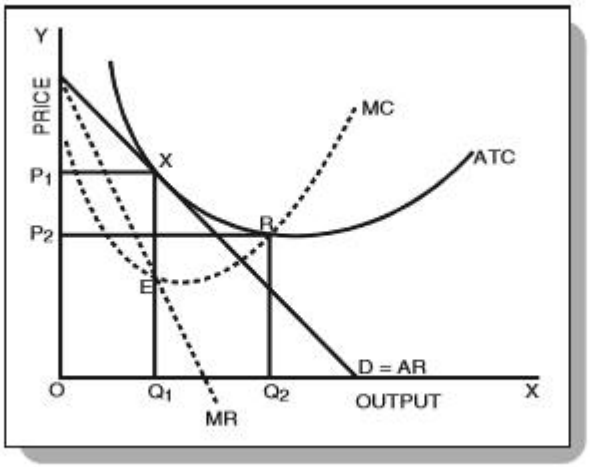


Fig. 3 : The long-term equilibrium of a firm in monopolistic competition

As we can see in Fig. 3 above, the average revenue (AR) curve touches the average cost (ATC) curve at point X. This corresponds to quantity Q_1 and price P_1. Now, at equilibrium (MC = MR), all super-normal profits are zero since the average revenue = average costs. Therefore, all firms earn zero super-normal profits or earn only normal profits.

It is important to note that in the long-run, a firm is in an equilibrium position having excess capacity. In simple words, it produces a lower quantity than its full capacity. From Fig. 3 above,

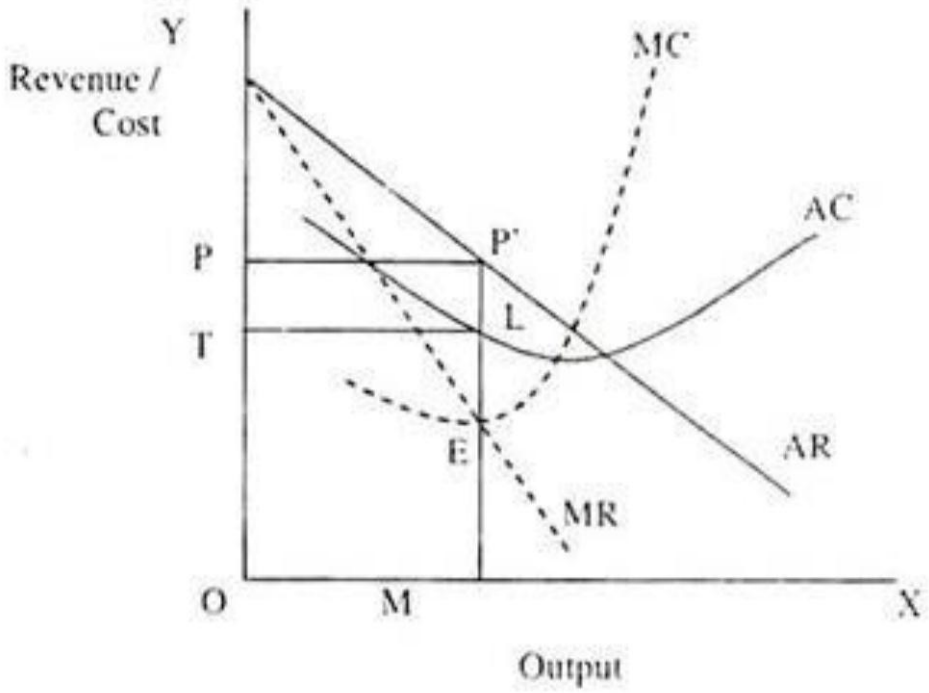
we can see that the firm can increase its output from Q_1 to Q_2 and reduce average costs. However, it does not do so because it reduces the average revenue more than the average costs. Hence, we can conclude that in monopolistic competition, firms do not operate optimally. There always exists an excess capacity of production with each firm.

In case of losses in the short-run, the firms making a loss will exit from the market. This continues until the remaining firms make normal profits only.

Price and Output Determination under Monopoly

A firm under monopoly faces a downward sloping demand curve or average revenue cum. Further, in monopoly, since average revenue falls as more units of output are sold, the marginal revenue is less than the average revenue. In other words, under monopoly the MR curve lies below the AR curve.

The equilibrium level in monopoly is that level of output in which marginal revenue equals marginal cost. The producer will continue producer as long as marginal revenue exceeds the marginal cost. At the point where MR is equal to MC the profit will be maximum and beyond



this point the producer will stop producing.

It can be seen from the diagram that up till OM output, marginal revenue is greater than marginal cost, but beyond OM the marginal revenue is less than marginal cost. Therefore, the monopolist

will be in equilibrium at output OM where marginal revenue is equal to marginal cost and the profits are the greatest.

The corresponding price in the diagram is MP or OP. It can be seen from the diagram at output OM, while MP' is the average revenue, ML is the average cost, therefore, P'L is the profit per unit. Now the total profit is equal to P'L (profit per unit) multiply by OM (total output). In the short run, the monopolist has to keep an eye on the variable cost, otherwise he will stop producing.

