Self-Study Material
(OLD)

RKDF UNIVERSITY, BHOPAL

Bachelor of Social Science (B.A.)

Second Semester

Course	Category	Subject	Subject Code
B.A.	**Minor**	**Introductory Micro Economics**	**BA-EC 202**
Total Credit: 6		**Max.Marks:100 (Internal:40+External:60)**	

Course Learning outcomes (CLO):

After completing this course, students will be able to sharpen the analytical skills by highlighting on broad overview of the Indian economy. They will be familiar with the issues related to Agriculture, Industry, Foreign Trade, Economic Planning and various Economic Problems of India. Students will be acquainted with broad overview of Madhya Pradesh economy. They will be able to develop, analyze and interpret events and issues related to Indian Economy.

Units	Topic	Duration (In Hours)	Marks
I **Exploring the subject matter of Economics**	Why study Economics? Scope and Method of Economics; the Economic Problem: Scarcity and Choice; the Question of What to Produce', How to Produce and How to Distribute Output; Science of Economics.	18	20
II **Demand and Supply**	Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve.	19	20
III **Consumer Behaviour**	Cardinal Approach — Utility, Marginal Utility and Total Utility, Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility', Consumer' Surplus, Properties of indifference curves; consumer's optimum choice; Income and substitution effect	18	20
IV **Production and Costs**	Production Function, Behaviour of profit maximizing firms and the production process; Law of Variable Proportions; Isoquants and cost minimising equilibrium conditions, Economies of scale; costs and revenue curves	18	20
V **The Firm and Market Structure** :	Market structure; Equilibrium of a firm; perfect market equilibrium, short run costs and output decisions; costs and output in the long run. Imperfect Market Structure, Monopoly and anti-trust policy; government policies towards competition; imperfect competition	18	20

Exploring thesubject matterof Economics

Why study Economics?
Definition of Economics

The various definitions of economics as given by various economists and other sources Simply defined, “Economics is the social science that examines how people make a choice for using their limited or scarce resources in order to satisfy their unlimited wants.”
Economics is a branch of social science that focuses on the production, consumption and transfer of wealth. Broken into two classes, macroeconomics and microeconomics, economics directly affect everyday life.

Macroeconomics is the branch of economics that focuses on large-scale factors, such as interest rates and national and international productivity. Whereas microeconomics focuses on the behaviour of individuals, businesses and organisations when it comes to using their wealth.

Why studying economics is important
Why do we study economics? The simple answer is it affects our everyday lives through important areas such as tax, interest rates, wealth, and inflation.

Economists provide the tools by which analysts can study the costs, benefits and effects of government policies in a range of areas that affect society. These can include healthcare and education. They help guide these decisions to work towards stable economic growth and a thriving society.

5 reasons to study economics

High earning potential

Economics graduates have some of the highest starting salaries with plenty of opportunities for promotions (the Complete University Guide 2021). The average starter salary for an economist in the UK is £25,000 a year, which can increase to £75,000+ over time as you gain more experience (National Careers Service 2023).

Great career prospects

Obtaining an economics degree will give you great job prospects and a variety of potential career paths. As economics are present in all sectors of business, job opportunities are not in

short supply. This is one of the biggest reasons why we study economics. Some of the roles you could work in as an economics graduate are:

- Chartered accountant
- Compliance officer
- Data analyst
- Economist
- Financial risk analyst
- Investment analyst
- Risk manager
- Stockbroker.

Economics graduates have high employability due to the varied subjects they have studied such as mathematics and research skills. The skills and knowledge developed during your study will make you a well-rounded and attractive candidate to future employers.

One of the biggest advantages of studying economics is the academic knowledge and skills you gain that can be applied to work in many different sectors. These include:

- Business
- Banking
- Finance
- Government
- Consultancy.

Within economics, there are plenty of opportunities for promotion and career progression. Gaining a masters degree in the subject will help you be a more favourable option for high-level positions as it shows your ability to commit and succeed in completing challenging work.

Develop transferable skills

One of the best reasons of studying economics is the valuable transferable skills you will develop during your degree. These transferable skills are very attractive to employers and can be applied to work in any field of economics.

Analytical thinking and complex problem solving, skills you will develop during an economics degree, are the most important skills to have when looking for job opportunities in 2025 (World Economic Forum 2020). Developing these skills will be invaluable when looking for a job once you have successfully graduated with an economics degree.

Some of the transferable skills you will gain during your economics study are:

- Problem solving
- Communication
- Research
- Time management
- Analytical thinking.

Have a direct impact on society

The importance of studying economics is the impact it has on society. If you want to do work that will have real meaning in the world, then economics is the perfect choice for you.

As an economist you will research economic issues, interpret and forecast market trends, and recommend solutions to economic threats. The goal of economic science is to improve the everyday living conditions of society through increasing gross domestic product. This means higher wages, good housing, and hot water – the things a society needs to thrive.

Gain international perspective

Economies across the globe interact with each other and this will give you a better knowledge of how the world works from a financial standpoint. Understanding the world economy is the key for driving success for many national and international corporations.

Having a greater understanding of international economies will also make you a standout candidate when applying for graduate jobs.

Scope and Method of Economics

Scope and Nature of Economics

We all use economics in our day-to-day life. For example, all of us have to make certain choices with the limited money at our disposal. You may spend your money on things like food, house rent, electricity bills and medicines, and somebody else may spend the same

amount of money on buying clothes, watching movies and other allied activities. Both spend the same amount of money, but in a different manner. Making such choices is just one activity related to Economics. The fundamental nature of economics is trying to understand how both individuals and nations behave in response to certain material constraints.

Methods of Economics Analysis- Inductive and Deductive methods.

Analysis refers to studying a given topic in detail. Economic analysis refers to the investigation of a particular topic from the perspective of an economist. It includes conducting an in-depth study of various processes such as production, consumption, consumer behaviour, national income, employment and others. It evaluates the given industry in detail with all the aspects associated with that particular industry. Moreover, the primary aim of economic analysis is to determine the effectiveness of operations within an economy.

There are two types of economic study or economic analysis: Deductive Method and Inductive Method. Here, we take a look at these methods and also present an overview of the process of making the hypothesis.

Economic generalisations describe the laws or statements of tendencies in various branches of economics such as production, consumption, exchange and distribution of income. In the view of Robbins, economic generalisations or laws are statements of uniformities which describe human behaviour in the allocation of scarce resources between alternative ends.

The generalisations of economics like the laws of other sciences, state cause and effect relationships between variables and describe those economic hypotheses which have been found consistent with facts or, in other words, have been found to be true by empirical evidence. But a distinction may be drawn between a generalisation (law) and a theory. A law or generalisation just describes the relationship between variables; it does not provide any explanation of the described relation. On the other hand, a theory provides an explanation of the stated relation between the variables, that is, it brings out the logical basis of the generalisation. An economic theory or a model derives a generalisation through process of logical reasoning and explains the conditions under which the stated generalisation will hold true.

The Economic Problem: Scarcity and Choice

It is often said that the central purpose of economic activity is the production of goods and services to satisfy our changing needs and wants. The basic economic problem is about scarcity and choice. Every society has to decide: What goods and services to produce: Does the economy uses its resources to operate more hospitals or hotels? Do we make more iPhones and iPads or double-espressos? Does the National Health Service provide free IVF treatment for childless couples? How best to produce goods and services: What is the best use of our scarce resources? Should school playing fields be sold off to provide more land for affordable housing? Should coal be produced in the UK or is it best imported from other countries? Who is to receive goods and services: Who will get expensive hospital treatment - and who not? Should there be a minimum wage? If so, at what level should it be set?

Scarcity

We are continually uncovering of new wants and needs which producers attempt to supply by employing factors of production. For a perspective on the achievements of countries in meeting people's basic needs, the Human Development Index produced by the United Nations is worth reading. The economist Amartya Sen (Winner of the 1998 Nobel Prize for Economics) has written extensively on this issue.

Scarcity means we all have to make choices

Because of scarcity, **choices** have to be made by consumers, businesses and governments. For example, over six million people travel into London each day and they make choices about when to travel, whether to use the bus, the tube, to walk or cycle – or whether to work from home. Millions of decisions are being taken, many of them are habitual – but somehow on most days, people get to work on time and they get home too!

Trade-offs when making choices

Making a **choice** made normally involves a **trade-off** – this means that choosing more of one thing can only be achieved by giving up something else in exchange.

Housing: Choices about whether to rent or buy a home – there are costs and benefits to renting a property or in choosing to buy a home with a mortgage. Both decisions

involve **risk**. People have to weigh up the **costs** and **benefits** of the decision. **Working:** Do you work full-time or part-time? Is it worth your while studying for a degree? How have these choices been affected by the introduction of university tuition fees? **Transport and travel:** The choice between using Euro-Tunnel, a low-cost ferry or an airline when travelling to Western Europe.

The cost benefit principle

Every purchase is a trade-off, of course. If you decide to spend $20,000 on a new car, you're saying that's worth more to you than 20 bicycles or four vacations to Europe or the down payment on a house. Every choice involves opportunity costs; when you choose one thing, you're giving up others. Plus, what you're giving up isn't always financial. Or obvious."

In many of these decisions, people consider the **costs** and **benefits** of their actions – economists make use of the **'marginal' idea**, for example what are the benefits of consuming

a little extra of a product and what are the costs.

Economic theory states that **rational decision-makers** weigh the marginal benefit one receives from an option with its marginal cost, including the opportunity cost.

This **cost benefit principle** well applied will get you a long way in economics!

Consumer welfare and rationality

What makes people happy? Why despite several decades of rising living standards, surveys of happiness suggest that people are not noticeably happier than previous generations? Typically we tend to assume that, when making decisions people aim to **maximise their welfare.** They have a **limited income** and they seek to allocate their money in a way that improves their **standard of living**.

Of course in reality consumers rarely behave in a well informed and rational way. Often decisions by people are based on **imperfect or incomplete information** which can lead to a loss of welfare not only for people themselves but which affect others and our society as a whole.

As consumers we have all made **poor choices** about which products to buy. Behavioural economics is an exciting strand of the subject that looks at whether we are rational in our everyday decisions. One of the best people to read on behavioural economics is Dan Ariely (pictured).

Behavioural economics

Behavioural Economics is the name given to the discipline that tries to mix insights from Psychology with Economics, and looks at economic problems through the eye of a "Human", rather than an "Econ". Behavioural economics uses insights from psychology to explain why people make apparently irrational decisions such as why people eat too much and do not save enough for retirement.

An Econ is said to be infinitely rational and immensely intelligent, emotionless being who can do cost-benefit analyses at will, and is never (ever) wrong. The reality is often very different. Most of us are not infinitely rational, but rather face "bounded rationality", with people adopting rules of thumb instead of calculating optimal solutions to every decision

Nudge, a book written by US economists Cass Sunstein and Richard Thaler, in 2008, offered an accessible and influential guide to applying behavioural economics to policy problems from fighting obesity to getting people to save for retirement. In the UK, the coalition government is trying to use ideas drawn from behavioural economics to raise organ donation rates, discourage smoking, improve food hygiene and stimulate charitable giving.

Opportunity Cost

There is a well-known saying in economics that "there is no such thing as a free lunch**!"** This means that, even if we are not asked to pay money for something, **scarce resources** are used up in the production of it and there is an opportunity cost involved.

Opportunity cost measures the cost of any choice in terms of the **next best alternative foregone**.

- **Work-leisure choices**: The opportunity cost of deciding not to work an extra ten hours a week is the lost wages foregone. If you are being paid £6 per hour to work at the local supermarket, if you take a day off from work you might lose £48 of income.

