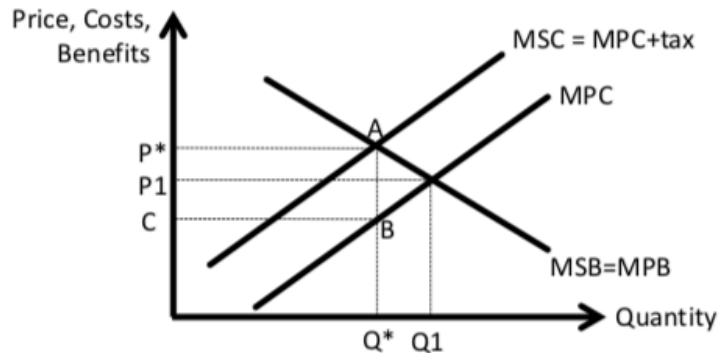




Chapter 6 – Policies to Solve Market Failure

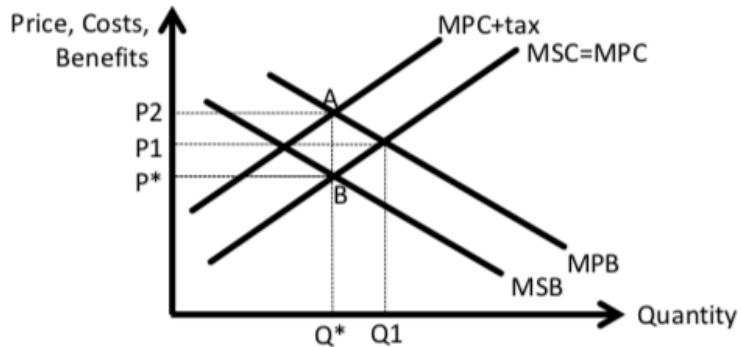
6.1 Indirect Taxation and Market Failure

Indirect Taxation to Solve Negative Externality in Production Market Failure



An indirect tax such as a carbon tax will increase the costs of production for polluting firms shifting the MPC curve upwards from MPC to MPC+tax, now equal to MSC. The price increases in the market from P1 to P* with quantity decreasing from Q1 to Q*, the socially optimum level of output. The externality has now been fully internalised with the price reflecting the full social cost of production hence the polluter is now paying the full cost of their actions. The overproduction and overconsumption that existed in the market is now solved with resources allocated efficiently at Q*. There is no longer a misallocation of resources with welfare maximised due to this intervention.

Indirect Taxation to Solve Negative Externality in Consumption/De-Merit Good Market Failure

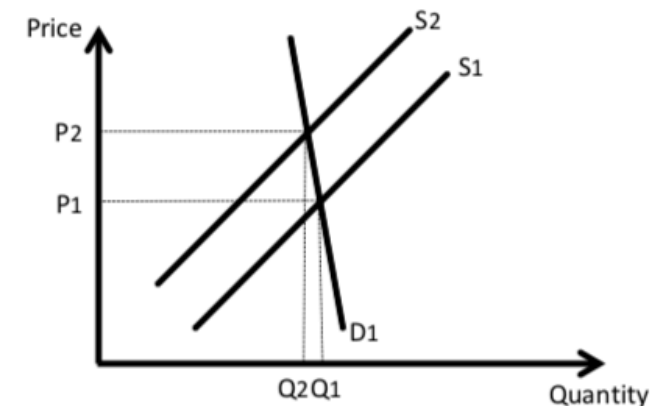


An indirect tax such as a cigarette, alcohol or sugar tax will increase the costs of production for firms shifting the MPC curve upwards from MPC to MPC+tax. The price increases in the market from P1 to P2 and due to the law of demand, consumption is discouraged, decreasing quantity from Q1 to Q*, the socially optimum level of output. The externality has now been fully internalised with the overconsumption and overproduction issues now solved. There is no longer a misallocation of resources with resources allocated efficiently at Q*. Welfare is now maximised due to this intervention.

An indirect tax also generates **government revenue** (P*ABC and P2ABP* in the above diagrams), which can be used to further solve the existing market failure for example by subsidising better alternatives, funding advertising campaigns, providing education or funding alternative/complimenting policies. This wider benefit can justify the use of indirect taxation even if the tax itself is ineffective in fully reducing quantity to the socially optimum level.

Indirect Tax to Solve Market Failure Cons/Evaluation

1) Demand for cigarettes, alcohol, sugar and fuel is **price inelastic**. This is because they are either necessities, addictive or there aren't many good substitutes available. Therefore as price increases, quantity decreases from Q1 to Q2 due to the law of demand, but proportionately less than the price increase from P1 to P2. The decrease in quantity will help to reduce the misallocation of resources but not by enough to fully solve the market failure if Q* is below Q2. In this sense, consumers are absorbing a large proportion of the price rise and not reducing consumption greatly. Any overconsumption and overproduction problems will remain.



2) Knowing the **correct level of taxation to set is extremely difficult** for the government. This is because putting an accurate value on the negative externalities generated is highly complex in reality. There are ways this can be done but not perfectly. As a consequence, the tax might be set too low where the externality is not internalised thus the price increase is not large enough to reduce quantity to the socially optimum level of output.





