Chapter -2
Unit-2
MARKET FAILURE / GOVERNMENT INTERVENTION TO CORRECT MARKET FAILURE

Concept of Market Failure

Market failure is a situation in which the free market leads to misallocation of society's scarce resources in the sense that there is either overproduction or underproduction of particular goods and services leading to a less than optimal outcome.

The term "market failure" does not mean the market is not working at all, it only means that the market does not function in the way that it should.

Complete market failure

"Missing markets" and occurs when the market does not supply products at all despite the fact that such products and services are wanted by people. E.g. Pure public goods.

Partial market failure

occurs when the market does actually function, but it produces either the wrong quantity of a product or at the wrong price. This results in loss of economic welfare.

Reason of Market Failure

- Market Power
- Externality
- Public Goods
- Incomplete Information

Market Power

- ✓ Market power or monopoly power is **the ability of a firm to profitably raise the market price** of a good or service over its marginal cost.
- ✓ Firms that have market power are price makers and therefore, can **charge a price** that gives them positive economic profits.
- ✓ Excessive market power causes the single producer or a small number of producers to **restrict output and chargeprice higher** than what would prevail under perfect competition.
- ✓ These profits are **not achieved due to operating efficiency,** but due to market power and dominance.
- ✓ Thus, market **fails to produce the right quantity of goods and services at the right price.**

Government intervention to minimize market power

Governments intervene by establishing **rules and regulations** designed to promote competition and prohibit actions that are likely to restrain competition.

These legislations differ from country to country. For example, in India,we have the Competition Act, 2002 (as amended by the Competition (Amendment) Act, 2007)to promote and sustain competition in markets.

Such legislations generally aim at prohibiting contracts, combinations and collusions among producers or traders which are in restraint of trade and other anticompetitive actions such as predatory pricing.

Other Measures

- Market Liaberalisation eg: Tele-communication
- Controls on Mergers & Acquisitions
- Price capping & Price regulation
- Profit or Rate of Return Regulation
- Patronage to consumer Association
- Investigation on cartelization & Unfair practice like collision & Predatory Pricing
- Restriction on Monopsony power
- Reduction in Import control
- Nationalisation

Protection of Monopoly

sometimes The governments **protect monopoly** positions of firms that have developed unique innovations.

For example, patent and copyright laws grant exclusive rights of products or processes to provide incentives for invention and innovation.

Another example is that of permitted **natural monopoly**. Natural monopolies can produce the entire output of the market at a cost that is lower than what it would be if there were several firms. Such as **electricity, gas and water supplies.**

Externalities

- Externalities are costs (negative externalities) or benefits (positive externalities), which are not reflected in free market prices.
- They are called externalities because they are "external" to the market. Externalities are also referred to as '**spillover effects**', '**neighbourhood effects**' '**third- party effects**' or '**side-effects**', as the originator of the externality imposes costs or benefits on others who are not responsible for initiating the effect.
- Since it occurs outside the price mechanism, it has not been compensated for, or in other words it is uninternalized or the cost (benefit) of it is not borne (paid) by the parties.

Negative Externality	Positive Externality
occur when the action of one party impose cost on another Party.	occur when the action of one party confers benefits on another Party.

Production Externality

initiated in Production
Which
Impose External cost or confers External Benefits

Negative Externality	Positive Externality

on others
Received by another
in

Production

When pollution of river affects Fish output as there will be less catch for Fisher men due to loss of Fish Reserve

Consumption

When Factory discharge water waste into near by river & pollute the water causing health hazard for people who use this in drinking.

Production

When a Frim offer training to its employees for increasing their skills generate Positive Benefit on other firm when they hire such workers as they change their job.

Consumption

When an individual raises an attractive garden and the Person walking by enjoy the garden.

Production Externality

initiate in Production
Which
Impose External cost or confers External Benefits

Negative Externality | **Positive Externality**

on others
Received by another
in

Production

Excessive consumption of Alcohol causing impairment in efficiency for Work and Production

Consumption

Playing the radio Loudly obstructing one from the study.

