

Cambridge IGCSE/O-Level Economics

(Code: 0455/2281)

Section 01

The basic economic problem



Chapter 01

The nature of the economic problem

1.1 Finite resources and unlimited wants

What stops people enjoying all the products they would like to have is a lack of resources to produce them. Resources, including workers and machinery, are scarce. This means that they are limited in supply. The economic problem of not being able to satisfy everyone's wants arises because of this scarcity.

The continuing nature of the economic problem

Despite increased production of goods and services, the growth in wants surpasses the growth of economic resources, causing scarcity and ongoing growth and change.

The economic problem in different contexts

Insufficient resources force people to make decisions about products, subjects, jobs, and production. Time constraints limit producers and government spending, and consumers cannot have everything they desire.

1.2 Economic goods and free goods

Most goods and services are **economic goods**. This means that it takes resources to produce, them and so they are limited in supply. For example, a carpet is an economic good **free goods** are much rarer.

Chapter 02

Factors of production

2.1 The importance of factors of production

People are living longer because healthcare, education, housing, sanitation, and nutrition have improved. This, in turn, is because of increases in the quantity and quality of factors of production.

Most economists identify four factors of production:

Land - gifts of nature available for production.

Labour- human effort used in producing goods and services.

Capital – human-made goods used in production.

Enterprise – risk bearing and key decision making in business.

2.2 Mobility of the factors of production

The mobility of land

Most land is **occupationally mobile**. – this means capable of changing use / **The mobility of labour** – the ability of labour to change where to work or in which occupation.

Differences in the price and availability of housing in different areas and countries. Workers who lose their jobs in poor areas may not be able to take up jobs in rich areas because they cannot afford or find housing there.

- **Family ties.** People may be reluctant to leave the country they are currently living in because they do not want to move away from friends and relatives.
- **Differences in educational systems in different areas and countries.** People may not be willing to move to a job elsewhere if it disrupts their children's education.
- **Lack of information.** People without jobs, or those in poorly paid jobs, may stay where they are because they are unaware of job opportunities elsewhere.

- **Restrictions on the movement of workers.** It is often necessary to obtain a work visa to work in another country and these can be limited in supply.

The mobility of capital – the ability to change where capital is used or in which occupation.

2.3 Quantity and quality of the factors of production

The quantity of land

The amount of physical land in existence does not change much with time. There is a certain degree of soil erosion which reduces the supply of agricultural land, but also a certain amount of land reclamation which increases its supply. Other natural resources, however, can change quite significantly. Rainforests are currently declining at a rapid rate.

The quality of land

There are several reasons why the quality of natural resources may increase. Fertilisers can be applied to fields to increase the fertility of the land. Providing good drainage can increase the yield of fruit trees.

The quantity of labour

The quantity of labour is influenced by two key factors. One is the number of workers available and the second is the number of hours for which they work.

The number of available workers is determined by:

- **The size of the population.** The larger the population, the more workers there are likely to be.
- **The age structure of the population.** A country with a high proportion of people of working age will have more workers than a country with the same population size, but a higher proportion of people who would be too young or too elderly to work.

- **The retirement ages.** The higher the retirement age, the more potential workers there will be.
- **The school leaving age.** Raising the school leaving age would reduce the number of workers.
- **Attitude to working women.** Countries where it is acceptable for women to work have more workers to draw on.

The quality of labour

Improved education, training, experience, and healthcare can enhance labour quality, enabling complex tasks, machinery use, higher-quality products, increased concentration, manual strength, and fewer sick days.

The quantity of capital

Capital quantity is influenced by **investment** and increases over time. Physical wear and outdated goods, like farm barns, can cause capital goods to wear out and require replacement with newer, more efficient machinery.

Gross investment refers to the total value of the output of capital goods produced, which replaces worn-out or obsolete goods. New capital goods replace those firms no longer used, ensuring the continued growth and development of the economy. The value of replacement capital is called **depreciation** or **capital consumption**.

The quality of capital

Advances in technology, such as robotics in car production, have significantly increased the output and quality of capital goods, thereby enhancing the capacity of car factories.

The quantity of enterprise

The education system, reduced taxes, and immigration drive entrepreneurs to establish businesses, while immigrants often leave their home countries for better opportunities.

The quality of enterprise

Successful entrepreneurs receive education, training, and healthcare to enhance enterprise quality, gain knowledge of popular products, and source the best materials, enhancing their success in new ventures.

2.4 Payments for factors of production

Payments for production factors include wages for workers, profit for entrepreneurs, rent for land, and interest as a payment for capital. Firms pay wages, entrepreneurs bear uncertain risks, and land receives rent.

