

Chapter 1: The Firm: Objectives, Costs and Revenues

Keywords

1. Total Product (or output or return): The total quantity of output being produced.
2. Average Product (or output or return): Output per unit of labour employed, or per unit of capital used.
3. Marginal Product (or output or return): The change in output from employing one additional unit of labour or capital.
4. Short-run: The time period when at least one of the factors of production is fixed (usually capital).
5. Long-run: The time period when ALL of the factors of production in variable.
6. Fixed costs (e.g. rent, mortgage, depreciation): Do not vary with output.
7. Variable costs (e.g. wages, costs for raw materials): increase with higher output.
8. Productively efficient: when a firm operates at minimum average total cost, producing maximum possible outputs from inputs in the production process.
9. Optimal output: The ideal combination of fixed and variable factors to produce at the lowest cost.
10. Productively efficient: When a firm operates at minimum average total cost, producing maximum possible outputs from inputs.
11. Minimum efficient scale (MES): the smallest size of plant which can benefit from minimum long-run average costs. It is the first lowest point on the LRAC curve
12. Indivisibility of Resources: Some resources are not divisible and can not be purchased or operated under certain thresholds. E.g. research facilities and advertising campaigns require a minimum size.
13. Higher technical efficiency: More output produced from the same available inputs.
14. Dynamic efficiency: Measures improvements in technical and productive efficiency which occurs over time.

Objectives of Firms

(ADD NOTES): Different theories of firms and assumptions?; alternatives to profit maximising...

(+)Profit

Profit is the return to risk taken by entrepreneurs, when they commit scarce resources to an industry.

➤ Types of profit:

1. Normal profit: Minimum levels of profit required to keep factors of production in their current use in the **long-run**. As normal profit is treated as an **opportunity cost** for investing financial capital (e.g. as opposed to gaining interest on bank savings), normal profit is **included within the ATC curve**. (Where price=ATC).
2. Subnormal profit: Any profit less than normal profit (price<ATC).
3. Supernormal/abnormal profit: Profit more than normal profit (price>ATC). Creates incentive via signalling for new firms to enter the market and acquire some of this profit. Only exists in long-run within monopolies and oligopolies, where entry barriers exist.

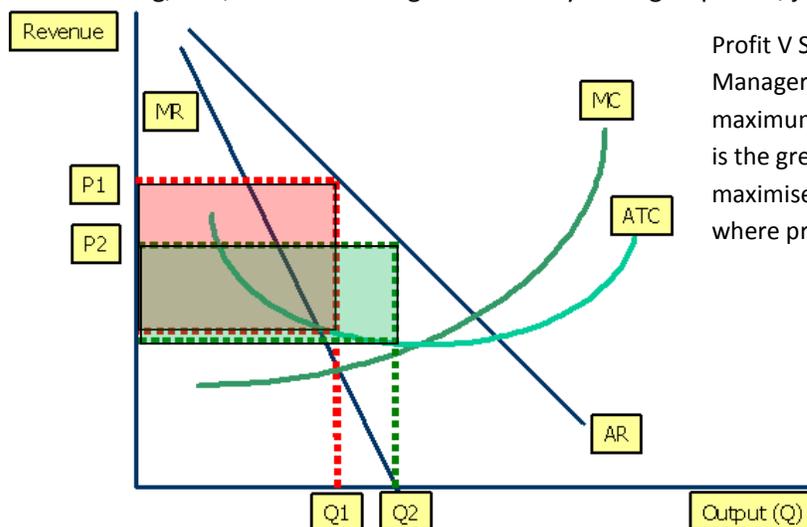
Functions of profit in market economy:

1. Finance of investments: Retained profits a source of finance for company; alternative sources funding such as issuing new shares/ bonds may not be attractive, and depend on economic cycle.
2. Market entry: Rising profits send **signals** to other producers within a market. In contestable markets, this leads to larger supply, lower prices; barriers to entry prevents new entrants.
3. Demand for factor resources: Scarce factor resources tend to flow where the expected rate of return or profit is highest.
4. Signals about the health of the economy: The profits made by businesses throughout the economy provide important signals about the health of the macroeconomy. Also, profits and cooperation tax used in fiscal policy.

(ADD SHUTDOWN DECISION?)

Divorce of ownership and control

- Cause:
 1. In small, privately-held firms the owners have control over the business on a daily basis; for larger public firms (PLCs), owners/ shareholders appoint managers to run the company. This creates **divorce of ownership and control**, and conflicting objectives between managers and shareholders create the **principle-agent problem**.
 2. (?) Limited liability within PLCs lead to lower risk for shareholders, encouraging appoints managers.
 3. In PLCs, share issuing leads to a large diffused share body, which may only have a profit maximising objective, and lack skills for firm management. So managers appointed.
- Analysis (+?): Profit is the reward for the risk taken by entrepreneurs, so profit maximisation is generally shareholder's main objective. Divorce of ownership and control can lead to alternative firm objectives besides profit maximising. Managers may want sales revenue maximising, satisficing, etc., because of wage not directly linking to profits, job security, and other "perks".



Profit V Sale revenue maximisation
 Managers may want output at Q2, with maximum sales revenue (of which the profit is the green area). Shareholders want maximised profit at MC=MR at output Q1, where profit is the red area.

- (Possible) Effects of PAP on firm conduct and performance (Conduct refers to behaviour, e.g. sales/profit max objective; performance is the actual profit/costs, etc.):
- + Diseconomies of scale: Conflicting objectives between manager and shareholder can lead to managerial diseconomies of scale: difficult to efficiently control and co-ordinate large production process, and cooperate with labour for higher productivity when there is uncertainty over firm objectives.

Effects of profit maximisation:

- + Shareholder value increased, so easier to attract funding via share issuing in capital markets.
- + Profits can be used for internal finance and reinvested into firm; and hostile takeover avoided.
- + If employees are given company share, productivity may increase.
- Lowering costs to maximise profits will involve job cuts/ more capital intensive production, affecting the employee stakeholders; although job insecurity may improve short-run productivity, in the long-run firm will be unable to attract new skilled labour and quality of goods produced will fall.
- (Explain with diagram) At $MC=MR$ there is X allocative inefficiency, and consumer (another firm stakeholder) surplus is reduced. So shareholders are favoured over other stakeholders.
- High profits creates higher corporate tax; however, pure profit max firms may pressurise Gov to lower taxation (threatening to outsource to a low tax state). So Gov fiscal position/ income inequality could worsen. E.g.: HSBC HQ considered for relocation from London to Hong Kong.

Effects of alternative firm objectives:

Sales revenue maximising:

- By running a larger sales revenue (but only moderately profitable) firm, there can be potential higher wages (based on sales), more “perks” and prestige for managers; personal incentives are placed before shareholder value.
- + Sales maximisation may create entry barriers for new entrants in the domestic market, increasing firm market share/power and market concentration (e.g. into a mono/oligopoly). (although lower short-run profits) This in the long-run can enable firms to benefit from higher supernormal profits via inelastic AR/demand and price fixing in a monopolised market.

Satisficing:

- Managers may be more risk averse (to increase their job security), and hence satisfice and aim to obtain minimum levels to acceptable profits. However, in small firms satisficing can occur without divorce of control and ownership. (?) Both lead to firm being uncompetitive in the long-run, as growth and economies of scale are not exploited.

- For/against divorce table (include examples: Chrysler, RBS)

Disadvantages of divorce of ownership and control	Advantages of divorce of ownership and control
Diseconomies of scale: Managerial (lack of coordination, control, cooperation) via disagreement between managers	Profit maximisation may not be sustainable for long term growth; profit maximising occurs at output Q_1 ; so if economies of scale and a new SRAC cannot be achieved if

and shareholders.	firm aims to continue Q1 output in the long-run.
Satisficing behaviour: Managers meeting minimum acceptable levels of achievement (rather than maximising) for profit, and enjoying other perks.	Profit maximisation leads to other stakeholders' welfare (e.g. lower costs → less jobs) being affected.
Profit maximising can attract new shareholders, and generate more funding for the firm.	Shareholders rewarded via higher share prices and dividends lowers firm corporate investment for future growth
	To lower costs, government pressurised by profit max firms to lower corporation tax (in fear of firm outsourcing to other countries with lower tax) → higher income inequality
	Profit max objective in the long-run leads to tired, unconfident labour and lower product quality from the firm.

➤ Solutions:

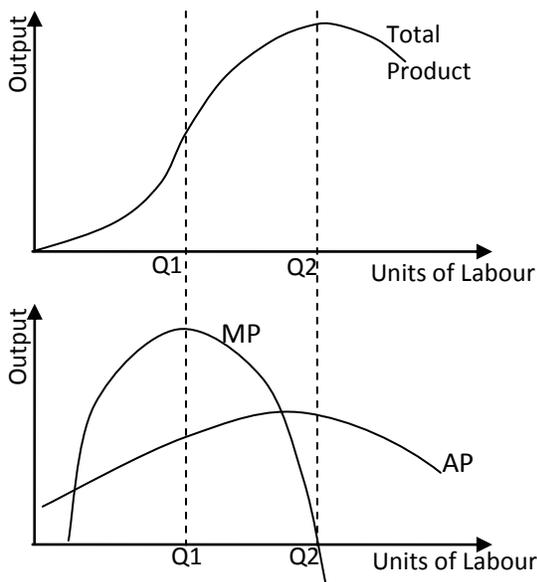
1. **Share-ownership schemes:** Giving staff members shares in their company as part of their salary, such as with John Lewis (- sometimes in **share options** shares are offered at lower agreed "backdated" prices, leading to potential misuse by staff/managers).
2. **Shareholder activism:** AGMs and activist shareholders can exercise their voting rights to influence corporate strategy (e.g. May 2006, CEO of Vodafone pressurised to quit after record losses)
3. **Performance-related pay:** Wages directly linked to productivity and firm profits.
4. **Competition:** Competitive markets may automatically create incentives and signal managers to maximise profits, in order to remain competitive and avoid hostile acquisitions.
5. **Delisting shares:** e.g. Richard Branson delisted Virgin in 1988 initially, to protect long-term goals against short-run demands of public shareholders.
6. **Corporate Social Responsibility/ Business ethics (~):** The social responsibility of management towards the firm's major stakeholders, the environment and society in general. Shareholder value and welfare of other stakeholders both considered.