Production

consumption of service of Health club by the employees of a firm would result in increased efficiency & Productivity to the firm.

Consumption

If People get immunized against contagious diseases, they confer social benefit as well by Preventing others from getting infected.

How Externality create Market Failure

Private

Private cost is money cost of production incurred by the firm such as RM, wages, etc. these cost appear in the Firm's Account
Supply curve is Private Marginal cost.

Social

Total cost to the society on account of a production or consumption activity It's total cost incurred by society when a good is consumed or produced.

Social cost = Private cost + External cost

- ✓ The external costs are not included in firms' income statements or consumers' decisions.
- ✓ However, these external costs are real and important as far as the society is concerned.
- ✓ firms do not have to pay for the damage resulting from the pollution which they generate.
- ✓ As a result, each firm's cost which is considered for determining output would be only private cost or direct cost of production which does not incorporate externalities.
- ✓ The market prices determined without incorporating externalities are not ideal as they do not reflect all social costs and benefits.
- ✓ Such prices send incorrect signals to producers and consumers and cause either overproduction or underproduction. **This creats Market Failure.**

Government intervention to correct Externalities

Negative Externality

Government initiatives towards negative externalities may be classified as:

A. **Direct controls or regulations** that openly regulate the actions of those involved in generating negative externalities, and

B. **'Market-based' policies** that would provide economic incentives

Direct Control

These also known as command solutions, prohibit specific activities that explicitly create negative externalities or require that the negative externality be limited to a certain level.

A few examples are:

- The government may, **through legislation,** fix emissions standard which is the legal limit on how much pollutant a firm can emit. If the firm exceeds the limit, it can invite monetary penalties or/and criminal liabilities.
- Licensing, production quotas and mandates regarding acceptable production processes are other examples of **direct intervention** by governments.
- Production, use and sale of many commodities and services are **prohibited** in ourcountry.
- Smoking is completely **banned** in many public places.
- **Stringent rules** are in place in respect of tobacco advertising, packaging and labelingetc.

- Governments may **pass laws** to alleviate the effects of negative externalities. Government stipulated environmental standards are rules that protect theenvironment by specifying actions by producers and consumers. For example, India has enacted the Environment (Protection) Act, 1986.

- Government may **limit** the amounts of certain pollutants released into water and air by individual firms or make it **mandatory** to use pollution control devices.

- Government may **insist** that the polluting firms install pollution-abatement mechanisms to ensure adherence to the emission standards. This means additional expenditure to the firm leading to rise in the firm's average cost. New firms will find it profitable to enter the industry only if the price of the product is greater than theaverage cost of production plus abatement expenditure.

- Governments may also **form special bodies/ boards** to specifically address the problem: for instance the Ministry of Environment & Forest, the Pollution Control Board of India and the State Pollution Control Boards.

Market based Approaches

✓ It operate through price mechanism to create an incentive for change.

✓ In other words, the government tries to alter the prices of goods through taxes and subsidies and thus change the behaviour of market participants.

✓ This is achieved by:

- Setting the price directly through a **pollution tax**
- Setting the price indirectly through the establishment of the **cap-and-trade system.**

Pollution Tax

These taxes are named Pigouvian taxes after A.C. Pigou.
The size of the tax depends on the amount of pollution a firm produces.
These taxes have the effect of 'making the polluter pay'.
Tax increases the private cost of production or consumption as the case may be, and would decrease the quantity demanded and therefore the output of the good which creates negative externality.

Problems in administrating efficient Pollution Tax

- Pollution taxes are difficult to determine and administer because it involves the use of complex and costly administrative procedures for monitoring the polluters.
- If the demand for the good is inelastic, the tax may have only an insignificant effect in reducing demand. In such cases, the producers will be able to easily shift the tax burden in the form of higher product prices.
- Pollution taxes also have potential negative consequences on employment and investments because high pollution taxes in one country may encourage producers to shift their production facilities to those countries with lower taxes.

