Government intervention to correct market failure

Chapter 2 Unit 3

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Do not misunderstand Market Failure !

- **When markets fail, they do not totally collapse;**
- **They simply fail to create the socially optimal outcome.**

Market failure

- is one reason for possible government intervention into markets to improve the outcome.

Control of monopoly

- Restrictive trade practice legislation and anti-monopoly laws

Antitrust law

- Laws that regulates the conduct and organization of business corporations, to promote fair competition for the benefit of consumers.
- The concept is called competition law in other English-speaking countries.

Aim

- To prevent companies from working together to raise prices unfairly or to create a monopoly
- Contracts
- Combinations
- Collusions
- Cartel

Minimize Market Power

- Rules and regulations designed to promote competition and prohibit actions <u>that are likely to restrain competition</u>.
- Competition act, 2002
- The antitrust laws in the US
- The competition act, 1998 of UK

Contestable market

- A market in which the potential for competition exists due to minimal entry and exit costs.
- Governments try to make markets contestable, e.g.: telecommunications in India

Other measures

- Market liberalization
- Controls on mergers and acquisitions
- Price capping and price regulation
- Profit or rate of return regulation

- **Patronage to consumer associations**
- **Tough investigations into cartelization and unfair practices**
- **Restrictions on monopsony power**
- **Reduction in import controls and**
- **Nationalisation**

Monopoly is not always bad

- Patent and copyright laws grant exclusive rights of products or processes
- To encourage inventions and innovations

Government Intervention to Correct Externalities

- **To promote the overall welfare of all members of society, Social returns should be maximized and social costs minimized.**
- **All costs and benefits need to be internalized**

- **Government initiatives towards negative externalities may be classified**
- **Direct controls or regulations (command solutions)**
- **Market-based policies**

Regulation

- Determines how a private activity may be undertaken.
- Example - Factories Act

More

- Price regulation
- Setting price-caps
- Natural monopolies
- Rate of return regulation

Command solutions

- Command solutions try to by-pass markets and rely on legislation and the force of law.
- Government can pass laws which directly force consumers and firms to alter their behaviour.

Examples include:

- Banning sources of pollution, such as cars and factories, from urban areas
- Forcing firms to install air filters
- setting up ‘smokeless zones'
- Setting emission limits for motor vehicles,
- Fines for those who break these laws or limits

Government Intervention to Correct Externalities

- Direct controls
- Prohibit specific activities
- Limiting emissions
- Environmental standards
- Emissions fee
- Special bodies/ boards to specifically address the problem

CORRECTIVE INTERVENTION

- **Signaling**
- **PCA – What is it?**
- **Banks become selective in lending**
- **Financial sector Regulation like Basel Norm's and Capital Adequacy Ratio.**
- **Nationalization of banks and priority sector lending.**

Market-based policies

- One of the tools used by government could be the market itself
- Environmental taxes and cap-and-trade
- Operate through price mechanism to create an incentive for change
- Rely on economic incentives to accomplish environmental goals at lesser costs

Taxation

- Reduces supply and therefore increases price, to discourage production /consumption of a good that has negative externalities.
- Works through the price mechanism

