MARKET FAILURE

FAILURE is defined as the failure of the free market to achieve allocative efficiency, resulting in over-allocation or under-allocation of resources relative to the socially efficient level or to achieve social goals.

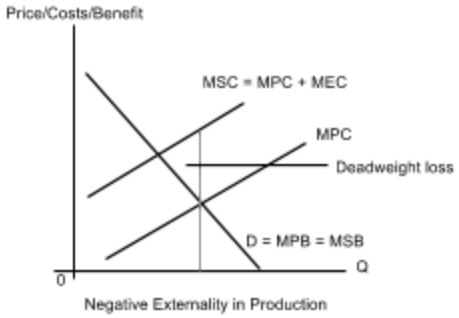
EXTERNALITIES occur when costs/benefits associated with production/consumption 'spill over'.

The private decision-maker does not account for these costs/benefits due to self-interest.
Externalities create a **divergence** between private and social costs/benefits.

Private cost	Incurred by those who actually produce/consume a good.
External cost	Imposed on third parties not directly involved in the production/consumption.
Social cost	The opportunity cost to society -i.e. *all* individuals in society Value of the next best alternative use of resources available to whole society
Marginal Social Cost (MSC) = Marginal Private Cost (MPC) + Marginal External Cost (MEC)	
Private benefit	The satisfaction/reward that an individual or firm is able to obtain from production/consumption of a good
External benefit	Enjoyed by third parties not directly involved in production/consumption.
Social benefit	Total gains in welfare by the whole of society from the production/ consumption. Includes the gains to the private consumer/producer.
Marginal Social Benefit (MSB) = Marginal Private Benefit (MPB) + Marginal External Benefit (MEB)	

NEGATIVE EXTERNALITY IN PROD

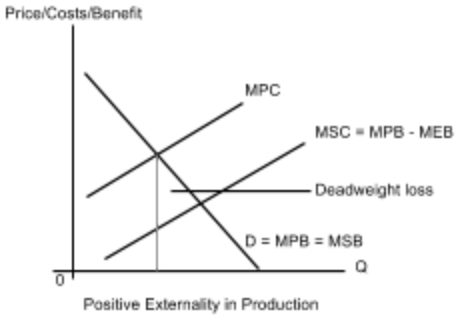
Due to **production** -e.g. pollution



Negative Externality in Production

POSITIVE EXTERNALITY IN PROD

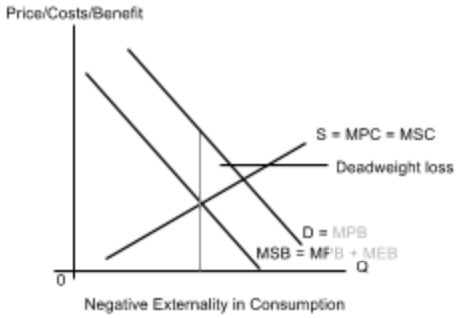
Due to **production** -e.g. research, technology



Positive Externality in Production

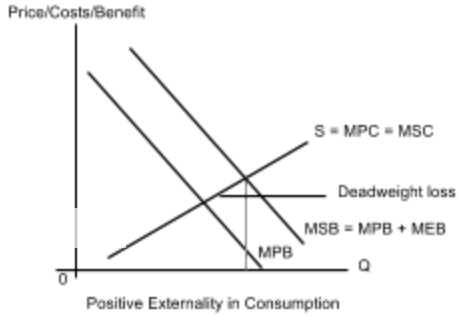
NEGATIVE EXTERNALITY IN CONS

Due to **consumption** -e.g. smoking, drinking



POSITIVE EXTERNALITY IN CONS

Due to **consumption** -e.g. vaccines



The general rule is that because individuals fail to consider externalities, society **over/under** produces/consumes a good or service.

DEMERIT GOODS are goods deemed **bad/undesirable/harmful** by the government.