9.7 Oligopoly

Oligopoly Characteristics

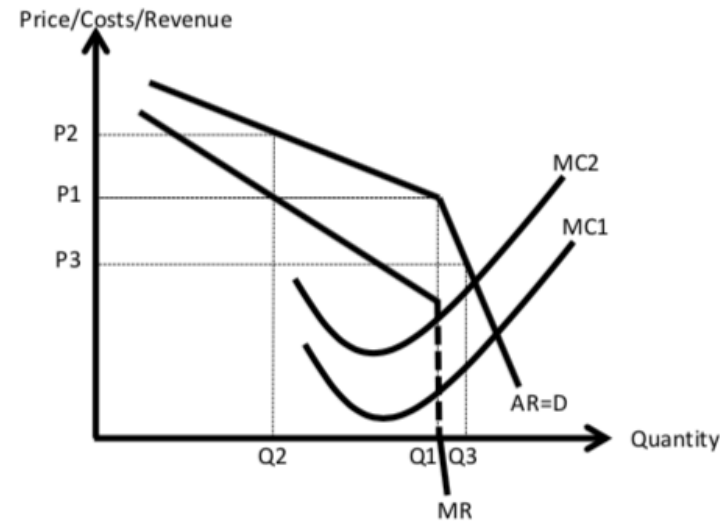
- 1) There are a few large firms dominating the market. There is a high concentration ratio with a few firms taking approximately 70% of the market. The level of competition is therefore not naturally strong.
- 2) The goods and services produced are **differentiated**. The implication is that firms are **price makers**, with the ability to set prices given the unique nature of the product sold.
- 3) There are **high barriers to entry and exit for firms**, meaning entry and exit is difficult and potentially expensive. If firms are attracted by supernormal profits made by the oligopolists they may be unable to actually enter the market due to the high barriers to entry implying that supernormal profits can be sustained in the long run. High barriers to entry can include high start up costs, sunk costs, economies of scale and brand loyalty.
- 4) There is **interdependence** in oligopoly where firms make decisions based on the expected reactions of rivals. Oligopoly is a fight for market share in a race to monopoly power hence firms must think carefully about the likely moves of rivals before making their own decision. It is for this reason that price competition is unlikely as higher prices than rivals will reduce market share and reducing prices lower than rivals will result in a price war. For this reason prices tend to 'sticky' or 'rigid' in oligopoly.
- 5) Due to price rigidity, there is a lot of **non-price competition** in the form of advertising, branding and product/service quality. By developing brand loyalty, firms are more likely to sustain increases in market share and get ahead of rivals.
- 6) The **objective of oligopolists is unknown**. Oligopoly is a fight for market share with each firm doing whatever it can to get ahead of rivals to attain monopoly power. The objective that is most likely to get them there will be used but this is highly dependent on specific market conditions and the market itself.

Oligopoly Firm Behaviour

The characteristic of interdependence makes mapping oligopoly behaviour difficult but the kinked demand curve model provides two ways to understand firm behaviour and why prices tend to be sticky in oligopoly;

- 1) At a stable price of P1 at the kink, **firms do not want to change their price**. Raising their price from P1 to P2 will take them onto the **price elastic part of the demand curve** where the proportionate decrease in quantity demanded from Q1 to Q2 is greater than the increase in price. Total revenue and market share will decrease as rival firms will react by keeping their prices fixed at P1.

Furthermore firms do not want to reduce their price from P1 to P3 as this will take onto the **price inelastic portion of the demand curve**. Demand will increase but proportionately less than the price decrease resulting in a loss of total revenue and no long term change in market share. This is because rival firms will react by matching the price reduction or undercutting further culminating in a ferocious price war between suppliers benefiting consumers but not producers.



- 2) Firms perhaps do not need to change their price from P1. This is because the corresponding marginal revenue curve possesses a vertical discontinuity and if costs of production increase in this vertical gap from MC1 to MC2 for example due to a rise in raw material prices or an increase in wages, a profit maximising oligopoly producing at MC=MR will continue to produce at output level Q1 and price of P1.

- 3) **Game theory** can also help explain the behaviour of oligopolists. Take the following prisoner's dilemma game and payoff matrix for example;

		Firm B	
		£20	£19
Firm A	£20	£25m, £25m	£5m, <u>£30m</u>
	£19	<u>£30m</u> , £5m	<u>£15m</u> , <u>£15m</u>

Two firms in oligopoly can either charge £19 or £20 for a product, always making the decision that maximises their payoff (the yearly profits in the cells). Decisions are based on the reactions of rivals.

For example if firm A charged £20 or £19, firm B should always charge £19 to maximise profits. If firm B charged £20 or £19, firm A should always charge £19. There clearly is a dominant strategy here for both firms to charge £19 with long term profits being made of £15million a year, an equilibrium that can be sustained over time. Interdependence and leads both firms to always take the lower price option to avoid the sting of being undercut themselves. This is the Nash Equilibrium further explaining a reason for price rigidity in oligopoly despite this not being the most profitable outcome for both firms.



