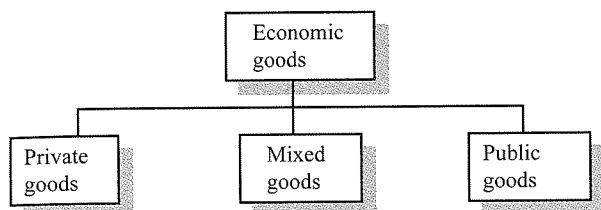




# B 3 Public Goods

By the end of this chapter you should be able to describe the characteristics of public goods and identify the reasons why the market will not, or cannot, supply them in sufficient quantities. You should also be able to discuss the concept of merit and demerit goods. You will be expected to be able to:

- distinguish between public goods and private goods
- identify examples of public goods
- explain why public goods and merit goods are not normally provided by the market
- identify the alternative methods of collective provision of public goods
- distinguish between merit and demerit goods identify alternative means of increasing (decreasing) the consumption of merit (demerit) goods.



Private goods have strong price signals, and market forces achieve the best allocation of resources, which is also socially optimal. Mixed goods have weaker price signals because there are externalities of consumption or production. **Public goods** have no price signals and as a result are not normally supplied by the private sector.

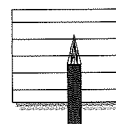
A public good has the following features. It is:

- **non-rival**, meaning that once in existence, a public good is available to anyone who wants to use it, and it can be consumed simultaneously by everyone;
- **non-depletable**, meaning that it takes no more resources to enable another user to access the public good;
- **non-excludable** by price, meaning it is not possible to exclude some people from the use of a public good, because this is inefficient or unreasonable to do so. Therefore it is impossible to charge a fee, or a price, for the use of a public good and once in existence, it can benefit anyone who wants to use it.

There are many examples of public goods, for instance, roads, public radio, law and order, national defence, road signs, a public park.

**Free-rider behaviour** exists because of non-excludability by price. Consumers will think that if they sit back and wait for others to pay, they will enjoy the benefits for nothing. The consequence is that if everyone acts like this, and no one offers a price, the public good will not be produced. The implication is that the government will have to provide these goods and charge people collectively, through the tax system. These are called **collective goods**, such as street lights.

Example of collective good	Classified as: a mixed or a public good	Provided by: local or central government	How paid for: rates or taxes?
Street lamp			
National park			
Motorway			
City library			
National defence			



Use price signals to distinguish between private, mixed and public goods.

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What are the main features of public goods?

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Why is a private sector producer unlikely to provide a public good?

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Define free-rider behaviour.

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Define collective goods.

Complete the table by classifying each of the collective goods as public or mixed goods, stating who provides them and how are they paid for.

## Roads as Public Goods

Non-rivalry means that if one person uses the road, others can also use it at the same time.

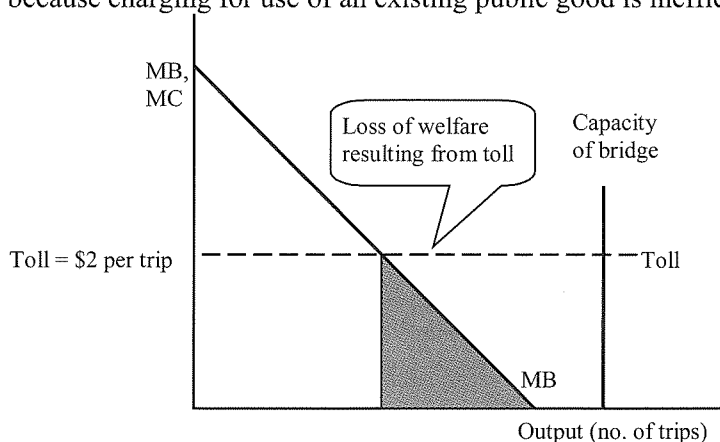
Non-depletable means that no extra resources are required for the road to be used by other people. It is not possible to use marginal cost pricing because the profit maximising equilibrium output is where  $MC = MR$ , and we know that  $MC = 0$ ,  $MR$  will also be zero. No private sector firm will produce where marginal revenue is zero, and as a result the private sector will not provide roads

Non-excludable means that even if someone didn't contribute to the payment of the road, they can still use it, therefore free rider behaviour occurs. With current technology, it is difficult to collect payment from all those who use roads

Government usually provides roads because private producers are not willing to do so. Some argue that roads only have a public element, i.e. they may be a public good until the road becomes so congested that additional cars lower the quality of services available to everyone else.

## User Pays

**User pays** means the user has to pay to use a good or service, such as paying a toll to cross a harbour bridge. Some of the reforms of the public sector that occurred in the 1980s and 1990s included making existing public services, which were previously paid for via the taxation system, instead charged through a system of user pays. This was seen in areas like tertiary education and doctors' prescriptions. In many ways this led to a rationing of the good or service but it also led to a decrease in welfare because charging for use of an existing public good is inefficient.

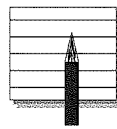


The diagram shows that it is more efficient to build the bridge from taxes and not charge for its use. Charging a \$2 toll would result in the loss of welfare shown by the shaded area.