Law of Diminishing Returns and Returns to Scale

Production: The process of converting factor inputs (e.g. land, labour, capital, enterprise) into outputs (goods and services).

- Short-run: The time period when at least one factor of production is fixed (usually capital).

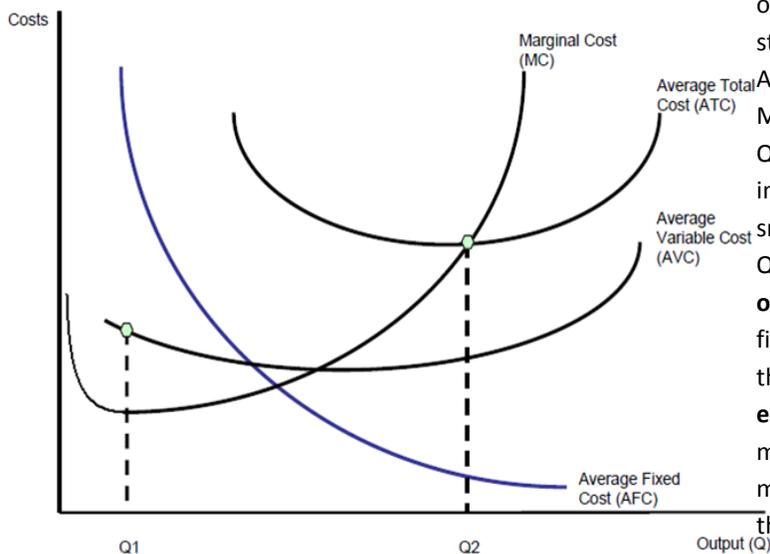
Short-run Product Curves



In the short-run, at first (when the initial labour force is small) increasing labour lead to higher **marginal returns** via specialisation and division of labour. However, eventually **the law of diminishing** returns takes effect. The law of diminishing returns state that as a variable factor of production (e.g. labour) is added to fixed factors (e.g. capital), eventually marginal returns begin to decrease. Diminishing returns begin to operate at Q1 onwards, when increasing units of labour leads to a decreasing marginal product (i.e. return or marginal labour productivity) curve, and the increase in total product starts to decrease. Beyond Q2, marginal product is negative, as the fixed input (e.g. capital) becomes totally exhausted by the variable input (e.g. labour). So total product begins to fall beyond Q2.

Note when $MP > AP$, AP rises; when $MP = AP$, AP is maximised/minimised; when $MP < AP$, AP decreases.

Short-run Cost Curves



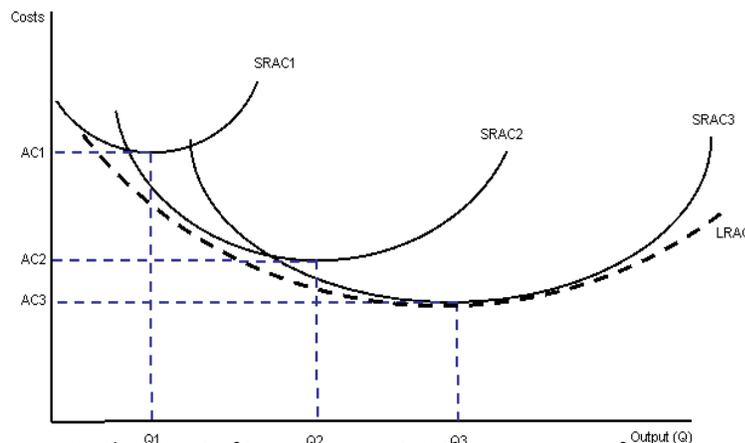
In the short-run, diminishing returns operate from Q1 onwards, when MC starts to increase. MC intersects AVC and ATC at their minimum points. Before Q2, $MC < ATC$, so average cost decreases; at Q2, $MC = ATC$; after Q2, $MC > ATC$, so ATC increases (because the fall in AFC is now smaller than the rise in AVC beyond Q2). Q2 (when ATC is minimized) is the **optimal output** (the ideal combination of fixed and variable factors to produce at the lowest cost). This is also **productively efficient** (when a firm operates at minimum average total cost, producing maximum possible outputs from inputs in the production process).

Production costs are separated into fixed costs and variable costs. Fixed costs (e.g. rent, mortgage, depreciation) do not vary with output. Variable costs (e.g. wages, costs for raw materials) increase with higher output. Total Cost (TC) = Total Fixed Cost (TFC) + Total Variable Cost (TVC); similarly, $ATC = AFC + AVC$. MC intersects ATC and AVC at their minimum points. MC is the cost of an additional unit of output. Average cost is total cost divided by output.

➤ Long-run: The time period when ALL of the factors of production in variable.

Returns to scale: Describes how output changes when the scale of ALL the factors of production change on the long run. We can have increasing, decreasing or constant returns to scale.

Returns to scale is not interchangeable with economies of scale. Economies of scale refer to the firm's costs, whereas returns to scale describes the technical relationship between outputs and inputs in the long-run (all inputs variable). Increasing/constant/decreasing returns to scale: when higher output → more than/exactly/less than proportionate increase in input (respectively). Returns to scale are parts of Long-run production theory, economies of scale are part of long-run cost theory.



In the short-term, firm at SRAC1 is productively efficient at Q1, when a factor input is fixed. However, to increase their profits further, they must increase their scale of operation to SRAC2 curve, before eventually diminishing returns take effect again (~) and Q2 is reached. Thus, on the assumption of there being infinite plant sizes in long-run (all inputs variable), LRAC is formed from the tangents of set of all SRAC curves.

Note that point of tangency is not at the minimums of SRAC curves except at the minimum efficient scale point. Also, the LRAC can be shaped differently: horizontal, U shaped, L-shaped, etc.

Up to Q3 increasing output lead to **increasing returns to scale** and **economies of scale**. Economies of scale is the advantage of expanding production in the long-run, when increasing output lead to lower LRAC. Types of economies of scale, include internal (coming from long-term growth inside the firm) or external (long-term growth within an industry, affecting all the firms in the market):

1. (Internal) Technical: R&D for more specialist, productive capital
2. (Internal) Managerial: Division of labour → higher productivity.
3. (Internal) Financial: Lower interest rates for large sums borrowed.
4. (Internal) Risk-bearing: Firms range of products lowers risk; allows higher risk levels possible.
5. (Internal) Commercial: If a firm has **monopsony power** (one buyer multiple sellers), it can perform bulk-buying at discounted prices.
6. (Internal) Marketing: Large-scale advertisements are cheaper per consumer targeted.
7. (External) Improved industry technology, transportation, infrastructure, etc.

Beyond Q3, **decreasing** returns to scale and **diseconomies of scale** occurs, an LRAC increases:

1. Control: Difficulty monitoring productivity and quality of output if firm too large.
2. Coordination: Difficult to manage large production processes across locations, with inefficient information flows.
3. Co-operation: Labour may feel alienated and demotivated → lower productivity.

The size of the plant at lowest point in LRAC (Q3), is the **optimal plant size**. Note that U-shaped LRAC has a single optimal plant size, but L-shaped LRAC can have multiple optimal plant sizes. **Minimum efficient scale (MES)** is the smallest size of plant which can benefit from minimum long-run average costs. It is the first lowest point on the LRAC curve (e.g. here MES is reached at Q3). At MES, **internal economies of**

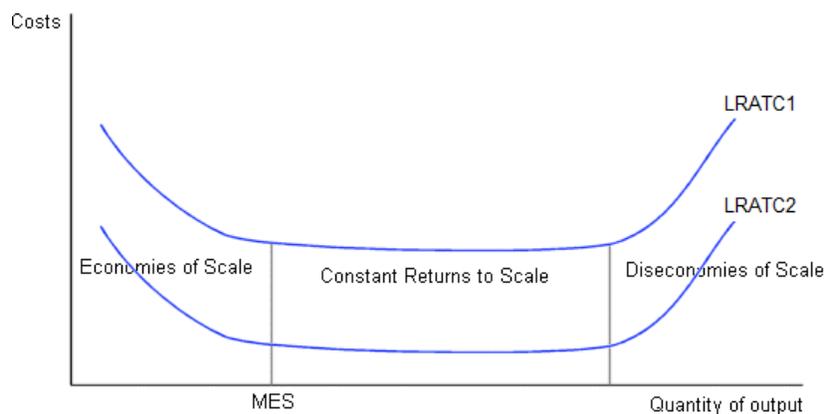
scale have been fully exploited, and firm achieves **long-run productive efficiency**. Note that if MES is achieved at a large output relative to the size of the domestic market, then only one/ few firms can exist in the market (so market structure is mono/oligopoly). Factors such as **indivisibility** of resources determine the output for MES, and hence affect the market structure. For other new entrants, the existing firms MES will be a barrier to entry, as strategies such as predatory pricing can be used by larger firms.

