A2 – ECONOMICS (9708)

MICRO

CHAPTER 4
Economic Efficiency and Market Failure

TOPIC 1: RESOURCE ALLOCATION AND EFFICIENCY

Lecture 1 | **Definition | Economic Efficiency:** It is regarded as using the limited economic resources in the best possible way to produce maximum output. It is divided into TWO parts:
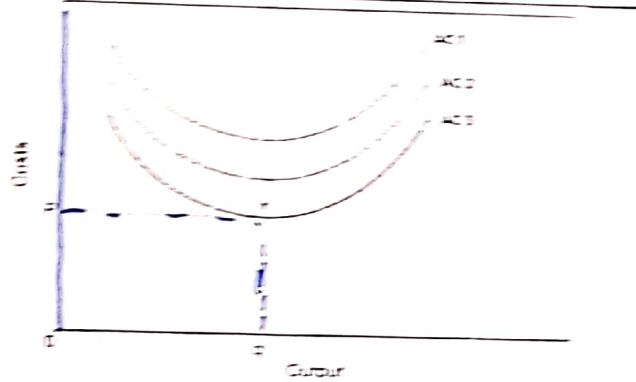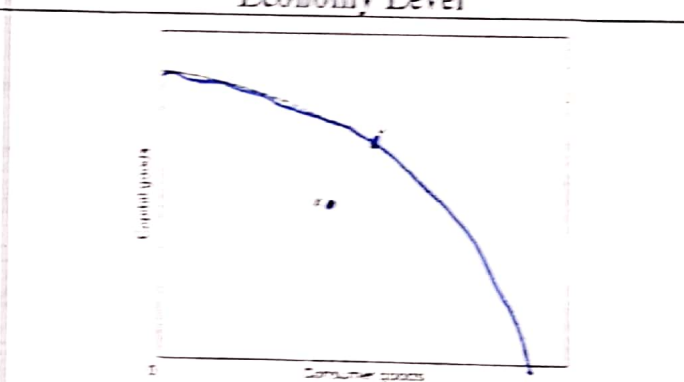1. Productive Efficiency
2. Allocative Efficiency

1. PRODUCTIVE EFFICIENCY

Definition | Productive Efficiency: It is attained when a firm operates at minimum of average total cost, choosing an appropriate combination of inputs of factors of production given the relative prices of those factors (*cost efficiency*) and producing the maximum output possible from those inputs (*technical efficiency*).

<p style="text-align:center">Productive efficiency = Cost efficiency + Technical efficiency</p>

The concept of productive efficiency can be understood on TWO levels.

Firm Level	Economy Level
Productive efficiency for a firm occurs where the firm's output is produced at the minimum point (Technical efficiency) of the lowest possible average total cost curve available (Cost efficiency).	The PPC is used to show the existence of productive efficiency in an economy. Point X inside the curve shows that there are unused resources in the economy that could be used to produced either capital or consumer goods or a combination of the two. Any point along the PPC shows that resources are being used to produce a particular combination of the two goods and hence productively efficient.

2. ALLOCATIVE EFFICIENCY

Definition | Allocative Efficiency: This is when right amount of scare resources are allocated to produce the right products. This achieved when society is production goods and services most wanted by consumers. This can be best shown by the relationship between marginal cost of production and the price of a product. Marginal cost refers to the cost of producing one more product, when this equals to the price of the product we have allocative efficiency (P=MC).
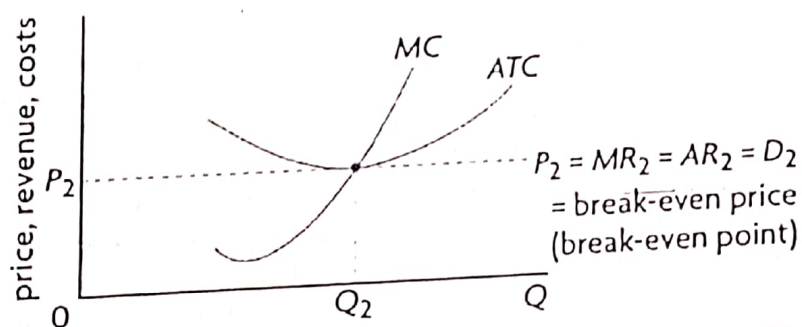
(1) Price – Value on the product put by the consumer
(2) MC – Value of resources put by the producer

Market Level
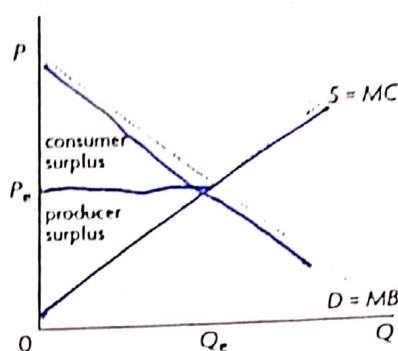
As we see from the diagram above the optimum point is where D=S (MB=MC) at point Pe and Qe. Situations where P > MC (under-utilization) or P < MC (over-utilization) are both inefficient.