In the long run, the monopolist can change the size of plant in response to a change in demand. In the long run, he will make adjustment in the amount of the factors, fixed and variable, so that MR equals not only to short run MC but also long run MC.

3.1 **Cartel**

A cartel is an organization created from a formal agreement between a group of producers of a good or service to regulate supply in order to regulate or manipulate prices. In other words, a cartel is a collection of otherwise independent businesses or countries that act together as if they were a single producer and thus can fix prices for the goods they produce and the services they render, without competition.

> A cartel is a collection of independent businesses or organizations that collude in order to manipulate the price of a product or service.
>
> Cartels are competitors in the same industry and seek to reduce that competition by controlling the price in agreement with one another.
>
> Tactics used by cartels include reduction of supply, price-fixing, collusive bidding, and market carving.

3.2 **Trust**

A trust is a fiduciary relationship in which one party, known as a trustor, gives another party, the trustee, the right to hold title to property or assets for the benefit of a third party, the beneficiary. Trusts are established to provide legal protection for the trustor's assets, to make sure those assets are distributed according to the wishes of the trustor, and to save time, reduce paperwork and, in some cases, avoid or reduce inheritance or estate taxes. In finance, a trust can also be a type of closed-end fund built as a public limited company.

3.3 **Company**

A company is a legal entity formed by a group of individuals to engage in and operate a business—commercial or industrial—enterprise. A company may be organized in various ways for tax and financial liability purposes depending on the corporate law of its jurisdiction. The line of business the company is in will generally determine which business structure it chooses such as a **partnership**, **proprietorship**, or **corporation**. These structures also denote the ownership structure of the company.

They can also be distinguished between private and public companies. Both have different ownership structures, regulations, and financial reporting requirements.

How a Company Works

A company is essentially an artificial person—also known as corporate personhood—in that it is an entity separate from the individuals who own, manage, and support its operations. Companies are generally organized to earn a profit from business activities, though some may be structured as nonprofit charities. Each country has its own hierarchy of company and corporate structures, though with many similarities.

A company has many of the same legal rights and responsibilities as a person does, like the ability to enter into contracts, the right to sue (or be sued), borrow money, pay taxes, own assets, and hire employees.

3.4 **Merger**

A merger is an agreement that unites two existing companies into one new company. There are several types of mergers and also several reasons why companies complete mergers. Mergers and acquisitions are commonly done to expand a company's reach, expand into new segments, or gain market share. All of these are done to increase shareholder value. Often, during a merger, companies have a no-shop clause to prevent purchases or mergers by additional companies.

How a Merger Works

A merger is the voluntary fusion of two companies on broadly equal terms into one new legal entity. The firms that agree to merge are roughly equal in terms of size, customers, scale of operations, etc. For this reason, the term "merger of equals" is sometimes used. Acquisitions, unlike mergers, or generally not voluntary and involve one company actively purchasing another.

Mergers are most commonly done to gain market share, reduce costs of operations, expand to new territories, unite common products, grow revenues, and increase profits—all of which should benefit the firms' shareholders. After a merger, shares of the new company are distributed to existing shareholders of both original businesses.

3.5 **Amalgamation**

An amalgamation is a combination of two or more companies into a new entity. Amalgamation is distinct from a **merger**because neither company involved survives as a legal entity. Instead, a completely new entity is formed to house the combined assets and liabilities of both companies.

The term amalgamation has generally fallen out of popular use in countries like the United States, being replaced with the terms merger or consolidation. But it is still commonly used in countries like India.

Understanding Amalgamations

Amalgamation typically happens between two or more companies engaged in the same line of business or those that share some similarity in operations. Companies may combine to diversify their activities or to expand their range of services.

Since two or more companies are merging together, an amalgamation results in the formation of a larger entity. The transferorcompany—the weaker company—is absorbed into the stronger transferee company, thus forming an entirely different company. This leads to a much stronger and larger customer base, and also means the newly formed entity has more assets.

Amalgamations generally take place between larger and smaller entities, where the larger one takes over smaller firms.

Amalgamation Procedure

The terms of amalgamation are finalized by the board of directors of each company. The plan is prepared and submitted for approval. For instance, the High Court and Securities and Exchange Board of India (SEBI) will approve the shareholders of the new company when a plan is submitted.

The new company officially becomes an entity and issues shares to shareholders of the transferor company. The transferor company is liquidated, and all assets and liabilities are taken over by the transferee company.

Example of Amalgamation

In November 2015, drug firm Natco Pharma received shareholders' approval for the amalgamation of its subsidiary Natco Organics into the company.

Module 6 Factor Pricing

1.Personal Distribution and Functional Distribution

The term ‘distribution’ in economics refers to personal distribution and functional distribution of income. Personal distribution relates to the forces governing the distribution of income and wealth among the various individuals of a country. Under personal distribution, we study the pattern of the distribution of national income and the shares received by the different classes.

What is the share of the wage-earning class, of the entire class, and of the entrepreneurial class in the national income?

Why is the share of the wage-earning class in the national income lower than the other classes?