(FINISH NOTES ON: Economies of scale: its implications for the structure of an industry and barriers to entry)

Technological Change

Sample A* response to: Explain how technological change has affected structure AND competitiveness of markets, such as those for telephone services, recorded music or cars. (15 marks?)

Response: Technological change is a form of dynamic efficiency and is often associated with a fall in LRAC as shown below. However the diagram here shows a fairly constant MES. This may not always be the case; for example, the development of a production line involving highly expensive machinery (that in many cases suffers from indivisibility and therefore economies of scale/scope (?) that set in over a larger scale) such as in car industry, may have contributed to increased market concentration. Whilst developments in telephone service technology may have reduced MES, reducing market concentration.



Technological change such as the internet has increased consumer and producer knowledge as well as lowering other barriers to entry and exit, increasing the contestability of markets. This is true for example with recorded music. It could be suggested that the internet has changed the structure of the recorded music

market to be a quasi-public good by reducing excludability.

(+ from class)

Technology can create barriers to entry. E.g. a car firm investing in capital machinery will have a competitive advantage and create barriers of entry for new firms.

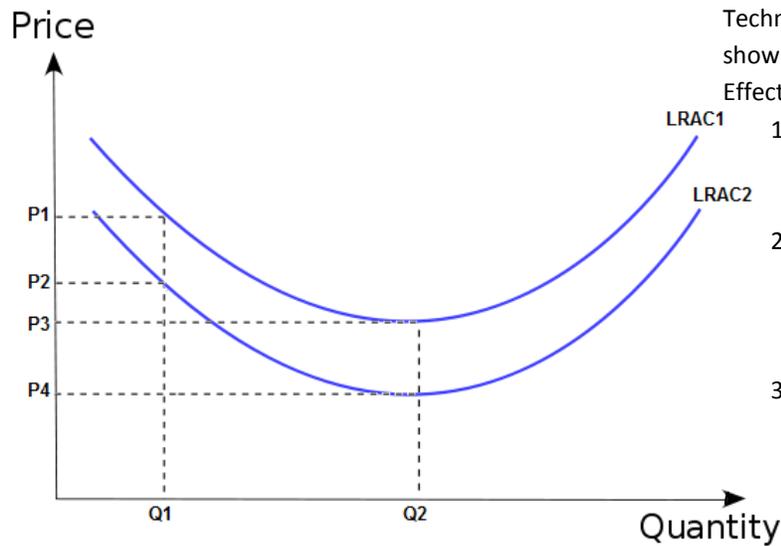
Technology can revive dying industries.

Technological Change

➤ Components of technological change:

1. Higher **technical efficiency**: More output produced from the same available inputs.
2. Innovation: Existing output undergoes improvement in quality.
3. Invention: Finding completely new goods or services.

➤ Diagram:



Technological Progress within a firm can be shown through an inwards shift in LRAC.

Effects of falling LRAC:

1. (Assuming LRAC is linked to inputs) Firm more technically efficient, as same output at lower price.
2. Lower LRAC increases profit, and hence (via profit signaling) shifts industry supply curve outwards lowers price.
3. Firms without innovation can to compete with lower LRACs; so can be a barrier to entry.

(~) Invention refers to advancements in pure science, whereas innovation is the application of scientific development to production

➤ Effects of technological change:

- + Technological progress raises the productivity of capital, increasing technical efficiency (so more outputs obtained for the same inputs).
- + Innovating firms can develop cheaper production process, new products which create **dynamic efficiency** (improvements in technical and productive efficiency over longer times); consumers can also benefit from more choice and innovating high quality goods. Rate of innovation depends on the level so initial investment needed though.
- Innovative behaviour can create barriers to entry (e.g. via patents), and give innovators some market power. Conversely, innovative new entrants can easily remove market power from existing firms, create more scope for competition. So innovation can increase or decrease market concentration and change market structure.
- Production process innovation can affect the firm cost structure (e.g. ratio of fixed/variable costs), and the balance of factor inputs (e.g. labour/ capital ratio), which could create job losses.

(Discuss effects wrt market structure, goods production/ consumption, firms production method, cost structure and efficiency)

Revenue Curve:

- Demand curve is the average revenue curve, as demand curve shows the price charged at each level of output. $AR = \text{Total Revenue} / \text{Units sold} = \text{price}$. So AR is the demand curve.
- For a downward sloping AR curve, MR is below and twice as steep as AR. This is because firm can only sell an extra unit of output by reducing price at which ALL units of output are sold, as demand curve is downwards sloping.
- When there is a perfectly elastic demand curve (e.g. in perfectly competitive markets, when demand curve is at the market ruling price), $AR=MR=D=P$ (as firms price-taker: explain in exam).

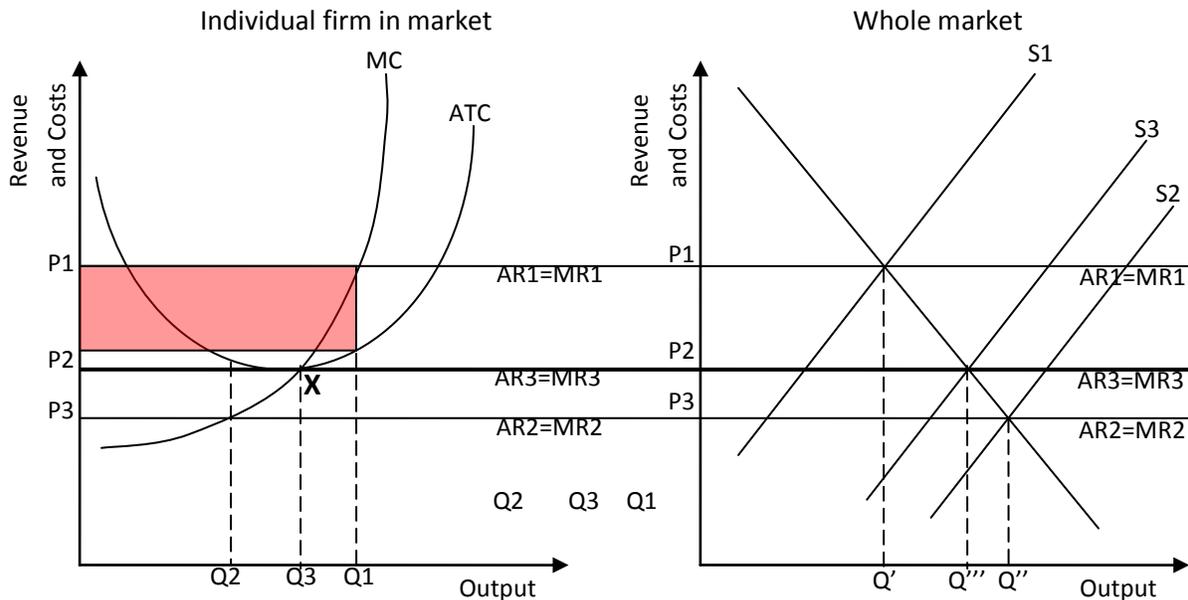
Chapter 2: Competitive Markets

Model of perfect competition

- Assumptions/characteristics of a perfectly competitive market:
 1. Many (small) suppliers each with insignificant market share.
 2. Firms are price-takers (as each firm too small to affect market price via controlling their supply).
 3. Homogeneous products.
 4. Consumers have perfect information about prices.
 5. No entry or exit barriers.
 6. Readily available access to any resources and information (e.g. technological improvement).
(Hence lesser chance of R&D because of the free-rider problem).

Note Perfect competition is unrealistic; but close example is Forex trading markets.

- Diagrammatic Analysis of Perfect competition in short-term and long term



- a) In short-run, whole market price at P1. For individual firm, profit maximisation at output Q1, when $MC=MR1$. Here ATC is below $AR1$, so supernormal short-run profit exists. Shaded area shows supernormal profit. Abnormal profits signals new firms to enter the market. This increases whole market supply from $S1$ to $S3$, and lowers price until $P2$ is reached. At $P2$, individual firm produces $Q3$, when $AR3=ATC$ minimum= $MC=MR3$. This is the LONG-RUN EQUILIBIRUM in perfect competition.
- b) Alternatively in short-run, whole market price at $P3$. For individual firm, profit maximisation at output $Q2$, when $MC=MR2$. Here ATC is above $AR2$, so subnormal short-run profit exists. This is a **possible shutdown decision** (or definite shutdown if AVC is above $AR2$). Subnormal profits signals marginal firms to leave the market. This decreases whole market supply from $S2$ to $S3$, and raises price until $P2$ is reached. At $P2$, individual firm produces $Q3$, when $AR3=ATC$ minimum= $MC=MR3$. This is the LONG-RUN EQUILIBIRUM in perfect competition.