Some readers will have noticed that there is a similarity between public goods and those with positive spillovers benefits (mixed goods). In the case of a pure public good, all of the benefits spill over and there are no components that can be marketed and sold for a price. Therefore a 100% subsidy must be provided to ensure the private providers will produce the good.

## How Much of a Public Good Should be Provided?

Because price signals are non-existent it is difficult to know how much to provide. Therefore public goods are not allocated through the market, but in the political arena. In a democracy, the allocation of public goods lies in the hands of voters.



Why are many public goods also collective goods?

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In what ways are roads a good example of public goods?

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Suggest why user pays was introduced.

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What is a disadvantage of user pays?

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What is the disadvantage of introducing a toll as shown in the diagram?

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Identify the similarities between a public good and a good with positive externalities.

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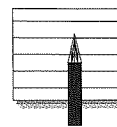


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Society desires unlimited quantities of public goods. More health care, better schools, new harbour crossings and cleaner beaches are wanted. Because of limited resources not all of these wants can be satisfied.

How are scarce resources to be satisfied most efficiently? We cannot use the market as these are public goods, and price signals are weak or non-existent. It is not the market that will allocate these limited resources.

The choices that have to be made still result in opportunity costs, or trade-offs, but the decision-making is a political process. Voters, and the politicians they elect, will determine what will be produced. The socially optimal output of a public good is where  $MSB = MSC$ , or where  $TSB - TSC$  is at a maximum (see graphs page 58).



Where is the socially optimal output of a public good?

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Plan an essay on the topic "Auckland's need for a new harbour crossing". Mention the resources, the need, decision-making process, how to decide, the trade-offs.

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What determines the mix of collective goods?

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What is the trade-off if government provides more collective goods?

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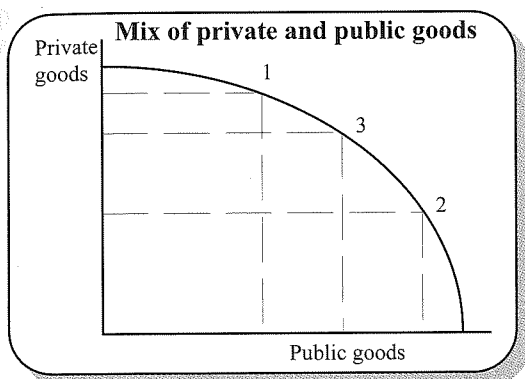
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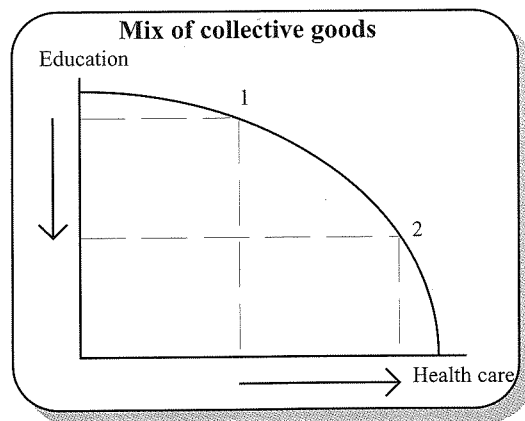


We can classify the positions illustrated as:

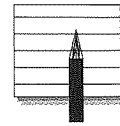
- 1 "Private affluence amongst public squalor". J.K. Galbraith identified this in the US cities of the 1970s, eg. limousines running on pot-holed roads.
- 2 Many public goods, but dissatisfied consumers frustrated with lack of access to the desired level of consumer goods, eg. the old Eastern Bloc.
- 3 Allocative efficiency, a possible suitable balance.

### What Determines the Mix of Collective Goods?

Society also needs to determine the best mix of public goods: roading, defence, health care and education. There is inevitably a **trade-off** involved. We cannot have everything in the quantities we want because there are insufficient resources. Do we decide to have one CT scanner or fifteen hundred hip replacement operations? If more health care is required this may be at the cost of less education.



Politicians claim they will provide a certain mix of public goods and services. At election time, voters need to keep in mind what the trade-off is in terms of what may have to be given up, and also the cost in terms of the taxation required to provide this mix of public goods. Political process includes the Citizens' Initiated Referenda, lobby groups and MPs carrying out surveys. The silent majority can vote a party out of office, but this option is only available every three years.



What process is involved when decisions are made regarding public goods?

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### Merit and Demerit Goods

**Merit goods** are goods or services the government considers we should have because they are thought to be good for us. Therefore the government will encourage their production and consequently consumption with policies such as:

- subsidies, eg. prescription drugs
- free provision, eg. education
- compulsion, eg. cycle helmets
- publicity, eg. drink-driving campaigns.

A merit good is not the same as a good with externalities, because government is not merely correcting for market failure, but encouraging something considered good for us. The economic concern is that government could be seen as paternalistic, with policies that override consumer sovereignty.

**Demerit goods** are those goods the government considers to be bad for us. Therefore the government will discourage their production and consumption with policies such as:

- banning their production or consumption
- taxation
- regulation.

Define a merit good.

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How does the government encourage the consumption or production of merit goods?

Define a demerit good.

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How does the government discourage the consumption or production of demerit goods?

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**Exercise.** In the space below explain how education could be defined as a:

(i) private good

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(ii) mixed good

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(iii) public good

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(iv) collective good

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(v) merit good.

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