Chapter 3

Opportunity cost

3.1 The meaning of opportunity cost

Opportunity cost is the cost of a decision regarding the best alternative upon achieving it. When making decisions, it is crucial to consider the alternatives, particularly the best alternative. For example, deciding between going shopping, reading a chapter of an economics book, or doing paid work, one must carefully consider which option will yield the best return. For example, if reading the chapter, one cannot visit a friend, and vice versa. Therefore, it is essential to carefully consider the cost of each alternative to make the best decision.

3.2 Influence of opportunity cost on decision making

Opportunity cost and consumers choose economics dictionaries based on quality and price, considering multiple options and price. The closer the options are, the harder the choice becomes.

Opportunity cost and workers - Teachers face opportunity cost when considering civil servant work, influenced by wages, promotion chances, and job satisfaction. Improved working conditions may increase the opportunity cost, potentially leading to resignation.

Opportunity cost and producers- Producers must choose products based on demand and production costs, as they cannot use the same space and workers for multiple products simultaneously, affecting private sector firms' profit maximization.

Opportunity cost and the government

The government should carefully evaluate tax revenue expenditure, considering potential reductions in healthcare costs and potential sacrifices for taxpayers.

Economic goods and free goods

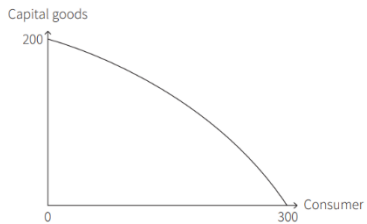
Economic goods produce resources with an opportunity cost, while free goods do not, as resources are not used for both types of production.

Chapter 4

Production possibility curves

4.1 A production possibility curve

A **production possibility curve**, also known as a production



possibility frontier or boundary, displays the maximum output of two types of products and combinations of those products, based on the available resources and technology. Figure 4.1 shows that a country can produce either 200 capital goods or 300 consumer goods or a range of combinations of these two types of goods.

Fig. 4.1: A production possibility curve

4.2 Production points

A PPC indicates the maximum production limit, while a production point indicates current or future production. Points inside the curve indicate insufficient resource use, while points on the curve indicate maximum resource utilisation, indicating that a point like Z is impossible.

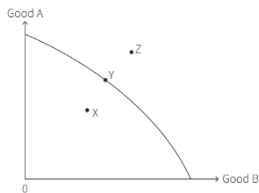


Fig. 4.2: A production possibility curve and production points

4.3 Movements along a PPC

A PPC diagram shows resource reallocation and opportunity cost in a country, where reducing output to 60 units reduces the opportunity cost of producing 25 extra agricultural goods to 20 units.

The shape of the PPC

PPCs prioritize the best resources for specific products, increasing opportunity costs from 60 to 80. In less common scenarios, opportunity cost remains constant. In this case, the PPC is shown as a straight line as shown in Figure 4.6.

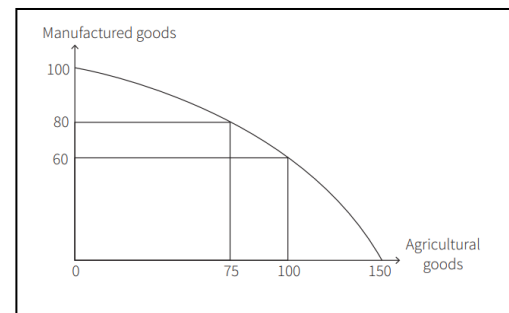


Fig. 4.6: A straight-line PPC

The opportunity cost of producing 1 more pair of socks remains at 2 ties as the output of socks changes.

4.4 Shifts in a PPC

Causes of shifts in the PPC

The PPC will shift to the right, as shown in Figure 4.7 if there is an increase in the quantity or quality of resources. For example, if there is an increase in the size of the labour force, the maximum output that a country can produce will increase.



Consequences of a shift in the PPC

A country's potential economic growth increases when its PPC and production point move to the right, allowing for increased production. However, to utilize this capacity, additional or better-quality resources must be employed. This shift in output, which is the actual economic growth, is reflected in Figure 4.8.



Multiple choice questions

1. Why does scarcity exist?

- A) Each year workers tend to produce less than previously.
- B) Machines wear out with time.
- C) There are not sufficient resources to produce all the products people want.
- D) There is a limit to people's wants.

2. Why will scarcity continue to be a problem in the future?

- A) Prices will rise.
- B) The quantity of resources will decline.
- C) Wants will continue to increase.
- D) The world population will fall.

