KV Institute of Management and Information Studies
BA5101- Economic Analysis for Business

UNIT I

INTRODUCTION

The themes of economics – scarcity and efficiency – three fundamental economic problems – society‟s capability – Production possibility frontiers (PPF) – Productive efficiency Vs economic efficiency – economic growth & stability – Micro economies and Macro economies – the role of markets and government – Positive Vs negative externalities.

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1.1 Introduction to economy

Economics is the social science studying the production, distribution and consumption of goods and services. It is a complex social science that spans from mathematics to psychology. At its most basic, however, economics considers how a society provides for its needs. Its most basic need is survival; which requires food, clothing and shelter. Once those are covered, it can then look at more sophisticated commodities such as services, personal transport, entertainment, the list goes on

Economics is essentially a study of the usage of resources under specific constraints, all bound with an audacious hope that the subject under scrutiny is a rational entity which seeks to improve its overall well-being.

Two branches within the subject have evolved thus: microeconomics (individual choices) which deals with entities and the interaction between those entities, while macroeconomics (aggregate outcomes) deals with the entire economy as a whole.

The aim of studying economics is to understand the decision process behind allocating the currently available resources, the needs always unlimited but resources being limited.

Adam Smith wrote "An Inquiry into the Nature and Causes of the Wealth of Nations"into four divisions i.e. consumption, distribution, production and exchange of wealth.

Economics can be studied under two heads:

1) Micro Economics
2) Macro Economics

Micro Economics:

- It has been defined as that branch where the unit of study is an individual, firm or household. It studies how individual make their choices about what to produce, how to produce, and for whom to produce, and what price to charge.
- It is also known as the price theory is the main source of concepts and analytical tools for managerial decision making.
- Various micro-economic concepts such as demand, supply, elasticity of demand and supply, marginal cost, various market forms, etc. are of great significance to managerial economics.

Macro Economics:

- It's not only individuals and forms who are faced with having to make choices. Governments face many such problems.

For e.g.

- How much to spend on health
- How much to spend on services
- How much should go in to providing social security benefits.

Following are the various economic concepts which are useful for managers for decision making:

- Price elasticity of demand
- Income elasticity of demand
- Cost and output relationship
- Opportunity cost
- Multiplier
- Propensity to consume
- Marginal revenue product
- Production function
- Demand theory
- Theory of firm—price, output and investment decisions
- Money and banking
- Public finance and fiscal and monetary policy
- National income and
- Theory of international trade

1.1.1 NATURE OF MANAGERIAL ECONOMICS

Managerial economics aims at providing help in decision making by firms. It is heavily dependent on microeconomic theory. The various concepts of micro economics used frequently in managerial economics

- Elasticity of demand
- Marginal cost
- Marginal revenue
- Market structures and their significance in pricing policies.
- Macro economy is used to identify the level of demand at some future point in time, based on the relationship between the level of national income and the demand for a particular product. It is the level of national income only that the level of various products depends. In managerial economics macro economics indicates the relationship between (a) the magnitude of investment and the level of national income, (b) the level of national income and the level of employment, (c) the level of consumption and the level of national income.
- In managerial economics emphasis is laid on those prepositions which are likely to be useful to management.

1.1.2 NATURE AND SCOPE OF MANAGERIAL ECONOMICS

Scope of Managerial Economics(ME)

ME deals with Demand analysis, Forecasting, Production function, Cost analysis, Inventory Management, Advertising, Pricing System, Resource allocation etc. Following aspects are to be taken into account while knowing the scope of ME:

1. **Demand analysis and forecasting:** Unless and until knowing the demand for a product how can we think of producing that product. Therefore demand analysis is something which is necessary for the production function to happen. Demand analysis helps in analyzing the various types of demand which enables the manager to arrive at reasonable estimates of demand for product of his company. Managers not only assess the current demand but he has to take into account the future demand also.
2. **Production function**: Conversion of inputs into outputs is known as production function. With limited resources we have to make the alternative uses of this limited resource. Factor of production called as inputs is combined in a particular way to get the maximum output. When the price of input rises the firm is forced to work out a combination of inputs to ensure the least cost combination.
3. **Cost analysis:** Cost analysis is helpful in understanding the cost of a particular product. It takes into account all the costs incurred while producing a particular product. Under cost analysis we will take into account determinants of costs, method of estimating costs, the relationship between cost and output, the forecast of the cost, profit, these terms are very vital to any firm or business.
4. **Inventory Management:** What do you mean by the term inventory? Well the actual meaning of the term inventory is stock. It refers to stock of raw materials which a firm keeps. Now here the question arises how much of the inventory is ideal stock. Both the high inventory and low inventory is not good for the firm. Managerial economics will use such methods as ABC Analysis, simple simulation exercises, and some mathematical models, to minimize inventory cost. It also helps in inventory controlling.
5. **Advertising:** Advertising is a promotional activity. In advertising while the copy, illustrations, etc., are the responsibility of those who get it ready for the press, the problem of cost, the methods of determining the total advertisement costs and budget, the measuring of the economic effects of advertising ---- are the problems of the manager. There's a vast difference between producing a product and marketing it. It is through advertising only that the message about the product should reach the consumer before he thinks to buy it. Advertising forms the integral part of decision making and forward planning.

6. **Pricing system:** Here pricing refers to the pricing of a product. As you all know that pricing system as a concept was developed by economics and it is widely used in managerial economics. Pricing is also one of the central functions of an enterprise. While pricing commodity the cost of production has to be taken into account, but a complete knowledge of the price system is quite essential to determine the price. It is also important to understand how product has to be priced under different kinds of competition, for different markets. Pricing = cost plus pricing and the policies of the enterprise Now it is clear that the price system touches the several aspects of managerial economics and helps managers to take valid and profitable decisions.
7. **Resource allocation:** Resources are allocated according to the needs only to achieve the level of optimization. As we all know that we have scarce resources, and unlimited needs. We have to make the alternate use of the available resources. For the allocation of the resources various advanced tools such as linear programming are used to arrive at the best course of action.

1.2 The Themes of economics

Scarcity and Efficiency refers to the Twin themes of Economics;

Scarcity occurs where it's impossible to meet all unlimited the desires and needs of the peoples with limited resources i.e ; goods and services. Society must need to find a balance between sacrificing one resource and that will result in getting other.

The common meaning of scarcity refers to the unavailability of goods and services in the market of a certain commodity. The conceptual meaning of scarcity in economics is however different. A commodity is scarce because it commands value. It commands price. We have to pay for any goods and services we want to consume. In addition, the resources that we have are also limited. A commodity is scarce, in economic sense not because it is rare or unavailable in market but because the means to have it are limited of resources to satisfy them are always limited. Human wants are unlimited, but between limited resources and unlimited wants and the problem there in. Economic problem arise because the goods we need are scarce. These scarce goods have many uses. Again, these uses are tempting and competing with each other. There is a problem of choice between alternative uses. Therefore, scarcity and choice guide the whole course of economic activities.

Scarcity is not just an individual problem. It is a problem of national economy as well. Its dimension charges when it is applied to national economy. In other words, scarcity of resources gives birth to national economic problems.