- **Government spending priorities**: The opportunity cost of the government spending nearly £10 billion on investment in National Health Service might be that £10 billion less is available for spending on education or the transport network.
- **Investing today for consumption tomorrow**: The opportunity cost of an economy investing resources in capital goods is the production of consumer goods given up.
- **Making use of scarce farming land**: The opportunity cost of using farmland to grow wheat for bio-fuel means that there is less wheat available for food production

The Question of What to Produce', How to Produce and How to Distribute Output

Production, exchange and consumption of goods and services are among the basic economic activities of life. In the course of these basic economic activities, every society has to face scarcity of resources and it is the scarcity of resources that gives rise to the problem of choice. An analysis of scarcity of resources and choice making poses three basic questions:

1. What to produce and how much to produce?
2. How to produce?
3. For whom to produce?

What is produced and in what quantities?

Every society must decide on how much of each of the many possible goods and services it will produce. Whether to produce more of food, clothing, housing or to have more of luxury goods. Whether to have more agricultural goods or to have industrial products and services. Whether to use more resources in education and health or to use more resources in building military services. Whether to have more of basic education or more of higher education. Whether to have more of consumption goods or to have investment goods (like machine) which will boost production and consumption tomorrow.

How are these goods produced?

Every society has to decide on how much of which of the resources to use in the production of each of the different goods and services. Whether to use more labour or more machines. Which of the available technologies to adopt in the production of each of the goods?

For whom are these goods produced?

Who gets how much of the goods that are produced in the economy? How should the produce of the economy be distributed among the individuals in the economy? Who gets more and who gets less? Whether or not to ensure a minimum amount of consumption for everyone in the economy. Whether or not elementary education and basic health services should be available freely for everyone in the economy.

Thus, every economy faces the problem of allocating the scarce resources to the production of different possible goods and services and of distributing the produced goods and services among the individuals within the economy. The allocation of scarce resources and the distribution of the final goods and services are the central problems of any economy.

Science of Economics

Economics is generally regarded as a social science, although some critics of the field argue that it falls short of the definition of a science for a number of reasons, including a lack of testable hypotheses, lack of consensus, and inherent political overtones.1 Despite these arguments, economics shares the combination of qualitative and quantitative elements common to all social sciences.

Understanding Economics

Economics is concerned with how an economy and its participants function and behave. Economics studies how goods and services are produced, distributed throughout the economy, and consumed by individuals and businesses. Economics is also concerned with how governments and businesses allocate resources to satisfy the wants and needs of consumers.

One of the key areas of focus of economics is the study of efficiency in the production and exchange of goods, particularly due to incentives and policies designed to maximize that efficiency.

Economics is commonly broken down into two categories: macroeconomics, which is concerned with the aggregate economy, and microeconomics, which focuses on individual consumers and businesses.

Demand and Supply

Individual demand/supply; shifts in thedemand/supply curve

The Shift in Demand and Supply

Definitely, if there is any change in supply, demand or both the market equilibrium would change. Let's recollect the factors that induce changes in demand and supply:

Shift in Demand

The demand for a product changes due to an alteration in any of the following factors:

- Price of complementary goods
- Price of substitute goods
- Income
- Tastes and preferences
- An expectation of change in the price in future
- Population

Shift in Supply

The supply of product changes due to an alteration in any of the following factors:

- Prices of factors of production
- Prices of other goods
- State of technology
- Taxation policy
- An expectation of change in price in future
- Goals of the firm

- Number of firms

Now let us study individually how market equilibrium changes when only demand changes, only supply changes and when both demand and supply change.

Learn more about Equilibrium, Excess Demand and Supply here in detail.

When only Demand Changes

A change in demand can be recorded as either an increase or a decrease. Note that in this case there is a shift in the demand curve.

Increase in Demand

When there is an increase in demand, with no change in supply, the demand curve tends to shift rightwards. As the demand increases, a condition of excess demand occurs at the old equilibrium price. This leads to an increase in competition among the buyers, which in turn pushes up the price.

Browse more Topics under Market-Equilibrium

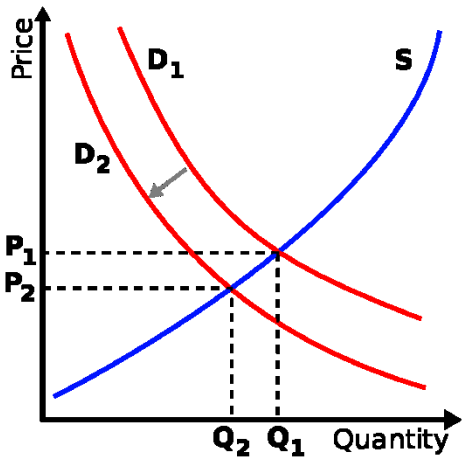
- Shifts in Demand and Supply
- Equilibrium, Excess Demand and Supply

Of course, as price increases, it serves as an incentive for suppliers to increase supply and also leads to a fall in demand. It is important to realize that these processes continue to operate until a new equilibrium is established. Effectively, there is an increase in both the equilibrium price and quantity.

Decrease in Demand

Under conditions of a decrease in demand, with no change in supply, the demand curve shifts towards left. When demand decreases, a condition of excess supply is built at the old equilibrium level. This leads to an increase in competition among the sellers to sell their produce, which obviously decreases the price.

Now as for price decreases, more consumers start demanding the good or service. Observably, this decrease in price leads to a fall in supply and a rise in demand. This counter mechanism continues until the conditions of excess supply are wiped out at the old equilibrium level and a new equilibrium is established. Effectively, there is a decrease in both the equilibrium price and quantity.



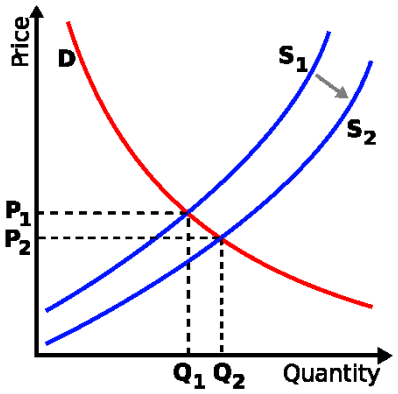
When only Supply Changes

A change in supply can be noted as either an increase or a decrease. Note that in this case there is a shift in the supply curve.

Increase in Supply

When supply increases, accompanied by no change in demand, the supply curve shift towards the right. When supply increases, a condition of excess supply arises at the old equilibrium level. This induces competition among the sellers to sell their supply, which in turn decreases the price.

This decrease in price, in turn, leads to a fall in supply and a rise in demand. These processes operate until a new equilibrium level is attained. Lastly, such conditions are marked by a decrease in price and an increase in quantity.



Decrease in Supply

When the supply decreases, accompanied by no change in demand, there is a leftward shift of the supply curve. As supply decreases, a condition of excess demand is created at the old equilibrium level. Effectively there is increased competition among the buyers, which obviously leads to a rise in the price.

An increase in price is accompanied by a decrease in demand and an increase in supply. This continues until a new equilibrium level is attained. Further, there is a rise in equilibrium price but a fall in equilibrium quantity.

Read more about Microeconomics and Macroeconomics here in detail.

When both Demand and Supply Change

Generally, the market situation is more complex than the above-mentioned cases. That means, generally, supply and demand do not change in an individual manner. There is a simultaneous change in both entities. This gives birth to four cases:

i. Both demand and supply decrease

ii. Both demand and supply increase

iii. Demand decreases but supply increases

iv. Demand increases but supply decreases

Both Demand and Supply Decrease

The final market conditions can be determined only by a deduction of the magnitude of the decrease in both demand and supply. In fact, both the demand and supply curve shift towards the left. Essentially, there is a need to compare their magnitudes. Such conditions are better analyzed by dividing this case further into three:

- ***The decrease in demand = decrease in supply***

When the magnitudes of the decrease in both demand and supply are equal, it leads to a proportionate shift of both demand and supply curve. Consequently, the equilibrium price remains the same but there is a decrease in the equilibrium quantity.

- ***The decrease in demand > decrease in supply***

When the decrease in demand is greater than the decrease in supply, the demand curve shifts more towards left relative to the supply curve. Effectively, there is a fall in both equilibrium quantity and price.

- ***The decrease in demand < decrease in supply***

In a case in which the decrease in demand is smaller than the decrease in supply, the leftward shift of the demand curve is less than the leftward shift of the supply curve. Notably, there is a rise in equilibrium price accompanied by a fall in equilibrium quantity.

Both Demand and Supply Increase

In such a condition both demand and supply shift rightwards. So, in order to study changes in market equilibrium, we need to compare the increase in both entities and then conclude accordingly. Such a condition is further studied better with the help of the following three cases:

- ***The increase in demand = increase in supply***

If the increase in both demand and supply is exactly equal, there occurs a proportionate shift in the demand and supply curve. Consequently, the equilibrium price remains the same. However, the equilibrium quantity rises.

- ***The increase in demand > increase in supply***

In such a case, the right shift of the demand curve is more relative to that of the supply curve. Effectively, both equilibrium price and quantity tend to increase.

- ***The increase in demand < increase in supply***

When the increase is demand is less than the increase in supply, the right shift of the demand curve is less than the right shift of supply curve. In this case, the equilibrium price falls whereas the equilibrium quantity rises.

Demand Decreases but Supply Increases

This condition translates to the fact that the demand curve shifts leftwards whereas the supply curve shifts rightwards. As they move in opposite directions, the final market conditions are deduced by pointing out the magnitude of their shifts. Here, three cases further arise which are as follows:

- ***The decrease in demand = increase in supply***

In this case, although the two curves move in opposite directions, the magnitudes of their shifts is effectively the same. As a result, the equilibrium quantity remains the same but the equilibrium price falls.

- ***The decrease in demand > increase in supply***

When the decrease in demand is greater than the increase in supply, the relative shift of demand curve is proportionately more than the supply curve. Effectively, both the equilibrium quantity and price fall.

- ***The decrease in demand < increase in supply***

Here, the leftward shift of the demand curve is less than the rightward shift of the supply curve. It is important to realize, that the equilibrium quantity rises whereas the equilibrium price falls.

Demand Increases but Supply Decreases

Similar to the aforementioned condition, here also the demand and supply curve moves in the opposite directions. However, the demand curve shift towards the right(indicating an increase in demand) and the supply curve shift towards left(indicating a decrease in supply). Further, this is studied with the help of the following three cases:

- ***Increase in demand = decrease in supply***

When the increase in demand is equal to the decrease in supply, the shifts in both supply and demand curves are proportionately equal. Effectively, the equilibrium quantity remains the same however the equilibrium price rises.

- ***Increase in demand > decrease in supply***

In this case, the right shift of the demand curve is proportionately more than the leftward shift of the supply curve. Hence, both equilibrium quantity and price rise.

- ***Increase in demand < decrease in supply***

If the increase in demand is less than the decrease in supply, the shift of the demand curve tends to be less than that of the supply curve. Effectively, equilibrium quantity falls whereas the equilibrium price rises.

Competition and Market Structures

Introduction

Competition is a familiar activity for every school child who plays games, from schoolyard games like tag, to board games like checkers, to organized sports like soccer. Two or more people independently strive for a single goal, such as evading the person who is “It” in tag, being the last person with a piece on the board in checkers, or winning the most points in a given amount of time in soccer.

To economists, the word “competition” usually refers something more specific. In particular, businesses are said to compete or to be competitive if they and other businesses selling similar goods or services all act independently to strive for survival as firms.

Unlike in many childhood games, survival as a firm does not necessarily mean being the *only* survivor, a sole winner. It does not mean driving everyone else out of business. It only means that you, the business owner, are running a viable business that makes it worth it for you–in terms of money and personal satisfaction–to continue. Can you pay your employees? Can you pay your business debts? Can you expand and invest for a future so you can do that in the coming years? And can you also pay your own self enough to make it worth it to you?