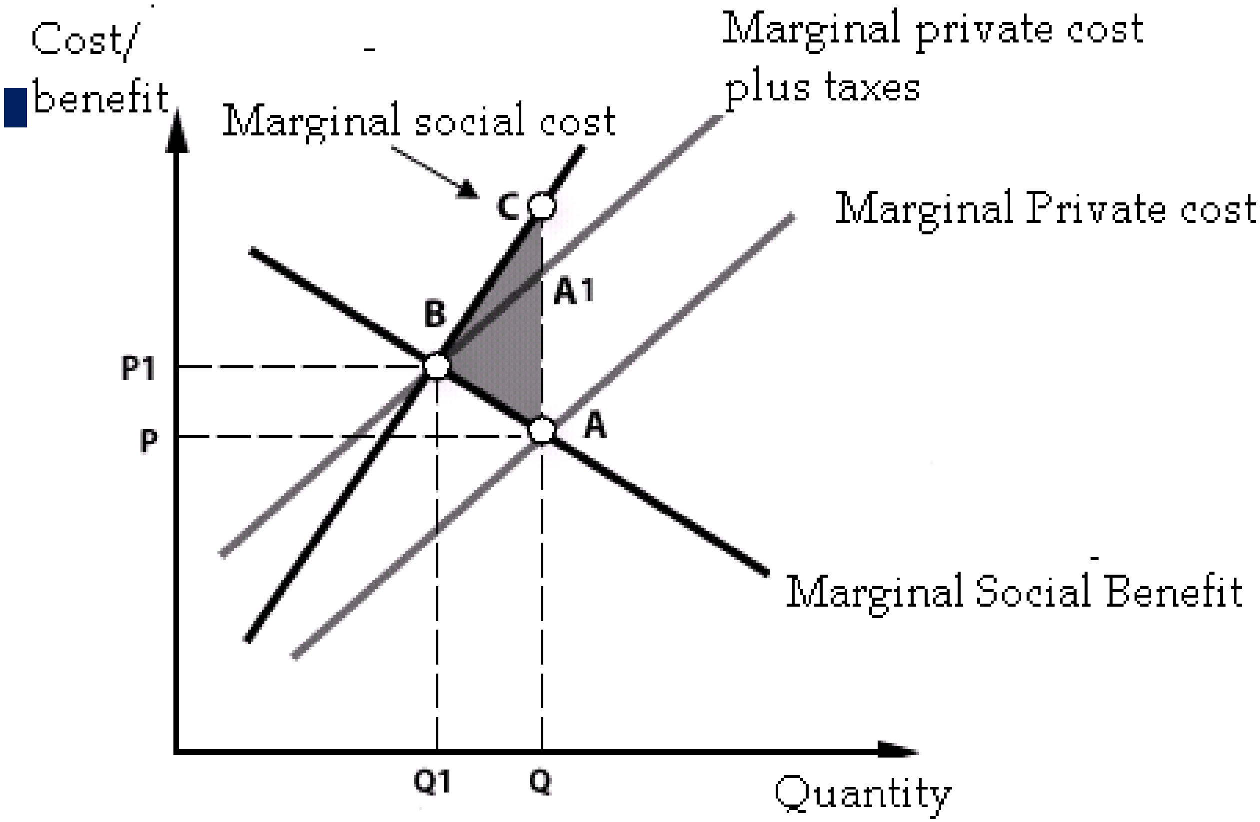
Purpose

- A tax incentive program uses a tax to create incentives for individuals to structure their activities in a way that is consistent with the desired ends.
- The person who conserves the most pays the least tax.

Pigouvian taxes

- ‘Making the polluter pay’,
- Seek to internalize external costs into the price of a product or activity.
- Setting the price directly through a pollution tax
- Ensure that those who create the externalities include them while making decisions

Internalizing an externality



The tax

- **Internalizes the externality by making pollution an <u>accounting cost</u>**
- **<u>External cost thus gets borne by the producer</u>**

Problems

- Difficult to determine and administer
- Complex and costly administrative procedures
- Only establishes an incentive system
- Case of goods which have inelastic demand
- Encourage producers to shift their production

Tradable permits

- Provide an incentive to polluters to 'internalise' the externality.
- The government, or an appointed agency, selling the right to generate a given quantity of pollution to firms in an industry.
- These can be bought, sold and traded

Result -an incentive to be a non-polluter!

- **The high polluters have to buy more permits, which increases their costs, and makes them less competitive and less profitable.**
- **The low polluters receive extra revenue from selling their surplus permits, which makes them more competitive and more profitable.**

Tradable emissions permits (cap-and-trade)

- Marketable licenses to emit limited quantities of pollutants and can be bought and sold by polluters
- The total amount of the cap is split into allowances, each permitting a company to produce given emissions.

Pollution Permits

- An efficient amount of pollution is agreed, and a corresponding number of permits released
- These can be traded amongst firms so that low polluters can sell to high polluters and make a profit.
- Aims to tackle negative externalities.

Three options for a producer

- Meet their emissions target by reducing their own emissions, or:
- Reduce their emissions below their target and then sell, or store, the excess emission allowances, or:
- Allow their emissions to stay above their target, and therefore purchase emissions allowances from other participants.

