Topic 4 – Market Failure and Government Response

I can use economic concepts to help me explore contemporary social, environmental and related issues and to think about the challenged and opportunities that these issues raise.

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Section A – What is Market Failure?

Learning Outcomes:

1. Identify instances of market failure
2. Explain why most businesses bring about market failure by seeking their own best interest i.e. to maximise profit (short-termism).
3. Assess the significance of market failure in the context of an economy dominated by free market behaviour and/or its exploitation of less developed countries.

An **Economic System** refers to the system that is used to allocate scarce resources within an economy. There are three types of Economic Systems:

Market Economic System – A system where the prices and quantities are determined by consumers and producers through the forces of _______________ and _______________. Resources are allocated through the Price Mechanism where firms compete with each other to sell the goods and services at the highest price consumers are willing and able to pay.

However, the **Price Mechanism** may not always lead to a situation where resources are allocated efficiently – this is known as Market Failure.

Market Failure – A situation where the economy's resources are not efficiently allocated. In other words, it occurs when the production or consumption of a good or service has additional positive or negative side-effects to a third-party not involved in the economic activity.

Businesses seek to maximize their profits and achieve their own best interests, which can often lead to market failures. This is because business activities may not be in line with what is good for society, and businesses may not take into account **the negative consequences of their operations (negative externalities)** they create or the **positive externalities** they fail to provide.

Businesses going for profit maximisation leads to market failure. Some examples of this include:

- Environmental degradation
- Climate change
- Overfishing

SDG 13 – Climate Action (Climate Change)

Firms may emit greenhouse gases into the atmosphere as a side effect of their operations (externality) and leaves a negative impact (negative externality) on society (e.g., climate change, health problems, natural disasters).

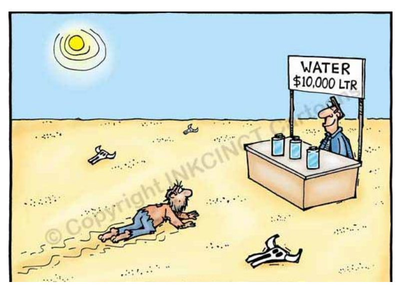
SDG 14 – Life Below Water (Overfishing)

The reduction in the number of fish in the sea because of overfishing is a clear example of market failure, as fishermen act in their own interest to maximise their catch without considering the diminishing stocks and the broader community that relies on these resources.

SDG 15 – Life on Land (Deforestation)

Businesses involved in logging, agriculture, or mining may clear large areas of land, leading to loss of biodiversity and disruption of ecosystems.

Types of Market Failure



1. Provision of Public Goods.
2. Provision of Merit Goods.
3. Provision of Demerit Goods.
4. Some firms may exploit their consumers and employees.
5. Goods with significant external costs may be over-provided.
6. Goods with significant external benefits may be under-provided.

Free-market behaviour and exploitation of less-developed countries

In the vibrant island of Avalon, businesses are booming. Businesses are free to make decisions with little interference from the government and their main goal is to make as much profit as possible. As businesses go about their day, the once clean rivers are now polluted and the beautiful forests are disappearing. The town's businesses seem to care more about profits than the environment.

Meanwhile, across the ocean, lies Cruz, a much poorer place. People here work very hard but are paid very little. Recently, companies from Avalon have started setting up factories in Cruz. They pay the workers less than they would pay people in Avalon and take Cruz's valuable resources back to Avalon.

Back in Avalon, not everyone is enjoying the wealth. While some people are getting richer, many are struggling to afford basic things like healthcare and education.

The government of Avalon has been thinking about stepping in. They want to make rules to control pollution, protect workers in Cruz, and help the less fortunate in Avalon. But many business leaders are against this. They argue that rules and regulations will hurt their profits and slow down the town's growth.

Identify four ways how market failure in a free-market economy leads to exploitation of less-developed countries (Cruz):

Reason	Explanation

Section B – Types of Market Failure

Learning Outcomes:

1. Identify examples of public goods.
2. Explain why the private sector will not provide public goods.
3. Identify examples of merit goods and/or demerit goods.
4. Explain why merit goods are under-supplied while demerit goods are over-supplied by the free market.
5. Identify examples of negative and/or positive externalities.
6. Explain why costs caused by a business but borne by others (negative externalities) will not be accounted for.
7. Distinguish between private benefits and social benefits and between private costs and social costs.
8. Identify from a case study whether cheap prices are resulting through efficient methods of production and/or through the use of means such as cheap and child labour or low health and safety regulated factories. SDG 8
9. Describe efficient and/or unethical methods of lowering production costs such as cheap and child labour or low health and safety regulated factories. SDG 8

Market Failure – The interaction of demand and supply will lead to a market equilibrium that leads to an inefficient or undesirable allocation of resources.

