

# THE NATURE OF ECONOMIC PROBLEM

1 (a) Explain the economic problem of scarcity. [3]

(b) Discuss whether a country should conserve or use its natural resources. [8]

## MARKSCHEME:

(a)(a) Explanation could include:

- there are limited/finite resources (1)
- to satisfy unlimited/infinite wants (1)
- where choices have to be made/there is an opportunity cost (1). [3]

(b)

Discussion could include:

Conservation of natural resources:	Use of natural resources:
<ul style="list-style-type: none"><li>• this will avoid too rapid a depletion of resources</li><li>• this is more sustainable as it takes into account the needs of future generations</li><li>• a better long-term strategy</li></ul>	<ul style="list-style-type: none"><li>• will raise output</li><li>• will raise income and employment</li><li>• but resources will be depleted/exhausted more quickly</li><li>• more of a short-term strategy</li></ul>

A one-sided answer, which focuses on the conservation or use of resources only, can gain no more than 5 marks. [8]

**2** The economic problem exists in every country, but there are different ways to try to solve it.

**(a)** Describe the nature of the economic problem. [4]

**(b)** Explain how the market system attempts to solve the economic problem. [6]

**MARKSCHEME:**

(a) Candidates could mention:

- scarcity
- limited resources
- unlimited wants of consumers
- choices will need to be made (idea of opportunity cost)
- in terms of what to produce, how to produce and for whom to produce

Note: maximum of 4 marks. [4]

(b) Candidates could mention:

- goods and services are freely exchanged through a market
- without the need for government intervention
- an equilibrium price and quantity will be established in the market
- through the interaction of the buyers and sellers
- this will determine the allocation of the scarce resources
- price mechanism signals preferences
- profits encourage switching/reallocation of resources

Note: maximum of 6 marks. [6]

**3** A number of economies are devoting more of their resources to the provision of health care. Due to the economic problem, this involves them having to make difficult choices.

**(a)** What is meant by the 'economic problem'? [2]

**MARKSCHEME:**

2 marks for wants exceeding resources or wants are unlimited/infinite whilst resources are limited/finite or 1 mark for limited resources or scarcity.

- 4 In 2013, an earthquake on the Iran/Pakistan border destroyed many factories and homes. Some officials wanted the Governments to rebuild the factories and homes, even though there would be an opportunity cost. Others suggested that some people should be encouraged to emigrate.

(a) Define 'opportunity cost'. [2]

(b) Explain why the economic problem can never be solved. [4]

**MARKSCHEME:**

**Explain why the economic problem can never be solved. [4]**

- the economic problem is scarcity (1)
- infinite wants (1) finite resources (1)
- wants exceed resources (1) as wants grow faster than resources/growth of resources will not exceed growth of wants (1)

- 5 Deposits in banks in Dubai rose by 40% in 2013. More financial companies are locating in Dubai. The growth in its financial sector is being accompanied by horizontal mergers between financial companies and workers becoming more specialised. The economy is becoming richer but the economic problem will never be solved here or elsewhere in the world.

(a) Why can the economic problem never be solved? [2]

**MARKSCHEME:**

Wants will grow more (1) than resources (1).

Or:

- Wants are infinite/unlimited (1) whilst resources are finite/limited (1).

# THE NATURE OF ECONOMIC PROBLEM

- 1 More people are becoming billionaires at the same time that other people are living in poverty.

While some people enjoy luxuries others lack even basic essentials. To enable more people to achieve a minimum living standard some economists support the redistribution of income. Analyse why the elimination of absolute poverty would not solve the economic problem. [6]

## MARKSCHEME:

Absolute poverty is lack of access to basic necessities (1) example e.g. food/living below a certain income level e.g. \$1.25 (1)

- The economic problem is unlimited wants (1) exceeding finite resources/scarcity (1)
- Even if everyone had access to basic necessities, people would still want more products (1) e.g. better quality food (1) there would not be enough resources to meet people's increasing wants (1) relative poverty will still exist/rich will still be able to spend more than the poor (1)
- Over time what is considered to be absolute poverty is likely to change (1)

## 2 The global water crisis

In 2015, the World Economic Forum identified the water crisis as the world's biggest risk. Across many Asian and African nations the water supply was at critically low levels, insufficient to meet the rising demand. Demand has risen because of the expansion of cities and population growth requiring much more agricultural production.

Water scarcity is a problem shared by many developing countries which have a low life expectancy. A third of all their healthcare facilities are estimated to lack access to safe water and basic sanitation. Water shortages harm public health – 80% of all illnesses in developing countries are caused by poor water and sanitation conditions. Water shortages also restrict the amount of food production. Table 1 shows the risk of water shortage (highest risk is 5) and Gross Domestic Product (GDP) per head measured in US\$.

**Table 1 Risk of water shortage and GDP per head for countries/regions in 2015**

Country/region	Risk of Water Shortage (highest risk = 5)	GDP per head (US\$)
Algeria	3.4	4 318
Canada	1.2	43 332
Germany	1.9	40 997
Pakistan	4.3	1 450
Saudi Arabia	5.0	20 813
Western Sahara	5.0	2 500

The shortage of water has led various countries and regions to experiment with privatising their supply. However, because water is a necessity, private supply has in some cases resulted in consumers suffering from significant price increases. A 10% increase in the price of water is estimated to result in only a 0.7% decrease in quantity demanded. This means that governments have to regulate water markets to protect consumers.

Some economists argue that consistent undervaluing of water has led to it being used inefficiently. This is because prices fail to take into account the long-run consequences of not conserving this valuable resource. With much of the world facing a hotter and drier future as a result of climate change, water will become increasingly scarce.

More than 663 million people are estimated to live without access to clean water. The World Bank funds a range of projects designed to tackle this and in doing so reduce levels of absolute poverty. Improving access to natural resources is seen as essential in promoting economic development in some of the world's poorest nations.

3 Explain, using information from the extract, how the water shortage is an example of the economic problem.

- (ii) Explain, using information from the extract, why the problem of water shortages is likely to become even worse in the future. [4]

#### MARKSCHEME:

The economic problem consists of the allocation of scarce resources amongst competing ends (1).

Water supply is at critically low levels (1) showing resources are scarce / limited (1). Rising demand from growth of cities (1) and rising agricultural production (1) wants are unlimited (1).

4

1(b)(ii) Explain, using information from the extract, why the problem of water shortages is likely to become even worse in the future.

Water is being undervalued (1) this has led to it being wasted (1) and the prices do not reflect scarcity that will arise in the future (1) this means that as demand continues to rise (1) the gap between wants and the amount of the resource will increase (1).

Climate change (1) will cause water supplies to become increasingly scarce (1).

Population will continue to rise / cities will expand (1) increasing demand (1) and exceeding the ability of supply to match demand (1).

- 4 The economic problem exists everywhere in the world, whatever type of economic system a country may have.

**Explain the nature of the economic problem.[4]**

**MARKSCHEME:**

The nature of the economic problem:

- at any moment in time in an economy, output is limited by the resources and technology available; there is, therefore, a basic condition of scarcity
- the wants of consumers are unlimited or infinite
- the ability of the resources to satisfy those wants, however, are limited or finite
- there is, therefore, a need to make a choice as a result of this scarcity
- this choice will be in terms of what to produce, how to produce and for whom to produce.

Candidates can gain all 4 marks for addressing any four of these five points. [4]

- 5 All countries face the basic economic problem in relation to the factors of production. One country might allocate more resources to education and health care than another, but there will always be an opportunity cost involved in such decisions.

(a) (a) Why do all countries face the basic economic problem?[4]

[4]

**MARKSCHEME:**

0455/22/O/N/11

Explanation:

- there are finite/limited resources
- so there is a basic situation of scarcity
- there are unlimited wants
- so there is a need to exercise choice. [4]

# THE NATURE OF ECONOMIC PROBLEM

1 A market approach to the basic economic problem has the advantage that prices act like an 'invisible hand' to allocate the resources in an economy. However, the market system also has some disadvantages.

(a) What is meant by the basic economic problem? [2]

## MARKSCHEME:

(next) best alternative (1) forgone(1)

2 Explain what is meant by the economic problem and why opportunity cost is relevant to the allocation of resources. [6]

## MARKSCHEME:

2 marks for an explanation of what is meant by the economic problem, i.e. limited/finite resources and unlimited/infinite wants (1) giving rise to a condition of scarcity/insufficient resources (1).

2 marks for an explanation of what is meant by opportunity cost, i.e. the benefit obtained from the (next) best alternative (1) foregone (1).

2 marks for an explanation of why opportunity cost is relevant to the allocation of resources

i.e. the condition of scarcity gives rise to the need to make a choice (1) opportunity cost indicates if resources are used for one purpose they cannot be used for another purpose/ consideration of opportunity cost can result in an efficient allocation of resources (1). [6]



- 3 It is not only the size of a country's population that concerns economists, but also its age distribution.

Discuss to what extent an ageing population is a serious economic problem.[8]

#### MARKSCHEME:

Up to 5 marks for why it might be a serious problem:

- increase need for health care (1) tax revenue used to provide health care could have been used for another purpose/opportunity cost (1)
- increase cost of pensions (1) place a tax burden on workers (1)
- increase the dependency ratio (1) proportionally more non-workers will have to be supported by proportionally fewer workers (1)
- reduce mobility of the labour force (1) older workers may be less geographically/ occupationally mobile (1)

Up to 5 marks for why it might not be a serious problem:

- a rise in the average age from a young age (1) may reduce dependency ratio (1)
- older workers may be more experienced (1) leading to higher productivity (1)
- ageing population may not increase dependency ratio/cost of pensions (1) if retirement age is raised (1)
- longer life expectancy (1) raise living standards (1)

- 4 All countries face the economic problem and so choices have to be made.

(a) Explain what is meant by the 'economic problem'.

[2]

#### MARKSCHEME:

(a) Explain what is meant by the 'economic problem'. [2]

There are finite/limited/scarce resources (1) but unlimited/infinite wants (1) and so it is

necessary for a choice to be made (1)

Maximum of 2 marks

# THE NATURE OF ECONOMIC PROBLEM

- 1 Inflation and unemployment are two economic problems that governments usually have to deal with.

Explain three reasons why inflation is regarded as a serious economic problem.

## MARKSCHEME:

[6]

Explain three reasons why inflation is regarded as a serious economic problem. [6]

Up to 2 marks: increases cost of living (1), people are worse off if incomes do not rise as much as prices (1) because purchasing power will be less (1).

Up to 2 marks: this is a particular problem for those on fixed incomes (1) compared to others

who at least get some increase in their wages each year (1).

Up to 2 marks: lenders become more reluctant to lend money (1) and this can reduce the extent of liquidity in the economy/reduce investment (1).

Up to 2 marks: it can lead to uncertainty and a lack of confidence in the economic future of a

country (1), making firms reluctant to invest (1).

Up to 2 marks: if the prices of exports go up, this will make them less competitive in foreign

markets (1); this could lead to a reduction in demand and a consequent increase in unemployment (1) and may cause a current account deficit (1).

## 2 The Mints

Mexico, Indonesia, Nigeria and Turkey, known as the Mints, are four emerging economies that are predicted to grow rapidly. The four countries have relatively large populations, from 75 million in Turkey to 242 million in Indonesia in 2014. They also have high birth rates, from 17 in Turkey to 41.5 in Nigeria per 1000 people. Both income per head and the countries' Human Development Index ranking are improving. The changes, however, do not mean that everyone in the four countries is satisfied. As incomes increase, so do people's wants, and what people would like to consume exceeds the maximum output that countries are capable of producing.

Output and consumption are increasing in each of the four countries. Nigeria, for example, is predicted to be one of the world's 20 largest economies by 2020. Productivity is rising in most sectors of the Nigerian economy although it remains low in agriculture. Despite some security concerns, more multinational companies are setting up in the country, attracted by its expanding markets.

Nigeria and Turkey both had annual inflation rates above 8% in 2014. Indonesia's was 5.7% and Mexico's 5.2%. The Mexican Government had used monetary policy measures in that year to keep the inflation rate down. In August 2014 it opened up its energy market, allowing private sector firms to compete against the country's state-owned petroleum firm. It also increased spending on state-provided health care, which operates alongside private medical care.

The four countries saw fluctuations in their exchange rates in 2014. Indonesia's currency, the rupiah, changed from 10 685 per US\$ the year before to 11 450 per US\$ in 2014. Turkey's currency, the Turkish Lira, followed a similar trend.

Changes in the exchange rate can affect firms' costs of production, as can industrial action. In June 2014 Turkish trade unions organised a number of strikes seeking to gain better wages and working conditions for their members. However, the power of Turkish trade unions is limited by restrictive trade union legislation and a small membership, with only 9% of workers belonging to trade unions. This means that collective bargaining is not a key feature of Turkish labour markets and Turkish trade unions do not have much influence on economic policy.

Using information from the extract, explain how the Mints illustrate the economic problem. [2]

### MARKSCHEME:

(a) Using information from the extract, explain how the Mints illustrate the economic problem. [2]

What people would like to consume/wants (1) exceeding the maximum output the countries

are capable of producing (1).

Note. no marks for just a definition of the economic problem

- 3 The United Nations' World Tourism Organisation has estimated that the proportion of the world's population who have visited another country will have reached only 7% by 2020. Increasing international travel might create jobs and influence incomes. However, it would also put pressure on finite resources and would create external costs.

(a) Define 'resources'.

[2]

**MARKSCHEME:**

(a) Define 'resources'. [2]

- factors of production/inputs (1) used to produce goods and services (1)
- identification of type of factor of production – land (natural resource), labour (human resource), capital, entrepreneur (1)

## FACTORS OF PRODUCTION-SET-1

**1** In Zimbabwe a local community markets a tea which grows wild in their area. 'Communities should be able to manage their natural resources if they are to benefit, especially if they are to gain an economic benefit,' the leader of the project said.

(a) Identify the factors of production. [4]

(b) Explain what benefits might be gained by the local community in Zimbabwe from the project. [6]

### MARKSCHEME:

(a) 1 mark each for land, labour, capital and enterprise.

If candidates refer to passage, give 4 for land, labour and enterprise.

[4]

(b) Up to 6 marks for explaining that the community might benefit from an income

from the sale of tea, an increase in jobs created, a rise in the community's standard of living and a more pleasant environment in the area.

[6]

**2** Sometimes in an industry a firm buys a smaller competitor which uses similar factors of production. At other times a firm buys another firm which supplies it with the raw materials and other inputs for its production.

(a) Explain what is meant by the factors of production. [4]

### MARKSCHEME:

(a) Identify the four factors, 2 marks. Explain the four factors, 2 marks. [4]

### 3

#### Airline Industry Losses

At an international conference, at which 95 % of the world's airlines were represented, it was said that the global airline industry would have a \$6 billion loss for the year 2005. Only parts of the industry were said to be profitable. Although there had been a growth in travel and revenue in Asia and Europe, increased costs in North America and high fuel prices were estimated to outweigh that. It was stated that losses from 2001 to 2004 had already exceeded \$36 billion.

Globally, non-fuel costs were forecast to fall by 4.5 % in 2005. This was particularly the case in Asia where labour costs were low. European airlines were recording profits due to increased traffic and some industry mergers. However, the biggest obstacle to growth in the industry was North America, where airlines recorded large losses. In North America labour costs and airport taxes were high. In addition, competition from the smaller low-cost airlines charging cheap fares was causing a fall in the profits of the larger companies. The airline industry also criticised the high taxes, averaging 26%, which are imposed on ticket sales in North America. To try to improve profits the industry launched some major projects to cut costs, which included the complete replacement of paper tickets with electronic tickets by 2007.

How might the replacement of paper tickets affect the demand for each of the factors of production by the airlines? [4]

#### MARKSCHEME:

Four factors; capital will probably increase, labour will probably decrease (but accept greater demand for skilled labour), entrepreneurial skills probably no change, land no change (but allow comment on depletion of resources for paper or less offices). Candidates do not need to mention all four factors to get full marks. A reference to the four factors of production will get one mark. [4]

### 4

In Ghana local farmers manage small plots of land for subsistence farming. However, some have benefited by selling pineapples at an agreed, fixed price to an exporter. The exporter provides finance, training, fertilizers and machinery and even building materials for the farmers' homes.

(a) Identify and explain which factors of production are mentioned above.

