

	Diagram	Explanation
Internal Economies of Scale		Average costs fall as a firm increases output in the long-run e.g. Buying economies, managerial economies
Internal Diseconomies of Scale		Average costs increase as a firm increases output in the long-run e.g. Communication problems, motivation problems
External Economies of Scale		Average costs fall as an industry expands in the long-run. e.g. Local government support, local college support
External Diseconomies of Scale		Average costs increase as an industry expands in the long-run e.g. Shortage of raw materials, shortage of skilled workers

The Marginal Concept

Marginal refers to the costs or benefits attained from one more unit of output or consumption.

To maximise any potential return, it is best to operate at the point where $P=MC$ because at this output all potential profits have been maximised. The firm will not know the $P=MC$ point until they expand and reach this point.

Market Failure and Government Intervention

In a free market, there is not an optimum allocation of resources. There is a divergence between marginal social benefit and marginal social cost

Marginal Social Benefit v Marginal Social Cost

MSB: the additional benefit that society gains from consuming or producing an extra unit of the good.

MSC: the additional cost to society of consuming or producing an extra unit of the good.

Market failure may lead to the over/under consumption and therefore production of certain goods.

Market Failure and Inefficiency

Allocative inefficiency occurs due to the over or under consumption and production of goods.

There is not an optimum allocation of resources.

Externalities

Externality: cost or benefit that is external to a market transaction and is not reflected in the free market price.

MPC: The cost to the first party who is either the buyer or seller of the good from the extra unit of production or consumption.

MEC: The cost to the third party who is neither the buyer nor the seller of the good of an extra unit of production or consumption. (Aka negative externalities)

MSC: totals the private and external costs of one additional unit of production/consumption.

$$MSC = MPC + MEC$$

MPB: the benefit to the first party who is either the seller or the buyer of the product from an extra unit of production/consumption.

MEB: the benefit to the third party who is neither the buyer nor the seller of the product from an extra unit of production/consumption.

MSB: totals the private and external benefits of one additional unit of production/consumption.

$$MSB = MPB + MEB$$

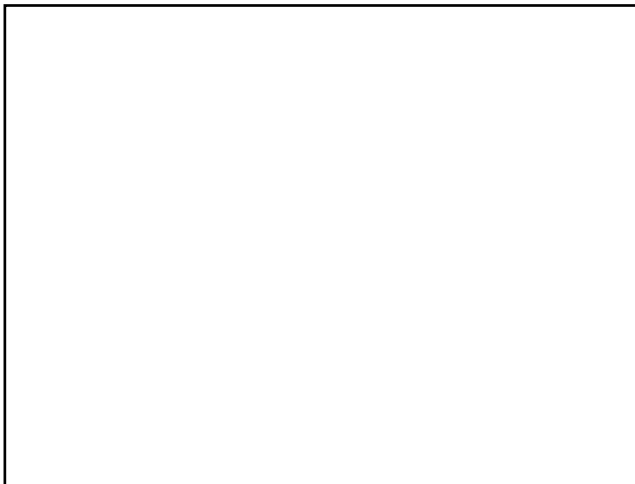
Externalities in Production and Consumption

Production externality: an externality that affects the production side of the market, which may be positive or negative.

Consumption Externality: an externality that affects the consumption side of the market, which may be positive or negative.

Negative Externalities Generated in Production e.g. Toxic fumes

Tax and Economic Welfare



- Before Tax:
Total Welfare= CS + PS (green + red shading)
= Y-E1-X
- After tax:
Total Welfare= CS + PS + Gov Revenue (green shading)
= Y-E2-B-X
- **Excess Tax Burden:** E2-E1-B (red triangle)

Taxation: Pros v Cons

Pros	Cons
• Increases costs, decrease supply, reduces consumption of demerit goods to socially desirable levels • Raises rev for gov- can be ringfenced • Makes first party responsible • Raises awareness of higher private costs than realised- acts as a sort of information provision in itself	• Indirect tax is regressive • Requires an unreliable method to value the negative externalities that are complex and subjective (<i>Shadow Pricing</i>) • Tax on external costs (such as landfill) can increase costs for firms and decrease their international competitiveness • Excess burden of tax- an area of lost welfare

Evaluation of tax: effectiveness depends on...