3. Which of the following is a free good?

- A) Inoculation provided without charge by the state
- B) Products given away by a supermarket to attract customers
- C) Recycled paper
- D) Wind coming in from the sea

4) Which factor of production's function is to make decisions and take risks?

- A Capital
- B Enterprise
- C Labour
- D Land

5) A country produces 3000 new capital goods in a week. 500 of these replace worn-out capital goods. What is the net investment made?

- A 500
- B 2500
- C 3000
- D 3500

6) Which factor of production is the most mobile?

- A. Capital
- B. Enterprise
- C. Labour

7) What is meant by 'opportunity cost'?

- A. The best alternative forgone
- B. The cost of the item selected.
- C. The cost of exploring business opportunities.
- D. The labour used in producing the product.

8) A person decides to go to university for three years, to study economics. If he had not gone, he could have taken up a job which would have paid him \$ 15,000 a year. After he graduates, he expects to find a job paying him \$ 40,000 a year. What is the opportunity cost of going to the university for him?

- A \$15 000
- B \$40 000
- C \$45 000

9) What are the characteristics of a free good?

A	Has an opportunity cost	Takes resources to produce it
B	Has an opportunity cost	Takes no resources to produce it
C	Has no opportunity cost	Takes no resources to produce it
D	Has no opportunity cost	Takes resources to produce it

10) On his birthday, Kamran receives \$200 from his aunt, \$50 of which he decides to save. He is taken out by his father for lunch. His father pays the bill. Kamran spends the afternoon playing football. Which of these activities involves an opportunity cost?

A	No	No	No
B	No	No	Yes
C	No	Yes	Yes
D	Yes	Yes	Yes

exercise

1.1 THE NATURE OF THE ECONOMIC PROBLEM

0455/22/F/M/23

Serbia is the world's second-largest producer of raspberries, a product with elastic demand. Consumers experience economic problems when buying raspberries. Few raspberry farm workers are members of trade unions. Membership of trade unions in Serbia has fallen to 20% of all workers by 2020. In that year, Serbia had more state pensioners than workers.

- Explain how the economic problem results in consumers having to choose. [2]

0455/22/O/N/22

The economic problem results in choices and opportunity costs. People must decide what job to do and where to live. In recent years Australia has recruited teachers from several countries including Canada, the UK, and the US. Most of these teachers specialise in a single subject.

- Explain the economic problem and why it is always likely to exist. [4]

0455/22/F/M/22

The economic problem means that countries must decide what to produce. Ghana uses much of its agricultural land to grow cocoa. Cocoa is sold to chocolate producers. The world's main chocolate producer in 2019 was a US firm with a 14% share of the global market. That firm was the largest seller of chocolate in the US and, if it merges, may become a monopoly.

- Define the economic problem. [2]

0455/22/M/J/21

Nearly one million people in Cairo, the capital city of Egypt, live in crowded, unhealthy housing. One reason why people lack necessities, including adequate housing, is unemployment. In 2019, nearly 10% of Cairo's workers did not have a job. Other citizens of Cairo live in luxury, in houses costing more than \$1 million. Many of Cairo's rich adults grew up in rich families.

- Identify two necessities, other than housing. [2]

0455/21/M/J/20

There is a smaller proportion of large firms in Africa than in Asia. The two African countries with the largest firms are Nigeria and South Africa. These two countries' firms have more capital goods than most other African countries' firms. Firms in South Africa produce a range of products including gold and petrochemicals. In recent years, several African firms have developed into multinational companies (MNCs), producing mainly in other African countries.

- Define a capital good. [2]

0455/22/F/M/19

The economic problem results in people having to make choices. In Bulgaria, in recent years, people have changed how much they spend. The Bulgarian government is encouraging people to spend more. It is trying to ensure that deflation does not return and that the country will continue to experience an increase in output.

- Explain how economic problems result in people having to make choices. [4]

0455/22/M/J/18

Farms in the USA are getting larger. One dairy farm in the state of Indiana has over 38000 cows. Farms in the USA compete with farms in both developed and developing countries. The value of the farms' exports of milk appears in the trade in goods section of the current account of the USA's balance of payments.

- Identify two examples of capital goods that may be used by a farm. [2]

0455/22/F/M/18

It is forecast that by 2022 India will overtake China as the world's most highly populated country. China's birth rate is lower than India's and China have a higher proportion of its population aged over 65. By 2050, it is estimated that 500 million Chinese people and 330 million Indian people will be over 65. Changes in population size and age structure affect the quantity and quality of a country's resources.