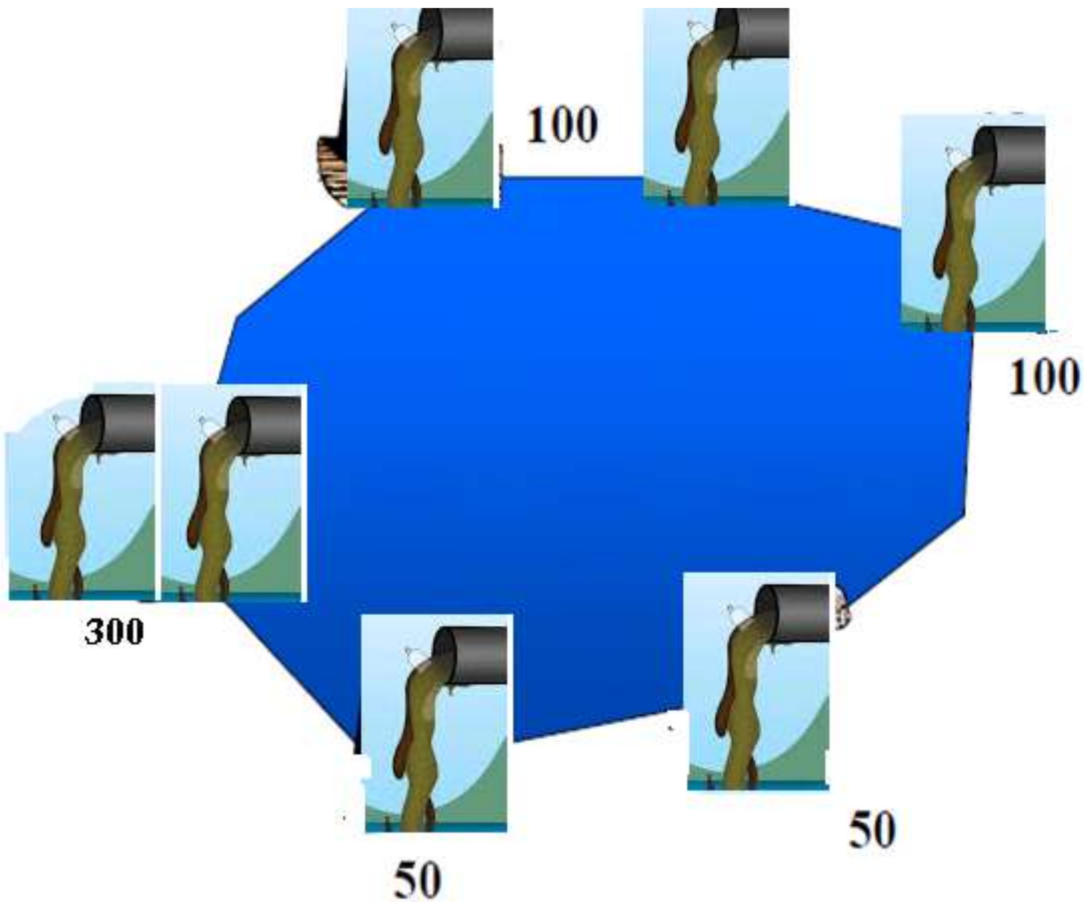
Incentive

- **Companies that cut their pollution faster can sell allowances to companies that pollute more,**
- **or "bank" them for future use.**

Government can sell the right to pollute

- Assume the lake can naturally absorb 500 gallons of pollutants each year
- The Government sells each firm the right to pollute a set number of gallons

Example (ack : Internet sources)



