

Last exam:

- Using an appropriate externalities diagram, explain why a government might decide to impose a price floor on a demerit good
- Evaluate the value the most effective way in which the gov. can discourage the consumption of demerit goods is through government regulations
- Analyse the impact of a price ceiling on the market for food
- Discuss the policies that a government might use to make food more affordable to low income households

Explain how an increase in unemployment lead to the loss of gross domestic product and a budget deficit
 Discuss the view that the best way to reduce the unemployment rate is through expansionary monetary policy

Explain how an economic recession would lead to an increase in income inequity and poverty

Evaluate the view that government policies to promote equity in the distribution of income will always lead to negative impact on the efficiency of resource allocation.

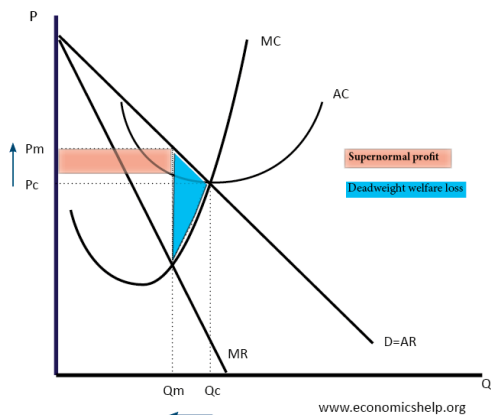
2013 May TZ1

Section A :

1.

(a) Explain how welfare loss may result from monopoly power

Monopoly power refers to the fact that firms have some degree of control over the market and face less competition such that they can raise prices or restrict supply. Welfare loss refers to the inefficient allocation of resources that the combination of goods and services produced can not maximise society's well being.



As shown in the graph, the firms max profits by $MR=MC$ and at this point MB greater than MC which means that the society would be better off allocating more resources to the production of the products such as Truvada which is a medication for HIV patients, cost 2000 in USA with patent but 8 in Australia. This indicate the fact that many consumers are unable to satisfy their needs and drop out of the market as they are unable to afford such high prices, leading to a lower standard Satisfi cing All of the above objectives assume that the fi rm tries to maximise some variable, whether it is profi t, revenue, growth or managerial utility. H. Simon, a Nobel Prize-winning economist, has argued that the large modern enterprise cannot

be looked upon as a single entity with a single maximising objective; instead it is composed of many Satisficing All of the above objectives assume that the fi rm tries to maximise some variable, whether it is

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profit, revenue, growth or managerial utility. H. Simon, a Nobel Prize-winning economist, has argued that the large modern enterprise cannot be looked upon as a single entity with a single maximising objective; instead it is composed of many separate groups within the firm, each with its own objectives which may overlap or may conflict. This multiplicity of objectives does not allow the firm to pursue any kind of maximising behaviour. Firms therefore try to establish processes through which they can make compromises and reconcile conflicts to arrive at agreements, the result of which is the pursuit of many objectives that are placed in a hierarchy. This behaviour was termed *satisficing* by Simon, referring to the idea that firms try to achieve satisfactory rather than optimal or 'best' results.

separate groups within the firm, each with its own objectives which may overlap or may conflict. This multiplicity of objectives does not allow the firm to pursue any kind of maximising behaviour. Firms therefore try to establish processes through which they can make compromises and reconcile conflict to arrive at agreements, the result of which is the pursuit of many objectives that are placed in a hierarchy. This behaviour was termed *satisfied the pricing* by Simon, referring to the idea that firms try to achieve satisfactory rather than optimal or 'best' results.

of living. They tend to allocate more resources towards advertisement and developing brand loyalty that would benefit them in non-price competition, thus more resources are wasted in these areas that cannot benefit the consumers. DWL is illustrated with the blue area.

Technical efficiency refers to the fact that all resources are utilised to full potential and no resources are wasted. However, as shown in the graph, at point of production Q_m , MC and MR intersect to the left of minimum ATC. It is not producing at the minimum ATC means that the resources are not used effectively as most monopolists are likely to be complacent due to the lack of competition. They usually have less incentive to seek the lowest method of production to minimize their cost of production.

Discuss the effectiveness of government policies (legislation and regulation) to reduce monopoly power.

Monopoly power refers to the fact that firms have some degree of control over the market and face less competition such that they can raise prices or restrict supply. In the case of oligopolistic firms, in knowing the high degree of substitutability b/w products, firms may merge, uniting two firms to form a single firm to reduce uncertainty in revenue levels or with an interest in capturing larger economies of scale, as this allows them greater monopoly power and larger market share.

Legal systems usually seek to restrict the level of monopoly power within industries. There are a series of legislation against anti-competition: no collusion (merging of firms), no predatory pricing, no exclusive dealing and resale price maintenance. For instance, in aware the extremely high XED for their goods produced as they produce homogeneous goods (fuel), BP attempted to acquire Woolworths' service stations in a \$1.8B deal to merge firms, and reduce competition, though this was prevented by ACCC in fear of hiked fuel prices due to greater monopoly power, which would affect many as it is a necessity. Another example is when the two largest washing powder companies try to share markets and not pass down the benefits of technological advancement, they ultimately receive a fine of 18 million, effectively reducing their monopoly power.

However, laws in different countries are enforced to different degrees, with the cost of enforcement as an opportunity cost (value of second-best alternative foregone), the government is unable to allocate scarce resources to

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areas needed, such as education, health care and infrastructure, slowing down the capacity for future economic growth. Also, the legislation may be ineffective as collusion is usually difficult to identify as it occurs secretly between two firms.

Alternatively, regulation can be used for a natural monopoly to reduce their market power. A natural monopoly occurs when a single firm can produce more cheaply than 2-3 firms. This occurs with firms operate on the left side of LRATC, near to achieve economies of scale (fixed cost can be spread over a large base). Society would be worse off with a natural monopoly broken into smaller firms, as higher average costs would result and would be inefficient, and thus regulation would be in society's best interests. The government can use MC pricing to force the monopoly to charge a price equal to MC_t , since with $P=MC$, thus forcing allocative efficiency to be achieved, where the intersection of MB and MC gives rise to P_{mc} and quantity Q_{mc} . However, marginal cost pricing leads to losses for the natural monopolist as P_{mc} lies below ATC. When it is not profitable for the monopolist, possibly forcing it to shut down and exit the industry in the long run.

An alternative to marginal cost regulation is AC pricing, forcing the firm to charge a price equal to its ATC, giving rise to price P_{ac} and quantity Q_{ac} , and thus normal profits are earned. Compared to the unregulated market, it is still more efficient as quantity produced increased with price decreases. In addition, When the monopolist is forced to produce where $P = ATC$, it is not achieving productive efficiency, which involves production at minimum ATC. This regulation is effective in forcing the monopoly firms to reduce prices and increase production. **However**, the firms are guaranteed a price equal to its average costs, it loses the incentive to seek to most efficient method of production, becoming complacent.

- Microeconomics reform refer to the initiatives that government implement to try and increase the level of competition within the market
 - Privatisation: government selling a government business to the private sector which switches to a more profit maximising point of view
 - Firms are forced to compete with others to lower their cost of production, increasing number of firms would divide the market into smaller sections and effectively reducing the prices
 - British Telecom
 - Deregulation: reducing unnecessary regulation

2.

(a) Using diagrams, explain how the incidence of an indirect tax may be affected by the price elasticity of demand

- Refer to 2016 May TZ1

(b) To what extent might the problems of negative externalities of consumption be resolved by the use of indirect taxation

- Refer to 2016 May TZ2

2013 May TZ2

Section A :

1.

(a) Distinguish between decreasing returns to scale and the law of diminishing returns.

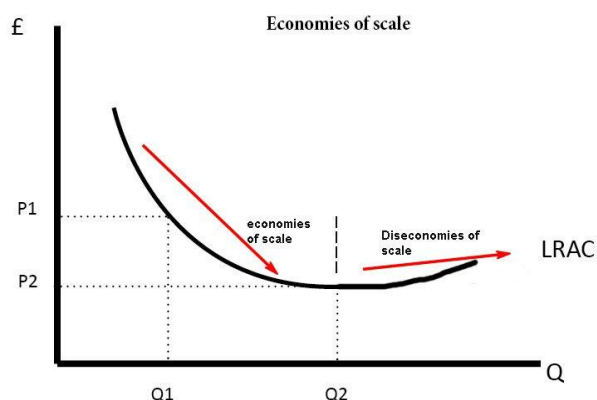
In the short run, capital costs fixed, diminishing marginal returns refers to output produced with each new variable input.

In the long run, all costs are varied, diminishing returns to scale shows how increase in output % is less than increase in input%

(Short run) Diminishing Marginal Returns factor增加 其他不变

The law of diminishing marginal returns states that with every additional unit in one factor of production, while all other factors are held constant, the output per unit will increase up to a point then decreases. For example, a firm hiring more employees while keeping the same office space can increase total output because the idle machines may have no one to utilise. MP initially increases, but every additional employee produces less additional output than the one before him if the machines are all occupied. The total output can decrease at some point, for instance, the same firm hires too many employees who get in each other's way and eventually become unproductive.

Reducing the impact of diminishing marginal returns may require discovering the underlying causes of production decreases.

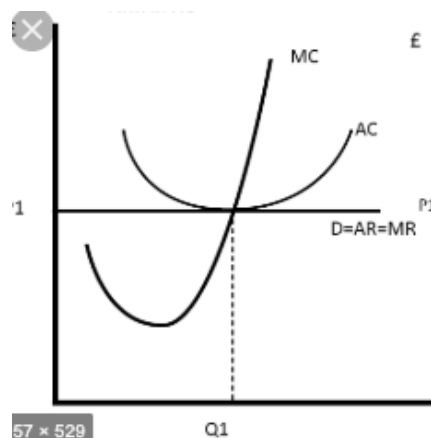
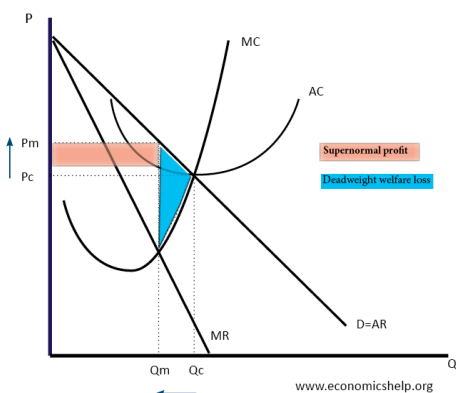


(long run) Decreasing returns to Scale= diseconomies of scale 建立在所有factor一起增加

On the other hand, returns to scale refers to the proportion between the increase in total input and the resulting increase in output. For example, if a soap manufacturer doubles its total input but gets only a 60 percent increase in total output, then it can be said to have experienced decreasing returns to scale. This is also associated with diseconomies of scale where average cost of production increases with increase in inputs. This may be caused by:

- Communication inefficiency: levels of departments
 - Lack of communication
 - Cause conflicts
- Poor worker motivation
 - Get bored, care little about their work
- Regulated
 - Subjective to anti-competitive legislation → additional costs in lawsuits

(b) Using diagrams, compare and contrast the market structure of monopoly with that of perfect competition.