[4]

#### MARKSCHEME:

(a) Land, labour – farmer, capital – machines, fertilizers, entrepreneurs – manages enterprise, exporters also takes risks. 2 marks for simple identification of the four factors of production. [4]

**5**

In 2007, it was reported that a trade union of post office workers feared that increased capital investment would mean more automation and job losses. The union demanded that managers allow higher wages and shorter working hours for its members.

- (a) Explain what is meant by the factors of production and identify which factors are involved in the above statement. [4]

**MARKSCHEME:**

(a) Land, labour – farmer, capital – machines, fertilizers, entrepreneurs – manages enterprise, exporters also takes risks. 2 marks for simple identification of the four factors of production. [4]

## FACTORS OF PRODUCTION-SET-2

1

Firms employ factors of production to produce goods and services in order to make profits.

- (a) What is meant by the term factors of production?

[4]

### MARKSCHEME:

(a) 1 mark for an explanation of each factor of production:

- land
- labour
- capital
- enterprise.

If a candidate just lists the four, they can gain 2 marks. If they list three of them, they can gain 1 mark. [4]

2

Firms employ factors of production to produce goods and services in order to make profits.

- ) What is meant by the term factors of production?

[4]

### MARKSCHEME:

(a) 1 mark for an explanation of each factor of production:

- land
- labour
- capital
- enterprise.

If a candidate just lists the four, they can gain 2 marks. If they list three of them, they can gain 1 mark. [4]



3

Explain **three** factors of production that are involved in the operation of an airport.

[6]

**MARKSCHEME:**

Three from the following:

- land, e.g. where the terminals and runways are constructed
- labour, e.g. the skilled and unskilled labour involved in the various activities
- capital, e.g. the equipment and machinery used at the airport
- enterprise, e.g. the role of the entrepreneur in various airport operations.

Allow construction (as opposed to operation) of an airport.

A list of three factors of production can gain 1 mark.

A good explanation of these three factors, with no application to an airport, can get a maximum of 5 marks. [6]

4

Distinguish, using examples, between the different factors of production

6

**MARKSCHEME:**

Factors of production:

1. Land: natural resources available for production, e.g. oil, coal, forests, fish, farming.
2. Labour: human effort available for production/human capital, e.g. skilled/unskilled.
3. Capital: man-made physical goods used in production, e.g. machines, tools, factories (Do NOT accept money).
4. Enterprise: the role of the entrepreneur in terms of organising the other factors of production and in taking a risk in doing so.

1 mark for each correct description (4); up to 2 marks for appropriate use of examples (2). [6]

A list of 4 factors of production – 2 marks.

A list of 3 factors of production – 1 mark.

A list of 2 factors of production – no marks.

5

**S(a)** Explain, using examples, what is meant by the factor of production called land.

[3]

**MARKSCHEME:**

(a) Explanation could include:

- it refers to all those natural resources used in production (1).

Examples could include:

- coal, oil, gold, fish, forests and the land itself (2). [3]

## FACTORS OF PRODUCTION-SET-3

- 1** (a) Explain, using examples, what is meant by the factor of production called land. [3]

### MARKSCHEME:

(a) Explanation could include:

- it refers to all those natural resources used in production (1).

Examples could include:

- coal, oil, gold, fish, forests and the land itself (2). [3]

- 2** Production involves the use of the four factors of production. The use of these resources involves an opportunity cost

- (a) Using appropriate examples, describe the four factors of production. [6]

### MARKSCHEME:

(a) land – natural resources/gifts of nature available for production, e.g. farmland

labour – all physical and mental effort of workers, e.g. teacher

capital – all man-made goods used in production, e.g. machinery

enterprise – the risk bearing and decision making function, e.g. entrepreneur or

example of a function

Note: maximum of 6 marks. [6]

3

In 2012, a few countries experienced a decrease in their factors of production, including labour and enterprise. New Zealand, however, experienced an increase in both the quantity and quality of its factors of production. In the same year, the country exported more agricultural and manufactured goods.

- (a) What is the difference between labour and enterprise? [4]
- (b) Explain why farmers should consider opportunity cost when deciding how to use their factors of production. [7]

### MARKSCHEME:

- (a) What is the difference between labour and enterprise? [4]  
Up to 2 marks for: labour is human/effort/workers' services [1] whilst enterprise is the ability and willingness to bear uncertain risks/organise other factors of production [1].  
Up to 2 marks for another relevant comparison, e.g.:  
• the reward for labour is wages [1], whereas the reward for enterprise is profit [1]  
• enterprise tends to be more geographically or occupationally mobile than labour [2].
- (b) Explain why farmers should consider opportunity cost when deciding how to use their factors of production. [4]  
2 marks for defining opportunity cost – best alternative [1] forgone [1].  
Up to 2 marks for recognising that if factors of production are scarce resources [1] and if used to produce one type of product they cannot be used to produce another type of product [1].  
Up to 2 marks for relating to farming, e.g. if land is used to grow wheat [1] it cannot be used to grow barley [1].  
Maximum of 3 marks if no reference to farmers.  
Note: a maximum of 4 marks overall.

**4**

Company X, a private limited company, is one of the world's largest toy producers. It is planning to open a new factory in China in 2017. Asia is expected to become the largest market for the sale of toys. Manufacturing products within Asia will reduce the need to transport the toys from Company X's factories in Europe to Asia.

Explain two influences on what factors of production a firm uses.

[4]

**MARKSCHEME:**

the type of product produced/size of the firm (1) for instance, producing nuclear power is capital-intensive (1)

- the productivity of factors of production (1) if, for instance, labour becomes more skilled, a firm might become more labour-intensive (1)
- the availability of factors of production (1) in some countries there may be a shortage of oil or people of working age (1)
- the relative cost of factors of production (1) if capital is relatively expensive, labour intensive methods of production may be used (1)

**5**

In 2014 Cuban doctors were given pay rises that significantly increased their salaries. This made doctors' pay more than twice that received by nurses. Cuba is devoting more resources to both medical care and tourism, altering the country's production possibility curve. Living standards are increasing in the country but at a slower rate than some other nearby countries.

Explain, giving examples, two factors of production used in the tourism industry.

[4]

**MARKSCHEME:**

Labour which is human effort (1) e.g. tourist guides (1).

- Land which is natural resources (1) e.g. beaches (1).
- Capital which is human-made goods and services used in production (1) e.g. hotels (1)
- Enterprise which is risk bearing and decision making (1) e.g. may be undertaken by the owner of a hotel (1).

## FACTORS OF PRODUCTION-SET-4

**1** Indonesia's output is influenced by its factors of production. A production possibility curve diagram can be used to show this relationship between resources and output. Indonesia does have extensive fishing waters but does not actually catch many fish. Most of its fishing firms are small and they compete against much larger foreign firms. These larger foreign firms have been attracted into Indonesia's waters because of increasing demand for fish. The price elasticity of demand for different types of fish has changed in the last few years.

Identify the **two** human factors of production.

[2]

### MARKSCHEME:

Identify the two human factors of production.

- Labour (1) entrepreneur/enterprise (1).

## 2

### Source material: Vietnam's growing population and economy

Vietnam fact file	2010	2017
GDP	\$272.8 billion	\$662.4 billion
Population	88 million	96 million
Foreign exchange rate	\$1 = 19 500 dong	\$1 = 22 780 dong

Vietnam's population and its output are increasing. Consumers, workers and firms are benefiting from the higher output. Some Vietnamese people are receiving more generous pensions and higher wages while some firms are earning higher profits.

Vietnam's population is ageing but the country still has a relatively young labour force. Age can affect workers' flexibility, mobility, level of experience and their knowledge of the latest technology. The Vietnamese government wants to raise the quality of its labour force by spending more on education. Vietnamese children have recently performed better in international tests than children in richer countries. Education spending can influence the percentage of the labour force working in the tertiary sector as shown in Table 1.

**Table 1 Education spending as a percentage of GDP and the percentage of the labour force employed in the tertiary sector in selected countries in 2017.**

Country	Education spending % of GDP	Labour force employed in the tertiary sector (%)
Norway	7.4	78.0
Vietnam	6.3	32.3
France	5.5	75.9
Germany	4.9	71.2
Indonesia	3.6	45.2
Iran	3.1	49.1
Bangladesh	2.0	35.6

Vietnam has had a budget deficit since 2008. The country's high economic growth rate and changes in government policies will affect its budget balance in the future. The government is privatising a number of public sector firms. It also plans to spend more on education and defence and is likely to raise some tax rates.

Deregulation has increased the number of firms, both foreign and domestically owned, in a number of markets. For instance, in 2007 there was only one Vietnamese airline. It operated only two routes and the fares it charged were not affordable to most Vietnamese. Now the country has seven airlines offering domestic and international flights.

Borrowing by both households and firms increased in Vietnam between 2010 and 2017. Households borrowed mainly to purchase more consumer goods while firms borrowed mainly to invest.

Answer all parts to Question 1. Refer to the source material in your answers. Identify two rewards to factors of production. [2]

**MARKSCHEME:**

Wages (1) profits (1).



**3** Each question is introduced by stimulus material. In your answer you may refer to this material and/or to other examples that you have studied.

In Nagicho, a small town in Japan, a woman on average has 2.8 children in her lifetime. In Japan as a whole, a woman on average only has 1.4 children in her lifetime. Nagicho's higher birth rate is partly the result of a lower cost of living for families, as the prices of basic items are lower in Nagicho than in the rest of Japan. The local government not only offers housing at subsidised rates, to get more labour into the area, but also tries to get more investment into the town.

(c Analyse the influences on the mobility of two factors of production. [6]

### MARKSCHEME:

Coherent analysis which might include:

Availability of proper infrastructure (1) to move from place to place (1) e.g. trains / roads (1) whether it is affordable or not (1).

Cost of living differences (1) whether workers can afford to move to another place (1) e.g. housing costs, cost of education (1).

Availability of information (1) on jobs elsewhere (1).

Tax rate changes (1) lower tax rates could encourage workers to move to another country to take advantage of lower taxes (1) / entrepreneurs could be encouraged to move to a lower tax economy (1).

Regulation changes (1) could limit movement of labour or capital (1).

Level of education (1) could make labour more occupationally mobile (1).

No reward for only identifying the factors of production.

Accept other relevant factors e.g. cultural differences (up to 3 marks each).

**4** In the UK the Royal Society for the Protection of Birds (RSPB) has recently bought land around the coast to prevent building on the area where rare birds breed. It has received donations from the public towards the cost. The RSPB plans to set up special visitor centres in the area.

(a) Explain which factors of production are involved in the above action by the RSPB. [4]

### MARKSCHEME:

Up to 4 marks for explaining all four factors – land, capital, labour, and enterprise – are involved in the RSPB's action. (Maximum of 2 marks for an unexplained list of factors.) [4]

## The Royal Mail

5

The following is adapted from a leaflet the UK Royal Mail sent to its customers in 2005.

We are investing in the postal service so that it is consistent and reliable and remains one of the best in Europe. You can trust the Royal Mail with your post. 99.9 % of all mail gets delivered safely and quickly to the right address. Sometimes letters have the incorrect address or no address at all. At least 92.5 % of the First Class letters arrive by lunchtime the next working day. (In France barely 80 % of the First Class mail is delivered on time.) We are determined to manage this better and are investing in technology and training.

Our prices are rising by less than inflation and are amongst the lowest in Europe. In April the price of First Class post will go up from £0.28 to £0.30 which compares well with a price of £0.26 ten years ago. In Italy First Class could cost you £1.12, in Germany up to £1.

There will now be only one delivery a day. Previously, when mail was sorted by hand, it was impossible to sort and deliver it all at once. Now, more mail is sorted automatically and overnight. A single delivery helps us to keep our costs down. We need to make profits so that we can invest in better equipment, better technology and better offices, and also pay our staff more for doing a responsible job.

(a) Explain what is meant by factors of production. [4]

(b) How has the Royal Mail's use of these factors of production changed? [2]

### MARKSCHEME:

(a) Explanation of land, labour, capital, and enterprise. [4]

A list of four factors, 2 marks only.

A list of three factors, 1 mark only.

(b) More capital and more investment but less labour. [2]

## FACTORS OF PRODUCTION-SET-5

1

The economic problem exists everywhere in the world, whatever type of economic system a country may have.

- (a) Giving an example of each, define the **four** factors of production.

[4]

### MARKSCHEME:

(a) Land: natural resources, e.g. minerals, the sea (1).

Labour: human resources, e.g. workers (1).

Capital: man-made aids to production, e.g. machinery and equipment (1).

Enterprise or entrepreneurship: the ability to combine factors of production and to take risks (1).

A list of the four factors, with no examples, will gain just 1 mark.

A list of the four factors, with examples, will gain 2 marks. [4]

2

Car production in the United States has changed dramatically during the last forty years. The managers of the firms have decided to use more advanced machinery and fewer employees to produce the cars.

- (a) Identify and explain the factors of production in the information above.

[4]

### MARKSCHEME:

(a) Identification of factors:

- managers – accept managers as either labour or enterprise
- machinery – capital
- people – labour.

2 marks for the identification of 2 or 3 factors.

2 marks for the explanation of 2 or 3 factors.

Do not accept land. [4]

3

All countries face the basic economic problem in relation to the factors of production. One country might allocate more resources to education and health care than another, but there will always be an opportunity cost involved in such decisions.

State and explain the factors of production.  
[4]

**MARKSCHEME:**

Explanation of factors of production:

2 marks for identifying four factors, but no explanation.

1 mark for identifying three factors, but no explanation.

Candidates should state and explain all four factors to gain full marks. [4]

4

(a) Describe, with the use of examples, **two** factors of production.

[4]

**MARKSCHEME:**

(a) Land: natural resources available for production, e.g. oil, coal, forests, fish, farming

Labour: human effort available for production/human capital, e.g. skilled/unskilled

Capital: man-made physical goods used in production, e.g. machines, tools, factories (Do NOT accept money)

Enterprise: the role of the entrepreneur in terms of organising the other factors of production and in taking a risk in doing so

Only TWO factors need to be described.

1 mark for each correct description (2); 1 mark for each use of examples (2)

Note in the case of enterprise: Up to 2 marks from: organising other factors of production (1);

risk bearing (1) example (1). For the example just the name of a business is not acceptable. [4]

**5**

Define the term capital and explain why this factor of production is important in the production process. [4]

**MARKSCHEME:**

(a) Up to 2 marks for a definition of capital:

- man-made physical goods used in production, e.g. machines, tools, factories, roads (do NOT accept money).

Up to 2 marks for an explanation of importance:

- idea of capital-intensive production, making greater use of latest, more technologically advanced, machines, tools, equipment. [4]

## FACTORS OF PRODUCTION-SET-6

1

An entrepreneur plans to cut down timber in a rainforest. The local community, however, are concerned that the social costs will be greater than the social benefits.

(a) Define the factor of production, enterprise

[4]

### MARKSCHEME:

this is the factor that takes the risk (1) in bringing the other factors together/  
combining other factors to produce goods and to provide services in order to make profits (1)

- enterprise involves the taking of decisions (1) in terms of what to produce and how to produce it (1)
- enterprise is undertaken by entrepreneurs/examples of entrepreneurs (1) who receive profit as a reward (1)

2

Labour is one of the most important factors of production.

(a) Using examples, define the factor of production, labour.

[4]

### MARKSCHEME:

(a) Using examples, define the factor of production, labour. [4]

- labour represents human effort/capital/contribution (1)
- the physical (1) and mental (1) contributions of employees to the production process (accept skilled and unskilled)
- any two examples of jobs, this could be specific examples of physical contribution, e.g. mining or car production (1) and mental contribution, e.g. teacher or lawyer (1)

3

Describe the two main features of the factor of production, 'enterprise'. [4]

**MARKSCHEME:**

2 marks for identifying the two features:

- bringing together/combining the other factors of production (1)
- bearing risks (1)

2 marks for describing the two features:

- making a decision about how to combine/which factors to employ/whether to be labour intensive or capital-intensive (1)
- risking own money/recognising risk/risk could include natural disasters, new competitors/change in technology/reward for the risk is profit (1)

4

Factors of production, private and external costs and opportunity costs are all important concepts in Economics.

- (a) Using examples, define the factor of production, 'capital'.