Firm Level:

On a firm level where the MC cuts the AR(P) curve is where the allocative efficiency is achieved.

Economy Level

A PPC can also be used to show the concept of allocative efficiency, but only if the particular preference of consumer are known. Any point along the PPC could possibly show the existence of allocative efficiency, the exact point on the curve depends on the particular preference of consumers. For allocative efficiency to exist throughout an economy this must operate in all markets in the economy.

TOPIC 2: SOURCES OF MARKET FAILURE

Definition | Market Failure: This is a situation in which the free market mechanism does not lead to an optimal allocation of resources. It is where interaction of demand supply does not lead to productive or allocative efficiency. There are several sources of market failure:

1. Public goods
2. Merit Goods
3. Demerit Goods
4. Information failure / Imperfect knowledge
5. Negative Externalities
6. Positive Externalities
7. Imperfect competition / Monopoly Power
8. Immobility of factors of production
9. Short-Termism
10. Imperfect Distribution of income and wealth

1. PUBLIC GOODS

Definition | Public Goods: These goods are non-excludable and non-rivalrous and non-rejectable. Which means that consumers cannot be excluded from consuming the goods and consumption by one person does not affect the amount of the good available for others to consume. Example: Street lighting, lighthouse, defense, police protection etc.

Issues with providing public goods

Issue	Description
1. Free Riding	The provision of public goods cannot be left to the market as once the good is provided the company cannot charge for it. This is called free riding. Since now everyone can enjoy the benefit without having to pay for it.
2. Problems with calculating SMC and SMB	The market will achieve perfect allocation at the point where MSB = MSC. If consumers know that the increase in production will have less than proportionate effects upon their tax bills they are likely to exaggerate their demand for better roads if they know that burden would be shared by non-motorists as well. On the other hand, if they asked about their willingness to pay they will underestimate it to enjoy the good at a price lower than their valuation. Therefore, there will always be a variation between MPB and MSB and hence the SMB will never know the true level of demand.
3. Non-excludability and non-rivalry	Since efficiency says that P=MC. However, for public goods due to the element of non-rivalry, the good can be provided to someone else at zero dollars. However, this raises as problem of how to finance these goods. One way is government collecting money through taxes and borrowing.

2. MERIT GOODS

Definition: These are goods that have positive effect on the society. Individuals do not perceive the full benefit from consumption due to information failure (not having complete information on the benefits) and hence they are under-consumed and under-produced. Example: Health care, education, housing etc.

3. DEMERIT GOODS

Definition: These are goods that have a negative effect on the society. Individuals do not perceive the full harm from consumption due to information failure (not having complete information on the drawbacks) and hence they are over-consumed. Example: Drugs, tobacco, junk food etc.

4. INFORMATION FAILURE / IMPERFECT KNOWLEDGE

Definition: Imperfect information is a situation in which the parties to a transaction have different information. There are <u>THREE</u> types of it:

Types	Description
1. Imperfect information to consumers	This is a situation in which some participants in a market have better information about the market conditions than the others. Examples include health care where doctors have more information than their patients, second-hand car markets where sellers know more about their cars than the buyers. This problem can be solved if more information can be provided like on the internet, getting a second opinion etc. This is also called **asymmetric information.**
2. Imperfect information to labor	Workers are forced to make decisions based in incomplete information regarding for example, the wage rates on offer in an area that jobs available in other areas or even other countries, and the career prospects in rival firms. When it comes to the decisions to invest in human capital, i.e. in education and training the problems become even more acute. How are we to know out aptitude for a particular career.
3. Imperfect information to producers	Producers face information problems concerning available supply prices for labor, raw materials and capital. They face uncertainty when it comes to deciding on investment projects, example: will technology change, what will be the most important production method, do rival firms have information that the firm doesn't have etc.