At the long run equilibrium (point X):

1. All firms earn normal profit, as $AR=ATC$ (so there are no incentives to enter/ leave the market).
2. Productive (**optimum output** at ATC minimum) and allocative ($P=MC$) efficiency (consumer and producer surplus maximise at ruling whole market price). So statically efficient. This is because perfect competition creates incentives for firm to minimise costs, improve product quality, etc. so that they remain competitive and do not fall into subnormal profits (unlike monopoly's "quiet life").
3. X efficiency, as producing with managerial slack and costs above the ATC curve here leads to subnormal profits. So there is an incentive to be X efficient, remain competitive and make normal profits.
4. However, economies of scale (not possible in perfect competition) can lead to a lower LRAC. So static (productive) efficiency dependant on no economies of scale assumption for "small" firms in perfect competition. Also, possible negative externalities created are not considered, which otherwise creates allocative inefficiency.
5. Dynamically inefficient: Perfect markets have perfect information and all firms have full access to any technological improvement. Also, firm cannot maintain abnormal profits in the long-run, as there are no entry barriers. So free-rider problem and full access by other firms discourages R&D. So dynamically inefficient.

Chapter 3: Concentrated Markets

The growth of firms

➤ Reasons/ motivations for firm growth:

1. Profit motive:
 - a. Firms grow to increase profits and reward shareholders (e.g. higher profits→managers remain employed).
 - b. Profit can improve stock market valuation/share prices of a firm; make it easier to attract funding via share issuing.
 - c. Profitable firms with high share price are protected from hostile takeovers.
2. Cost motive:
 - a. Increasing returns (economies of scale) improve productive capacity and lower LRAC with firm growth; allowing firms to remain competitive.
3. Market power motive:
 - a. Growth can improve market dominance, and give firm increased pricing power (e.g. a monopoly can engage in predatory pricing).
4. Risk motive:
 - a. Growth may be to diversify product range, so risk is reduced (e.g. a struggling sales in one market may be compensated by higher demands in other markets).
5. Managerial motive:
 - a. Divorce of ownership and control can lead to managers following different objectives regarding firm growth, rather than shareholder's pure profit maximisation.

➤ How firms grow:

1. Internal (organic) growth: When a firm invests from scratch in increasing factor inputs such as new factories and offices. Organic growth arises from: increasing existing production capacity (e.g. more machinery, factories and staff); investment in technology and innovation; developing new product ranges; growing consumer base via marketing.
2. External growth: Growth via mergers or takeovers (acquisitions). Mergers are normally friendly, whilst takeovers (acquisitions) can be hostile. Type of integration:
 - a. Horizontal integration: When two firms in the same industry at the **same stage of supply chain** combine (e.g. Volkswagen's takeover of Audi; takeover of Safeway by Morrisons).
 - b. Vertical integration: When two firms in the same industry at **different stages of the supply chain** combine. Backward (upstream) vertical integration is when original firm combines with one which is at a previous stage of the supply chain (e.g. a brewery merges with hop crop fields). Forward (downstream) vertical integration is when original firm combines with one which is at a later stage of the supply chain (e.g. a brewery's takeover of a pub).
 - c. Lateral merger: A type of horizontal integration when there are some similarities between firms (e.g. Google and Youtube).
 - d. Conglomerate merger: When two firms with no direct similarities combine. Can be vertical.

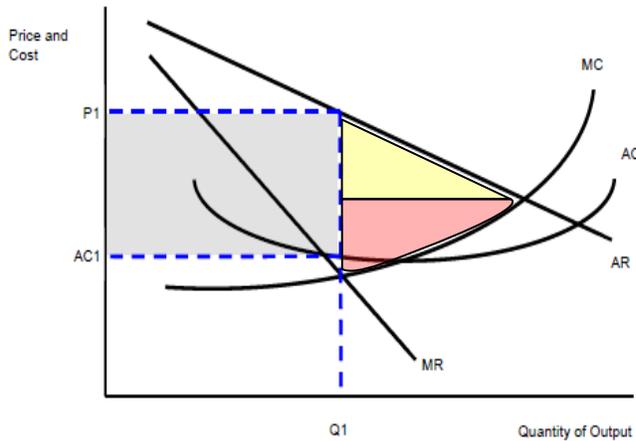
Advantages of external growth:

Growth	Advantages
External growth as opposed to internal	<ol style="list-style-type: none"> 1. External is quicker. 2. Maybe to cheaper to takeover than invest in internal growth. 3. Acquisition of a brand only possible via a takeover (?). 4. Asset stripping: Predator may be able to sell acquired assets for more than it originally paid for them.
Horizontal growth	<ol style="list-style-type: none"> 1. Increases firm size and create internal economies of sale for lower LRAC and improved profits. 2. One large merged firm may not need double the original workers. So lower labour costs via rationalisation. 3. Larger domestic firms can compete internationally. 4. Firms can increase product range; diversification. 5. Synergy (?) leads to higher efficiency (?). 6. Reduce competition via higher market share and pricing power. 7. Higher chances of success than vertical as firms are closer to perfect information.
Vertical Growth	<ol style="list-style-type: none"> 1. Greater control over supply chain: reduces cost and improves product quality. 2. (Disadvantage) Higher risk of failure via imperfect information. 3. (?) Greater control over distribution, and access to raw materials.

(ADD reasons of integration/ unsuccessful M&A? notes in workbook)

Monopoly

- Assumptions/characteristics of a monopolised market:
 1. One single dominant firm in the entire market; imperfect market structure.
 2. Firm has complete market power and is the price maker.
 3. High barriers to entry.
 4. High product differentiation.
- Monopoly (profit-maximisation) diagram

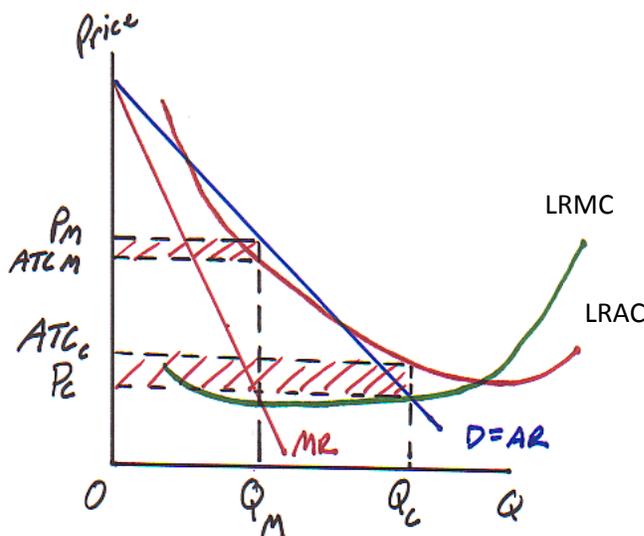


Disadvantages of monopolies:

1. Inefficiency. When profit maximising via price setting, firm does not operate on the lowest point of the ATC curve, so productively inefficient. Also, MC does not equal price (at AR curve), so allocatively inefficient. Barriers of entry lead to lack of competition “quiet life” and managerial slack. This creates X-inefficiency.
2. Dead-weight loss of economic welfare. Net losses in consumer and produce surplus. Yellow triangle (loss of consumer surplus) and red triangle area (loss of producer surplus) shows the dead-weight loss of economic welfare. (note $MC=Price$ gives maximum welfare assuming no external factors exist).
3. Price discrimination
4. (+?) Predatory pricing etc. creates less contestable markets.

Advantages of monopolies:

1. Economies of scale: Lower possible prices (dependant on monopoly conduct).
2. Dynamically efficient (potentially): Supernormal profits may be lead to higher investment and innovation in R&D. Lower prices only occur if lower ATC passed on to consumers.
3. Cross-subsidisation
4. Natural Monopolies:

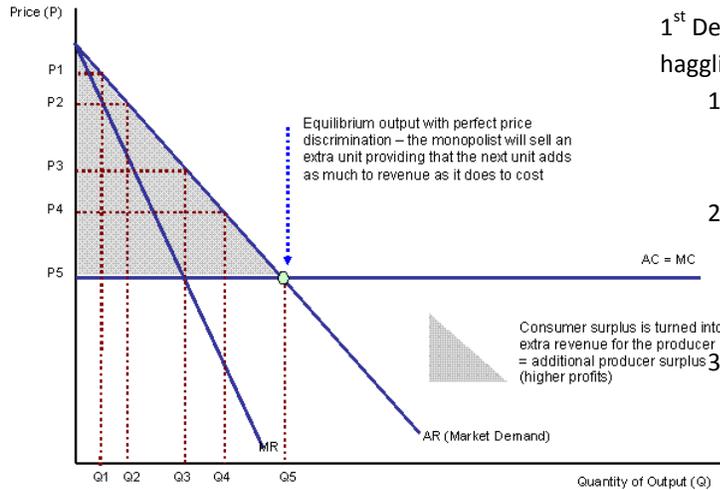


Natural monopoly occurs when, due to insufficient market size, there is room of only one firm to be productively efficient and fully exploit economies of scale. Many firms and duplication would be wasteful. Occurs normally when there are high fixed costs.

As shown, natural monopolies may profit maximise at Q_m , with abnormal profit. To be allocatively efficient at Q_c when $AR=MC$, natural monopolies make a loss. Hence they must be subsidised.

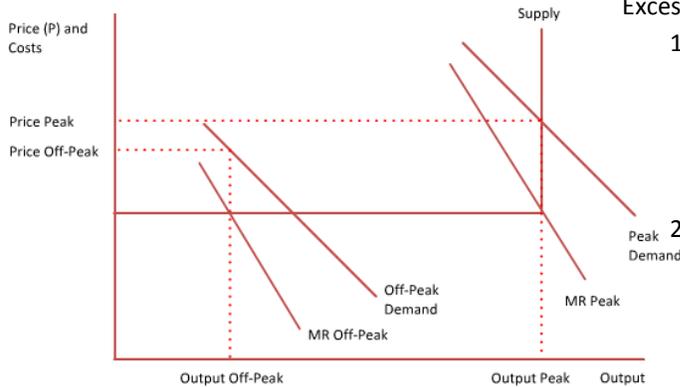
Price discrimination

Price discrimination: Price discrimination involves firms charging different prices to different consumers based on their ability to pay. General conditions for price discrimination are: a) Firm must have price setting power; b) There must be two consumer groups with different PEDs; c) Firm is able to clearly segment the consumer groups; d) There is no market seepage or market arbitrage (so one group cannot to sell to the other group).



