Activities: Guidance and answers

Activity 2.1 Tropical trouble
Your groups may have discussed the following problems and solutions.

1. Scarcity of resources relative to the needs and wants of the survivors.
2. This activity involved deciding how best to allocate resources to different uses. For example, is shelter a priority or is finding and storing more food of a priority? Therefore, it also involves deciding which needs and wants to satisfy with the available resources.

At one extreme you could rely on survival of fittest. Those able to gather the most food and resources will survive while the old, sick or injured are unlikely to. Alternatively, resources can be gathered by the able-bodied and then shared out equally between all the survivors or on the basis of need. Decisions on how best to use resources and whose needs and wants to satisfy first can also be taken by a committee.

Activity 2.2 Problem solving
This activity involves completing a table of decisions on what, how and for whom to produce using scarce resources based on your discussions in activity 2.1. Together these activities should illustrate that decisions on how best to allocate scarce resources can be centrally planned or left up to the market (i.e. survival of the fittest), or some combination of these systems.

Activity 2.3 An introduction to the workings of a market system

1. The main aim is profit.
2. Firms decide what to produce by asking: for which product is consumer demand rising? Which product is the most profitable?
3. Firms decide how to produce goods and services by combining available resources in the most efficient way possible so as to maximize output and minimize production costs.
4. Teenagers without sufficient money could not satisfy their wants for shoes.
5. They will be unemployed.

Activity 2.4 Mustard

1. Planning decisions were poor and did not take account of consumers’ needs and wants.
2. Most consumers do not want to buy mustard in such volumes. The mustard would also perish before they had consumed it all.
3. Instructions should also have been given on size of jars that consumers wanted to buy.
4 Government planners had to provide millions of different instructions to many thousands of different firms. Planners decided what goods and services should be produced but often failed to give clear instructions on what types, sizes, qualities, etc. were required. Because firms in planned economies had no profit motive there was no incentive for them to minimize waste to reduce their costs and/or improve product quality to generate revenues.

**Activity 2.5 Freedom of choice in a market economy**

1 People with the greatest ability to pay for these goods and services.

2 People with high incomes or wealth, like those in the first photograph, have more freedom to choose in a market economy. This is because private sector firms will produce the goods and services they are willing and able to buy if it is profitable to do so. The people in the second photograph are unemployed and are unlikely to have sufficient income or wealth to buy many goods and services.

**Activity 2.6 Mixing it up**

<table>
<thead>
<tr>
<th>Article</th>
<th>Problems with a mixed economic system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary surgeons accused of overcharging</td>
<td>Some firms acting together can abuse their market power</td>
</tr>
<tr>
<td>Corporate tax on the profits of local businesses is too high</td>
<td>Taxes can distort markets and reduce incentives</td>
</tr>
<tr>
<td>New employment regulations and taxes will impose costs on business</td>
<td>Laws and regulations can increase production costs, reduce the supply of goods and services and increase prices</td>
</tr>
<tr>
<td>Customers warned energy bills are to stay high</td>
<td>The profit motives of private sector firms may result in high prices, especially if consumers have few substitutes to choose from</td>
</tr>
<tr>
<td>Supermarket suppliers ‘helping destroy Amazon rainforest’</td>
<td>Some producers and consumers may ignore the harmful effects of their decisions and actions</td>
</tr>
<tr>
<td>Government policies failing the poor</td>
<td>Firms will only supply products to consumers who are able to pay for them. Public sector organizations may also be inefficient and produce poor-quality goods and services</td>
</tr>
<tr>
<td>Turks and Caicos PM quits after corruption inquiry</td>
<td>Some governments may take actions that are for political or even personal gain</td>
</tr>
</tbody>
</table>
Activity 2.7 A taxing time