Scarcity brings broad human problems into our notice. There is poverty and human misery because of scarcity of resources. A poor man is poor because the resources accessible to him are scarce. A country is poor because there is scarcity of resources. Scarcity is deeper sense, tells the story of human misery and unhappiness around the earth. To understand and analyze the problem of poverty of a man and a country and to eradicate it, proper understanding of the problem of scarcity is of utmost importance.

Efficiency

Economic efficiency indicates an economic state in which all resources are allocated to serve each person in the best way possible, minimising waste and inefficiency.

Efficiency denotes the most effective use of a society's resources in satisfying peoples wants and needs. It means that the economy's resources are being used as effectively as possible to satisfy people's needs and desires. Thus, the essence of economics is to acknowledge the reality of scarcity and then figure out how to organize society in a way which produces the most efficient use of resources. In simple words it is a twin theme of Economics is best definition of Economics as following Goods are scarce and our Society must use it Efficiently. scarcity-insufficient of resources like land, labour, and capital. efficiency-maximum use of resources.

Given unlimited wants, it is important that an economy make the best use of its limited resources. That brings us to the critical notion of efficiency. Efficiency denotes the most effective use of a society's resources in satisfying people's wants and needs. By contrast, consider an economy with unchecked monopolies or unhealthy pollution or unwarranted government interferences. Such an economy may produce less than would be possible without these factors, or it may produce a disorted bundle of goods that leaves consumers worse off than they otherwise could be—either situation is an inefficient allocation of resources.

In economics, we say that an economy is producing efficiently when it cannot make anyone economically better off without making someone else worse off.

The essence of economics is to acknowledge the reality of scarcity and then figure out how to organize society in a way which produces the most efficient use of resources. That is where economics makes its unique contribution.

The situation in which it is impossible to generate a larger welfare total from the available resources. In other words, the situation where some people cannot be made better-off by reallocating the resources or goods, without making others worse-off. It indicates that a balance between benefit and loss has been achieved. Also called allocative efficiency. See also economic inefficiency and Pareto optimum.

1.3 Three fundamental economic problems:

The fundamental economic problem is how to allocate scare resources among unlimited wants, there are three questions to answer they are

- What to produce? - this refers to the types of goods & services should be produced & their quantities
- How to produce? - this refers to the method of production
- Whom to produce? - this refers to the national problem of how the national output should be distributed among the population.
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1. **What to produce?**

   This problem is what should the economy produce in order to satisfy consumer wants (as seen by demand curves) as best as possible using the limited resources available. If a country produces goods in a way that maximizes consumer satisfaction then the economy is allocatively efficient.

2. **How to produce?**

   This problem is how to combine production inputs to produce the goods decided in problem 1 as most efficiently as possible. An economy achieves productive efficiency if it produces goods using the least resources possible. A productively efficient economy is represented by an economy that is able to produce a combination of goods on the actual curve of the PPF.

3. **For whom to produce:**

   'Who should consume the produced goods and service?'Should the economy produce goods targeted towards those who have high incomes or those who have low incomes. What sort of demographic group should the goods in the economy that are produced be targeted towards? All these problems are focused around the problem of unlimited wants and limited resources. Where resources are the factors of production (such as labor, capital, technology, land) which are used to produce the products that satisfy the wants.

The economic problem fundamentally revolves around the idea of choice, which ultimately must answer the problem. Due to the limited resources available, producers must determine what to produce first to satisfy demand. Consumers are considered the biggest influences of this choice, and the goods which they want must also fit within their budgets and purchasing power parity. Different economic models place choice in different hands. Want must also fit within their budgets and purchasing power parity. Different economic models place choice in different hands.

1.4 Market Economy

Market Economy In a market economy, demand determines what goods and services are to be produced and how much of each good and service to be produced. Consumers are assumed to act in a rational manner so as to maximize their economic welfare. They spend their income on various products in such a way so as to maximize their economic welfare.

Given the demand, firms decide how to produce the required goods and services in a most efficient manner so as to maximize their profits. This results in optimum allocation o f scarce resources. The last question i.e., how the goods and services are distributed is resolved by the ownership pattern of factor inputs and factor prices.

In the market economy described above, prices assume significance in allocation of resources and determining factor prices.

Suppose consumer tastes change in favor of product A. In maximizing their welfare consumer demand for product A goes up. Given the supply, this results in an increased price for product A. This induces the firms to produce more of product A so as to maximize their profits. To increase the supply of product A more factor inputs are required for producing product A i.e., increase in demand for factor inputs used for producing product A. Hence prices of factor inputs used for producing A also increase. This causes the redistribution of income in favor of the factor inputs used for producing product A. This way price assumes significance by providing signals and incentives to the economic agents and co-ordinates their decisions in a market economy.

Adam Smith proclaimed that through the functioning of the invisible hand, those who pursue their own self-interest in a competitive economy would most effectively promote the public interest. The tendency of the market prices to direct individuals pursuing their own interests into productive activities that also promote the economic well being of the society, is referred to as the invisible hand principle. It has been proved that under restrictive assumptions, a perfectly competitive economy is efficient. It should be noted that an economy is said to be producing efficiently when it cannot increase the economic welfare of anyone without making someone else worse off.

According to Adam Smith, under perfect competition and with no market failures, markets will squeeze as many useful goods and services out of the available resources as possible. However, where monopolies or other sorts of market imperfections or market failures become pervasive, the remarkable efficiency properties of the invisible hand may be destroyed.

Command Economy

A command mechanism is a method of determining what, how, when, where and for whom goods and services are produced, using a hierarchical organization structure in which people carry out the instructions given to them. The best example of a hierarchical organization structure is the military. Commanders make decisions requiring actions that are passed down a chain of command. Soldiers and mariners on the front line take the actions they are ordered.

The economic system that prevailed in the former Soviet Union and the former communist nations of Eastern Europe was called a command economy because under that system central planning authorities determined resource allocation, production goals, and prices. A command economy differs from a market economy in two important ways:

Firstly, in a command economy the state owns all the productive resources, like land, factories, financial institutions, retail stores, and the bulk of the housing stock. Government enterprise and government ownership of resources are the rule rather than the exception in a command economy.

Secondly, in a command economy, authoritarian methods are used to determine resource use and prices. A centrally planned economy is one in which politically appointed committees plan production by setting target outputs for factory and enterprise managers and in general manager the economy to achieve political objective.

Mixed Economy

An economy that uses a market co-ordinating mechanism is called a market economy. However, most of the real world economies use both markets and commands to co-ordinate economic activity. An economy that relies on both markets and command mechanism is called a mixed economy.

In most modern nations, governments control many resources, and criteria other than personal gain and business profit are used to decide how resources will be employed. Most of modern nations have a mixed economy, where governments as well as business firms provide goods and services. In such economies government supplies roads, defense, pensions, and sometimes even schooling directly to the citizens. In modern economies, governments also commonly intervene in the markets to control prices and correct the shortcomings of a system in which prices and the pursuit of personal gain influence resource use and incomes.