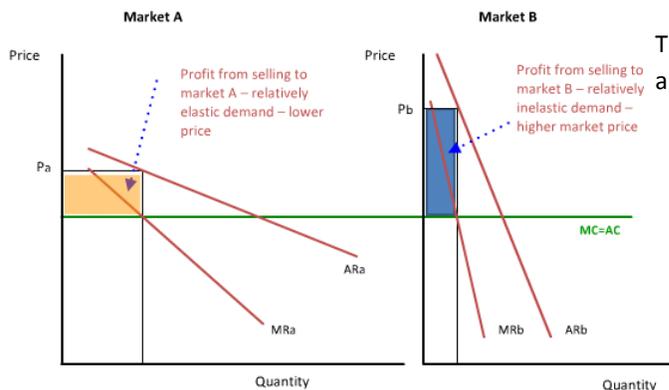
1st Degree (Perfect) price discrimination (E.g. haggling in markets):

1. Consumers separately charged their individual willingness to pay; so consumer surplus is zero and extracted into profits.
2. Monopolies demand (AR) curve becomes the MR curve, as price of all products sold does not need to be lowered when increasing sales.
3. Requires that the firm has perfect information about consumers' willingness to buy and is able to reach individual bargains with consumer (perfect segmentation of the market).



Excess capacity/ peak load pricing:

1. Excess capacity pricing: when (due to a surplus of goods), firm tries to **off-load** spare output to buyers at lower prices. (E.g. hotels offering winter discounts, car rental prices lower at weekends).
2. Peak load pricing (e.g. train tickets): The marginal cost of supply is assumed constant up to capacity level; then firms cannot produce beyond capacity level. There are two demand curves (peak and off-peak). Higher prices charged at peak times to extract consumer surplus when PED is inelastic. Lower prices at off-peak, to



Third degree price discrimination (e.g. student and adults bus and train prices):

1. Market segmented into two submarkets. To maximise profit, monopoly charge higher in inelastic submarket.
2. Market seepage and arbitrage must be prevented.
3. Overall a higher output than under MC=MR profit maximisation.

Price discrimination advantages	Disadvantages
+ Cross-subsidisation may occur, where lower income consumers are “priced into the market”. Such price discrimination in food or medication market creates external benefits (reducing positive externalities). So can reduced income inequality and poverty.	– Loss of consumer surplus. For most consumers, price charged is above MC, so allocatively inefficient.
+ (For firm) Higher profits may increase R&D and reward shareholder. Also, firms can off-load and remove spare capacity.	– Price discrimination extracts consumer surplus into supernormal profits, creating inefficiency (?).
+ Higher output than under a single price monopoly allows firm to benefit more from economies of scale...	– Price discrimination via predatory pricing may increase barriers to entry in a monopolised market.

Source of monopoly power:

➤ Barriers to entry and exit

Types of barriers to entry:

1. Structural barriers: Due to differences in production costs and (~) staying in market for a long time (e.g. Economies of scale, vertical integration, brand loyalty, also **indivisibility** of expensive machinery and high fixed costs).
2. Strategic barriers: (e.g. Predatory pricing, marketing, product differentiation).
3. Statutory barriers: Entry barriers created by law (e.g. patents, intellectual property, licenses).
4. (+?) **Sunk costs** (barriers to exit and entry): Costs which cannot be recoverable for businesses leaves an industry (e.g. money spent on advertisement, capital inputs which cannot be resold).
Sunk costs make markets less contestable.

(+?) Reducing barriers to entry and exit: technological change in market (finish notes on this); removal of statutory barriers by government (e.g. liberalisation of markets such as postal parcels?); globalisation of markets (e.g. foreign competition).

Oligopoly

Examples: Petrol Retailers; Supermarkets; Unilever and P&G in the detergent market.

Market Structure definition:

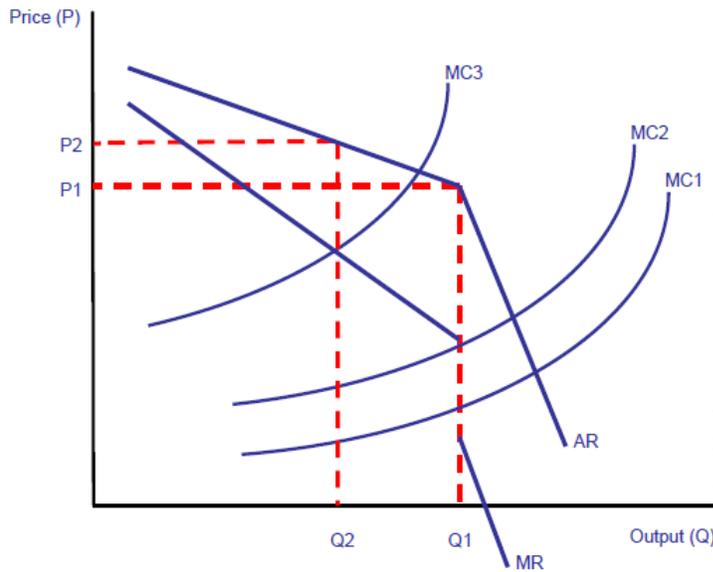
1. Few large of firms dominating the market (high concentration ratio, e.g. top 5 firms have more than 60% market share).
2. There is product differentiation and brand loyalty.
3. High entry barriers (allowing firms to operate with supernormal profits).

Conduct (behaviour) definition:

1. High levels of interdependence and uncertainty in the market. Uncertainty affects firm conduct via game theory.
2. Price and (more intensive) non-price competition is undertaken (as firms want to grow and retain market share).

NOTE: In general, Oligopoly is best defined via the conduct (behaviour) of firms in a market.

➤ Kinked demand curve (a model of oligopoly interdependence and uncertainty):



For a firm starting at price P_1 :
 Increasing price leads to elastic demand as no firms follow the price rise, causing loss of market share and revenue. Decreasing price leads to inelastic demand as most firms follow the price fall (to retain market share in a price war), causing lower revenue and very small gains in market share. Hence **price rigidity** exists in P_1 , and firm does not want to change price.
 Also, there is a discontinuity in the MR curve. So small changes in production costs and shifts from MC_1 to MC_2 does not change the profit maximisation point at Q_1 . Hence there is no need to change price P_1 .

Kinked demand curve displays: price competition being short-term in an Oligopoly; relative price stability while firms reach a stable profit maximising equilibrium at P_1 . Limitation of kinked demand model: Does not explain how firms originally arrive at P_1 ; ignores non-price and limited price (e.g. interest free credit) competition conduct; assumes all firms will follow/not follow price changes. Also, sometimes decreasing prices by strongest firms is subsidised by other sections of the firm, allowing them to lower prices and force its rivals out in a price war..

By kinked demand model, hence **non-price** competition is more common in an oligopoly. Non price competition is increasing market share without changing price. This can be: advertising; quality of service, loyalty schemes, free gifts (e.g. in magazines), packaging; temporary discounts. Non-price competition may benefit consumers (although less directly than price competition).

➤ Game theory

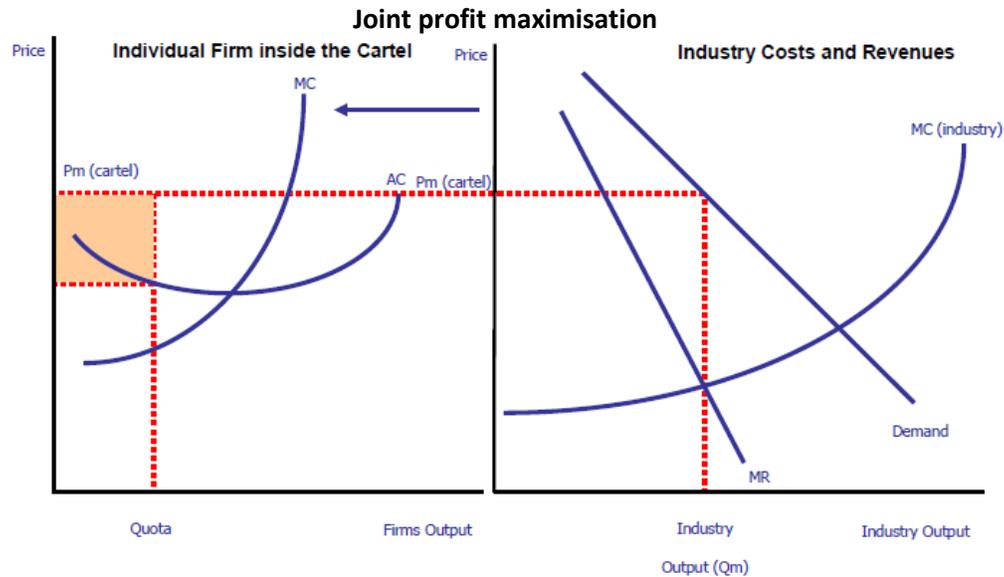
Game theory explains the interdependence and the effect of uncertainty on firm conduct. If oligopoly is a zero-sum game, firms are risk-averse and leave prices unchanged. In a non-colluding oligopoly. Nash equilibrium (each firm's best choice when considering all competitors strategies) often leads to a lesser than optimal payoff for all the players (firms) involved. Hence, game theory suggests firms have an incentive to co-operate and collude.