[4]

**MARKSCHEME:**

- (a) Using examples, define the factor of production, 'capital'. [4]

Up to 2 marks: capital can be defined as any human-made good (1) that is used to produce other goods and services (1), i.e. they are aids to production.

Up to 2 marks: examples (two needed) could include offices, factories, tools, machinery and equipment (1 × 2).

N.B.: Do not reward money that is used to buy equipment.

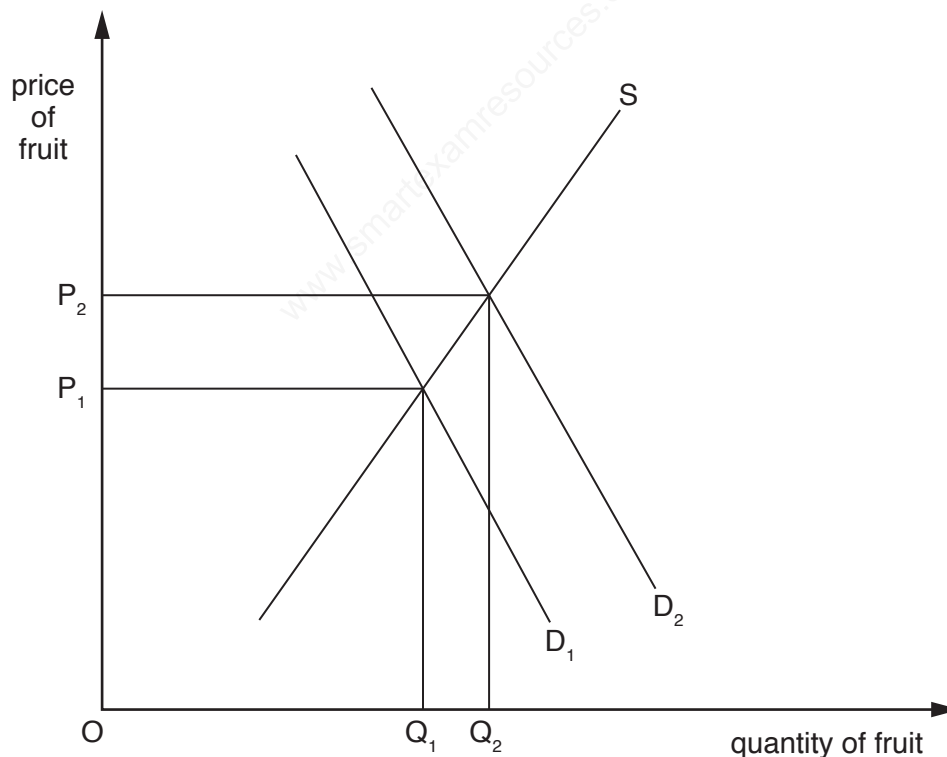
# 5

## Cigarette smoking in China

China has recently experienced rapid economic growth and an improving Human Development Index (HDI) ranking. It is, however, facing a number of health challenges. It is currently the world's largest cigarette market, with more than 350 million smokers. A higher proportion of men smoke in China than in most other countries, including Russia and the USA. While 50% of Chinese men smoke, only 2% of Chinese women smoke. It has been estimated that nearly 2 million Chinese citizens a year die from smoking-related illnesses. These include smokers and those who have suffered from passive smoking.

As well as being the largest consumer of cigarettes, China is also the world's largest producer of cigarettes. Tobacco is grown in a number of the provinces of China, including the province of Yunnan. Over 3 million workers are employed in the industry, which is increasingly using advanced technological capital equipment. However, between 2009 and 2014 the number of cigarette-producing firms declined from 200 to 40 as firms merged and grew in size.

Although revenue from taxes on cigarettes earned the Chinese Government 800 billion yuan in 2014 (5% of the government's total tax revenue), it recently introduced a number of measures to discourage smoking. It has imposed a ban on smoking in public places, hospitals, schools and public transport. Health campaigns are also being used. Such campaigns are used throughout the world both to discourage the consumption of some products that are thought to be harmful to health and to encourage the consumption of products that are considered to be beneficial to health. For example, an information campaign on the benefits of consuming fruit has met with some success in the UK. Fig. 1 shows the impact it had on the market for fruit in the UK in 2015.



**Fig. 1 The market for fruit in the UK in 2015**



Identify, from the extract, **two** factors of production used in producing cigarettes..

[2]

**MARKSCHEME:**

Identify, from the extract, two factors of production employed in producing cigarettes. Workers/labour (1) capital (1).

## FACTORS OF PRODUCTION-SET-7

- 1** In Pakistan there is a limited choice of cars to buy. The country has a population of approximately 190 million but only about 120 000 cars a year are produced there. The firms producing cars in Pakistan are protected from foreign competition by a range of methods of trade protection.

(a) Name **two** factors of production used in making cars. [2]

### MARKSCHEME:

1 mark each for each of two factors identified:

- car workers / labour
- car factory / capital
- car firm owner / entrepreneur
- water/land

**2**

The price of gold rose in 2016. This encouraged owners of gold mines to employ more resources to increase the supply of gold. The level of competition in gold production varies in the different gold producing countries. A number of countries, including India, impose a tariff on imported gold.

(a) Identify **two** factors of production involved in mining gold. [2]

**MARKSCHEME:**

Labour/miner (1) land / gold ore (1) capital/equipment (1) enterprise/owner (1)

### 3 New York: A Global Financial Centre

New York is the best city in the world in terms of human capital according to the Global Financial Centres Index. This, along with economic freedom that encourages new business start ups, has contributed to high economic growth rates. In fact, the city's economic growth rate is higher than the GDP growth rate for the entire USA. Overall, New York's economy grew 3.4% in 2015, faster than the 2.4% recorded nationally. However, land area is scarce, especially in the Manhattan district of New York, where most economic activity is concentrated.

The financial sector is the most important sector in the city's economy – New York is home to the first and second largest stock exchanges in the world and 3 of the top 10 largest banks in the USA have their headquarters in New York. Improvements in education also contribute to New York's fast economic growth rate as New York continues to attract students from all over the world and from various areas of study.

Unemployment rates in the city continue to fall. In addition, average weekly wages in New York are consistently higher than the rest of the USA. Table 1.1 shows the average weekly hours worked and average weekly wages in New York between 2011 and 2017.

**Table 1.1 Average weekly hours worked and average weekly wages in New York, 2011–17**

	Average weekly hours worked	Average weekly wages (US\$)
2011	33.9	906.83
2012	34.1	933.66
2013	33.5	932.31
2014	33.4	935.87
2015	33.5	961.45
2016	33.4	976.95
2017	33.5	1011.03

New jobs that are created today are in middle and low-paying jobs, not in high-paying jobs. Finance industry workers are 20% of the workers in the city, but they earn more than half of all the wages paid in New York. The pay gap between workers in the finance industry and the 1.6 million other workers in the city continues to widen. This is often due to the lack of skills of the lower paid workers and also the male-dominance in the finance industry.

In addition to the income inequality, continuous economic development in the city has affected the environment. The ever-expanding finance industry is also creating the risk of a repetition of the 2007–08 Global Recession with the possibility of bank failures. Rising trade protection by the US government may negatively affect American cities such as New York, especially while Asian cities such as Singapore, Hong Kong, and Shanghai continue to open up to free trade.

4

(a) State a factor of production and identify an example of it from the extract.

[2]

**MARKSCHEME:**

Labour/miner (1) land / gold ore (1) capital/equipment (1) enterprise/owner (1)

5

In 2012, the Indian Prime Minister announced that the Government was going to spend

US\$90 million on sending a spaceship to the planet Mars. Some economists argued that it would be better to use the factors of production, such as land and labour, to improve education or to build more roads.

(a) Describe **two** ways in which land is different from labour.

[4]

**MARKSCHEME:**

Land is a natural resource (1) whilst labour is human resources/workers (1).  
The payment for land is rent (1) whilst the payment for labour is wages (1).  
Land is geographically immobile (1) whilst there is some limited geographical mobility in the case of labour (1).

Note: a maximum of 4 marks overall.

6

In 2012, a few countries experienced a decrease in their factors of production, including labour and enterprise. New Zealand, however, experienced an increase in both the quantity and quality of its factors of production. In the same year, the country exported more agricultural and manufactured goods.

(a) What is the difference between labour and enterprise?

[4]

**MARKSCHEME:**

Up to 2 marks for: labour is human/effort/workers' services [1] whilst enterprise is the ability and willingness to bear uncertain risks/organise other factors of production [1].

Up to 2 marks for another relevant comparison, e.g.:

- the reward for labour is wages [1], whereas the reward for enterprise is profit [1]
- enterprise tends to be more geographically or occupationally mobile than labour [2].

7

Some economists have claimed that the 21st century will be the 'African century' because of the growth in their working-age population. Forecasts show that by 2030, Africa's contribution to the increase in the global labour force will exceed that from the rest of the world. This will affect incomes, saving, and economic policies in African countries.

(a) Define *labour*.

[2]

**MARKSCHEME:**

The human factor of production (1) mental and physical effort (1) required for production (1).

## FACTORS OF PRODUCTION

1

The development of laser eye surgery is reducing the demand for spectacles in a number of countries. The treatment of sight problems is using more capital equipment and less labour. Some economists are predicting that the wages of opticians may decrease in the future. A fall in wages may encourage some opticians to retrain for other jobs.

(a) Giving an example, define 'labour'.

[2]

### MARKSCHEME:

Human effort / workers (1) e.g. teachers (1).

2

Free trade has allowed the Mexican economy to specialise in low-cost manufacturing. Unemployment nationally is relatively low, but approximately 50 million people were still considered to be in poverty in 2016. In addition, there are worries that technological advances will soon replace labour with capital.

(a) State the rewards for labour and capital.

[2]

### MARKSCHEME:

Wages (1) for labour

Interest (1) for capital

# OPPPORTUNITY COST

- 1 (a) Explain the terms scarcity and opportunity cost. [4]
- (b) Describe the factors that affect an individual's choice of occupation and show how the idea of opportunity cost might be relevant to that choice. [6]

## MARKSCHEME:

- (a) Explanation in terms of limited resources compared with unlimited wants, choice between resources (2 marks).  
Next best alternative forgone (2 marks). [4]
- (b) Identification of factors: location, pay, working conditions, holidays, career prospects, size of company, type of work (4 marks). With suggested discussion about availability of possible jobs and trade-off of these factors with reference to alternative jobs expressed in terms of next best alternative (2 marks). [6]
- 2 Many governments have increased their spending on police and armed forces but there is an opportunity cost of this policy.
- (a) Explain the term opportunity cost and discuss why an increase in spending on police and armed forces may result in an opportunity cost. [4]

## MARKSCHEME:

- (a) Explanation of term (2), application to example (2).



- 3 A government decided to stop subsidising students when they went to university. This meant  
a university course cost the students more but the government had extra funds.
- (a) Define opportunity cost and explain how the above decision might be used to illustrate an opportunity cost. [4]

## MARKSCHEME:

---

- (a) Opportunity cost is defined as the benefit obtained from the next best alternative foregone because of a particular choice (2).

The above decision might be used to illustrate an opportunity cost, either in terms of students deciding to spend their money/use their time in a university rather than something else or in terms of a government deciding what to spend public funds on; as the stem says, this government now had extra funds to spend on other things such as transport or health, for example (2). [4]

## 4 Rio de Janeiro wins the vote to host the 2016 Olympic Games

The Brazilian city of Rio de Janeiro has been chosen to host the Olympic Games in 2016.

Winning the vote would seem to have been the easy bit. Holding the games will require effort and expense on a massive scale. Apart from new stadiums and other sports facilities, the city will need infrastructure such as new bridges and roads, and also double the number of hotel rooms. The metro railway line will need to be extended by almost 10 miles (approximately 16 kilometres).

The city government has allocated US\$14.4 billion to pay for the improvements in the infrastructure, although it is widely thought that the actual figure will be much higher than this.

The decaying port area will be redeveloped and the nearby bay will be cleaned as this is currently affected by sewage and industrial pollution.

It is hoped that the construction and redevelopment work will lead to an increase in the demand for labour, thereby reducing the city's high unemployment rate.

There are some people, however, who think that government revenue should be used for other purposes. A spokesperson from the Institute for Studies on Labour and Society suggested that the money should be spent on getting rid of the city's worst slum areas, reducing the high crime rate and doing something about the poverty in a city where one in six residents is poor.

- (b) Explain why government spending on getting the city ready for the Olympic Games is an example of opportunity cost.[4]

## MARKSCHEME:

- (b) Explanation in terms of:
- definition of opportunity cost – the next best alternative foregone
  - the money could have been spent on other things
  - especially given what we are told about the extent of poverty in the city
  - and the existence of slum areas.

2 marks for a definition/understanding of opportunity cost and 2 marks for appropriate application from the case study. [4]

5 Define the concept of opportunity cost.

[3]

**MARKSCHEME:**

Definition: the (next) best (1) alternative foregone/not taken (1) as a result of taking a decision/making a choice – appropriate example of choice (1). [3]

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# OPPPORTUNITY COST

- 1 Production involves the use of the four factors of production. The use of these resources involves an opportunity cost.

**Using a production possibility curve, explain what is meant by opportunity cost.** [6]

## MARKSCHEME:

Definition of opportunity cost: the (next) best (1) alternative foregone (1) as a result of making a decision

Diagram of production possibility curve – axes correctly labelled (1) and curve correct shape (bowed out or straight downward sloping) (1)

Explanation – idea of moving along one axis (1) has the effect of a reverse movement along the other axis (1)

Note: maximum of 6 marks. [6]

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- 2 In 2012, the Indian Prime Minister announced that the Government was going to spend US\$90 million on sending a spaceship to the planet Mars. Some economists argued that it would be better to use the factors of production, such as land and labour, to improve education or to build more roads.

Explain the significance of opportunity cost for a government when making its spending decisions.

[4]

## MARKSCHEME:

**Explain the significance of opportunity cost for a government when making its spending decisions. [4]**

Up to 2 marks for defining opportunity cost– best alternative (1) forgone (1).

Up to 2 marks for recognising that if a government changes its spending on one area (1) it will have an impact on how much it can spend on another area/areas (1).

Up to 2 marks for recognising that a government has limited tax revenue (1) and limited ability to borrow (1).

Up to 2 marks for recognising that a country has limited resources (1) and so if more resources are devoted to one area, less can be devoted to other areas (1).

Note: a maximum of 4 marks overall.

- 3 In 2012, a few countries experienced a decrease in their factors of production, including labour and enterprise. New Zealand, however, experienced an increase in both the quantity and quality of its factors of production. In the same year, the country exported more agricultural and manufactured goods.

Explain why farmers should consider opportunity cost when deciding how to use their factors of production.[4]

## MARKSCHEME:

**Explain why farmers should consider opportunity cost when deciding how to use their factors of production. [4]**

2 marks for defining opportunity cost – best alternative [1] forgone [1].

Up to 2 marks for recognising that if factors of production are scarce resources [1] and if used to produce one type of product they cannot be used to produce another type of product [1].

Up to 2 marks for relating to farming, e.g. if land is used to grow wheat [1] it cannot be used to grow barley [1].

Maximum of 3 marks if no reference to farmers.

Note: a maximum of 4 marks overall.

- 4 In 2013, an earthquake on the Iran/Pakistan border destroyed many factories and homes. Some officials wanted the Governments to rebuild the factories and homes, even though there would be an opportunity cost. Others suggested that some people should be encouraged to emigrate.

(a) Define 'opportunity cost'. [2]

### MARKSCHEME:

(a) Define 'opportunity cost'. [2]

- (next) best alternative (1) forgone (1)

- 5 Students have to consider the opportunity cost of going to university. University graduates usually earn more than people who have not gone to university. Having more graduates influences a country's production possibility curve. Some economists suggest that students should pay the full cost of their university courses and accommodation. Others say that the government should pay some or all of the cost.

(a) Describe a possible opportunity cost of a student going to university. [2]

### MARKSCHEME:

(a) Describe a possible opportunity cost of a student going to university. [2]

- opportunity cost is the (next) best alternative forgone (1)
- getting a job/earning a living/lower output in the short run (1)

# OPPORTUNITY COST

- 1 In 2009, the unemployment rate in Spain was 8% and the annual inflation rate was 3%. By April 2013, the unemployment rate had reached a record 27% but the annual inflation rate had fallen to 2%. The resulting rise in government spending on unemployment benefits involved an Explain why government spending on unemployment benefits involves an opportunity cost.