A monopoly market structure is defined as an industry wherein firms possess monopoly power (price making ability) and usually has one dominating firm, very high barriers to entry and is a price maker. In contrast, a perfectly competitive market consists of many small firms and buyers, lower barriers to entry, homogenous products making the firms price takers.

Comparing profits: (normal vs abnormal)

In the long-run, the perfectly competitive firm produces with normal profit (zero economic profits), shown by how at the production point, where the firm produces at Q_1 , P_1 , where marginal revenue is equal to marginal cost. In SR, even though some perfectly competitive firms may earn an abnormal profit, due to low barriers to entry, it attracts other firms to join in which increases supply and drives the price down. Whereas, monopolists produce at Q_m , P_m , and can make abnormal profits in the long-run, as it has high barriers to entry that prevent new firms from entering (for instance, economies of scale, branding). This is shown by orange rectangle earned as economic profit.

Research and development:

The abnormal profits in a monopoly mean that they can undertake research and development. This is unlike perfect competition, where firms may have no incentive to invest because they only earn normal profit and could only take advantage of selling more products, they may lack the resources to do so. For instance, in the 2012 fiscal year, Microsoft invested in R&D, spending \$9.8B to enhance productivity and embrace new technological trends. Thus the spending of abnormal profits on R&D may help develop the lower price of goods, since firms may pass the lower production costs faced by more productive technology onto consumers in the form of lower prices, and also create positive externalities for firms that use Microsoft applications that are now of higher quality and productivity. LRAC may decrease over time.

Comparing allocative efficiency:

Allocative efficiency is achieved by the perfectly competitive firm in the short and long-run, because at $MR=MC$, the Marginal benefit, extra benefit derived from consumption of each extra unit, is equal to MC and thus collective social satisfaction is maximised (at Q_{pc} , see fig 1). Whereas, in a monopoly, the production point, Q_{pmax} , is lower than the allocatively efficient production point, Q_{pc} , and $MB > MC$, meaning more benefit is derived than cost for each extra unit produced and society would benefit from

more units produced; thus there is an underallocation of resources towards production, which cause the DWL, the vertical distance between MB and MC for the quantity that is underproduced ($Q_{pc} - Q_{pimax}$).

Comparison of technical efficiency:

In addition, there is also technical efficiency in a perfectly competitive market at Q_{pc} , as where $MC=MR$, the firm produces at minimum ATC. Whereas the firm in a monopoly would produce to the left of the minimum ATC and thus does not achieve technical efficiency, defined as when maximum output is produced from amount of inputs are used in the most efficient way. In addition, monopolists are likely to experience X-inefficiency, meaning that they produce above ATC; this is because, unlike perfect competition, where there is free entry of new firms that place competitive pressures on incumbents, monopolists are single, dominating firms and thus may not have the discipline to evaluate cost structures and seek lowest-cost production methods, and may have X-inefficiency.

Stateholders:

Consumers may suffer in a monopoly. This is because they now consume restricted output of Q_{pimax} and higher price P_m , relative to that of a perfectly competitive market, at lower Q_{pc} , P_{pc} . This means that monopolies may exploit consumers to their advantage; Epi-pen, knowing the low PED of the good due to it being a necessity for those who require the injection, and that they possess significant monopoly power due to the little substitutes people can choose from, hiked prices by 400%, knowing that quantity would decrease by a smaller percentage and they would earn higher revenue. This may make lower-income earners worse off as they are forced to buy the good that may be a necessity and cannot find lower priced substitutes.

Economy of scale:

Unlike perfectly competitive firms, where they only produce in small firm sizes, monopolists can expand and take advantage of economies of scale, meaning they can increase output while ATC decreases. This means that they can consider expanding firm size on the downward portion of LRATC from SRATC to SRATC₃, where the minimum of SRATC is equal to the minimum of LRATC, thus at the minimum efficient scale, Q_{mes} .

This can be shown on a monopolists' market curve as a shift of MC_1 to $MC_@$, thus resulting in a lower price and higher quantity that may correspond to that of the perfectly competitive firm at Q_{pc} , P_{pc} , which means it has now achieved allocative and technical efficiency. (graph). For instance, Amazon (has monopoly power), has transformed from a mere bookseller to a dominating firm in the e-commerce industry as it can now spread fixed costs such as rent and advertising fees over a larger customer base, thus reducing prices for customers; in addition Ford in the 1930s had significant monopoly power due to it being the only car brand for purchase and thus took advantage of economies of scale, using assembly lines to improve productivity, thus allowing labour specialisation and lower costs and thus prices. Thus economies of scale allows the monopolist to produce at lower costs and prices. In contrast, perfectly competitive markets due to relatively small size cannot expand economies of scale; for instance, Victoria, Australia's Queen Victoria market exhibits characteristics of a perfectly competitive market, with homogeneous goods supplied, and they cannot expand firm size with their small scale of production.

(a) Explain the factors which might influence the cross-price elasticity of demand between different products.

XED: % change in quantity demanded for x in response to % change in price for y. A positive XED indicates that when the price of one product increases the demand for the other product also increases. A negative PED indicates that when the price of one product increases the demand for the other product decreases. This indicates that the products are complements. The larger the negative value, the greater the complementary between the two goods. Whereas 0 indicates there are no relationship b/w the two products, This indicates that the product substitutes. A negative XED= complements

- Price influence XED
- E.g: Cola and pepsi has a high XED of 0.8, they substitute each other well and the consumers can switch easily from one to another D
- E.g: CD and CD players

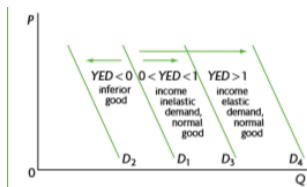
(b) Examine the importance of income elasticity of demand for the producers of primary products, manufactured goods and services.

$$\text{income elasticity of demand} = YED = \frac{\text{percentage change in quantity demanded of good X}}{\text{percentage change in income}}$$

$$YED = \frac{\% \Delta Q_x}{\% \Delta Y}$$

YED equation:

- YED: the responsiveness of quantity demanded with respect to income changes
- YED<0: inferior goods
- YED<1: necessities
- YED>1: luxuries goods, easily foregone
- 0<YED<1 → Primary productions=necessities=not necessarily going to buy more as income increases, thus this sector shrinks as income increases
 - In LEDC, PED for food is 0.8, quite inelastic as well as YED for food is low as they are necessities, they tend to have a larger share of market in agriculture products.
 - Central African Republic has over 50% GDP devoted to agriculture product
 - AUD 3%
 - MPC of people are high for low income earners
- The manufactured goods and services sector increases in expense of the commodities as income increases because % increase in Qd in greater than % increase in income



- E.g: flights have YED of 5.82

2013 Nov TZ0

Section A:

1.

(a) Using a price ceiling diagram, analyse the impact a maximum price might have on the market for food.

Price ceiling is the legal maximum price that firms are able to sell, it is usually below the market equilibrium price. Government impose this to make goods more affordable for low-income earners.



As shown in the diagram, when a price ceiling is imposed by the government on food such as bread, P_c is lower than P_m which creates permanent shortage at P_c . Quantity demanded is greater quantity supplied meaning that society would be better off producing more bread as some consumers don't have the access to bread, their needs and wants are not fulfilled. For firms, they are worse off as they used to produce at Q_m with P_m and now they produce less at Q_s and price decreased to P_c , meaning their profit decreased. The Deadweight loss is the area between Q_s and Q_m , whereby society would be better off allocating more

resources towards producing bread, MB is greater than MC .

As producers are only able to produce at Q_s and Q_d will be always greater, the shortage is present, the impact of a price ceiling is that it results in non-price rationing.

(b) Discuss the policies a government might use to make food more affordable to low income groups.

2.

(a) Explain why governments impose indirect taxes.

- To discourage consumption of demerit goods
 - Australia 12.5% each year increase in cigarettes rise to 40 in 2020, decreasing 6.1% sales
- A source of government revenue
 - Petrol 40 cents/litre, generate 12.4 billion per year
- Improve allocative efficiency
 - Reduce negative externalities associated
 - Mexican soda tax, 8% sales tax on unhealthy food (chips)

(b) Discuss two possible government responses to threats to sustainability.

Sustainability: the ability of something to be maintained or preserved over time. Government promotes sustainable development which means the present needs and wants can be satisfied without compromising the ability of future generation to meet their needs.

Common access resources are finite but non-excludable

E.g: DDT used in vietnam war→ devastating effect on the environment, crops cannot be grown in areas with DDT→ unsustainable as resources are depleted, cannot be used in the future

Legislation is a possible solution

- In 1987, government over the world banned DDT
- Easy to implement, force consumers to reduce consumption
- Avoid technical difficulties as to how much should be taxed and what production method used may contain DDT
- However, costly to enforce, opportunity cost arise

Subsidisation

- E.g: burning of coal for electricity, emmit CO₂ which is a type of green house gas, pollute air
- Help the R and D process to switch to alternative energy could reduce the destruction of certain common access resources
- Government opportunity cost

2014 May TZ1

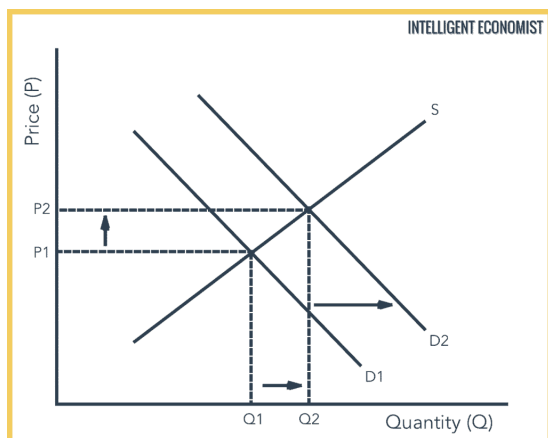
Section A

1.

- (a) Using diagrams, explain how a change in one of the determinants of demand might increase the price of rice and how a change in one of the determinants of supply might decrease the price of rice.**

Demand is the willingness and ability of consumers to purchase goods and services at different prices and supply is the willingness and ability of suppliers to produce goods and services at different prices.

Consumer confidence is a measure of the general expectations about the future state of the economy

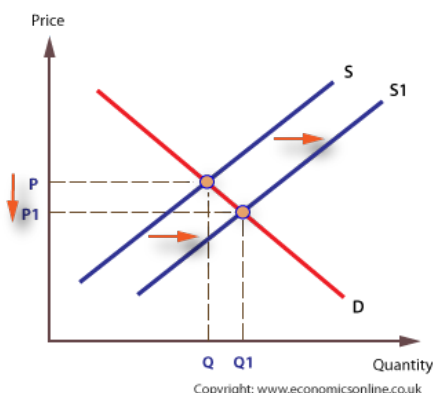


As shown in the graph, demographic changes can have an impact on demand. A growing population needs more food and services which increases D1 to D2, especially rice, in this case, can be considered as a necessity for many people so demand shifts to the right. In the short run, producers cannot respond to the changing demand due to the long production period of rice. At original price, there is a shortage and in this competitive market, when shortages arise, consumers may bid up the price to result in P2, a new equilibrium with an increased price. In the long run, with the world population doubled since 1970s, an increase in demand and profits naturally causes

suppliers to allocate more resources towards rice production, producing a greater quantity from Q1 to Q2 with increased price sold from p1 to p2. As price increases, some consumers may drop out of the market, resulting in a low standard of living.