It is the cost of information which causes many economic decisions to be less than optimal, thus resulting in social inefficiency. Information gathering involves inputs of resources and time. In principle it is an easy matter to define the optimum level of search. As search should continue up until the point at which the marginal benefit from search is equal to the marginal cost. But it is difficult to calculate the benefit of the search before it is conducted.
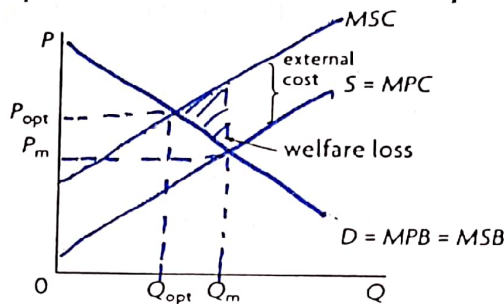
5. NEGATIVE EXTERNALITIES

Definition | Externalities: This is where the action of producers or consumers give rise to side effects on third parties who are not involved in the action. These can be costs or benefits to a market and is thus not reflected in market prices. This is also known as the **spillover effect.** The economic decision in the time of a market failure would not be in the best interest of the society because the actual cost won't be represented in the market price. It can either be a cost or benefit of production or consumption which has effects that are not paid for by the producer or the consumer. They are called **external costs** (negative externalities) or **external benefits** (positive externalities) because they are external to a market. It should be noted that for **negative externalities (MSC > MSB) or positive externalities (MSB > MSC).**

1) Read the question if, it's a production externality
keep denced constat. If a consumption then supply
2). Draw private benefit/private cost and
intersection gives if ou Q* then towards the
3) Shift the curve, if negative then towards the
left, if positive then right, thats Q*
4) where MSB and MSC meet, thats Q*
5) From the previous Q, mark the deadweight loss
(vertical distance b/w MSB and MSC

A2 / MICRO — [NOTES] — CHAPTER 4

1. Negative Production Externalities

Definition: Negative externalities of production refer to **external costs created by producers.** The problem of environmental pollution, created as a side-effect of production activities, is very commonly analyzed as a negative production externality. **For example:** Consider a cement factory that emits smoke into the air and disposes its waste by dumping it into the ocean. There is a production externality, because above the firm's private costs of production, there are additional costs that spill over onto society due to the polluted air and ocean, with negative consequences for the local inhabitants, swimmers, sea life, the fishing industry and the marine ecosystem. When there is a negative production externality, the free market **over-allocates resources** to the production of the good and too much of it is produced relative to the social optimum.

This is shown in diagram below, where the supply curve, $S = MPC$, reflects the firm's private costs of production, and the marginal social cost curve given by MSC represents the full cost to society of producing cement. For each level of output, Q, social costs of producing cement given by MSC are greater than the firm's private costs. The vertical difference between MSC and MPC represents the external costs. Since the externality involves only production (the supply curve), the demand curve represents both marginal private benefits and marginal social benefits. The **market** will always operate where **MPC = MPB** however the **optimum** will always be **MSC = MSB.**

2. Negative Consumption Externalities

Definition: Negative externalities of consumption refer to **external costs created by consumers. For example,** when consumers **smoke in public places,** there are external costs that spill over onto society in the form of costs to non-smokers due to passive smoking. In addition, smoking-related diseases result in higher than necessary health care costs that are an additional burden upon society. When there is a consumption externality, the marginal private benefit (demand) curve does not reflect social benefits. When there is a negative consumption externality, the free market **over-allocates resources** to the production of the good, and too much of it is produced relative to what is socially optimum

In the diagram below, the buyers of cigarettes have a demand curve, MPB, but when smoking, create external costs for non-smokers. These costs can be thought of as 'negative benefits', which therefore cause the MSB curve to lie below the MPB curve. The vertical difference between MPB and MSB represents the external costs. Note that since the externality involves consumption (i.e. the demand curve), the supply curve represents both marginal private costs and marginal social costs. The market determines an equilibrium quantity, Qm, and price Pm, given by the intersection of the MPB and MPC curves, but the social optimum is Qopt and Popt, determined by the intersection of the MSB and MSC curves. The **market** will always operate where **MPC = MPB** however the **optimum** will always be **MSC = MSB.**
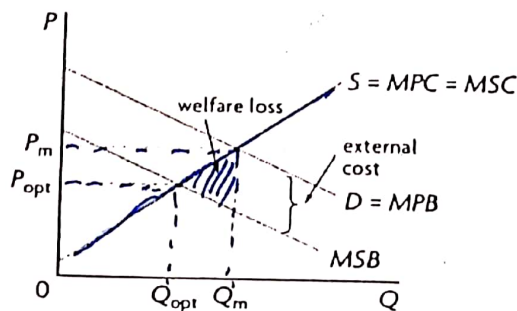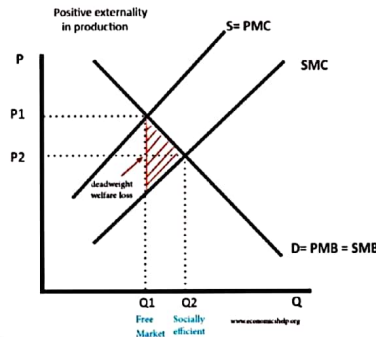