## MARKSCHEME:

[4]

- n **E xplain why government spending on unemployment benefits involves an opportunity cost.** [4]

- opportunity cost is the (next) best alternative (1) forgone. (1)
- spending on unemployment benefit will reduce a government's ability to spend on another item/the tax revenue used to spend on unemployment benefit cannot be spent on another item (1) for instance, health care (1)

- 2 Increasing demand from China has made New Zealand the world's biggest exporter of dairy products. Its exports of milk to China increased by 45% in 2013. More than 300 000 hectares of land in New Zealand have been transferred to dairy use from other forms of farming and forestry use since 2000. The increase in milk production has caused the average cost of its production to fall and changes in production methods have affected the price elasticity of supply of milk.

- (a) Why may less wheat be the opportunity cost of producing more milk? [2]

## MARKSCHEME:

- 2 (a) **Why may less wheat be the opportunity cost of producing more milk?** [2]

- Opportunity cost is the cost of the (next) best alternative foregone (1).
- Land / resources used for growing wheat may be used to keep cows (1) reducing the amount of wheat that can be produced (1).

- 3 Many economists are predicting that relative poverty will increase whilst absolute poverty will fall in both India and the United States of America. The level of poverty can be influenced by, for example, education, the technology used and the number of new businesses created, including sole proprietorships.

- (b) Explain **two** different opportunity costs that may be involved in a person becoming a sole proprietor. [4]

## MARKSCHEME:

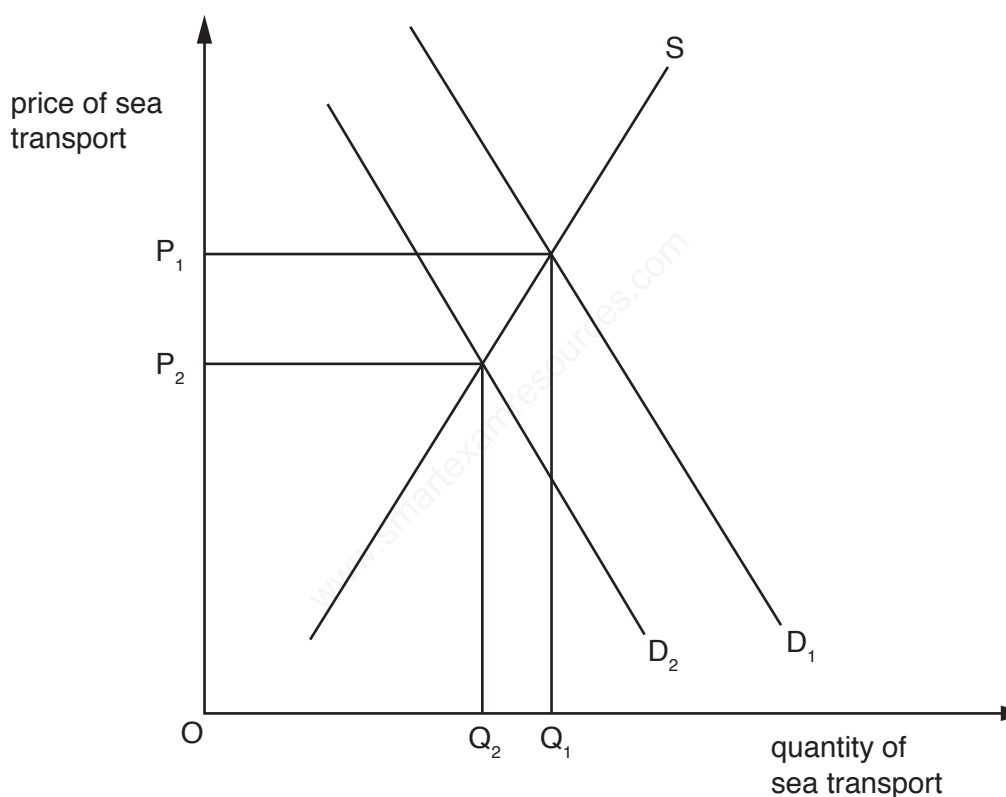
- (b) **Explain two different opportunity costs that may be involved in a person becoming a sole proprietor** [4]

- Opportunity cost is the (next) best alternative foregone (1).
- A person may be giving up the opportunity to do a job (1) and so a wage (1).
- A person may give up the opportunity to enter higher education (1) and so possibly higher future earnings (1).
- A person may give up the opportunity to be involved in another type of business organisation (1) e.g. a public limited company (1).

#### 4 The New Suez Canal

In August 2015 the Egyptian Government opened a second Suez Canal, alongside the original canal, to enable more and larger ships to sail from the Mediterranean Sea to the Gulf of Suez. It cost more than US\$8 billion to build, with land having to be purchased, capital equipment acquired and wages paid to the workers building the canal. This was at a time when there were calls for increased spending on healthcare, in particular improving the quality of public hospitals and improving education, especially adult literacy.

The Egyptian Government believes that the canal will attract more ships, both those carrying goods and those carrying people. The number of goods and people using sea transport is influenced by a variety of factors. These include the speed of the transportation, the level of economic activity and the price of other forms of transport. Some goods have to be transported quickly, and recent years have shown how sensitive demand for sea transport is to recessions and economic booms. Fig. 1 shows how the market for sea transport has recently been affected by the change in the market for air transport.



**Fig. 1 The market for sea transport**

The Egyptian Government is hoping that new industries connected to the shipping industry will be built along the canal. Developing infant industries may help to reduce the country's unemployment rate, which in 2015 was 12.5%.

In 2015, the country had a population of 90 million, a population growth rate of 1.5% and a labour force of 28 million. Its death rate was falling. The government's spending on healthcare was equivalent to 4% of Gross Domestic Product (GDP). 2015 also saw GDP at US\$280 billion with an economic growth rate of 5%.

Explain opportunity cost and give an example from the extract.

[4]

### **MARKSCHEME:**

**Explain opportunity cost and give an example from the extract.**

**4**

Opportunity cost is the (next) best alternative (1) forgone (1).

Government spending on the canal (1) could have been used on e.g. healthcare/education (1).

Land used for the canal (1) could have been used for e.g. farming (1).

- 5 In 2015 some German commercial banks reduced their already very low interest rates on deposit accounts. The German Government was hoping that such a change would encourage more Germans to buy shares in German firms. The ability of German firms to buy capital goods would be increased if they could sell more shares or borrow more from commercial banks.

**(b) Explain the connection between opportunity cost and the purchase of shares.**

[4]

### **MARKSCHEME:**

**Explain the connection between opportunity cost and the purchase of shares.**

**4**

The (next) best alternative (1) forgone/sacrificed (1).

Instead of buying shares people may buy something else (1) example of what the money may be used for instead e.g. putting money in a bank/buying other goods and services (1).



# OPPPORTUNITY COST

- 1 Living standards have risen in a variety of ways in recent decades. Between 1990 and 2015, more than 2.5 billion people in the world gained access to improved water and the proportion of undernourished people declined from 24% to 13%. Countries have made different rates of progress and these have been reflected in their Human Development Index (HDI) ranking

**(b) Explain why the concept of opportunity cost is important in deciding how to allocate resources.** [4]

## MARKSCHEME:

**Explain why the concept of opportunity cost is important in deciding how to allocate resources.** 4

Opportunity cost is the (next) best alternative (1) forgone (1) in deciding to use resources to produce one product (1) not able to produce another product (1) example (1) have to use resources to produce products in high demand (1) in the most efficient way (1).

- 2 Swaziland is a small African country where six in ten people live in poverty and most firms are small and use little capital equipment. In October 2015 it opened a new airport. Some economists suggest that the building of the airport involved a high opportunity cost and caused a range of external costs. The building of the airport is part of the government's plan to turn the country from a developing into a developed country.

What may be the opportunity cost of building an airport? [2]

## MARKSCHEME:

**What may be the opportunity cost of building an airport?** 2

Opportunity cost is the (next) best alternative foregone (1).  
Relevant example e.g. building a hospital (1).

### 3 Universal basic income (UBI)

UBI is a scheme where a government provides everyone with a payment, regardless of their circumstances. Such a scheme can help a number of groups including the sick and the old. In 2016, the Indian government was looking at a UBI as an alternative to its existing system of state benefits. A politician in Costa Rica proposed a UBI of \$337.5. Finland started a two-year experiment with a version of UBI in 2017.

A guaranteed minimum income might help some of the poor who currently do not receive state benefits and may reduce inequality. In a number of countries, income and wealth inequality is increasing. For instance, in Russia 16% of the population live below the official poverty line and 10% of the population own 87% of the country's wealth. State benefits are relatively low in Russia and the country has one income tax rate of 13%. One cause of the rise in the gap between the rich and the poor in Russia has been the effect on prices and profits arising from the privatisation of a number of state monopolies.

Differences in annual average incomes (annual GDP per head) between countries can affect life expectancy as shown in Table 1.1.

**Table 1.1 Annual GDP per head and life expectancy in selected countries in 2016**

Country	Annual GDP per head (US\$)	Life expectancy (years)
Costa Rica	16 200	78.8
Finland	42 000	80.8
India	7 400	68.6
Mali	2 300	55.7
Monaco	76 000	89.5
Russia	26 200	70.4

In Finland, a country with an average monthly income per head of \$3500, the trial UBI is \$600 per month. This does not cover everyone's needs in a country with high prices, high tax rates and periods of very cold weather. In India, the average monthly income per head is almost the same as Finland's UBI.

A UBI could help the unemployed including the temporary unemployed. Governments welcome a reduction in unemployment. This is because it increases output and enables governments to reduce spending on state benefits for the unemployed. Governments could then increase spending on other areas including education and healthcare.

Explain an example of opportunity cost in the extract.

[4]

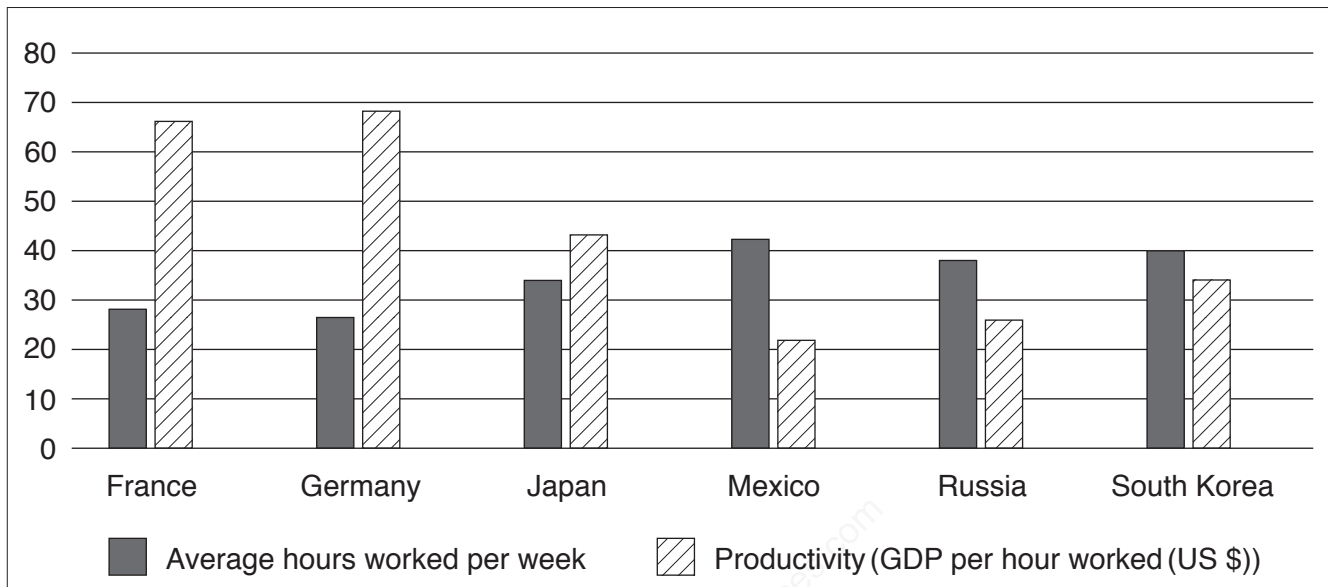
### **MARKSCHEME:**

- Opportunity cost is the best alternative (1) foregone (1)  
plus
- The opportunity cost of UBI (1) is the existing system of state benefits (1)  
or
- The opportunity cost of spending on unemployment benefits (1) is spending on education / healthcare (1)

#### 4 Premium Friday

At the start of February 2017, the Japanese government introduced its 'Premium Friday' scheme. This encourages employers to allow their workers to leave work at 15:00 on the last Friday of each month, without experiencing any reduction in their wages.

The Japanese government wants to reduce the number of hours people work. One reason is to improve the health, and so possibly the productivity, of workers. Fig. 1.1 shows the average number of hours worked and productivity (GDP per hour worked in US \$) in six selected countries.



**Fig. 1.1 Average hours worked and productivity of selected countries in 2017**

Nearly one quarter of Japanese workers work more than 50 hours a week and some work more than 25 hours overtime a week. The average Japanese worker only takes half of their paid holidays. Nearly 20 years of low economic growth and deflation have created a sense of job insecurity. Trade unions in Japan have been concentrating on trying to achieve shorter working hours.

The government thinks that working fewer hours would give people more time to bring up a child and look after elderly relatives. Japan's birth rate has fallen every year for the last 36 years, and at a faster rate than the fall in the death rate leading to a fall in the size of the population.

The government hopes more leisure time will encourage an increase in consumer spending. Higher consumer spending would benefit Japanese firms and would reduce the chances of deflation returning.

The initial response to Premium Friday was not promising. At the end of February 2017, only 4% of Japanese workers left early. In the longer run, however, the scheme may be more successful. This is because unemployment in the country had fallen with only 2 million out of a labour force of 66 million being unemployed at the end of February 2017. Low unemployment increases job security and usually increases wages. In Japan's case, however, the higher demand for labour has been matched by a higher supply. Some of this higher supply has come from migrant workers, but a greater proportion has come from more Japanese people working past retirement age and more women working.

Explain, using information from the extract, an opportunity cost of working.

[2]

### **MARKSCHEME:**

**Explain, using information from the extract, an opportunity cost of working.**

Leisure time / holidays / time devoted to raising children / looking after the elderly (1) opportunity cost is the (next) best alternative forgone (1).

# OPPPORTUNITY COST

1 Read the source material carefully before answering Question 1.

## Source material: the challenges facing Pakistan

Pakistan fact file	2016 \$ billion	2017 \$ billion
Exports of goods	20.5	25.2
Imports of goods	47.0	61.7
Government spending	40.5	43.2
Consumer spending	259.3	294.8

Pakistan faces a number of economic challenges. These include responding to a rising population, improving its trade in goods balance, controlling the country's inflation rate and increasing the country's economic growth rate. To overcome these challenges, the Pakistani government is trying to increase investment. Currently, a high proportion of the country's resources are used to produce consumer goods.

The government is subsidising entrepreneurs and charities to open low-cost schools. It wants to reduce the dropout rate from schools and to raise educational standards. Some parents do not recognise the advantages that a merit good such as education can give their children, for example better health and better job opportunities. Some of the poor need their children to work from a young age to support the family. Government reforms have not yet led to a significant rise in teachers' wages but have improved school buildings and the number of children attending. The qualifications required to teach may be increased in the future.

Improved education may affect the number of skilled workers who emigrate and may raise the quantity and quality of goods and services produced. Any resulting higher income may influence the value of imports purchased, as shown in Table 1.

**Table 1 GDP per head and imports per head in selected countries in 2017.**

Country	GDP per head (\$)	Imports per head (\$)
Norway	70 600	14 472
UK	43 600	10 419
South Korea	39 400	11 602
Russia	27 900	4 002
Mexico	19 500	7 343
Pakistan	5 400	1 143
Haiti	1 800	853

Pakistan has relatively high import tariffs. Revenue from import tariffs is 45% of total tax revenue. The tariffs on vehicles, some of which have inelastic demand, are particularly high. Future Pakistani tariffs may be influenced by changes in other countries' trade policies, as well as other factors.