WHY CONSUMERS OVER CONSUME DEMERIT GOODS

Imperfect Information Argument: Consumers overestimate private benefits/ underestimate private costs
Neg. Externalities (in consumption) Argument: May generate negative externalities borne by others

MERIT GOODS are goods deemed **good/desirable** by the government for consumers/ society

WHY CONSUMERS UNDER CONSUME MERIT GOODS

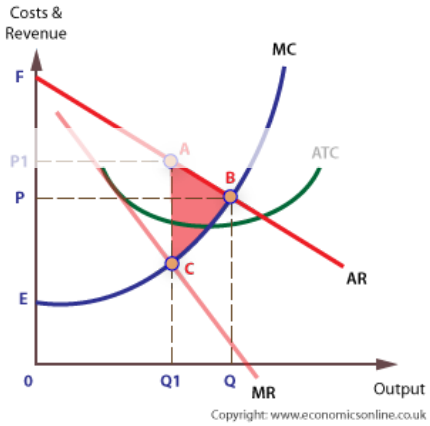
Imperfect Information Argument: Consumers underestimate private benefits (E.g. education)
Too little resources are devoted to consumption & production - private benefit lost > resources saved
Inability To Pay Argument: Market system dictated by those willing and *able* to pay, poor people suffer
Pos. Externalities (in consumption) Argument: Possible positive externalities are neglected (Vaccines)

PUBLIC GOODS are non-rivalrous & non-excludable. Tend not to be provided through marketplace.

Non-rivalrous: Consumption by one person does not reduce amount available to others (MC=0)
Non-excludable: Impossible/ costly to exclude non-payers. No incentive to pay for goods -free rider problem. -E.g. National Defence
However, sometimes the issue can be circumvented -e.g. radio broadcasts earning through advertisements

MARKET DOMINANCE allows firms to be price-setters. This is a source of market failure.

Allocative inefficiency	Under imperfect competition/market structures, the price-setting firm's

	profit-maximizing output level is allocatively inefficient.
Deadweight welfare loss under monopoly	We can illustrate this with a single diagram illustrating the behavior of a perfectly competitive firm and a monopoly facing the same cost curves.  Under **perfect competition**, the firm produces at MC=S=P=AR Under a **monopoly**, the firm produces at MC=MR **Deadweight welfare loss** is illustrated by the shaded area.
Productive inefficiency	Firms in oligopoly/ monopoly may be X-inefficient due to complacency. Wastage of scarce resources.

MEASURES TO CORRECT MARKET DOMINANCE

Lump sum tax	A fixed cost which shifts the AC curve of the firm upwards Production and price are the same, but profits are reduced However, this may reduce incentive and means for R&D ● E.g. "Windfall tax" imposed in the UK in 1997 by the incoming Labour government on the profits of various privatised utilities
Subsidies	Can only decrease price and increase quantity, but may simply further increase SNP, thus worsening income distribution
Price regulations	Governments can require monopolies to set prices at MC or AC At MC - possible losses to the firm At AC - monopolist breaks even, output level at Qe less than social optimum ● Water Services Regulation Authority, **Ofwat**, is primarily responsible for regulating the privatised water and sewerage industry in England and Wales. It sets limits on the prices charged for water and sewerage services, taking into account capital investment schemes and expected operational efficiency gains.
Nationalisation	Sometimes, governments nationalise firms and then conduct MC/ AC pricing.
Legislation	**Anti-trust (anti-monopoly) laws** -prohibiting price-fixing, predatory pricing

Regulating *structure* or *behavior*	Insisting on certain standards of provision - e.g. LTA Regulations to maintain competition - e.g. Singapore's Telecom Comp Code

IMPERFECT INFORMATION

- **Merit/Demerit goods**: consumers misperceive the benefits/costs to be derived
- **Persuasive advertising**: may give misleading information about the benefits of a good
  E.g. doctors recommending expensive but unnecessary tests, plastic surgeons being themselves

FACTOR IMMOBILITY leads to slow responses to changes in demand and supply. This in turn can lead to large supernormal profits/ high wages for those in sectors of rising demand.