Tradable emissions Permits

- ✓ The use of tradable permits to limit emissions is often called **'cap and trade'**.
- ✓ A tradable permit is **a license** that allows a company to release a unit of pollution into the environment over some period of time.
- ✓ By issuing a fixed number of permits, the government determines the total level of pollution that can be **legally emitted during each period** (the 'cap').

- ✓ Each firm has permits specifying the **number of units** of emissions that the firm is allowed to generate. A firm that generates emissions above what is allowed by the permit is penalized with substantial fines.

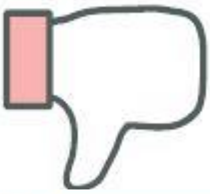
- ✓ The firms **can sell their government-issued permits** to other firms in an organized market.

- ✓ Since the permits are tradable (the firm can sell for a price), a polluting firm faces an **opportunity cost** i.e. for each unit of pollution that it creates, it must either buy a permit, or it must forgo the revenue it could earn by selling the permit to some other firm.

- ✓ A firm which produces **less pollution can sell their permits and earn money**.

- ✓ A firm whose technology would make it **very costly** to reduce pollution generally buys permitsin the market.

- ✓ At the same time, a firm whose technology enables it to discharge less pollution or can reduce pollution rather **cheaply will sell its permits.**



High Polluters

They have to buy more Permits, which increase their cost and make them less competitive and less profitable

Low Polluters

They receive extra revenue from selling their surplus permits which makes them more competitive & more profitable

Therefore, firms will have an incentive not to pollute.

Evolution of Tradable Permits

Tradable permits have been used since the early 1980s to reduce several types of pollution in the United States.

In 1994 the United States began a cap and trade system for sulphur dioxide emissions that cause acid rain by issuing permits to power plants based on their historical consumption of coal.

India does not have an explicit carbon price or a market-based mechanism such as cap-and-trade; but India has many schemes and mechanisms that put an implicit price on carbon.

For example, the Perform, Achieve & Trade (PAT) scheme, carbon taxin the form of a cess on coal, lignite and peat, Renewable Purchase Obligations (RPO) and Renewable Energy Certificates (REC), Internal Carbon Pricing (ICP) etc.

In 2017, the coal cess was abolished and replaced by the GST compensation cess since it failed to achieve thedesired outcomes.

The Energy Conservation (Amendment) Bill, 2022 empowers the central government to specify a carbon credit trading scheme and to stipulate energy consumption standards.

Benefits & Problems in Administering efficient Cap and Trade System

- ✓ The cap and trade method is administratively cheap and simple to implement and ensures that pollution is minimised in the most cost-effective way.
- ✓ The 'cap' puts a clear upper limit on the quantity of pollution that may be generated in each period.
- ✓ However, firms with a relatively inelastic demand for its product can easily shift the extra cost incurred for procuring additional permits in the form of higher price.

The two interventions mentioned above i.e. permits and taxes make use of market forces to encourage consumers and producers to take externalities into account when planning their consumption and production.

Positive Externality

- ✓ Though positive externality is associated with external benefits, still call it a market failure because, left to market, there will be less than optimal output.
- ✓ Since positive externalities promote welfare, governments implement policies that promote positive externalities. When positive externalities are present, government may attempt to solve the problem through -

Corrective subsidy to the Producers

aimed at increasing the supply of Good

Corrective subsidy to the consumers

aimed at increasing the demand of good

Corrective Production Subsidy

- ✓ It involves government paying part of the cost to the firms in order to promote the production of goods having positive externalities.
- ✓ This is in fact a market-based policy as subsidies to producers would lower their cost of production.

✓ E.g. fertilizer subsidy.

Corrective Consumption Subsidy

✓ A subsidy on fee for education is an example of consumption subsidy.

In the case of products and services whose externalities are vastly positive, the government enters the market directly as an entrepreneur to produce and provide them. Public education, health care and fundamental research are the obvious examples.

Governments also engage in direct production of environmental quality.

Examples are: aforestation, reforestation, protection of water bodies, treatment of sewage and cleaning of toxic waste sites.