Why is the wage of one person higher (or lower) than the other?

Why is the rent of one piece of land or house higher (or lower) than the other?

These and other similar problems are studied under personal distribution of income. In other words, under personal distribution of income we study the problem of inequality of income and wealth, its effects, and measures to remove or lessen inequalities.

In the words of Jan Pen:
“Personal distribution (or: the ‘size distribution of income’) relates to individual persons and their incomes. The way in which that income was acquired often remains in the background. What matters is how much someone earns, not so much whether that income consists of wage, interest, profit, pension or whatever. And further special attention is paid to income recipients as a collective body, in which regular patterns are sought.”

Functional distribution or ‘factor share distribution’ explains the share of total national income received by each factor of production. In other words, it relates to the distribution of rewards for the services of the factors of production. Rent, wages, interest and profit are the rewards for the services of land, labour, capital and organisation respectively.

Algebraically, it can be stated as: P = f (A, B, C, D,), where the total output P is a function ‘f’ of A land, B labour, C capital, and D organisation.

Thus functional distribution studies the forces underlying the determination of the prices and shares of the various factors of production.

To quote Jan Pen again:
“In functional distribution, we are no longer concerned with individuals and their individual incomes, but with factors of production: labour, capital, land and something else that may best be called ‘entrepreneurial activity’. The theory examines how these factors of production are remunerated. It is primarily concerned with the price of a unit of labour, a unit of capital, a unit of land, and being therefore an extension of price theory. It is sometimes called the theory of factor prices.”

Despite these apparent differences between personal distribution and functional distribution, there is a close relation between the two. The personal distribution in a country is ultimately affected by its functional distribution of income. If the rewards to the factors of production are just and equitable, the distribution of personal income is also just and equitable. As a result, individual incomes are high.

There is great demand for products and services leading to more investment, more employment, and to increased production and national income. Higher personal incomes mean higher standard of living and greater efficiency in production.

On the other hand, if the functional distribution of income is unjust and is based on the exploitation of factors of production, the personal distribution of income is also unjust and inequitable.

As a result, the majority of people will be poor. There will be diminution of economic and social welfare, and loss of peace and prosperity in the country due to a continuous struggle between the rich and the poor.

2 The Marginal Productivity Theory of Distribution

The marginal productivity theory of distribution, as developed by J. B. Clark, at the end of the 19th century, provides a general explanation of how the price (of the earnings) of a factor of production is determined.

In other words, it suggests some broad principles regarding the distribution of the national income among the four factors of production.

According to this theory, the price (or the earnings) of a factor tends to equal the value of its marginal product. Thus, rent is equal to the value of the marginal product (VMP) of land; wages are equal to the VMP of labour and so on. The neo-classical economists have applied the same principle of profit maximisation (MC = MR) to determine the factor price. Just as an entrepreneur maximises his total profits by equating MC and MR, he also maximises profits by equating the marginal product of each factor with its marginal cost.

Assumptions of the Theory:

The marginal productivity theory of distribution is based on the following seven assumptions:

1. Perfect competition in both product and factor markets:

Firstly, the theory assumes the perfect competition in both product and factor markets. It means that both the price of the product and the price of the factor (say, labour) remains unchanged.

2. Operation of the law of diminishing returns:

Secondly, the theory assumes that the marginal product of a factor would diminish as additional units of the factor are employed while keeping other factors constant.

3. Homogeneity and divisibility of the factor:

Thirdly, all the units of a factor are assumed to be divisible and homogeneous. It means that a factor can be divided into small units and each unit of it will be of the same kind and of the same quality.

4. Operation of the law of substitution:

Fourthly, the theory assumes the possibility of the substitution of different factors. It means that the factors like labour, capital and others can be freely and easily substituted for one another. For example, land can be substituted by labour and labour by capital.

5. Profit maximisation:

Fifthly, the employer is assumed to employ the different factors in such a way and in such a proportion that he gets the maximum profits. This can be achieved by employing each factor up to that level at which the price of each is equal to the value of its marginal product.

6. Full employment of factors:

Sixthly, the theory assumes full employment for factors. Otherwise each factor cannot be paid in accordance with its marginal product. If some units of a particular factor remain unemployed, they would be then willing to accept the employment at a price less than the value of their marginal product.

7. Exhaustion of the total product:

Finally, the theory assumes that the payment to each factor according to its marginal productivity completely exhausts the total product, leaving neither a surplus nor a deficit at the end.

Some Key Concepts:

The theory is also based on key certain concepts.

These are the following:

1. MPP:

The first is marginal physical product of a factor. The marginal physical product (MPP) of a factor, say, of labour, is the increase in the total product of the firm as additional workers are employed by it.

2. VMP:

The second concept is value of marginal product. If we multiply the MPP of a factor by the price of the product, we would get the value of the marginal product (VMP) of that factor.