➤ Collusive Oligopoly

Collusion is when oligopoly firms co-operate and try to manipulate the market, undertaking anti-competitive behaviour and joint profit maximisation. Normally requires control over market supply (e.g. OPEC: Oil Producing Exporting Countries, will price fix and restrict supply. Collusion cannot be prevented as they are sovereign nations). OFT investigates collusion.

Types of collusion:

1. Overt: Price-fixing (e.g. JJB/Man U).
2. Tacit: Dominant firm create price changes, other firms follow (**Price leadership**).



Collusion/cartel easier for firms when:

1. Oligopoly has high entry barriers (either natural or created) to prevent new entrants.
2. All major producers co-operate and obey the cartel.
3. Large consumer base with inelastic demand.
4. Easy to monitor firm outputs and detect if any firms are defecting.

Collusion always unstable because:

1. Lack of total control over supply (e.g. Vietnam entered coffee beans market, cartels collapsed).
2. Over-capacity in firms: With low demand levels (e.g. in recession), firms may want to off-load spare capacity at lower prices, defecting from cartel.
3. Exposure of price-fixing by OFT.
4. Prisoner's dilemma also suggests defecting would give individual firms a larger payoff in the short run than joint profit maximisation.

Collusion Advantages	Disadvantages
+ Increased revenue and abnormal profit for producers → reward shareholder or investment in R&D, which will benefit consumer in long run.	– Exploited consumer with higher prices; lower consumer surplus; allocative and productive inefficiency.
+ Collectively potential economies of scale; and in markets with very high fixed costs colluding may be the only way to make a	– (~) Prevents new entrants into the market → lack of consumer choice.

profit (e.g. no need to duplicate advertising and marketing in a collusion).	
+ Guaranteed supply of goods and services.	– (~?) Lack of dynamic efficiency.
+ Creates period of relative price stability.	– Potential fines and loss of brand loyalty for producers if exposed by OFT.
+ Increased non-price competition, which benefits consumers via special offers and improved product quality in the long-run.	–

(Types of pricing method for Oligopolies notes needed?)

Contestable Markets (William Baumol)

Definition: Contestable markets are imperfect market structures where firms face real and potential competition. The threat of “hit and run” from new entrants lead to incumbent firms operating at a competitive price and output (allocatively efficient). **No sunk costs** are in contestable markets, and entry and exit into market is perfectly costless.

➤ Conditions for contestability:

1. Perfect information and ability/ legal right for all entrants use the best technology available.
2. Legal freedom to enter the market.
3. Absence of sunk costs.

➤ Hit-and-run (+ and cream-skimming) competition

Hit-and-run: Incumbent firms making supernormal profits signal new entrants into the market (when entry/exit costs are low). New entrants seek to offer lower price and take some of the incumbent firms’ profits available and then leave market quickly.

(+) Cream-skimming: New entrants selling only to parts of the market with high profit margins (e.g. in postal services only providing business post rather than household post).

These threats form real and potential competition in contestable markets lead to existing firms operating nearing normal profit levels, improving allocative efficiency. (Standard profit-max diagram).

➤ Ways to create contestability:

1. Deregulation: Removing statutory barriers to entry/ liberalise the market.
2. Tougher competition laws: Preventing/ punishing predatory pricing/ cartels.
3. Advances in technology: Can decrease entry costs in some markets.

Example: Government deregulated postal market; removed statutory barriers for parcels. So FedEx, Ups, DHL firms now present in postal market. Created higher efficiency.

Contestability advantages	Disadvantages
+ Enables large firms to benefit from economies of scale (not possible in perfect	– There are always some barriers, no market perfectly contestable (e.g. exiting firms

<p>competition), AND be allocatively efficient.</p>	<p>may react to new entrants create barriers via predatory pricing).</p>
<p>+ Most market structure can be efficient with high contestability.</p>	<p>– Monopoly/ Oligopoly may cross-subsidise, innovate, invest in R&D using their abnormal profits.</p>
<p>+ (~) Emphasises reducing entry barriers over controlling market structures in Government competition policy.</p>	<p>– Does not guarantee supply, and may create more volatile prices (~).</p>
<p>+</p>	<p>– Threat of new entrants may not be sufficient to prevent firms profit maximising.</p>
<p>+</p>	<p>–</p>

The Labour Market

Labour Demand and Marginal Productivity Theory

Labour is a factor market. Demand for labour is **derived demand** (i.e. firm's demand for labour depends on the demand of the end product). Labour demand comes from the firms.

➤ Features of perfectly competitive Labour Market:

1. Homogeneous workers.
2. Large number of buyers (firms) and sellers (individuals) of labour.
3. No monopsony buyer or seller of labour (so no one cannot affect the market wage).
4. Perfect information and labour mobility (?)
5. (~) Industry labour supply perfectly elastic (i.e. $S=ACL=MCL$ for individual firms?)

➤ Marginal Productivity of Labour theory

Marginal productivity of labour theory states demand for labour depends on their **marginal revenue product (MRP)**. MRP is the **value** of the physical additional output arising for hiring an extra unit of labour. **$MRP = \text{Marginal Physical Product (MPP)} \times \text{Marginal Revenue (MR)}$** . MRPL theory assumes a perfectly competitive labour market and that worker productivity and MRP can be accurately measured. Limitations of MRP: 1) Not all occupation can have direct productivity measurements 2) Cannot explain public sector wages, which are independent of direct market forces 3) Can not explain wages of entrepreneurs/ those self-employed.

➤ Determinants of Labour Demand:

1. Improvements in labour productivity MPP (e.g. via better education and training, capital or management)
2. Higher demand for end product (via derived demand).
3. Price/ productivity of substitute factor input (e.g. capital machinery) increases.

➤ Determinants of Labour demand elasticity

1. % of labour as total costs: Labour intensive industries are wage elastic, as small wage increases leads to large increases in final end product price, and hence lower end product and labour demand.
2. Ease of factor substitution: Demand elastic when labour and capital and interchangeable.
3. Price elasticity of end product: via derived demand.
4. Time period: Labour demand wage inelastic in short-run as substitution is harder.

Labour Supply

Definition: Total number of hours that labour is willing to and able to supply at a given wage rate; or number of workers willing to and able to work at a given wage rate.

➤ Determinants of Labour Supply (for a particular firm):

Concept of **net advantage** exists (which is the overall rewards to a particular occupation, considering both monetary and non-monetary factors); occupations with higher net advantages (e.g. higher job satisfaction) may have higher supply for a certain wage rate.

(Monetary factors)

1. Real wages of the actual occupation: higher wage → substitution effect, higher labour supply.
2. Wages of other occupations: high relative wages on other occupations → fall in labour supply.
3. Non-wage income (e.g. job seekers allowance): Higher non-wage income → fall in labour supply.

4. (+?)

(Non-monetary factors)

1. Barriers to entry in occupations (e.g. trade unions, professional qualifications)
2. Working conditions, job status, promotion prospects, etc.
3. Holidays/ leisure time :economic welfare gained from leisure time
4. Availability for training, firm location, opportunities for overtime work, etc.

(+?) Determinants of labour supply elasticity for particular market:

1. Higher skills/ qualifications required: inelastic supply.
2. Longer training periods: inelastic supply.
3. Longer time period: more elastic labour supply.
4. Better non-monetary perks: more elastic supply.

➤ Determinants of labour supply (macroeconomic):

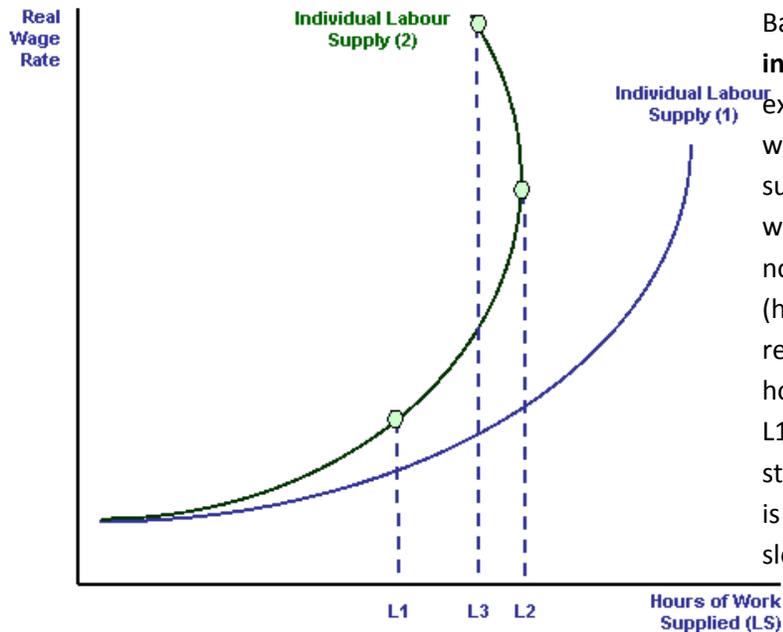
Labour Force: The total number of workers in or actively seeking employment and able to start work within a country. (~R~) Determinant of whole economy labour supply:

1. Demographics: (e.g. population change and size of working age).
2. Changes in activity rates: (e.g. population % actively seeking work rather than voluntarily unemployed and economically inactive).
3. Migration of labour.