The availability of substitute will have an impact on demand. For example, people can easily switch from rice to other cheaper grains such as wheat and oats. As the price of rice increases, more consumers drop out of the market due to unable to afford or unwilling to purchase rice. Instead, they will turn to cheaper substitutes such as wheat(Flour). Thus the demand for rice decreases from D1 to D2.

Consumer surplus is the extra utility that is gained from paying a price below what they were prepared to pay.

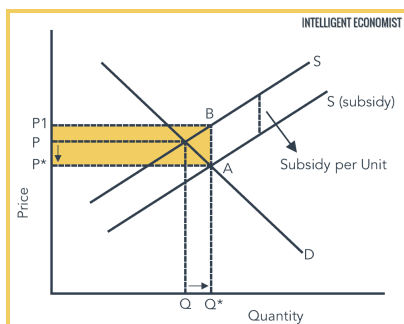


As shown in the graph, with the advanced technologies, the productivity (goods and services produced per unit of time) of growing rice increases which means that the cost of production per unit of rice decreases with the decrease in the real cost of labour (some labour are replaced by more efficient capitals). This causes S to shift to S1 with increased quantity produced from Q to Q1. Price decreases subsequently from p to p1 as at the original price there is a surplus of rice, firms will try to clear surplus stock of rice by lowering their prices, becoming more competitive in order to attract more buyers. A new equilibrium is reached with Q1 produced and sold at P1, consumers pay a lower

price to gain more outcome, their purchasing power increases which may result in a higher level of living standard.

(b) Discuss the consequences of providing a subsidy on the production of rice for producers, consumers and the government.

Subsidies are usually a form of assistance from the government to individuals or groups and it can be in the forms of cash, direct transfer or tax concession. In subsidising the farmers, the government is ultimately trying to protect food security in a nation and to provide a stable source of income for the farmers so that they would stay in the land to produce rice.



As shown in the graph, S shifts to the right as the government provides farmers with subsidies (the vertical distance represent this), lowering the cost of production for firms. As rice is considered to have a low PED and PES, the revenue of the firms fluctuate greatly. In a weather shock, though the price might be high, most of the firms are unable to respond to the price as their rice crops have been destroyed. In a good season, with increased production of rice and people are not necessarily going to consume more rice, the firms have to compete by lowering their prices by a large amount, resulting in a loss in total revenue. Thus, government in

some Asian countries heavily subsidised rice as rice is a necessity for many people. In doing so, it

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provides the rice farmers with a source of regular income. The price that they receive is at P_1 compared to P which they receive in a free market, with increased revenue, they are willing to supply at Q^* increases from Q . In this sense, producers are better off as they receive a higher price and sell more quantity, their total revenue increases from $Q \times P$ to $Q^* \times P_1$.

Consumers are also better off with government subsidising rice as price decreases from P to P^* for them. This means that the consumers can purchase more quantity from Q_1 to Q^* with a lower price, increasing their purchasing power and subsequently increases their living standards. They can allocate more of their disposable income (income after tax) towards other areas where their satisfaction can be maximised and their needs and wants can be fulfilled.

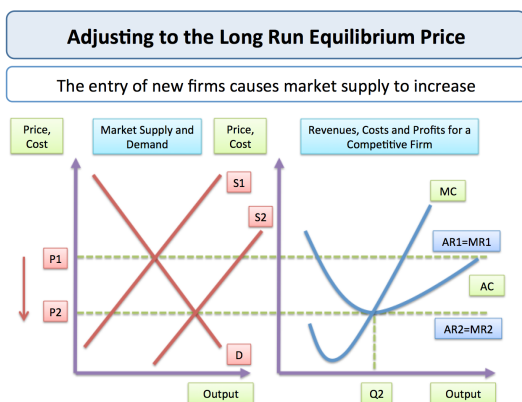
Both consumers and producers gain while government is worse off as the subsidies are burdens on government revenue. The amount shaded in yellow represents the government revenue that has to be allocated to subsidising the farmers. Thus, this creates an opportunity cost (second best alternative foregone) as the government are unable to allocate scarce resources to other areas such as education and training, healthcare and infrastructure that would eventually boost the economic activity within a nation.

Overall, allocative efficiency (the combination of goods and services that maximise the society's wellbeing) is not achieved as government waste their valuable resources on subsidising farmers. At Q^* , MC greater than MB which means there is an overallocation of resources towards the production of rice and society would be better off producing less rice, therefore society is worse off as a whole.

2.

(a) Using diagrams, explain why a perfectly competitive firm can make economic (abnormal) profit only in the short run.

Perfectly competitive market consists of many small firms and buyers, lower barriers to entry, they sell homogenous products and the firms are the price takers and they benefit from selling as much as they can at the world price.



As shown in the two graphs, in the short run, the firms may be able to earn abnormal profits equal to $(P_1 - ATC) \times Q_1$. For example one bubble tea store opens and earn abnormal profits, this encourages new firms to enter the bubble tea market due to the low barriers to entry and the low set up costs, resulting in the supply shifting to the right (s_1 to s_2) as firms are incentivised by the higher prices and revenues. The production increases which drives down the equilibrium price from P_1 to P_2 , reaching a new equilibrium. In the long run, P_1 will be greater than ATC but the price will fall to the point where $P_2 = ATC$ as shown, whereby $MR = MC$ meaning that the firms operate with zero economic profit and reaching the allocative efficiency (maximum utility from combination of goods and services).

At this point, consumer and producer surplus is therefore maximised. In the short-run, the firm may achieve allocative efficiency but not technical efficiency because they are not operating at the minimum ATC. In the long run, perfect competition is able to achieve allocative and technical efficiency so society well being is maximised.

(b) Discuss the consequences of a perfectly competitive industry becoming a monopoly

Refer to 2013 May TZ2

Good consequences

- Earning economic profit, thus can engage in R&D
 - Microsoft invested in R and D, spending 9.8 billion to increase new technology
- Achieve economies of scale which pass on the lower prices
 - Ford take advantage in 1930s to increase productivity through assembly lines

Bad consequences

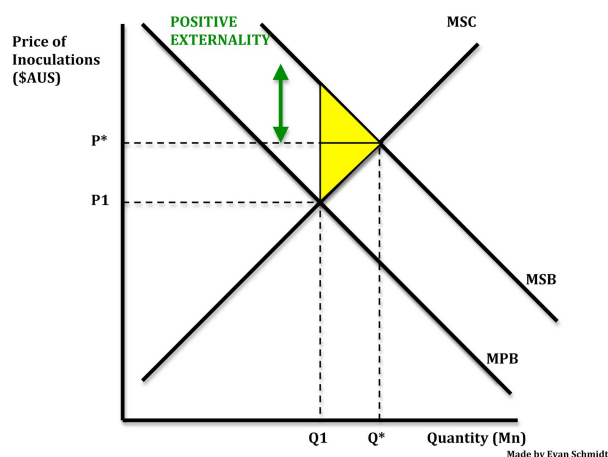
- Allocative and technical efficiency worse off
 - Welfare loss in monopoly
- Consumers usually pay higher price to purchase less quantity, lower standard of living
 - Epi-pen
 - Turvada

2014 May TZ2

Section A

1.

(a) Analyse the private and external benefits associated with the consumption of university education.



Positive externalities: 3rd party → extra unknown benefits → flow on to society

Merit Goods: Said to be desirable for consumers but are generally under-consumed and under-provided in a free market. It tends to be unaffordable for low income workers to pay due to the low levels of income. Consumer may not fully aware of the full benefits and so they will not demand certain products in the optimal quantity.

Education is considered to be a merit good because not only people would gain higher skills to work in more value-adding jobs to receive a higher income, the community would also benefit from an improved skills labour force because they can be more efficient and produce more products per unit of time. For example students who has taken tertiary studies can work in a position beyond the minimum wage jobs

and thus they may have more disposable income (income after tax) to be spent and they may have a higher material living standards. They also can use their disposable income to invest into things such as bonds, housing or shares to further improve their material living standards. To society, the workers with education may have an awareness of the importance of healthcare, thus less work days may be lost to health problems. Also, lower crime rates may be associated with more education and thus lead to a safer environment for the residents.

As shown, MSB(benefit gained from society consuming one unit of the goods or services) lies above MPB (benefit gained from individual consuming one unit of goods or services), which means that there are extra flow-on benefits to society when individual engage in education. (shown as the vertical distance between MPB and MSB) There is a welfare loss at Q_1 where $MB > MC$, meaning society would be better to produce more education services to maximise society's wellbeing.

(b) Evaluate the policies a government might use to increase the consumption of university education.

Refer to 2018 Nov.

Direct provision

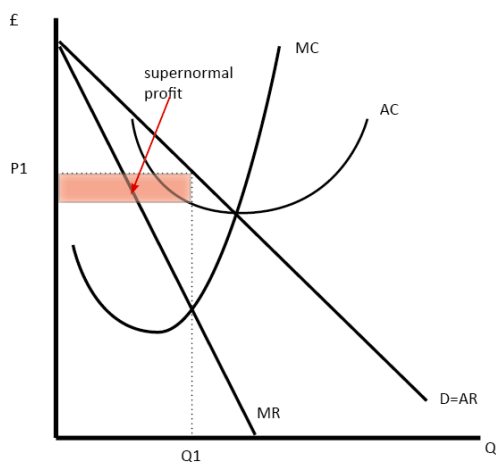
- Direct provision funding to uni

Subsidies:

- AUSTUDY
- Plc 4000 subsidisation

2.

(a) Using a diagram, explain why firms in monopolistic competition are neither allocative nor productively efficient.

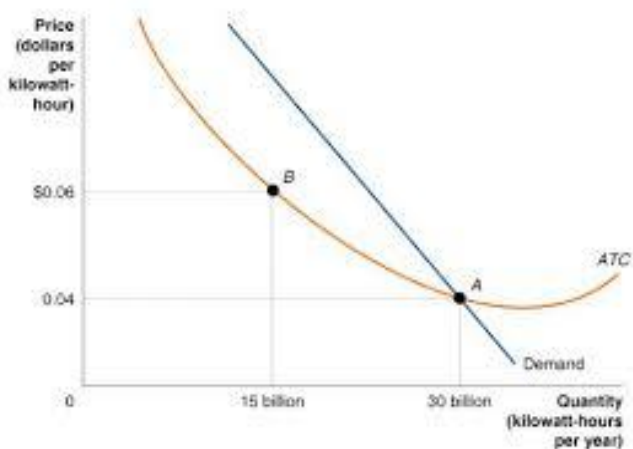


- Large numbers of buyers and sellers
- Low barriers to entry
- Undertake product differentiation means they have some market power which made them face downward pressure-demand curves
 - Shown in graph, allocative not achieved as at the point of production, $MB > MC$, society better off production more of these products
 - Technical inefficiency → not crossing at the minimum of ATC at point of production, not maximising the utility of scarce resources

(b) Examine the view that the market for food is more beneficial to consumers if dominated by a monopoly retailer (supermarket) rather than by a large number of small shops operating under monopolistic competition.

