

Chapter 9 Market failure: information failure and public goods

Answers to Knowledge checks

- 9.1** The problem of obesity is seen partly as the result of an information failure, based on the assumption that people do not fully realise the importance of a good diet. The 5 A Day campaign seeks to address this by targeting the information failure and educating people to eat at least five portions of fruit or vegetables per day.
- 9.2** If parents or relatives have attended university, they will have seen the benefits of tertiary education (and the networking opportunities that it provides). They therefore have better information about the benefits of a university education than those who have had no experience of it.
- 9.3** People tend to discount events that occur in the future. This may partly reflect an information failure in the sense that people do not fully realise the need for pension arrangements. Evidence from recent research in behavioural economics suggests that workers are more likely to remain in a pension scheme if they are enrolled in it, rather than take the trouble to opt out.
- 9.4** This is an example of moral hazard.
- 9.5** A lighthouse is non-exclusive, as ships that pass by cannot be excluded from seeing it. It is non-rivalrous because one ship passing by does not reduce the amount of light left for the next one. It is non-rejectable because a ship cannot pass by without seeing the light.
- 9.6** The free-rider problem arises in the context of the provision of national defence because if people cannot be excluded from consuming a good that others have bought, they have no incentive to pay for it.
- 9.7** Although the government needs to ensure that public goods are provided, this does not always mean that it needs to provide them directly. It may just need to raise taxation in order to be sure that a private enterprise will provide the good.

Answers to Exercises and Case studies

Exercise 9.1

A problem that arises in this situation is information asymmetry — unless Ethel is a roofing expert. Suppose that Frank knows more about the building trade, and about market conditions, than Ethel, who may not be in a position to judge whether Frank's assessment of the situation is accurate. Frank may therefore be able to charge a price that is above the value of the work — or even to convince Ethel that unnecessary work is essential. This is a form of market failure. A solution is to address the cause of the market failure, by providing a way in which Ethel can check whether Frank is a reputable builder, and whether he is presenting the facts accurately and truly. For example, there could be a register of reliable local builders prepared to do work for the elderly — such registers do exist. This is one way of trying to address the problem of information asymmetry.

Exercise 9.2

This is another example of a market failure involving information asymmetry. The position here is that pharmaceutical firms have better information about the products they sell than do potential consumers — as is inevitable. Firms are naturally reluctant to publish results of trials that may damage the public's perceptions of the quality of their products, or they may argue that most consumers do not have the training required to understand the nature of statistical evidence.

However, a failure to disclose information may lead to market failure if people are making decisions to buy on the basis of misperceptions of product quality.

Exercise 9.3

I leave you to think about this and discuss it with your friends. Think about the characteristics of a merit good. Why should the government treat museums as merit goods? Do the arguments apply equally to all museums? Discuss the features of some museums that you have visited.

Exercise 9.4

- a** A National Park, such as the North York Moors or the Peak District, would be a good example of a public good. It is not possible to exclude people from entering a National Park, as operationally there are too many entry points. In addition, one person's consumption of the views does not reduce the amount of view available for other consumers, so a National Park is also non-rivalrous. However, if too many tourists use the park, then the non-rivalry might begin to be diluted. It is not rejectable for motorists that need to travel across a National Park, assuming they do not take a long detour to avoid it.
- b** A playground may be non-rivalrous to some extent, in the sense that in general one child's play does not prevent other children from also playing — subject to capacity constraints. However, in principle a playground could charge for entry, so could be excludable. It is rejectable.
- c** A theatre performance is non-rivalrous, as your consumption of a play does not prevent the person sitting next to you from also enjoying the performance. However, people without tickets can be excluded from consuming the play. It is rejectable.
- d** An apple is a private good, having neither of the characteristics of a public good. You can be excluded from eating it if it is mine, and you cannot consume it after I have already done so. You don't need to buy apples if you do not like them, so it is rejectable.
- e** One person's 'consumption' of a TV programme does not prevent anyone else from consuming it too, so a TV programme is non-rivalrous. When TV channels were all open-access, TV programmes were also non-excludable. However, the advent of new technology makes it possible for people to be excluded from consuming some channels.
- f** A firework display is non-rivalrous, but people can be excluded to some extent — they may watch it from afar, but they could be charged for the best locations.
- g** Law and order in general may be regarded as having elements of a public good, as all people in a community can 'consume' the police protection that is provided without affecting the amount that can be consumed by others, and cannot be excluded from it. In general, law and order is non-rejectable. At an individual level, police protection may become a private good — for example, the individual protection given to a key witness in a criminal case. Such bodyguard activities are different in nature from the services provided at community level.
- h** Again, a lecture is non-rivalrous, but it is possible to exclude people from attending it. It is rejectable.
- i** Clearly, it is possible to prevent people from obtaining a Blu-ray recording, although there are non-rivalrous aspects in the sense that the recording could be watched many times over by different people. It is rejectable.
- j** Citizens of a country cannot opt out of their country's national defence — short of emigrating. Furthermore, one citizen's 'consumption' of defence does not diminish the amount available for others, so it is non-rivalrous and non-rejectable.

