



2.9 Market failure – public goods

Learning objectives

| 2.9 Market failure – public goods | Depth | Diagrams and calculations |
|--|-------|---------------------------|
| Public goods <ul style="list-style-type: none">• Non-rivalrous, non-excludable• Free rider problem | AO2 | |
| Government intervention in response to public goods <ul style="list-style-type: none">• Direct provision• Contracting out to the private sector | AO3 | |



Starter discussion

To what extent is an asteroid defense system an example of a public good? Justify your answer.



Public goods

Public goods are goods and services that are **non-rivalrous** and **non-excludable**.

Public goods

Non-rivalrous

Consumption of the good by additional consumers does not diminish the ability of others to enjoy said good. For example, the benefits of asteroid protection technology does not diminish if there were a greater number of people on earth benefitting from the service.

Non-excludable

Once the good is provided, producers cannot exclude anyone from enjoying and benefiting from the good, even if they have not paid. For example, once asteroid protection technology is implemented, everyone on earth benefits regardless if they have paid for such service.

Case study



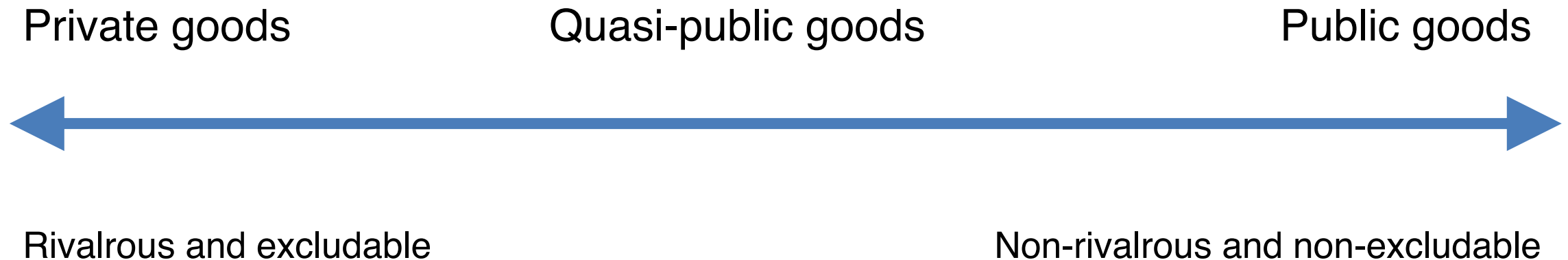
Consider the case of a public beach. The beach is open to everyone free of charge, but the beach has a maximum capacity of 600 people.



To what extent is this public beach an example of a public good?

Types of goods

All goods and services can be placed on the spectrum below. **Quasi-public goods** may exhibit characteristics of both private and public goods e.g., public beaches are non-excludable but may become rivalrous after a certain number of people.





Private goods

In contrast to public goods, **private goods** are both **rivalrous** and **excludable**.

Classifying goods activity

Place the following goods and services on the spectrum below and justify your decisions.

Public health care

Free Wi-Fi at airports

Public radio broadcasts

Hotels

Roads with toll charges

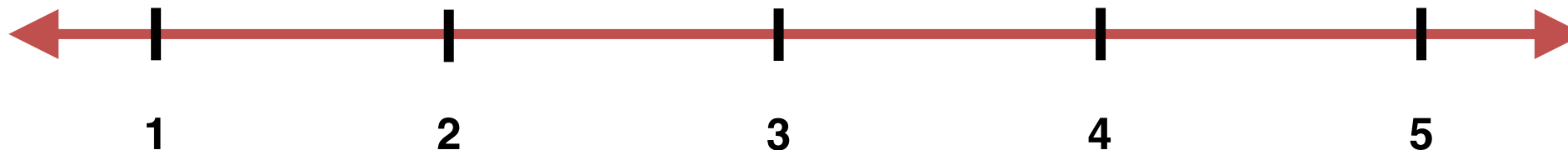
National defense

News websites

Higher education

Lighthouses

**Private
goods**



**Public
goods**



In a free-market economy, if producers cannot charge for streetlighting due to its non-excludable nature, what possible implications might there be?

Free-rider problem

The non-excludability characteristic of public goods prevents profit-maximising firms from providing such goods as they cannot charge consumers. This is known as the **free rider problem** where the public can enjoy the benefits of a good without paying for it.

Therefore, in a free-market, there would be an **under-allocation** of resources towards the production of public goods.



Government intervention in response to public goods

To prevent public goods from being underproduced, the government may provide public goods through **direct provision** and **contracting out** to the private sector.



Direct provision of public goods

Direct provision occurs when the government directly supplies certain goods and services to the public. Examples include national defense, infrastructure, and emergency services.

Direct provision of public goods

Direct provision by the government is necessary because:

- Public goods would be under-provided or even not provided in a free market.
- It enables large-scale productions and economies of scale.
- Public goods improve the well-being of individuals and societies.

However, there are also arguments against direct provision:

- Significant cost to finance public goods, which is funded through taxation.
- Opportunity cost issue arises.
- Government failure in intervening in markets as they may not know what is best for society.