Occupational immobility	Most often for labour: job-specific skills may be hard to apply in other areas Also called *structural unemployment*, involves waste of resources Capital inputs can be very specific to the industries they're designed for Protectionism can help sunset industries wind down Retraining programs for workers
Geographical immobility	There may be barriers to decision makers moving from one area to another ● Family and social ties ● Financial costs -moving, selling house, associated expenditure ● Huge regional variations in house prices ● Differences in general cost of living Better infrastructure/ transportation networks Subsidies to offset costs of relocation

The longer people remain unemployed, the less likely they will retain their skills -reduction in potential as well as actual income.

INCOME INEQUALITY happens because the free market system allocates resources according to income distribution -wealthy economic agents dictate the market to further enhance their own wealth.

Income: flow concept, amount of money received per period of time

- **Wage income:** earned from labour services
- **Non-wage income:** dividends, interest, capital gains, rent, royalties

Wealth: stock measure, accumulated value of physical and financial assets at a point in time.

CAUSES OF INCOME INEQUALITY

Competitive markets and wage inequality	Reliance of resource allocation on price mechanism Higher/lower wages depend on demand (and PED) for a type of labour
Monopoly and wage inequality	Monopoly gains part of the loss in consumer surplus (ie at their expense) Monopoly earns higher than the rest of society, cet par
Education	Unequal access to quality of educational service

Globalization	Pressure of global competition have led countries, employers to adopt more flexible labour policies with no long term commitment from employees. When unemployment levels are high, leads to greater income inequality

CAUSES OF INCOME (NON-WAGE) INEQUALITY

Unequal factor endowment	Free market mechanism yields significant NWI to those with financial assets Conversely, those receiving low wages tend to have inability to save. More difficult to accumulate financial and physical assets.

IMPLICATIONS, ISSUES, INCONVENIENCES

YAY	• Improve resource allocation • Incentive/reward needed to encourage workers to improve • Channels workers to expanding industries, diverting them from contracting ones.
NAY	Should be eliminated if it arises because of • **Political/institutional factors**: e.g. strength of unions • **Discrimination**
HEY	Government intervention has certain implications • Pursuit of efficiency may conflict with pursuit of equality: higher income taxes can subsidise welfare projects but reduce work effort, efficiency • That said, statistics indicate that 'work incentive' is relatively inelastic

MEANS OF COMBATING INCOME INEQUALITY

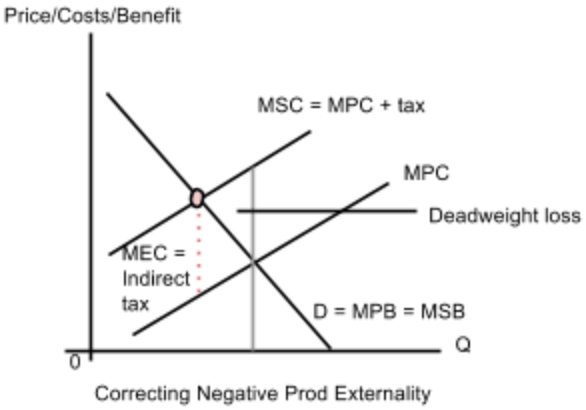
Price floors	Minimum wage Direct intervention in factor or product markets -rent controls/ grain support
Demand policies	Increasing demand for low skilled labour by raising their productivity E.g. Skills Programme for Upgrading and Resilience, Workforce Training Scheme
Supply policies	Restricting quantity of low-skilled labour from overseas -E.g. higher levies
Direct taxes	Progressive tax system can redistribute income
Transfer payments	Cash benefits -subsidies to income - E.g. child care benefits, pensions Benefits in kind -free/ subsidised g/s - E.g. free health care, concessionary bus fares for the elderly