1.5 Society's Capabilities

We need many goods and services. We like to consume goods including basic necessities like food, clothes, house, water and luxuries like diamonds, cars and huge bungalows and also needs services education, health and social security's, etc. All these goods and services are together called commodities; millions of commodities are produced and distributed all over the world. Millions of decisions are being made in the production and distribution of all such commodities. Commodities satisfy human wants and give pleasure or utility to individuals.

- Takes the initiative in combining the resources of land, labour, and capital
- Makes strategic business decisions
- Is an innovator
- Commercializes new products, new production techniques, and even new forms of business organization
- Takes risk to get profits

1.6 Production possibility frontiers(PPF)

An opportunity cost will usually arise whenever an economic agent chooses between alternative ways of allocating scarce resources. The opportunity cost of such a decision is the value of the next best alternative use of scarce resources. Opportunity cost can be illustrated by using production possibility frontiers (PPFs) which provide a simple, yet powerful tool to illustrate the effects of making an economic choice.

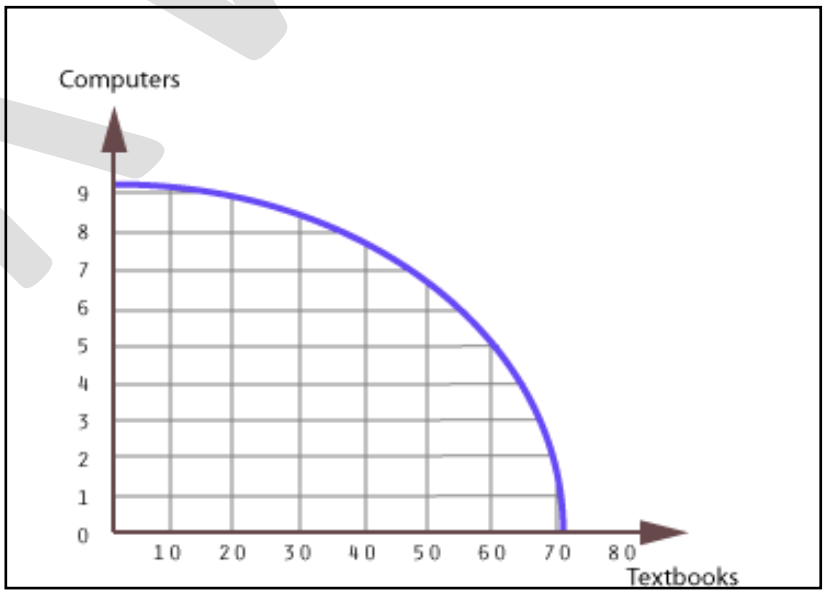
A PPF shows all the possible combinations of two goods, or two options available at one point in time.

Production possibilities

It is a hypothetical economy, produces only two goods - textbooks and computers. When it uses all of its resources, it can produce five million computers and fifty five million textbooks. In fact, it can produce all the following combinations of computers and books.

COMPUTERS (m)	TEXTBOOKS (m)
0	70
1	69
2	68
3	65
4	60
5	55
6	48
7	39
8	24
9	0

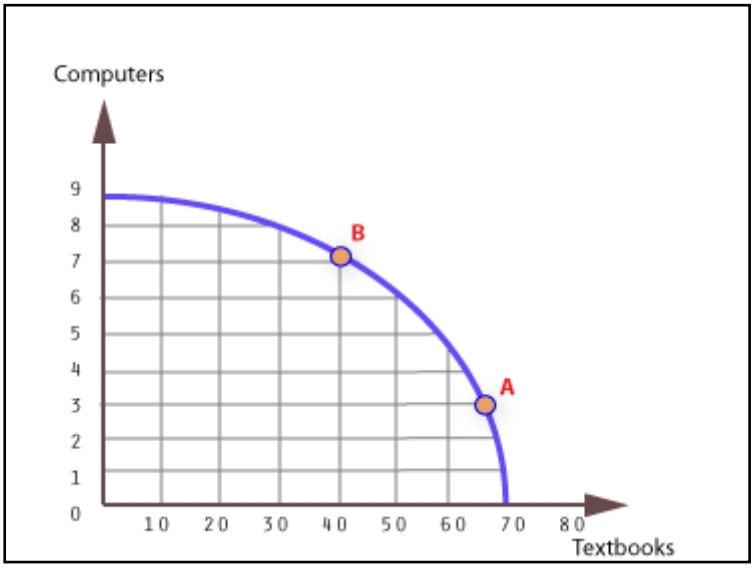
These combinations can also be shown graphically, the result being a production possibility frontier. The production possibility frontier (PPF) for computers and textbooks is shown here.



Interpreting PPFs

Firstly, we can describe the opportunity cost to Mythica of producing a given outputof computers or textbooks. For example, If Mythica produces 3m computers; the opportunity cost is 5m textbooks. This is the difference between the maximum output of textbooks that can be produced if no computers are produced (which is 70m) and the number of textbooks that can be produced if 3m computers are produced (which is 65m). Similarly, the opportunity cost of producing 7m computers is 31m textbooks - which is 70 - 39.

PPFs can also illustrate the opportunity cost of a change in the quantity produced of one good. For example, suppose Mythica currently produces 3 million computers and 65m textbooks. We can calculate the opportunity cost to Mythica if it decides to increase production from 3 million computers to 7 million, shown on the PPF as a movement from point A to point B. and textbooks is shown here.

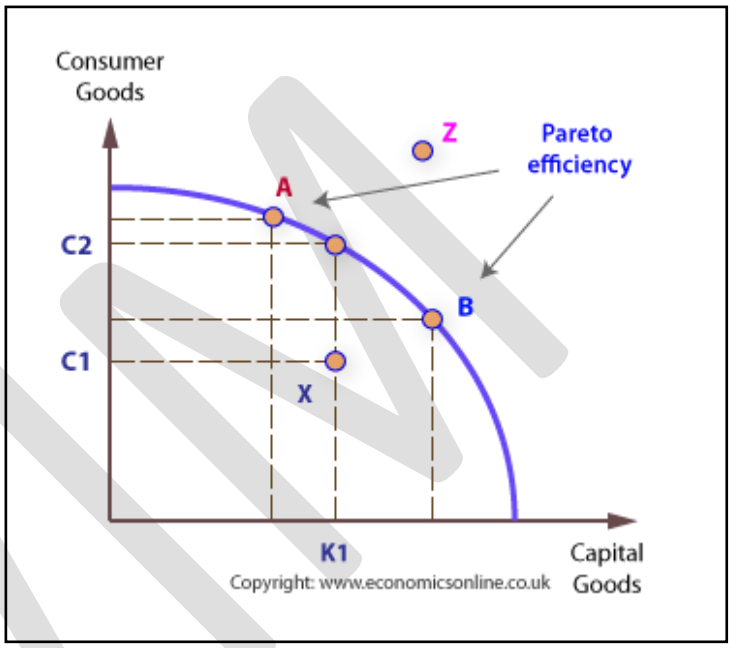


The result is a loss of output of 26 million textbooks (from 65 to 39m). Hence, the opportunity cost to Mythica of this decision can be expressed as 26m textbooks. In fact, this is the same as comparing the static opportunity cost of producing 3m computers (5m textbooks) and 7m computers (31m textbooks).