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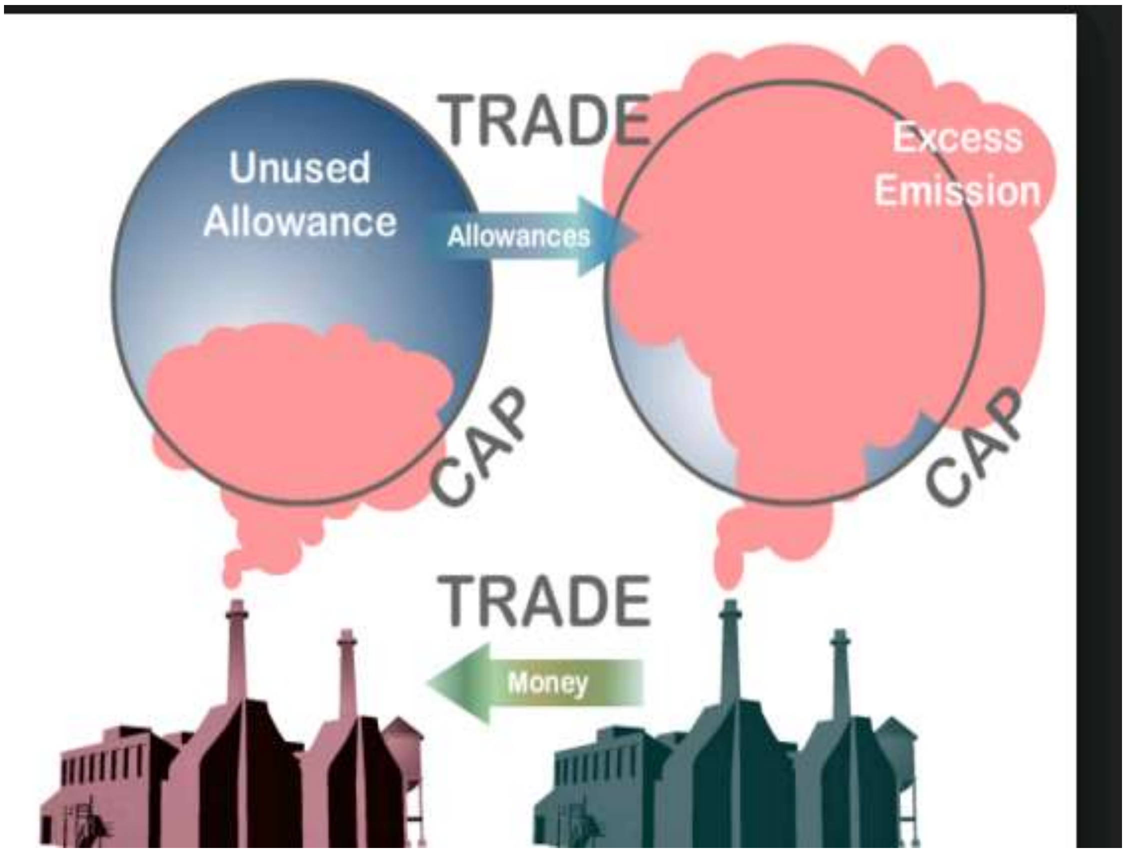


Firms' incentive ?

- To reduce pollution
- Or Run into trouble
- Cost escalation
- Uses the market mechanism, therefore efficient.

Advantage

- **Requires little Government intervention, therefore cheap to run.**
- **Difficult to set correct amount of pollution and therefore right number of permits**

India

- Clean Energy Cess in Finance Act, 2010 on Coal, Lignite and Peat
- From 2016 known as clean environment cess
- Perform, Achieve & Trade (PAT) scheme

To be in compliance

- Firms can buy permits
- Install devices that reduce the amount of pollution emitted
- Reduce their output.

Subsidy

- Increases supply and therefore reduces price, to encourage production /consumption of a good with positive externalities.
- Works through the price mechanism.

Positive consumption externality

- The social marginal benefit (SMB) is higher than private marginal benefit (PMB).
- In the case of a positive production externality,
- The marginal social cost (msc) is less than private marginal cost.

Market failure

- Because, left to market, there will be less than optimal output
- There will be under-consumption of goods with positive consumption externalities.

Corrective subsidies

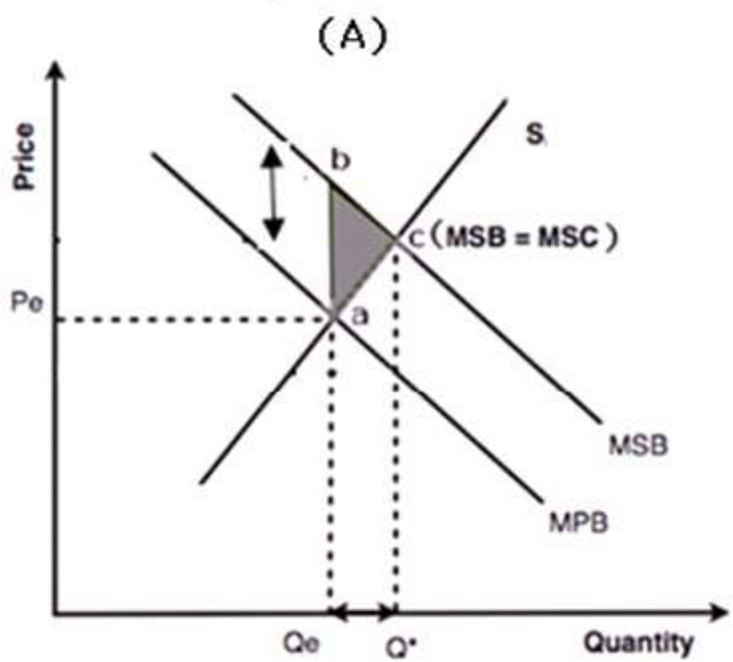
- To the producers aimed at either increasing the supply of the good