1. The Provision of Public Goods

Public goods are goods that have three important characteristics:

- **non-excludability** - if the good or service is provided for one citizen then it is provided for all.
- **non-rivalness** - the consumption of the commodity by one person does not impede its consumption by others.
- **non-rejectable** - individuals may not abstain from consuming them even if they want to.

Free markets fail to supply public goods and thus they have to be provided by governments or not at all. The classic example of a public good is national defence. Other examples include law and order, street lighting, pavements, public drainage systems, lighthouses and flood control schemes.

2. The Provision of Merit Goods

Merit goods are those goods that are delivered by the free market in quantities much lower than society desires. The classic examples of merit goods are education and health services. Other examples are training, insurance, inoculation and seat belts.

Why is it important for a society to have health and education?

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Supplying good healthcare and education to a large number of people is very expensive and a private firm (private hospital or private school) will have to charge high prices to cover the high costs required to provide such essential goods and services. As a result, only those who can afford to pay high prices will make use of such services. As a result, we can say that if left in the hands of the private sector, merit goods will be **under consumed**.

3. The Provision of Demerit Goods

Demerit goods are those goods that are delivered by the free market in quantities much higher than society desires. Examples of demerit goods are cigarettes, alcohol and certain forms of drugs.

Why are drugs, alcohol, and cigarettes considered as demerit goods?

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Firms in a free market economy will be willing to supply goods and services to consumers who are willing and able to pay for them even if their use may be harmful to themselves or to others.

4. Some firms may exploit their consumers and employees

1. Presence of monopolies – a monopoly is a sole supplier of a good or service. As a result, they can afford to increase prices or provide low-quality products.
2. Exploitation of workers – some firms may seek to increase profits by paying their workers very low wages and provide poor working conditions.

Efficient Methods of Lowering Production Costs	Unethical Methods of Lowering Production Costs
Automating parts of the production process.	Employing child labour which is often much cheaper than adult labour.
Economies of scale.	Paying workers below a living wage
Moving to countries with lower labour costs.	Ignoring health and safety regulations to save on costs and put workers at risk.
Modernising operations and reducing waste.	Overworking staff without fair compensation (violates SDG 8, which aims for decent work and economic growth)

5. Goods with significant external costs may be over-provided.

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6. Goods with significant external benefits may be under-provided.

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Externalities

Private Costs and Private Benefits

Private costs are the costs to a business when they produce or consume a good. For example, the costs of a business supplying a medicine include:

- Wages
- Electricity
- Rent
- Cost of raw materials
- Distribution costs
- Advertising

Private benefits are the benefits a business receives when they produce a good or service, that is, ____________________.

Externalities

Look at the picture of the factory. Who else does the factory affect when the medicine is being produced?

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External costs – costs that the rest of society must pay from the production of a good or service. External costs represent a burden on society since they represent costs which have to be paid by the rest of society even though they are created by a private entity. Thus, we can say that the action of a private entity causes the rest of society to be worse off.

Those affected are third-parties. They experience spillover effects because the effect of production spill over onto others.

External Benefits are the benefits the rest of society receives from the production of a good or service. Such benefits are given for free and no payment for them needs to be made by people who receive them.

When a good or service is produced, it may create a benefit for the rest of society.

Look at the photograph of the balcony with flowers. Apart form the supplier who sold them and the consumer who bought them, who else might be enjoying them?

Identify the external costs and external benefits of building a motorway.

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Social Costs and Social Benefits

Social costs are the total costs for a society from the production of a good or service.

This means that the full cost of producing a good or service includes both the private costs to the producer and any external costs to third parties.

Social benefits are the total benefits for a society from the production of a good or service.

The full benefits of producing a good or service include both the private benefits to the producer but also any external benefits to third parties.

Only when Social Benefits EXCEED Social Costs, a particular use of resources will be worthwhile for society.

Application

The government wants to build a new motorway to connect the airport to the capital city. It is important that this motorway gets built because the existing road is very congested and there are long delays for people and businesses getting to and from the airport. The motorway will lead to the destruction of forests and the removal of habitat for rare animals that attract foreign tourists.

1. Identify the private costs and benefits of building this motorway.
2. Identify some external costs and benefits of the motorway.

Section C – Government Intervention to Address Market Failure

Learning Outcomes:

1. Identify government policies that seek to address negative and/or positive externalities.
2. Explain the effect of government policies to correct market failure through fines, taxes and/or subsidies. SDG 13, 14 & 15
3. Assess current and/or possible future policies that may be adopted to address market failure. SDG 13, 14 & 15
4. Relate forms of government intervention that may be required to: increase the production and consumption of merit goods; decrease the production and consumption of demerit goods.
5. Evaluate how current or future policies to correct market failure may contribute towards the SDGs 2030. SDG 13, 14 & 15
6. Evaluate the effect that failure to account for these costs/benefits means that there is no reason to increase/decrease the behaviours that cause the costs/benefits.

A Mixed Economic System is one that combines the Market Economy with government intervention. The government tries to improve ways the markets work in order to reduce market failure and it can use several policies to do this.