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Monopolistic competition refers to the market with large buyers and sellers, low barriers to entry but obtains some degree of market power through product differentiation (firms making their product different compared to other similar products made by another firm) and thus they are price makers. Monopoly is usually dominated by one seller, high barriers to entry and has a large degree of power which made them price makers.



Natural monopoly means a single firm can produce more effectively than 2-3 single firms. LRATC only decreases after large output has been achieved and thus with only a single dominating firm within the small market, the firm is more likely to achieve economies of scale as their fixed costs are spread over a larger base. As shown in the graph, with separate single firms in a monopolistic market, the average total cost would be higher at point B due to their inability to expand in size in order to cut down the prices. For monopolies, they can operate at point A whereby their cost of production can be decreased due to economies of scale and consumers can be better off from the pass on benefits of the lower prices. In the case of supermarkets, in Australia the top three supermarkets occupy over 80% of market share which gives them extensive

monopoly power. (they can be price makers) Especially Aldi, which is in the top three supermarkets has a low price on a range of goods and services compared to other small markets.

However, Monopoly is most likely gonna make consumers worse off bc they have more monopoly power. Monopolistically competitive markets involve goods that have substitutes that are similar, and thus raising the price would result in a greater decrease in quantity demanded by consumers as they buy substitutes that are more affordable; this results in a more elastic demand and marginal revenue curve than that of a monopoly, and thus at $MR=MC$, quantity produced is likely to be higher and price may be lower, as monopolists have more market power.

Monopolistic competition disadvantages includes resource wasted on marketing and advertising, excess usage of valuable resource, Allocative and technical efficiency is not achieved and excess capacity.

- 1) Allocative Efficiency and welfare losses. Allocative efficiency is unachieved, as at the point of production, Q_{mc} , $D=$ Marginal benefit, the extra benefit derived from consumption of each extra unit, is higher than $S=$ Marginal cost, the extra benefit derived from production of each extra unit, which means society would benefit from increased allocation of resources towards the good's production. This thus results in a welfare loss equal to the vertical distance between MB and MC for the quantity of output underproduced relative to Q_{pc} . (Monopoly has more market power because no substitutes)
- 2) Technical efficiency if unachieved as at Q_{mc} , where $MR=MC$, ATC is not at its minimum. It thus does not produce at its capacity output, where its capacity is fully used ?
- 3) Competition and costs. X-inefficiency
- 4) Economies of scale - draw firms. Maybe explain amazon? Ford? Show MC - MCes
- 5) R&D because abnormal profits in the long run due to high barriers to entry - Microsoft

2014 November

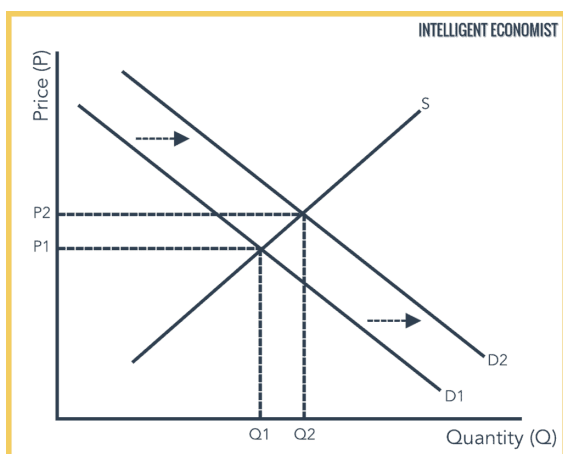
Section A

1.

(a) Using diagrams, explain the signalling and incentive functions of price

- Price mechanism
- From demand and supply side

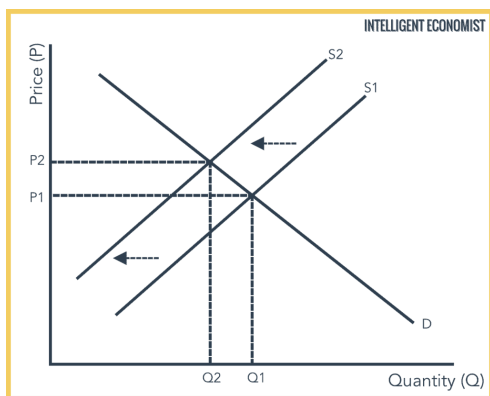
Demand increases due to change in taste and preferences:



- decreasing marginal utility means each additional unit consumed by consumers has less satisfaction than the previous unit → thus only incentivized to purchase more when price is lowered
 - On the other hand, as price increases, quantity demanded decreases, more consumers are incentivized to drop out the market because they cannot afford it anymore or other substitutes are more attractive. Law of supply, as the price increases, quantity supplied increase → suppliers can earn higher revenue from the high prices, they tend to allocate more resources to this area as they find profit-seeking opportunities.

Supply decreases due to weather shock

- In 2011 90% bananas in Aus are wiped out by the cyclone. Price increases to 12/kg, demand for apples increases which effectively increases the price from 3.99 to 6.99.
- Law of demand: high price → less purchase → switch to substitutes (apples)



- suppliers will attempt to maximize their profits by increasing the quantity offered for sale but in the short run they are unable to do so because bananas take a long time to grow. But in the long run, they tend to respond to the high prices in the market to increase banana production.

Price changes send contrasting messages to consumers and producers about whether to enter or leave a market. Rising prices give a signal to consumers to reduce demand or withdraw from a market completely, and they give a signal to potential producers to enter a market. Conversely, falling prices give a positive message to consumers to enter a market while sending a negative signal to producers to leave a market. For example, a rise in the market price of 'smart' phones sends a signal to potential manufacturers to enter this market, and perhaps leave another one. Similarly, the provision of 'free' healthcare may signal to 'consumers' that they can pay a visit to their doctor for any minor ailment, while potential private healthcare providers will be deterred from entering the market. In terms of the labour market, a rise in the wage rate, which is the price of labour, provides a signal to the unemployed to join the labour market. The signalling function is associated with shifts in demand and supply curves.

The incentive function of the price mechanism

An incentive is something that motivates a producer or consumer to follow a course of action or to change behaviour. Higher prices provide an incentive to existing producers to supply more because they provide the possibility of more revenue and increased profits. The incentive function of a price rise is associated with an extension of supply along the existing supply curve.

- (b) Evaluate the view that the market failure caused by the consumption of demerit goods is best dealt with taxation

Refer to 2016 May TZ2

2.

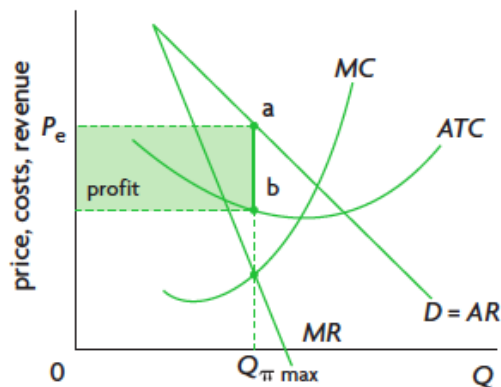
- (a) Explain why firms might wish to collude.

Oligopoly

Oligopoly firms will tend to adopt satisficing behaviour. An oligopoly market structure consists of small number of large firms that have large market share, high barriers to entry due to huge set up cost, legal barriers such as patents and copyrights.

A cartel is a formal agreement between firms in an industry to take actions to limit competition in order to increase profits it therefore involves formal collusion (or open collusion). The agreement may involve limiting and fixing the quantity to be produced by each, which results in an increase in price; fixing the price at which output can be sold; setting restrictions on non-price competition (such as advertising); dividing the market according to geographical or other factors; or agreeing to set up barriers to entry. Whatever the case, the objective is to limit competition, increase the monopoly power of the firms, and increase profits

- It usually involves price-fixing with **cartel** agreements to **limit competition**
 - Hold price constant, keep saving from technological development, agree to raise prices for the same amount, share markets
- They divide the market using the following strategies:
 - Based on historical market shares
 - Non-price competition
 - Based on known oil reserves
 - Geographically
- Collectively, they behave as a monopolist would



- The MC curve is the sum of all MC curves of firms in the cartel
- Profit maximising for them is $MC=MR$ at P_e
- Q is the total quantity produced and should be divided within the group of firms
- **OPEC cartel**: composed of 13 oil companies, they try to raise the world price by limiting the total output, each company is assigned with a specific quota to produce
- 2000, Amcor and Visy entered into a cartel to **fix fibreboard packaging prices** → 97 million for the settlement payment
- Cussons and Unilever entered a cartel to stop supplying standard concentrate **laundry detergent** and only supply 'ultra concentrate' in 2009
 - Though the cost of making decreases, the companies agree not to pass down the low cost to consumers

Refer to 2016 May TZ2

(b) Discuss the view that governments should always try to prevent a monopoly occurring in a market

Yes- monopoly sell at high prices but low quantity produced, allocative efficiency worse off. -
Epi-pen price increased by 40%
MC costing, AC costing

NO -Natural monopoly

Refer to 2013 May TZ1

2015 May TZ1

Section A

1.

- Explain how changes in price work to reallocate resources in a market.
- Discuss the view that the overuse of common access resources is best addressed by government.

2.

- (a) Explain why prices tend to be stable in oligopolistic markets.
- (b) Oligopolists often possess too much monopoly power. Evaluate whether governments should intervene in oligopolistic markets.

2015 May TZ2

Section A

- 1. Same as TZ1
- 2.

- (a) Explain two possible government responses to the abuse of monopoly power.

Refer to 2013 May TZ1

- (b) Evaluate the view that monopolies, despite their inefficiencies, may often be considered desirable.

2015 November TZ0

Section A

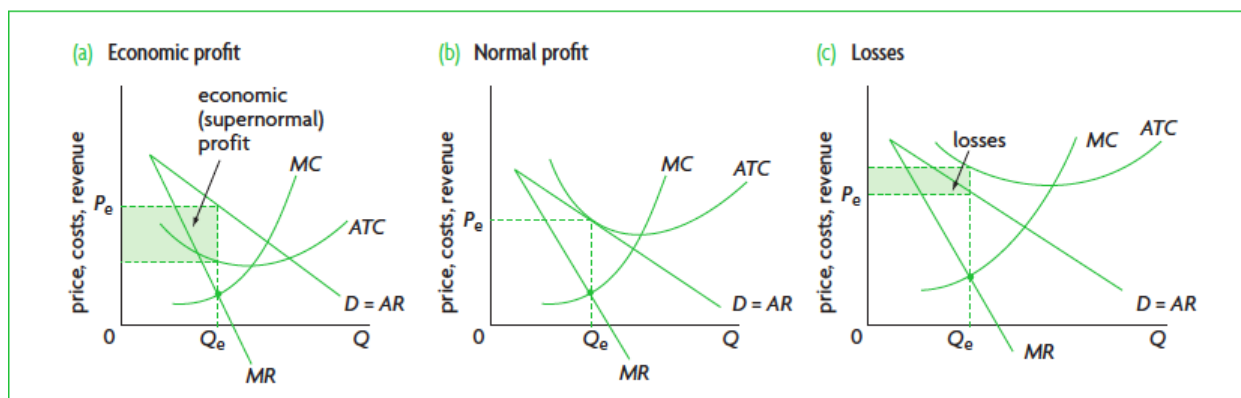
- 1.