or

- Corrective subsidies to consumers aimed at increasing the demand for the good.

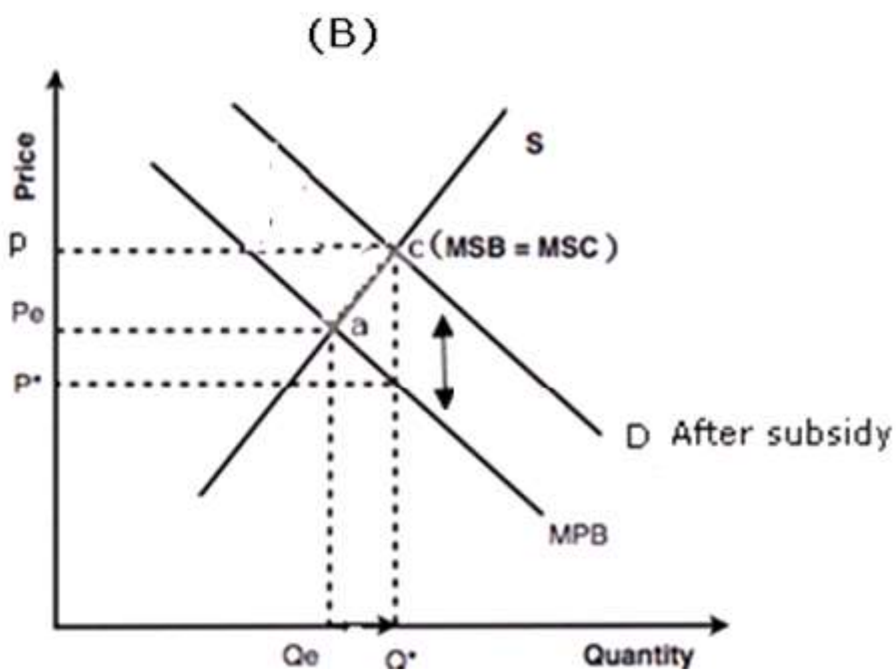
- **The demand curve (MPB) for education does not reflect positive externalities of education consumption.**

Without government intervention Qe amount of education at Pe prices



- **The total deadweight loss (welfare loss) from all the education not provided is the shaded triangle ‘b a c’**

Effect of Government Subsidy



Effect of subsidy

- The subsidy shifts up the demand curve by that amount
- The demand curve now rises to the level of the MSB curve
- Equilibrium moves to Q* -the efficient number.

- **The price of education rises from pe**
- **The students, after accounting for the subsidy, pay only P***
- **More of them choose to acquire education**

A corrective production subsidy

- government pay part of the cost to the firms in order to promote the production of goods having positive externalities.

Result

- Lower their cost of production
- Reduce the marginal private costs of production,
- Increase the supply,
- Shift the supply curve to the right,
- Reduce the price and
- Increase the quantity demanded

Finally reach

- A higher output that would equate marginal social benefit and marginal social cost
- This is socially optimal output

State Provision

- **Government directly provides a good or service, funded through tax revenue, in order to provide goods which have positive externalities or are public goods.**

Benefit

- **Increases fairness of access to services such as healthcare and education, which have many positive externalities attached.**
- **Without Government provision, public goods wouldn't be provided.**

State Provision

- Weather forecasts
- Lighthouses
- Flood control
- National defense
- GPS satellites
- Mosquito eradication
- Immunization

Government Intervention in the Case of Merit Goods

- Merit goods are
- Rival
- Excludable
- Limited in supply
- Rejectable by those unwilling to pay, and
- Involve positive marginal cost for supplying to extra users.