Pareto efficiency

Any point on a PPF, such as points 'A' and 'B', is said to be efficient and indicates that an economy's scarce resources are being fully employed. This is also called Pareto efficiency, after Italian economist Vilfredo Pareto. Any point inside the PPF, such as point 'X' is said to be inefficient because output could be greater from the economy's existing resources.

Any point outside the PPF, such as point 'Z', is impossible with the economy's current scarce resources, but it may be an objective for the future. Pareto efficiency can be looked at in another way - when the only way to make someone better off is to make someone else worse off. In other words, Pareto efficiency means an economy is operating at its full potential, and no more output can be produced from its existing resources.



Pareto efficiency is unlikely to be achieved in the real world because of various rigidities and imperfections . For example, it is unlikely that all resources can be fully employed at any given point in time because some workers may be in the process of training, or in the process of searching for a new job. While searching for work, or being trained, they are unproductive. Similarly, an entrepreneur may have wound-up one business venture, and be in the process of setting-up a new one, but during this period, they are unproductive. Despite this, Pareto efficiency is still an extremely useful concept.

It is a useful concept for two reasons:

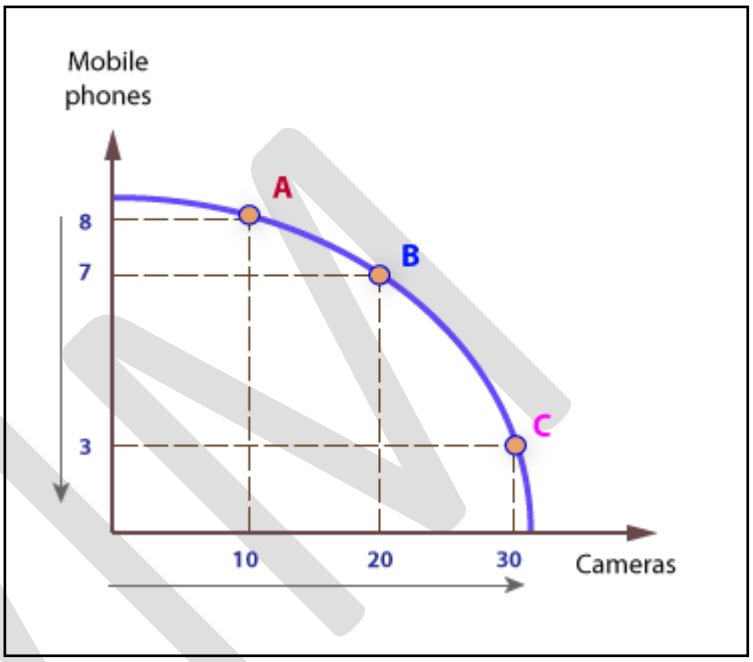
1. It can be an objective for an economy because it can set a direction towards which an economy can move.
2. It can help highlight the imperfections and rigidities that exist in an economy and prevent Pareto efficiency being achieved.

Increasing opportunity cost

Opportunity cost can be thought of in terms of how decisions to increase the production of an extra, marginal, unit of one good leads to a decrease in the production of another good.

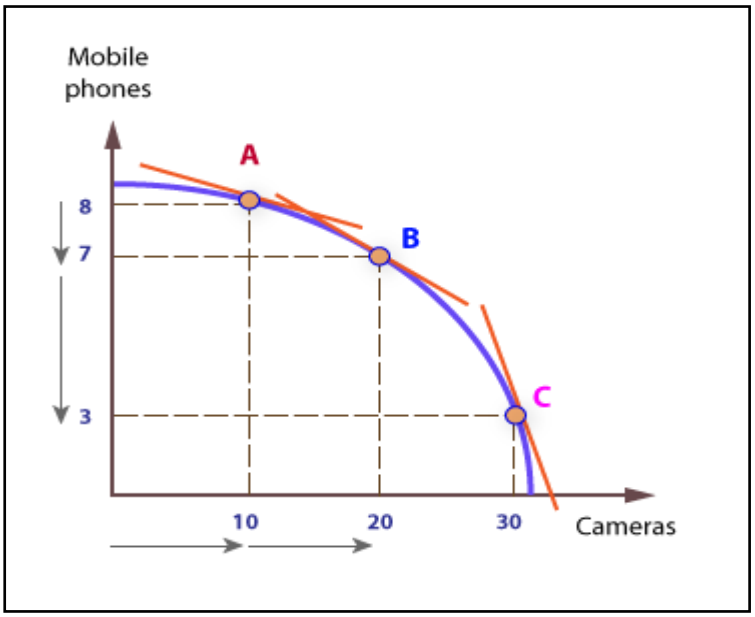
According to economic theory, successive increases in the production of one good will lead to an increasing sacrifice in terms of a reduction in the other good. For example, as an economy tries to increase the production of good X , such as cameras, it must sacrifice more of the other good, Y, such as mobile phones.

This explains why the PPF is concave to the origin, meaning its is bowed outwards. For example, if an economy initially produces at A, with 8m phones and 10m cameras (to 20m), and then increases output of cameras by 10m, it must sacrifice 1m phones, and it moves to point B.



If it now wishes to increase output of cameras by a further 10m (to 30m) it must sacrifice 2m phones, rather than 1m, and it moves to point C; hence, opportunity cost increases the more a good is produced.

The gradient of the PPF gets steeper as more cameras are produced, indicating a greater sacrifice in terms of mobile phones foregone.



Marginal analysis

Economic decisions are taken in a marginal way, which means that decisions to produce, or consume, are made one at a time.

For example, a typical consumer does not decide to drink four cans of cola at the beginning of each day, rather they make four individual decisions, one at a time. Similarly, a baker does not decide to produce 5,000 loaves of bread in a year, but decides each day or week what to produce. Economic decisions are marginal because conditions are constantly changing, and consumers and producers would be highly irrational if they did not consider this. Hence, each production or consumption decision is assumed to be made one at a time so that changing conditions can be assessed.

1.7 ECONOMIC EFFICIENCY

Definition of efficiency

Efficiency is concerned with the optimal production and distribution or these scarce resources. **Economic efficiency** implies an **economic** state in which every resource is optimally allocated to serve each individual or entity in the best way while minimizing waste and inefficiency. When an **economy** is economically **efficient**, any changes made to assist one entity would harm another.

1.7.1 Types of efficiency

1. **Productive efficiency**

This occurs when the maximum number of goods and services are produced with a given amount of inputs. This will occur on the production possibility frontier. On the curve it is impossible to produce more goods without producing less services. Productive efficiency will also occur at the lowest point on the firms average costs curve

2. **Allocative efficiency**

This occurs when goods and services are distributed according to consumer preferences. An economy could be productively efficient but produce goods people don't need this would be allocative inefficient. For example, producing computers with word processors rather than producing manual typewriters.

A2: Allocative efficiency occurs when the price of the good = the MC of production

3. X inefficiency:

This occurs when firms do not have incentives to cut costs, for example a monopoly which makes supernormal profits may have little incentive to get rid of surplus labour. Therefore a firms average cost may be higher than necessary.

