Price theory

May 2013 – Qn2

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

1. <u>Definition of cross price elasticity</u>
   XED is a measure of how much the demand for a product changes when there is a change in the price of another product
2. <u>Formula of XED</u>
   XED = percentage change in quantity demand of product X / percentage change in price of Y
3. <u>Explain the different interpretations of XED</u>
   a. XED positive – the two goods are substitutes of each other
   b. XED negative – the two goods are complements of each other
   c. Higher absolute value means higher correlation
   d. XED = 0 – the 2 products have no correlation
4. <u>Factors affecting the XED</u>
   a. For substitutes – how close substitutes they are
   b. For complement – how frequently do consumers purchase one good together with the other
   c. Higher correlation leads to greater values

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

1. <u>Definition of income elasticity of demand</u>
   Income elasticity of demand is the measure of how much the demand of product changes when there is a change in the consumer's income.
2. <u>Formula for income elasticity of demand</u>
   YED = percentage change in quantity demand of the product/ percentage change in income of the consumer
3. <u>Examples of primary goods</u>
   Agricultural products – fishing, mining, farming
4. <u>Examples of manufactured goods</u>
   secondary products which include clothes and smart phones
5. <u>Interpretations of YED</u>
   a. YED positive – normal good, >1 considered luxury, <1 considered income inelastic
   b. YED negative – inferior good
6. *Statement linking economic conditions to incomes of individuals*
7. <u>Importance of YED for producers of primary goods</u>
   YED likely to be <1 but >0 as primary products like fresh produce are necessities; this means that there will not be heavy fluctuations for producers' revenue in times of economic recession or boom, YED is thus of little relevance to producers of such goods
8. <u>Importance of YED for producers of secondary goods</u>
   YED likely to be >1 as secondary goods are generally not necessities (e.g. mobile phones). There will be relatively larger fluctuations in revenue of secondary products in times of economic boom and recession. In times of recession, producers may choose to channel resources away from manufactured goods and in times of boom may considering channelling more resources into manufacturing secondary goods.

9. Evaluation of YED
   In reality YED is hard to calculate accurately and businesses often are not capable of collecting accurate data about their market as the factors affecting the income elasticity are varied from time to time and affected by other market conditions.
10. Conclusion
   The concept of YED is of more relevance to producers of manufactured products than producers of primary products as there are more implications towards the output decisions faced by the firm in times of economic recession or boom.

Nov 2013 – Qn1

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

1. Definition of price ceiling
   A price set by the government to be the maximum price that prevents producers from raising the price beyond it, generally used for to protect consumers and imposed normally on a necessity or merit good (a good that would be underprovided if the market were allowed to operate freely)
2. Diagram for price ceiling

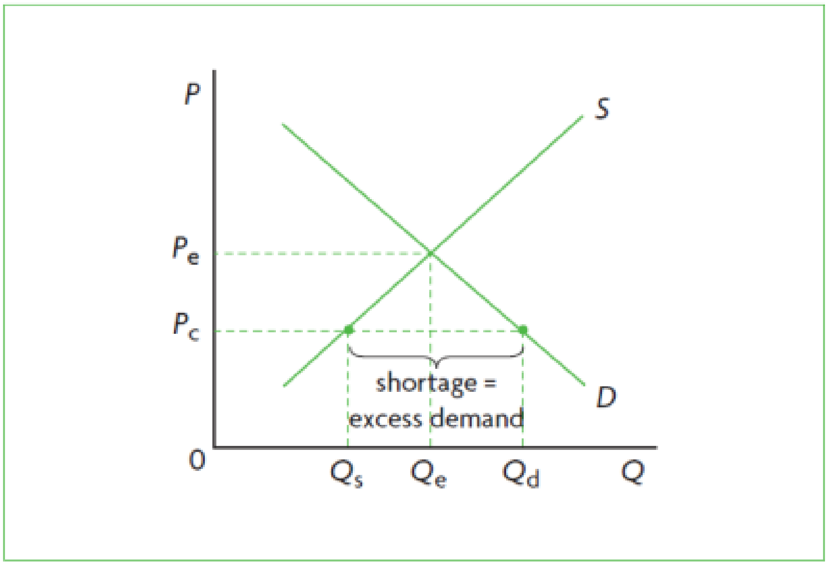


Figure 4.12 Price ceiling (maximum price) and market outcomes

3. Effects of the price ceiling
   without government intervention the equilibrium quantity demanded and supplied would be at Qe at price Pe. When the government imposes a price ceiling the new maximum price of Pc will lead to a shortage (Fig) caused by excess demand as quantity demand at Qd exceeds quantity supply at Qs. If the government does not intervene further consumption will eventually decrease until Qs.
   The shortage may lead to an emergence of a black market where the product is sold at a higher price or producers may decide who to sell to.