3. MRP:

The third concept is marginal revenue product (MRP). Under perfect competition, the VMP of the factor is equal to its marginal revenue product (MRP), which is the addition to the total revenue when more and more units of a factor are added to the fixed amount of other factors, or MRP = MPP x MR under perfect competition. It is simply MPP multiplied by constant price, as P = MR. [VMP of a factor = MPP of the factor x price of the product per unit, and MRP of a factor=MPP of the factor x MR under perfect competition. So under perfect competition VMP of a factor = MRP of that factor.]

The Essence of the Theory:

The theory states that the firm employs each factor up to that number where its price is equal to its VMP. Thus, wages tend to be equal to the VMP of labour; interest is equal to VMP of capital and so on. By equating VMP of each factor with its cost a profit- seeking firm maximises its total profits. Let us illustrate the theory with reference to the determination of the price of labour, i.e., wages.

Let us suppose that the price of the product is Rs. 5 (constant) and the wages per unit of labour are Rs. 200 (constant). As the number of factors other than labour remain unchanged, wages represent the marginal cost (MC).

Table 12.1: Calculation of MPP, VMP and MRP of a Variable Factor (Labour)

Land	Capital	Labour	Total Product	*MPP* of Labour	*VMP* or *MRP* of Labour	The Wage Rate *AW=MW*
1 unit	1 unit	1 unit	10 units	×	×	Rs. 20
"	"	2 units	16 "	6 units	Rs. 30	"
"	"	3 units	1 unit	5 units	Rs. 25	"
"	"	4 units	25 units	4 units	Rs. 20	"
"	"	5 units	28 "	3 units	Rs. 15	"
"	"	6 units	30 "	2 units	Rs. 10	"

Table 12.1 shows that at 2 or 3 labourers, the VMP or MRP of labour is greater than wages; so the firm can earn more profits by employing an additional labour. But at 5 or 6 labourers, the VMP or MRP of labour is less than wages, so it would reduce the number of labourers. But when it employs 4 labourers, the wage rate (Rs. 20) becomes equal to the VMP or MRP of labour (also Rs. 20). Here the firm gets the maximum profits because its marginal cost of labour (or marginal wage Rs. 12) is equal to its marginal revenue (VMP or MRP, Rs. 20).

Thus, under the assumption of perfect competition a firm employs a factor up to that number at which the price of the factor is just equal to the value of the marginal product (=MRP of the factor). In the same way it can be shown that rent is equal to the VMP of land, interest is equal to the VMP of capital, and so forth.

The theory may now be illustrated diagrammatically. See Fig. 12.2. Here WW is the wage line indicating the constant rate of wages at each level of employment (AW = MW. Here AW is average wage and MW is marginal wage). The VMP line shows the value of marginal product curve of labour, and it goes downwards from left to right indicating diminishing MPP of labour. Fig. 12.2 shows that the firm employs OL number of labourers, because by doing so it equates the MRP of labour with the wage ratio, and makes optimum purchase of labour.

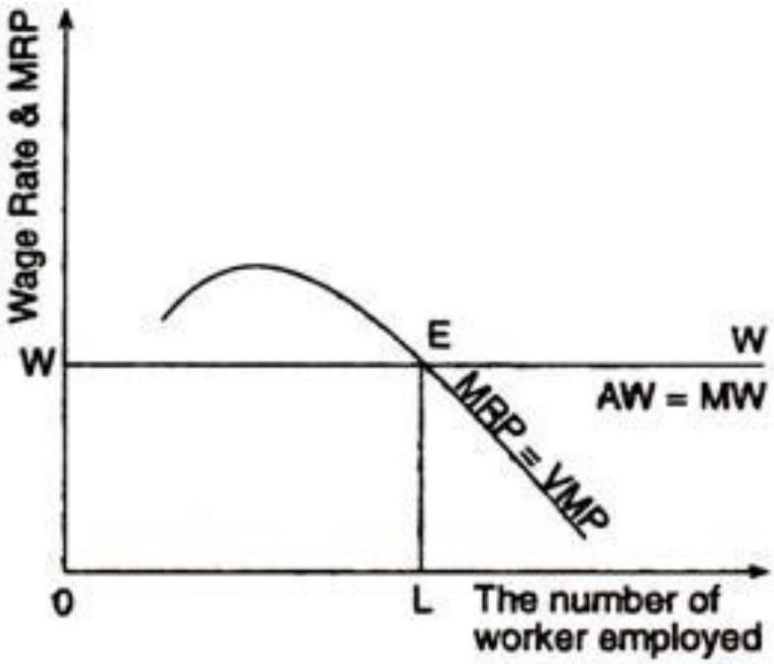


Fig. 12.2. Wage Determination

Criticisms of the Theory:

The marginal productivity theory of distribution has been subjected to a number of criticisms:

1. In determination of marginal product:

Firstly, main product is a joint product— produced by all the factors jointly. Hence the marginal product of any particular factor (say, land or labour) cannot be separately determined. As William Petty pointed out as early in 1662: Labour is the father and active principle of wealth, as lands are the mother.

2. Unrealistic:

It is also shown that the employment of one additional unit of a factor may cause an improvement in the whole of organisation in which case the MPP of the variable factors may increase. In such circumstances, if the factor is paid in accordance with the VMP, the total product will get exhausted before the distribution is completed. This is absurd. We cannot think of such a situation in reality.