4. Efficiency of scale

This occurs when the firms produces on the lowest point of its Long run average cost and therefore benefits fully from economies of scale

5. Dynamic efficiency

This refers to efficiency over time for example a Ford factory in 1920 would be very efficient for the time period, but by comparison would now be inefficient.. Dynamic efficiency involves the introduction of new technology and working practises to reduce costs over time.

Static efficiency – efficiency at a particular point in time.

6. Social efficiency

This occurs when externalities are taken into consideration and occurs at an output where the social cost of production (SMC) = the social benefit (SMB)

7. Technical efficiency

Optimum combination of factor inputs to produce a good: related to productive efficiency.

8. Pareto efficiency

A situation where resources are distributed in the most efficient way. It is defined as a situation where it is not possible to make one party better off without making another party worse off.

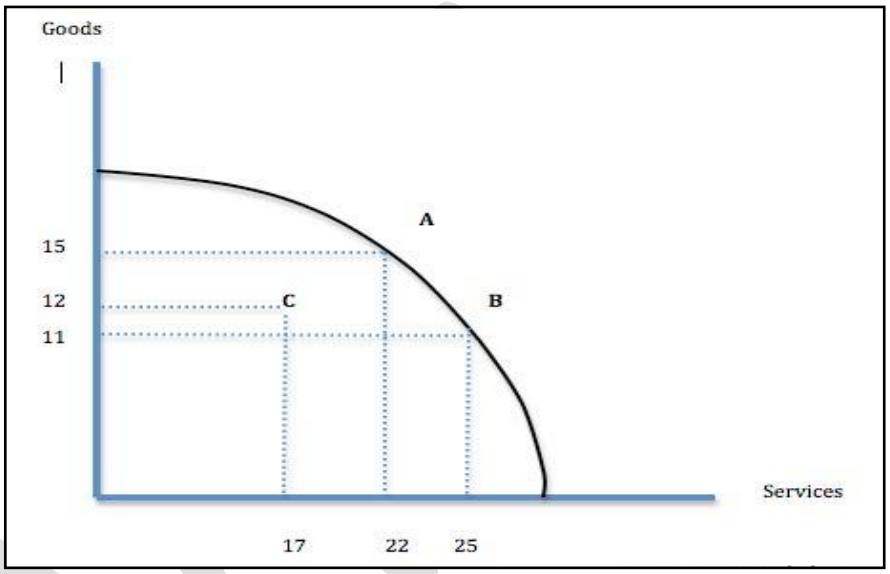
9. Distributive efficiency

Concerned with allocating goods and services according to who needs them most. Therefore, requires an equitable distribution.

1.7.2 Productive efficiency

Productive efficiency can be defined as producing goods and services for the lowest cost. Productive efficiency is said to occur on the production possibility frontier. On the PPF curve, it is impossible to produce more of one good without producing less of another.

In the diagram below. If you are at point A you can't produce more services without foregoing goods.



Point C in graph is productively inefficient because you can produce more goods or services without an opportunity cost.

1.7.3 Productive efficiency vs Economic efficiency

Economic efficiency implies an economic state in which every resource is optimally allocated to serve each individual or entity in the best way while minimizing waste and inefficiency. When an economy is economically efficient, any changes made to assist one entity would harm another. In terms of production, goods are produced at their lowest possible cost, as are the variable inputs of production.

Economics is a science of efficiency in the use of scarce resources. Efficiency requires full employment of available resources and full production. Full employment means all available resources should be employed. Full production means that employed resources are providing maximum satisfaction for our material wants. Full production implies two kinds of efficiency:

1. Allocative efficiency 2. Productive efficiency .

Full efficiency means producing the "right" (Allocative efficiency) amount in the "right "way (productive efficiency).

Pure competition:

Productive efficiency occurs where price is equal to minimum average total cost (min ATC); at this point firms must use the lease-cost technology or they won't survive. Under pure competition, this outcome will be achieved, as the long run equilibrium price of pure competitive firms would be at the min ATC

Allocative efficiency occurs where price is equal to marginal cost (P=MC), because price is society's measure of relative worth of a product at the margin or its marginal benefit. And the marginal cost of producing product X measures the relative worth of the other goods that the resources used in producing an extra unit of X could otherwise have produced. In short, price measures the benefit that society gets from additional units of good X, and the marginal cost of this unit of X measures the sacrifice or cost to society of other goods given up to produce more of X. Under pure competition, this outcome will be achieved. Dynamic adjustments will occur automatically in pure competition when changes in demand or in resources supply, or in technology occur. Disequilibrium will cause expansion or contraction of the industry until the new equilibrium at P=MC occurs.

1.8 Economic growth & Stability

Economic growth It is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP, usually in per capita terms.

Growth is usually calculated in real terms – i.e., inflation-adjusted terms – to eliminate the distorting effect of inflation on the price of goods produced. Measurement of economic growth uses national income accounting. Since economic growth is measured as the annual percent change of gross domestic product (GDP), it has all the advantages and drawbacks of that measure.

The "rate of economic growth" refers to the geometric annual rate of growth in GDP between the first and the last year over a period of time. Implicitly, this growth rate is the trend in the average level of GDP over the period, which implicitly ignores the fluctuations in the GDP around this trend.

An increase in economic growth caused by more efficient use of inputs (such as labor productivity, physical capital, energy or materials) is referred to as intensive growth. GDP growth caused only by increases in the amount of inputs available for use (increased population, new territory) is called extensive growth.

Economic stability

Economic stability refers to an absence of excessive fluctuations in the macro economy. An economy with fairly constant output growth and low and stable inflation would be considered economically stable. An economy with frequent large recessions, a pronounced business cycle, very high or variable inflation, or frequent financial crises would be considered economically unstable.

1.9 Micro and Macro Economics

The **micro economics** is the study of an economic behavior of a particular individual, firm, or household, i.e. it studies a particular unit. On the other hand, **macro economics** is the study of the economy as a whole i.e., not a single unit but the combination of all, firms, households, nation, etc.

'Economics' is defined as the study of how the humans work together to convert limited resources into goods and services to satisfy their wants (unlimited) and how they distribute the same among themselves. Economics has been divided into two broad parts i.e. Micro Economics and Macro Economics. Here, in the given article we've broken down the concept and all the important differences between micro economics and macro economics, in tabular form, have a look.

BASIS FOR COMPARISON	MICROECONOMICS	MACROECONOMICS
Meaning	The branch of economics that studies the behavior of an individual consumer, firm, family is known as Microeconomics.	The branch of economics that studies the behavior of the whole economy, (both national and international) is known as Macroeconomics.
Deals with	Individual economic variables	Aggregate economic variables
Business Application	Applied to operational or internal issues	Environment and external issues
Scope	Covers various issues like demand, supply, product pricing, factor pricing, production, consumption, economic welfare, etc.	Covers various issues like, national income, general price level, distribution, employment, money etc.
Importance	Helpful in determining the prices of a product along with the prices of factors of production (land, labor, capital, entrepreneur etc.) within the economy.	Maintains stability in the general price level and resolves the major problems of the economy like inflation, deflation, reflation, unemployment and poverty as a whole.
Limitations	It is based on unrealistic assumptions, i.e. In microeconomics it is assumed that there is a full employment in the society which is not at all possible.	It has been analyzed that 'Fallacy of Composition' involves, which sometimes doesn't proves true because it is possible that what is true for aggregate may not be true for individuals too.

