

# **Edexcel (A) Economics A-level**

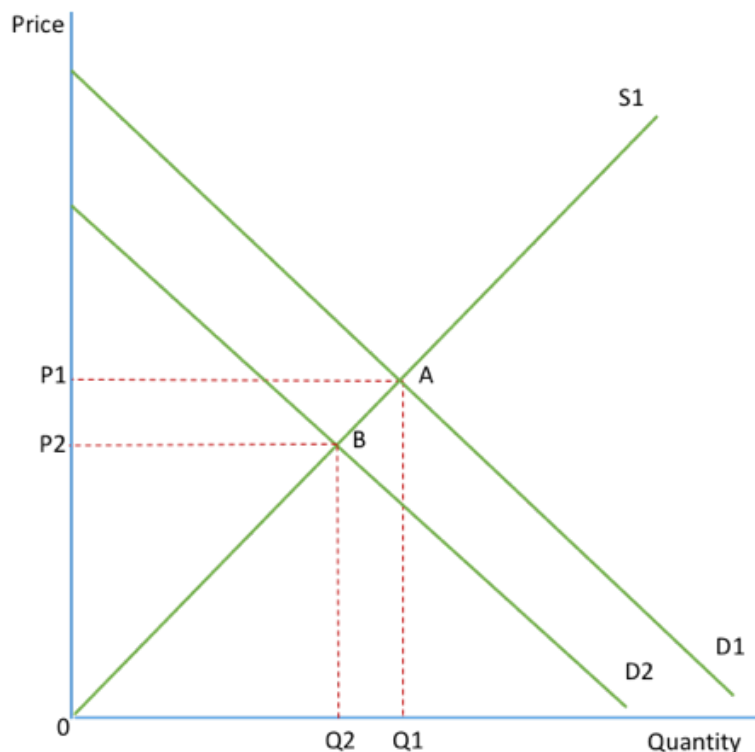
## **AS-level Paper 1: Markets and Market Failure**

Example answers

June 2017



**6a) Explain why ‘bans on tobacco advertising’ (Extract A, line 7) may result in a decrease in the revenue of tobacco firms. Include a supply and demand diagram in your answer. (5)**



Ban on tobacco advertising will decrease revenue since demand will fall from D1 to D2. This is because advertising will encourage people to buy the good by portraying it as something they should have as well as letting them know the product exists, so people are more willing to buy the good. As a result, prices fall from P1 to P2 and output from Q1 to Q2. This means revenue falls from  $P_1A Q_1$  to  $P_2B Q_2$ . The fall is because they are selling less at a lower price.

**Teacher's comments: 5/5**

**b) With reference to the information provided and your own knowledge, assess the view that tobacco consumers switching to e-cigarettes is an example of rational behaviour. (10)**

Rational behaviour is when consumers act in a way that maximises their satisfaction. Therefore, for this to be a rational decision, they must gain more satisfaction from e-cigarettes than tobacco.

Firstly, this is likely to be true since tobacco has very high death rates: 8 million people are expected to die each year by 2030 from smoking or passive smoking (Extract A). Tobacco causes lung cancer etc. Therefore, this switch must be a rational decision since there is likely to be less chance of death from e-cigarettes than from tobacco. However, this depends on the effects of e-cigarettes. Little research has been done on e-cigarettes (Extract B) and so therefore the effects could be even worse. In this case, consumers may have lacked enough information to make a rational decision.



Moreover, it is likely to be a rational decisions since e-cigarettes are cheaper than tobacco cigarettes. Tobacco cigarettes are 48p per cigarette whilst e-cigarettes are 7p for the equivalent of a cigarette. Therefore, since consumers have a limited income, the switch will be a rational decisions as they can either buy more cigarettes or they will have more income to spend on other items. However, this will depend on the value the consumer places on the tobacco cigarette compared to the e-cigarette, since price is not always the most important factor for consumers.

Overall, it is likely to be rational since it is both healthier and cheaper. Once research has been done, it can be confirmed whether the decision is rational.

**Teacher's comments: 9/10**

**c) Tobacco cigarettes and e-cigarettes are considered to be substitutes. Explain how changes in the price of tobacco cigarettes may affect the demand for e-cigarettes over time. (6)**

Tobacco cigarettes and e-cigarettes are substitutes and have a positive cross elasticity. This therefore means as the price of tobacco increases, demand for e-cigarettes rises. As the price of tobacco rises, the satisfaction people gain per pound falls and in order to maximise the satisfaction gained from their income, they will switch to alternatives which may be cheaper or may give them more satisfaction. A 10% rise in price of tobacco decreases output by 4% in high income countries and so it is likely that people will switch to substitute e.g. cigarettes. A substitute is where you either buy one good or the other. E-cigarettes offer a cheaper alternative as they are just 7p per equivalent cigarette, whilst tobacco is 48p, so the rise in price means that people will be happy to switch to the cheaper alternative.

**Teacher's comments: 5/6**

**e) With reference to Figure 1, assess the likely reasons for the difference in price elasticity of demand for tobacco cigarettes and e-cigarettes. (15)**

Price elasticity of demand is the responsiveness of demand to a change in price. Tobacco cigarettes are relatively inelastic since PED is less than an integer of 1 (**what is it? Give figures**) whilst e-cigarettes are more elastic since  $PED = -1.9$ . This means a proportional rise in price in the tobacco market and the e-cigarette market will decrease output of tobacco less than it will decrease output of e-cigarettes.