- PED
- Size of tax
- Shadow pricing reliability

Subsidies

Subsidy is a payment by the government to the producer that lowers producer's costs and encourages production increase

- Increase demand for merit

This can be through:

- Government Intervention: gov can issue rules/guidance for private sector. E.g. warnings on cigarettes
- Private Sector Information Provision: some industries have their own regulators and codes of conduct, e.g. ASA

Limitations of info provision:

- Message may be weak
- Message may not be agreed with and make info undervalued
- Message may be ignored
- Public may resent 'nanny state' approach
- Product may be addictive
- Product may be very cheap and attractive

Conclusions for info provision:

Government may have to utilise other methods:

- E.g. info provision on smoking not have desirable effect- ban may be required
- Subsidies for merit may be more effective than info provision

Tradeable Pollution Permits

Gov may try to control pollution by putting value on it

A **pollution permit** must be purchased to carry out an activity that generates pollution- once purchased, can be sold on the open market to highest bidder

Purpose:

- Increase costs to producer- reduce supply and reduce pollution
- Encourages firms to adopt more environmentally friendly methods of production in the long-run
- Encourages firms to reduce pollution to sell permits for a profit

Case Study: EU Emissions Trading Scheme (EU ETS)

- Cover more than 11,000 power stations
- Operates in 28 countries
- Covers 45% of EU emissions

How it Works:

- CAP is set on total emissions (reduced over time)
- EU member allocated permits
- Limit on total number of emissions allowed ensured 'value' to permit
- After each year- companies surrender permits to cover their emissions

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Government Failure

Government failure occurs when gov intervention imposes a cost greater than the benefit brought about through the gov action. Gov action in itself causes misallocation of resources and net loss of eco welfare

Evaluating Government Failure:

- Each case has to be examined on own merits- eco theory may predict gov failure but not always happen
- E.g. NHS- in most cases delivers excellent service
- E.g. NMW- not had impact on employment as predicted

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Environmental Economics

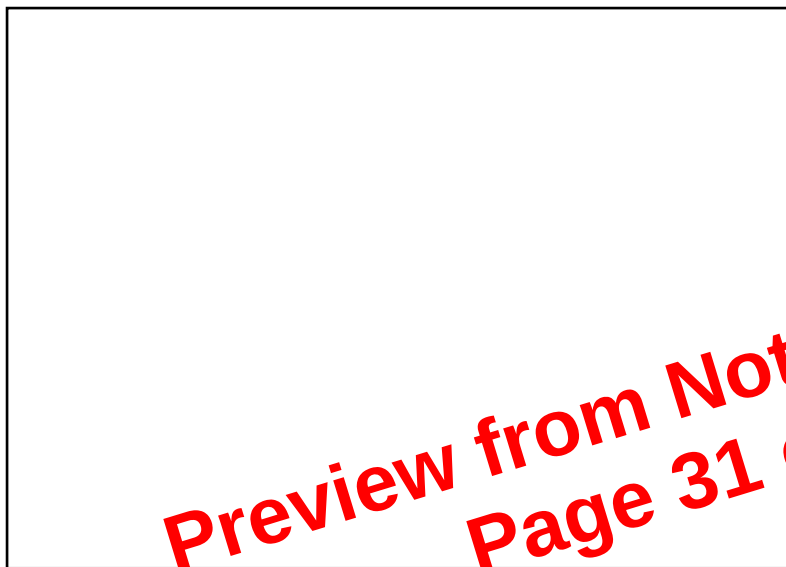
Functions of the environment:

- Provide resources: required for production- firms need energy e.g. oil, natural gas
- Dispose of waste: absorb waste generated by production and consumption- crucial role
- Leisure: gain private benefits- e.g. satisfaction from visiting a beach/national park

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Unsustainable Development: Occurs when present progress is at the expense of future generations' progress. E.g. environmental degradation

The Kuznets Curve



Theory:

- Early stages of growth, pollution and degradation
- Beyond a level of income per capita trend reverses
- At high levels, reduction in environmental degradation

Reasoning:

- Up to Turning Point: Industry expands and firms likely to be relying on out of date/inefficient technology that is bad for the environment.

Households experience higher incomes and own more cars/use more energy
Government more likely to focus on promoting growth to help reduce poverty than protecting environment

- After turning Point: Businesses more likely to adopt cleaner and more efficient technology
Government imposes tighter regulation and devote more resources to protecting the environment- change of obj from growth max to save environment
Household damage likely to slow- less buying of cars etc

Evaluation of Kuznets Curve: Whether eco growth reduce enviro degradation/sustainable development...