3. Market imperfection:

The theory assumes the existence of perfect competition, which is rarely found in the real world. But E. Chamberlin has shown that the theory can also be applied in the case of monopoly and imperfect competition, where the marginal price of a factor would be equal to its MRP (not to its VMP).

4. Full employment:

Again, the assumption of full employment is also unrealistic. Full employment is also a myth, not a reflection of reality.

5. Difficulties of factor substitution:

W. W. Leontief, the Nobel economist, denies the possibility of free substitution of the factors always owing to the technical conditions of production. In some products process, one factor cannot be substituted by another. Moreover organisation or entrepreneurship is a specific factor which cannot be substituted by any other factor.

6. Emphasis on the demand side only:

The theory is one-sided as it ignores the supply side of a factor; it has emphasised only the demand side i.e., the employer's side, hi the opinion of Samuelson, the marginal productivity theory is simply a theory of one aspect of the demand for productive services by the firm.

7. Inhuman theory:

Finally, the theory is often described as 'inhuman' as it treats human and non-human factors in the same way for the determination of factor prices

3.1

Ricardo's Theory of Rent:

The quantity of land is limited, and so is its productiveness, and it is not uniform in quality. If the superior land will not support the population, recourse must be made to inferior lands and the produce is, thus, raised at different costs. The differential advantage of the superior land over the inferior gives rise to Economic Rent. It is plain that the farmer may just as well pay for the superior land as get the inferior land rent free.

Thus, rent arises out of the difference existing in the productiveness of different soils under cultivation at the time for the purpose of supplying the same market, and the amount of rent is determined by the degree of those differences. This is known as Ricardo's Theory of Rent.

According to Ricardo, rent is that portion of the produce of the earth, which is paid to the landlord for the original and indestructible powers of the soil. It is a surplus enjoyed by the super marginal land over the marginal land arising due to the operation of the law of diminishing returns.

Productiveness depends on fertility and convenience of situation. Therefore, Economic Rent in its simplest form is the differential profit that arises in the case of production, owing to differences in natural conditions due to:

(1) Fertility of the soil,

(2) Advantages of situation.

Take, for simplicity, a new country dependent on its own supplies and occupied by a body of settlers. At first we may suppose that there is an abundance of the best land and that it is practically free. In this case only the best land will be used, and the produce will sell so as to just cover (with current wages and profits) the expenses of production. So far, there is no differential profit and, thus, no economic rent.

As population increases the yield from the best land (the methods of cultivation remain the same) will not meet the demand. The relative scarcity raises price, and at this higher price it pays to

resort to inferior land. How the same amount of capital yields different amounts of produce on the two qualities of land; but since all the produce must sell at the same price, a differential profit emerges from the better land.

This constitutes economic rent and the amount of rent is equal to the difference between the value of its produce, and the produce of the second quality with the same expenditure of labour and capital. Thus, Economic Rent exists, if a gift of nature is limited and appropriate and differential profit arises by its use.

The laws of supply and demand, however, explain the operation by which such rent is fixed, for just as the competition of farmers will enable landlords to claim that portion in excess of ordinary profits, so, on the other hand, the competition of landlords renders the exaction of more than this impracticable.

The land margin is made the central point in the Ricardian theory of rent. In Ricardo's law of rent, we have two margins—

(1) Resort to inferior lands leading to extensive margin,

(2) The law of diminishing returns leading to an intensive margin.

The land of the second quality is now said to be land on the margin of cultivation. Land on the margin just pays for the expenses of cultivation, viz., wages and profit on capital, and it yields on surplus for rent. Rent is measured from this point for rent is always the difference between the produce obtained by the employment of the two equal portions of capital and labour upon the land. Of course, cost of transportation must be first deducted. The margin of cultivation is determined by the price of agricultural produce. As the price of this rises, lands of inferior quality will pay for cultivation and, similarly, if the price falls, those lands will fall out of cultivation.

Rents on land of unequal fertility on the assumption that only extensive cultivation is possible:

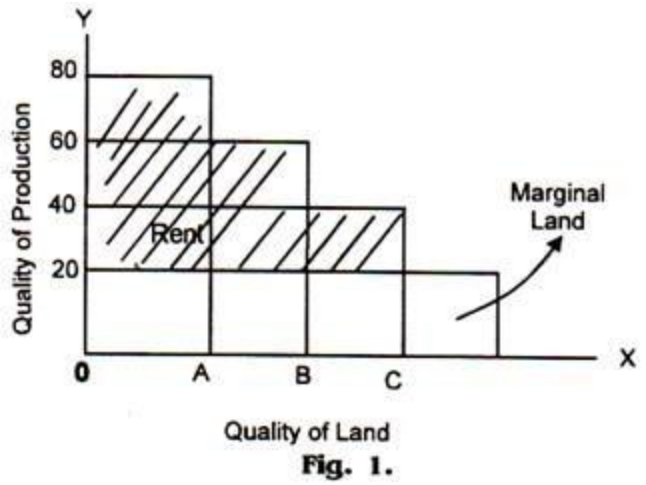


Fig. 1.