- (a) Explain why a government might decide to impose an indirect tax on the consumption of cigarettes.
- (b) Discuss the possible consequences of the imposition of an indirect tax on cigarettes for the different stakeholders in the market.

Refer to 2016 May TZ

- 2.

(a) Explain why a firm in monopolistic competition will make normal profit in the long run
Profit maximisation/ loss-minimising level of output: $MC=MR$, due to some degree of market power, they are able to sell above the price greater than MC.



- Supernormal profits
 - It is when $P > ATC$, as shown in the first graph
 - In the long run, the supernormal profits attract other firms to enter the market, due to low barriers to entry. As more competitors enter, consumers may be attracted

away from the existing firm, so demand shifts leftwards until it reaches the point with normal profits where $P=ATC$, demand curve is at a tangent to ATC (graph 2)

- Loss-making firms
 - It is when $P < ATC$, shown in the last graph
 - In the long run, some firms may shut down and leave the industry. The consumers switch to remaining firms, so demand shifts rightwards for existing firms until losses disappear, achieving normal profits at $P=ATC$, the demand curve is at a tangent to ATC
- Thus, **in the long run, the monopolistic competitive firms will always end up with normal profits.**

(b) Evaluate the view that monopolistic competition is a more efficient market structure than monopoly.

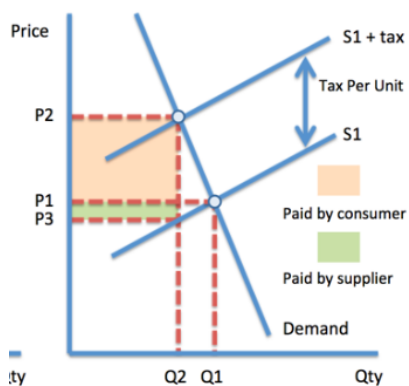
2016 May TZ1

Section A

1.

- (a) Explain how the incidence of an indirect tax depends on the price elasticity of demand and the price elasticity of supply.

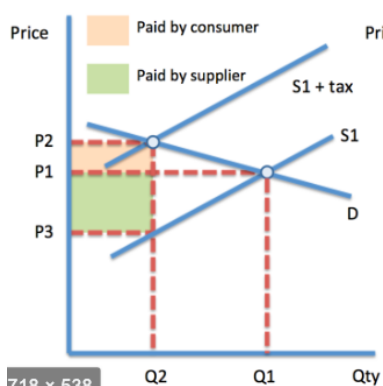
Indirect tax refers to the tax that are placed on goods and services irrelevant to the income each person earns and tax incidence refers to the burden of a tax. Price elasticity of demand measures the responsiveness of quantity demanded in respect to price changes and the price elasticity of supply measures the responsiveness of quantity supplied with respect to price changes.



As shown in the graph on the left, due to the imposition of indirect tax for petrol which is 40 cents per litre in Australia, S_1 shifts to S_2 as cost of production increases, the vertical distance represents tax per unit of good or service. In this incidence, demand is inelastic which is representative of the steep demand curve, % change in quantity demanded would be less than the % change in prices, PED less than 1. As price increases from P_1 to P_2 , the quantity of petrol demanded only drops from Q_2 to Q_1 because it is considered to be a necessity and people are not necessarily going to respond to price changes.

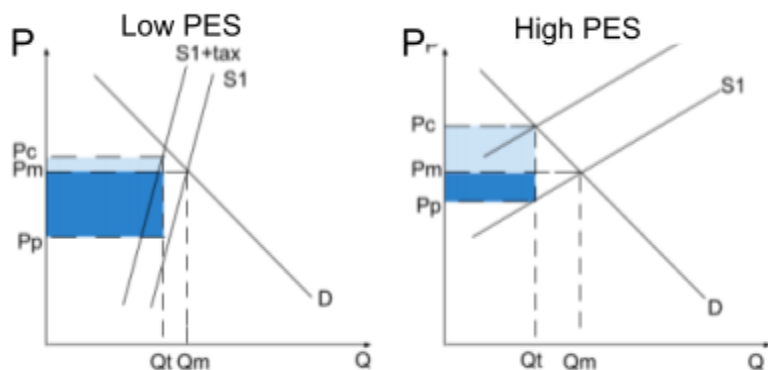
Therefore, knowing that they will only lose a small proportion of sales, producers are able to pass on the tax to consumers, paying $Q_2 \cdot (P_3 - P_1)$

of the tax whereas consumers pay $Q_2 \cdot (P_2 - P_3)$.



On the other hand, when demand is elastic, represented by the flat demand curve, % change in quantity demanded would be greater than % change in prices. For example, flights which are considered to be luxuries have a high PED which is greater than 1, the price increases from P_1 to P_2 but the quantity falls from Q_1 to Q_2 as flights can be

easily foregone. When a tax is imposed, producers in this incidence would have to consume most of the taxes as they know they would lose a larger proportion of consumers, they pay more $Q_2^*(P_1-P_3)$ than consumers $Q_2^*(P_2-P_1)$.



As shown in the diagram, when supply is inelastic, represented by the steep supply curve, % change in quantity supplied is smaller than % change in prices. Due to the inability to store and the long production period, the products with low PES will tend to be commodities or primary products that have a low PED. This means it will be impossible for producers to pass on the tax incidence on consumers

because an increase in price will result in a larger proportion of consumers loss. Thus, they pay $Q_t^*(P_m-P_p)$ more than consumers $Q_t^*(P_c-P_m)$. When the supply is elastic, PES greater than one, meaning the % change in quantity supplied is greater than % change in prices. As shown in the graph, producers pay $(Q_t^*(P_m-P_p))$ less with respect to consumers $(Q_t^*(P_c-P_m))$.

(b) Discuss the consequence of imposing an indirect tax on unhealthy food.

- Indirect tax
- Unhealthy food → demerit goods → cause health problems → higher burden
- Positive: reduce consumption of negative externality goods
- E.g: Mexican Soda tax which directed to sugary drinks and at the same time, they impose 8 percent sales tax on junk foods including chips, cookies, candy, and ice cream. This effectively reduces the purchase of sugary goods by 6%.
- **Refer to 2016 TZ2**

2.

- (a) Explain why firms may not always pursue the goal of profit maximisation
- (b) In monopoly, economic profit can be earned in both the short run and the long run. Examine the role of barriers to entry in earning economic profit.

High barriers to entry which prevents other new entrants to enter the market and compete with the monopolist.

- Economies of scale
 - Unlike perfectly competitive market where set up costs are low and new companies can enter to increase supply, economies of scale is one barrier for new firms to entry as existing firms already achieve low cost by increase size of the operation
 - Fixed cost spread on a large base
 - Especially in a market where demand may be low to share market and new firms may easily loss a temporary price war and shut down

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- Thus the monopoly is able to maintain the high prices and receive economic profit in the long run
- Brand loyalty: development of a unique life style associated with a product
 - Consumers may think this product is superior and thus see the other similar products not as viable substitutes
 - If existing firm already achieves this concept, new firms they may not enter as there is a high risk associated. Even if they spend a large set up cost, they may not necessarily going to capture a large % of market share as consumers do not want to switch to other substitutes
 - Thus high prices maintained
- There are legal barriers to compete and enter the market
 - Patent: government grant exclusive seller of the product for a period of time
 - Truvada: HIV medication → 2000 in America because gov. Grant patent to them and only 8 in Australia
 - Other firms are not allowed to sell this medication in America which resulted in its high price compared to Australia

2016 May TZ2

Section A

1. (a) Market failure can occur when there is asymmetric information, abuse of monopoly power and positive externalities. Explain why any two of these represent market failure.

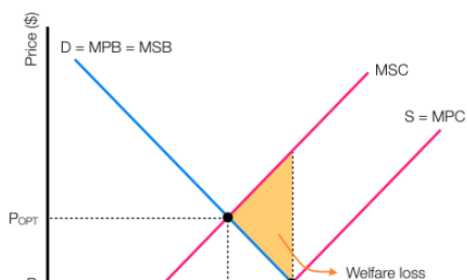
Refer to 2013 TZ1 and 20

b) Evaluate the view that regulations are the most effective government response to the market failure of negative externalities.

Regulation are policies that government undertake to try and correct the market failure. Negative externalities are the extra costs imposed on the third party that is not involved in the transaction from the consumption of goods and services. Demerit goods refers to goods that are undesirable for consumers but the damaging effects are unknown or ignored and they are often over consumed and overproduced in a free market.

Regulations can also affect the buying behaviour of the consumers, forcing them to decrease their consumption of demerit goods. For example, in Italy, by 2024, the government banned all the diesel cars in the city as over 84,000 people die due to air pollution. This may be more effective in alternating people's buying behaviour as the tax still depends on people's incentive, some buyers would not have the incentive to switch to other healthier substitutes. The regulation incentivize the firms to seek other more environmentally friendly substitutes in the economy such as petrol or electric cars to reduce the negative externalities imposed on society.

- However, costly to government, unforeseen black market consequences



Production externalities: MPC shift to MSC

Carbon tax. Internalising the externality. Makes them seem subs. Gov rev can also subsidise.

2012 Aus imposed 12/ton, decreasing highly polluting coal by 14%, incentivising 28% to switch to alternative energies, carbon emission decreases by 0.8%

Technical difficulties. Which production methods produce pollutants, which pollutants cause the most harm, and assigning a monetary value that is equal to the external costs split onto society and will correct the overallocation.

Carbon leakage, move firms to other untaxed areas. Also structural unemployment. International cooperation may reduce international competitiveness because price of good is now higher.

Unemployment...

If a necessity, such as electricity. Since ped is low, more burden is on consumers, and would thus reduce discretionary incomes significantly. In addition, the tax is regressive, bad for low income earners.

Tradable permits involve permits to pollute issued to firms by a government, that allow firms to produce a particular level of pollutants over a particular time period. The permits to pollute can be bought and sold among interested firms. If the firm can produce by emitting a lower level of pollutants than the level set by permits, it can sell its extra permits. This thus offers incentives to firms to cut back on emissions to boost profitability.

- cap and trade: can target an actual amount of emissions whereas ped causes uncertainty
- Carbon taxes make energy prices more predictable. Under cap and trade system, price of carbon may fluctuate even more, which poses as uncertainty for revenues of producers. And also they require certainty to plan ahead.
- It is easy to manipulate the distribution of permits for the benefit of supporters of the administration by wealthy investors, which may not be in the best interests of reducing environmental damage.
- Cap and trade systems require constant funding for the monitoring and enforcement of emission levels.
- Firms who may have large profits may purchase more than needed amounts of tradable permits, to drive up their prices. This would increase the set up costs of entering the market for new entrants and prevent them from entering and increasing the level of competition.