Case study 9.1

Asymmetric information

- a** When individuals who have been granted a loan then decide to take more risk with their project, this is moral hazard.
- b** If those who apply for loans are inherently less reliable or more likely to take risks, then this is adverse selection.
- c** If reliable and low risk borrowers choose not to borrow at the high rates of interest, then the only borrowers will be those likely to default. This could kill the market as banks will no longer be prepared to lend.

Case study 9.2

A common problem

In the case of common land, a natural tendency would be for the land to be over-used. Villagers cannot be excluded from using the land for grazing, but over-use would lead to degradation of the land. This is what has happened in some developing countries, where land has been overworked and there has been widespread deforestation. A similar argument could be applied to fisheries where there is no regulation or quotas. This has become known as the ‘Tragedy of the Commons’.

Case study 9.3

Paying for lighthouses

- a** A lighthouse can be seen as a classic example of a public good because it has all the key characteristics. It is non-excludable, non-rivalrous and non-rejectable.
- b** Relying on general taxation would be seen as inequitable, as the majority of taxpayers would not make use of the lighthouse service.
- c** In its favour, the Light Dues system attempts to ensure that vessels that benefit from the lighthouse service are the ones that pay for it. However, some have argued that exempting smaller vessels from having to pay the dues is unfair, given that smaller vessels may depend upon the lighthouses more heavily than larger and more modern ships with sophisticated GPS systems. Therefore, the smaller vessels may be able to free-ride.

Answers to end-of-chapter questions

A Multiple-choice questions

- 1** d. A person who takes out life insurance so that they feel happy to do a bungee jump
- 2** c. A person who takes out payment protection insurance because they know they will lose their job soon
- 3** b. A good that is not excludable and not rivalrous
- 4** c. Netflix

B Knowledge and understanding questions

- 5** The free-rider problem is when an individual cannot be excluded from consuming a good, and therefore has no incentive to pay for its provision, for example street lighting.

An explanation of the free-rider problem	2 marks
An explanation of the free-rider problem OR an example	1 mark

- 6** Information failure could lead to over or underconsumption, so a demand curve that does not reflect the true benefit to a consumer.

In the case of overconsumption, the consumer does have access to complete knowledge of the benefits of a good and therefore demand is too high at every price point.

In the case of underconsumption demand is too low at every price point.

An explanation of how information failure could lead to market failure	up to 2 marks
A diagram showing information failure and the effect on demand	up to 2 marks

- 7** A public good is not diminished through consumption, so each additional consumer does not add cost to the firm. For example, the council may supply street lighting. The cost of one light does not change if there is one consumer of the light as compared with two or more consumers.

A full explanation	2 marks
A vague or partial explanation	1 mark

C Stimulus response question

- 8 a** It is not possible to exclude consumers from using street lighting because most roads are public highways so anyone is allowed to use the road and therefore the street lighting.

Street lighting is non-rivalrous because the consumption of the lighting by one consumer does not affect the ability of another consumer to use it at the same time.

Identification that street lighting is non excludable AND non-rivalrous	4 marks
Explanation of one of the issues (non-excludable or non rivalrous) AND identification of the other	3 marks
Identification that street lighting is non-excludable AND non-rivalrous, or explanation of why street lighting is non-excludable OR non-rivalrous	2 marks
Identification that street lighting is non-excludable OR non-rivalrous	1 mark

b

AO1 Knowledge	1 mark
AO2 Application	1 mark
AO3 Analysis	5 marks
AO4 Evaluation	5 marks

Knowledge (1 mark) is likely to include:

- Public goods — non-excludable and non-rivalrous

Application (1 mark) is likely to include:

- Application to street lighting

Analysis (5 marks) is likely to include:

Analysis that the provision of street lighting as a public good is important, for example:

- Under provision if it were not provided as a public good
- Use of a market failure graph, to show the effects of underprovision
- Safety benefits — positive externality

Evaluation (5 marks) is likely to include:

Evaluation that the provision of street lighting is not a public good, for example:

- Households might be willing to pay for the provision to benefit their neighbourhood
- Consumers might be willing to pay
- Technology may allow consumers to pay for the lighting they use

Evaluation that the provision of street lighting is not important in the UK:

- Many areas are lit with few consumers
- Most consumers have technology (mobile phones, for example) that have built-in torches
- Modern cars have good lights

A judgement of the extent of the provision of street lighting as a public good in the UK