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

1. Price ceiling
   As mentioned above, price ceiling lowers the price of food in the market to Pc (Fig 4.12), effectively reducing price in the market. However a shortage arises a mentioned earlier and the emergence of a black market that charges a higher price than price ceiling is harmful to the effectiveness of the policy. Furthermore, government will have to take action against the black markets. Another thing about the shortage is that producers may pick and choose who they would like to sell food to. This may not work in favour of low-income group people and again reduces the effectiveness of the policy.
2. Evaluation
   There is no time lapse with this policy and is immediate. Food will be more affordable immediately to all however the likelihood of a black market emerging is high and damages the usefulness of this policy. As long as there are side effects to the policy, the costs outweigh the benefits.
3. Subsidies definition
   A subsidy is an amount of money given to the producers to increase supply, reduce cost of production or reduce price of good in the market.
4. Subsidies diagram

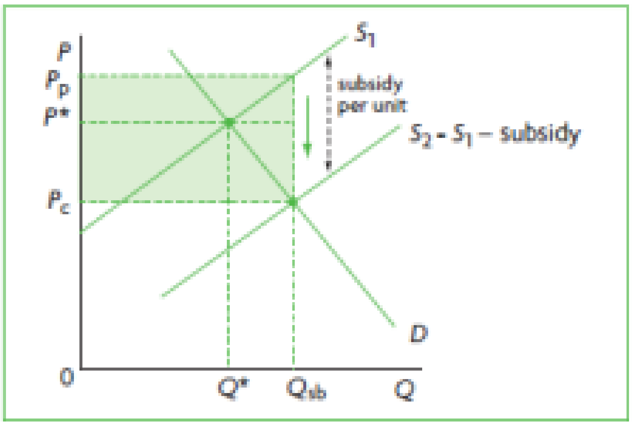


Figure 4.8 Impacts of subsidies on market outcomes

5. Subsidy effects
   As seen from Fig 4.8, when the government implements a subsidy on food the supply curve will shift downwards by the amount of subsidy per unit. The equilibrium market price for food reduces from P* to Pc and equilibrium market quantity increases from Q* to Qsb.
6. Evaluation
   The subsidy will incur opportunity cost on the government as the money could have been used to fund other government projects such as infrastructure or merit goods. Yet the subsidy is effective in achieving the aim of reducing the price of food such that low-income group people are better able to afford it. The use of subsidy also does not cause a shortage or black market to occur as quantity supplied actually increases instead of decreases, thus increasing the consumer surplus instead of reducing it.
7. Conclusion
   Though both price ceiling and subsidies are successful of achieving the main aim of reducing the price of food so low-income groups are better able to afford it, subsidy is obviously a better option than price ceiling because there are no shortages and black markets that arise and may create social conflict, which eliminate the effectiveness of the price ceiling policy.

Nov 2014 – Qn1

(a) **Using diagram(s), explain the signalling and incentive functions of price**

1. <u>Definition of price</u>
   Price is the amount of money paid for a good that is determined by market forces of demand and supply, at the equilibrium.
2. <u>Diagrams of incentive function of price</u>