Lecture 2

| Lecture 3 |

6. POSITIVE EXTERNALITIES

1. Positive Production Externalities

Definition: Positive externalities of production refer to **external benefits created by producers.** If, for example, a firm engages in research and development, and succeeds in developing a new technology that spreads throughout the economy, there are external benefits because not only the firm but also society benefits from widespread adoption of the new technology. Therefore, the social costs of research and development are lower than the private costs. When there is a positive production externality, the free market **under-allocates resources to the production** of the good: too few resources are allocated to its production, and too little of it is produced.

In the diagram below, the MSC curve lies below the MPC curve, and the difference between the two curves is the value of the external benefits (these can be thought of as 'negative costs'). The demand curve represents both MPB and MSB since the externality involves only production. The market gives rise to equilibrium quantity Qm and price Pm, determined by the intersection of the MPB and MPC curves, while the social optimum is given by Qopt and Popt, determined by the intersection of the MSB with MSC curves. Since Qm < Qopt, the market under-allocates resources to research and development activities that lead to new technologies, and not enough of them are undertaken. **The market will always operate where MPC = MPB however the optimum will always be MSC = MSB.**

Positive externality in production

S= PMC

SMC

P

P1

P2

deadweight welfare loss

D= PMB = SMB

Q1   Q2   Q
Free Socially   www.economicshelp.org
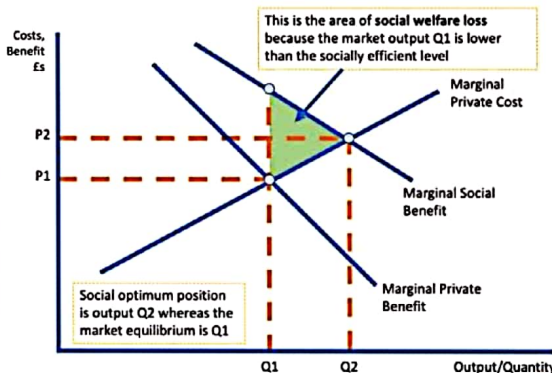Market efficient

2. Positive Consumption Externalities

Definition: When there is a positive externality of consumption, external benefits are created by consumers. For example, the **consumption of education benefits the person** who receives the education, but in addition gives rise to external benefits, involving social benefits from a more productive workforce, lower unemployment, higher rate of growth, more economic development, lower crime rate, and so on. Similarly, the **consumption of health care services** benefits not only the person receiving the services but also society and the economy, because a healthier population is more productive, enjoys a higher standard of living and may have a higher rate of economic growth. When there is a positive consumption externality, the free market **under-allocates resources to the production of** the good, and too little of it is produced relative to the social optimum.

In the diagram below, we see that the marginal social benefit (MSB) curve lies above the marginal private benefit (MPB) curve, and the difference between the two consists of the external benefits to society. The socially optimum quantity, Qopt, is given by the point where MSB = MSC, and the quantity produced by the market is given by the point where MPB = MPC. Since Q opt > Q m, the market under-allocates resources to education, and too little of it is produced. **The market will always operate where MPC = MPB however the optimum will always be MSC = MSB.**

Positive consumption externalities – analysis diagram

If the market price ignores positive externalities, then there will be under-consumption

Costs, Benefit £s

This is the area of social welfare loss because the market output Q1 is lower than the socially efficient level