2 Answer all parts to Question 1. Refer to the source material in your answers.

[2]

**Explain the opportunity cost to Pakistan of producing consumer goods.**

### **MARKSCHEME:**

**Explain the opportunity cost to Pakistan of producing consumer goods.**

Logical explanation which might include:

Capital goods (1) resources that could have been used to produce capital goods are being used to produce consumer goods / (next) best alternative forgone (1).

- 3 (a) Explain how the principle of opportunity cost might be relevant when a person chooses a new job. [3]

### **MARKSCHEME:**

Explanation of principle. Must mention 'next best' or 'best' for 2 marks. Application in terms of what might be given up – for example, might get higher pay but give up shorter journey, might give up possible alternative job, might give up holidays by switching employment, 1 mark. [3]

- 4 A developed country had a fall in its birth rate. From 1997, numbers in government junior (primary) schools fell by 300 000 over ten years. In time, this decline in numbers reached government senior (secondary) schools.

It was predicted in 2007 that, in the next ten years, the population of all children under 19 would further decrease by 4.5 %, with the numbers at senior school age (11 to 18 years) falling by 11 %.

Discuss whether the concept of opportunity cost could be applied to the changes in government spending that might be required in senior schools. [5]

### **MARKSCHEME:**

There was less demand in senior schools. Extra expenditure was not such an issue and therefore the government did not have to make a choice between spending extra in the school or spending elsewhere. Not so many educational services were required so there was a smaller opportunity cost between education spending and other expenditure. However, there may be an opportunity cost with what to do with extra spending available for other services assuming total expenditure remains same. There are 2 marks for a correct definition of opportunity cost. [5]

- 5 As scientists discover more about the spread of disease, governments introduce health education programmes and increase spending on health care. These programmes are particularly significant in developing countries and can change the age structure of the population.

**Explain what is meant by**

- (i) opportunity cost

[2]

**MARKSCHEME:**

- (i) Opportunity cost means:

the benefit obtained from the next best alternative foregone because of a particular choice.

[2]



# OPPPORTUNITY COST

- 1 All countries face the basic economic problem in relation to the factors of production. One country might allocate more resources to education and health care than another, but there will always be an opportunity cost involved in such decisions.

**Define opportunity cost and explain why it is an important concept for economists.**

[4]

## MARKSCHEME:

- (c) Opportunity cost:  
it is the next best alternative that is foregone (2 marks for definition)  
it represents cost in terms of what could have been had as an alternative to the item actually chosen  
the idea of opportunity cost may be applied in any situation where choices are being made  
the need for choice is due to the existence of scarce resources which have alternative uses; this is why it is an important concept for economists (2 marks for development that goes beyond a definition).

If opportunity cost is not clearly defined, but an example is used which indicates a basic understanding, give 1 mark.

Alternatively, an example might be used to aid the explanation and this could be given 1 mark.

There are no marks, however, for simply giving an example.

[4]

- 2 Explain what is meant by the economic problem and why opportunity cost is relevant to the allocation of resources.

[6]

## MARKSCHEME:

2 marks for an explanation of what is meant by the economic problem, i.e. limited/finite resources and unlimited/infinite wants (1) giving rise to a condition of scarcity/insufficient resources (1).

2 marks for an explanation of what is meant by opportunity cost, i.e. the benefit obtained from the (next) best alternative (1) foregone (1).

2 marks for an explanation of why opportunity cost is relevant to the allocation of resources i.e. the condition of scarcity gives rise to the need to make a choice (1) opportunity cost indicates if resources are used for one purpose they cannot be used for another purpose/ consideration of opportunity cost can result in an efficient allocation of resources (1).

[6]

- 3 (c) Discuss why the concept of opportunity cost is important for (i) firms, (ii) consumers and (iii) governments to consider when making choices. [10]

## MARKSCHEME:

Up to 2 marks for a definition of opportunity cost:  
the benefit of the (next) best alternative foregone as a result of making a choice.

Up to 4 marks for the discussion of the importance for firms:

- firms will need to consider implications of choices made in terms of both products produced and the different resources and methods of production used, including impact on profits and competitors.

Up to 4 marks for the discussion of importance for consumers:

- consumers will need to consider implications of choices made in terms of consumption decisions.

Up to 4 marks for the discussion of importance for governments:

- governments will need to consider implications of choices made in terms of a limited amount of financial resources and yet there will be many diverse demands on these limited resources.

Note: maximum of 10 marks.

[10]

4 Economic decisions involve an opportunity cost. This can clearly be seen in a production possibility curve.

(a) Describe why economic decisions involve an opportunity cost. [4]

(b) Using a production possibility curve diagram, explain how it can show the concept of opportunity cost. [6]

(c) Discuss the extent to which the concept of opportunity cost is only of use to governments. [10]

## MARKSCHEME:

(a) Describe why economic decisions involve an opportunity cost. [4]

Up to two marks for definition:

Opportunity cost is the (next) best alternative (1) that is foregone (1)

Up to two marks for development

Resources are finite/limited in supply (1) if they are used to produce one product they cannot be used to produce another product (1) so a choice has to be made as to how resources have to be used (1) an example of this use of resources (1)

Reward but do not expect:

Economic decisions do not always involve an opportunity cost (1) e.g. employing the unemployed/using solar power/they might be free goods (1)

(b) Using a production possibility curve diagram, explain how it can show the concept of opportunity cost. [6]

Diagram:

Up to 3 marks:

- correct labelling of both axes (1)
- correct shape of curve (straight line or curve) (1)
- two points showing movement along curve/movement along axes (1)
- opportunity cost, with full employment of resources, must be on the PPC (1)

Explanation:

Up to 3 marks:

- PPC shows all possible combinations of the production of two goods (1)
- shows more of one product can be made only if less of another product is made (1) as a result of switching resources (1)
- shows if all resources are used to make one product, no units of the other product can be made (1)
- a move from inside the PPC outwards does not show opportunity cost (1)
- points outside the PPC are unattainable (1)

5 Discuss the extent to which the concept of opportunity cost is only of use to governments. [10] Up to 7 marks for why the concept of opportunity cost is of use to governments:

governments have to decide how to spend tax revenue (1) e.g. if they spend revenue on education they cannot spend it on health care (1)

governments face policy conflicts (1) e.g. if it decides to raise spending to reduce unemployment (1) it may cause inflation/lose control of price stability (1)

governments know a rise in taxation will involve an opportunity cost for taxpayers (1) they will have to forgo spending or saving

a rise in taxation may discourage MNCs from setting up in the country (1) result in loss of output/employment (1)

Up to 7 marks for why the concept of opportunity cost can be of use to firms, consumers and workers:

- firms have limited resources (1) firms have to decide what to produce (1) e.g. if a firm produces more of one model of car, it may have to produce less of another model (1) take into account profits that can be earned (1)
- consumers have limited income (1) have to decide how they spend their money (1) if they buy one product they may not be able to buy another product (1) take into account satisfaction/value for money (1)
- workers have limited time (1) have to decide what job to do (1) if they undertake one job they cannot do another job (1) take into account wage and non-wage factors (1)
- to show advantages of specialisation in international trade (1) because it shows how output and consumption can rise (1)

# OPPORTUNITY COST

- 1 Factors of production, private and external costs and opportunity costs are all important concepts in Economics.

**Explain why scarcity gives rise to an 'opportunity cost'.**

**MARKSCHEME:**

[4]

**(c) Explain why scarcity gives rise to an 'opportunity cost'.**

**[4]**

1 mark for explanation of the term 'scarcity' in terms of the finite resources.

1 mark for insufficient resources to satisfy the unlimited wants.

1 mark for stating that this gives rise to the need to make a choice.

1 mark for stating that this choice will involve an opportunity cost in terms of the (next) best alternative that is foregone.

## 2 Fishing in Mauritania

Much of Mauritania's land is desert and regular droughts put pressure on the country's supply of food. The African country does, however, have the advantage of coastal waters which are among the world's most plentiful ocean fishing grounds.

Approximately 95% of the fish caught by Mauritania's small fishing vessels are exported. Earnings from the sale of fish abroad contribute to the current account of the country's balance of payments. In 2013 the country had a trade in goods surplus and a current transfers surplus.

There is little processing of the fish into higher value products in Mauritania, except at a small number of factories at Nouakchott, the country's capital. This failure to process the fish is having an impact on the country's earnings from the fish it catches and on its economic growth. The country's total output did actually increase from US\$8 billion in 2012 to US\$8.5 billion in 2013. That year also saw a change in the country's population. The birth rate was 31.83, the death rate was 8.35 and the migration rate was -0.85 per thousand of the population.

Some economists in Mauritania criticise their government for allowing other countries, including Algeria, Morocco, Japan and Russia, to catch large quantities of fish in Mauritania's waters. They have recently objected to the government signing an agreement with the European Union (EU) that allows more than one hundred large EU vessels to fish in Mauritania's waters in return for a payment of US\$105 million per year. These EU vessels, with their highly skilled workers, are catching large volumes of fish, including highly valued squid, and are thought to be threatening the sustainability of Mauritania's fishing industry.

Mauritanian economists are predicting that fish stocks could decline significantly in the next twenty years. The country's economy is currently heavily dependent on the primary sector. Improvements in the productivity of both its fishing and agricultural industries would help to reduce both the unemployment and poverty in the country.

Describe the opportunity cost of Mauritania exporting fish

[2]

### MARKSCHEME:

**Describe the opportunity cost of Mauritania exporting fish.**

**[2]**

Opportunity cost is the (next) best alternative foregone (1).

The opportunity cost here may be Mauritania consuming the fish / producing other products / exporting other products (1) or Mauritania processing the fish (1).

- 3 Rich people in some countries are now working for more hours on average than poor people. One reason for this is thought to be that well-paid jobs provide more job satisfaction. Gaining enjoyment from work can lead to high labour productivity.

What is a possible opportunity cost of working?

[2]

### MARKSCHEME:

Opportunity cost is the (next) best alternative forgone (1).

Opportunity cost is leisure / education / retirement / raising a family (1).

#### 4 Rubber production in Liberia

Liberia is a west African country that has faced a number of serious problems in recent years. These have included a civil war and in 2014 the outbreak of the Ebola epidemic. There have also been improvements. The unemployment rate was 85% in 2004 but had fallen to 4% in 2016. This reduction has influenced both emigration and wages. Workers have received higher wages although some economists think that the higher wages have increased the country's inflation rate which in 2016 was 8%.

The country has a good supply of drinking water and a climate favourable to agriculture. More than 70% of the country's labour force is currently employed in agriculture. The country's main exports are rubber, iron ore, timber and gold.

A US multinational company (MNC) runs the world's largest single natural rubber farming operation in Liberia. The price of rubber fell by 75% between 2011 and 2016. The global supply of rubber had exceeded demand as a number of countries imposed import restrictions on rubber. In response to the lower price the US MNC cut its production, but still made a loss. The MNC does not want to go out of business and is trying to survive by cutting its costs. In the long run it hopes to maximise profits. When some of its 7000 workers retire, they will not be replaced. The MNC has introduced new production techniques and diversified into growing cocoa and coffee.

The Liberian government is providing subsidies to local rubber farmers to help them buy new equipment and introduce new farming methods. Despite the challenging situation, a number of local Liberian rubber farmers are increasing the size of their operations by buying up more land. Some others are diversifying by using wood from the rubber trees to make furniture.

While helping its rubber farmers, the Liberian government is also encouraging the expansion of the secondary and tertiary sectors. Between 2014 and 2016 it increased its expenditure on healthcare but this was at the expense of a number of public sector investment projects. Table 1 compares the infant mortality rate and healthcare expenditure per head in selected countries in 2015.

**Table 1 Infant mortality rate and healthcare expenditure per head in selected countries in 2015**

Country	Infant mortality rate (deaths per 1000 live births)	Healthcare expenditure per head (US\$)
Cuba	4.5	459
Hungary	5.0	2 096
India	41.5	248
Liberia	67.5	90
Turkey	18.8	1 148
UK	4.4	3 749

**(f) Explain, using information from the extract, how the concept of opportunity cost affects all rubber farmers in Liberia. [4]**

## MARKSCHEME:

**Explain, using information from the extract, how the concept of opportunity cost affects all rubber farmers in Liberia.**

**4**

Opportunity cost is the (next) best alternative foregone (1).

The US MNC could use its resources to produce rubber (1) or cocoa/coffee (1).

The local farmers could sell rubber (1) or rubber wood / make furniture (1).

The farmers could use the money to buy more land (1) example, e.g. diversify into other areas / education for their children (1).

Subsidies to farmers (1) could be used to help them in other ways e.g. education (1).



- 6 It has recently been revealed that a king works as a part-time pilot for a multinational airline. Some pilots and police officers have left their jobs to become teachers and others have left to become sole traders. The wages teachers earn vary according to their age.

**Explain why the opportunity cost of becoming a teacher for one worker may be greater than for another worker**

### **MARKSCHEME:**

Opportunity cost is the (next) best alternative (1) forgone (1).

- One worker may have earned more than another (1) and so would be giving up more earnings (1).
- One worker may give up more non-wage benefits (1) example e.g. promotion chances (1).
- One worker has further to travel to work / higher costs of travelling (1) loss of leisure time / time with family / lower net income (1).

# PRODUCTION POSSIBILITY CURVE

1

Production involves the use of the four factors of production. The use of these resources involves an opportunity cost.

Using a production possibility curve, explain what is meant by opportunity cost. [6]

## MARKSCHEME:

Definition of opportunity cost: the (next) best (1) alternative foregone (1) as a result of making a decision

Diagram of production possibility curve – axes correctly labelled (1) and curve correct shape (bowed out or straight downward sloping) (1)

Explanation – idea of moving along one axis (1) has the effect of a reverse movement along the other axis (1)

Note: maximum of 6 marks. [6]

**2** In 2012, the Indian Prime Minister announced that the Government was going to spend US\$90 million on sending a spaceship to the planet Mars. Some economists argued that it would be better to use the factors of production, such as land and labour, to improve education or to build more roads.

(c) Using a production possibility curve diagram, analyse the impact of an increase in resources on an economy

### MARKSCHEME:

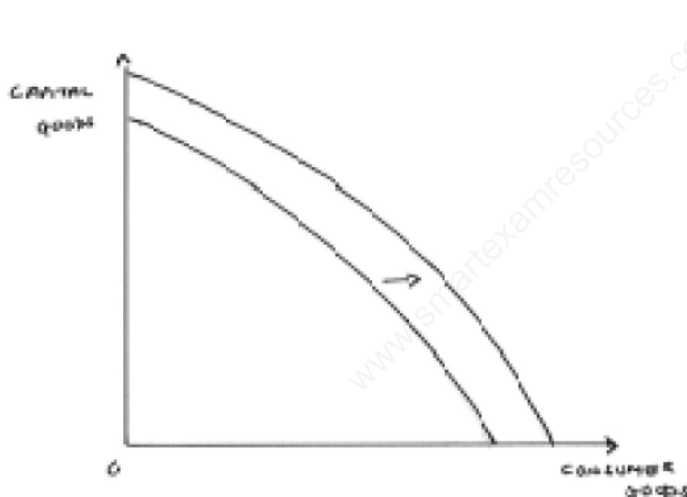
**Using a production possibility curve diagram, analyse the impact of an increase in resources on an economy.** [5]

**Up to 3 marks for the diagram:**

1 mark for the original curve or downward sloping line which must touch the axes.

1 mark for axes correctly labelled in terms of two different products or types of products.

1 mark for showing the curve or line shifted out to the right.



**Up to 2 marks for written analysis:**

1 mark for an increase in resources moves the PPC to the right.

1 mark for more resources enables an economy to produce more of both products/increase productive potential/economic growth.

1 mark for whether output increases or not will depend on what happens to the production point.

- 3** A number of economies are devoting more of their resources to the provision of health care. Due to the economic problem, this involves them having to make difficult choices.