Merit Goods

Merit goods are goods that have substantial positive externalities and hence they are **socially desirable.**

Merit goods can be provided through the market, but are **likely to be under-produced** and **under-consumed** through the market mechanism so that social welfare will not be maximized.

Examples of merit goods include education, health care, welfare services, housing, fire protection, waste management, public libraries, museum, public parks etc.

Government intervention in case of Merit goods

Regulation

determines how a private activity may be conducted. For example, the way in which education is to be imparted is government regulated.

Prohibition

Governments can **prohibit** some type of goods and activities, set standards and issue mandates making others oblige. For example, government may make it compulsory to avail insurance protection.

Legislation

Government could also use **legislation to enforce** the consumption of a good which generates positive externalities. E.g. use of helmets, seat belts etc.

Compliance

An additional option is to **compel** individuals to consume the good or service that generates the external benefit. Eg. The Right of Children to Free and Compulsory Education Act, 2009.

Free at point of consumption

ultimate encouragement to consume is to make the good completely **free at the point of consumption:** forEg.freely available hospital treatment for various diseases.

merit goods are directly provided free of cost by government, there will be substantial demand for the same.

Regulation, subsidies, direct government provision and a combination of government provision and market provision possible government responses to under-provision of merit goods

Demerit Goods

Demerit Goods

Demerit goods are goods which are believed to be **socially undesirable.** **Examples** of demerit goods are cigarettes, alcohol, intoxicating drugs etc The consumption of demerit goods imposes **significant negative externalities** on the society as a whole.

However, **"all goods with negative externalities are not essentially demerit goods"**, e.g. Production of steel causes pollution, but steel is not a socially undesirable good.

The production and consumption of demerit goods are likely to be **more than optimal under free markets** therefore The government should therefore intervene in the marketplace to discourage their production and consumption.

Government intervention in case of Merit goods

Complete Ban

on a demerit good. e.g. the possession, trading orconsumption of intoxicating drugs is made illegal.

Persuasion

Persuasion is mainly intended to be achieved by negative advertising campaigns which emphasize the dangers associated with consumption of demerit goods.

Legislations

prohibit the advertising or promotion of demerit goods in whatsoever manner.

Fix a Min. Price

below which the demerit good should not be exchanged.

Strict Regulation

of the market for the good may be put in place so as to limit accessto the good, especially by vulnerable groups such as children and adolescents.

SPatial Restriction

e.g. smoking in public places, sale of tobacco to be away from schools, and time restrictions

High Taxes

on producing or purchasing the good making them very costly and unaffordable Eg. the GST rates in India for demerit goods

Limitation of Govt. intervention

✓ The demand for demerit goods such as, cigarettes and alcohol is often **highly inelastic,** so that any increase in their price resulting from additional taxation causes a less than proportionate decrease in demand.

✓ Also, sellers can **always shift the taxes to consumers** without losing customers.

✓ The effect of stringent regulation such as total ban is seldom realized in the form of complete elimination of the demerit good; conversely such goods are secretly driven **underground and traded in a hidden market.**

Collective Consumption Goods

Public Goods

Paul A. Samuelson

in 1954 in his Paper
"The pure Theory of Public Expenditure"

There are Two types of Goods -

Private Goods

Public Goods

Rivalrous

Purchase or consumption of a good by one Individual Prevents another Individual from consuming it.

Excludable

Possible to Exclude or Prevent consumers who have not Paid for them from consuming them or having Access to them.

Features of Private goods

✓ Most of the goods produced and consumed in an economy are private goods.

✓ Since they are scarce, anyone who wants to consume them must purchase them at a price. Private goods do not face any have **free-rider problem**.

✓ Private goods are **'excludable'** i.e. it is possible to exclude or prevent consumers who have not paid for them from consuming them or having access to them.

✓ Consumption of private goods is **'rivalrous'** that is the purchase and consumption of a private good by one individual prevents another individual from consumingit.