Marginal Private Cost

P2

P1

Marginal Social Benefit

Social optimum position is output Q2 whereas the market equilibrium is Q1

Marginal Private Benefit

Q1   Q2   Output/Quantity

7. IMPERFECT COMPETITION / MONOPOLY POWER

In imperfect markets whether as pure monopoly or any other imperfect market the market will fail to equate MSB – MSC even if there are no externalities. A monopoly will produce less than the socially efficient output. A monopoly faces a downward sloping demand curve and therefore marginal revenue is below average revenue (AR (P) > MR). Profits are maximized at a point where MR = MC at an output of Q1 and at price of P1. But since price is above MR, price must be above MC. Hence if there are no externalities and thus P=MSB and MC = MSC the socially optimum output will be Q2, where MSB = MSC. Since output Q2 is greater than Q1 the firm is clearly producing less the social point and charging a higher price.
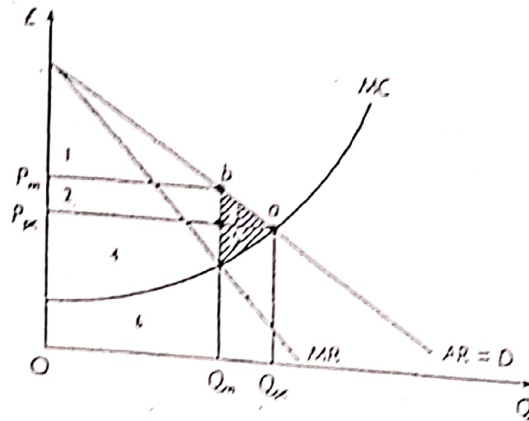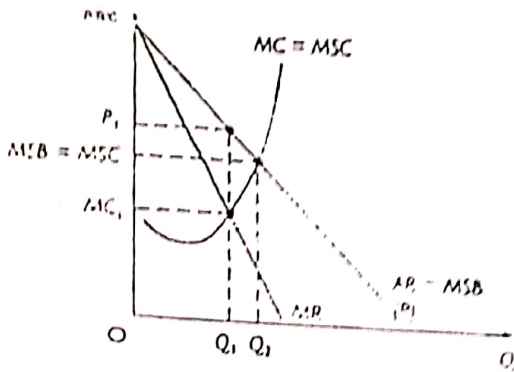
Deadweight loss under monopoly

Perfect competition	Monopoly
— Consumer surplus = [1+2+3] — Producer surplus = [4+5]	— Consumer surplus = [1] — Producer surplus = [2+ 4]

Note: Total surplus under monopoly is therefore area 1+2+4, a smaller surplus than under perfect competition. Monopolization therefore resulted in a total loss of surplus of area 3+5. The producers gain is less than consumers loss. Furthermore we can see that area 2 which was previously owned by the consumer is not taken over the producer.

Conclusion: It should be noted that monopolies also benefit the society by spending on R&D by gaining economies of scale. However this will only benefit the firm if they can somehow persuade them to produce at P=MC.

8. IMMOBILITY OF FACTORS AND TIME-LAGS IN RESPONSE

Even under prefect competition, factors may be very slow to responds to changes in demand or supply. Labor for example may be highly immobile both occupationally and geographically. This can lead to large price changes and hence to large supernormal profits and high wages for those in the sectors of rising demand or falling costs. The long-run may be a very long time. The market trends keep on changing and the economy stays in a constant state of disequilibrium. As consumers and producers move towards equilibrium, hence the equilibrium changes and the socially optimum point is never achieved.

9. SHORT-TERMISM

Definition: Private sector entrepreneurs are often criticized for pursuing short-term objectives at the expense of long-term planning. Short termism can result in over production of consumer goods the under production of capital goods and a failure to develop new methods of production and new products.

10. IMPERFECT DISTRIBUTION OF INCOME AND WEALTH

The market economy provides opportunities for people to earn an income and acquire wealth. But the opportunities for earning an income are not equally distributed. There are THREE main reasons for that:

Factor	Description
1. Labor market explanations	This arises because of demand and supply conditions in labor markets which respond to changes in the pattern of consume demand for goods and services. As in the labor market some workers have limited access to education and training whereas others have more. This leads to a wage divide. Furthermore this can be caused by intervention of trade unions along with the sector the employee is working in. Workers in the tertiary sector make the most money as compared to the secondary and primary.
2. Ownership of assets	This usually happens that, people who are wealthy tend to generate more income in the form of rent and profits. This leads to a divide in income inequality.
3. Demographic changes	Countries face a change in their age structure. Improved medical facilities and treatment means people now live longer and there are low fertility rates. This increases the old age population and increased payments of pension and health benefits of these people. Since these schemes are funded by taxes this leads to a even divide. However if the working age is reduced the divide can increase causing market failure.

Lecture 3

Note: Make reference of Lorenz-curve and the Gini coefficient when writing this point.