Definition of Micro Economics

Microeconomics is the branch of economics that concentrates on the behaviour and performance of the individual units, i.e. consumers, family, industry, firms. Here, the demand plays a key role in determining the quantity and the price of a product along with the price and quantity of related goods (complementary goods) and substitute products, so as to make a judicious decision regarding the allocation of scarce resources, concerning their alternative uses.

Examples: Individual Demand, Price of a product, etc.

Definition of Macro Economics

Macroeconomics is the branch of economics that concentrates on the behaviour and performance of aggregate variables and those issues which affect the whole economy. It includes regional, national and international economies and covers the major areas of the economy like unemployment, poverty, general price level, GDP (Gross Domestic Product), imports and exports, economic growth, globalisation, monetary/ fiscal policy, etc. It helps in resolving the various problems of the economy, thereby enabling it to function efficiently.

Examples: Aggregate Demand, National Income, etc.

Key Differences between Micro and Macro Economics

The points given below explains the difference between micro and macro economics in detail:

1. Microeconomics studies the particular market segment of the economy, whereas Macroeconomics studies the whole economy, that covers several market segments.
2. Micro economics stresses on individual economic units. As against this, the focus of macro economics is on aggregate economic variables.
3. While microeconomics is applied to operational or internal issues, environmental and external issues are the concern of macro economics.
4. Microeconomics deals with an individual product, firm, household, industry, wages, prices, etc., while Macroeconomics deals with aggregates like national income, national output, price level, etc.
5. Microeconomics covers issues like how the price of a particular commodity will affect its quantity demanded and quantity supplied and vice versa while Macroeconomics covers major issues of an economy like unemployment, monetary/ fiscal policies, poverty, international trade, etc.
6. Microeconomics determine the price of a particular commodity along with the prices of complementary and the substitute goods, whereas the Macroeconomics is helpful in maintaining the general price level.
7. While analysing any economy, micro economics takes a bottom-up approach, whereas the macroeconomics takes a top-down approach into consideration.

Micro Economics

Pros:

- It helps in the determination of prices of a particular product and also the prices of various factors of production, i.e. land, labour, capital, organisation and entrepreneur.
- It is based on a free enterprise economy, which means the enterprise is independent to take decisions.

Cons:

- The assumption of full employment is completely unrealistic.
- It only analyses a small part of an economy while a bigger part is left untouched.

Macro Economics

Pros:

- It is helpful in determining the balance of payments along with the causes of deficit and surplus of it.
- It makes the decision regarding economic and fiscal policies and solves the issues of public finance.

Cons:

- Its analysis says that the aggregates are homogeneous, but it is not so because sometimes they are heterogeneous.
- It covers only the aggregate variables which avoid the welfare of the individual.

Similarities

As microeconomics focuses on the allocation of limited resources among the individuals, the macro economics examines that how the distribution of limited resources is to be done among many people, so that it will make the best possible use of the scarce resources. As micro economics studies about the individual units, at the same time, macro economics studies about the aggregate variables. In this way, we can say that they are interdependent.

Conclusion

Micro and Macro Economics are not contradictory in nature, in fact, they are complementary. As every coin has two aspects- micro and macroeconomics are also the two aspects of the same coin, where one's demerit is others merit and in this way they cover the whole economy. The only important thing which makes them different is the **area of application.**

1.10 ROLES OF MARKET & GOVERNMENT

Providing the Legislative Framework

The government provides a clear and predictable legal framework for businesses. Regulations are administered in an open and transparent system, and applied fairly to all parties. The government makes it clear to businesses that it deals with them solely on the merits of their case. There is no favoured treatment for local companies or for government-linked companies.

Providing a Stable Environment for Businesses

Fiscal policy in Singapore is guided by the principle that it should support the private sector as the engine of growth and ensures that the macro-environment is stable. The Singapore government has been prudent and conservative in its budgetary policy. It has balanced its budget in nearly every year for the last 3 decades.

Monetary policy is geared towards keeping inflation low and stable for long-term competitiveness and to ensure that savings are not debased.

The government also sets clear and transparent ground-rules and ensures that markets are competitive, for example, by ensuring that imports are allowed to come in freely.

Investing in Infrastructure and Manpower

The government invests in infrastructure and manpower, areas in which the private sector is likely to under-invest. It ensures that the education and training system is geared towards the needs of the economy, with a strong emphasis on providing technical and professional manpower. Similarly, an efficient infrastructure lowers business costs and makes it attractive for investors to come to Singapore.

Facilitating Businesses

The government facilitates businesses, including foreign investors wishing to come to Singapore. This function is carried out mainly by promotional agencies like the Economic Development Board and the International Enterprise Singapore.

Comprehensive Planning:

In an under-developed economy, there is a circular constellation of forces tending to act and react upon one another in such a way as to keep a poor country in a stationary state of under-development equilibrium. The vicious circle of under-developed equilibrium can be broken only by a comprehensive government planning of the process of economic development. Planning Commissions have been set up and institu-tional framework built up.

Institution of Controls:

A high rate of investment and growth of output cannot be attained, in an under-developed country, simply as a result of the functioning of the market forces. The operation of these forces is hindered by the existence of economic rigidities and structural disequilibria. Economic development is not a spontaneous or automatic affair.

On the contrary, it is evident that there are automatic forces within the system tending to keep it moored to a low level. Thus, if an underdeveloped country does not wish to remain caught up in a vicious circle, the Government must interfere with the market forces to break that circle. That is why various controls have been instituted, e.g., price control, exchange control, control of capital issues, industrial licensing.

Social and Economic Overheads:

In the initial phase, the process of development, in an under-developed country, is held up primarily by the lack of basic social and economic overheads such as schools, technical institutions and research institutes, hospitals and railways, roads, ports, harbours and bridges, etc. To provide them requires very large investments.

Private enterprise will not undertake investments in social overheads. The reason is that the returns from them in the form of an increase in the supply of technical skills and higher standards of education and health can be realised only over a long period. Besides, these returns will accrue to the whole society rather than to those entrepreneurs who incur the necessary large expenditure on the creation of such costly social over-heads.

Investments in economic overheads require huge outlays of capital which are usually beyond the capacity of private enterprise. Besides, the returns from such investments are quite uncertain and take very long to accrue. Private enterprise is generally interested in quick returns and will be seldom prepared to wait so long.

Nor can private enterprise easily mobilize resources for building up all these overheads. The State is in a far better position to find the necessary resources through taxation borrowing and deficit-financing sources not open to private enterprise.

Hence, private enterprise lacks the capacity to undertake large-scale and comprehensive development. Not only that, it also lacks the necessary approach to development.

Hence, it becomes the duty of the government to build up the necessary infrastructure.

Institutional and Organisational Reforms:

It is felt that outmoded social institutions and defective organisation stand in the way of economic progress. The Government, therefore, sets out to introduce institutional and organisational reforms. We may mention here abolition of zamindari, imposi-tion of ceiling on land holdings, tenancy reforms, introduction of co-operative farming, nationalisation of insurance and banks reform of managing agency system and other reforms introduced in India since planning was started.