Figure above shows the different rents that result when plots of land of different fertility are cultivated extensively. It illustrates graphically how differences in rent arise. We see that, under extensive cultivation only, rents will vary in amount of different pieces of land because the application of the same amounts of labor and capital to different plots will yield different results.

Marginal Land:

We observe that E land is cultivated, but that the return in sufficient only to pay for the labour and capital costs involved. Hence, there is no marginal product attributable to land E and no income for the owner. When returns to producers who use land are sufficient to pay only for labour and capital costs, the land is called marginal or no-rent land. If land is so poor that it will not even pay labour and capital costs, like the F land in our illustration, it is called sub- marginal land. Such land will not be used at all.

An increase in population causes rent to rise for two reasons—firstly, the increased demand for food raises the price of agricultural produce and, secondly, more land must be cultivated to supply the needs of the people. Both causes operate to lower the margin of cultivation and, thus, increase rent.

This is partly counteracted by the importation of supplies at a cheap rate and by agricultural improvements which increase the supply without extending the area of cultivation. We shall better understand the modern theory of rent if we first know the implications of and objection to the Ricardian Theory.

Implications:

(1) Land according to Ricardo is limited in supply and of different grades of fertility.

(2) Rent arises as differential advantage which superior lands possess over the inferior lands.

(3) Rent arise from the operation of the Law of Diminishing Returns.

(4) Rent is a surplus over and above no rent land.

(5) Rent does not enter into price.

Objections against Recardian Theory:

The following are some of the main criticisms of Ricardo's theory:

(i) He restricted rent to land;

(ii) It is simply based on the natural variation of the fertility of different pieces of land;

(iii) He took no account of the fact that there are competing uses for some land, and as a result it is not necessarily the least fertile land that will first go out of cultivation.

Modern Theory of Rent:

Modern economists contend that differences in fertility of land do not form the basis of the general principle of rent. The essential factors of rent are the relative scarcity of the products that land can yield. The scarcity of land is, in fact, derived from the scarcity of its products. Fundamentally speaking, rent is paid because the produce of the land is scarce in relation to its demand. In the face of this scarcity, rent will arise even if all the land in a country is exactly alike.

The contention of the modern writers is that the non- rent marginal land may exist in some cases but it is not fundamental to the emergence of rent. Inferior lands, on the other contrary tend to increase the supply of the produce and, thus, lower rent and if they were discarded, rent would rise due to a decrease in the supply of the produce.

Rent a Surplus of a Residual Element:

Rent is a surplus over and above no-rent land. Ricardo's theory assumes that no-rent land exists. In his words, "There is always some kind for which no rent is paid in the strict sense of the term, i.e., land which yields no return except for the capital and labour spent on it."

As prices must be high enough to cover the cost of growing and marketing the product of the marginal lands, it follows that prices will more than cover the costs on better lands. Thus, in the case of the better lands there is a surplus. If competition is perfect, competition between farmers for the use of the land will force the rent up, until it is equal to this surplus for no man would form the marginal land if he could use more fertile land at a rent less than the surplus.

The surplus is the true economic rent. In other words, economic (or theoretical) rent is the difference in net productiveness between the land in question and land on the margin of cultivation, when the land is put to the best possible use.

Rent as Transfer Earnings:

The four factors of production are capable of being used in any of several enterprises as well as the industry in which they are actually employed. Land is capable of growing different crops of being used building on, labour can be employed on the same type of work in different industries, also organisations and some forms of capital, e.g. buildings, can be used for varying purposes.

The amount of money which any particular unit of any factor could earn in its most remunerative alternative use is sometimes called its Transfer Earnings." The excess which that unit earns in its present employment over its transfer earnings is in the nature of a rent.

3.2 Theories of Wages

1. Wages Fund Theory:

This theory was developed by Adam Smith (1723-1790). His theory was based on the basic assumption that workers are paid wages out of a pre-determined fund of wealth. This fund, he called, wages fund created as a result of savings. According to Adam Smith, the demand for labour and rate of wages depend on the size of the wages fund. Accordingly, if the wages fund is large, wages would be high and vice versa.

2. Subsistence Theory:

This theory was propounded by David Recardo (1772-1823). According to this theory, "The labourers are paid to enable them to subsist and perpetuate the race without increase or diminution". This payment is also called as 'subsistence wages'. The basic assumption of this theory is that if workers are paid wages more than subsistence level, workers' number will increase and, as a result wages will come down to the subsistence level.

On the contrary, if workers are paid less than subsistence wages, the number of workers will decrease as a result of starvation death; malnutrition, disease etc. and many would not marry. Then, wage rates would again go up to subsistence level. Since wage rate tends to be at, subsistence level at all cases, that is why this theory is also known as 'Iron Law of Wages'. The subsistence wages refers to minimum wages.