In competitions–be they childhood games or business survival–humans have a strong, innate sense of fairness and of the importance of having a clear advance sense of the rules. Cheating, being granted special privileges, or someone else stacking the deck are viewed with indignation and hurt even in childhood games. In business, these outside-the-rules activities not only give rise to indignation and hurt, but also often to lawsuits or criminal charges.

One outside determiner of the rules for businesses is government. Governments often grant special privileges to certain firms. They may do so for the most high-minded of reasons. But also, governments may make rules for the most low-minded reasons–granting favors for friends, political payoffs, corruption, etc. Even the most high-minded of reasons can later go awry because the firms themselves naturally exploit any special privileges they are granted. Often governments make policies or rules that have unexpected side-effects that benefit certain businesses at the expense of others.

In economics, the terms **Market Structures** or **Organization of Industry** are used to summarize the background customs or laws in which competition functions. What are the background laws, rules, or societal customs that guide or encourage private business competition? Can anyone start a business in some particular field or industry? What are the government-supported privileges awarded to individual industries, businesses, or firms? So, for example, if a law is crafted by legislators such that there is only one dairy farm that happens to pass muster in a state with thousands of dairy farms, that's obviously unfair, though it may be difficult to prove. If only one company or a few companies receive permission to continue legally–such as by requiring licenses whereby any firm allowed to be in business first has to pay the state a fee–is that fair? Or is it consumer protection–which is often what a government claims when it lays down stringent regulations? Should government itself start its own business and compete with or put out of business private businesses?

Determinantsof individual demand/supply

Determinants of Demands

Demand is the willingness, desire, and capability to purchase a certain commodity that one needs to fulfil their desire. The determinants of demand explain the demand for a particular good or an item. The law of demand states that if the cost of a particular commodity rises, then there is a chance that the demand for that particular commodity might fall.

The inverse relationship between the cost of a commodity and its demand is the law of demand. A line with a downward slope in a graphical representation describes the law of demand. The demand curve is the graphical representation of the demand. The demand for a commodity or service fluctuates because of the determinants.

Individual Demand Schedule

A tabular statement presenting quantities that an individual consumer is willing to buy at various cost levels during a given period is called an individual demand schedule.

Determinants for Individual Demands

Individual demand is the demand for a good or a service by a single consumer at a particular cost and at a specific point in time. Individual demand is driven by desires and quantities that an individual can afford. These demands are influenced by an individual's age, gender, income, habits, expectations, and cost of competing and related goods in the market.

Determinants of Demands

- **Cost of The Commodity:**

As per the law of demand, the demand of a commodity increases when the cost of the commodity falls; vice versa, if the cost increases, then the demand of the commodity falls. The cost or price of a commodity decides whether demand would increase, decrease or remain constant. The demand curve or demand schedule can understand the demand quantity at the cost level. The demand for elastic commodities fluctuates with a change in the cost of the commodity. In contrast, the demand for the inelastic commodity is not much affected by the change in the cost of the commodity.

- **Income of the consumer:**

  The demand for any commodity can increase with the rise of the consumer's income. Similarly, if the income of the consumer falls, then the demand for any commodity can decline. There is a linear relationship between the demand for commodities and the income of consumers. The marginal utility determines the proportions of the change in the demand levels.

- **Cost of the related commodity and services:**

1. **Complementary commodity** – Sometimes, when there is an increase in the cost of one commodity, it can lead to a decrease in the demand for another commodity. Take the example of bread and butter. If there is a rise in the cost of butter, then there is a chance that the demand for bread might fall. This happens because bread and butter are complementary goods.
2. **B**. **Substitute goods** – Sometimes, when there is a rise in the cost of one commodity, it can increase the demand for another commodity. There is an inverse relationship between the cost of one commodity and the demand for another commodity. These commodities can replace each other that is why they are called substitute goods. Tea and coffee are an example of such goods. If coffee's cost rises, the demand for tea will automatically increase because tea can be a substitute for coffee.

- **Numbers of consumers in the market:** The total demand is affected by the number of consumers. As the number of consumers rises, the demand for the commodity also increases.
- **Expectations of Consumers:** If a consumer is expecting a fall in income or a decrease in the cost of goods, then the demand for goods might also decrease. Similarly, if the consumer is expecting a rise in income or an increase in the cost of goods, then the demand for goods can also increase.

Determinants of Supply

The cost of goods and services is a common determinant of supply and demand. The other determinants of supply are cost factors of production, government policy, state of technology, and more. The state of technology can increase or decrease the supply of goods and services.

Taxes also affect the cost of production. Other factors that are determinants for supply are foreign policies, the firms' goals, infrastructural facilities, market structure, natural factors, and more.

Conclusion

Demand is the willingness, desire, and capability to purchase a certain commodity that one needs to fulfil their needs or wants. Determinants of individual demand are the cost of related goods and services, cost of the commodity, income of the consumer, number of consumers in the market, and consumer expectation. The cost of goods and services is a common determinant of demand and supply.

Consumer Behaviour

Cardinal Approach — Utility

Meaning of Utility: - its economic meaning, the term *utility* refers to the benefit or satisfaction or pleasure a person gets from the consumption of a commodity or service. In abstract sense, *utility* is the power of a commodity to satisfy human want, i.e., *utility* is want-satisfying power. A commodity is likely to have utility if it can satisfy a want. For example, rice has the power to satisfy hunger; water quenches our thirst; books fulfill our desire for having knowledge, and so on.

The Cardinal Utility Approach

Cardinal Utility Analysis:- Cardinal utility analysis assumes that level of utility can be expressed in numbers. For example, we can measure the utility derived from a shirt and say, this shirt gives me 50 units of utility. Before discussing further, it will be useful to have a look at two important measures of utility.

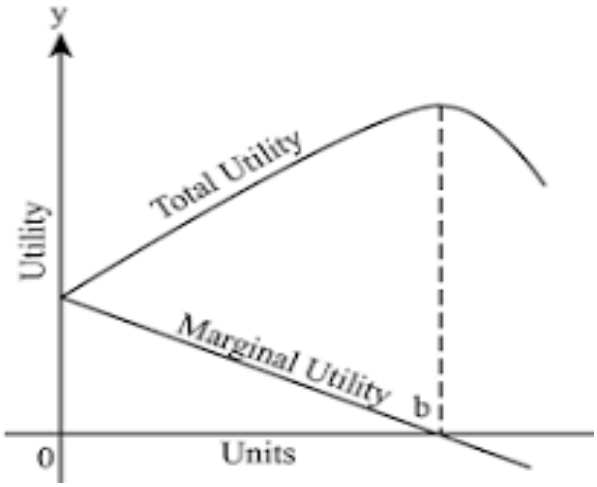
MarginalUtility and Total Utility

Measures of Utility

Total Utility: Total utility of a fixed quantity of a commodity (TU) is the total satisfaction derived from consuming the given amount of some commodity x. More of commodity x provides more satisfaction to the consumer. TU depends on the quantity of the commodity

consumed. Therefore, TUn refers to total utility derived from consuming n units of a commodity x.

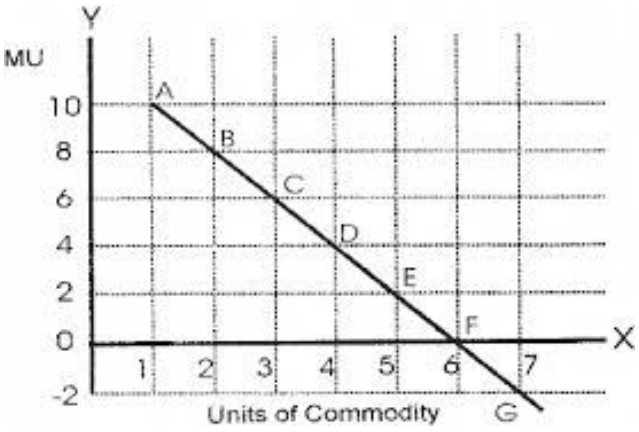
Marginal Utility:- Marginal utility (MU) is the change in total utility due to consumption of one additional unit of a commodity. For example, suppose 4 bananas give us 28 units of total utility and 5 bananas give us 30 units of total utility. Clearly, consumption of the 5th banana has caused total utility to increase by 2 units (30 units minus 28 units). Therefore, marginal utility of the 5th banana is 2 units. MU5 = TU5 – TU4 = 30 – 28 = 2 In general, MUn = TUn – TUn-1, where subscript n refers to the n th unit of the commodity Total utility and marginal utility can also be related in the following way. TUn = MU1 + MU2 + … + MUn-1 + MUn This simply means that TU derived from consuming n units of bananas is the sum total of marginal utility of first banana (MU1), marginal utility of second banana (MU2), and so on, till the marginal utility of the n th unit.



Law of Diminishing Marginal Utility

The Law of Diminishing Marginal Utility

This law is the main instrument used in the cardinal utility analysis of the consumer behavior. It explains why the demand curve of a specific commodity is downward sloping? It also explains the elasticity of demand for a product. Except these, there are many other applications of this law in our everyday life.



Main theme of the law

The additional units of a specific commodity are worth less and less to a consumer as more of the commodity she/he consumes. Law of Diminishing Marginal Utility states that marginal utility from consuming each additional unit of a commodity declines as its consumption increases, while keeping consumption of other commodities constant. MU becomes zero at a level when TU remains constant. In other words, marginal utility of a specific commodity declines as more of it is consumed.

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.

Consumer' Surplus, Properties of indifference curves

Consumer surplus is an economic measurement of consumer benefits resulting from market competition. A consumer surplus happens when the price that consumers pay for a product or service is less than the price they're willing to pay. It's a measure of the additional benefit that consumers receive because they're paying less for something than what they were willing to pay.

Consumer surplus may be compared with producer surplus.

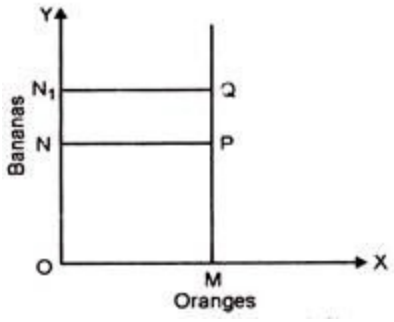
1. They Slope Negatively or Slope Downwards from the Left to the Right:

This is an important feature of Indifference Curve. If the total satisfaction is to remain the same, the consumer must part with a diminishing number of bananas as he gets as increasing stock of oranges. The loss of satisfaction to the consumer on account of the downward movement must be made up by the gain through the rightward movement. As such the Indifference Curve must slope downwards to the right.

In this diagram at P, the consumer obtains OM of oranges and ON of bananas. AQ, he gets the same OM. Quantity of oranges, but ON_1 of bananas. He secures greater total satisfaction of X than at P. He cannot therefore indifferent between P and Q. Thus it is proved that an Indifference Curve cannot slope upward to the right, nor can it be horizontal or vertical. The only possibility is that it must slope downwards to the right. The consumer will get additional supplies of oranges by sacrificing diminishing quantities of bananas.

2. They are Convex to the Origin of Axes:

The second property of the Indifference Curve is that they are generally convex to the origin of the axes—the left hand portion is normally steep while the right hand portion is relatively flat. This property of the Indifference Curve is derived from the Law of Diminishing Marginal Rate of Substitution. The marginal rate of substitution neither increases nor does it remain constant.



