

### Price discrimination

**First degree:** Where a firm has perfect knowledge of the market and is able to eliminate consumer surplus entirely by charging a different price for every unit.

**Second degree:** Where a firm sells the first  $Q_m$  units at  $P_1$ , then sells of its remaining units at price  $P_2$ . Typical of the air travel market.

**Third degree:** The firm charges different prices to two or more different markets which have different PEDs to exploit that  $SNP_A + SNP_B$  bigger than  $SNP_1$ .

### Collusive oligopoly

- Informal/tacit collusion: price leadership theories.

Price  $P_{1,LT}$  is set using the leader's MC curve and the market AR-D curve.

- Firms follow a price leader in the market, either a dominant firm or a barometric firm (firm with better knowledge/ability to forecast the market). The price is set high enough to allow all firms to make profits, and low enough to avoid attention from the competition commission.
- This leads to fierce competition to gain market share and interdependence competing on price, place, promotion and product.
- Formal where the firms act as a monopoly supplier (see *Monopoly*), but the cost curves represent the industry not the individual firm.
- This is illegal in the UK, EU and USA. OPEC is a good example of a cartel of oil producers.

### Non-collusive oligopoly

- A small number of large firms, and a large number of small firms offering to a niche market.
- Perfect oligopolies offer homogeneous products such as sugar. Imperfect oligopolies offer slightly differentiated products.
- This leads to kinked-demand curve theory and explains price stability within the oligopoly as any change in output/price causes a fall in TR.

**Loss in TR** = shaded area between  $P_1$  and  $P_2$  up to  $Q_1$ .

**Gain in TR** = shaded area between  $P_1$  and  $P_2$  from  $Q_1$  to  $Q_2$ .

The broken MR curve is formed from the two MR curves associated with the two parts of the demand curve. The MC can move between the two broken points and have no impact on price.

### Monopolistic competition

**Short run:** Shows supernormal profits (shaded area) where  $P_m > P_{pc}$  and  $Q_m < Q_{pc}$ .

**Long run:** Shows a loss of consumer surplus (shaded area) where  $P_{pc} > P_m$  and  $Q_{pc} > Q_m$ .

In the short run firms make supernormal profits shown by the shaded area in the left hand diagram. Supernormal profits attract new entrants causing demand for each individual firm's product to decrease in the long run until only one level of output does not make losses.

- As perfect competition but products are slightly differentiated. This gives firms some pricing power.
- Inefficient both allocatively and productively.

### Perfect competition

**Individual firm:** Shows normal profits (shaded area) where  $P_1 = P_2$  and  $Q_1 = Q_2$ .

**Market:** Shows the market supply curve in the short run, which due to supernormal profits shown by the shaded area by each firm, which attracts new entrants shifting the supply curve to  $S_2$  in the long run and removing supernormal profits.

- Many buyers and many sellers. All are small firms.
- Homogeneous products so buyers purchase purely on price making all firms price takers.
- No barriers to entry or exit.
- Perfect knowledge for both suppliers and buyers so all firms have the same cost structure.
- Productive and allocatively efficient.

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# Unit 4: The Economics of Work and Leisure

Revision

### Perfect Monopoly

$P_m$  and  $Q_m$  represent the equilibrium under perfect monopoly and the shaded area the supernormal profits in both the long and short run.

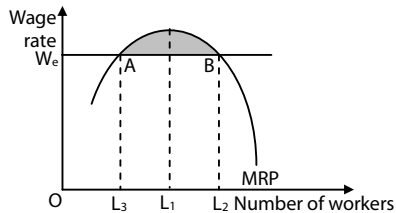
The social optimum output is  $Q_o$  and  $P_o$  the socially optimum price. The monopolist therefore overcharges consumers and produces a lower output.

- One firm in the market, a sole supplier.
- Barriers to entry are sufficient to prevent any new entrants to the market in the short and long run.
- The market is neither productive nor allocatively efficient.
- Supernormal profits can be used to fund research and development and avoid duplication of research.
- Can reduce or eliminate consumer choice.
- Some industries are natural monopolies (gas, electricity and water) and a monopoly allows these markets to exist.