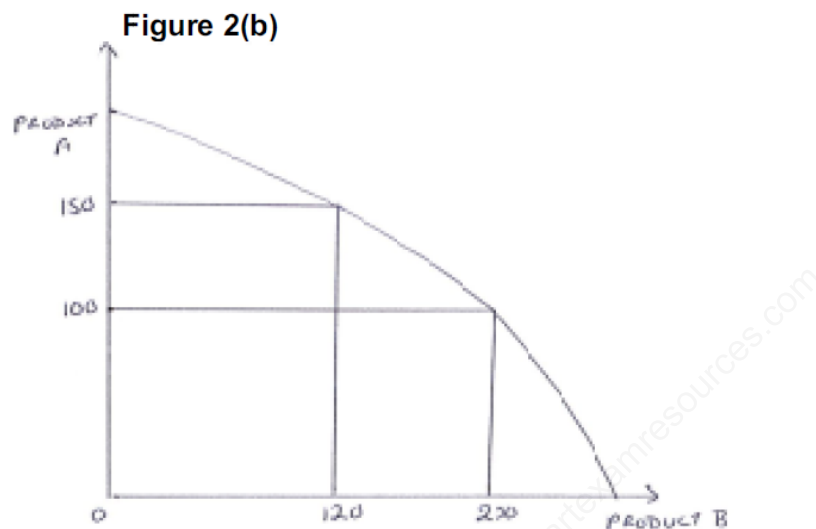
Using a production possibility curve diagram, explain why choices have to be made as to how to allocate resources.

### MARKSCHEME:

**Using a production possibility curve diagram, explain why choices have to be made as to how to allocate resources.** [6]

**Up to 3 marks for the diagram:**

- 1 mark for axes correctly labelled in terms of two different products or types of products.
- 1 mark for curve or downward sloping line – drawn to the axes.
- 1 mark for showing a trade off.



**Up to 3 marks for written comments:**

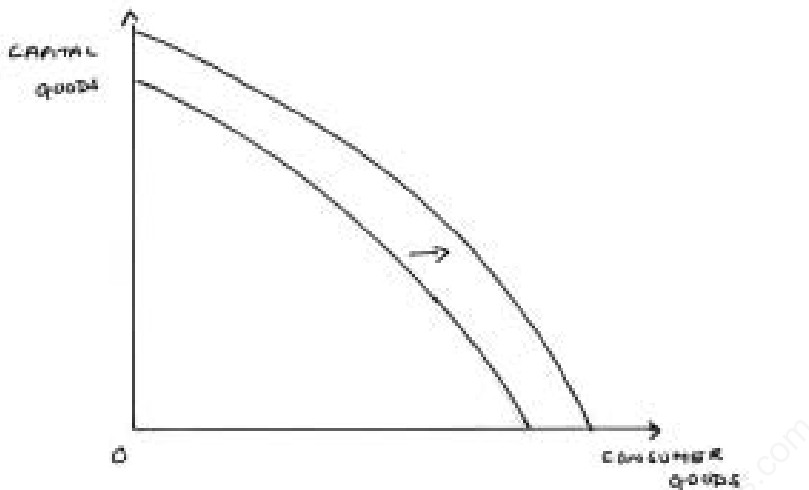
- definition of opportunity cost (1)
- recognition choice arises because of scarcity (1)
- example based on the diagram: if an economy produces e.g. 200 units of B it cannot produce 150 units of Product A (1)
- recognising that if an economy chooses to allocate more resources to making one product, it has to allocate fewer resources to another product/chooses to make more of one product it has to produce less of another product (2).

4

In 2012, a few countries experienced a decrease in their factors of production, including labour and enterprise. New Zealand, however, experienced an increase in both the quantity and quality of its factors of production. In the same year, the country exported more agricultural and manufactured goods.

Using a production possibility curve diagram, analyse the effect of a decrease in the supply of labour and enterprise on an economy. [5]

### MARKSCHEME:



**Up to 3 marks for the diagram:**

1 mark for axes correctly labelled in terms of two different products or types of products.

1 mark for the original curve or downward sloping line.

1 mark for showing the curve or line shifting to the left.

**Up to two marks for written comments:**

1 mark for fewer resources shifts the PPC to the left.

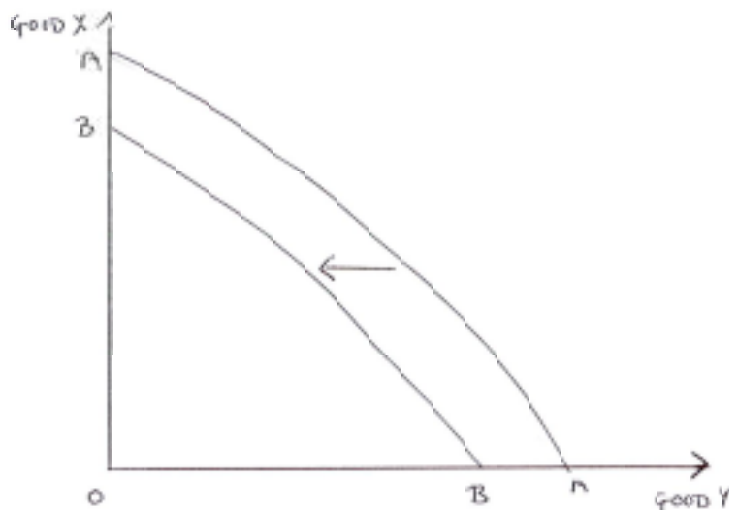
1 mark for fewer resources reduces the ability of an economy to produce both products/reduces productive potential/reduces GDP.

- 5** In 2013, an earthquake on the Iran/Pakistan border destroyed many factories and homes. Some officials wanted the Governments to rebuild the factories and homes, even though there would be an opportunity cost. Others suggested that some people should be encouraged to emigrate.

Using a production possibility curve diagram, analyse the effect of the destruction of some of its resources on an economy. [6]

### MARKSCHEME:

Up to 4 marks for the diagram:



- axes correctly labelled (1)
- original curve/downward sloping line to axes (1)
- new curve present (1)
- shift to the left clearly indicated either by an arrow or by labelling (1)

Up to 2 marks for written explanation:

- the destruction of resources will reduce the maximum output a country can produce (1)
- this will move the production possibility curve to the left/closer to the origin (1)

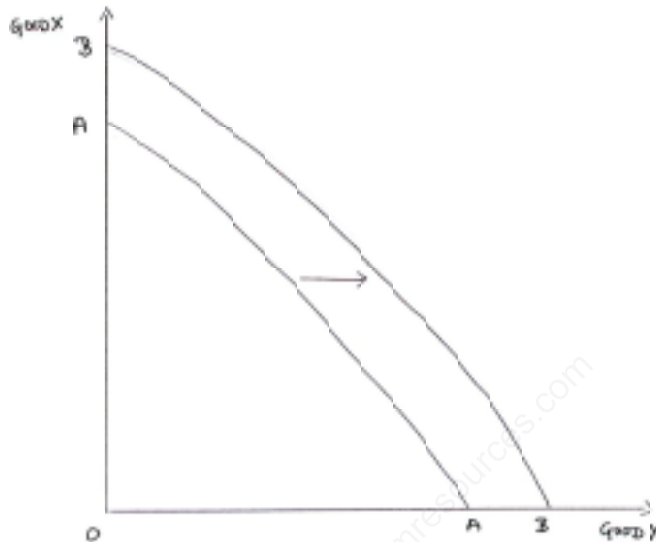
# PRODUCTION POSSIBILITY CURVE

- 1 Students have to consider the opportunity cost of going to university. University graduates usually earn more than people who have not gone to university. Having more graduates influences a country's production possibility curve. Some economists suggest that students should pay the full cost of their university courses and accommodation. Others say that the government should pay some or all of the cost.

Using a production possibility curve diagram, analyse what effect an increase in the number of graduates will have on an economy. [6]

## MARKSCHEME:

Up to 4 marks for the diagram:



- axes correctly labelled (1)
- original curve/downward sloping to the axes and touching the axes (1)
- new curve present (1)
- shift to the right indicated either by an arrow or labelling (1)

Up to 2 marks for the written analysis:

- more graduates will increase the skills/productivity of workers (1)
- with a higher quality of labour, a country will be capable of producing more/there will be economic growth (1)

2

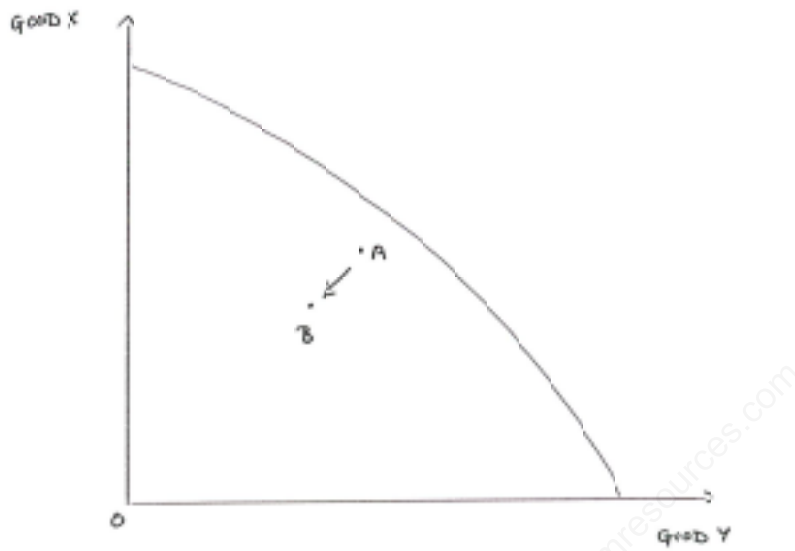
In 2009, the unemployment rate in Spain was 8% and the annual inflation rate was 3%.

By April 2013, the unemployment rate had reached a record 27% but the annual inflation rate had fallen to 2%. The resulting rise in government spending on unemployment benefits involved an opportunity cost.

Using a production possibility curve diagram, analyse the effect of an increase in unemployment on a country's output. [6]

### MARKSCHEME:

Up to 4 marks for the diagram:



- axes correctly labelled (1)
- original curve/downward sloping line to axes (1)
- production point moved nearer to the origin (1)
- direction of change in the production point indicated (1)

Up to 2 marks for written explanation:

- unemployment means resources are unused / the economy is not at full capacity (1)
- with unemployed resources, a country will be producing further inside/moving inside its production possibility curve (1)



- 3** In 2014 Cuban doctors were given pay rises that significantly increased their salaries. This made doctors' pay more than twice that received by nurses. Cuba is devoting more resources to both medical care and tourism, altering the country's production possibility curve. Living standards are increasing in the country but at a slower rate than some other nearby countries.

What is meant by a production possibility curve?

[2]

**MARKSCHEME:**

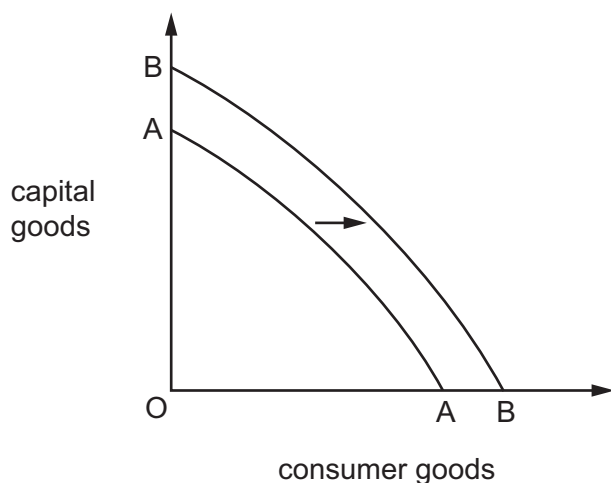
- A curve that shows the maximum output of two types of products / combination of two products (1) that can be made with given resources/technology (1) it shows opportunity cost (1)
- Allow 1 mark for some understanding shown about potential maximum output
- Allow up to 2 marks for a diagram which is explained – with correct labelling (1) and correct curve (1)

- 4 Many economists are predicting that relative poverty will increase whilst absolute poverty will fall in both India and the United States of America. The level of poverty can be influenced by, for example, education, the technology used and the number of new businesses created, including sole proprietorships.

Analyse, using a production possibility curve, the effect of advances in technology.

[6]

### MARKSCHEME:



Up to 3 marks for the diagram:

- axes correctly labelled in terms of two different products or types of products (1)
- the curve or downward sloping line drawn to the axes (1)
- the curve shifting out to the right (1).

Up to 3 marks for written comments:

- advances in technology increase the quality of capital goods (1)
- higher quality capital equipment increases productive capacity/the maximum quantity of products that can be produced (1)
- increased productive capacity results in (potential) economic growth (1)
- may affect the output of the two products differently (1) slope may change (1).

- 5** Japan's birth rate is falling. Its population is ageing, and declining at a faster rate than any other country's population. This has an impact on the amount that the Japanese Government spends on pensions. Its government is considering measures to increase the country's birth rate and to encourage immigration.

Analyse, using a production possibility curve diagram, what effect net immigration is likely to have on an economy.[8]

### **MARKSCHEME:**

**Analyse, using a production possibility curve diagram, what effect net immigration is likely to have on an economy.**

**Up to 4 marks for the diagram:**

- axes correctly labelled (1)
- curve drawn, either bowed out or as a straight downward sloping line, meeting the axes (1)
- new curve drawn (1)
- position of the new curve to the right of the original indicated either by labelling or an arrow (1)

**Up to 2 marks for written analysis:**

- net immigration will increase resources/labour (1)
- more resources will increase productive potential/enable countries to produce more (1)

# PRODUCTION POSSIBILITY CURVE

1

Indonesia's output is influenced by its factors of production. A production possibility curve

diagram can be used to show this relationship between resources and output. Indonesia does have extensive fishing waters but does not actually catch many fish. Most of its fishing firms are small and they compete against much larger foreign firms. These larger foreign firms have been attracted into Indonesia's waters because of increasing demand for fish. The price elasticity of demand for different types of fish has changed in the last few years.

Explain two economic concepts shown by a production possibility curve diagram. [4]

## MARKSCHEME:

**Explain two economic concepts shown by a production possibility curve diagram.**

**1 mark each for each of two concepts identified:**

- opportunity cost
- scarcity/economic problem/unlimited wants and limited resources
- choice
- efficiency/full employment
- specialisation
- economic growth/the difference between actual and potential economic growth

**1 mark each for each of two explanations given:**

- The curve shows that if more of one type of product is produced, less of another product can be made
- The curve shows that there is a limit to the amount that can be produced with existing resources/maximum output of two products
- The curve shows that more than one production point cannot be selected
- Any point on the curve is efficient/any point inside the curve is inefficient
- The curve shows the maximum amount of a product that can be produced if all resources are devoted to one good
- Economic growth is shown by a shift to the right of the curve/actual growth is shown by a movement towards the curve and potential growth by a shift to the right

2

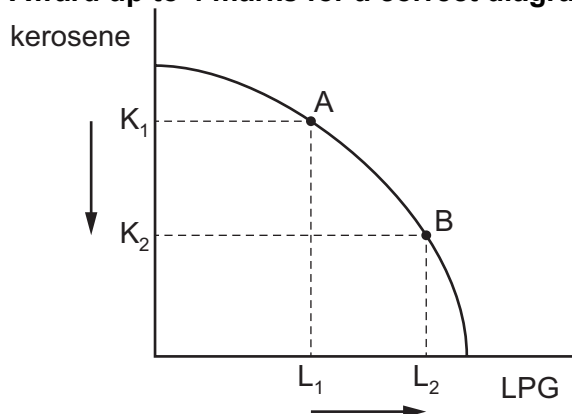
The production process in the oil industry is capital-intensive. The pollution it generates means it is one cause of environmental market failure. A Nigerian oil monopoly is starting to produce more environmentally friendly liquefied petroleum gas (LPG), rather than kerosene, in an attempt to reduce pollution. The Nigerian government intends to split the monopoly firm into separate companies to improve efficiency.

Analyse, using a production possibility curve (PPC) diagram, the effect of reallocating resources from kerosene to LPG. [6]

### MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the effect of reallocating resources from kerosene to LPG.**

**Award up to 4 marks for a correct diagram:**



- Axes labels LPG and kerosene (1)
- Curve / downward sloping line drawn to axes (1)
- Two production points illustrating increased production of LPG (1)
- New production point indicated (1)

**Award up to 2 marks for associated explanation:**

Reallocating resources will involve a movement along the PPC (1) this will involve an opportunity cost (1).

**3** In March 2017, Peru was hit by floods and the strongest winds in decades. Roads, bridges, houses and capital goods were destroyed. It is expected that the damage caused will affect Peru's Human Development Index (HDI) and economic growth rate. In 2016, Peru experienced a 4% economic growth rate which was higher than the growth rate of the USA.

