

Public Goods

GCE A-LEVEL & IB ECONOMICS

Areas to Cover

Edexcel:

Under-provision of public goods as a type of market failure

- a) Distinction between public and private goods using the concepts of non-rivalry and non-excludability
- b) Why public goods may not be provided by the private sector: the free rider problem

AQA:

- Pure public goods are non-rival and non-excludable and recognition of the significance of these characteristics.
- The difference between a public good and a private good.
- Circumstances when a public good may take on some of the characteristics of a private good and become a quasi-public good.
- The significance of technological change, eg television broadcasting is now excludable.
- The free-rider problem.
- The tragedy of the commons (environmental market failures)

IB:

Public goods

- Non-rivalrous, non-excludable
- Free rider problem

Government intervention in response to public goods

- Direct provision
- Contracting out to the private sector

- Public Goods
 - What is a Public Good?
 - Public vs Quasi-Public
 - Free-Riders of Public Goods and Market Failure
 - Solutions to Public Goods
 - Tragedy of the Commons

Which of the Following is a Public Good in Economics?

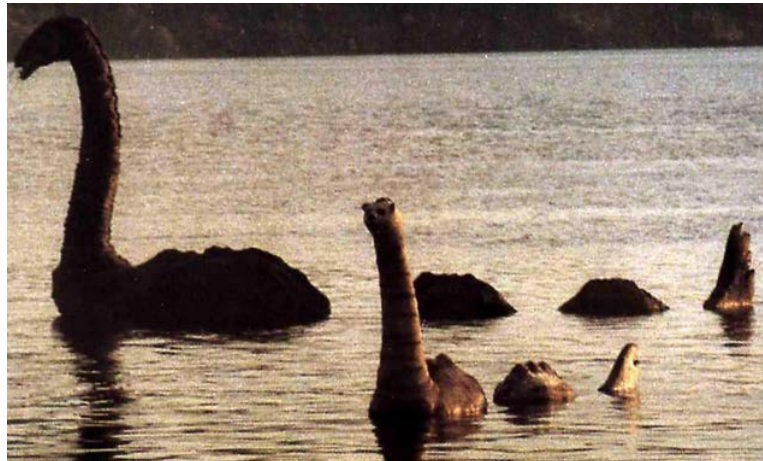
Curious
Education



Option 1: A Police Car



Option 2:
Apples found
in your
backyard



Option 3:
The Loch Ness
Monster

What is a Public Good?

A public good is an item which:

1. does not reduce when used (**non-rivalrous**)

AND

2. anyone can use and access, without money (**non-excludable**)

That's it!

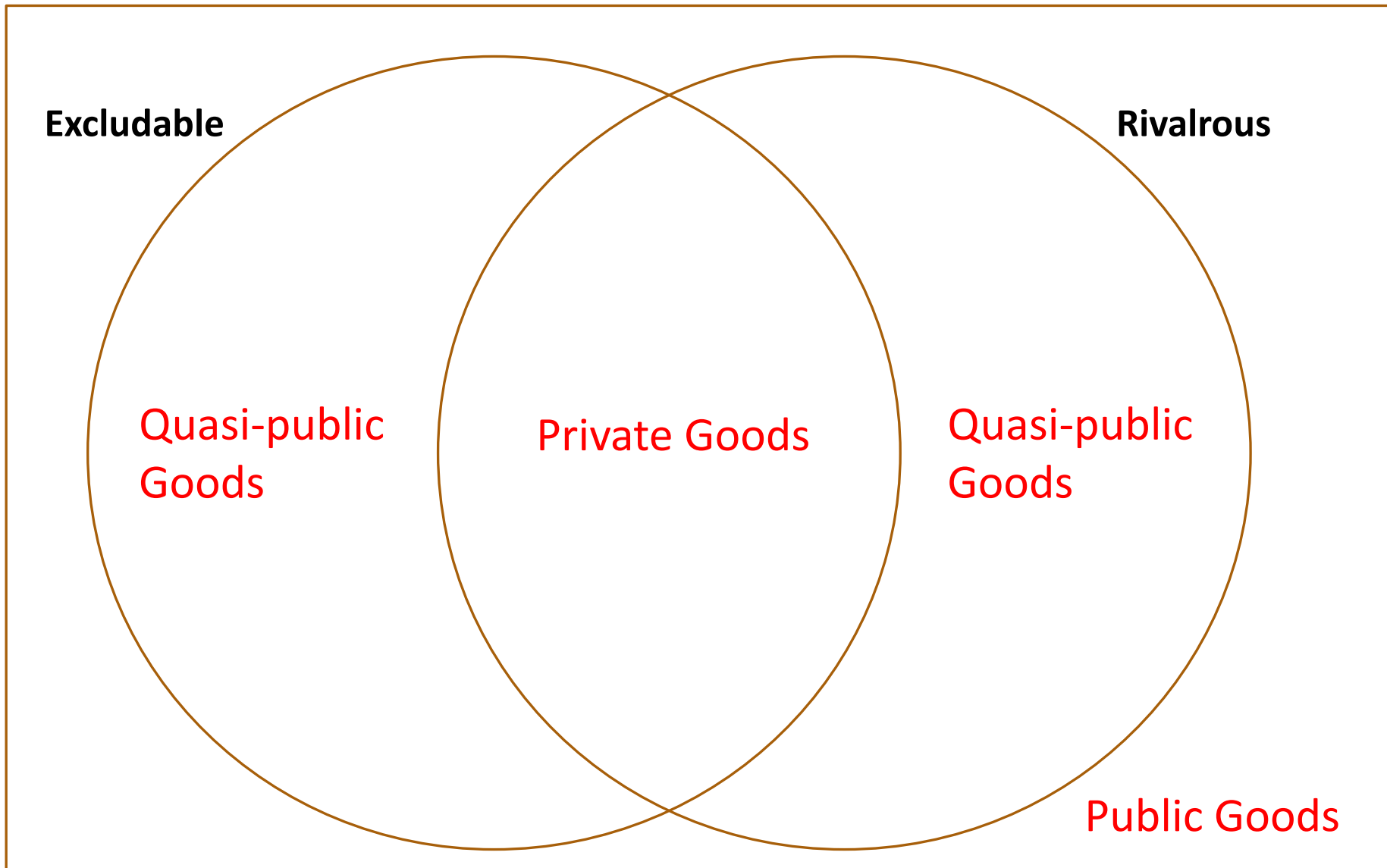
Definitions:

A good is rivalrous if using it will decrease the ability of others to do so.

A good is excludable if certain people are not able to use it.

Private goods are rivalrous and excludable!

The Venn Diagram for Public Goods



Which of the following is a Quasi-Public Good?



Option 1: Traffic Lights



Option 2:
The Great
Barrier Reef



Option 3:
A natural hot
spring

Why is Identifying Public Goods Important?

Street light is a type of public good. Once a lamp post is built, nobody would want to pay for it. Why?

It is near impossible to regain the cost of construction, if nobody can be prevented/charged from using it (due to non-excludability)

This is the definition of the **free-rider problem**!

It's like a group project where you do no work but reap the fruits of your teammate's labour.



Why is Identifying Public Goods Important?

This means if left to the private market, streetlamps will never be built.

This **missing market** for these important goods mean there is a welfare loss due to the free market system. The lack of incentive to produce the good in this case causes the **market failure**.



Who Doesn't like Free-Riding stuff?



Piracy and illegal downloads make digital music/films/games similar to a _____ good, due to **technological change**. Why?

The _____ problem may stop game companies from producing, leading to missing markets and market failure... although one can argue they are already earning enough...



What Can the Government Do?

Whenever there is market failure, the government should intervene to make the market more efficient.

How to tackle missing markets due to nature of public goods?

2 options:

1. Provide the public good directly
 - Direct provision or by contracting a private company
 - This is effectively making free-riders pay through taxes...
2. Make a private good excludable/rivalrous again
 - Mainly through regulation e.g. copyright law for piracy

Europe can take a bigger role in providing public goods

The EU should invest where it can deliver more value than member states acting alone

JEAN PISANI-FERRY

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“Times are changing. Europe can no longer rely on the US for its defence. [Cyber attacks ignore national borders](#). The EU needs to pool its resources to protect and preserve its digital infrastructure.”

The New York Times

U.S. Will Cut 12,000 Forces in Germany

Defense Department officials say the redeployments will enhance American security and its ability to respond to threats. Allies and some in Congress see it as punishment for Germany.

i.e. Individual countries within the EU should not be able to free-ride on **defence (a public good)** especially when the US is withdrawing their forces

Significance of Technological Change



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KissAnime and KissManga taken down permanently as Japan tightens piracy law, Internet mourns 'end of childhood'

A user wrote: 'So many memories! The thing I loved most about these sites were the conversations I had with fellow viewers/readers in the comment section'

By Anuka Roy

Updated On : 00:12 PST, Aug 15, 2020



(Studio Ghibli)

Technological change creates new problems and new solutions. But is it really true that all must be left to the government? Much digital content nowadays run on donations (patreon) and ad revenue...

Legislation such as piracy laws, intellectual property rights and copyright legislation can help make digital content excludable, hence making it a private good, fixing the missing market problem.

New **digital infrastructure** used by firms are another way to ensure exclusivity. For example, this may include 'paywalls' to read news articles or paid membership for digital entertainment (think of TV Licenses, or Netflix / Apple TV / Disney...)