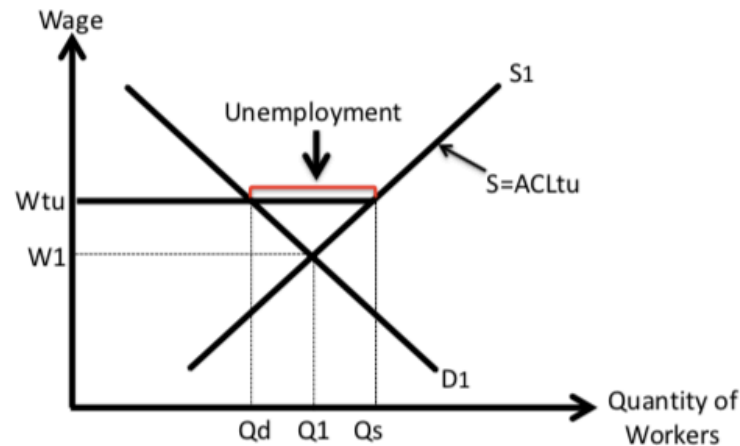


11.5 Trade Unions

➤ **Trade Union** – An organisation of workers who group together to further their interests in terms of pay, working hours, holidays and working conditions.

Trade Unions – Labour Market Outcomes

Trade unions use collective bargaining, where the pay of a large group of workers is determined through one negotiation thus providing workers more strength and market power. An assumption is made that there is a closed shop agreement whereby all workers in a profession are members of one trade union giving that one union maximum market power where it essentially becomes a monopoly supplier of labour, able to control the labour supply at given wage rates.



The labour market above is operating efficiently at competitive levels, $W1$ and $Q1$. If workers through their trade union are unsatisfied with pay and conditions, the union can bargain for a higher wage of Wtu , controlling the labour supply at that wage rate up until the existing labour supply curve at Qs . Firms are very likely to accept this given the number of workers they can lose if they reject the settlement and the threat of strike action with no production and negative publicity that comes with it. The firm therefore becomes a wage taker at the trade union wage rate Wtu with the new supply curve equal to the wage up until Qs . The union cannot control labour supply beyond this point as those workers require a higher wage to enter the profession therefore the new supply curve with trade union involvement possesses a kink reverting back to the original supply curve beyond Qs .



With new market conditions, where demand equals supply is now at employment Qtu at the wage rate Wtu . Although the wage rate is higher than competitive levels, employment levels are lower, with the trade union creating an excess supply of labour, i.e. unemployment between Qs and Qd hence improving pay and living standards for some but worsening outcomes significantly for others who are left without a job distorting efficient competitive labour market outcomes.

Trade Unions Evaluation

1) The impact of trade unions depends on their strength and power i.e. the **union density**. The union density measures the percentage number of workers in a profession that are members of a union. The higher the percentage density is, the greater the power of the union to bargain collectively and increase wages/improve working conditions. Workers in professions where union density is weak are unlikely to benefit from higher than competitive wages.

2) The success of the union fighting for higher wages is determined by the **union mark up**. This is the difference in wage between workers who are members of a trade union and those who aren't. The bigger the difference in favour of union workers, the more successful the union is in bargaining for better pay and conditions, however the impact on unemployment is greater as well.

3) Trade unions are more likely to be successful when the **economy is in a period of strength not when there is economic turmoil in a recession** for example. This is because in a boom period, firms are more willing to increase wages when revenues and profits are strong and labour is scarce, improving the bargaining power of unions. In a recession however, unions have less power as firms are struggling for revenue and profit and are therefore much less likely to increase costs by allowing wages to rise. Furthermore there is usually an abundant supply of labour available where firms will sack workers if necessary and hire new employees to avoid succumbing to the wage bargaining of unions.

4) Union power is significantly weakened with **regulation that reduces their power**. Governments can use regulation as a supply side policy to improve the efficiency of labour, making the economy more competitive and increasing potential output. Trade unions increase costs in various ways for businesses; wage increases, longer maternity/paternity leave, longer holidays and breaks, extra perks to the job, increasing health and safety standards etc. The government is also a significant employer where successful unions increase their costs and thus borrowing or taxation requirements. Regulations to reduce trade union power include, making closed shop unions illegal, making strike action legal only if a certain percentage of the union workforce agree when voting in secret and only allowing workers to strike against their own employer rather than allowing any workers in a profession to partake in a strike. Union density and the threat to strike are the biggest weapons a union possesses therefore reducing their impact significantly lowers the union's power to increase wages and improve working conditions.

5) Trade unions can have a significantly **negative long run impact on firms**. This is because unions increase costs in various ways for businesses; wage increases, longer maternity/paternity leave, longer holidays and breaks, extra perks to the job, increasing health and safety standards etc. As a consequence firms may shut down if they become too unprofitable or leave the country to work in countries where unions are not as prevalent hurting the long run growth potential of the country and employment prospects. The government is also a significant employer where successful and powerful unions increase their costs and thus borrowing or taxation requirements impacting both current and future generations.