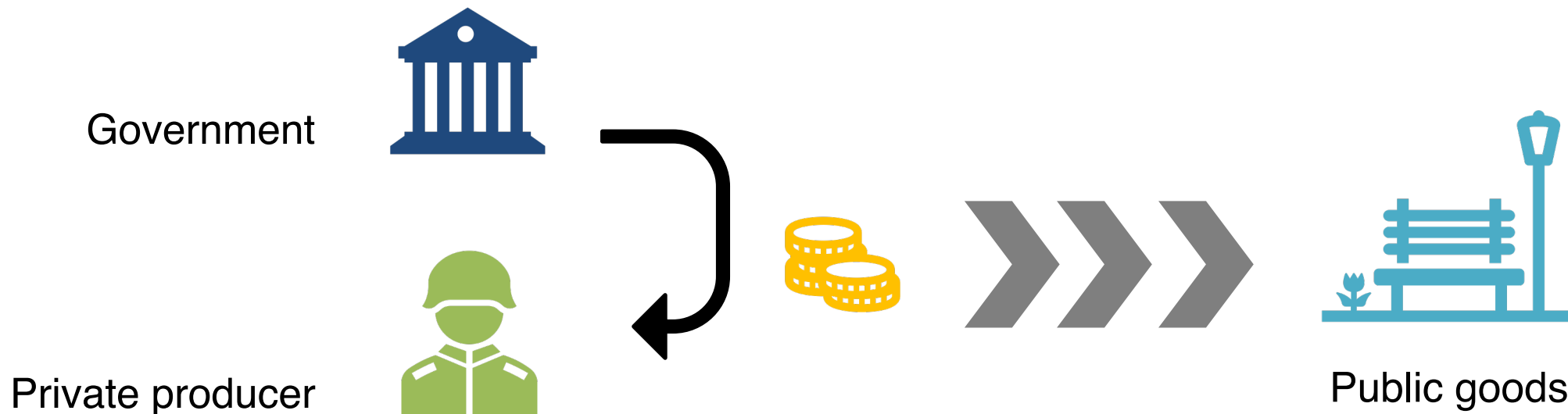


Contracting out

Contracting out occurs when the government pays a specialist private producer with the expertise to produce the public good.

Contracting out

For example, public fireworks displays for national celebrations or waste disposable systems are funded by the government but often contracted out to private sector firms. Another example is the production of US military equipment, contracted out to the private sector firms such as Lockheed Martin and Boeing.



Contracting out

Advantages

- Usually done by a competitive tendering process to encourage lower costs and higher quality.
- Access to specialist knowledge, skills, and capital in the private sector.

Disadvantages

- Government loses a degree of control over public goods.
- Cost of contracting may be greater than direct provision.
- Heavily dependent on the quality of work done by the contracted firm.
- Additional monitoring costs.

Evaluating government intervention

Direct provision and contracting out aim to address the issue of the free rider problem where public goods are under provided. Government intervention is required to correct this market failure.

However, any form of intervention may lead to another set of issues. For example, the government needs to estimate the level of resources they should allocate towards different public goods. This involves normative value judgments based on politicians and policy makers.



Real world example

Article: [Hong Kong Population Census](#)

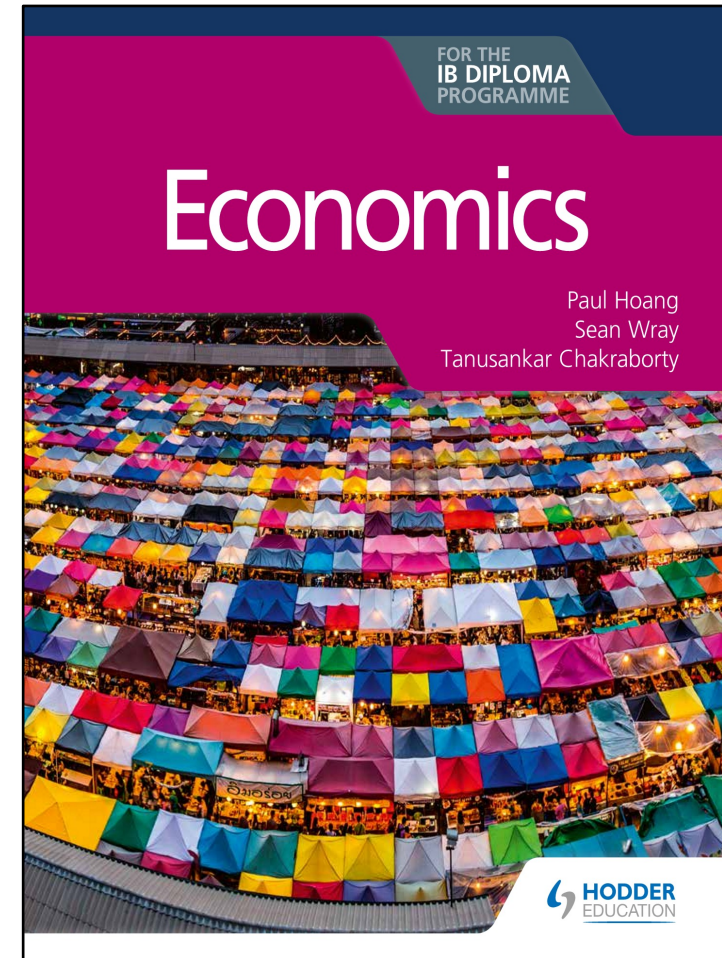
Evaluate the advantages and disadvantages of the Hong Kong government's direct provision of the population census.

Over to you...

Hoang, Wray, & Chakraborty (2020)

Economics for the IB Diploma Programme

- Page 170
- Paper 1 Exam Practice Question 12.2
- [10 marks]
- Paper 2 and 3 Exam Practice Question 12.3
- [4 marks]





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