1

<table>
<thead>
<tr>
<th>Article</th>
<th>Winners?</th>
<th>Losers?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuba to cut 1 million public sector jobs</td>
<td>Increase in labour supply for private sector firms may help lower wages</td>
<td>Public sector employees who lose their jobs</td>
</tr>
<tr>
<td>Food shortages and higher prices</td>
<td>Taxpayers may benefit from cuts in taxes as subsidies are reduced; Or other sectors benefit if government spending is redirected</td>
<td>Farmers who lose subsidies; consumers faced with higher food prices</td>
</tr>
<tr>
<td>Sharp cuts to public spending</td>
<td>Other taxpayers will benefit from reduced government debt and interest payments – this will reduce the need to raise taxes again</td>
<td>Consumers pay higher prices due to increase in VAT; banks will have to pay more tax from their profits; public sector workers lose their jobs; people on welfare lose their benefits or have them cut</td>
</tr>
<tr>
<td>Microsoft threatens to move jobs overseas</td>
<td>Other taxes may be cut or government spending may increase to benefit other sectors</td>
<td>Companies pay more tax on their profits; jobs may be cut as firms try to reduce their costs</td>
</tr>
<tr>
<td>Increase in taxes on electricity</td>
<td>Producers of solar energy panels and power will benefit; cleaner energy will also benefit the environment and reduce health problems</td>
<td>Energy users pay higher prices</td>
</tr>
<tr>
<td>Additional tax measures</td>
<td>Public sector workers benefit from increased pay; people on welfare will receive more support</td>
<td>Taxpayers must pay more</td>
</tr>
</tbody>
</table>

2 All the articles highlight conflicts of interest. This is because public expenditures must be paid for from tax revenues. Increasing public spending, for example to benefit public sector workers, people or welfare payments, or to provide subsidies to private sector firms to boost output and jobs, will mean higher taxes for taxpayers, for example for consumers if sales of value added taxes are increased, for companies if taxes of their profits rise, or for employees if incomes taxes are raised. Similarly, cuts in public spending may hurt people on welfare and public sector employees but can lower taxes from many other people and firms.

Activity 2.8 Food for thought

1 The market for food products consists of all those producers willing and able to supply food products and all those consumers willing and able to buy them.

2 Consumer wants for healthier, organic food products are rising and they are falling for less-healthy options.

3 Consumers are becoming more health-conscious and concerned about the impact of intensive farming methods on the environment and about the maltreatment of animals.

4 The prices and profitability of many organic food products is rising.

5 More resources are being allocated to the production of organic food products.
Activity 2.9 What is your individual demand?

1 Your demand schedule may be similar to the following.

<table>
<thead>
<tr>
<th>Possible price of a chocolate bar (cents)</th>
<th>Your demand per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>1</td>
</tr>
<tr>
<td>150</td>
<td>2</td>
</tr>
<tr>
<td>100</td>
<td>3</td>
</tr>
<tr>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>25</td>
<td>6</td>
</tr>
</tbody>
</table>

2

Activity 2.10 Market demand curve

1

2 a around 170,000 b around 300,000

3 a around 27 cents b around 8 cents

4 The market demand curve slopes downwards because as prices rise, consumers cannot afford to buy as many.

5 A market demand curve shows the total quantity all consumers of the product would be willing and able to buy at different prices. An individual demand curve only shows what one consumer would be willing and able to buy. A market demand curve for a product is therefore the sum of all individual demand curves for the same product.
Activity 2.11 What causes a shift in demand?

1

<table>
<thead>
<tr>
<th>Article</th>
<th>1a Factor that has changed</th>
<th>1b Impact on demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax cut in Malaysian Budget</td>
<td>Income after tax has increased</td>
<td>Increase in demand for many products</td>
</tr>
<tr>
<td>World population growth</td>
<td>Increase in number of consumers</td>
<td>Increase in demand for many products</td>
</tr>
<tr>
<td>Demand for online music services soars</td>
<td>Fall in price on personal music players</td>
<td>Increase in demand for music downloads</td>
</tr>
<tr>
<td>Australia raises interest rate</td>
<td>Increase in cost of borrowing; increase in return to saving</td>
<td>Fall in demand for many goods and services as demand for loans falls and people also save more</td>
</tr>
<tr>
<td>India tries to keep its cool</td>
<td>Hot weather</td>
<td>Increase in demand for ice cream and soft drinks</td>
</tr>
</tbody>
</table>

2

![Demand Curve Diagram](image.jpg)

DD = market demand curve before hot weather; D1D1 = market demand during hot weather

Activity 2.12 Competing or complementary?