3. The Surplus Value Theory of Wages:

This theory was developed by Karl Marx (1849-1883). This theory is based on the basic assumption that like other article, labour is also an article which could be purchased on payment of its price i e wages. This payment, according to Karl Marx, is at subsistence level which is less than in proportion to time labour takes to produce items. The surplus, according to him, goes to the owner. Karl Marx is well known for his advocation in the favour of labour.

4. Residual Claimant Theory:

This theory owes its development to Francis A. Walker (1840-1897). According to Walker, there are four factors of production or business activity, viz., land, labour, capital, and

entrepreneurship. He views that once all other three factors are rewarded what remains left is paid as wages to workers. Thus, according to this theory, worker is the residual claimant.

5. Marginal Productivity Theory:

This theory was propounded by Phillips Henry Wick-steed (England) and John Bates Clark of U.S.A. According to this theory, wages is determined based on the production contributed by the last worker, i.e. marginal worker. His/her production is called 'marginal production'.

6. The Bargaining Theory of Wages:

John Davidson was the propounder of this theory. According to this theory, the fixation of wages depends on the bargaining power of workers/trade unions and of employers. If workers are stronger in bargaining process, then wages tends to be high. In case, employer plays a stronger role, then wages tends to be low.

7. Behavioural Theories of Wages:

Based on research studies and action programmes conducted, some behavioural scientists have also developed theories of wages. Their theories are based on elements like employee's acceptance to a wage level, the prevalent internal wage structure, employee's consideration on money or' wages and salaries as motivators.

3.3 Theories of Interest

1. Productivity Theory:

According to productivity theory, interest can be defined as a reward for availing the services of capital for the production purpose.

Labor that is having good amount of capital produces more as compared to the labor who is not assisted by good amount of capital.

For example, farmer having tractor to plough the field produces more as compared to the farmer who does not have it. Thus, interest is the payment for the productivity of capital.

However, the productivity theory is criticized on the following grounds:

i. Focuses only on the causes for what the interest is paid, not on the determination of interest rates.

ii. Assumes that interest is paid due to the productivity of capital. In such a case, pure interest should vary as per the productivity of the capital. However, pure interest is the same in money market during the same period of time.

iii. Lays emphasis on the demand of interest, but ignores the supply side of capital.

iv. Fails to explain how the interest is paid for the loan borrowed for consumption purposes.

2. Abstinence or Waiting Theory:

The abstinence theory was propounded by Senior. According to him, interest is a reward for abstinence. When an individual saves money out of his/her income and lends it to other individual, he/she makes sacrifice. The term sacrifice implies that the individual refrains from consuming his/her whole income that he/she could spent easily. Senior advocated that abstaining from consumption is unpleasant. Therefore, the lender must be rewarded for this. Thus, as per Senior, interest can be regarded as the reward for refraining from the use of capital.

Abstinence theory was also criticized by a number of economists. According to the theory, an individual feels unpleasant when they save as it reduces his/her consumption. However, rich people do not feel unpleasant while saving because they are able to meet their requirements.

Therefore, Marshall has replaced the term abstinence with waiting and described saving in terms of waiting. He states that saving is done by transferring the present requirement to the future and the person needs to wait for meeting those requirements. However, people do not want to wait rather they are motivated to save money by providing a certain amount of interest.

3. Austrian or Agio Theory:

Austrian theory is also termed as psychological theory of interest. This theory was advocated by John Rae and Bohm Bawerk in an Austrian school. According to Austrian theory, interest came into existence because present goods are preferred over future goods. Therefore, the present goods have premium with them in the form of interest. In other words, present satisfaction is of greater concern as compared to future satisfaction.

Therefore, future satisfaction has certain type of discount if compared with present satisfaction. The interest is the discounted amount that is required to be paid for motivating people to invest or transfer their present requirements to future. For example, an individual has to make a choice between two options.

He/she can either have Rs. 500 now or the same amount after a year. In such a case, he/she would prefer to have Rs. 500 in present. However, in case, the individual has a choice of getting Rs. 500 in present and Rs. 600 after one year.

4. Classical or Real Theory:

Classical theory helps in the determination of rate of interest with the help of demand and supply forces. Demand refers to the demand of investment and supply refers to the supply of savings. According to this theory, rate of interest refers to the amount paid for saving.

Therefore, the rate of interest can be determined with the help of demand for saving money to be invested in the capital goods and the supply of savings. Let us understand the concept of demand

of investment. Capital goods are used for the production of consumer goods and provide returns continuously for many years.

However, a certain degree of uncertainty is associated with capital goods due to their future use. In addition, operation and maintenance costs are involved in using capital goods. This makes organizations to calculate the net expected return on the marginal cost that is represented as the percentage of cost of capital good.

In case, an organization has similar type of capital goods, then the increase in one more capital good would not yield them high revenue. The increase in the rate of interest would result in the fall of demand of capital goods.

The rate of interest can be determined with the help of demand of investment and supply of savings. It would be the point of equilibrium where demand and supply intersects each other or get equal.