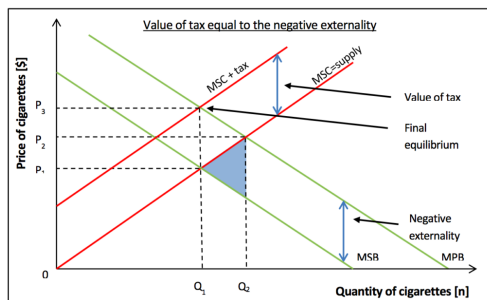


Figure 2: Value of tax equal to the negative externality

Indirect tax is tax that are imposed/levied by the government on goods and services, such as GST and excise tax. Usually, the government would impose the amount of tax equal to the negative externalities imposed on third parties. Cigarettes are considered to be a demerit good because it would have a negative impact on health issues and it might mean that the government has to spend more on healthcare, a larger burden on the society as a whole. Marginal social benefit (utility derived from each unit consumed by society) lies

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below marginal private benefit (utility of consumers consuming each unit). The free market outcome is at Q_2 where $D=S$, but at this level of production, society's wellbeing is not maximised due to the welfare loss, meaning society would be better off producing and consuming less of cigarettes as MC is greater than MB .

One way to correct the negative externalities is through government imposing an indirect tax on cigarettes. A key advantage of the indirect tax is that it can be effective in discouraging the consumption of cigarettes. In Australia, cigarettes will cost \$40 per pack in 2020 as the government increase the price of cigarettes by 12.5% each year for three years. It successfully decreases 6.1% sales of cigarettes. The excise tax (tax per unit of good) has the effect of shifting the supply curve from S_1 to S_2 as the cost of producing cigarettes are now higher than before, providing as an incentive for the firms to reduce production. Quantity supplied decreases from Q_2 to Q_1 with an increased price from p_2 to p_3 for the consumers, this serve as signal to the consumers to consume less cigarettes as now the prices increases, driving down the demand, demand curve shift from MPB to MSB , achieving the Q_{opt} at Q_2 with a higher price of P_{opt} , maximising society's wellbeing. The overconsumption of sugar may leads to higher health risk. For instance, larger chance of getting diabetes, high cholesterol level or cardiovascular disease (heart related disease). Moreover, it is evidenced in the Mexican soda tax which effectively reduces the purchases of sugary goods by 6%, partially solving the problem of negative externalities.

Another advantage is that the government will receive extra revenue. Government will be better off as they collect taxes that represent $(P_3 - P_1) \cdot Q$, they can use this revenue to provide other merit goods (goods that are beneficial for the consumers to consume and the extra benefits are either ignored or due to consumers' inability to purchase such products). For example, in Australia, there is a 40 cent per litre tax for petrol which enables the government to raise 12.4 billion for education, vocational training and vaccines. These will potentially boost society's wellbeing, making people's living standards higher, allowing them to have opportunities to work as they have higher skills, achieving allocative efficiency. (goods and services that are able to satisfy society's needs and wants)

However, there are downsides in imposing an indirect tax to reducing negative externalities. Black markets may develop as the demand for cigarettes are higher than the production in the market. Although the cigarettes tax decreases the consumption of cigarettes by 6.1%, it also increases 15% of tobacco sales in the black markets. These illegal acts would make society worse off as the cost of enforcing is high. This may be a burden for the government's revenue and opportunity cost (second best alternative foregone) exist as the government are not able to allocate to areas that are in need in Australia such as infrastructure projects that are able to generate greater economic growth in the future.

Also, price elasticity of demand for cigarettes is high, meaning the demand is inelastic, % of the change in quantity is less than % change in price, people are not necessarily going to buy less cigarettes due to the degree of addiction in the short run. In Australia, a larger percentage of people who smoke cigarettes come from low-income households who do not have the knowledge of the downsides of smoking cigarettes. This means that the excise tax of cigarettes represents a larger percentage of their income, the regressive (as income increases, the tax would be a smaller percentage of people's income) nature of it results in less discretionary income (income after purchasing necessities), the purchasing power of

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low-income earners decreases. This further decreases people's living standards as they cannot afford as many goods as they can before, equity worsens as the gap between the low and high-income earners increases.

Advertisement's key advantage in reducing the consumption of such good is that it can utilise the market power to change people's taste and preferences. In the 1980s, many people smoke cigarettes as they believe it is a fashionable and cool to do so. After the anti-cigarettes campaign strike, we as a new generation have full knowledge of the disadvantages of smoking cigarettes thus the consumption of cigarettes decrease dramatically, it has the effect of shifting MPB towards MSB, achieving the optimum quantity consumed.

However, it is costly, risky as it may not work due to high PED

In conclusion, it is difficult to determine whether indirect tax is the most effective way of reducing the consumption of demerit goods, as there are both negatives and positives to it. A combination of different policies may work better to achieve the ultimate quantity of goods that need to be consumed in the market.

2. (a) Explain the conditions necessary for firms in oligopolistic markets to engage in price discrimination.

Price discrimination is the practice of charging a different price for the same product to different consumers. For a firm to be able to practise price discrimination, the following must be held.

The price-discriminating firm must have some degree of **market power**, or some ability to control price; in other words, it must face a downward-sloping demand curve. Price discrimination can therefore occur in all market structures except perfect competition.

For instance, Amazon, that has significant monopoly power but not a monopoly, has been using a computer algorithm that predicts consumers' willingness and ability to pay for a product before leaving the site, and thus Amazon is able to give steeper discounts to those less likely to purchase it. Oligopolistic firms also often practise price discrimination; for instance, as Air Asia explains, the cheapest airline tickets are found when booked early, as booking late implies that the consumer is desperate and does not mind paying more. On the other hand, the perfectly competitive firm can sell any amount of output at the single price determined in the market; if it increases price to some customers, it will lose them to different sellers; and it would have no reason to lower price for some customers since it can sell its entire output at the market price. Therefore, the perfectly competitive firm has no possibility of charging different prices for the same good.

Consumers must be **separated from each other on the basis of some characteristic**, such as time, geography, age, gender, technology, income or other factors. Firms differentiate their prices on the basis of these characteristics. For instance, cinemas charge lower prices to children and older people, thus separating consumers by age. The price-discriminating firm must ensure that it is not possible (or at least is very difficult and costly) for any consumer to buy at the low price and resell at the higher price. If

resale were possible or easy, consumers would avoid purchasing from the higher price firm, and would try to buy the product from other consumers who had bought at the lower price.

Consumers **must have different price elasticities of demand (PEDs)** for the good. This is because consumers with a relatively low PED will be willing to pay a higher price for a good than consumers with a relatively lower PED. For instance, as shown above, Amazon charges consumers different prices depending on their PED.

(b) Discuss whether producers in oligopolistic markets should compete or collude. [15]

Firms in oligopolies face the incentive to collude to form a cartel, in a formal agreement between firms to limit competition usually by price-fixing agreements, which lowers quantity produced (illegal). By colluding and limiting competition they reduce uncertainties resulting from guessing how rivals will behave in strategic pricing (mentioned a), and maximise profits as a whole. For instance, evidence of collusion was found on Amazon; The Competition Markets and Authority fined 'Trod', a company that sold posters and frames, for agreeing with one of its competitors not to undercut each other's prices. Price and quantity in a cartel is decided via $MR=MC$, which results in Q_{pmax} and P_e , and profit indicated by shaded area.

-- Diagram

However, there are difficulties in maintaining a cartel as at the same time, firms face the incentive to compete by lowering price to capture a portion of its rivals' market shares. However, the lowering of price leads to all firms becoming worse off, with firms undercutting each other's prices, resulting in lower profits. Especially, in the event of a recession, firms have even stronger incentive to lower prices to cheat and maintain profitability of production, thus risking the collapse of the cartel. For instance, in 2011, despite not being collusive initially, in Australia, Coles did initiate a price war between itself and competitor Woolworths by cutting their own-brand milk to A\$1, with the supermarkets being very similar in the brands they offer, prices, layouts, weekly specials etc. However, as this saw decreases in its revenues, it has since directed more resources towards non-price competition, shifting its focus to service quality, social programs and connections with the community, which may help develop brand loyalty among consumers.

Ideally collusion leads to each firm having output where $MC=MR$, maximising profit for each individual firm and the cartel as a whole. However, if there are many firms who face different cost curves and have different demand curves due to different market shares and product differentiation, agreement on a common price is difficult. Since prices agreed upon by the cartel is common to all firms, firms with higher average costs have lower profits.

If the cartel is successful, earning high profits, this attracts new firms into the industry, increasing industry supply and driving down prices, cutting into the cartel's profits. Thus, the cartel's long-run survival also depends on high barriers to entry that block potential entrants. This has been made difficult as oligopolists have increasingly become forced to compete; many countries have achieved growth through deregulation which have exposed them to competition, especially with globalisation, making collusion more difficult.

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Therefore, this gives firms all the more incentive to invest in r&D and engage in product differentiation to create brand loyalty and compete with other firms on the basis of non-price competition. For instance, Amazon.

The difficulty of maintaining cartels may make firms turn towards informal types of collusion - tacit collusion, referring to implicit cooperation, though bypassing illegality of while achieving objectives of formal agreements. Price leadership may result, where a dominant firm sets a price and initiates all price changes with the remaining firms as price-takers, though all are still free to compete on a non-price basis. For instance, from 1960-1970, General Motors' price changes resulted in parallel price changes for Chrysler and American Motors to minimise price uncertainties. Though nevertheless, firms are still incentivised to undercut leader's prices by reducing price by a greater percentage, to capture market shares, resulting in a price war.

2016 November

Section A

1.

- (a) Using PPC explain why choices have to be made in all economics
- (b) Discuss the view that the government should not intervene in housing markets

2.

- (a) Explain why underconsumption of merit good causes market failure
- (b) Discuss whether there should always be direct provision of public good by the government

2017 May TZ1

Section A

Microeconomics

1. (a) Explain how the overuse of common access resources can lead to negative externalities. [10]

(b) Discuss the view that the best way to reduce the threat to sustainability, arising from the burning of fossil fuels, is for the government to provide subsidies to firms that produce energy through renewable sources. [15]

2. (a) Explain why a loss-making firm in perfect competition would shut down in the long run. [10]

- Making a loss → when sell at a price less than ATC, if shut down in the SR, cannot leave market yet because still has to pay the fixed cost e.g: rent as the contract is not yet finished
- The firm can still cover part of the variable cost and if leaving they lose both variable and fixed cost
- Any sort of cost in the LR would make the firm leave the industry as it is not profitable for firms to stay in the market anymore.
-

(b) Discuss the view that perfect competition is a more desirable market structure than

monopoly. [15]

Refer to May 2013 TZ2

2017 May TZ2

Microeconomics

1. (a) Explain how an increase in the costs of factors of production would affect the market price and output of a good. [10]

(b) Discuss the consequences for different stakeholders in the economy of the government providing subsidies on goods, such as renewable energy. [15]

2017 November

1a) With reference to demand and supply in competitive markets, explain how the economic question of “what to produce” is answered.

Relative scarcity describes the condition of how needs and wants are infinite, yet an economy's resources are finite. Due to the scarcity of resources, the economy must make choices regarding the allocation of resources towards the production of goods and services. Demand and supply in the competitive market offers sets of relative prices that indicate the price of a good expressed in terms of the price of another, each representing the opportunity cost, value of second-best alternative foregone of producing it.