<table>
<thead>
<tr>
<th>Products</th>
<th>Possible substitutes</th>
<th>Products</th>
<th>Possible complements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric oven</td>
<td>Gas oven</td>
<td>Flat-screen televisions</td>
<td>Video players</td>
</tr>
<tr>
<td>Woollen jumpers</td>
<td>Fleeces</td>
<td>Fountain pens</td>
<td>Ink</td>
</tr>
<tr>
<td>Gas supplies</td>
<td>Electricity</td>
<td>Guitars</td>
<td>Strings</td>
</tr>
<tr>
<td>iPods</td>
<td>Other digital music players</td>
<td>Toothbrushes</td>
<td>Toothpaste</td>
</tr>
<tr>
<td>Rail journeys</td>
<td>Bus travel</td>
<td>Computers</td>
<td>Software</td>
</tr>
</tbody>
</table>
Activity 2.13 The market supply curve

1. Supply extends as price rises and supply contracts as price falls.
2. A fall in price will cause an extension in supply.
3. A rise in price will cause a contraction of supply.
4. a) Around 1,000 per month b) Around 500 per month.
5. a) $12 b) $12 × 700 = $8,400 per month

6

<table>
<thead>
<tr>
<th>Output of tankards per month</th>
<th>Total cost ($)</th>
<th>Total revenue ($)</th>
<th>Profit ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>600</td>
<td>600</td>
<td>0</td>
</tr>
<tr>
<td>300</td>
<td>1,800</td>
<td>2,400</td>
<td>600</td>
</tr>
<tr>
<td>700</td>
<td>4,000</td>
<td>8,400</td>
<td>4,400</td>
</tr>
<tr>
<td>1,100</td>
<td>6,200</td>
<td>17,600</td>
<td>11,400</td>
</tr>
<tr>
<td>1,600</td>
<td>9,000</td>
<td>32,000</td>
<td>23,000</td>
</tr>
</tbody>
</table>

The market supply curve for tankard slopes upwards to the right – i.e. market supply extends as price rises – because producers can make more profit as price rises.

Activity 2.14 What causes a shift in supply?

- The most profitable crop to grow is cabbages.
- Farmers should grow more potatoes; the supply of cabbages will fall.
- Farmers should grow more cabbages; the supply of potatoes will fall and the supply of cabbages will rise.
- The farmer can grow more potatoes and cabbages because of the fall in the cost of land.
- The supply of cabbages will fall.
- Factors affecting supply are market prices, costs of production, cost and availability of resources, productivity of resources and weather conditions.
Activity 2.15 Finding the market price

1 30 cents.

2 a Market price is found where the market demand curve crosses the market supply curve.
   b 200,000 per month.

3 a There is excess demand at 5, 10 and 20 cents per unit.
   b There is excess supply at 40 and 50 cents per unit.

4 a Market price should rise.
   b Market prices should fall.
   c There will be no excess demand or supply when the price is 30 cents per unit.

Activity 2.16: A fall in demand and market price

5 Supply has contracted from 300 pens per week to 200 per week.

6 Fountain and felt-tipped pens fall in price; consumer tastes change to favour pencils; unemployment rises; income taxes rise.
Activity 2.17 A fall in supply and market price

4 Market demand has contracted from 300,000 tonnes per year to 200,000 tonnes per year.

5 Poor weather conditions cause crops to fail; farmers grow other crops because their prices rise and they become profitable; wages and other production costs rise; the government withdraws farm subsidies; there are labour and land shortages.

Activity 2.18 A flat-out market

1 Demand increased.

2 Market demand for other televisions fell and supply contracted.

3 Market supply increased and market prices fell.

4 Quantity traded will rise.

5
Activity 2.19 A problem to ‘stretch’ you

<table>
<thead>
<tr>
<th>Product</th>
<th>Small or large change in quantity demanded?</th>
<th>Price elastic or inelastic?</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>Small</td>
<td>Inelastic</td>
<td>Essential, few substitutes</td>
</tr>
<tr>
<td>Luxury holiday</td>
<td>Large</td>
<td>Elastic</td>
<td>Expensive, non-essential item</td>
</tr>
<tr>
<td>Bread</td>
<td>Small</td>
<td>Inelastic</td>
<td>Essential</td>
</tr>
<tr>
<td>A Toyota car</td>
<td>Large</td>
<td>Elastic</td>
<td>Luxury, expensive item with many close substitutes</td>
</tr>
<tr>
<td>A newspaper</td>
<td>Small</td>
<td>Inelastic</td>
<td>Low-cost item</td>
</tr>
</tbody>
</table>

