# 3.2 Public goods and the market's inability to achieve equity

Name: _____ Class: _____ Date: _____ **Total: 26 marks**

**KEY WORDS** public good • non-rivalrous • non-excludable • free rider problem • equity • transfer payment

## Objective

Build the skills to answer exam questions on **public goods**, the **free rider problem**, and why markets may not achieve **equity**.

**You must be able to:**

- explain the characteristics of public goods and the free rider problem
- explain why governments provide public goods, and the problems of doing so
- explain why market outcomes may be inequitable
- evaluate policies that make markets fairer

## 1 Key knowledge and worked examples

### Public goods and equity

A **public good** is **non-rivalrous** (one person's use does not reduce another's) and **non-excludable** (people cannot be stopped from using it). Examples: national defence, street lighting, flood barriers, lighthouses.

| type of good | rivalrous? | excludable? | example |
|---|---|---|---|
| private good | yes | yes | a sandwich |
| public good | no | no | street lighting |
| common pool resource | yes | no | fish in the sea |
| club good | no (until crowded) | yes | a toll road, streaming service |

**Free rider problem:** because people can use a public good without paying, they have no reason to pay for it. Private firms cannot earn revenue, so the good is **not provided** by the market at all: a "missing market".



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**Solutions: government provision** paid from taxes; **contracting out** to private firms; in some cases, technology makes exclusion possible (e.g. pay TV). Problems: the government must estimate how much people value the good, it has an opportunity cost, and it may be inefficient.

**Equity** means fairness; **equality** means sameness. The market allocates goods by **ability to pay**, so people with low income and wealth may not get basic goods (housing, healthcare, education), even when they need them. Market incomes depend on skills, inheritance, health and luck, so they can be very unequal.

**Policies for equity:** progressive taxes; **transfer payments** (pensions, unemployment benefits); provision of **merit goods** free or cheaply (schools, clinics); minimum wages; subsidized housing. Each has costs: less incentive to work or invest (possibly), administrative cost, opportunity cost.

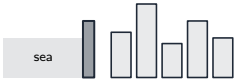
**Answer shapes:** name the characteristic → apply to the good → explain the market's result → evaluate the government's response.

## 2 Practice

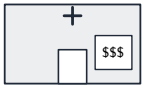
**2.1** Distinguish between **non-rivalry** and **non-excludability**. [2]



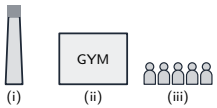
**2.2** Explain why a flood barrier protecting a city is unlikely to be provided by a private firm. [2]




**2.3** Explain **two** reasons why a free market may not achieve an equitable distribution of healthcare. [4]



**2.4** Classify each as a private good, public good, common pool resource or club good, with a reason: **(i)** a lighthouse; **(ii)** a gym with a membership fee; **(iii)** a city park's free grass area during a festival. [3]




**2.5** A government spends $45 million a year on street lighting for 1.5 million people. Calculate the cost per person, and explain why this cost is not the same as the benefit people receive. [3]



## 3 Exam-style questions

**3.1** Many countries provide primary schooling free of charge.

(a) Define **equity**. [2]

(b) Evaluate free provision of schooling as a way to make the economy more equitable. [6]






**3.2** A government contracts a private firm to build and run a toll-free motorway, paying it from taxes.

Explain **two** advantages and **one** disadvantage of contracting out the provision of a public good. [4]





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## Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

**2.1**

non-rivalry: one person's consumption does not reduce the amount available to others; non-excludability: it is not possible (or too costly) to stop people who have not paid from using it

**2.2**

everyone in the city is protected whether they pay or not, so people free ride; the firm cannot earn revenue to cover its costs, so it will not provide it: missing market

**2.3**

healthcare is allocated by ability to pay; people on low incomes may not afford treatment they need, so need and use differ; illness itself reduces income (people cannot work), making the problem worse; patients have less information than doctors, so they may not choose well; private insurers may refuse high-risk people

**2.4**

(i) public good: non-rivalrous and non-excludable; (ii) club good: excludable by the fee, non-rivalrous until crowded; (iii) common pool resource when crowded: rivalrous (space runs out) but non-excludable

**2.5**

$45\,000\,000 \div 1\,500\,000 = \$\mathbf{30}$ per person; the benefit (safety, less crime, longer trading hours) is valued differently by each person; because people cannot be charged, there is no price to show how much they value it, so the government must estimate it

**3.1**

(a) fairness; in the distribution of income, wealth or access to goods and services, which is not the same as equality

(b) all children get schooling whatever their family's income; education raises future skills and earnings, so it reduces inequality over time; positive externalities also benefit society; but it has a large opportunity cost and is paid for by taxes; quality may differ between rich and poor areas, so inequality may remain; richer families may still buy extra tutoring; judgement: a strong long-run policy, best combined with transfers and good-quality schools in poor areas

**3.2**

advantages, any two: the private firm may be more efficient / have more expertise; the government avoids large up-front borrowing or building costs; clear contract targets can improve quality; disadvantage, any one: the firm aims for profit, so it may cut quality or charge high fees in the contract; the contract may be hard to monitor



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