✓ Normally, the market will **efficiently allocate resources** for the production of private goods.

✓ **A few examples** are: food items, clothing, movie ticket, television, cars, houses etc.

Features of Public goods

- ✓ A public good (also referred to as collective consumption good or social good) is defined as one which **all enjoy in common** in the sense that each individual's consumption of such a good leads to no subtraction from any other individuals' consumption of that good.

- ✓ Public goods are products (goods or services) whose consumption is **essentially collective in nature.**

- ✓ Public good is **non-rival in consumption.** It means that consumption of a public good by one individual does not reduce the quality or quantity available for all other individuals.For example, if, you eat your apple, (a private good) another person too cannot eat it. But, if you walk in street light, other persons too can walk without any reduced benefit from the street light.

- ✓ Public goods are **non-excludable**. Consumers cannot (at least at less than prohibitive cost) be excluded from consumption benefits. If the good is provided, one individual cannot deny another individuals' consumption. For example, national defence once provided, it is impossible to exclude anyone within the country from consuming and benefiting from it.

- ✓ Public goods are **characterized by indivisibility**. Each individual may consume all of the good i.e. the total amount consumed is the same for each individual. Once a public good is provided, the additional resource cost of another person consuming the goods is 'zero'. No direct payment by the consumer is involved in the case of pure public goods. A few examples of public goods are: national defence, highways, public education, scientific research which benefits everyone, law enforcement, lighthouses, fire protection, disease prevention and public sanitation.

- ✓ Public goods are generally **more vulnerable** to issues such as externalities, inadequate property rights, and free rider problems. The absence of excludability in the case of public goods and the tendency of people to act in their own self-interest will lead to the problem of free-riding. There is no incentive for people to pay for the good because they can consume it without paying for it. Since private goods are excludable, free-riding mostly occurs in the case of public goods.

How Public Goods create Market Failure

✓ If individuals make no offer to pay for public goods, there is market failure in the case of these goods and the **profit-maximizing firms will not produce them.**

✓ Producers are **not motivated to produce a socially-optimal amount** of products if they cannot charge a positive price for them or make profits from them.

✓ As such, though public goods are extremely valuable for the well- being of the society, left to the market, they will not be produced at all or will be **grossly under-produced. Thus, it creates market failure.**

Government intervention in case of Public Goods

- Direct Provision of a public good by govt. such as Defence, Legal system, Fire Protection, disease Prevention etc.
  - Govt. regulates the level of entry fee chargable from the Public & kept strict watch on Functioning of licensee to guarantee equitable distribution of welfare
- Excludable Public goods such as Parks, Universities, Museum etc. can be provided by govt. and financed through Entry Fees.
- Govt. Grant License to Pvt. Firms to build a Public good facility and charge fee from the user of good.
  - Some Public goods are Provided by Voluntary Contributions and Private donations by corporates and Non governmental organisations.

Incomplete Information

✓ Complete information is an important element of a competitive market. Perfect information implies that both buyers and sellers have complete information about anything that may influence their decision making.

✓ However, this assumption is not fully satisfied in real markets because of-

- Complexity of Products & Services. eg: Cardiac surgery, Mutual fund etc.
- Difficulty to getting correct information eg: condition of second hand car.
- Deliberate Mis--information eg: Highly Persuasive advertisements

Information failure results in market failure.

Asymmetric Information

✓ Asymmetric information occurs when there is an imbalance in information between the buyer and the seller i.e. when the buyer knows more than the seller or the seller knows more than the buyer.

✓ This can distort choices. For example,

- the landlords know more about their properties than the tenants,
- a borrower knows more about their ability to repay a loan than the lender,

✓ These are situations in which one party to a transaction knows a material fact that the other party does not.

✓ This phenomenon is an important source of market failure.

There are two central concepts related to the problem of information gaps in many markets-

Adverse Selection

When one party to a contract or negotiation, say X, possesses information relevant to the contract or negotiation that the other party Y does not have, the expected value of the transaction is known more accurately to X due to asymmetry of information. Then, the party which has more information i.e. X may take advantage Y's ignorance and this could potentially put the ignorant party Y at a loss.