TOPIC 3: GOVT. POLCIES TO CORRECT MARKET FAILURE

Lecture 1 | **Definition | Microeconomic Policy:** Microeconomic policies comprises policies directed to achieve improvements in economic efficiency, either by eliminating or reducing externalities in individual sectors of the economy or by reforming economy-wide policies such as tax policy and competition policy with an emphasis on economic efficiency. There are two reasons for this:
(1) Efficiency: The government intervenes to restore efficiency. The government will try to
(2) Equity: Government wants equity with means unlike economic democracy where money represents the votes, they should also follow the principle where every human represents one vote. There are several policies to correct market failure:

1. Taxes
2. Subsidies
3. Laws and Regulations
4. Prevent or Regulate monopolies
5. Changes in property rights
6. Provision of information
7. Direct Provisions
8. Pollution permits
9. Incentives and Nudge Theory

1. TAXES
Definition: A tax is a mandatory financial charge or some other type of levy imposed upon a taxpayer (an individual or other legal entity) by a governmental organization in order to fund various public expenditures. Essentially the approach is to tax those goods or activities where the market produces and consumes too much [Negative production and consumption externality]. Hence the government should impose a **tax equal to the marginal external cost.**

Correcting Negative Production Externality

Negative production externality means that the external cost of production is ignored by the firm ($MSC > MPC$) and production is above the optimum quantity. The example can be pollution. In order to solve this the government should impose a tax on production equal to marginal pollution cost. It will internalize the externality which means to bring the external cost into the price system. The firm will have to pay an amount equal to external cost it creates. Hence now the firm will maximize profits where $MSB = MSC$.
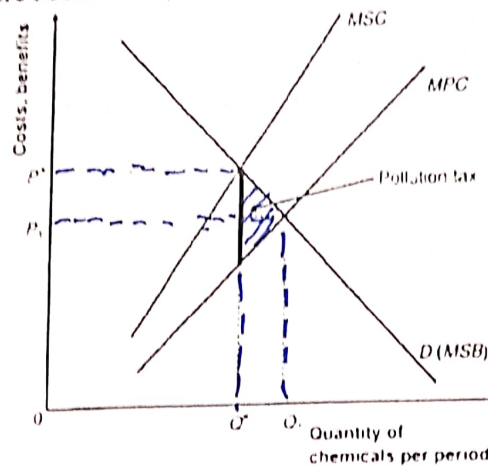
Correcting Negative Consumption Externality

Negative consumption externality means that the consumers tend to underestimate the damaging effects of a good and tend to over consume it. Example of this can be consumption of tobacco. This highlights that (MPB > MSB). If the government imposes a tax this effectively shift the supply curve to the left. This raises the market price and hence consumers are persuaded to reduce consumption.
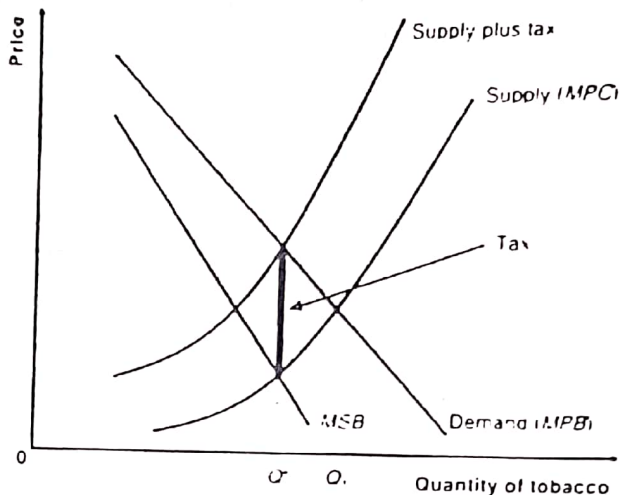

Note: Since the demand curve is highly price inelastic therefore tobacco taxes need to comprise a large of the price if they want to have an impact.

2. SUBSIDIES

Definition: A subsidy or government incentive is a form of financial aid or support extended to an economic sector generally with the aim of promoting economic and social policy. This is given in cases where the market produces and consumes too little [Positive production and Consumption externality]. Hence the government should impose **a subsidy equal to the marginal external benefit.**

Correcting Positive Production Externality

Positive production externality means that the production of a goods or a service will benefit the society more than just the firm that produces it. Example Research on a particular technology in an economy. As the costs to the firm would be higher than the cost paid by the society (MPC > MSC). Hence the government will provide a subsidy for the production of that technology. This will bring down the price and increase the production of the technology.
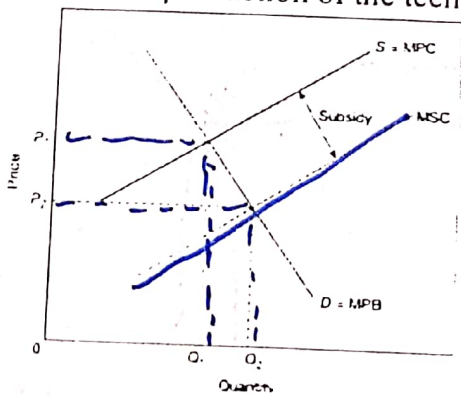
Correcting Positive Consumption Externality