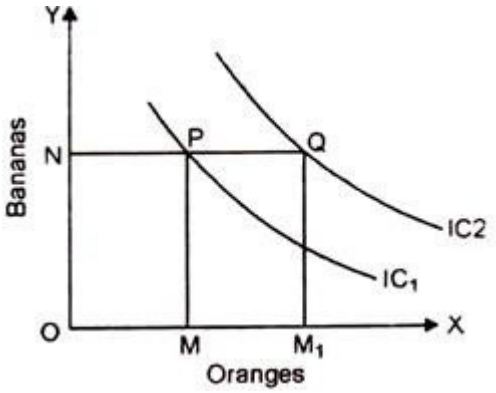
If the marginal rate of substitution had increased, the Indifference Curve would have been concave to the origin. If the marginal rate of substitution had remained constant, the Indifference Curve would have been a diagonal straight line at 45° angle. The marginal

do not rate of substitution increases nor does it remain constant. The marginal rate of substitution on the contrary goes on diminishing. So the Indifference Curve has to be convex to the origin of axes.

In this diagram, an increase of oranges from OM to OM_1 is accompanied by a progressively diminishing number of bananas from ON to ON_1. Thus a falling curve whose slope diminishes as we move to the right is bound to be convex to the origin to axes.

3. Every Indifference Curve to the right represents Higher Level of Satisfaction than that of the Proceeding One:

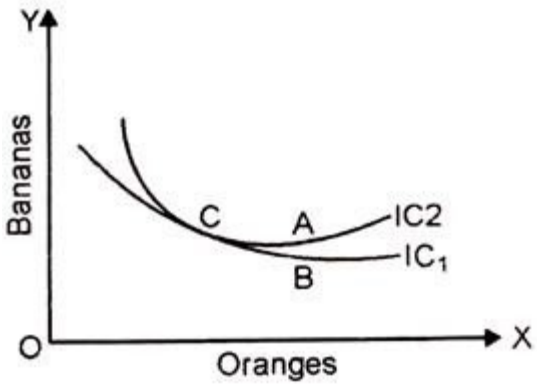
Let us take two Indifference Curves IC_1 and IC_2 lying to the right of IC_1. At the point P the consumer gets OM of oranges and ON of bananas. At the point Q though the number of bananas remains the same i.e., ON, yet the number of oranges increases from OM to OM_1. The total satisfaction of the consumer is therefore bound to be greater at Q than at P.



Hence Q represents a more valued and preferred combination of oranges and bananas than P. As all the points on one Indifference Curve represents equal satisfaction, therefore every point on IC_2 represents a combination, preferred to that represented by any point on IC. An Indifference Curve to the right represents a preferred position and therefore a consumer will always try to move on the indifference map as much to the right as possible.

4. Indifference Curves can neither touch nor Intersect each other, so that one Indifference Curve Passes through only one Point on an Indifference Map:

The fourth property of Indifference Curve is that no two Indifference V' Curves can ever cut each other.



Since point A is an Indifference Curve IC_2, it represents a higher level of satisfaction to the consumer c than point B which is located on the lower Indifference c Curve IC_1. Point C, however lies on both the curves. This m means that two levels of satisfaction, A and B which are by definition unequal manage to become equal at the point C. This is clearly impossible.

Indifference Curve can never intersect each other:

5. Indifference Curves are not Necessarily Parallel to each other. Although, they are Falling and Negatively Inclined to the Right:

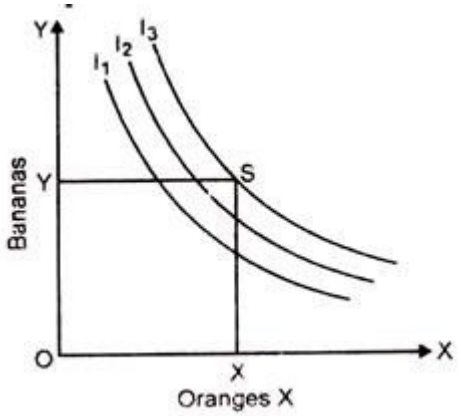
Yet the rate of the fall will not be the same for all Indifference Curves.

This is due to two reasons:

Firstly, the Indifference Curves are not based on the cardinal measurability of utility. Secondly, the rate of substitution between the two commodities need not be the same in all the indifference schedules. It is therefore not necessary that the Indifference Curves should be parallel to each other.

6. In reality, Indifference Curves are like Bangles:

But as a matter of principle their effective region is in the form of segments. This is so because Indifference Curves are assumed to be negatively sloping and convex to the origin. An individual can move to the higher indifference. Curves I_2 and I_3, until he reaches the saturation upon S where his total utility is the maximum. If the consumer increases his consumption beyond X and Y his total utility will fall.



Consumer's optimum choice

What is Meant by the Optimal Choice of a Consumer?

The budget set comprises all bundles that are obtainable to the customer. The customer can pick their utilisation bundle from the budget set.

The customer can manage to afford product B, but the product is on a lower indifference curve. Therefore, it furnishes less contentment to the customer. The optimal choice constitutes the best combination of utilisation of the soft drink and the burger obtainable to the customer.

In economics, it is presumed that the customer picks their utilisation bundle on the basis of their preferences and taste over the bundles in the budget set. It is normally assumed that the customer has well-interpreted preferences over the set of all possible bundles.

They can compare any two bundles. In other words, between any two bundles, they either prefer one to the other or are indifferent between the two.

It is normally presumed that the customer is a logical individual. A logical individual is certainly aware of what is good or what is bad for them. The customer always attempts to attain the best for themselves.

Not only does a customer have distinct preferences over the set of obtainable bundles, but they also behave according to their proclivity. From the bundles that are obtainable to them, a logical customer always picks the one that gives them the utmost contentment.

Income and substitution effect

What is Substitution Effect?

The term **substitution effect** refers to the practice of substituting one commodity with another when it becomes comparably less expensive. When a particular commodity's price decreases, it becomes comparatively less expensive than its substitute (assuming no change in the price of the substitute). In turn, this increases demand for the given commodity. **For instance,** if the cost of a particular good, like Sprite, decreases while the cost of its substitute, like Mountain Dew, remains constant, Sprite will become comparably less expensive and replace Mountain Dew, which ultimately results in increasing demand for Sprite.

What is Income Effect?

The term **income effect** refers to the effect on demand that occurs when a consumer's real income changes as a result of a change in the price of a given commodity. The consumer's purchasing power (real income) increases when the price of the given commodity decreases. As a result, consumers can spend the same amount of money on more of the given commodity. **For instance**, a decrease in the price of a certain good (let's say Coke) will increase the consumer's purchasing power and allow him to purchase more Coke with the same amount of money.

Direction of Substitution and Income Effect

1. Substitution Effect:

The substitution effect is always **positive**. It means that when a commodity's price decreases, more of it will be consumed and used in place of goods whose prices have not decreased. The consumer always tries to replace a comparatively expensive good with a relatively cheaper one. As a result, the Substitution Effect is always positive because a decrease in the price of a good encourages higher consumption.

2. Income Effect:

The direction of the income effect is not obvious and definite. It could be **positive** or **negative**.

- If more of a commodity is purchased when the decrease in the price of the commodity leads to an increase in the purchasing power, the income effect will be positive.
- If less of the commodity is purchased when the decrease in the price leads to an increase in the purchasing power, the income effect will be negative.

The nature of a commodity depends on the relative strength of the Substitution and Income Effect

A commodity may fall under the category of Normal Good, Inferior Good, or Giffen Good, based on the relative degree and direction of the income and substitution effects. These are three different cases:

Case 1: Normal Goods

Both the substitution and income effects are positive in the case of normal goods.

- **Substitution Effect:** When the price of Normal Goods decreases, consumers are more likely to purchase them since they are now comparably less expensive than their substitutes, whose prices have not decreased.
- **Income Effect:** A decrease in the price of Normal Goods increases real income and the quantity purchased.

It implies that the substitution effect and the income effect for Normal Goods act in the same direction. Hence, the Price Effect will also be positive, indicating that when the price of a good is decreased, consumers will purchase more of it. For Normal Goods, the demand curve slopes downward, which means that the quantity demanded always varies inversely with price.

Case 2: Inferior Goods

When it comes to Inferior Goods, the substitution effect is positive, whereas the income effect is negative.

- **Substitution Effect:** A decrease in the price of Inferior Goods increases their demand because they are now comparatively less expensive than their substitutes, whose prices have not decreased. Hence, a positive substitution effect results in an increase in consumption.
- **Income Effect:** A decrease in the price of Inferior Goods raises real income, which lowers the demand for Inferior Goods as consumers switch to superior goods. Thus, the income effect is negative as it reduces consumption with a decrease in the price.

The total impact of price reduction is an increase in demand. It occurs because the positive substitution effect is stronger than the negative income effect. In simple terms, the increase in demand because of the positive substitution effect is more than the reduced demand because of the negative income effect. Therefore, the demand curve for inferior commodities slopes downward; i.e., the quantity demanded always changes inversely with price.

Case 3: Giffen Goods

Giffen Goods are a special type of Inferior Goods in which the negative income effect is stronger than the positive substitution effect.

- **Substitution Effect:** In the case of Giffen Goods also, the substitution effect is positive because the demand for them rises as a result of the decrease in their price relative to their substitutes' unchanged prices.
- **Income Effect:** As actual income rises because of a decrease in the price of Giffen Goods, consumer's demand for Giffen Goods declines as they switch to more superior goods.

The total impact of price reduction is a fall in demand. It occurs because the negative income effect is stronger than the positive substitution effect. In simple terms, the increase in demand because of the positive substitution effect is less than the reduced demand because of the negative income effect. Hence, demand for Giffen Goods changes directly with a price; i.e. demand decreases with a price decrease and increases with a price increase. Also, as Giffen Goods break the Law of Demand, their demand curve slope upwards.

Production and Cost

Production Function

A production function is a function that specifies the output of a firm, an industry, or an entire economy for all combinations of inputs. In other words, it shows the functional relationship between the inputs used and the output produced. The production function of a firm is a relationship between inputs used and output produced by the firm. For various quantities of inputs used, it gives the maximum quantity of output that can be produced.

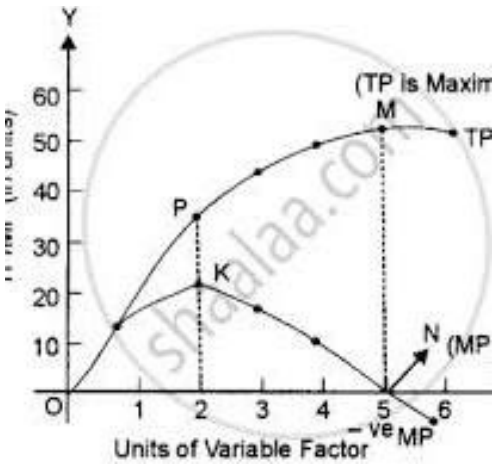
One possible example of the form this could take is:

$q = K \times L$,

Where, q is the amount of wheat produced, K is the area of land in hectares, L is the number of hours of work done in a day. Describing a production function in this manner tells us the exact relation between inputs and output. If either K or L increase, q will also increase. For any L and any K, there will be only one q. Since by definition we are taking the maximum output for any level of inputs, a production function deals only with the efficient use of inputs. Efficiency implies that it is not possible to get any more output from the same level of inputs. A production function is defined for a given technology. It is the technological knowledge that determines the maximum levels of output that can be produced using different combinations of inputs. If the technology improves, the maximum levels of output obtainable for different input combinations increase. We then have a new production function.

Law of variable proportions

If all inputs of a firm are fixed and only the amount of labour services differs, then any decrease or increase in output is achieved with the help of changes in the amount of labour services used. When the firm changes the amount of labour services only, it changes the proportion between the fixed input and the variable input. As the firm keeps on changing this proportion by changing the This law states that, As more and more of the factor input is employed, all other input quantities remaining constant, a point will finally be reached where additional quantities of varying input will produce diminishing marginal contributions to total product.