GOVERNMENT INTERVENTION

TAXES AND SUBSIDIES

NEGATIVE EXTERNALITY IN PROD

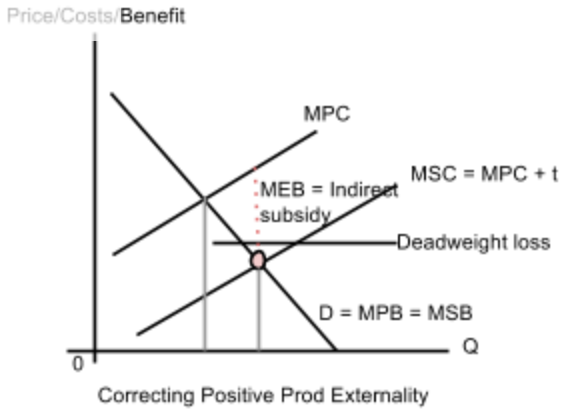
Indirect Tax equivalent to monetary value of MEC -producers internalize external costs



Correcting Negative Prod Externality

POSITIVE EXTERNALITY IN PROD

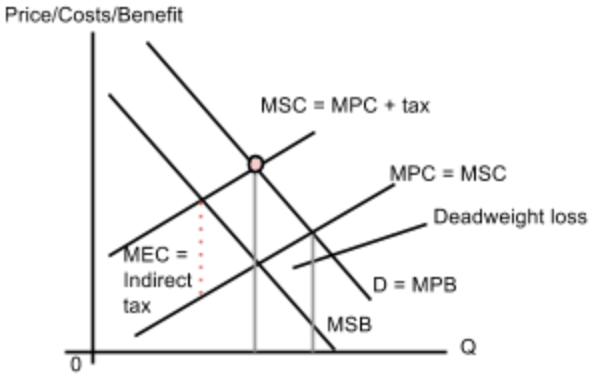
Indirect subsidy equivalent to MEB -positive externality internalized, supply increases



Correcting Positive Prod Externality

NEGATIVE EXTERNALITY IN CONS

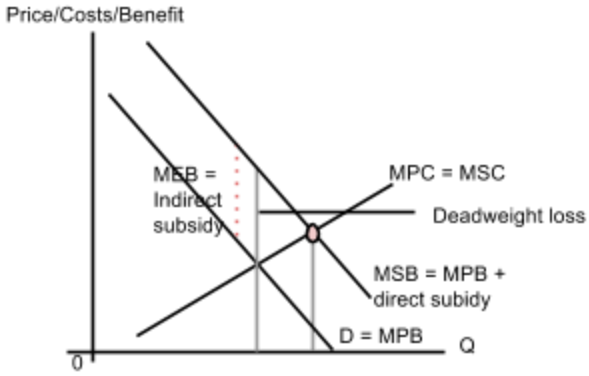
Indirect tax raises MPC of production -decrease in supply, increase in mkt price



Correcting Negative Cons Externality

POSITIVE EXTERNALITY IN CONS

Indirect subsidy lowers MPC OR direct subsidy increases purchasing power (Active SG grant)



Direct Subsidy to Consumers

FOR TAXES

YAY	• Tax revenues can be **ring fenced**, used for other projects • Allows market to continue operating according to market forces • Financial incentives for behavioural changes -especially if taxes on negative emissions (E.g. carbon tax)

NAY	● Requires accurate valuation of external cost -either overvaluing or undervaluing will lead to less than optimal consumption ● Constrained by PED -good with price inelastic demand requires higher tax which government may resist imposing

FOR SUBSIDIES

YAY	● Easily implemented to bring about increase in production and consumption ● Flexible enough to be adjusted to magnitude of problem ● *Internalizes* positive externalities, allows market to operate
NAY	● Difficult to estimate value of MEB at social optimal output ● High expenditure required to finance subsidy -may require high tax rates that discourage effort to work/save/invest in country