One reason for this could be the influence of habitual behavior. Whilst e-cigarettes are fairly modern, some people have been smoking for many years. Therefore, it is a habit for them to continue smoking which makes demand more inelastic. If price increases, they will decide to continue smoking as this is what they have always done and they are reluctant to give up. On the other hand, with e-cigarettes people are not likely to have been using them for a very long time and so an increase in price will give them more incentive to give up. This could be linked to the fact that younger people are more affected by rising prices and these may be more likely to use e-cigarettes



(since healthcare has said smoking is bad for their lifetime, and so they use e-cigarettes instead). Therefore, an increase in the price of e-cigarettes may encourage them to stop. However, there is no evidence to suggest that young people are more likely to use e-cigarettes. **(Mention the percentage of income spent)**

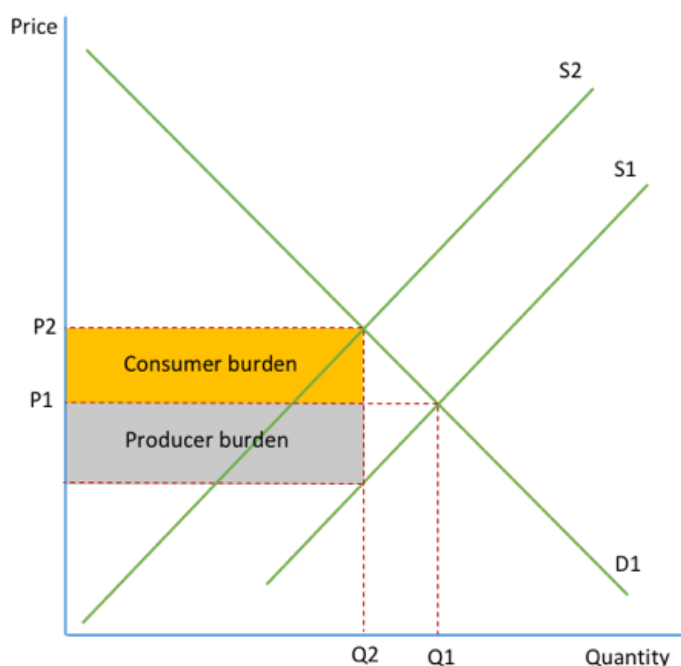
Moreover, tobacco may be more inelastic since it is more addictive. An addictive product will mean that a rise in price will have little impact on the output of the good since people 'need' the good to prevent side effects. However, the nicotine from the e-cigarettes is also very addictive and so this reason can't fully explain the differences.

Also, it could be because of this relationship between tobacco and e-cigarettes. Most people who use e-cigarettes are doing so because they used to use tobacco cigarettes but decided to swap. They have tried to give up their tobacco cigarettes in exchange for e-cigarettes due to the rising price and so would be more sensitive to the change in price of e-cigarettes. Alternatively, those on e-cigarettes may find it easier to give up cigarettes altogether since they had the power to give up tobacco. Therefore, a rise in price will give them more incentive to stop buying e-cigarettes.

Overall, the most important factor for the difference in PED is the relationship between tobacco and e-cigarettes since it means people on e-cigarettes are more able to give up, whilst those using e-cigarettes aren't.

**Teacher's comments: 11/15**  
**Needs stronger evaluation**

**g) Evaluate the impact of government intervention in the cigarette market. (20)**



One type of intervention is the use of indirect taxes. The tax will increase the cost of production so supply will reduce from  $S_1$  to  $S_2$ . This will increase price from  $P_1$  to  $P_2$  and decrease output from



Q1 to Q2. The effectiveness of this tax will depend on the PED, and since PED is inelastic (-0.35), there will be little fall in output and so it will be less effective. The PED for e-cigarettes is elastic (-1.9) and so there could be a large fall in output. However, they do not necessarily want to tax e-cigarettes since lower prices of e-cigarettes will encourage those addicted to tobacco to switch to e-cigarettes. The government gets revenue of the shaded area (the revenue will be high for cigarettes since they are inelastic in demand) and the effectiveness of this will also depend on where the money is spent. To maximise effectiveness, it should be spent on providing the public with the information to ensure that they are able to make rational decisions and no longer buy tobacco cigarettes. It is difficult to know where to set the tax- because the size of the externality is based on value judgement **(explain the concept of externalities)**.

The effectiveness of the tax will also depend on the government's ability to police illegal sales. The more taxes rise, the more incentive individuals have to sell illegal tobacco cigarettes without taxes as they can sell them at higher prices whilst still being cheaper than the legal cigarettes. If they are able to do so, this would be an example of government failure since this could result in higher welfare loss than originally. This does seem to be an issue currently since 1 in every 10 cigarettes are sold illegally. The tax revenue could be used to enforce this.

Another type of government intervention is regulation, for example no smoking in public places, at work etc. This aims to reduce some of the social costs of smoking since it will reduce the number of passive smokers. Moreover, it will hopefully reduce demand for cigarettes since it becomes more hassle to smoke and less of a social activity done inside bars etc. Similarly, there is regulation against advertising but this does not seem to be effective since tobacco companies still spend tens of millions of dollars on promotion. The tobacco companies also try to challenge regulation, and this may cost the government money.

One problem with government intervention is that most of it is also placed on e-cigarettes, causing government failure. The government should be encouraging people to use e-cigarettes since they are a better alternative to smoking and so if they were more accessible (e.g. could be used indoors), people may be more encouraged to smoke. However, the side effects of e-cigarettes are unknown and e-cigarettes are only beneficial for those giving up smoking. They are still addictive and so if there was no regulation on them, this could be negative if people started using them.

Cigarettes represent a negative externality and so the government need to intervene to minimise social loss. Taxes only will not be enough to lower the number of smokers due to their inelasticity, so regulation and information provision is important. Overall, the government is able to lower output and internalise the externality.

**Teacher's comments: 15/20**

**Talk more about government failure e.g. price signals, unintended consequences. Need to mention provision of information, could talk about subsidies on tobacco replacement**