Solutions/ Reasons for economic activity/inactivity:

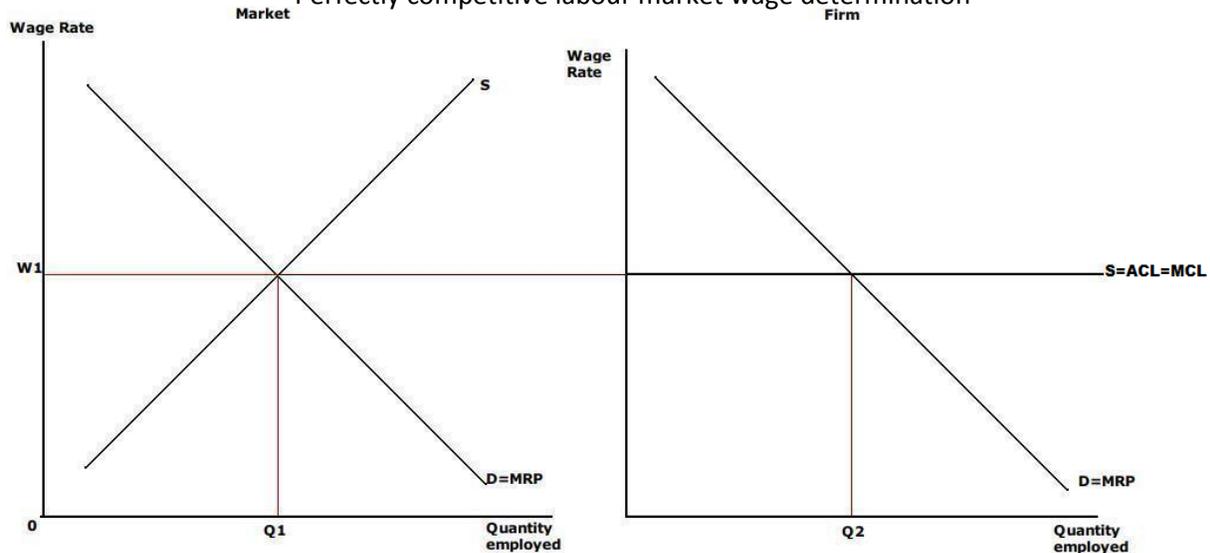
1. Tax/ benefits transfer benefits system (e.g. minimum wage, lower direct taxation, lower JSA encourages working).
2. Effectiveness of training and education (increases human capital and occupational mobility of labour).
3. Changes to retirement age and pension provision.
4. Changing attitudes to work/leisure.
5. Policies on labour migration (e.g. deregulation of migration, SEM, etc.)

➤ Backwards-sloping labour supply curve (individual supply curve)



Backwards-sloping supply is an **individual** supply curve. This is explained via **substitution** (rising wage rate increasing individual labour supply, as labour has an incentive to work longer, and opportunity cost of not working is raised) and **income** (higher pay levels mean that a target real wage can be achieved with fewer hours of labour supply) effect. From L1 to L2 substitution effect is stronger, from L2 to L3 income effect is stronger. This creates a backward sloping supply curve.

Perfectly competitive labour market wage determination



In the market, total employed in Q_1 , and ruling market wage is W_1 . As market is perfectly competitive, for **individual** firm, labour **supply** is perfectly elastic (as no sense to price over W_1 with no monopsony power, and no incentive for homogenous workers to work at below W_1). So all firms can only charge ruling market wage W_1 , and hence Labour Supply $S=ACL=MCL$. Shifts in market demand/ supply creates a new wage equilibrium. For individual firms, employment at $MRP=MCL$. For entire market at $D(MRP)=\text{Labour Supply } S$.

(ADD TRADE UNIONS, MONOPSONY BUYER, NATIONAL MINIMUM WAGE RATE)

Labour market discrimination and wage differentials

- **Wage differential:** Differences in wages arising between individuals, occupations, industries, firms and regions. Wage differentials exist in **imperfect** labour market structures.

Causes of wage differentials:

1. Demand and supply elasticity: Inelastic labour demand and inelastic labour supply → higher wage rate. (e.g. surgeons: inelastic supply as doctors require long training; inelastic demand as no substitutes; so higher wage rate).
2. Bargaining power: (e.g. BMA: doctor's trade union Has high bargaining power, as medical workers cannot be replaced during strikes; cleaners can be replaced → lower bargaining power).
3. Government: (e.g. national minimum wage will increase cleaner's pay via a price floor(~?)); public spending on NHS will increase MRP=Demand for doctors and their wage. In general higher demand for labour in the particular industry.
4. Skilled and unskilled workers: Skilled workers harder to substitute with capital, and higher output per worker → inelastic labour demand and (~) high MRP=Demand → higher wage rate.
5. Gender: Men have higher wages as a) MRP higher for man than woman b) Traditionally, males have more qualifications/skills(~); c) More men part of trade unions; d) Women may miss promotions to have/raise children. E) Negative discrimination also (e.g. undervaluing MRP).
6. Part-time and full-time: higher labour supply of part-time workers, also less training → lower MRP.

- Wage discrimination: A cause of **labour market failure** (where free market fails to achieve an efficient allocation of resources in the labour market). Discrimination can be negative or positive.

Negative discrimination: When workers of similar productivity are paid lower based of gender, race, age, disability (opposite to positive discrimination). Firstly, undervaluing MPR of discriminated groups leads to fall in labour demand → lower wages (show diagram on exam). Also, this may lead to the discriminated groups to work within the non-discriminatory markets, which then will have increased labour supply → lower wage rate.

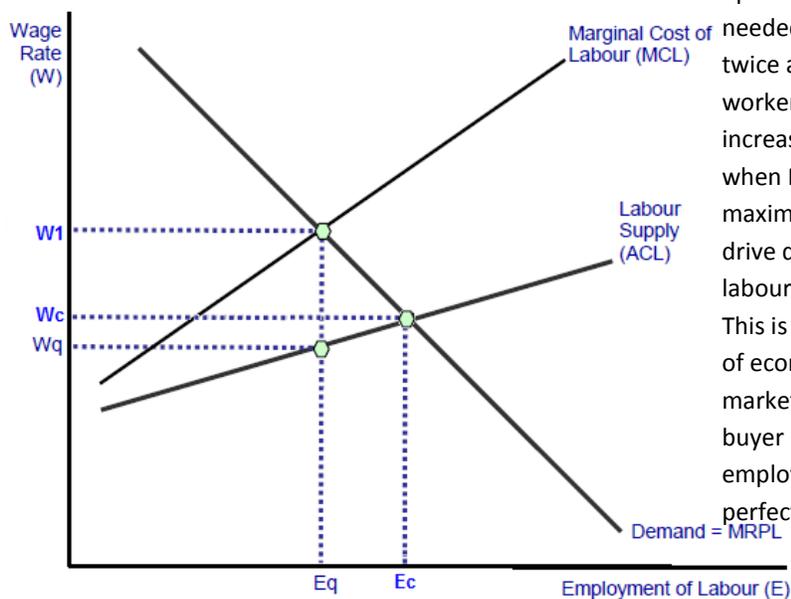
Effects of wage discrimination:

1. Discriminated groups have difficulty in finding work; accept less demanding jobs than qualified to do (allocative inefficiency).
2. Discriminating firms have less choice for labour → higher production costs and higher consumer prices → damage **international** competitiveness.
3. Government Fiscal position: Transfer payment for unemployed discriminated against labour → more government expenditure.
4. Also, consumers may boycott firms which do/ do not discriminate.

Imperfect Labour Markets (wage and employment levels)

- Monopsony power: A monopsonist has **buying** power in a labour market. Hence they can exploit their monopsony power to negotiate lower wages with supplier of labour (e.g. underpay workers and undertake wage discrimination), in order to undertake profit maximisation. Example: NHS, large factory in a small town.

➤ Monopsony in a market **without** trade unions



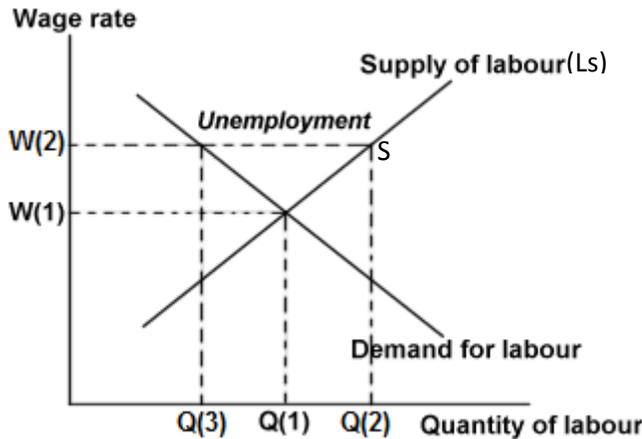
For monopsonists, $ACL=Supply$ curve is upward sloping as higher wage rates are needed to attract new labour. MCL curve rises twice as steeply because to hire an additional worker, all other labour units must also have increased pay. Profit-maximisation occurs when $MRPL$ (demand) = MCL . Hence, to profit maximise the firm uses monopsony power to drive down wage rates to Wq . Last unit of labour not paid full value of their MRP at $W1$. This is allocatively inefficient, as there is a loss of economic welfare. In perfectly competitive market, we have E_c and W_c . A monopsonist buyer underpays (from E_c to W_q) and under-employs (W_c to E_q) labour, relative to a perfectly competitive labour market.