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

Other reasons

- Information failure
- Equity considerations
- There is a lot of uncertainty as to the need for merit goods E.g. health care.

The possible government responses to under-provision of merit

- Regulation

More

- Setting standards for doctors and drug trials
- Employers of a certain size must provide health insurance,
- Children must be immunized at schools.
- Control of disease vectors (malaria),
- Clean air

The government of India

- Through the Medical Council of India (MCI) empanels doctors and medical institutions after a rigorous vetting process, which signals the credibility of the practitioner concerned to the citizen.

- Food and water safety,
- Information,
- Medical research (some types),
- Vaccination campaign days and weeks
- Disease surveillance

Buffer Stocks

- Government purchases commodities if a floor price is reached and sells commodities if a ceiling price is reached.
- Ensures fair income for producers and fair prices for consumers.

Regulation

- Government imposes rules regarding the production, sale or use of a good/service
- Supports these legally by fines/ prison sentences etc.
- Aims to tackle negative externalities.

Government Intervention in the Case of Merit Goods

- Substantial positive externalities are involved in the consumption of merit goods.
- Education, health care, welfare services, housing, fire protection, waste management, public libraries, museum and public parks

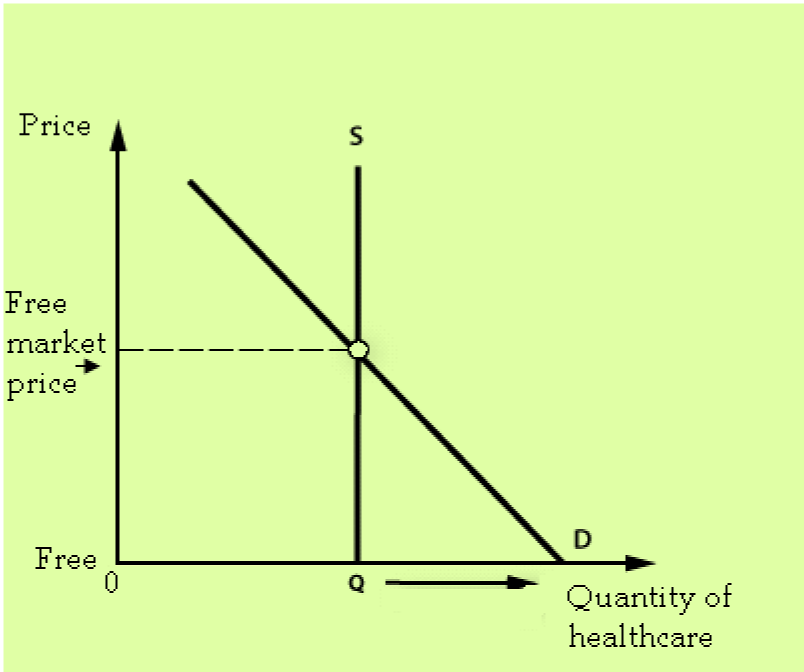
Result

- Strong case for government intervention
- Information failure is widely prevalent with merit goods
- Equity considerations
- A lot of uncertainty as to the need for merit goods

Modes of Government intervention

- Regulation,
- Subsidies,
- Direct government provision and
- A combination of government provision and market provision

When merit goods are directly provided free of cost



Government Intervention in the Case of Demerit Goods

- Goods which are believed to be socially undesirable
- Production and consumption of demerit goods are likely to be more than optimal under free markets
- All goods with negative externalities are not essentially demerit goods