Positive consumption externality means that the consumption of the good is less than the optimum point. This is because the people don't understand the true benefit of it which leads to (MSB > MPB). Thus the free-market equilibrium position is at Q1 however the optimum position is at Q*. By providing a subsidy the supply curve is shifted to the right, and consumers will choose to demand the optimum quantity at the subsidized price P2.
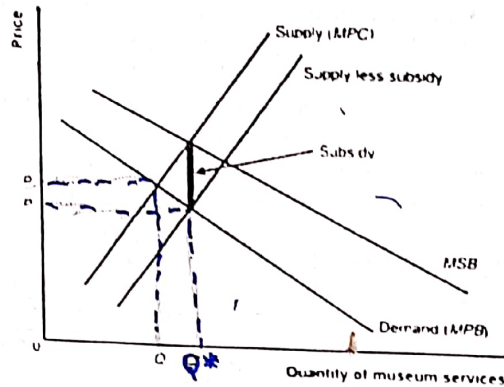
3. LAWS AND REGULATIONS

1. Regulation

increase production of merit,
decrease production/consumption of demerit good

Definition: These laws establish maximum pollution levels for example they can impose limits on harmful emissions from car exhausts. Regulation will only result in an efficient allocation of resources in the economy if the government equates the pollution cost of producing an extra unit with the benefit to society of producing an extra unit.

Marginal Pollution Cost = Marginal Net Private Benefit

2. Prohibition

Definition: This is making a good completely illegal. This is only justifiable if the marginal pollution cost were greater than marginal net private benefit at all output levels.

Marginal Pollution Cost > Marginal Net Private Benefit

Advantages and Disadvantages of Legal Restrictions

Advantages	Disadvantages
1. Simple: They are usually simple and clear to understand and are often relatively easy to administer.	1. Blunt Weapon: If e.g. a firm were required to reduce the production of a toxic chemical to a certain level, then it has no further incentive to reduce it further, which might limits it use in increasing efficiency.
2. Prevent High Danger: If the danger is very great or when the extent is not as yet known it much safer to ban various practices. As taxing then will not reduce their threat e.g. Drugs.	2. Unemployment: These methods can lead to problems like unemployment as in order to meet the high costs, the firms might make workers redundant.
3. Fast: These methods generate results quickly as by just banning the products the results are much faster as opposed to a tax.	3. Black market: Some goods when are made illegal they start being traded in black markets. Which not only adds to the crime rate but also no tax revenue is collected from the sale.
4. Imperfect information: Since consumers suffer from imperfect information, consumer protection laws can make it illegal for firms to sell faulty products.	

Through prohibition they get couched out

Time lag absent opposed with taxs is reduced

inefficient and due to their activities companies can change or plan against the laws.

Aim d to reduce barries to entry

4. PREVENT OR REGULATE MONOPOLIES AND OLIGOPOLIES

The government can control monopoly behavior using the following methods:

Method	Description
1. Outlaw the formation of monopoly	These laws modify the merger policy. Hence whenever firms are merging the government checks that will that merger lead to a monopoly. If chances are high they deny the merger. *The govt will not approve mergers where* *there is a chance that the combined firm will can map then 25%*
2. Forbid certain types of monopoly behaviors	These laws include make practices like predatory pricing illegal, in which a monopoly firm sets prices below its cost of production. This drives other firms out of the market and prevents others from entering.
3. Set Quality standards	Government sets certain laws on the quality of the products. This ensures that even there are monopolies they can't exploit the market.
4. Laws that set a certain level of competition	The government sets laws that encourages competition in the market by encouraging businesses to join a particular industry by giving tax holidays to new businesses. This keeps a check on the monopoly power.

5. CHANGES IN PROPERTY RIGHTS   *Mcqs*   *(2)*

Definition | Property Rights: These define who owns property to what uses it can be put, the rights other people have over it and how it may be transferred. By extended these rights individuals may be able to prevent other people *(3)* from imposing the cost on them or charge them for doing so. Example: If neighbors are making a noise I can report them or change them a line. However, there are several limitations:

(2)

Limitation	Description
1. Will not work if too many culprits	This strategy only works when there are few culprits, are easily identifiable and impose clearly defined costs.
2. Time consuming and expensive	There are problems with litigation as time and expense of taking people to court which will cost the person effected.
3. Question of Equity	Rich might get better justice and they can hire better lawyers and can acquire more property at the expense of the poor. Hence govt. extends public property and sometimes even redistribute to prevent this problem.