Global demand for electric cars increased by 63%, largely driven by China's increasing demand for them (explain pricing mechanism ie D1-D2, shortage, P1-P2). Suppose that a car manufacturer produces both electric and petrol cars (which are in competitive supply) - higher profitability associated with production of electric cars with higher relative price P2 (which acts as a signal and an incentive) means that these producers may seek to reallocate resources to electric cars, as the opportunity cost of producing petrol cars increases; this may also correspond to a movement on a PPF from point a to point b etc. The reallocation of resources may also be seen in a decrease in the supply of petrol cars (show decrease in supply for petrol cars on another diagram). The producer's responses to changes in relative prices due to changes in demand thus display the **consumer sovereignty** that exists in competitive markets, as producers have responded to the change of tastes and preference

In 2007, the price of oil peaked at \$US 150 per barrel and this resulted in increased production costs from running an airline industry, and a decrease in supply, creating a shortage at the existing price, which the firm responded to by issuing a fuel levy, thereby passing on higher production costs to consumers in the form of higher prices, shown by P2 (on graph drawn), which reduces affordability, shown by contraction on D, resulting in final equilibrium e2. The higher relative price caused by the supply side determinant of increased production costs, reduced the allocation of resources towards the airline travel industry.

The “what to produce” question is therefore answered as, given all resources are used efficiently, the combination for the production of electric and petrol cars changes from point a to point b in response to the increased consumer demand for electric cars, displaying the consumer sovereignty that exists in a competitive market.

b) Discuss whether there should always be direct provision of public goods by the government

There is an underallocation of resources in the free market towards the production of public goods due to their qualities of being non-excludable, meaning no price is charged to exclude any from using it, and non-rivalrous, meaning use by one does not reduce another's ability to use it. This results in people free-riding on the benefits without paying for it. No profit-maximising firm is willing to supply a good it cannot charge a price to cover its costs for, and thus, there is a lack of public goods, resulting in market failure as society's well being is not maximised. However with public goods, the government can correct market failure through direct provision, and through forcibly collect taxation, prevent free-riding as all citizens contribute to the production and maintenance of the public good.

A private good has a price, that takes up a larger proportion of the disposable incomes of lower-income earners, and would exclude some from their usage. **The distribution of income** may be improved through provision of public goods with positive externalities (external benefits associated with consumption of a good/service spilt onto society). For instance, an improved road network system may improve the productivity of firms who then have lowered transportation costs and slower depreciation of expensive transport capital; this may incentivise greater investment in productive assets and improve their willingness and ability to supply, expanding productive capacity, and lowering inflationary pressures. They may also pass lower production costs onto consumers in the form of lower prices, thus increasing the purchasing power of residents and material living standards.

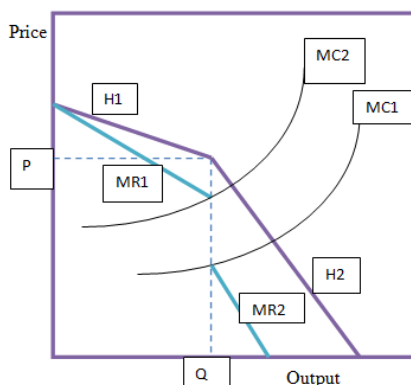
However, **the spending of limited government funds to provide the public goods has opportunity costs** (value of second-best alternative foregone) and may not be directed to goods that are most beneficial to a country's growth and development. For instance, the US government spent over 50% of its discretionary budget on its defence force in 2017, which may have decreased the government's ability to fund education, where spending has been progressively cut over the last 20 years; this also suggests the political nature of the provision of public goods, rather than the intention of maximising society's wellbeing.

Technical difficulties are faced in determining the total benefits that will be achieved from provision of the public good due to the absence of the price mechanism with which they can measure values of demand and supply. Surveys to determine the value of the good to the general public may be an inaccurate reflection of the benefits derived from people's consumption of the good, as they may exaggerate the good's value, resulting in an over-provision, and an inefficient allocation of scarce funds, so that society's wellbeing is not maximised.

Public-private-partnerships may be more efficient. If the government outsources the building and maintenance of a public good to a private contractor, who will specialise in their area of

production, and face competition from other firms, keeping costs low to maximise profits, technical efficiency may be higher. In addition to the potential inefficiency of bureaucratic processes, there may be long lags between the identification of the need for a public good and the ultimate implementation as changes to the budget only occur once or twice a year and require extensive parliamentary debate and approval.

2. (a) Explain why firms in oligopolistic markets may prefer to use non-price competition. [10]



Non-price competition in oligopolies, market with small number of large firms, high barriers to entry, involves efforts to increase market share by methods such as R&D, advertising and branding which their large financial resources from high profits allow them to do so. Firms may prefer to compete using this because, in a non-collusive oligopoly, firms do not make formal or tacit agreements, and due to their strategic pricing, resulting from their profits being interdependent on each other's pricing decisions that are in turn, influenced by expectations of how rival firms will react if undertaking a price change, price competition is likely to lead to worse outcomes, and thus price tend to be rigid, shown by the kinked demand curve (fig1).

At the point of production, Q_1, P_1 , the firm reasons, if it increases price, competitors are unlikely to follow, resulting in a large loss of market share and profits, thus D above P is relatively elastic. Whereas cutting prices may result in a price war, as it will be matched by competitors to maintain their profits, and thus it will only capture a small part of their market share, thus D below P is relatively inelastic. For example, Coles start-up a price war with Woolworth in 2011, where coles launched an own-branded milk which is 1 per litre and Woolworth match prices, coles reduces its earnings by 14.1%. Therefore, this shows that price competition will ultimately make the firm, and the industry if a price war results, collectively worse off in the long-run due to lower prices and profits.

If successful in non-price competition, firms create barriers that prevent new entrants from entering the industry, and thus with the little substitutes that consumers may have, any price increases would result in increasingly smaller percentage decreases in quantity because of the low PED that the good may now have. For instance, Amazon has spent \$23B on r&d to create game-changing innovations. transformed from a mere bookseller, a monopolistically competitive firm, to now a dominating firm in the e-commerce industry, and is considered to be in a duopoly with Ebay, having made profits of nearly 3 billion for the last three months, and having captured share levels much higher than what a monopolistically competitive firm could do. In addition, the creation of new products would not lead to immediate retaliation by rivals since it takes time and resources for others to develop new competitive products to initiate a 'product war'.

(b) Discuss the reasons why firms compete or collude in oligopolistic markets. [15]

Refer to 2016 May TZ2

2018 May TZ1

Microeconomics

1. (a) With reference to the concept of excess demand, explain how a decrease in supply of a good would lead to a new market equilibrium. [10]

(b) A government decides to impose an indirect tax on unhealthy drinks. Discuss the consequences for the stakeholders in these markets. [15]

Refer to 2016 May TZ2

2. (a) Explain two factors that might give rise to economies of scale for a firm. [10]

- Specialisation
 - More workers are employed to do different jobs, focus on smaller jobs and more efficient outcome
 - Firms may choose to use all their resources in developing one product which they may have a comparative advantage and may thus have lower opportunity cost of providing an item than other firms, competitiveness increases
- Capital equipment
 - Some firms such as the Ford in 1930s take advantage of its monopoly power and abnormal profits to increase productivity by using assembly lines to produce cars at a lower price
 - They are more efficient and can spread their cost over a larger base

(b) Discuss the view that legislation is the best way of dealing with the problem of monopoly power. [15]

Refer to 2013 May TZ1

2018 May TZ 2

Microeconomics

A

1. (a) Explain two reasons why a government might want to subsidize a good or service. [10]

Subsidies: a form of government assistance provided to firms or individuals that are in need. Usually it is a financial transaction taking the form of tax concession and transfer cash payment.

Encourage consumption of merit goods (goods that are beneficial for society as they impose extra benefit on society)

- Diagram on positive externalities
- Subsidies over 60% of fees in universities in Australia
- Skilling Fund Australia provides 1.5 billion to sectors of industries that need more labour

Ensure the revenues of firms

- Steep demand curve
- Farmers have volatile prices, PED and PES is low
- Good weather: prices decrease dramatically with a smaller increase in quantity demanded
- Bad weather: prices increase dramatically with a smaller decrease in quantity demanded
- European Union spends 30-40% budget on farmer subsidy

(b) Discuss the view that governments should tax the consumption of gasoline (petroleum). [15]

2. (a) Explain why some firms might choose the goal of profit maximization while others might choose to adopt satisficing behaviour. [10]

Market structures can be defined as those characteristics of a market that influence the behaviour and results of the firms working in that market. There are four market structures: Monopolistic competition, perfect competition, oligopoly and monopoly. The firm will react differently depending on what market structure they are in (level of market power). Satisficing behaviour is an alternative business objective to maximise profits. Profit is the total revenue minus cost. Profit maximization refers to the process where firms alters their production to achieve increase in profit and it is also the main goal of firms.

- Profit maximization: Why $MR=MC \rightarrow$ Maximizing profit

Diagram:

Horizontal Mr

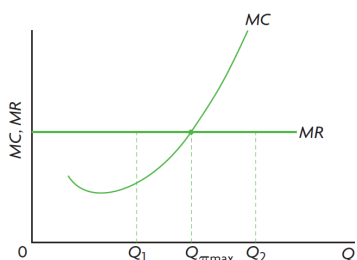
Downward sloping Mr

E.g Perfect competition

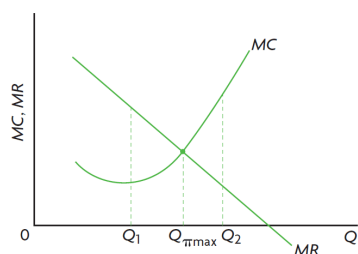
$Mr > Mc$

So increase in QTY = increase in profit

(a) Price constant

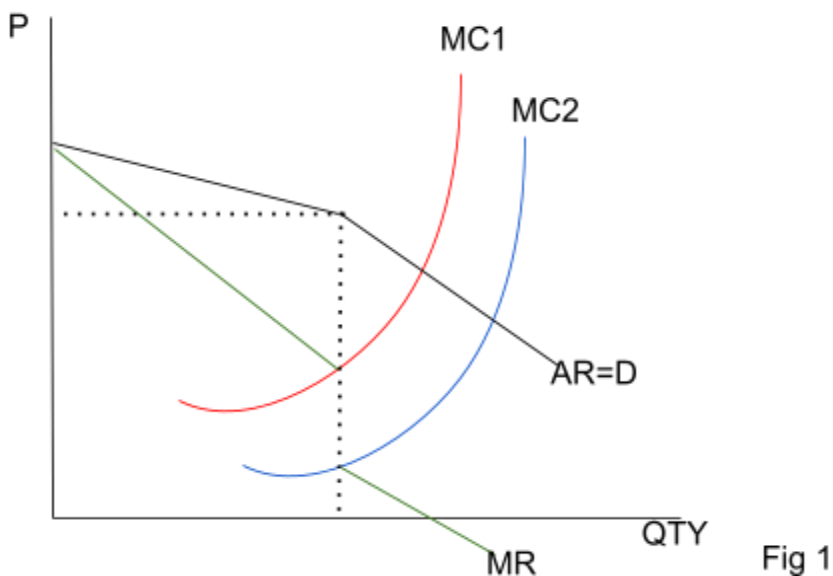


(b) Price varies with output



Oligopoly firms will tend to adopt satisficing behaviour. An oligopoly market structure consists of small number of large firms that have large market share, high barriers to entry due to huge set up cost, legal barriers such as patents and copyrights. Products can be either differentiated or homogeneous such as supermarket or petrol station. Firms will tend to avoid price war to maintain their profit as price war often results in a decrease in profitability. For example, in 2011, one of the Australia's biggest supermarkets Coles started a supermarket price war by reducing the price of its own-brand milk to \$1 AUD per litre, then another big supermarket fired back which triggered the

seven years of intense price competition (When prices are lowered to attract customers). The effect of price war is shown in fig 1:



Sticky price results in the kinked demand curve because if the firm lowers their price, MC will decrease from MC1 to MC2, then it is more likely that their competitors will also lower their price so they may not capture more of the market, although the industry as a whole may sell more product. The PED below the kinked demand curve is therefore low. Thus with a kinked demand curve, the MR curve is broken because the loss of revenue is great when the price is altered from the established price. On the other hand, Coles can increase their price but other supermarkets may not follow so potentially Coles will lose quite a lot of their market shares thus PED is high above the 'Kink'. Thus, as a result, Coles had move away from price-based marketing which means they are not maximizing their profit, instead it is focusing on non-price competition such as local produce and sustainability to compete against their competitors.