1. Taxes
2. Subsidies
3. Nationalisation
4. Laws and Regulations
5. Price Floor and Price Ceiling

Taxes

- It is possible to make firms consider the external costs of their actions by taxing them. For example, an oil refinery may pump smoke and chemical waste into the atmosphere, damaging laundry, plants and buildings.
- The refinery ignores these external costs because it doesn't have to pay for the damage.
- However, a government may be able to make them pay for the damage by taking extra tax form them to cover the costs of repair.
- Some countries have introduced anti-pollution or 'green taxes', including taxes on petrol, waste disposal and energy use.

Subsidies

- Private sector firms are not interested in producing external benefits for others because they are not paid for them.
- For example, a bus company may find it unprofitable to provide buses for people after the rush hour because not enough people use the service then.
- However, many elderly people and schoolchildren travel at off-peak times. The bus service also helps reduce road congestion and pollution because ____________ ________________________________.
- To help the bus company provide the service, they are given a subsidy – a payment of money given by the government to a firm.

Nationalisation

- Some industries provide large external benefits.
- By taking over the ownership and running of a whole industry, a government can allow nationalised industries to act in the public interest, and take account of any external costs and benefits they may give rise to.

- Example: often, bus and train fares will be kept low to encourage people to use these services to travel instead of using their cars that may otherwise cause traffic congestion and harmful exhaust fumes and air pollution.

Laws and Regulation

- A government may introduce laws or regulations in order to control firms creating external costs.
- For example, many countries have introduced anti-polluting laws to control the contamination of land and release the untreated waste and chemicals into the water supplies and the air.
- Planning regulations may also be used to stop homes and offices being built with hazardous materials and where it may spoil the landscape and views enjoyed by others.
- Owners of firms who break these laws and regulations may be fined or imprisoned.

Market-Based Ways to Tackle Market Failure	Law-Based Ways to Tackle Market Failure
Taxes	Strict Regulations and enforcement of regulation.
Subsidies	Banning/Restricting production and/or consumption of a good or service.
Creating limits (capping) on the total amount of an externality (like pollution).	Establishing clear laws so individuals or firms can be held accountable for the externalities they create.
Encouraging businesses to develop new technologies or methods that reduce externalities, e.g., cleaner production processes.	Setting limits on the production or consumption of certain goods or resources to protect public interest.

If a company or person doesn't have to pay for the harm they cause, like polluting a river, they won't have a reason to stop doing it. For example, if a factory doesn’t have to pay for the damage it causes to a river, it won't be motivated to pollute less. This lack of responsibility can lead to more harm to the environment, which goes against the goals of making the world more sustainable.

On the other hand, if a person or company doesn't get rewarded for doing something good, like planting trees that clean the air, they might not want to keep doing that good thing. For example, if a farmer who plants lots of trees doesn't get any benefits for the cleaner air that those trees help to create, he might decide it’s not worth it to plant more trees.

Price Floor and Price Ceiling will be covered in class.

Exercises

Exercise 1

Read the following case study and answer the questions below.

"Country X has recently seen a significant rise in the number of factories that are disposing of untreated waste into local rivers. This has led to water pollution and health problems among local residents."

1. Identify the type of externality illustrated in this case study. Explain your answer.
2. Suggest one government policy that could address this issue. Explain how it would work.

Exercise 2

"A factory in City A is emitting large amounts of pollutants into the air. Residents are complaining of health problems, and nearby farms are experiencing crop damage."

1. Identify and explain the negative externality in this case.
2. What government intervention could potentially solve this problem?
3. Could the factory owners argue against this intervention? If so, what might their argument be?

Exercise 3

"The government of Country B is considering increasing taxes on cigarettes and using the revenue to subsidise healthcare services."

1. Identify the merit good and the demerit good in this case. Explain your choices.
2. Evaluate the potential effects of this policy on public health.
3. Are there any potential downsides or unintended consequences of this policy? Explain.

Exercise 4

"Country D is a large producer of plastic waste. The government is exploring a new policy of taxing companies based on the amount of plastic they produce, with the goal of reducing plastic pollution (related to SDG 14: Life Below Water)."

1. Evaluate how effective you think this policy will be in reducing plastic pollution.
2. How might this policy contribute to achieving SDG 14?
3. Suggest one potential unintended consequence of this policy and how the government might mitigate this effect.

Exercise 5

Imagine your country is facing a significant issue with overfishing, leading to depletion of fish stocks (related to SDG 14: Life Below Water).

1. Propose a policy that the government could implement to address this problem.
2. Evaluate the potential effectiveness and limitations of your proposed policy.
3. Assess how this policy could contribute to achieving SDG 14.

Exercise 6

Draw a Price-Quantity graph illustrating the effect of:

1. A price floor set above the market price.
2. A price ceiling set below the market price.

For each graph, clearly label the axes, the equilibrium price and quantity, the price floor/ceiling, and areas representing surplus or shortage.