Figure-19 shows the determination of rate of interest with the help of demand and supply curves:

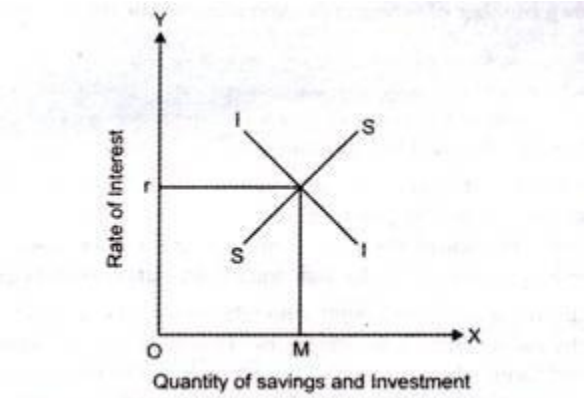


Figure-19: Determination of Rate of Interest

In Figure-19, SS is the supply curve of saving and II is the demand curve of investment that intersect each other at Or rate of interest with quantity of saving and investment is OM. OM represents the amount that is lent, borrowed and used for investment. The rate of interest can be changed by changing the demand and supply of savings and investment.

3.4 Theories of Profit

1. Frictional Theory of Profits:

According to this theory there exists a normal rate of profit which is a return on capital that must be paid to the owners of capital as a reward for saving and investment of their funds rather than to consume all their income or hoard them.

In a static economy where no unanticipated changes in demand or cost conditions occur, in long-run equilibrium the firms would be earning only normal rate of profit on their capital and entrepreneurial talent.

Under these conditions economic profits would not accrue to the firms. Frictional theory of profit explains that shocks or disturbances occasionally occur in an economy as a result of unanticepated changes in product demand or cost conditions which cause disequilibruim conditions. It is these disequilibrium conditions that brings into existence positive or negative economic profits for some firms.

Thus, according to frictional theory, economic profits exist for some time because of frictional factors which prevent an instanteous adjustment of the system to the new conditions. For example, at the time of sharp size in petroleum prices in the 1990 as a result of US-Iraq war many petroleum-refining firms enjoyed handsome economic profits. Similarly, as a result of slowdown in world trade in the years 1999-2001 many Indian firms doing export business suffered losses due to the decrease in the demand for their products in the USA and other countries.

When economic profits are made in the short run, more firms will enter the industry in the long run until all economic profits are driven down to zero (that is, firms will be making only normal return or profits on their capital investment).

On the other hand, when firms are making losses (i.e. negative profits), some firms will leave the industry. This will cause price of the product to rise so that losses are eliminated and the remaining firms make only normal profits.

2. Monopoly Theory of Profits:

Another explanation of above-normal profits attributes them to the monopoly power enjoyed by firms. Firms with monopoly power restrict output and charge higher prices than under perfect competition. This causes above-normal profits to be earned by the monopolistic firms.

Joan Robinson, E.H. Chamberlin, M. Kalecki associated super-normal profits with monopoly power enjoyed by some firms. Because of strong barriers to the entry of new firms, monopoly firms can continue to earn economic profits even in the long run. Monopoly power may arise due to sole control over some essential raw material required for the production of a commodity, from economies of scale, from legal sanction or from ownership patents, from Government restrictions on the import of a commodity.

3. Innovations Theory of Profits:

This theory of profits explains that economic profits arise because of successful innovations introduced by the entrepreneurs. It has been held by Joseph Schumpeter that the main function of the entrepreneur is to introduce innovations in the economy and profits are reward for his performing this function.

4. Risk and Uncertainty Bearing Theory of Profit:

This theory explains that profits are a necessary reward of the entrepreneur for bearing risk and uncertainty in a changing economy. So this is functional theory of profits. Profits arise as a result of uncertainty of future.

Apart from the innovations which are introduced by the entrepreneurs themselves, changes which cause uncertainty are:

(1) Changes in tastes and fashions of the people,

(2) Changes in Government policies and laws especially taxation, wage and labour policies and laws, liberalisation of imports, etc.

(3) Movements of prices as a result of inflation and depression,

(4) Changes in income of the people,

(5) Changes in production technology,

(6) Competition from the new firms that might enter the industry. All these changes cause uncertainty and bring profits, positive or negative, into existence.

5. Managerial Efficiency Theory of Profits:

Lastly, this theory recognizes that some firms are more efficient than others in terms of management of productive operations and successfully meeting the needs of consumers. Firms with average level of efficiency earns average rate of return. Firms with higher managerial skills and production efficiency are required to be compensated by above-normal profits (i.e. economic profits). Therefore, this theory is also called compensatory theory of profits.

Conclusion:

All the theories of profits explained above have some element of truth. No single theory can adequately explain the existence of profits in all cases. Thus, economic profits can arise as a result of disequilibrium caused by dynamic changes in the economy and frictions in the instantaneous adjustment to the new conditions. They can arise due to the existence of monopoly in the product and factor markets, due to the introduction of innovations by the entrepreneurs, due to higher risk and correctly estimating the uncertain future and due to higher managerial efficiency and skills. B.S. Keirstead rightly writes, "Profits may come to exist as a result of monopoly or monopsony as a reward for innovation, as a reward for the correct estimate of uncertain factors either particular to the industry or general to the whole economy".

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