Analyse, using a production possibility curve (PPC) diagram, the effect of damaging weather on an economy. [8]

### MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the effect of damaging weather on an economy.**

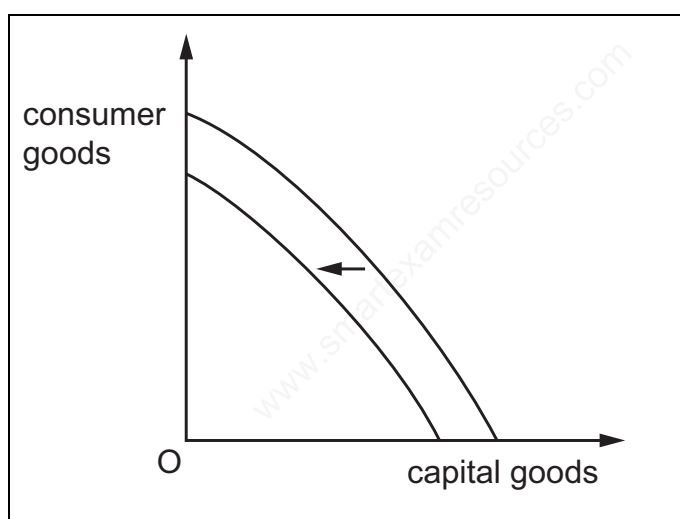
**Up to 4 marks for the diagram:**

- axes correctly labelled in terms of two different products or types of products (1)
- initial curve or downward sloping line is drawn to the axes (1)
- second curve or downward sloping line is drawn to the axes (1)
- An indication either by labelling or an arrow that the curve has shifted inwards / left (1)

**Up to 2 marks for written analysis:**

Bad weather will reduce the quantity of resources (1).

The amount that can be produced with fewer resources will fall (1).



- 4** Australian firms have been praised for introducing new technology. The actions of some of these firms, however, cause market failure. The Australian government uses subsidies, among other policies, to reduce market failure. Government spending is used both to improve the performance of individual markets and the macroeconomy. The Australian government increased its spending in 2017, in part to reduce unemployment.

Analyse, using a production possibility curve (PPC) diagram, the effect of advances in technology on an economy.  
[6]

### **MARKSCHEME:**

**Analyse, using a production possibility curve (PPC) diagram, the effect of advances in technology on an economy.**

Up to 4 marks for the diagram:

Axes correctly drawn (1).

Initial curve drawn as a curve or a downward sloping line to the axes (1). New curve drawn as a curve or a downward sloping line to the axes (1). Shift to the right indicated by arrow or lettering (1).

Up to 2 marks for logical analysis:

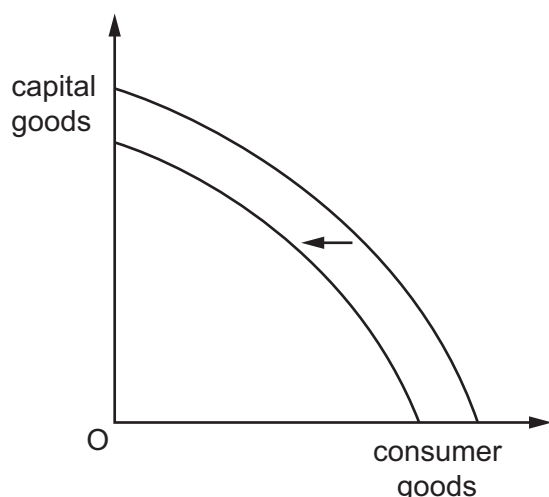
Advances in technology raise the quality of capital (1) increase productive capacity (1).

- 5** In 2017, the Japanese government announced improvements to its tax system. The amount of tax raised is influenced by the size and age distribution of a country's population. Japan's birth and death rates are falling, its population is ageing, and it has low immigration. Overall, Japan's population is decreasing.

Analyse, using a production possibility curve (PPC) diagram, the effect of a decrease in population size on an economy. [6]

### MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the effect of a decrease in population size on an economy.**



Up to 4 marks for the diagram:

Axes correctly drawn (1).

Initial curve drawn as a curve / line sloping downward to the axes (1). New curve drawn as a curve / line sloping downward to the axes (1). Shift to the left indicated by arrow or letter (1).

Up to 2 marks for coherent analysis which might include:

A decrease in population size may decrease the size of the labour force (1) decrease productive capacity (1).



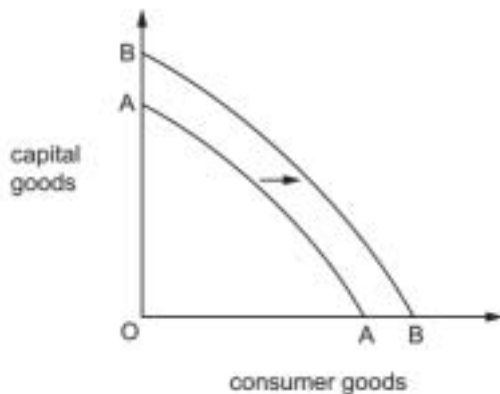
# PRODUCTION POSSIBILITY CURVE

- 1 Ireland has one of the lowest rates of corporation tax in Europe. This has encouraged many multinational companies (MNCs) to produce in Ireland. Other reasons why firms want to produce in Ireland include access to freer trade with other European countries, higher labour productivity and government grants.

Analyse, using a production possibility curve (PPC) diagram, the impact of higher labour productivity on an economy. [6]

## MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the impact of higher labour productivity on an economy.**



Up to 4 marks for the diagram:

Axes correctly drawn (1)

Initial curve or line sloping downward drawn to the axes (1)

New curve or line sloping downward drawn to the axes (1)

Shift to the right indicated by arrow or lettering (1).

Up to 2 marks for coherent analysis which might include:

Higher labour productivity will increase output per worker (1) increase productive capacity (1).

**2** Economic decisions involve an opportunity cost. This can clearly be seen in a production possibility curve.

Using a production possibility curve diagram, explain how it can show the concept of opportunity cost.[6]

### **MARKSCHEME:**

Up to 3 marks:

- correct labelling of both axes (1)
- correct shape of curve (straight line or curve) (1)
- two points showing movement along curve/movement along axes (1)
- opportunity cost, with full employment of resources, must be on the PPC (1)

Explanation:

Up to 3 marks:

- PPC shows all possible combinations of the production of two goods (1)
- shows more of one product can be made only if less of another product is made (1) as a result of switching resources (1)
- shows if all resources are used to make one product, no units of the other product can be made (1)
- a move from inside the PPC outwards does not show opportunity cost (1)
- points outside the PPC are unattainable (1)

3

All countries face the economic problem and so choices have to be made.

Using a production possibility curve diagram, explain how the curve can be used to show the consequences of a change in the allocation of resources between the production of two goods. [6]

### MARKSCHEME:

Using a production possibility curve diagram, explain how the curve can be used to show the consequences of a change in the allocation of resources between the production of two goods. [6]

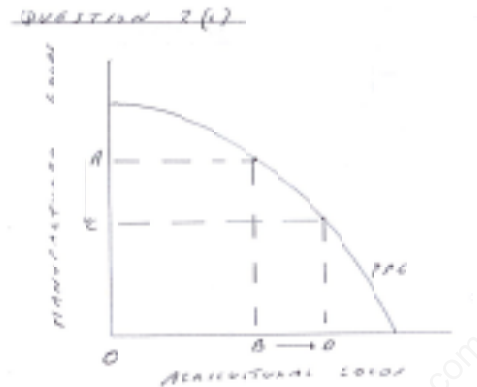


Diagram – 3 marks

- correct labelling of two axes (1)
- correct shape of curve (1)
- movement from one position on the curve to another (1)

Explanation – 3 marks

- correct explanation that as more resources are allocated to the production of one good (1), less resources can be allocated to the production of the other good (1), as there will be an opportunity cost (1)

Only reward candidates who draw shifts if it is explained that if there are more resources, it is possible to devote more resources to the production of one good without reducing the production of the other.

## 4

### The changing oil market

In 2013 China overtook the United States of America (US) as the largest importer of oil. The rise in Chinese demand has driven up the price of oil. The higher price of oil has made production techniques used in the US, such as hydraulic fracking, possible and has provided more oil for US domestic consumption. US oil companies have purchased larger, more expensive capital equipment and are employing more specialist engineers. The expansion in the US oil industry contributed to the fall in the country's unemployment rate to 6.1% in 2014.

Despite being the largest importer of oil, China is not yet the world's largest consumer. In 2013 the US oil industry supplied 10.5 million barrels a day, exported 3.4 million barrels a day and imported 10.9 million barrels a day. These figures are likely to change in the future. For example, in 2013 the US had 250 million vehicles and China had only 100 million. It is forecast that by 2030 China will have 350 million vehicles. If this change does occur, China will become more vulnerable to oil price changes and disruptions in the supply of oil.

While US oil production is increasing, its consumption is falling. More oil is being discovered in the country and more sophisticated techniques are being used to extract it. At the same time, fewer young people in the country are learning to drive, vehicle ownership per household is falling and average mileage is declining. In addition, US cars are becoming more fuel efficient as a result of tighter fuel economy standards and consumers switching to more economical vehicles.

US consumers are becoming more sensitive to changes in the price of oil but a rise in price still leads to a rise in oil producers' revenue. Changes in the price of oil, oil production and oil consumption also still have a significant effect on the US economy. For example, the discovery of more oil in the country usually affects the value of the US dollar.

Changes in the consumption and production affect China's and the US's current account positions on their balance of payments. Currently China has the world's largest current account surplus whilst the US has the world's largest current account deficit. It is interesting to note that both countries have been trying to increase their economic growth rate. The US central bank, the Federal Reserve, has tried to raise the growth of the country's output by cutting the rate of interest.

- (a) Using information from the extract, explain whether the US was operating on or inside its production possibility curve in 2014.  
[2]inelastic.

### MARKSCHEME:

Inside/moving towards (1).

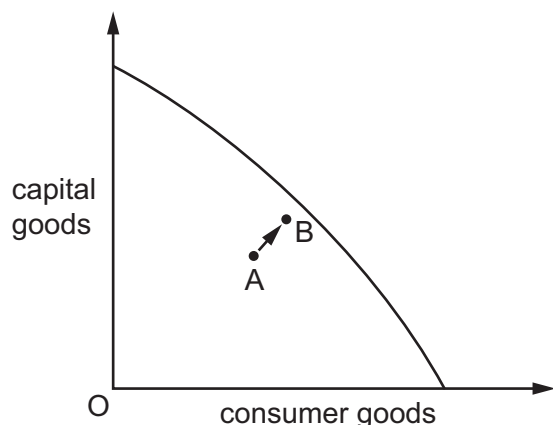
More resources e.g. capital equipment/specialist engineers would be used to increase oil production / the country was experiencing unemployment (1)

5

The unemployment rate in Wales fell from 8.2% in March 2013 to 6.8% in March 2014. One in four workers in Wales is employed in the public sector. A high proportion of workers are employed in multinational companies, including a Japanese car producer and a South Korean electronics firm.

Using a production possibility curve diagram, analyse the effect of a decrease in unemployment on an economy's output. [6]

### MARKSCHEME:



*Up to 4 marks for the diagram:*

- axis correctly labelled in terms of two different products or types of products (1)
- the curve or downward sloping line drawn to axes (1)
- a production point inside the PPC (1)
- a production point on or moving closer to the frontier (1).

*Up to 3 marks for written comments:*

- unemployed resources mean an economy is producing inside the PPC (1)
- a decrease in unemployment means more resources are being used (1)
- greater use of resources increases output (1).

# PRODUCTION POSSIBILITY CURVE

## 1 Cigarette smoking in China

China has recently experienced rapid economic growth and an improving Human Development Index (HDI) ranking. It is, however, facing a number of health challenges. It is currently the world's largest cigarette market, with more than 350 million smokers. A higher proportion of men smoke in China than in most other countries, including Russia and the USA. While 50% of Chinese men smoke, only 2% of Chinese women smoke. It has been estimated that nearly 2 million Chinese citizens a year die from smoking-related illnesses. These include smokers and those who have suffered from passive smoking.

As well as being the largest consumer of cigarettes, China is also the world's largest producer of cigarettes. Tobacco is grown in a number of the provinces of China, including the province of Yunnan. Over 3 million workers are employed in the industry, which is increasingly using advanced technological capital equipment. However, between 2009 and 2014 the number of cigarette-producing firms declined from 200 to 40 as firms merged and grew in size.

Although revenue from taxes on cigarettes earned the Chinese Government 800 billion yuan in 2014 (5% of the government's total tax revenue), it recently introduced a number of measures to discourage smoking. It has imposed a ban on smoking in public places, hospitals, schools and public transport. Health campaigns are also being used. Such campaigns are used throughout the world both to discourage the consumption of some products that are thought to be harmful to health and to encourage the consumption of products that are considered to be beneficial to health. For example, an information campaign on the benefits of consuming fruit has met with some success in the UK. Fig. 1 shows the impact it had on the market for fruit in the UK in 2015.

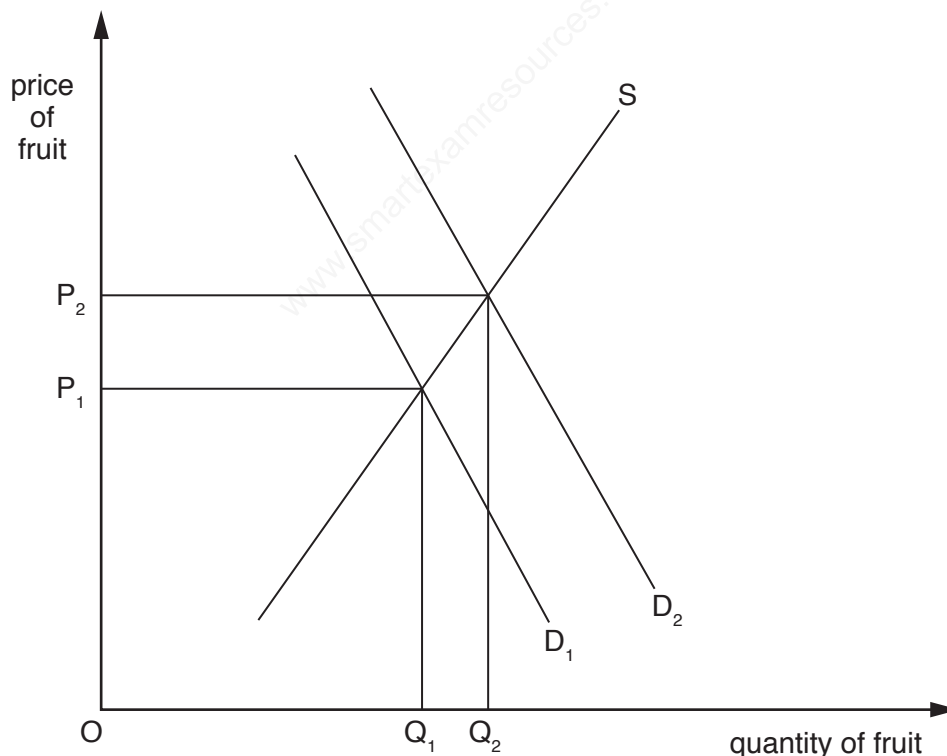


Fig. 1 The market for fruit in the UK in 2015

Analyse, using a production possibility curve diagram, the effect of moving factors of production from producing cigarettes to producing other products. [5]

### MARKSCHEME:

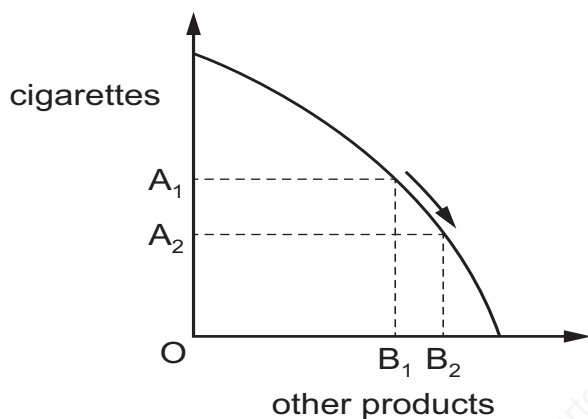
Analyse, using a production possibility curve diagram, the effect of moving factors of production from producing cigarettes to producing other products.