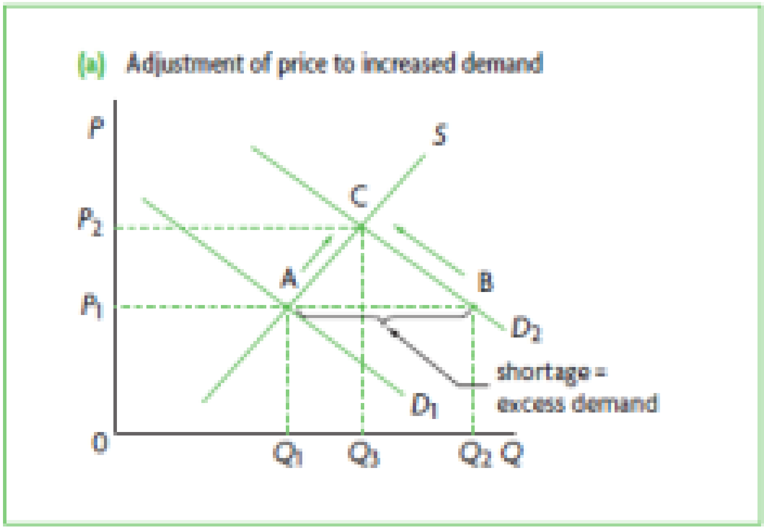


Figure 2.16 Price as a signal and incentive

3. <u>Incentive functions of price</u>
   Price signals to producers how much they should be producing. From the diagram above, demand for product has increased from D1 to D2 and has created a temporary shortage of the product as producers of the product may not be able to immediately produce more output. The shortage which is an excess of demand, will bid up the prices of the product. Higher prices provide incentive to existing producers as they earn more profits. Thus this causes an extension of supply as seen in Fig 2.16 and thus a new equilibrium emerges at P2 Q3. Lower prices provide less incentive to existing producer so producers will produce less

4. <u>Diagram of signalling functions of price</u>

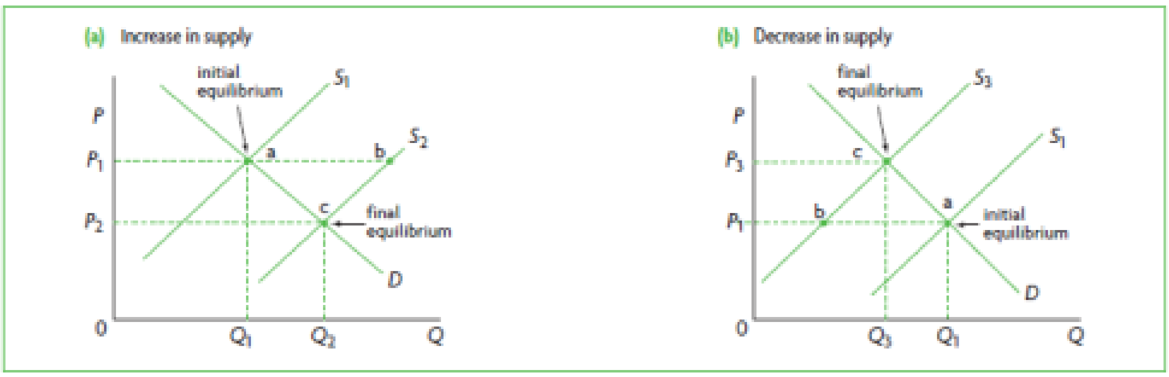


Figure 2.11 Changes in supply and the new equilibrium price and quantity

5. <u>Signalling functions of price</u>
   Conversely, the increase in price signals to other potential producers to enter the market. The

temporary shortage caused by the increase in demand for a certain product bids up the prices of the good and signals to other producers to enter this particular market. When the producers enter the market the increase the supply of the good from S1 to S2 and eliminate the shortage created by the excess demand. Lower prices signal to producers to leave the market. Higher prices also signal to consumers to withdraw from a certain market and can be seen at the contraction of demand from a to c in Fig 2.11. Lower prices also signal consumers to enter a market as seen by the extension of the demand curve.

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

1. <u>Definition of market failure</u>
   Market failure occurs when marginal social cost and marginal social benefit are not equal, which leads to either over or under consumption of the good
2. <u>Definition of demerit goods</u>
   Demerit goods are goods that have negative externalities on consumers or third parties and are overconsumed if left to market forces
3. <u>Diagram for negative externalities of consumption</u>

