

# Edexcel (A) Economics A-level

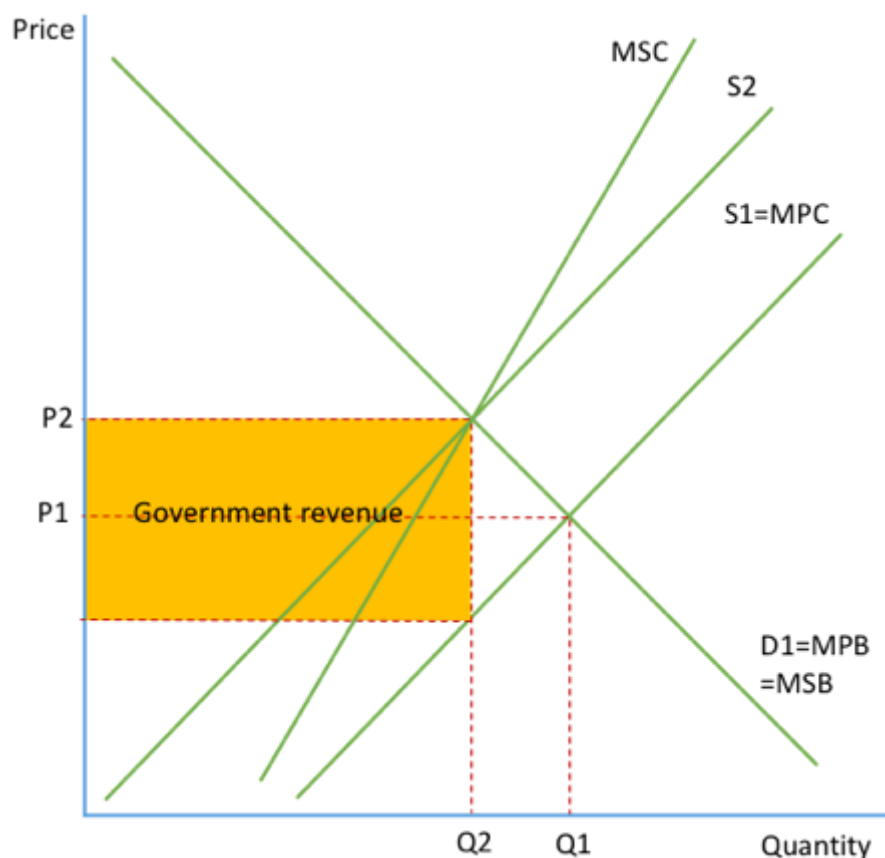
## A-level Paper 1: Markets and Business Behaviour

### Example answers

‘Tradable pollution permits are less effective than taxation at reducing carbon emissions.’ To what extent do you agree?



Tradable pollution permits are where the government gives firms a permit which allows them to produce up to a set amount of carbon each year. They can sell excess permits or buy more from other firms. The limit on the number of permits means the government can limit the amount of emissions. Alternatively, a tax is where a firm is charged for producing carbon dioxide, and so it internalises the external costs of emitting carbon dioxide.



In a free market, firms produce where  $MPC=MPB$  at  $Q_1P_1$  i.e. where the costs to them equal the value to them. However, the social equilibrium position is  $MSC=MSB$  at  $Q_2P_2$ . Therefore, a tax is effective in reducing carbon emissions since it means the external costs of production of carbon dioxide are felt by the producers. As a result, the  $MPC=S_1$  curve shifts to  $S_2$  as the costs are higher. This makes a tax effective as the government is able to realign the market mechanism and ensure production is at social optimum position and thus reduce emissions.

Moreover, a tax is effective since it raises revenue. This revenue can be used to subsidise the development of green technology and therefore will also help to reduce carbon emissions by providing other ways of production which do not emit as much carbon.

However, the problem is that it is difficult to know where to set the tax since the government do not have perfect information about the full social costs of carbon emissions. Moreover, it is less effective since it causes deadweight loss. This means that the gain society receives from lower carbon emissions could be outweighed by the effects of the tax. **(Not sure what you mean here- there is no welfare loss if production is at social optimum position)** In many cases, the government will not spend all the revenue on subsidising research and development. It is for these reasons I believe tradable permits are more effective.



Firstly, the government is able to put a cap on the amount of carbon emissions and so this will mean they will definitely be reduced. With a tax, firms may decide to pass on higher prices to consumers to cover the cost of the tax rather than reducing production. This means a tax may be ineffective since it has unintended consequences and so, although tradable permits may raise prices, they are guaranteed to reduce carbon emissions.

On top of this, tradable permits are more effective since they are a more efficient method as they use the market. Since firms are able to sell off their permits and buy more, it encourages firms to invest in green technology if they know this will be cheaper than buying more permits. It gives firms more choice over how to deal with the policy and reduced carbon emissions, meaning negative effects for consumers should be minimised. Since supply is fixed, an increase in demand for permits will increase price massively and so firms will have an incentive to invest in greener technology. One issue with this is that it is difficult for the government to know how many permits to give out.

Overall, I believe tradable pollution permits are a more effective way of reducing carbon emissions. This is because there is a guaranteed fall in output to a level set by the government, whilst with taxes there could be little fall in output (especially if the product is inelastic). Moreover, the use of the market allows firms to make their own choices and decisions based on their own position, whilst with taxes all firms are charged the same and so those who could replace technology with greener ones will be less incentivised to do so.

**Teacher's comments: 19/25**

**Good answer- perhaps could do with development of PED to your analysis and would help to develop evaluation. You also need to evaluate in terms of the success depends on the quality and cost of administration and monitoring of pollution.**