- Motives of businesses- profit at all costs? Or socially/ethically operate
- Role of gov- is gov proactive in protecting environment
- Gov around the world- e.g. Kyoto agreement- intl pressure

- **Dominant Monopoly:** a firm that has 40% or more of the market, measured as the proportion of sales/sales revenue of a firm to the total market sales/sales revenue. V high barriers to entry and exit.
- **Natural Monopoly:** a seller that can exploit continuous economies of scale and therefore has huge cost advantages over new firms. Typically, such firms have very high fixed costs as a proportion of total costs, e.g. energy providers, rail services, severn trent

Assumptions for Monopoly Theory:

- Single seller- one firm that has total control
- Price maker- only supplier so able to set prices freely
- No substitutes for good- no alternatives in market nor is there potential for new alternatives
- High barriers to entry and exit- entry is near impossible

Natural Monopoly

Exploit continuous economies of scale to reward shareholders or invest in R & D.

Could also lower prices and increase consumer surplus (Qr and Pr)- potential for a publicly owned monopoly

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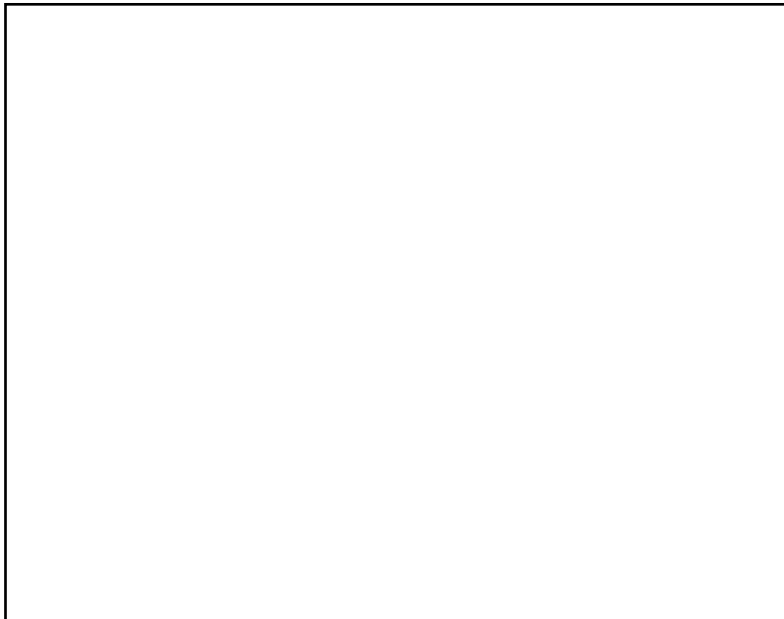
Pros	Cons
• Can achieve low ATC- higher profits that can be used in a number of ways • Can invest in R and D (dynamic efficiency) as supernormal profits • Not productive or allocatively efficient • May be x-inefficient	• Competition rare as economies of scale significant barrier to entry • Can result in long-term monopoly power and exploitative behaviour

Monopoly and Demand

Monopoly is only seller so firm demand curve= market demand curve

Behaviour of Firms in Perfect Contestability

- Existence of any supernormal profits would trigger entry
- Existing firms want to deter entry: incumbents set prices at level where only normal profits made.



- Pure monopoly price at P^* (supernormal)
- But, market perfectly contestable
- No supernormal can be made- as all would be eroded away by new entry
- Normal profit at $AR=AC$ - output of Q_c and price P_c
- Threat of new entry may be just as powerful an influencer as behaviour of existing firms

Limit Pricing:

Limit pricing is where existing firms set prices as high as possible but not so high as to encourage/enable new firms to enter the market. Possible in contestable markets because incumbents can exploit greater economies of scale lower LRAC and set a price at a low level but still benefit from supernormal profit.



- Incumbent has LRAC1- operates at P_1 and Q_1 of profit max
- Incumbent wary of potential entrant (with LRAC2) so incumbent prices at P_L - same level as new entrants LRAC so entrant cannot make supernormal
- New entrant will increase supply, lowering price to P_2 making entry loss-making

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Government Regulators:

Department of Trade and Industry: **Duty of regulator is to**

- Protect interests of customers
- Regulate competition
- Reduce social and economic issues within industry

Examples: Ofsted, Ofcom, Ofgen, Ofqual, Ofwat

Regulator Powers: Industry regulators can impose

- Permitted price increases using RPI-X, where X is a reduction in price due to improvements in efficiency
- Licencing/franchising: firms have right to bid to join market, e.g. rail services, national lottery (Camelot)
- Yardstick competition: regulator will use performance of best firm in industry as a standard to aspire to and set expectation for efficiency

Impact of a Regulator:

- Can increase costs for firms (reduce intl competitiveness)
- Firms face more bureaucracy in showing they abide by such rules
- Can affect prices if regulator sets limits if not as efficient as expected

Competition Policy

Competition policy consists of government policies to prevent and reduce abuse of monopoly power as well as preventing anti-competitive practices

Competition Act 1998: preventing competition is illegal, prohibits abuse of dominant market position. Also covers situations of tacit collusion

Competition Policy in UK:

- **Office of Fair Trading:** investigates suspected cases of monopoly power abuse and engagement in prohibited practices- collusion, abuse of market power
- **Competition and Markets Authority:** investigated industrial cases e.g. mergers and online gambling

$$\text{WED} = \frac{\% \text{ change in } QD}{\% \text{ change in wage rate}}$$

WED Influenced by:

- Ease of substituting capital for labour
- Labour cost as proportion of total cost
- PED for final product
- Time period under consideration- SR firms find harder to make changes to workforce

Criticisms of the MRP Theory:

- Can be difficult to measure MPP in service sector
- Putting price on output difficult for public services

The Supply of Labour

Labour supply to an industry: the quantity of workers who are willing and able to work in an industry at given wage rates.

Labour supply to an economy: the number of workers who are economically active (in work/seeking work). Same as the labour force.

Labour Supply in the SR

In SR, workers have insufficient time to move occupations, changes in wage rate key determinant of supply.

In SR, labour supply influenced by

1. The Substitution Effect:

- Leisure time more expensive at higher wages in opp cost terms
- Workers encouraged to work longer hours
- Substitution effect always positive- wages increase, hours worked increase

2. The Income Effect:

- Low wages, workers seek to improve standard of living and work more hours- +ve relationship
- As wages continue to rise, workers find can reach target income and work fewer hours (-ve relationship)
- Leisure time acts as a normal good: more leisure time purchased as wages increase

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- Training time- experienced to be doctor
- Trade union power- e.g. ASLEF for train drivers

Illustrating Wage Differentials:

Supply Side Factors:

Demand Side Factors:

Transfer Earnings and Economic Rent

Transfer earnings: the minimum payment needed to keep a worker in their present job- seen as worker's opportunity cost

Economic Rent: any payment above workers transfer earnings

Quasi rent: temporary increase in ER that arises when wage temporarily increased due to shortage of workers. Long-term supply increase through increased wage, wage and ER fall again.

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- Supply curve: no. of workers willing and able to work at given wage rates
- If wage falls, workers transfer out of industry to next best alternative
- Area under supply curve= **transfer earnings**
- Above supply curve to equilibrium wage = **economic rent**

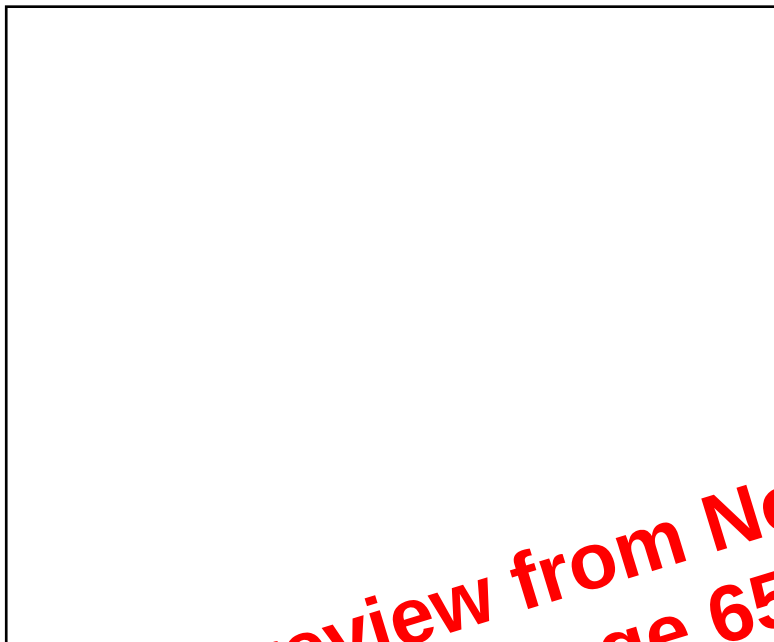
Supply conditions:

All of wage TE	WES is perfectly elastic
All of wage ER	WES is perfectly inelastic

Impact of Trade Union Activity:

Trade union: organisation that collectively bargains on behalf of members with employer to further their interests.