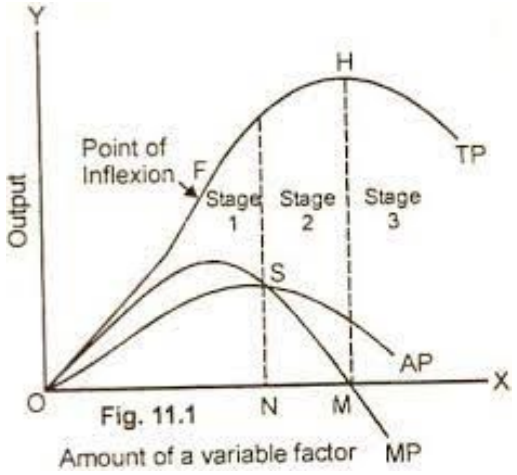


Fig. 11.1

MP begins to fall before the AP does. The reason is that the AP attributes the increase in TP equally to all the units of the variable factor whereas the MP, by definition, attributes the increase in TP to the marginal unit of the variable factor. If the MP is greater than the AP, the AP rises and if the MP is less than the AP, then the AP falls.

Returns to scale all inputs are changed at the same time (possible only in the long run), and suppose are increased proportionately, then the concept of returns to scale has to be used to understand the behaviour of output. The behaviour of output is studied when all factors of production are changed in the same direction and proportion. In the long run, output can be increased by increasing the 'scale of operations'. When we speak of increasing the 'scale of operations' we mean increasing all the factors at the same time and by the same proportion.

Behaviour of profitmaximizing firms and the production process

1. **Equilibrium of a Firm—The Total Revenue and Total Cost**

Profit becomes maximum irrespective of the market situation, when the difference between total revenue (TR) and total cost (TC) becomes the greatest. In Fig. 3.37, a TR curve for a perfectly competitive firm has been drawn. The TR curve starts from the origin and it rises in proportion to the rise in the volume of sales.

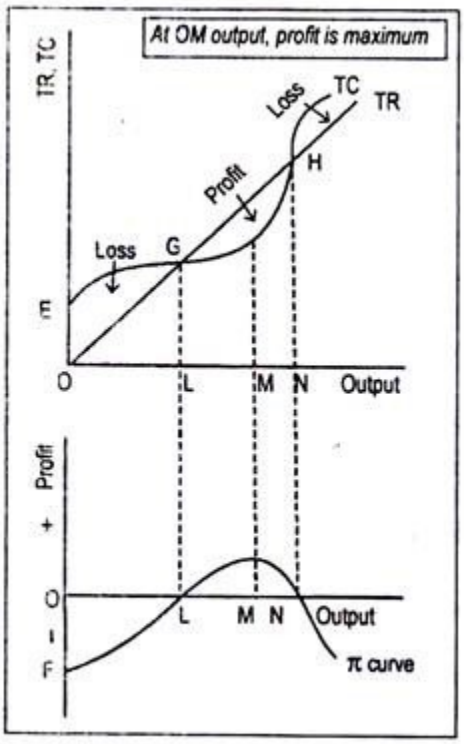


Fig. 3.37: Competitive Equilibrium : The TR-TC Approach

The TC curve starts from point E which lies above the origin. This means that costs are positive even if no output is produced. Such costs are called fixed costs of a firm. All these curves have been drawn in the upper panel of the figure. The bottom part of the figure shows various amounts of profit enjoyed by a firm at various volumes of output.

Below the level of output OL, the firm incurs a loss since TC exceeds TR. Only at the OL output level, TR equals TC and the firm earns only normal profit. Thus, point G is called break-even point. Now, if more than OL but less than ON output is produced, TR will exceed total cost and the firm will earn supernormal profit.

However, at the output level OM, as the difference between TR and TC is the greatest, profit is maximum. This is clear from the bottom panel of the figure where n is the profit curve. Below OL output level, profit curve lies below the origin indicating negative profit. Profit becomes zero at OL output level.

It becomes maximum at OM output level and, again, it reduces to zero (i.e., break-even point) when ON amount of output is produced. Beyond ON (or at ON), as TC exceeds TR, the firm incurs a loss. Now the profit curve has again entered the negative quadrant.

Anyway, maximum profit is obtained at the output level OM, where the vertical distance between TR and TC curves is the maximum.

However, this approach is not free from defects. Firstly, a visual inspection suggests the maximum distance between TR and TC. But it is not easy to determine the exact volume of output where the vertical distance between TR and TC curves is the greatest.

Secondly, we do not know the price per unit of output sold. To obtain price, we will have to divide total revenue by the total output. In view of these problems associated with this approach, we use the marginalistic approach.

2. Equilibrium of a Firm—the Marginal Revenue and Marginal Cost Approach:

Irrespective of the market conditions, a firm will stop production if total revenue falls short of total variable cost. Profit will be maximized at that point where MR and MC are equal to each other. For any output MR > MC, the firm will expand output.

Doing so, it will add more to its revenues them to its costs, thereby increasing profit. On the other hand, for the output MR > MC means that there is no incentive on the part of the firm to raise its output. If it decides to increase output when MC > MR, it will add more to its costs than to its revenues, thus reducing profit. Hence the profit-maximizing output occurs at that point when MR = MC.

In Figs. 3.38 and 3.39, we have shown equilibrium of a firm under perfect and imperfect competition, respectively. Under perfect competition, AR = MR = P. It has been drawn parallel to the horizontal axis. MC curve is U-shaped. Profit is maximized when MR and MC are equal.

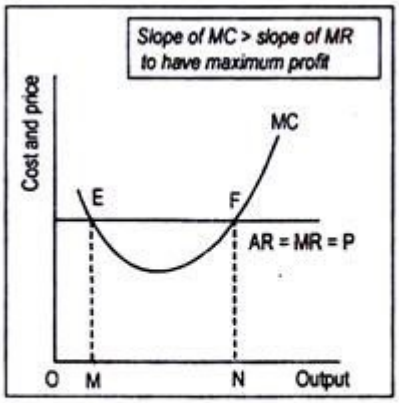


Fig. 3.38: Perfect Competition

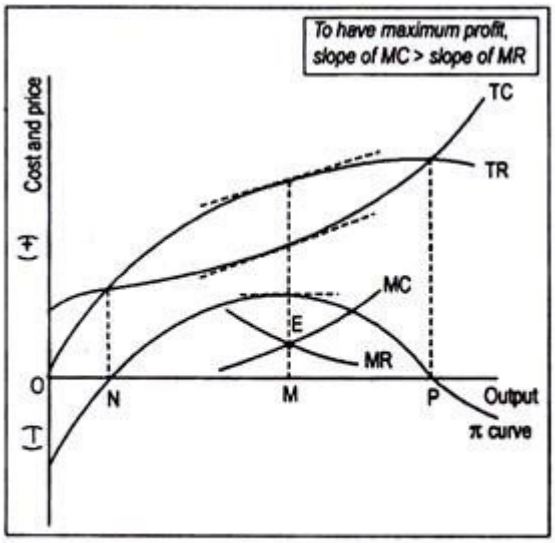


Fig. 3.39: Imperfect Competition

In Fig. 3.39, MC = MR at points E and F. Thus these are the two points where profit is maximized. One of the important properties of equilibrium is uniqueness. In other words, there cannot be more than one equilibrium point.

At point E, though MR = MC, it does not correspond to profit-maximizing situation.

If the firm expands output beyond OM, it will add more revenue than to its costs, since MR > MC. It will enjoy more profit by producing more output. Only at output ON will profit be maximized when MR = MC. Production beyond ON will entail a loss since MC > MR. So, a profit-maximizing firm always changes output toward the level at which MR = MC.

On the basis of the above discussion, one can conclude that there are two conditions for profit-maximization:

i. MC = MR, known as necessary condition or first-order condition (FOC); and

ii. MC curve must cut MR curve from below.

This condition may be modified in the following way:

Slope of MC must be greater than the slope of MR or the rate of change of MC must be greater than the rate of change of MR. This condition is called sufficient condition or second-order condition (SOC).

Note that, since MR is a horizontal curve, its slope is zero. At point E, slope of MC > slope of MR. This means that at point E, only FOC is satisfied, and not SOC. Equilibrium requires the fulfilment of both FOC and SOC, simultaneously. This occurs at point F. Corresponding to point F, ON is the profit-maximizing level of output.

In Fig 3.39, the imperfectly competitive firm is in equilibrium at point E where both FOC and SOC are satisfied. At OM output, profit is actually maximized since the difference between TR and T'C is the greatest π curve or the profit curve shows that profit is maximum at OM output.

Note that the gradients of the TR and TC curves (i.e., MR and MC, respectively) have identical slopes at OM output.

So total profit becomes maximum when the following two conditions (FOC and SOC) for equilibrium hold:

(i) MC= MR and

(ii) Slope of MC > slope of MR.

However, profit is zero both at ON and OP levels of output since, at these output levels, TR equals TC.

Isoquants and cost minimising equilibrium conditions

Production Equilibrium

Isoquant curves, as we learned above, show us input combinations that we can employ to produce certain levels of output. Furthermore, isocost lines help us determine combinations of two factors in which we can invest our outlays to produce output. A combination of these two graphs is what gives us the optimum production level, i.e. the producer's equilibrium.

Using this equilibrium, the producer can determine different combinations to increase output. He can also use this information to find ways to cut costs using the same inputs and consequently generate more profit. We can find out the least expensive combinations of factors by superimposing isoquant curves on isoquant lines.

Plotting Producer's Equilibrium

The graph below shows how we can use isoquant curve and isocost lines to determine optimum producer's equilibrium.

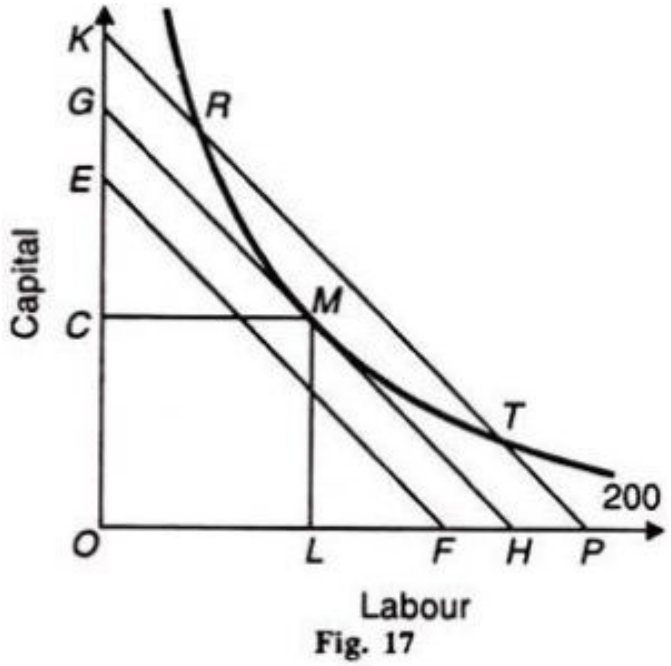


Fig. 17

In the figure shown above, the isoquant curve represents targeted output, i.e. 200 units. Icocost lines EF, GH and KP show three different combinations in which we can utilize the total outlay of inputs, i.e. capital and labour.

The isoquant curve crosses all three isocost lines on points R, M and T. These points show how much costs we will incur in producing 200 units. All three combinations produce the same output of 200 units, but the least costly for the producer will be point M, where isocost line GH is tangent to the isoquant curve.

Points R and T also cross the isoquant curve and equally produce 200 units, but they will be more expensive because they are on the higher isocost line of KP. At point R the producer will spend more on capital, and labour will be more expensive on point T.

Thus, point M is the producer's equilibrium. It will produce the same output of 200 units, but will a more profitable combination as it will cost less. The producer must, therefore, spend OC amount on capital and OL amount on labour.