Activity 2.20 Using the formula

1. \[ PED = \frac{(500/1000)}{(10/40)} \times 100 = 2 \]
2. Demand is relatively price elastic.
3. The demand curve will be gently downward sloping, as shown below.

Activity 2.21 What happens to total revenue?

1. Loaf of bread: \[ PED = \frac{(500/10,000)}{(5/25)} = 0.25 \]
   
   Airline ticket: \[ PED = \frac{(800/1,000)}{(100/500)} = 4 \]

2. | Price per loaf (cents) | Quantity demanded per month | Total revenue ($) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>10,000</td>
<td>$2,500</td>
</tr>
<tr>
<td>20</td>
<td>10,500</td>
<td>$2,100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Price per airline ticket ($)</th>
<th>Quantity demanded per month</th>
<th>Total revenue ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>1,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>400</td>
<td>1,800</td>
<td>$720,000</td>
</tr>
</tbody>
</table>
3  a  No, because revenue will fall. The cut in the price of bread is proportionately more than the increase in demand.

b  Yes, because revenue will rise. The increase in demand for tickets is proportionately greater than the cut in price.

4  a  Demand is price elastic when the percentage change in quantity demanded is more than the percentage change in price. A fall in price will cause a large extension in quantity demanded so that total sales revenue rises. If price is increased, total revenue would fall.

b  Demand is price inelastic when quantity demanded changes by a smaller percentage than price. A fall in price will cause a small extension in quantity demanded so that total sales revenue falls. A rise in price therefore causes total revenue to rise.

Activity 2.22 Elastic brands

1  Flu vaccinations help to prevent a dangerous virus that makes people ill and can cause deaths. Demand for flu vaccinations is therefore likely to be highly price inelastic, i.e. PED will be much below 1. In contrast, although meat is a basic foodstuff for many people we do not need to eat meat to survive. That is, not only does each type of meat have many close substitutes because there are many different types of meat from different animals, we can also choose to eat vegetarian foodstuffs instead. Demand for each type of meat is therefore likely to be price elastic, i.e. PED will be greater than 1.

2  The existence of close substitutes in consumer demand means several products can satisfy a similar want. If the price of beef rises, consumers may choose to buy lamb instead to satisfy their want for meat.

3  PED for Toyota cars = 41%/10% = 4.1. Demand is price elastic because cars are a luxury item, are expensive so their cost will account for a significant percentage of many people’s incomes, and Toyota cars have many close substitutes, such as cars made by Ford, Hyundai, Peugeot and Volkswagen.

PED for a newspaper = 0.27%/50% = 0.0054. Demand is highly price inelastic. Newspapers are a low-cost item and many consumers remain loyal to one or more daily newspapers even when their relative prices change.

Activity 2.23 Stretching supply

1  PES for natural rubber = (100/1,000)/(20/80) = 0.4
   PES for man-made rubber = (800/2,000)/(20/80) = 1.6

2  Natural rubber takes a long time to grow. Supply will therefore be price inelastic in the short run. In contrast, the supply of man-made rubber is more responsive to price because production of the synthetic material can be increased relatively quickly by firms using their existing capital, labour and materials.

Activity 2.24 Not painting a pretty picture

1  The company only takes into account its own private costs, such as wages and rents, and its private benefits, namely revenues from the sale of its paints.

2  From society’s point of view the firm should take into account the external costs paint production could give rise to, including air and water pollution, noise and visual intrusion, and the negative impact these could have on people’s health. For example, the activity suggests increased health-care costs will be $4 million a year.
3  a i; b i

4  a $1 million b The social costs of paint production are $11 million and exceed its social benefits of $9 million. Paint production in this case is therefore an uneconomic use of resources and not worthwhile for society.