Trade Unions

- Example: Unison, National union of teachers. Trade unions are organisation of workers which use **collective bargaining** to protect living standards of members; protect workers against unfair dismissal; protect health and safety of workers; campaign for pension rights. Trade unions can act as a counter-balance to monopsonist buyers in a labour market.

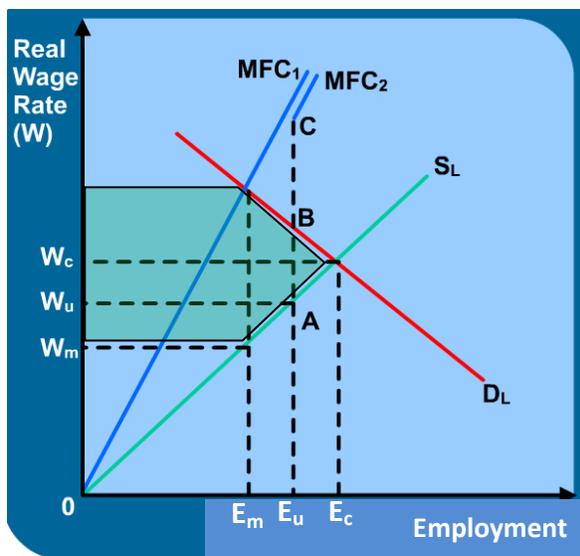
(+) UK History: In 70s, UK sick man of Europe. Traditional industries (e.g. steel, ship building) were heavily unionised, inefficient and subsidised by Government. After 1979 election Thatcher created trade unions reforms (e.g. no closed shops, wildcat strikes).

Trade unions affect wage rates via collective bargaining with employers. The bargaining power of unions depend on: 1) Economic climate (e.g. labour shortage/ low unemployment will increase union power(~?)) 2) Public support for unions 3) Union density (% of industry workforce registered with union) 4) Legislation (affects the legal powers of a union to take industrial action- e.g. strike).



➤ Effect of trade unions (in markets without a monopsony buyer):
 Collective bargaining marks up wage rate to W_2 . A new supply curve W_2S_L is created. This creates **real wage** unemployment (excess supply) Q_3-Q_2 . The difference W_1-W_2 is trade union mark-up.

Extent of unemployment depends on the elasticity of labour demand and supply.



➤ Effect of trade unions (in markets with a monopsonist buyer):
 Initial market operates at W_m , and E_m when $MRP=MCL$, with the monopsonist buyer. Trades unions help raise the wage rate to W_u and employment to E_u . Hence wage rate and employment increased. The shaded area is the zone of collective bargaining. A new labour supply curve W_uAS_L and marginal cost curve W_uACMFC_2 is created. Depending on the size of the trade union mark-up and bargaining power, trade unions could still create unemployment if wage rate goes over W_c (which is the perfectly competitive market equilibrium).

➤ Evaluation of trade unions

Advantages	Disadvantages
1. Higher wage not always with higher unemployment (e.g. in presence of a monopsony buyer, preventing exploitation and market becomes near perfect competition); also higher pay → higher MRP → potentially higher demand to reduce employment.	1. Distorts the labour market: drives wages higher and firm profits and employment lower than if perfectly competitive.
2. Solution: "Partnership model" between employers and unions. Leads to → higher worker productivity; workforce with more flexible skills; better health and safety and employment rights.	2. May prevent new, flexible working practices (?)
3. FINISH!!! FINISH!!!	3. Prevents technological development in

	industry → lower international competitiveness.
4.	4. Collective bargaining → higher wages → higher product prices and inflationary pressure → wage price spiral.
5.	5. Creates allocative inefficiency such as real wage unemployment. (~)

(Decline in union membership over the past year in the UK; also, mostly male members which increases the gender wage differential).

Government Intervention in the markets

Competition Policy

Competition policy is a form of government regulation. Government regulation is designed to correct market failure. Competition policy investigates monopolised markets and mergers which could create monopolised markets, promoting **price competition, technical innovation** and **wider consumer choice**. However, incorrect competition policy can lead to government failure, and there are other disadvantages to regulated markets. Competition commission (CC), Office for fair trading (OFT), and European competition commission are some of the main competition policy regulators.

(Examples: Tesco-Safeway; BA and Virgin Airlines; JJB Sports and Man U)

Main features of competition policy:

1. Merger control: CC in UK assessed M&A to block creation of monopolies and to ensure they are in public interest.
2. Anti-cartel: OFT monitors and prevents collusive, price-fixing behaviour.
3. Market regulation and liberalisation: Industry regulators (e.g. OFGEM, OFCOM, and OFTEL) are appointed to introduce fresh competition (liberalise) in previously monopolistic sectors such as energy supply, postal services, mobile telecommunications and air transport. (NOTE that regulators protect the public interest).
4. State aid control: Competition policy analyses examples of state aid measures to ensure that such measures do not distort competition in the Single Market
5. Market contestability: removing sunk costs, increasing contestability.

Competition policy advantages	Disadvantages
+ Prevents inefficiency in a monopolised market.	– (?) In perfectly competitive markets, market mechanisms self-correct, so no need.
+ Increases consumer surplus by preventing price fixing.	– If natural monopoly, duplication via CC will be wasteful, as economies of scale not exploited (which may give lower costs than perfect competition).
+ Some collusion types are allowed (joint development of improved industry standards; joint research and innovation projects).	– 1998 Competition Act outlaws abuse of dominant market position (above 40% market share). However, innovating and natural monopolies ignored.
+	– By contestable market theory, monopoly is not a problem (so CC not necessary), as long as markets contestable. So policy should focus on increasing contestability rather than competition.

Public Ownership, Privatisation, Regulation and Deregulation of markets

➤ Privatisation

Definition: Privatisation is the processes by which assets or activities owned and controlled by the public sector (nationalised) are subjected to market forces (privatised). It was the most important microeconomic policy in under 1979 elections under Thatcher.

Privatisation includes:

1. Deregulation: Removal or simplification of government rules and regulations that constrain the operation of market forces; removal of restrictions on the provision of a good or service (e.g. bus services).
2. Competitive tendering: Introducing competition into the market for provision of public goods (e.g. local authority waste collection).
3. Transfer of assets for public to private sector via share floatation or private sale.
4. Closure of “sunset” plant industries.

Privatisation Advantages	Disadvantages
+ Higher efficiency: Profit motive encourages lower costs, leading to dynamic efficiency and reducing “organisational slack” in X-inefficiency. Employees given company share may increase productivity.	– Some strategically important industries (e.g. British nuclear fuel) in public interest to keep nationalised.
+ Increases competition: State monopolies broken and exposed to competition.	– Potential market failure via externalities (e.g. merit goods such as education under-consumed in private sector); also missing markets exist when public goods are privatised (REVISE).
+ Raises g government revenue, and reduces government spending.	– Monopolies may still remain inefficient: profit maximisation creates allocative inefficiency (and loss of welfare), which may be prevented in nationalised industries.
+ (?~) Promotes capitalism and enterprise culture in the economy.	– Competitive tendering with natural monopolised markets will reduce economies of scale and (~) productive efficiency.
+ Less union control (Revise).	– Closure of loss-making services (e.g. village rail stations), which are otherwise in public interest.
+	– Short-termism: Under private ownership, short-term profit maximisation for shareholder’s is maximised. So long-term

	profit investments will not occur.
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Privatisation examples:

Rail: Privatised. But Hatfield rail crash occurred in 2000 → loss of investor confidence → lack of private investment → need for Government investment. Government has invested more into rail lines than where nationalised (?~). Perhaps rails are too important and should be state-owned like in France or Japan. Could use **PFI**s (a public-private partnership to provide public services, where private sector undertakes most of the work, and government partly funds it), as private sector are more efficient and have greater expertise.

BA, BP: Successful because of high corporate tax generated, and better fiscal position.

➤ Regulation

Regulation involves setting rules and laws which restrict market freedom. Regulation is undertaken by regulators (e.g. OFTEL, OFCOM). Can be used to correct market failure by government (e.g. reducing negative externalities, break up monopolies, improve safety at work, reduce discrimination, protect consumers’ rights), in order to achieve socially optimum consumption and production levels.

➤ Deregulation

Deregulation is removal of government controls on market activity. (E.g. Postal Services deregulated by regulator POSTCOMM granting licenses to private firms other than Royal Mail to deliver parcels; introduced FedEx, Ups, Dhl, etc.)

Deregulation Advantages	Disadvantages
+ Promotes competition and contestability via removal of barriers to entry.	– Regulatory capture: Regulators may be influenced by incumbent firms there are interned to oversee → regulators may act in the industries interest over consumers.
+ Reduces unnecessary legal, bureaucratic “red tape” costs → potential lower costs for consumers.	–

NOTES:

- “Appreciate how productivity and factor prices affect firm’s costs of production and the choice of factor inputs”: research and type up notes.
- (FINISH NOTES ON: Economies of scale: its implications for the structure of an industry and barriers to entry)
- “Explain the function of profit within an economy”
- Revise: surplus
- Define/mention: sunk costs
- Revise: types of efficiency
- Revise: economies of scope
- Revise: Profit definitions, types, etc. type up section
- (Monopsony power relevant to perfectly competitive markets).
- Revise: Nominal, index and Real value