Up to 3 marks for the diagram:

Axes correctly labelled (1).

Curve / downward-sloping straight line drawn to the axes (1).

Movement along curve from cigarettes to other products (1) shown by an arrow on the curve or by change in combinations.



Up to 2 marks for explanation:

Opportunity cost of producing more other products / devoting more resources to other products (1) means producing fewer cigarettes (1).

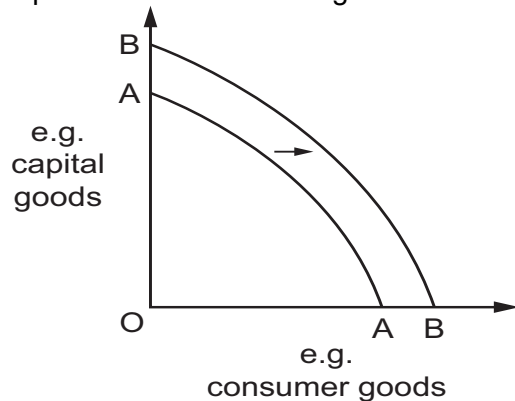
- 2** Rich people in some countries are now working for more hours on average than poor people. One reason for this is thought to be that well-paid jobs provide more job satisfaction. Gaining enjoyment from work can lead to high labour productivity.

Analyse, using a production possibility curve diagram, how an increase in labour productivity will affect an economy.[6]

### MARKSCHEME:

**Analyse, using a production possibility curve diagram, how an increase in labour productivity will affect an economy.**

Up to 4 marks for the diagram:



Axes correctly labelled (1).

Original production possibility curve / straight downward sloping line drawn to the axes (1).

New PPC (1).

Indication of shift to the right – arrow or labelling (1).

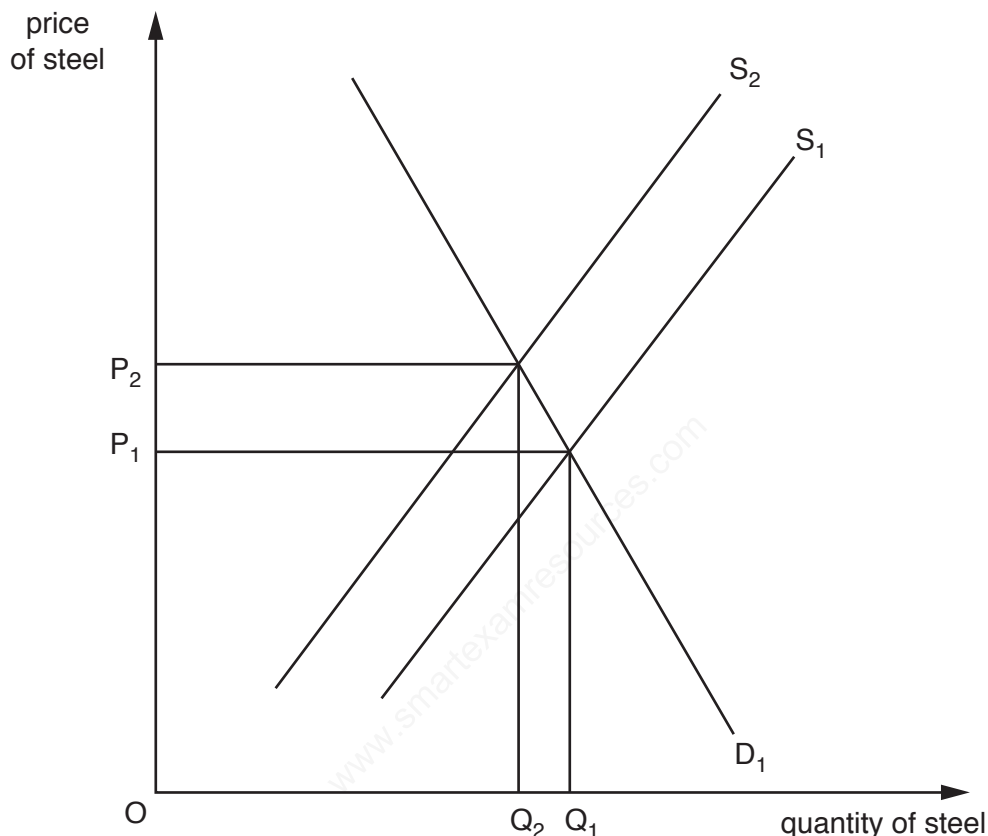
Up to 2 marks for written explanation:

An increase in labour productivity increases the quality of labour (1) increases output per worker hour / efficiency (1) increases productive potential / cause economic growth (1).



### 3 Changes in the global balance of economic power

In 2014, global Gross Domestic Product (GDP) stood at US\$78 000 billion. A year later it had increased to US\$80 730 billion. In the past, countries such as the USA and Germany might have been expected to have made the largest contribution to the increase in GDP. China accounted for 20% of the increase in world output in 2015. China is set to become the largest economy. It is becoming a stronger competitor in a number of markets. This increased price competitiveness is the result of a number of factors including maintaining a low exchange rate, providing subsidies to a number of industries and increased labour productivity. However, in 2015 the Chinese Government was considering whether to reduce the size of the country's steel industry, possibly by cutting the subsidy it received. Fig. 1 shows how the market for steel might be affected by such a change.



**Fig. 1 The market for steel in China in 2015**

Some developed countries have been struggling recently. For example, Australia has seen its economic growth rate declining. To try to increase domestic economic activity the Reserve Bank of Australia has cut interest rates.

Developing and emerging economies' economic growth rates are increasing. In Africa, this is in part because of the discovery and exploitation of oil and mineral resources. These countries have different exchange rate systems and have different records of success in attracting multinational companies. Many African countries use protectionist measures but some are moving towards free trade.

In most developing and emerging economies the birth rate is falling. The impact of this change is influenced by the relative size of the fall. For instance, Nauru is one of the smallest countries in the world having a population of only 10 000. Its birth rate fell from 26 to 25 in 2015.

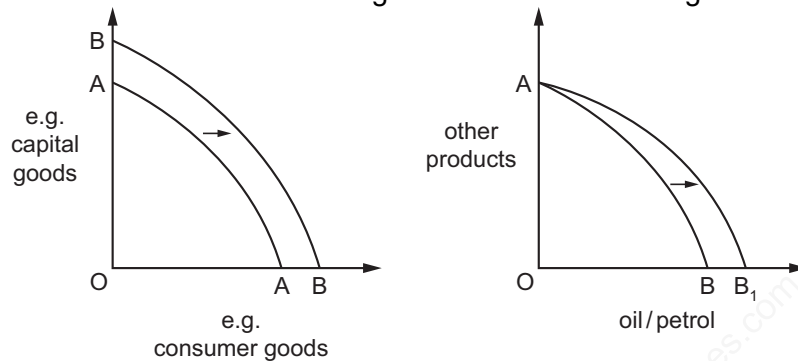
Analyse, using a production possibility curve diagram, how the discovery of new oil reserves would affect an economy. [5]

## MARKSCHEME:

**Analyse, using a production possibility curve diagram, how the discovery of new oil reserves would affect an economy.**

Up to 4 marks for the diagram:

- 1 mark for axes correctly labelled
- 1 mark for original curve/straight downward sloping line drawn to the axes.
- 1 mark for new production possibility curve
- 1 mark for indicating curve will shift to the right – either by arrows or labels.



Up to 1 mark for explanation:

A discovery of new oil reserves will increase productive potential / capacity / be able to produce more / results in economic growth (1)

**4**

In 2016, the Indonesian government increased its spending on healthcare and education and considered raising the school leaving age. The government also planned to increase taxation. Such a move might conflict with its aim of reducing unemployment at a time when a number of countries were at risk of entering a recession.

Analyse, using a production possibility curve (PPC) diagram, the effects of high unemployment in a country. . [6]

### **MARKSCHEME:**

**Analyse, using a production possibility curve (PPC) diagram, the effects of high unemployment in a country.**

Diagram up to 3 marks:

- axes labelled Capital Goods & Consumer Goods (also accept any other combination as long as it is clear that it is two separate products, and not Price and Quantity)
- a curve bowed outwards or a downward sloping straight line drawn to the axes
- point inside the curve identified as point of unemployment e.g. X

Written analysis up to 3 marks:

- high unemployment means that the available resources are not fully (1) and efficiently used (1)
- the economy will not be able to produce at its maximum level (1) i.e. on the PPC (1) output of the economy is smaller than the maximum (1) lower than potential living standards (1)
- May be negative or lower economic growth / recession (1)

- 5** Estonia has one of the fastest internet speeds in the world. The government allows both direct and indirect taxes to be paid online. According to the World Bank, it is very easy for a firm to deal with construction permits and to register property in Estonia. A low level of government regulation affects how easy it is to start and to run a firm. Many new firms are labour-intensive but some become more capital-intensive as they grow.

Analyse, using a production possibility curve (PPC) diagram, the possible effects of faster internet speeds for economic growth. [6]

### MARKSCHEME:

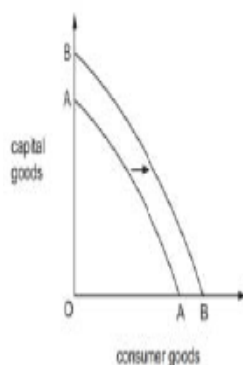
**Analyse, using a production possibility curve (PPC) diagram, the possible effects of faster internet speeds for economic growth.**

**Up to 4 marks for the diagram:**

- axes correctly labelled in terms of two different products or types of products (1)
- the curve or downward sloping line is drawn to the axes (1)
- second curve or downward sloping line is drawn to the axes (1)
- an indication either by labelling or an arrow that the curve has shifted outwards / right (1)

**Up to 2 marks for written analysis:**

Faster internet speed increases productive capacity / the maximum quantity of products that can be produced within a certain time period (1) better communication infrastructure (1) e.g. labour can work faster, capital is better (1) lower costs of production (1) encourage more investments therefore increase financial capital (1) increased productive capacity results in (potential) economic growth / cause economic growth (1).



# PRODUCTION POSSIBILITY CURVE

1

Russia's birth rate fell by 11% in 2017 to its lowest level for a decade. Over the next 30 years, Russia's population is forecast to fall from 144 million to 107 million. The government announced measures to reverse this decline in population. In 2017, it also announced privatisation plans and measures to reverse a decrease in investment which could lead to a fall in the quantity of capital goods. Privatisation can reduce monopoly power in a market.

Analyse, using a production possibility curve (PPC) diagram, the effects of a decrease in the quantity of capital goods in an economy. [6]

## MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the effects of a decrease in the quantity of capital goods in an economy.**

Up to 4 marks for the diagram:

Axes correctly labelled (1).

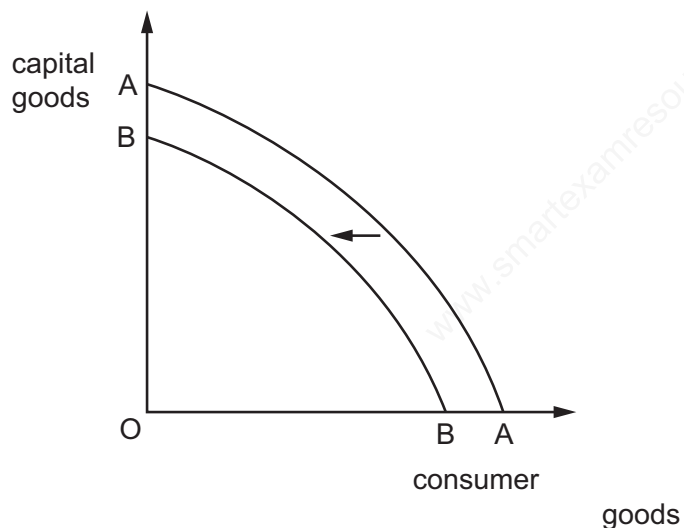
Initial curve drawn as a curve or downward sloping line to the axes (1).

New curve drawn as a curve or downward sloping line to the axes (1).

Shift to the left / pivot indicated by arrow or lettering (1).

Up to 2 marks for coherent analysis which might include: Capital goods are a resource / investment used to produce other goods (1).

Fewer capital goods / factors of production reduce potential output / productive capacity (1).



Accept a PPC diagram that shows fewer capital goods and the same quantity of consumer goods.

Accept Good A / Good B labelling on axis.

Note: movement along the existing PPC is incorrect.

So potentially only 2 marks for correctly labelled axes and correct curve.

**2** Each question is introduced by stimulus material. In your answer you may refer to this material and/or to other examples that you have studied.

Mexico has a history of trade deficits. The government is moving the economy closer to free trade,

to try to improve its macroeconomic performance. It was predicted in 2017 that Mexico's economy would experience a small rise in its unemployment rate. In 2017 the economy's inflation rate was 6.6%, the highest rate since 2001. A number of policy measures may be used to reduce inflation, including increasing the rate of income tax.

Analyse, using a production possibility curve (PPC) diagram, the effect of an increase in unemployment on an economy. [6]

### MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the effect of an increase in unemployment on an economy.**

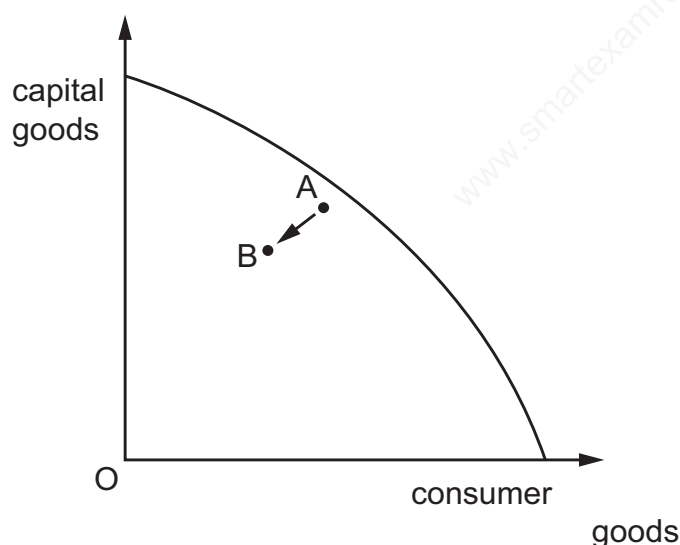
Up to 4 marks for the diagram:

Axes correctly labelled (1).

Curve drawn as a curve or downward sloping line to the axes (1).

Two production points shown – one on or to left of PPC and the other further to the left of the PPC (1). Movement of the production point inwards indicated by arrow or lettering (1).

Up to 2 marks for coherent analysis which might include: Unemployment means resources are not used (1) there is inefficiency (1) reduces output/GDP / causes a recession (1).



For analysis, only accept a PPC shifted inwards if logical justification is given i.e. an increase in unemployment may cause some workers to leave the labour force – 'unemployment causing unemployment'.

- 3** South east Asian countries have reduced tariffs between themselves through the ASEAN Free Trade Agreement. ASEAN member countries are also removing non-tariff methods of protection. The intention is to raise economic growth through more international trade. This should enable small and medium-sized firms in ASEAN countries to grow and increase their exports.

Analyse, using a production possibility curve (PPC) diagram, the beneficial effects for a country of the growth of its small and medium-sized firms. [6]

### MARKSCHEME:

**Analyse, using a production possibility curve (PPC) diagram, the beneficial effects for a country of the growth of its small and medium-sized firms.**

Up to 4 marks for the diagram:

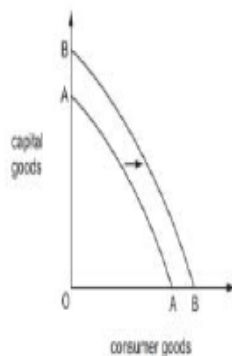
Axes correctly labelled (1).

Initial curve drawn as a curve or downward sloping line to the axes (1).

New curve drawn as a curve or downward sloping line to the axes (1).

Shift to the right indicated by arrow or lettering (1).

Up to 2 marks for coherent analysis which might include: The growth of its small and medium-sized firms will lead to an increase in the number of firms in the economy (1) this will increase productive potential / increase productive capacity / cause economic growth (1).



Also accept a tilt outward of the new PPC curve.