Activity 2.25 Belt up!
1 Opportunity cost is the benefit of the next best alternative foregone.
2 Amiya has not included the external costs of her decision not to wear a seat belt. This included the costs of the services of police and medics who attended her accident, the cost of her treatment in hospital, and the loss of her contribution to productivity and revenues at the bank she works for during her time off recovering from her injuries.
3 An economist would not agree. This is because the driver is thinking only of his or her own satisfaction, costs and benefits. Driving without a seatbelt can affect others if there is an accident. There are many other potential costs on others including the costs of police, health care and lost output. Car and accident insurance premiums will also be higher for all drivers if there is a greater risk of accidents and injuries occurring. Similarly, family members and friends may suffer emotionally seeing a loved one injured or even worrying that they may get injured in an accident. They may also lose income if they have to give up work to care for their loved one following an accident. All of these costs should be taken into account before reaching a decision.

Activity 2.26 Smoking
1 Private costs will include wages, purchase of tobacco and other materials, insurance premiums, any loan repayments, rents, electricity and telephone charges, etc.
2 The total revenue is calculated by multiplying the number of packets sold by the price per packet.
3 They will have to breathe in his smoke. This could damage their health. The smoke will also make their clothes and hair smell.
4 The government would have to pay for inspectors, police and the legal system.
5 a The opportunity cost is lower taxes or the benefit of other public expenditures foregone, for example a new school, more police, higher welfare payments or more farm subsidies.
   b The cost will be met by taxpayers or the beneficiaries of other public expenditures which are subsequently cut to pay for the increased cost of health care.
6 a The volume of cigarettes consumed is likely to fall.
   b Revenue may fall but this will depend on how responsive demand is to price. Cigarette smoking for many people is habitual so a rise in price may only produce a very small fall in demand. Overall revenues will rise but some of that revenue has to be paid in tax to the government. After tax, therefore, cigarette producers may still suffer a small fall in revenue.
   c If consumers start buying fewer packets of cigarettes, producers may cut their output and the size of their workforces. Some workers in cigarette factories may lose their jobs.
Activity 2.27 Living on borrowed time

The article provides the following examples.

- **Resource allocation**: we are consuming non-renewable resources at an increasing rate. We are not allocating enough resources to developing alternative methods of production, to the conservation of natural resources and environmental protection.

- **Opportunity cost**: increased consumption today means fewer resources will be available to consume in the future.

- **Social costs and benefits**: deleting natural resources, irreversible damage to the environment, pollution and climate change, and the impact these are having on farm yields, are all examples of external costs of our production and consumption decisions.

- **Economic conflicts of interest**: these exist between people who want to conserve resources for future generations and those who want to use up more resources to meet the growing needs of a expanding global population; and between those countries and people that have more resources than others.

Actions consumers, firms and governments could take to conserve resources and reduce the external costs of their individual production and consumption decisions might include the following.

- They could reduce waste in production and consumption.
- They could recycle more waste or unwanted products.
- They might change their tastes and buying habits, for example, buy more organic vegetables and less meat products.
- They might invest in the development and use of alternative production methods and products, for example more renewable energy or electric vehicles.
- Governments could encourage activities that conserve resources through the provision of subsidies. They could tax more heavily activities that waste resources or harm the environment.
- Governments could pass laws that limit or outlaw certain activities, such as dumping untreated waste.

Activity 2.28 Conserve or consume?

Many of your answers will depend on your own views and value judgements. For example, some of you may attach more weight to using resources to eradicate poverty than conserving resources for the future. All of these actions involve trade-offs and because opinions will differ it will be difficult to prove who is right and who is wrong unless it is possible to value and compare all the social costs and benefits of each and every action. This will be difficult to do.

Activity 2.29 Where have all the polar bears gone?

(This is your own study.) You should investigate how climate change will affect weather patterns and therefore the production of goods and services such as food and drink products, and tourism. Will climate change also mean that producers and consumers have to spend more on protecting their businesses and homes from extreme weather conditions? Remember that government action can also have costs and benefits that will affect different groups in society and also distort behaviours. Your report should also explore these conflicts and trade-offs.