For goods with negative externalities -overconsumption is corrected
For goods with positive externalities -underconsumption is corrected
Overall, government harnesses the power of the market to correct its own failings
Overall, taxes and subsidies can be **necessary but insufficient** measures to correct market failure

DIRECT PROVISION OF PUBLIC GOODS

E.g. National Defence (Ministry of Defence) and street lighting (Singapore Land Transport Authority)
E.g. Free childhood vaccination at polyclinics, free use of public sports facilities (running tracks)
E.g. Subsidized basic health care in public hospitals -very low price

Cool beans

- Control over supply -quantity, quality, affordability
- General arguments for direct provision
    - **Equity**: people should have access to goods based on need, not ability to pay
    - **Positive Externalities**
    - **Missing markets**
    - **Dependants**: e.g. children, who cannot make the choice to purchase education
    - **Ignorance/ imperfect information**

Concerns and limitations

- Difficult to ascertain market price (which is a gauge of its value to consumers) as there is no price
- Financed through taxes -collecting taxes means there will be distortions and opportunity cost -society's welfare could be reduced
- Opportunity cost in terms of other goods and services that are foregone
- Production may be inefficient -little/ no incentive to keep costs at minimum (lack of profit motive)

LEGISLATION/ GOVERNMENT REGULATION is the process of controlling production or consumption activities through laws and administrative rules.

Quota	Limit on the quantity produced -either emissions or product

	● Carbon emission quotas ● COE
Cap and trade	Each firm granted specific no. of permits to discharge a defined quantity Unused permits can be sold in the market -perfectly price inelastic supply Government can progressively reduce no. of permits issued each year
Bans	● Banned sale of chewing gum ● Curbed public drinking from 10.30pm - 7am ● Regulation of smoking to designated areas
Safety Standards	● Standards for workplace safety
Compulsory action	● (2013) China's anti-pollution measures including compulsory installation of pollution abatement equipment ● Compulsory primary school education
Quality controls	● Land Transport Authority governs standards of public transport
Education	Campaigns to change behaviour by adjusting mindsets/ increasing awareness

	Implementation	**Certainty**	**Price mechanism**	**Incentives**	**Enforcement**
Quota	simple compared to market-based measures	More certainty in achieving target output	Displaces price mechanism	No market-based incentives to improve	Difficult, expensive, req harsh penalties
Cap and trade	May have issue of unfair distribution -favoritism/ preferential treatment possible	Socially optimal level can be targeted	Could function as BTE -markets may become less competitive/ monopolized if smaller firms cannot afford permits/ invest in green tech	Promotes cleaner tech so excess permits can be sold Limited effect on firms with greater financial power	Administrative costs Req harsh penalties
Taxes/ Subsidies	Difficult to place a value on the externality or each type of externality -incorrect valuation may exacerbate problem (government	More 'stable' tax price as compared to cap and trade, where prices can prove volatile Yet, there is less certainty in achieving	Harnesses the power of the price mechanism -it has slight distortive power but largely relies on signalling/ rationing/	Market-based incentives to improve -for instance if firms are taxed on externalities, this may incentivise the use of clean	May incur high administrative costs in terms of ensuring firms pay taxes and the right amounts of tax -issues of tax avoidance

	failure)	the 'optimum' cons/ prod	incentivising	technology to avoid tax	
Education	Expensive Slow -may need direct ban	Uncertain -may req punitive measures			Sellers may hide info -E.g. tobacco firms hiding effects

All suffer limitations due to imperfect information.
E.g. technical information may not be available, difficult to ascertain accurate valuation of external costs/benefits

GOVERNMENT FAILURE

1. Policy decisions based on imperfect information
2. Cost of administration and enforcement
3. Time lags
4. Shifts in government policy -may be difficult for firms to plan ahead
5. The law of unintended consequences -e.g. development of black markets
6. Disincentive effect -e.g. brain drain due to increased progressive tax on the rich
7. Policy myopia
8. Political self-interest