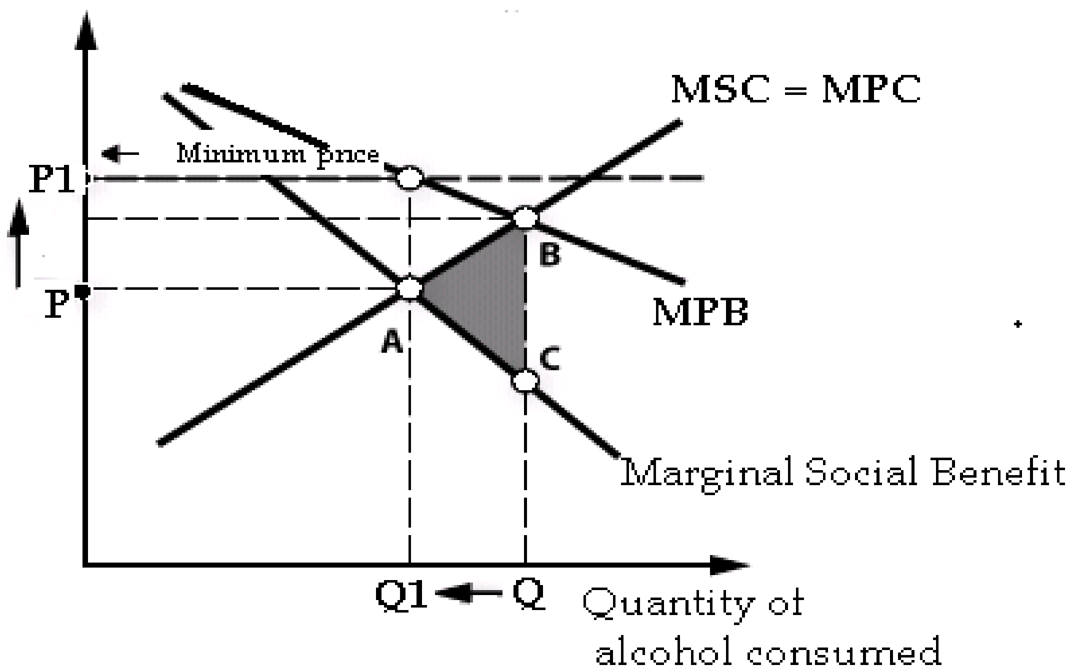
- **Consumers overvalue demerit goods**
- **Imperfect information**
- **They are not the best judges of welfare**
- **The government should therefore intervene**

Government measures

- Complete ban on a demerit good.
- Persuasion achieved through negative advertising campaigns
- Legislations that prohibit the advertising or promotion of demerit goods
- Limit access to the good, especially by vulnerable groups such as children and adolescents

- **Regulatory controls**
- **Spatial restrictions**
- **Imposing unusually high taxes**
- **Price setting - Minimum price fixation above equilibrium price**

Outcomes of Minimum Price for a Demerit Good



Note

- There is a divergence (BC) between marginal private benefit (MPB) and marginal social benefit (MSB).
- At minimum price p1, demand contracts and the quantity of alcohol consumed would be optimal

Limitations

- Highly inelastic demand
- Less than proportionate decrease in demand
- Sellers can always shift the taxes to consumers
- Total ban -such goods are secretly driven underground and traded in a hidden market.

Government Intervention in the Case of Public Goods

- Direct provision of a public good using general government tax revenues
- Excludable public goods can be financed through entry fees
- Issue licenses to private firms to build a public good facility
- Can charge an entry fee

- **Government regulates the level of the entry fee**
- **Keeps strict watch on the functioning of the licensee**
- **Some activities are dangerous to the society, therefore only government will provide**