Isoquant Curves

These lines represent various input combinations which produce the same levels of output. The producer can choose any of these combinations available to him because their outputs are always the same. Thus, we can also call them equal–product curves or production indifference curves. Just like indifference curves, isoquants are also negatively-sloping and convex in shape. They never intersect with each other. When there are more curves than one, the curve on the right represents greater output and curves on the left show less output.

Economies of scale; costs and revenue curves

The existence of economies of scale vs. diseconomies of scale is determined based on the relationship between the production and price of an item or product. Economies of Scale is the concept referring to a business event where the price of an item or product decreases as the production of the same item or product increases. Diseconomies of scale defined is the inverse of economies of scale. It is where prices of an item or product increase as output of the same item or product decreases. Both concepts are commonly used in the business world to describe the status of production of an item or product. These concepts can also be used to conduct research into reasons why efficiency is being maximized in certain areas of a business or why efficiency is lacking in other areas of a business.

The Firm and the market structure

Market structure

When we talk about a market we generally visualize a crowded place with a lot of consumers and a few shops. People are buying various goods like groceries, clothing, electronics, etc. And the shops are also selling a variety of products and services as well. So in a traditional sense, a market is where buyers and seller meet to exchange goods and services.

Now we have seen what a market is. Let us learn more about the classification of markets. Broadly there are two classifications of markets – the product market and the factor market. The factor market refers to the market for the buying and selling of factors of production like land, capital, labor, etc. The other classification of markets is as follows:-

- **Local Markets:** In such a market the buyers and sellers are limited to the local region or area. They usually sell perishable goods of daily use since the transport of such goods can be expensive.
- **Regional Markets:** These markets cover a wider are than local markets like a district, or a cluster of few smaller states.
- **National Market:** This is when the demand for the goods is limited to one specific country. Or the government may not allow the trade of such goods outside national boundaries.
- **International Market:** When the demand for the product is international and the goods are also traded internationally in bulk quantities, we call it an international market.

Equilibrium of a firm & perfect market equilibrium

Equilibrium of Firm:

"A firm is a unit engaged in the production for sale at a profit and with the objective of maximizing profit." -Watson

A firm is in equilibrium when it is satisfied with its existing level of output. The firm wills, in this situation produce the level of output which brings in greatest profit or smallest loss. When this situation is reached, the firm is said to be in equilibrium.

“Where profits are maximized, we say the firm is in equilibrium”. -Prof. RA. Bilas

“The individual firm will be in equilibrium with respect to output at the point of maximum net returns.” -Prof. Meyers

Conditions of the Equilibrium of Firm:
A firm is said to be in equilibrium when it satisfies the following conditions:

1. The first condition for the equilibrium of the firm is that its profit should be maximum.

2. Marginal cost should be equal to marginal revenue.

3. MC must cut MR from below.

The above conditions of the equilibrium of the firm can be examined in two ways:

1. Total Revenue and Total Cost Approach

2. Marginal Revenue and Marginal Cost Approach.

1. Total Revenue and Total Cost Approach:
A firm is said to be in equilibrium when it maximizes its profit. It is the point when it has no tendency either to increase or contract its output. Now, profits are the difference between total revenue and total cost. So in order to be in equilibrium, the firm will attempt to maximize the difference between total revenue and total costs. It is clear from the figure that the largest profits which the firm could make will be earned when the vertical distance between the total cost and total revenue is greatest.

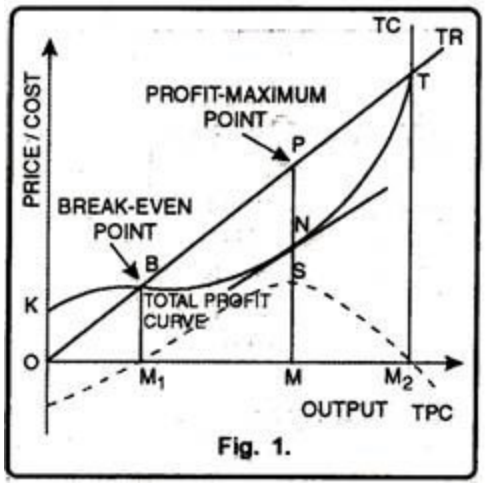


Fig. 1.

In fig. 1 output has been measured on X-axis while price/cost on Y-axis. TR is the total revenue curve. It is a straight line bisecting the origin at 45°. It signifies that price of the commodity is fixed. Such a situation exists only under perfect competition.

TC is the total cost curve. TPC is the total profit curve. Up to OM_1 level of output, TC curve lies above TR curve. It is the loss zone. At OM_1 output, the firm just covers costs TR=TC. Point B indicates zero profit. It is called the break-even point. Beyond OM_1 output, the difference between TR and TC is positive up to OM_2 level of output. The firm makes maximum profits at OM output because the vertical distance between TR and TC curves (PN) is maximum.

The tangent at point N on TC curve is parallel to the TR curve. The behaviour of total profits is shown by the dotted curve. Total profits are maximum at OM output. At OM_2 output TC is again equal to TR. Profits fall to zero. Losses are minimum at OM] output. The firm has crossed the loss zone and is about to enter the profit zone. It is signified by the break-even point-B.

2. Marginal Revenue and Marginal Cost Approach:

Joan Robinson used the tools of marginal revenue and marginal cost to demonstrate the equilibrium of the firm. According to this method, the profits of a firm can be estimated by calculating the marginal revenue and marginal cost at different levels of output. Marginal revenue is the difference made to total revenue by selling one unit of output. Similarly, marginal cost is the difference made to total cost by producing one unit of output. The profits of a firm will be maximum at that level of output whose marginal cost is equal to marginal revenue.

Thus, every firm will increase output till marginal revenue is greater than marginal cost. On the other hand, if marginal cost happens to be greater than marginal revenue the firm will sustain losses. Thus, it will be in the interest of the firm to contract the output. It can be shown with the help of a figure. In fig. 2 MC is the upward sloping marginal cost curve and MR is the downward sloping marginal revenue curve. Both these curves intersect each other at point E which determines the OX level of output. At OX level of output marginal revenue is just equal to marginal cost.

It means, firm will be maximizing its profits by producing OX output. Now, if the firm produces output less or more than OX, its profits will be less. For instance, at OX_1 its profits will be less because here MR = JX_1, while MC = KX_1 So, MR > MC. In the same fashion at OX_2 level of output marginal revenue is less than marginal cost. Therefore, beyond OX level of output extra units will add more to cost than to revenue and, thus, the firm will be incurring a loss on these extra units.

Besides first condition, the second order condition must also be satisfied, if we want to be in a stable equilibrium position. The second order condition requires that for a firm to be in equilibrium marginal cost curve must cut marginal revenue curve from below. If, at the point of equality, MC curve cuts the MR curve from above, then beyond the point of equality MC would be lower than MR and, therefore, it will be in the interest of the producer to expand output beyond this equality point. This can be made clear with the help of the figure.

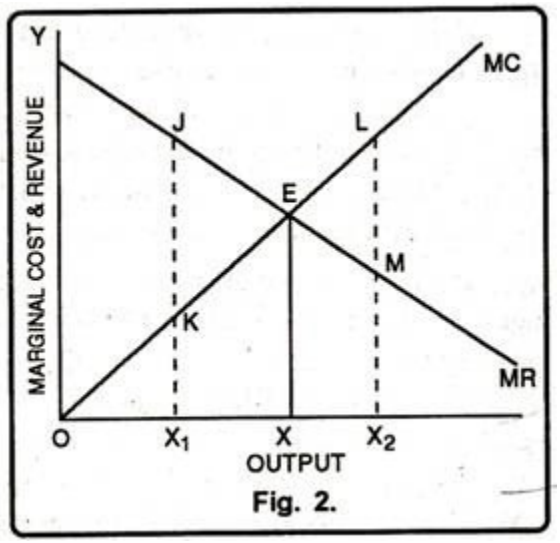


Fig. 2.

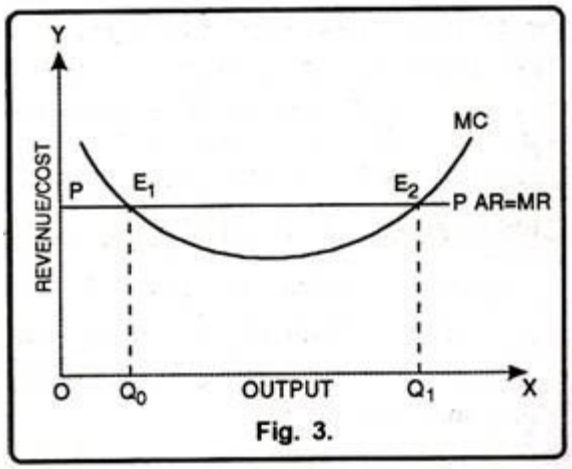


Fig. 3.

In figure 3 output has been measured on X-axis while revenue on Y-axis. MC is the marginal cost curve. PP curve represents the average revenue as well as marginal revenue curve. It is clear from the figure that initially MC curve cuts the MR curve at point E_1. Point E_1 is called the 'Break Even Point' as MC curve intersects the MR curve from above. The profit maximizing output is OQ_1 because with this output marginal cost is equal to marginal revenue (E_2) and MC curve intersects the MR curve from below.

A. Determination of Short Run Equilibrium of Firm:

Short-run refers to that period in which fixed factors remaining unchanged the firms in order to incur maximum profits can vary their output by changing the variable factors like labour, raw material etc. In the short period, it is not necessary that the firms must earn supernormal or normal profits but even the firms may have to sustain the losses.

A firm may earn supernormal profits because in the short run, firms cannot enter the industry. Moreover, a firm may suffer losses, because in the short run, may not step up production even when price of the product falls. In case, it stops production temporarily, it will have to bear the loss of fixed cost which will constitute the minimum losses of the firm.

However, all the above stated possibilities have been explained as under:

(i) Supernormal Profits:

A firm is said to be in equilibrium when its marginal cost is equal to marginal revenue and marginal cost curve cuts the marginal revenue curve from below. A firm in equilibrium enjoys supernormal profits if average revenue exceeds marginal cost. This fact has been shown in fig 4.

In figure 4 outputs has been shown on horizontal axis and revenue on vertical axis. MC and AC are the marginal cost and average cost curves respectively. PP is the average revenue curve. It is clear from the figure that MC curve intersects the MR curve from below at point N which shows output OX. At this level of output price is NX and average cost is MX. Since average revenue is greater than average cost, the firm is earning super-normal profits MN per unit of output. Thus, the total super-normal profits of a firm will be equal to PLMN.

(ii) Normal Profit:

Normal profits refer to those profits where the average cost of the firm equals the average revenue. These profits cover just the reward for entrepreneurial services and are included in the cost of production. It can be shown with the help of a figure. In figure 5 the equilibrium has been depicted at point E. At point E marginal revenue is equal to marginal cost and marginal cost intersects the marginal revenue curve from below. The firm earns normal profits at OX output because at this output both the conditions of equilibrium are fulfilled.

(iii) Minimum Losses:

A firm in equilibrium incurs losses when it does not cover the average cost. In other words, when average revenue falls short of average cost, the firm has to sustain losses. In figure 6 the firm is said to be in equilibrium at point T. At this level of output both the conditions of equilibrium are satisfied i.e., marginal revenue is equal to marginal cost and marginal cost curve intersects the marginal revenue curve from below. Thus, it determines the OX level of output correspondingly price is OP. It means loss per unit of output is RT. Therefore, losses will be PSTR.