Moral Hazard

Moral hazard is about the opportunism characterized by an informed person's taking advantage of a less-informed person through an unobserved action.

It arises from lack of information about someone's future

Lemons Problem

When dealing with problems of asymmetric information, the most frequently cited and studied example in Economics is the 'lemons problem' developed by **George Akerlof** in relation to the used car market. Second-hand cars may be good quality cars or poor quality cars defined as "lemons"

- ✓ The owner of a car knows much more about its quality than anyone else.
  While placing it for sale, he may not disclose all that he knows about the mechanical defects of the vehicle.
- ✓ Based on the probability that the car on sale is a 'lemon', the buyers' willingness to pay for any particular car will be based on the 'average quality' of used cars.
- ✓ Since there is quality uncertainty, to account for this risk, the price offered for any used car is likely to be less.
- ✓ Since the price offered in the market is lower than the acceptable one, sellers of good quality cars will not be inclined to place the car for sale sell in the used car market. They are kept by their owners or sold only to relatives or friends.
- ✓ The good-quality cars disappear from the market and the market becomes flooded with 'lemons' and eventually the market may offer nothing but 'lemons'.
- ✓ This is the case of market failure because the market has only lower prices and lower

average quality of cars.

Government intervention for correcting information failure

Governments actively intervene in the market for combating the problem of market failure due to information problems and considering the importance of information in making rational choices.

Mandatory to have Accurate Labeling & Content disclosures by Producers.
eg: Labeling on cigarette packets.

Mandatory Disclosure of Information
eg: SEBI require accurate information to be provided to Prospective Buyers of New stocks.

Public Dissemination of Information to Improve Knowledge
eg: पढ़े गा India तो बढ़े गा India

Regulation of advertising and setting of advertising standards to make advertising more responsible, informative and less persuasive.

Price intervention
Non Market Pricing

- ✓ Price intervention generally takes the form of price controls which are legal restrictions on price.
- ✓ Price controls may take the form of either -

Price Floor
A minimum Price Buyers are required to Pay.

Price ceiling
A maximum price sellers are allowed to charge for a good or service

Government usually intervenes in many primary markets which are subject to extreme as well as unpredictable fluctuations in price.

Price Floor or MSP

For example in India, in the case of many crops the government has initiated the Minimum Support Price (MSP) programme as well asprocurement by government agencies at the set support prices. The objective is to guarantee steady and assured incomes to farmers.

Price ceiling or Maximum Price

When prices of certain essential commodities rise excessively, government may resort to controls in the form of price ceilings for making a resource or commodity available to all at reasonable prices. For example: maximum prices of food grains and essential items are set by government during times of scarcity.

Buffer stock

With the objective of ensuring stability in prices and distribution, governments often intervene in grain markets by building and maintenance of buffer stocks. It involves purchases from the market during good harvest and releasing stocks during periods when production is below average.

Govt. intervention for Equitable Distribution

- ✓ One of the most important activities of the government is to redistribute incomes so that there is equity and fairness in the society.
- ✓ Some common policy interventions include:

progressive income tax, targeted budgetary allocations, unemployment compensation, transfer payments, subsidies, social security schemes, job reservations, land reforms, gender sensitive budgeting etc.

- ✓ Government also intervenes to combat black economy and market distortions associated with a parallel black economy.
- ✓ Government intervention in a market that reduces efficiency while increasing equity is often justified because equity is greatly appreciated by society.

The discussion above is far from being comprehensive; yet it points toward the numerous ways in which governments intervene in the markets.

Government Failure

we cannot be sure whether the government interventions would be effective or whether it would make the functioning of the economy less efficient.

Government failures where government intervention in the economy to correct a market failure creates inefficiency and leads to a misallocation of scarce resources occur very often.

Government failure occurs when:

- intervention is ineffective causing Wastage of resources expended for the interventions
- intervention Produces Fresh and More Serious Problems.