6. PROVISION OF INFORMATION

Government might provide information in several areas:

1. Information on jobs: This can be done establishing job centers for those looking for work. They thus help the labor market to work better and increase the elasticity of supply of labor.

corrects imperfection in labor market

2. Information on harmful goods: Government can provide consumers with information like on harmful effects of smoking to reduce consumption.

3. Information on markets: Government can give statistics on prices, costs, employment, sales trends etc. This helps firms to plan with greater certainty. *Public goods are completely provided by god where Unerit goods are partially provided by govt*

7. DIRECT PROVISIONS

1. Public goods	2. Merit Goods
— In case of public goods and services such as street lighting, national defense which the market system does not provide the govt. takes the responsibility to provide it. Once the product is made it can be passed on at zero marginal cost. Hence the cost of providing one extra unit is zero. Hence zero would be the efficient price. — For some construction of a new public good like a new road or lighthouse it is NOT at zero marginal cost. Hence here the govt. conducts a cost-benefit analysis and as long as the benefits exceed the costs the project is implemented.	There are goods with positive externalities like health care and education. There are several reasons govt. provides these goods, social justice, positive externalities, dependents and ignorance

8. POLLUTION PERMITS

Definition: A variation of regulation on pollution through direct controls is the idea of pollution permits. Hence the government sets limit on the amount of pollution permitted. These permits can be bought between companies.
Example: If the permit allows $1m worth of pollution but the firm only uses $0.5m then the remaining $0.5 can be sold to the firm who might exceed. This makes the firms more efficient in cutting down pollution due to the cost of the permit however small firms might not be able to afford these and if the cost to remove pollution is more than the permit cost then this would have less impact. *If permits are tradable, the amount of pollution will remain unchaged. However profits of both companies will go up. Firm A will earn more revenue by selly the product at permit at a premium price where firm B will tend to enhance the production and boost sale and gain EoS.*

9. INCENTIVES AND NUDGE THEORY

Definition | Nudge Theory: This is a notion based on behavior economics suggesting that people can be nudged towards behavior that is beneficial for them. This concept bases it argument on the fact that consumers are not always rational and will not solei take decisions based on price signals. They may make their decisions on habit or buy goods on impulse. Nudge theory allows to focus on these to correct market failure. Example: Shops can be encouraged to display healthy goods in prominent positions to encourage impulse.

Reasons for Govt. Failure

There are several reasons why government intervention may create inefficiencies and thus not improve the use of scare resources.

(1) Lack of information about the true value of a negative externality: It is difficult to put an accurate figure to all of the costs imposed and to trace the source of the pollution itself. This can lead to over or under taxation.

(2) Imposition of Taxes can distort incentives: When taxes go up in the economy people lack the incentive to work and gain more income. This way scarce resources are not used in the best possible manner.

(3) Political gains vs economic benefits: Politicians might be motivated to use these taxes to gain votes rather than achieve economic efficiency. Example: A tax on a popular product like cars can be removed if it helps the government to secure votes.

(4) NIMBY Syndrome: This is a situation under which people are happy to support the construction of an unsightly or unsocial facility as long as it is not in their neighborhood (back yard). Example: People would be happy that wind farms are made for long term sustainability as long as they do not happen to be living near them.

(5) Problems of distribution: When government imposes a tax it can have an unequal distribution effect. This means that some people will be faced with a higher burden as compared to the other which will lead to unfair and increasing inequality in the society. Example: A tax on domestic fuel will impact older people more because they use more domestic fuel for heating as compared to others in the society. *Income taxes are regressive in nature → impacting poor mal.*

Final Evaluation: Therefore it is recommended that a Cost-Benefit analysis is conducted before any decision is taken. There are mainly four steps to do that. (1) Identification of all relevant costs and benefits. (2) Putting a monetary value on all relevant costs and benefits (Shadow Pricing. (3) Forecasting future costs and benefits (4) Decision making. If the MSB > MSC then go ahead if MSC > MSB then stop. But even this technique also poses problem like which costs and benefits should be included, how to put monetary values on them etc. Furthermore it different techniques must be used with different types of market failure and a combination of them will ensure perfect allocation.

Lecture 4

It can be seen from the above mentioned discussion that a free market system on its own will not be efficient. Therefore a mixed econongmic system is always the best solution. The success depends on effectiveness of govt in using bp tools to correct the falive.