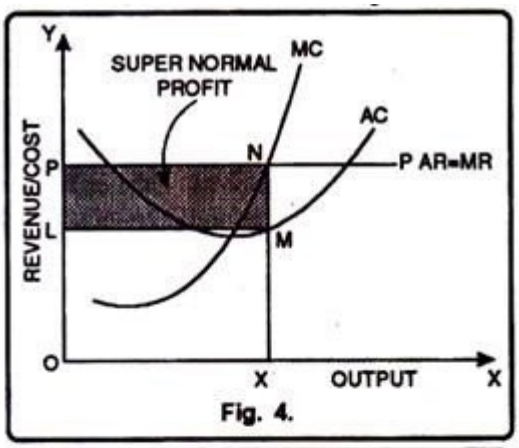


Fig. 4.

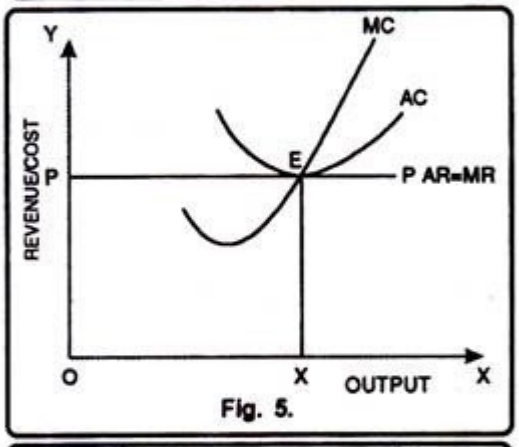


Fig. 5.

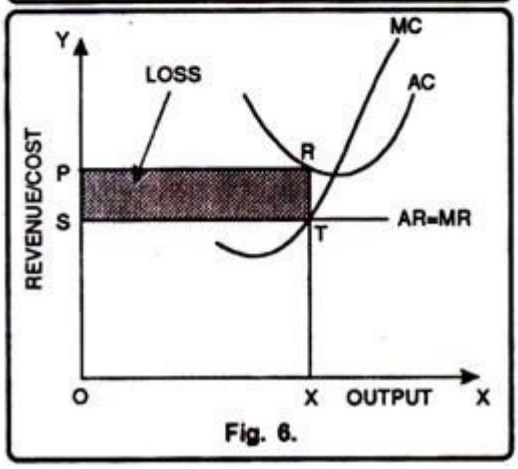


Fig. 6.

(iv) Shut Down Point:

Simple question is why firms continue producing the product if they are making losses. In the short run, the firms cannot go out of the industry by disposing off the plant. Why do they not shut down? It is because they cannot change the fixed factors and they have to face fixed costs even if the firm is shut down.

The firm can avoid only variable costs but it has to bear the fixed costs whether to produce or not. The firm will continue producing till the price covers the average variable cost. If the price covers some part of the average fixed costs besides the variable

costs, the producer will continue producing. Thus the firm will continue producing so long as price exceeds average variable cost. The shut down point can be shown with the help of a diagram.

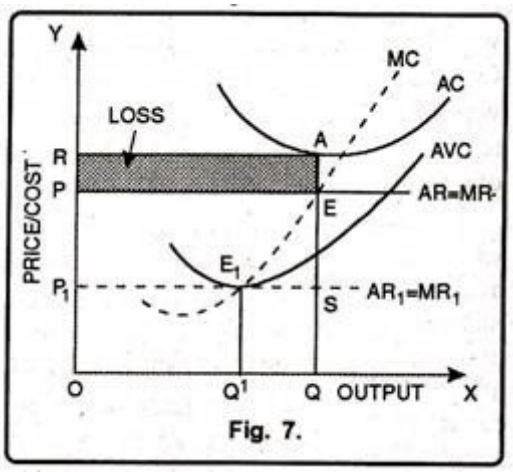


Fig. 7.

In diagram 7 equilibrium is at E where MR = MC and MC cuts MR from below. The price is EQ and OQ is the output. This price covers the average variable cost. Average cost corresponding to this output is AQ. In that way loss per unit is AE which is equal to average fixed cost. The total losses are equal to total fixed costs. If price is slightly below OP, level, the firm will not produce at all. The firm will simply shut down production and wait for some good days to come.

Shut Down Point (Losses=Total Fixed Costs):

However, the firm may continue to operate even under such a situation because of the following reasons:

1. The firm may continue to operate because a higher valuation (value) is given to an on-going concerns rather than a closed down firm.

2. More prestige is attached to the owner or manager of a on-going concern than to that of a firm that has closed down or ceased to operate.

3. By keeping the operation going, the firm will not lose competent personnel.

4. The firm may continue to operate in the hope of earning profits in future.

B. Determination of Long Run Equilibrium of the Firm:

Long run refers to that period in which the producer can change its supply by changing all the factors of production. In other words, the producer has the sufficient time to adjust their supplies according to the changed demand conditions.

Moreover, new firms can also enter and existing firms can leave the industry. In the long-run, the firm is said to be in equilibrium when marginal cost is equal to price. Besides it, the firm under perfect competition to be in equilibrium-price must be equal to average cost. Generally, in the long run, firm in equilibrium earns normal profits. If the firms happen to earn the super normal profits in the long period, the existing firms will increase their production.

Lured by super normal profits some new firms will enter into the industry. The total supply of the product will increase and the price falls down. Thus, due to fall in price the firms will get normal profits. In case price of the product is less than the average cost, the firms would make losses. These losses would induce some firms to leave the industry. Consequently the output of the industry will fall which will raise the price, hence, the firms will begin to earn normal profits. It can be shown with the help of a figure 8.

In figure 8 output has been depicted on X-axis while revenue on Y-axis. SAC is the short run average cost curve and LAC is the long run average cost curve. Similarly, SMC and LMC are the short run marginal cost and long run marginal cost curves respectively.

Let us suppose that the industry determines OP price. At this price firms are producing with SAC_1 and is earning super normal profits equal to the shaded area PLNM. Lured by these super normal profits, the existing firms will increase their production capacity, thus, the new firms will enter the industry. As a result of the entry of the new firms supply of the product will increase which will lead to a fall in price.

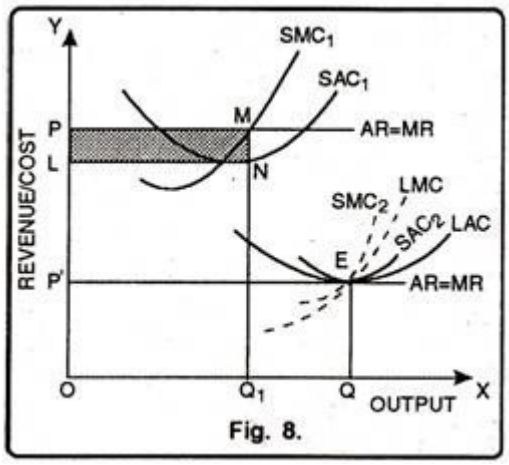


Fig. 8.

Thus, the price will fall to OP'. At this price, the firm will be in equilibrium at point E and will produce OQ level of output. It is due to the reason that at point E, marginal revenue, long run marginal cost, average revenue and long run average cost are all equal and the firm earns normal profits.

Symbolically:

MR = LMC = AR = LAC = SAC = SMC = Price

Difficulties of TR-TC Approach:
The main difficulties of TR and TC approach are as under:

1. It is very difficult to analyze at what level of output profits are maximum.

2. It is difficult to see at a glance the maximum vertical distance between TR and TC approach.

3. It is very difficult to discover the price per unit of output.

Equilibrium of Industry:
The group of firms producing homogeneous product is called industry. In fact the concept of industry exists only under perfect competition. An industry is said to be in equilibrium when it has no tendency to increase or decrease its level of output.

According to Prof. Hansen, "An industry will be in equilibrium when there is no tendency for the size of the industry to change i.e., when no firms wish to leave it and no

new firms are being attracted to it." New firms will have no tendency to enter the industry when existing firms are enjoying normal profits. The normal profits earned by a firm are included in total cost.

In this way equilibrium for the industry means that firms are neither moving in or nor moving out. It means that the level of profits in it is neither above nor below the normal level and hence is equal to it.

Conditions of Equilibrium of an Industry:

1. Constant Number of Firms:

An industry will be in equilibrium when the number of firms remains constant. In this situation, no new firms will enter and no old firms will leave the industry.

2. Equilibrium of Firms:

An industry will be in equilibrium when all firms operating in it are in equilibrium and have no tendency to increase or decrease the level of output.

(i) Short Run Equilibrium of Industry:

In the short run, the industry is said to be in Equilibrium when all the firms operating under it are in equilibrium. But for the industry to be in full equilibrium in the short run is very rare. Full equilibrium position is possible when firms earn normal profits. In the short run firms can also earn supernormal profits or incur losses. It can be shown with the help of fig. 9.

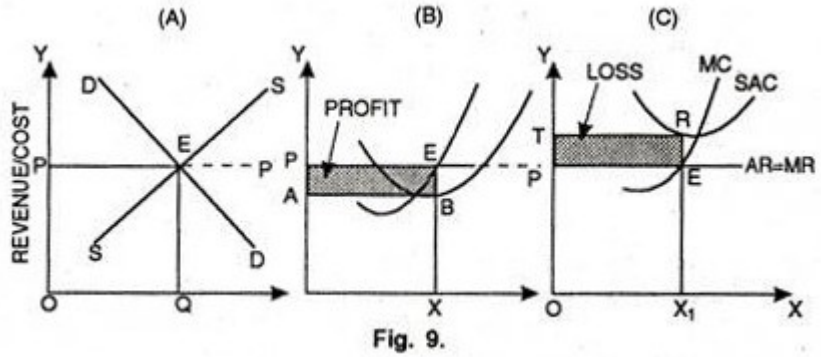


Fig. 9.

In fig. 9 (A) DD is the industry's demand curve and SS represents the supply curve. Both these curves intersect each other at point E which establishes equilibrium of the industry.

At this equilibrium point, industry sets price OP and produces OQ level of output. But, it will not be the full equilibrium of the industry.

In fig. B the firms are enjoying supernormal profits as indicated by ABED. In fig. 9 C, the firms are incurring losses equal to the shaded area PERT. In the long run, firms incurring losses will leave the industry. On the other hand, firms getting supernormal profits will expand their production capacity. Lured by supernormal profits new firms will enter the industry. Consequently, industry will be in equilibrium in the short run only if all firms are enjoying normal profits.

(ii) Long Run Equilibrium of the Industry:

The long run equilibrium of the industry can be shown with the help of a figure 10. In the long run the industry will be in equilibrium at a point where long run supply (LRS) is equal to long run demand (LRD). This determination of price is OP and output OQ. The firm will follow this price and will be in equilibrium at E_1. Here, the firms will earn just normal profits. Thus, according to Left-witch, "The existence of long run industry equilibrium requires long run individual equilibrium at no profit no loss level of operation".

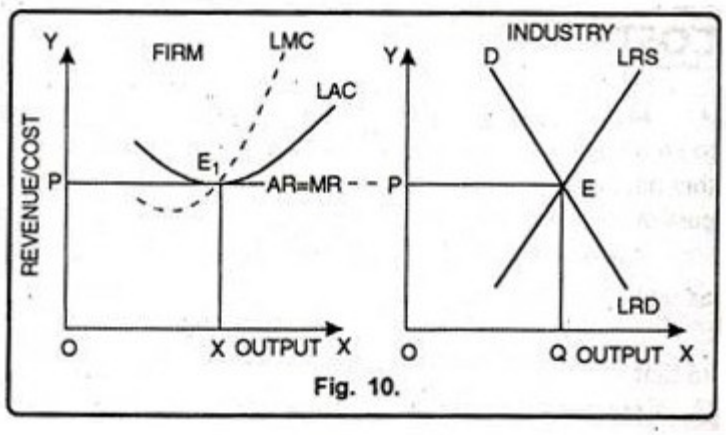


Fig. 10.