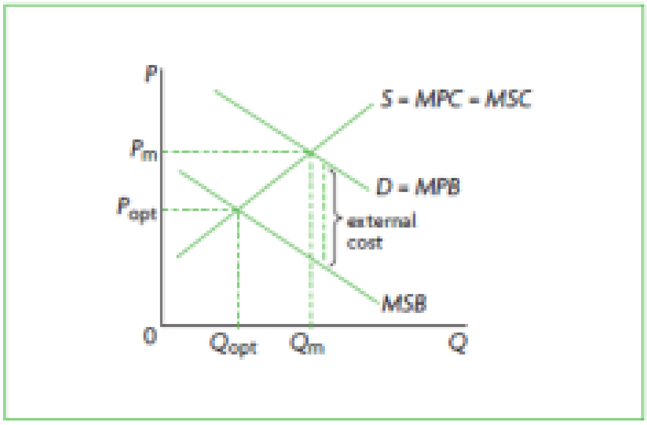
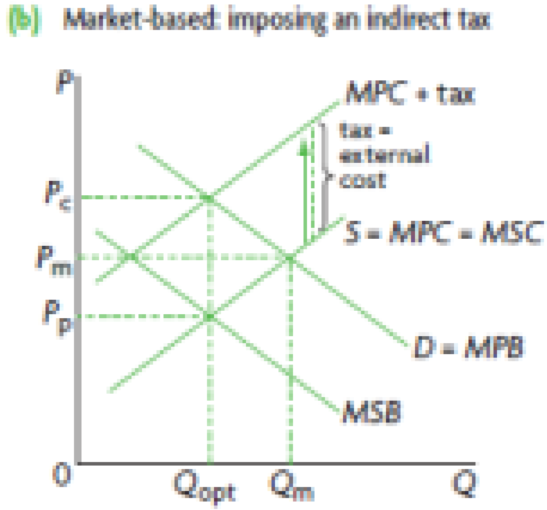


Figure 5.6 Negative consumption externality

4. <u>Explain the need for government intervention</u>
   The consumption of cigarettes is considered to be harmful to both the consumer and third parties who inhale “second hand smoke”. The third party who inhales the second hand smoke may have health complications and thus there is negative externality of smoking. This causes a divergence in the marginal personal benefit and marginal social benefit as personal benefit here is higher than social benefit. The socially optimum level, where MSB meets MSC, is Popt and Qopt, however this is not the case in the market, and creates market failure. Thus the need for government intervention.
5. <u>Definition of indirect tax</u>
   An indirect tax placed by the government is a an amount of money charged per unit of product produced. The burden of the indirect tax is usually ultimately borne by the consumer through charging higher prices.

6. Diagram of indirect tax



7. How tax can eliminate the negative externalities of consumption of demerit goods
   From the diagram above the supply curve will shift upwards as a result of the tax by the amount of externality that was present in the market. Thus the new market equilibrium, Pc Qopt is produced at the socially optimum level, thus eliminating the market failure.
8. Evaluation of tax
   However the use of tax may not be so effective as cigarette consumption is addictive and thus PED is low and a change in price will lead to a less than proportionate change in quantity demanded. Also, the tax increases the price of cigarettes overall yet the pinch is felt the greatest on the lower socio-economic class as it is a larger proportion of their income. The tax may not be effective with people of higher socio-economic class. It is also hard to accurate in monetary terms how much negative externality there is to place a tax that is just right to eliminate the market failure. However indirect taxes are still useful in trying to reduce the market failure as there is less consumer surplus
9. Use of ban
   A ban is a legislation passed by the government to pass cigarettes. The ban will eliminate consumption of cigarettes entirely and is very effective.
10. Evaluation of ban
    However, it is highly not possible to gather support to completely ban the product. It is also more troublesome if a black market occurs as a result of the ban. The ban could also increased crime as people try to smuggle in cigarettes from other countries. These could be increasingly difficult as people may be very addicted to cigarettes. Furthermore, old smokers could possible die as a result of this ban and thus it is not feasible to consider a ban on cigarettes
11. Use of education
    The government could educate all young people and adults about the harmful effects of smoking to dissuade them from smoking. They could also provide resources to help addicts quit smoking.
12. Evaluation of education
    It is unclear with this method how effective the outcome will be and does not guarantee a reduction in consumption, which is still market failure. Yet it is still important to educate the young to choose wisely to reduce the consumption of cigarettes in the long run.
13. Conclusion
    In conclusion, the use of indirect tax is the most successful in reducing the consumption of

cigarettes less drastically. In the long run the government should employ both indirect taxes and education to tackle cigarette consumption in both the short and long run.