Characteristic/Industry	Package holidays	Air travel	Spectator sports	Television broadcasting
<b>Nature of firms</b> – the number of firms, their size and market share	4 firms have 75% market share; many smaller firms also operate offering unique holidays to niche markets.	3 firms have 65%+ market share of tonne-kilometres by UK airlines. Many small budget firms are now entering the market.	Many small local firms in diverse sports with a few large international firms in some sports such as Manchester United in football.	Large firms dominate the terrestrial, satellite and cable networks. Changing market structure as lots of new smaller firms enter.
<b>Differentiation</b> – the availability of substitute products offered by other firms.	Much differentiation with many small firms giving consumers lots of choice from a wide variety of holidays.	The recent entrance of budget airlines has caused segregation as firms target different consumers within the market.	In the view of fans each team offers a unique product, and no other sport or team acts as a good substitute.	Close substitutes available as many new firms enter the market. In the long run it is likely product differentiation will increase.
<b>Price control</b> – the ability of firms to control they charge	Very contestable market means firms have little control over their prices. Second degree price discrimination is common in this market.	New entrants have caused a price war to break out in the budget sector. Second degree price discrimination is common in this market.	Large clubs charge much higher prices, but are limited to allow 'true' fans to be able to buy tickets. Potentially firms are monopolies.	Little price competition as channels are not purchased individually, instead lots of non-price competition to gain market share.
<b>Barriers to entry/exit</b> – the ability for new firms to enter the market or existing firms to leave the market	Low as over the Internet an individual with a website can become an effective competitor. Some brand loyalty exists.	Decreased by the open skies and use of rented aircraft but there are very high start-up costs and state-subsidised airlines in Europe.	Very strong club loyalty, limited places in leagues and television rights make competing with the large firms very hard.	Economies of scale exist, it is impossible to enter the terrestrial market but many new stations are entering the digital TV market.
<b>Supernormal profits</b> – revenue over and above that necessary to pay costs in the long and short run	Possible in the long run but due to price wars losses are possible in the short run.	Some profits can be made but price competition is reducing these, possibly some losses in the short run due to price wars.	Wages and self-imposed limits on ticket prices mean only very large clubs make large supernormal profits in the long run.	Large firms are profitable, but the large number of new entrants may decrease their market share and so their profitability.
<b>Mergers and acquisitions</b> – when two firms collude or buy out another firm to gain market share	The dominant firms gained their market share through takeovers and vertical integration.	New low-cost entrants are liable to merge to stop the price war and allow profits to be made, so horizontal integration is likely.	Unlikely due to the unique product supplied by each club. Large firms have marketed themselves as a brand and diversified.	May occur as small new firms offering similar products compete for market share and to effectively compete against Sky.
<b>Efficiency</b> – Allocative: $P=MC$ , what consumers want is produced. Productive: lowest point on the ATC.	Allocatively efficient due to contestability and productively efficient due to economies of scale achieved by large firms.	New entrants have caused allocative efficiency to improve and combined with privatisation has improved productive efficiency.	Generally non-profit motives so clubs are not allocatively efficient. Economies of scale help large firms to be productively efficient.	↓ in allocative efficiency as choice leads to lower quality and productive efficiency as gains from economies of scale diminish.
<b>Collusion</b> – when firms make agreements to reduce future uncertainty in a market	Competition commission investigated the market for insurance bundling. Collusion unlikely as firms desire a unique brand.	Not likely as firms aim to differentiate their brand from other airlines, though partnerships exist.	Highly unlikely due to the nature of the spectator sport market with such fierce brand loyalty. Partnerships possible.	Agreements exist, but collusion unlikely. More likely are mergers, as mentioned above.