Reasons for demanding wage rise: shortage of workers, compensating diff, inflation, increased productivity, increased profits, increased pay in similar occupations



Assume PC labour market

- D for lab contracts: Q_e to Q_d ($MC > MRP$ for these workers)
- S of lab extends: Q_e to Q_s - incentivised to join

Impact is:

- Wage increase W_1 to W_2
- Employment fallen: Q_e to Q_d
- Unemployment occurred from Q_s to Q_d
Unemployment includes Q_e to Q_d redundancies

Conclusion:

- In PC lab market, if TU demands higher wage they do so at expense of unemployment (**trade off**)
- Example of **labour market failure (LMF)** as wage pushed above natural equilibrium - allocative inefficiency

Extent of unemployment depends on:

- size of wage increase
- WED and WES: elastic effect greater vice versa

• New AC= • New MC= • Monopsonist increases wage to maximum (W_{tu1}) while not changing employment • All suppression in the wage rate is eroded by the TU and the wage is put at W_{tu1} • This shows a bargaining zone of: This is a zone is sales or negotiations where an agreement can be met that both parties agree on.	• New AC= • New MC= • Wage is maximised at $D=S$, or $AC=MRP$. • Trade union pushes wage to W_{tu2}, leading to employment of Q_{tu2} ($>Q_{tu1}$) • This is the equilibrium that would occur in a perfectly competitive labour market
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Conclusion:

- TU can be seen as a force for good because they prevent LMF that arises from monopsony
- Final outcome cannot be determined by economic theory as it depends on balance of power
E.g. evidence suggests ASLEF has significant power- wage significantly above comparable work

Trade Union membership

2015: 3.8m public sector (+0.5% from 2014), 22.7m private sector (-0.3% 2014)

Reasons for Falling Trade Union Membership:

- Legal rights of workers improved (e.g. Equal Pay Act)- roles of TU adopted by gov
- Power of TU reduced- need ballot to strike, banned closed-shops
- Restructuring UK economy- heavily unionised sectors declining, rise in individual bargaining sectors like finance
- Rise of flexible working- workers see less need to join union if only working part-time
- Image of unions- old-fashioned and militant
- New management between management and workers- e.g. profit sharing schemes, less "us and them"

Powerful Trade Union:

Unite (1.4m), NUT, British Medical Association, GMB (0.6m).

Unite covers a number of sectors such as education, finance, automobiles

Unison biggest public-sector union ($>1.3m$)

Types of Bargaining and Trade Union Activity

- **Individual Bargaining:** worker directly negotiates with employer to determine pay and conditions. E.g. investment banking, CEOs, footballers, barristers. Often applies when worker has scarce skills and not feel need to TU
- **Collective bargaining:** process of negotiations between employers and a group of workers aimed at reaching agreements on pay and conditions. Employees often represented by TU
- **Productivity bargaining:** process of reaching an agreement through collective bargaining whereby employees of organisation agree to changes that intended to increase productivity

Evaluation: NMW impact depends on...

- Level of min wage imposed
- Elasticity of demand and supply
- Rise in NMW depends on elasticities and size of increase

Wage Controls: Maximum Wage

Maximum wage: legal maximum wage rate workers can be paid per hour. No max wage in UK, but case of it being used by the football industry in 1960.

- Supply contracts from Q_e to Q_s - reduced incentives for workers, replacement ratio increases
- Demand expands from Q_e to Q_d - cheaper to employ and can afford to employ more ($MRP > MC$)
- Wage cannot exceed W_{max}
- Shortage of workers from Q_d to Q_s

Extent of Shortage depends on:

- How far below equilibrium wage is imposed
- Elasticities of demand and supply

Maximum wage: Pros v Cons

Pros	Cons
• People earn too much and 'don't deserve it'- reduced gap between rich and poor • Helps reduce ULC and improve intl competitiveness • High economic rent may not result in expected exodus of workers • Highly skilled labour becomes more accessible for smaller firms • Lower costs may be distributed to lower-paid workers	• Why not increase income tax? • Disincentives to work arise- may create 'brain drain' as workers relocate. May be shortage of skilled workers • If firms willing to pay high wages, workers must have the MRP- deserve it • Apart from specific industries, little benefit of max wage- mainly for a mild feeling of social justice • Lower costs may be redistributed to shareholders or just turn into bonuses

Conclusion:

- Any wage control interrupts role of wages to allocate scarce resources- prevents efficient markets
- Increased D for product=Increased Price of output= Increased D for lab- but max wage stops mechanism from working and wages do not increase so supply does not increase to match increase in demand