Setting up Financial Institutions:

In order to cope with the growing requirements for finance, special institutions are set up for providing agricultur-al, industrial and export finance. For instance, Industrial Finance Corporation, Industrial Development Bank and Agricultural Refinance and Development Corporation have been set up in India in recent years to provide the necessary financial- resources.

Public Undertakings:

In order to fill up important gaps in the industrial structure of the country and to start industries of strategic importance, Government actively enters business and launches big enterprises, e.g., huge steel plants, machine-making plants, heavy electrical work and heavy engineer-ing works have been set up in India.

Economic Planning:

The role of government in development is further highlighted by the fact that under-developed countries suffer from a serious deficiency of all types of resources and skills, while the need for them is so great. Under such circumstances, what is needed is a wise and efficient allocation of limited resources. This can only be done by the State. It can be done through central planning according to a scheme of priorities well suited to the country's conditions and need.

Role of Government in Economic Systems

The shortcomings of the free market mechanism under which there is no role of government in the economic development of a nation.

Due to the failure of the free market mechanism, the intervention of government became indispensible for the growth of an economy. Now, the question arises of determining the extent of government in regulating and managing economic activities.

This remains a debatable issue among various economists. This is because of the reason that the government intervention is also not able to eradicate the economic problems of a nation completely. Different economists have given different viewpoints for the role of government in an economy.

Following are some of the viewpoints given by different economists:

According to Colin Clark, "The role of government must be held at a ceiling of 25 per cent of the national income."

According to Samuelson, "There are no rules concerning the proper role of government that can be established by a priori reasoning."

From the aforementioned viewpoints, it can be concluded that the accurate and exact percent or amount of government intervention in an economy is hard to decide and calls for an issue of collective social choice. The extent of role of government differs in different economies. An economic system is a way through which economic resources are owned and distributed. On the basis of the ownership and distribution of resources, the economic system can be grouped into three categories.

Different types of Economic System

Let us learn about the different types of an economic system.

Capitalist Economy:

A capitalist economy refers to an economy that works on the principle of the free market mechanism. It is also termed as laissez faire system. In a capitalist economy, the role of government is very limited. The main functions of government, as given by Adam Smith, are to maintain law and order in a country, make national defense stronger, and regulate money supply. According to Smith, the market system administers various economic functions. However, over a period of time, the functions of government in an economy have increased.

In a capitalist economy, the main responsibilities performed by the government are as follows:

a) Developing and sustaining the free market mechanism system
b) Eliminating any kind of restrictions on the working of free competitive market
c) Increasing the effectiveness of free competitive market system through various measures

In the view of Meade, following are the responsibilities of a government in a capitalist economy:

a. Regulating and controlling various economic situations, such as inflation and deflation, by formulating and implementing various fiscal and monetary measures
b. Controlling the power of monopolistic and large corporations to elude various economic problems, such as unemployment and inequitable distribution of resources.
c. Possessing the ownership of public utilities, such as railways, education, medical care, water, and electricity, which are required by an economy as a whole
d. Prohibiting discrimination among individuals and providing them equal educational and job opportunities

e. Limiting restrictive trade practices and power of trade unions

f. Maintaining law and order, administering justice, and safeguarding the freedom of individuals in an economy

g. Supporting private ventures in an economy

h. Creating central planning body that helps in the development of an economy on a larger scale

i. Handling problems to environment, extinction of natural resources, and growth of population

Therefore, we can conclude that the major role of government in a capitalist economy is to control and encourage the free market mechanism. In addition, the government should encourage private ventures for safeguarding the future of an economy.

Socialist Economy:

In a socialist economy, the function of government is entirely different from the function of government in a capitalist economy. In a capitalist economy, the government acts as a regulatory and complementary body. On the other hand, in a socialist economy, the government plays a comprehensive role in almost all economic activities, such as production, distribution, and consumption, of a nation. In a socialist economy, not only the ownership of private property is allowed to a limited amount, but the concept of free market mechanism is also eliminated.

The private ownership of resources, in a socialist economy, is changed by state ownership. In addition, in a socialist economy, the government plans and regulates all the economic activities centrally at a state level. Moreover, the decisions related to production, allocation of resources, employment, pricing, and consumption, are completely dependent on the government or its central planning authority. In a socialist economy, individual's decisions are totally dependent on the limit decided by the government.

For example, individuals are given the freedom of choice, but it is subject to the limitations of policy framework of the socialist economy. The countries in which socialist economy is adopted are China, Yugoslavia, Czechoslovakia, and Poland. The objective of the government in a socialist economy is same as in the capitalist economy, such as growth, efficiency, and maintaining justice. However, the ways adopted by the socialist economy to achieve those objectives are different from the capitalist economy.

For example, in the capitalist economy, the main force of motivation is the private profit, whereas in the social economy, the encouraging factor is the social welfare. The socialist way of managing an economy facilitates the elimination of various evil activities of the capitalist economy, such as labor exploitation, unemployment, and inequality in the society. This is only the classical view of the socialist economy.

However, over a passage of time, the scope of socialist economy has also been reduced due to various reasons, such as prohibition of profits from private ventures, inadequate utilization of resources, and restrictions on economic development as noted by Union of Soviet Socialist Republics (USSR).

Mixed Economy:

Mixed economy refers to an economy that-comprises the features of both, the socialist economy and capitalist economy. This implies that working of a mixed economy is based on the principles of the free market mechanism and centrally planned economic system.

In a mixed economy, the private sector is encouraged to work on the principle of the free market mechanism under a political and economic policy outline decided by the government. On the other hand, the public sector, in a mixed economy, is involved in the growth and development of public utilities, which is based on the principle of socialist economy.

In a mixed economy the public sector comprises certain industries, businesses, and activities that are completely owned, managed, and operated by the government. Moreover, in a mixed economy, certain laws have been enacted by the government to restrict the entry of private entrepreneurs in industries reserved for the public sector.

Apart from this, the government also strives hard for the expansion of the public sector by nationalizing various private ventures. For example, in India, the government has nationalized several private banks, which has resulted in the expansion of the public sector. Besides working for the growth and development of the public sector, the government, in a mixed economy, controls the activities of the private sector by implementing various monetary and fiscal policies.

It should be noted here that the free market mechanism is actually a form of a mixed economy. This is because of the reason that in free market mechanism, both the private and public sectors exist simultaneously. However, public sector in a free market mechanism economy is different from the public sector of the mixed economy.

In free market mechanism economy, the public sector is responsible to maintain law and order in a country, make national defense stronger, and regulate money supply. On the other hand the public sector of a mixed economy is involved almost all economic activities, such as production, distribution, and consumption. For example, the public sector of an economy, such as India, is based on the socialist pattern of society.

1.11 Externalities

In economics, an **externality** is the cost or benefit that affects a party who did not choose to incur that cost or benefit. Economists often urge governments to adopt policies that "internalize" an externality, so that costs and benefits will affect mainly parties who choose to incur them.