### Demand for labour

$MRP = MPP \times MR$ , the additional physical product created by the additional worker multiplied by the revenue gained from those additional units of output



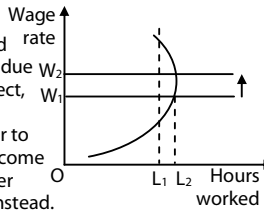
The law of diminishing returns means the MRP falls after a given output,  $L_1$ . The MRP shows, in a perfect market, the equilibrium level of employment. The shaded area represents profits, revenue received that is not spent on labour meaning the downward sloping part of the curve represents the demand for labour.

$VMP = MPP \times P$ . In a perfect market  $P=MR$ , so  $MRP = MPP \times P$ , meaning  $VMP = MRP$ . In imperfect markets  $VMP > MRP$ .

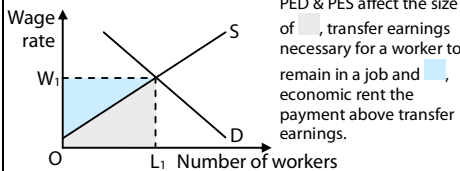
**Problems with MRP:** MPP is hard to measure; it is short run only theory, ignores supply and assumes a perfect market.

### Supply of labour

Individual workers experience a backward bending supply curve due to the substitution effect, where a rising wage encourages the worker to work more, and the income effect where the worker chooses leisure time instead.



Supply for labour is upward sloping for the economy as a whole.



Demand for labour is determined by the wage rate, the MPP, demand for a product, the PED for labour.

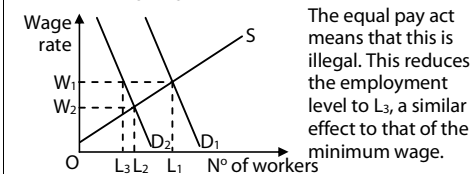
Supply of labour is determined by mobility of labour, time period considered and many non-pecuniary factors summarised in the term 'net advantages' of a given occupation.

### Labour market failures

**Immobility of workers:** *Occupational:* corrected by training; *Geographical:* subsidised housing costs or better provision of information.

**Information failures:** Subsidised advertising and use of technology like the Internet.

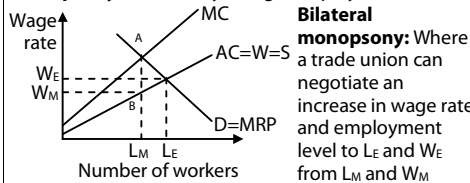
**Discrimination:** Due to prejudice demand moves from  $D_1$  to  $D_2$  causing wage rate to lower from  $W_1$  to  $W_2$ .



The equal pay act means that this is illegal. This reduces the employment level to  $L_3$ , a similar effect to that of the minimum wage.

**Trade unions:** An organisation aiming to get better pay and working conditions for its members ( $\rightarrow$  NMW).

**Monopsony:** Where only a single employer exists.

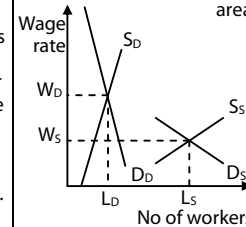
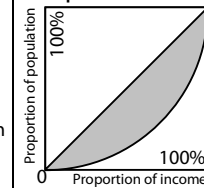


$AB =$  Workers' exploitation

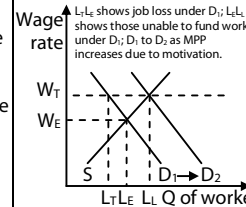
**Bilateral monopsony:** Where a trade union can negotiate an increase in wage rate and employment level to  $L_E$  and  $W_E$  from  $L_M$  and  $W_M$  under monopsony.

### Inequalities

Differences in pay exist because of skills/qualifications, imperfect mobility, imperfect knowledge and closed shop agreements (now illegal). The Lorenz curve shows income equality. The Gini coefficient quantifies differences as the shaded area divided by the area of the triangle.



Doctors have a higher MPP than shop assistants so have a higher and more inelastic demand. Skills required for a doctor make supply low and inelastic compared to shop assistants.



Benefits (universal, means tested, in kind), the new deal and NMW are policies used to combat poverty (absolute: cannot afford basic necessities; relative: less well off than 60% of population).