On the other hand, market structures such as monopoly will tend to focus on profit maximization. In a monopoly market structure, there will be a single producer and there will be no close substitutes, consumers will also tend to have brand loyalty which means the PED is low and they will not consider substitutes. Thus monopoly firms are able to raise their price to maximize profit.

Profit maximization is unrealistic, and there exists certain problems. Thus it's important to let departments in firms to satisfy. E.g Big firms

- Satisfying and other goals P165
 - Profit maximization
 - Profit growth
 - Increase growth
 - Managerial

Revenue maximisation

In one theory of firm behaviour, it is argued that the separation of firm management from firm ownership, which increasingly dominates business organisation, has meant that firms'

objectives have changed. Whereas profit maximisation may be the dominant motive of the traditional owner-managed firm, firm managers who are hired by the owners to perform management tasks may be more interested in increasing sales and maximising the revenues that arise from larger quantities sold. This goal of firms is referred to as revenue maximisation. Increasing sales and maximising revenues may be more useful to a firm than profit maximisation for the following reasons: Sales can be identified and measured more easily

- over the short run than profits, and increased sales targets can be used to motivate employees. Rewards for managers and employees are often linked to increased sales rather than increased profits.
- It is often assumed that revenue from more sale will increase more rapidly than costs; if this is the case, profit ($= TR - TC$) will also increase.
- Increased sales give rise to a feeling of success, whereas declining sales create a feeling of failure.

Growth maximisation

In other approaches it is assumed that firms may be interested in maximising their growth rather than their profits. Growth maximisation can be attractive for the following reasons:

- A growing firm can achieve economies of scale and lower its average costs.
- As a firm grows it can diversify into production of different products and markets and reduce its dependence on a single product or market.
- A larger firm has greater market power and increased ability to influence prices.
- A larger firm reduces its risks because it may be less affected in an economic downturn and is less likely to be taken over (bought) by another firm.
- The objective of growth maximisation reconciles the interests of both owners and managers, because both groups have much to gain from a growing firm (other maximisation objectives pit firm owners against firm managers; for example, profit maximisation is favoured by owners while revenue maximisation is favoured by managers).

Managerial utility maximisation

when firm management is separated from firm ownership, managers develop their own objectives that revolve around the maximisation of their own utility (satisfaction).¹¹ Managerial utility can be derived from increased salaries, larger fringe benefits (such as company cars and expense accounts), employment of more staff that gives rise to a feeling of importance, and investments in the managers' favourite projects. The result of all these activities may be to cut into profits and make these lower than they would otherwise be.

Satisficing

All of the above objectives assume that the firm tries to maximise some variable, whether it is profit, revenue, growth or managerial utility. H. Simon, a Nobel Prize-winning economist, has argued that the large modern enterprise cannot be looked upon as a single entity with a single maximising objective; instead it is composed of many separate groups within the firm, each with its own objectives which may overlap or may conflict. This multiplicity of objectives does not allow the firm to pursue any kind of maximising behaviour. Firms therefore try to establish

processes through which they can make compromises and reconcile conflicts to arrive at agreements, the result of which is the pursuit of many objectives that are placed in a hierarchy. This behaviour was termed satisficing by Simon, referring to the idea that firms try to achieve satisfactory rather than optimal or 'best' results.

(b) Discuss whether price will always be lower and output will always be higher in perfect competition compared to monopoly. [15]

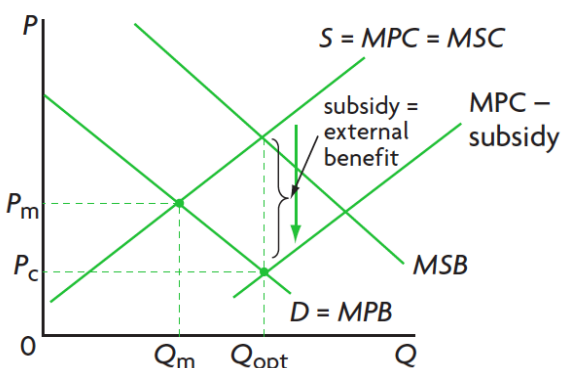
2018 November

1. (a) Explain how the price mechanism reallocates resources when there is an increase in demand for a good or service. [10]

(b) To what extent is advertising the most effective way of increasing the consumption of merit goods? [15]

Subsidisation is defined as the financial support to firms and individuals that are in need. It can be in the form of tax concession, direct provision of goods and transfer of payments. Merit goods are goods that are desirable for consumers in society and they are usually underproduced in the market.

(c) Granting a subsidy



One key strength of providing subsidies is that it can effectively correct market failure. As shown on the left, subsidisation in merit goods has the effect of reallocating the resources in the economy. For example in Australia, the government provide a Australian skilling Fund of \$1.5 billion in promoting areas of demand of labour in the economy to decrease the structural unemployment (skills mismatch). Government by providing these subsidies is able to decrease the cost of production of firms, causing S_1 to shift to

S_2 , the difference between the two curves represent the extra benefits education has on people. Their revenues increase as prices received by the producers increase from P_m to P_p , more are incentivised to enter the market of providing education services. Consumers are affected as well because they now can afford an education at a lower price at P_c rather than P_m , price serves as a signal to them to consume more which represents as an expansion along the demand curve as people's willingness and ability to purchase educational services increases, thus consuming at Q_{opt} instead of Q_m . At Q_{opt} , MSB is equal to MSC , whereby society's allocative efficiency (arrangements of goods and services that can fulfil society's needs and wants) has been achieved but with the effect of government subsidies, at a lower price of P_c .

The problem associated with subsidies is that they are very costly to the government and sometimes may face technical difficulties. For instance in Australia in 2017, Tafe Australia estimated that billions of dollars are wasted in training people to work in jobs that do not have a high demand such as the tourism industry. This creates an opportunity cost (second best alternative foregone) as it not only is a burden on

IB Enigma - Yolanda's notes

government budget but it also takes away the allocation of resources on investment in technologies that is able to generate a higher level of economic growth in the future.

In addition, subsidies can be subjective to incorrect usage by firms. Producers of Soliris, which is the only treatment to a type of cancer, take advantage of government funding and offered expensive treatments to consumers which is equal to 2.8 billion in sales. Though their revenue increases, society suffers as these valuable resources can be placed in higher end use such as research and development for improving quality and effectiveness of other medications which can increase people's living standards in the future.

Regulation is easy to implement and can also affect the purchasing behaviour of consumers. In China, there is a compulsory of 9 years of education that every citizen should comply with. This forces consumers to be educated and gain knowledge which has the effect of shifting MPB to MSB in figure 1, encourages quantity consumed. The famous slogan of 'no jab no play' in Australia imply that every child in childcare should be vaccinated before going. Again this act is trying to increase the consumption of merit goods to achieve the optimum quantity in society.

Result in black market

- Underground childcare
- Flow on effects on parents as some chose not to be vaccinated due to religion or culture background, leaving one parent to take care of the child

Costly to government, opportunity cost

Advertisement's key advantage is that it can alter consumers' taste and preferences.

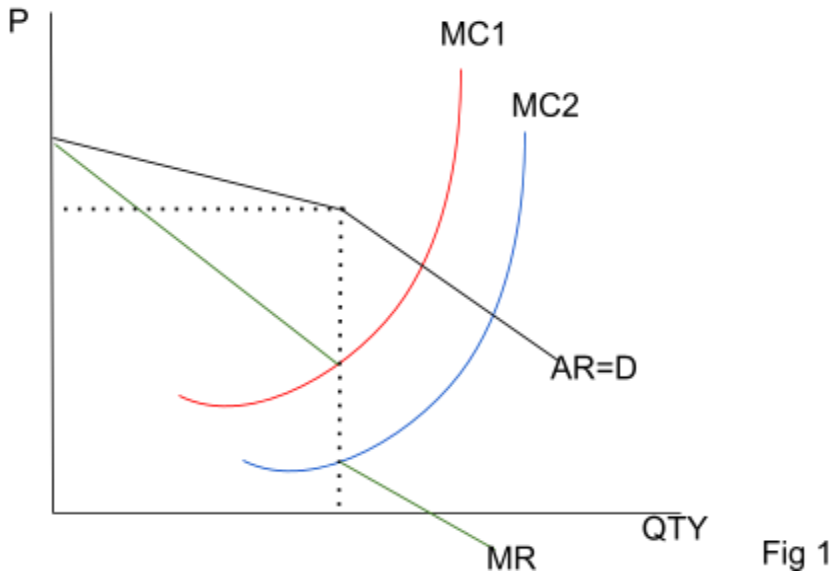
- Victoria has campaigns that specifically targeted at encouraging the vaccines
- Help to realise the benefits of such treatment

One key disadvantage is that some people would not change incentives, costly to government.

- A school in North Carolina experienced an outbreak of chickenpox due to family backgrounds or own personal choices
- Not much of an effect to alter behaviours in this case, waste of resources

2. (a) Explain why prices tend to be relatively rigid in oligopolistic markets. [10]

Oligopolies refer to markets where the largest few firms have extensive monopoly power. Products can be either differentiated or homogeneous such as supermarket or petrol station. Firms will tend to avoid price war to maintain their profit as price war often results in a decrease in profitability. For example, in 2011, one of the Australia's biggest supermarkets Coles started a supermarket price war by reducing the price of its own-brand milk to \$1 AUD per litre, then another big supermarket fired back which triggered the seven years of intense price competition (When prices are lowered to attract customers). The effect of price war is shown in fig 1:



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(b) Discuss whether an oligopolistic firm should collude rather than compete. [15]

Refer to 2016 May TZ2