Public Goods Chain of Reasoning

1. Public goods are non-rivalrous and non-excludable
2. Consumers cannot be excluded from using the good (non-excludable), and the good will not run out (non-rivalrous)
3. The free-rider problem arises as consumers will not pay for the good, since they can consume it for free
4. Producers will not be able to charge for the public good and earn profits, hence they have no incentive to produce it
5. A missing market for the public good occurs, leading to market failure
6. The government hence provides the public good directly or through private contractors to prevent the market failure

Will Broadband Become a Public Good?

QUARTZ AFRICA

BLOWING UP

How Google's balloons are bringing internet to new parts of Kenya



Google Project Loon to provide free internet across Sri Lanka



By Anthony Cuthbertson

Updated July 30, 2015 08:26 BST

Holding the line: Labour's £20bn plan for free broadband

The impact, both on finances and on industry, would reach far beyond BT and Openreach



Labour estimates it would cost £20bn to build the network, capital spending that forms part of the party's ambitious plans to borrow to invest in infrastructure © FT Montage/Getty



What is: Tragedy of the Commons



What is: Tragedy of the Commons

Because of the non-excludable and all-accessible nature of public goods, they are often prone to abuse.

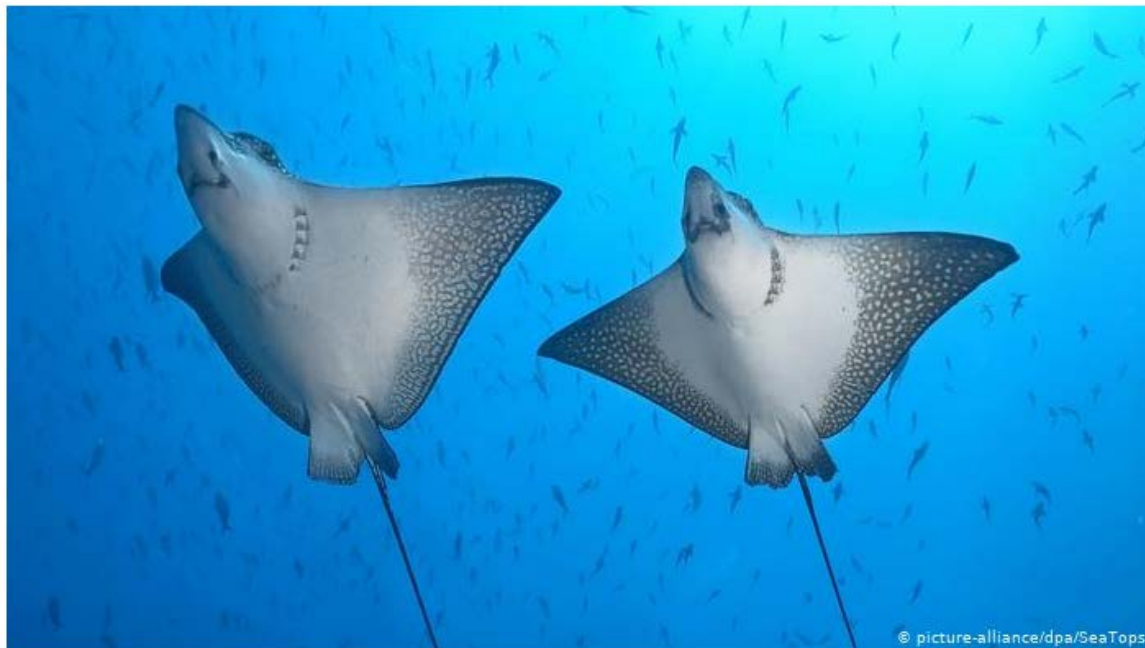
The **lack of property rights** and ownership of public goods in nature becomes particularly vulnerable to value extraction. Without any legal responsibility or protection, public goods in nature are tarnished without consequence.



When you think of tragedy of the commons, just think of public toilets, or shared kitchens, and why they can be so dirty. No one wants to put in the cost to maintain them, as nobody owns them.

Chinese fishing near Galapagos Islands raises fears for wildlife

For several years, Chinese fishing fleets have been crossing the Pacific to reach fertile fishing grounds near the Galapagos Islands. Now Ecuadorian biologists are worried that the region's ecosystem is at risk.



"The islands are famous for their unique flora and fauna and have been a UNESCO World Heritage Site since 1979.

However, international maritime law can limit the prosecution of possible violations.

"The Chinese boats are fishing in international waters and not in the exclusive economic zone of Ecuador," said Chinese fishing expert Wang.

Ecuadorian authorities also confirmed this.

"The Convention on the Law of the Sea itself recognizes the need to seek agreements to balance the problems of species protection. And this is already being tackled," he told DW, adding that Ecuador is proposing a 350-nautical-mile protection zone to protect the biological diversity in the Galapagos Archipelago."

Some Deep Sea Octopuses/Cuttlefish

Don't you want to protect them?



Flapjack Octopus



Stubby Squid