Short run costs and output decisions costs and output in the long run

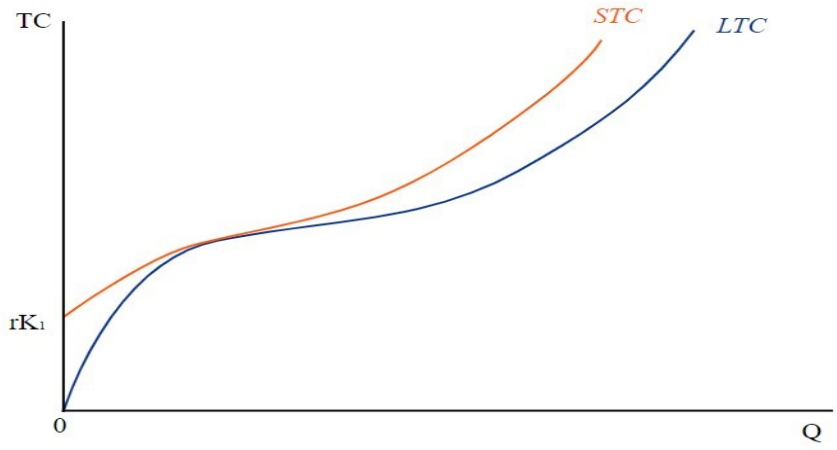
Long Run Costs

Long run costs are accumulated when firms change production levels over time in response to expected economic profits or losses. In the long run there are no fixed factors of production. The land, labor, capital goods, and entrepreneurship all vary to reach the the long run cost of producing a good or service. The long run is a planning and implementation stage for producers. They analyze the current and projected state of the market in order to make production decisions. Efficient long run costs are sustained when the combination of outputs that a firm produces results in the desired quantity of the goods at the lowest possible cost. Examples of long run decisions that impact a firm's costs include changing the quantity of production, decreasing or expanding a company, and entering or leaving a market.

Short Run Costs

Short run costs are accumulated in real time throughout the production process. Fixed costs have no impact of short run costs, only variable costs and revenues affect the short run production. Variable costs change with the output. Examples of variable costs include employee wages and costs of raw materials. The short run costs increase or decrease based on variable cost as well as the rate of production. If a firm manages its short run costs well over time, it will be more likely to succeed in reaching the desired long run costs and goals.

The main difference between long run and short run costs is that there are no fixed factors in the long run; there are both fixed and variable factors in the short run. In the long run the general price level, contractual wages, and expectations adjust fully to the state of the economy. In the short run these variables do not always adjust due to the condensed time period. In order to be successful a firm must set realistic long run cost expectations. How the short run costs are handled determines whether the firm will meet its future production and financial goals.



Cost curve: This graph shows the relationship between long run and short run cost

Imperfect Market Structure

What Is an Imperfect Market An imperfect market refers to any economic market that does not meet the rigorous standards of the hypothetical perfectly—or purely—competitive market. Pure or perfect competition is an abstract, theoretical market structure in which a series of criteria are met. Since all real markets exist outside of the spectrum of the perfect competition model, all real markets can be classified as imperfect markets. In an imperfect market, individual buyers and sellers can influence prices and production, there is no full disclosure of information about products and prices, and there are high barriers to entry or exit in the market. A perfect market is characterized by perfect competition, market equilibrium, and an unlimited number of buyers and sellers. Imperfect markets do not meet the rigorous standards of a hypothetical perfectly or purely competitive market. Imperfect markets are characterized by having competition for market share, high barriers to entry and exit, different products and services, and a small number of buyers and sellers. Perfect markets are theoretical and cannot exist in the real world; all real-world markets are imperfect markets. Market structures that are categorized as imperfect include monopolies, oligopolies, monopolistic competition, monophonies, and oligopsonies. Understanding Imperfect Markets All real-world markets are imperfect. Thus, the study of real markets is always influenced by competition for market share, high barriers to entry and exit, different products and services, prices set by price makers rather than by supply and demand, imperfect or incomplete information about products and prices, and a small number of buyers and sellers. For example, traders in the financial market do not possess perfect or even identical knowledge

about financial products. The traders and assets in a financial market are not perfectly homogeneous. New information is not instantaneously transmitted, and there is a limited velocity of reactions. When considering the implication of economic activity, economists only use perfect competition models. A such, the term imperfect market is somewhat misleading. Most people will assume an imperfect market is deeply flawed or undesirable. However, this is not always the case. The range of market imperfections is as wide as the range of all real-world markets—some are much or less efficient than others. Types of Imperfect Markets When at least one condition of a perfect market is not met, it can lead to an imperfect market. Every industry has some form of imperfection. Imperfect competition can be found in the following structures: Monopoly This is a structure in which there is only one (dominant) seller. Products offered by this entity have no substitutes. These markets have high barriers to entry and a single seller who sets the prices on goods and services. Prices can change without notice to consumers. Oligopoly This structure has many buyers but few sellers. These few players in the market may bar others from entering. They may set prices together or, in the case of a cartel, only one takes the lead to determine the price for goods and services while the others follow. Monopolistic Competition In monopolistic competition, there are many sellers who offer similar products that can't be substituted. Businesses compete with one another and are price makers, but their individual decisions do not affect the other. Monopsony and Oligopsony These structures have many sellers, but few buyers. In both cases, the buyer is the one who manipulates market prices by playing firms against one another.

Government policies towards competition

Competition policy provides a healthy environment to ensure that the companies serve in the best possible way to the consumers. In this article, we will discuss the competition policy and the competition commission of India along with its advantages.

Competition policy is a type of public policy that ensures to maintain the competition within the market or undermines in any ways which are detrimental to the economy of the country and the society of humans. Competition policy also plays a very important role in predicting the idea that competitive markets are central to growth, investment, innovation, and efficiency. Competition policy also helps to put companies or large industries under constant pressure which help to offer the best possible range of goods and services at the best possible

prices to the consumers. Business should be like a competitive game in the market where consumers act as the beneficiaries.

There are three main areas that are covered by competition policy which are as follows:

- **Restrictive Practices**

  Restrictive practices are controlled by competitor firms to fix the prices of the goods and services. It is very important for the largest multinational firms to collaborate with competitors in areas such as research and development

- **Monopolies**

  It is the abuse of a monopoly position that is addressed through policy. The regulation of utilities helps to transfer the large numbers of state-owned utilities into the private sector which provide the benefits of economies associated with a monopoly network provider

- **Mergers**

  Mergers are one of the most controversial and consequently areas of competition policy. There always has been a controversy whether a particular merger will result in a damaging reduction in the competition of prices without any potential benefits

Commission

The commission is the body or regulatory authority which helps to preserve the well-functioning of the markets and also prevent and correct anti-competitive behaviours

Competition Commission of India (CCI):

Competition Commission of India is abbreviated as CCI. It was formed on 14th October 2003. It has access to all ranges of goods and services. With the increase in competition, producers can generate maximum incentive to innovate and specialize. This would help to reduce the costs and provide wider choices to consumers. Fair competition in the market is very essential to achieve the objective of the competition commission. The main aim of the competition commission of India is to create and sustain fair competition in the economy of the country which provides producers to make the markets that work for the welfare of the consumers. Competition Commission of India mainly consists of chairperson and members who are appointed by the central government. The chairperson of the competition commission of India is Ashok Kumar Gupta.

Dr Sangeeta Kumar and Bhagwant Singh are the members of competition commission of India.

Role of Competition Commission of India:

The main role of the competition commission of India are as follows:

- The duty of the competition commission of India is to prevent practices that have adverse effects on competition and to promote & sustain competition in order to protect the interests of consumers and provide freedom of trade in the markets of India
- The competition commission of India also gives an opinion on competition issues received from a statutory authority which is established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues
- Competition Commission of India is also responsible to enforce the competition act, 2002 throughout India

National Competition Policy:

The national competition policy of India is formulated by the government of India. The main aim of the national competition policy is to achieve a high employment rate, high economic growth, standards of living for the people of India, entrepreneurship, protect economic rights, social development and promote economic democracy and support good governance by restricting rent-seeking practices.

Competition law and policy:

The competition act which was introduced in the year 2002 was amended by the competition amendment act in 2007 which mainly deals with the philosophy of modern competition laws. The act helps to prevent the anti-competitive agreements and abuse of dominant position by large companies. This act also regulates the combinations of acquisition and acquiring of control which causes an appreciable adverse effect on competition within the country.

Advantages of Competition policy to Consumers:

There are numerous benefits of competition policy with respect to consumers which are as follows:

- **Up gradation**

  The companies upgrade their product as well as innovate on a regular basis. If there was no competition in the market, there would be no innovations. So, upgrading is a very beneficial advantage of having market competition

- **Adding more value**

  The main advantage of competition policy is that companies are always trying to add more value to their product. At every step, they try to increase the quality of the product or decrease the prices. In both cases, the products become more effective and desirable to the customers

- **More options for customers**

  Due to competition policy, the customers get various more options that are available in the market. When competition is strong in the market, various companies such as Samsung offer various options to the customer

- **Productivity**

  Businesses tend to be more productive and efficient due to the competition policy in the market. For example, In case, your competitor is making and modifying their strategies on a regular basis then you will also optimize your operations and manufacturing. Due to this reason, customers get better customer service and optimized products. This is one of the biggest advantages of market competition

- **Focus on sales and customers**

  The best advantage of market competition is the company primarily focuses on sales and on its customers. More customers mean more market share. However, when a company starts losing its market share, then competitors can have an advantage. If there will be no competition, then the company would not be worried about sales or market share

Benefits of Competition policy to Businesses:

Competition policy not only benefits consumers but also businesses in various ways:

1. Competition in the market helps businessmen to think more innovatively which can be beneficial for the growth of the business.

2. If there will be no competition in the market, then the companies might not focus much on the quality of service. The product might be boosted in the market but customers are not actually satisfied with your service.
3. If there is high competition in the market, the companies get better information about customer preferences or requirements.
4. To stand out from the competition, the companies always need to be highly motivated.

Imperfect competition

What is Imperfect Competition?

Imperfect competition describes market structures that do not meet the strict criteria of perfect competition. It includes monopolies, oligopolies, and monopolistic competition, where firms have some control over prices due to product differentiation, limited number of competitors, or barriers to entry. This results in higher prices and lower output compared to perfect competition. Consumers face fewer choices and potentially higher prices, while firms can achieve economic profits due to reduced competition and market power.

Difference Between Perfect Competition and Imperfect Competition

Perfect competition and imperfect competition are two types of market structures that exist in economics. The main differences between the two can be summarized as follows:

1. **Number of Market Players:**

Perfect competition involves many buyers and sellers who deal in homogeneous goods. On the other hand, imperfect competition involves a small number of buyers and sellers who deal in differentiated goods.

2. **Control over Price:**

In perfect competition, no individual buyer or seller has control over the price of the good, as the market forces of supply and demand determine the price. In imperfect competition, firms have some degree of control over the price, as they can manipulate the supply and demand of their differentiated product.

3. **Barriers to Entry:**

Perfect competition has no barriers to entry, meaning new firms can easily enter the market and compete. In imperfect competition, entry barriers exist, such as patents, economies of scale, and high start-up costs, making it difficult for new firms to enter the market.

4. **Information Transparency:**

Perfect competition assumes that all market players have perfect information about the market, including prices and quality. In imperfect competition, information is unequal, and firms may have an advantage over others.

5. **Profit Maximization:**

In perfect competition, firms aim to maximize profits by producing at the point where marginal cost equals marginal revenue. In imperfect competition, firms aim to maximize profits by producing at the point where marginal revenue equals marginal cost. Still, they also have to consider the impact of their actions on their competitors.