For example, manufacturing activities that cause air pollution impose health and clean-up costs on the whole society, whereas the neighbors of an individual who chooses to fire-proof his home may benefit from a reduced risk of a fire spreading to their own houses. If external costs exist, such as pollution, the producer may choose to produce more of the product than would be produced if the producer were required to pay all associated environmental costs. Because responsibility or consequence for self-directed action lies partly outside the self, an element of externalization is involved.

1.11.1 Positive

A positive externality (also called "external benefit" or "external economy" or "beneficial externality") is the positive effect an activity imposes on an unrelated third party. Similar to a negative externality, it can arise either on the production side, or on the consumption side.

Examples of **positive production externalities** include:

- A beekeeper who keeps the bees for their honey. A side effect or externality associated with such activity is the pollination of surrounding crops by the bees. The value generated by the pollination may be more important than the value of the harvested honey.
- The construction and operation of an airport. This will benefit local businesses, because of the increased accessibility.
- An industrial company providing first aid classes for employees to increase on the job safety. This may also save lives outside the factory.
- A foreign firm that demonstrates up-to-date technologies to local firms and improves their productivity.

Examples of **positive consumption externalities** include:

- An individual who maintains an attractive house may confer benefits to neighbors in the form of increased market values for their properties.
- An individual receiving a vaccination for a communicable disease not only decreases the likelihood of the individual's own infection, but also decreases the likelihood of others becoming infected through contact with the individual. (See herd immunity)
- Driving an electric vehicle charged by electricity from a renewable source, reducing greenhouse gas emissions and improving local air quality and public health. Although this may increase emissions from power plants burning fossil fuels, this is usually more than offset by reduced vehicle emissions, especially where hydroelectric, nuclear and renewable sources are prevalent.
- Increased education of individuals, as this can lead to broader society benefits in the form of greater economic productivity, a lower unemployment rate, greater household mobility and higher rates of political participation.
- An individual buying a product that is interconnected in a network (e.g., a smart phone). This will increase the usefulness of such phones to other people who have a video cell phone. When each new user of a product increases the value of the same product owned by others.

- In an area that does not have a public fire department, homeowners who purchase private fire protection services provide a positive externality to neighboring properties, which are less at risk of the protected neighbor's fire spreading to their (unprotected) house.

The existence or management of externalities may give rise to political or legal conflicts.

Collective solutions or public policies are implemented to regulate activities with positive or negative externalities.

Positional

A position externality "occurs when new purchases alter the relevant context within which an existing positional good is evaluated."Robert H. Frank gives the following example:

> if some job candidates begin wearing expensive custom-tailored suits, a side effect of their action is that other candidates become less likely to make favorable impressions on interviewers. From any individual job seeker's point of view, the best response might be to match the higher expenditures of others, lest her chances of landing the job fall. But this outcome may be inefficient, since when all spend more, each candidate's probability of success remains unchanged. All may agree that some form of collective restraint on expenditure would be useful."

> Frank notes that treating positional externalities like other externalities might lead to "intrusive economic and social regulation."He argues, however, that less intrusive and more efficient means of "limiting the costs of expenditure cascades"—i.e., the hypothesized increase in spending of middle-income families beyond their means "because of indirect effects associated with increased spending by top earners"—exist; one such method is the personal income tax.

Inframarginal

> Inframarginal externalities are externalities in which there is no benefit or loss to the marginal cons umer. In other words, people neither gain nor lose anything at the margin, but benefits and costs do exist for those consumers within the given inframarginal range.

1.11.2 Negative

Light pollution is an example of an externality because the consumption of street lighting has an effect on bystanders that is not compensated for by the consumers of the lighting.

A **negative externality** (also called "external cost" or "external diseconomy") is an economic activity that imposes a negative effect on an unrelated third party. It can arise either during the production or the consumption of a good or service. Pollution is termed an externality because it imposes costs on people who are "external" to the producer and consumer of the polluting product.

Clearly, we have compiled a record of serious failures in recent technological encounters with the environment. In each case, the new technology was brought into use before the ultimate hazards were known. We have been quick to reap the benefits and slow to comprehend the costs.

Many negative externalities are related to the environmental consequences of production and use. The article on environmental economics also addresses externalities and how they may be addressed in the context of environmental issues.

Examples for **negative production externalities** include:

- Air pollution from burning fossil fuels. This activity causes damages to crops, (historic) buildings and public health.
- Anthropogenic climate change as a consequence of greenhouse gas emissions from burning oil, gas, and coal. The Stern Review on the Economics Of Climate Change says "Climate change presents a unique challenge for economics: it is the greatest example of market failure we have ever seen."
- Water pollution by industries that adds effluent, which harms plants, animals, and humans.
- Noise pollution during the production process, which may be mentally and psychologically disruptive.
- Systemic risk: the risks to the overall economy arising from the risks that the banking system takes. A condition of moral hazard can occur in the absence of well-designed banking regulation, or in the presence of badly designed regulation.
- Negative effects of Industrial farm animal production, including "the increase in the pool of antibiotic-resistant bacteria because of the overuse of antibiotics; air quality problems; the contamination of rivers, streams, and coastal waters with concentrated animal waste; animal welfare problems, mainly as a result of the extremely close quarters in which the animals are housed."
- The depletion of the stock of fish in the ocean due to overfishing. This is an example of a common property resource, which is vulnerable to the Tragedy of the commons in the absence of appropriate environmental governance.
- In the United States, the cost of storing nuclear waste from nuclear plants for more than 1,000 years (over 100,000 for some types of nuclear waste) is, in principle, included in the cost of the electricity the plant produces in the form of a fee paid to the government and held in the nuclear waste superfund, although much of that fund was spent on Yucca Mountain without producing a solution. Conversely, the costs of managing the long term risks of disposal of chemicals, which may remain hazardous on similar time scales, is not commonly internalized in prices. The USEPA regulates chemicals for periods ranging from 100 years to a maximum of 10,000 years.

Examples of **negative consumption externalities** include:

- Noise pollution Sleep deprivation due to a neighbour listening to loud music late at night.
- Antibiotic resistance, caused by increased usage of antibiotics. Individuals do not consider this efficacy cost when making usage decisions. Government policies proposed to preserve future antibiotic effectiveness include educational campaigns, regulation, Pigouvian taxes, and patents.
- Passive smoking Shared costs of declining health and vitality caused by smoking and/or alcohol abuse. Here, the "cost" is that of providing minimum social welfare. Economists more frequently attribute this problem to the category of moral hazards, the prospect that parties insulated from risk may behave differently from the way they would if they were fully exposed to the risk. For example, individuals with insurance against automobile theft may be less vigilant about locking their cars, because the negative consequences of automobile theft are (partially) borne by the insurance company.
- Traffic congestion When more people use public roads, road users experience [(congestion costs)] such as more waiting in traffic and longer trip times. Increased road users also increase the likelihood of road accidents.
- Price increases Consumption by one consumer of goods in addition to their existing supply causes prices to rise and therefore makes other consumers worse off, perhaps by preventing, reducing or delaying their consumption. These effects are sometimes called "pecuniary externalities" and are distinguished from "real externalities" or "technological externalities". Pecuniary externalities appear to be externalities, but occur within the market mechanism and are not considered to be a source of market failure or inefficiency, although they may still result in substantial harm to others.

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