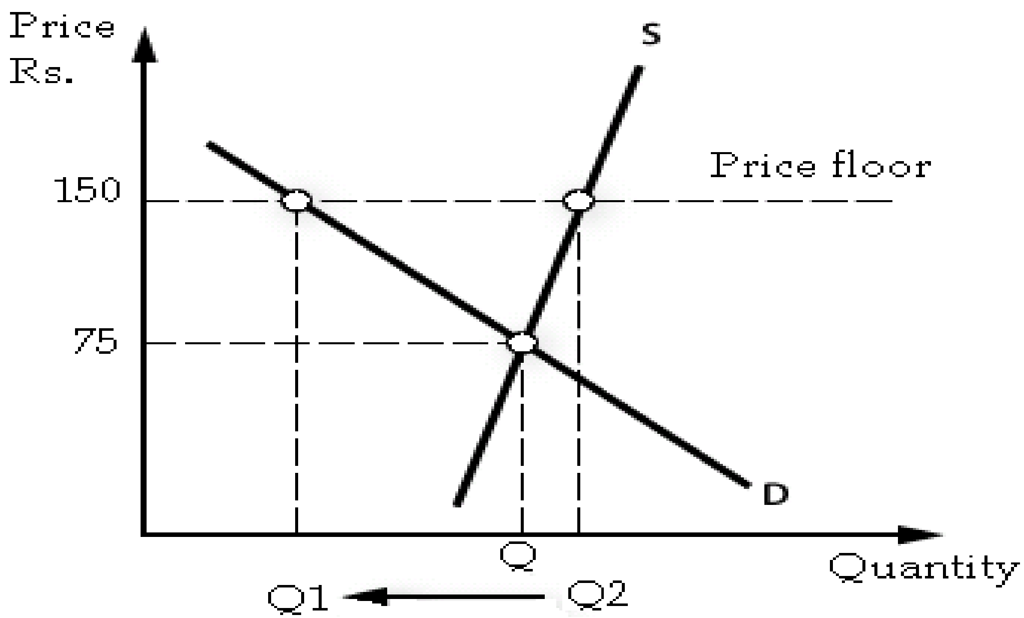
Price Intervention: Non market pricing

- Price controls
- Price floor -minimum wages and rent controls
- Market failure in agriculture
- To stabilize food supply and farm incomes
- Minimum Support Price (MSP)

Minimum wage laws.

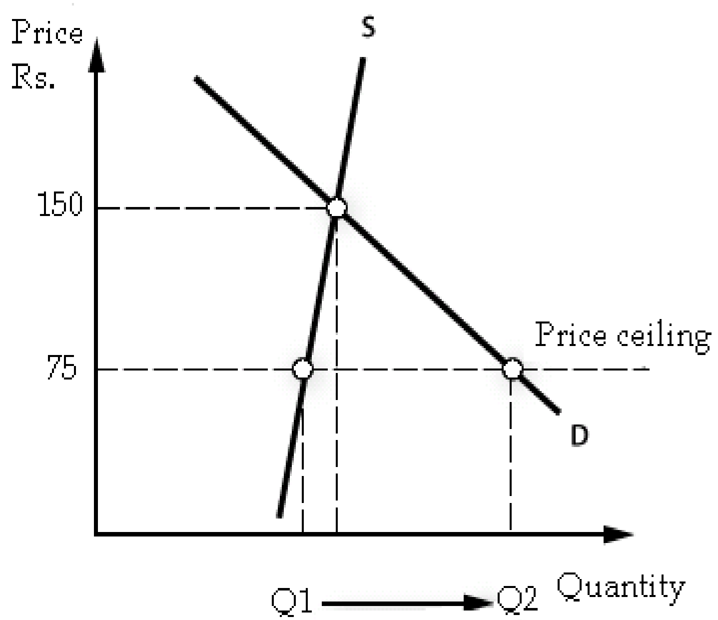
- Raise the market wages
- Higher wage cost would lead to employers hiring a lesser number of minimum wage employees

Market Outcome of Minimum Support Price



Price ceilings (maximum price)

- **Market Outcome of Price Ceiling**



- **Building and maintenance of buffer stocks**

Health insurance companies

- Fill out a health history
- Complete a physical exam to determine the premiums they will charge to the individual.

Why?

- If individuals have to bear at least a portion of the cost when they make an insurance claim, they are less likely to make a claim.

More

- Warranties and money back guarantees
- Franchises
- Restaurant chains – Macdonald , Pizza Hut
- Inspections also promote confidence in what is being purchased.
- Department of Weights and Measures

- Government has set various standards
- Various laws restrict certain activities such as insider trading.
- SEBI
- Regulators like IRDAI

Government Intervention for Correcting Information Failure

- Mandatory to have accurate labeling and content disclosures by producers
- Public dissemination of information
- Regulation of advertising
- Setting of advertising standards

More

- Statutory information
- Information campaigns
- Licensing of Doctors practicing medicine
- NET ,SET GATE etc

- **Weather forecasts**
- **Lighthouses**
- **GPS satellites**
- **Medical research**

Nationalization

- ??????????????

Not by government

- Reducing adverse selection in the insurance market
- Applicants for health insurance undergo medical examinations/ submit medical records.

- **Applicants for car insurance will have their driving record reviewed and may be charged higher premiums.**

- **Group coverage to large firms.**
- **Use of specific requirements, e.g.: require the installation of smoke detectors in building**