- Define resources. [2]
- Explain two reasons why the quality of a country's resources may increase. [4]

1.2 THE FACTORS OF PRODUCTION

0455/22/O/N/23

Botswana uses both capital goods and labour in its diamond mining industry. The country had an average economic growth rate of 3.8% between 2015 and 2019 compared to a global average of 2.8%. Over this period, the country experienced a low inflation rate and a move away from protectionism and towards free international trade.

- Define, with an example, a capital good. [2]

0455/22/M/J/23

Canada's private sector firms have several different objectives. The quantity and quality of land used by these firms, including farms, has increased. There has also been increased investment with the firms buying more capital goods. In 2021, the Canadian government encouraged higher investment and aimed to prevent a rise in unemployment.

- Explain one reason why the quantity of land may increase and one reason why the quality of land may increase. [4]

0455/22/F/M/23

Vietnam has a high number of female entrepreneurs. Some of their firms have grown and now compete with foreign multinational companies (MNC) and public sector firms. The Vietnamese government encourages MNCs to locate in Vietnam as a host country. It also intervenes in the economy to encourage the consumption of merit goods.

- Identify two reasons why people become entrepreneurs. [2]

0455/21/M/J/22

Singapore is a high-income country with a shortage of land and labour. Singapore is often given as an example of a market economy. The Singaporean government does, however, intervene in the economy. For example, it encourages its population to eat two servings of fruit and two servings of vegetables per day.

- Identify the reward for labour and the reward for land. [2]

0455/22/F/M/22

The economic problem means that countries must decide what to produce. Ghana uses much of its agricultural land to grow cocoa. Cocoa is sold to chocolate producers. The world's main chocolate producer in 2019 was a US firm with a 14% share of the global market. That firm was the largest seller of chocolate in the US and, if it merges, may become a monopoly.

- Explain whether the land is mobile. [4]

0455/23/M/J/20

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.

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

0455/22/F/M/20

In 2017, the Brazilian paper industry was booming. Its total revenue increased and it employed both more, and better quality, factors of production. Brazil's largest paper producer merged with an Indonesian paper-producing firm at the end of 2017. The performance of Brazil's coffee industry differed from its paper industry. Brazilian coffee experienced a fall in demand and a fall in total revenue.

- Explain two differences between capital and labour. [4]

1.3 OPPORTUNITY COST

0455/22/M/J/23

In 2019, China's economic growth rate was 6.1% and Chinese households increased their spending. More Chinese people attended sports events and the earnings of top sportspeople increased. China exported more despite a rise in tariffs on some of its products. For example, the US imposed higher tariffs on the imports of Chinese tea and coffee.

- Identify the opportunity cost of households spending their income and the opportunity cost of Chinese firms exporting goods and services. [2]

0455/23/O/N/22

Washington State is the state which grows the most apples in the US. In 2019, apple production increased in Washington State, but the market was in disequilibrium. Apple farming is a labour-intensive industry because apples are picked by hand. The market for apples in the US is competitive.

- Explain opportunity cost and how it can influence a farmer's decision to grow apples. [4]

0455/22/M/J/21

Consumers in Uruguay are eating more processed foods. Factors of production, including enterprise, have responded to this change. Firms in the processed food industry have become more capital-intensive. All of Uruguay's industries were affected by the rise in its inflation rate, from 6.2% in 2017 to 7.7% in 2018.

- Explain the influence of opportunity cost on consumers' decisions. [4]

0455/22/F/M/21

India has experienced a relatively high economic growth rate in recent years. This growth has been driven by increases in government spending and exports, including exports of textiles. India's unemployment rate has, however, increased. The government is concerned that trying to reduce unemployment may increase India's inflation rate.

- Explain the possible opportunity cost to India of exporting more textiles. [4]

0455/22/F/M/20

The main industries in Seychelles, an island country in the Indian Ocean, are tourism and fishing. The price elasticity of the supply of fish is affected by the relatively short time that fish can be stored. Economic goods and free goods play a role in both fishing and tourism. With rises in the skills of workers and an increase in enterprise, GDP per head has increased by more than seven times over the last fifty years.

- Explain how opportunity cost is different for economic goods and free goods. [4]

0455/22/M/J/18

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]

1.4 PRODUCTION POSSIBILITY CURVE (PPC) DIAGRAMS

0455/22/O/N/23

In 2020, Singapore experienced a decrease in both its population size and its labour force. 2020 was a year of great change in several Singaporean markets. Some moved from disequilibrium to equilibrium. Despite all these changes, Singapore managed to increase its exports of goods and services.

- Analyse, using a production possibility curve (PPC) diagram, the effect of a decrease in the size of a country's labour force on its economy. [6]

0455/21/M/J/23

In Greece, rich households spend more than the average household. The amount of spending in an economy influences whether its production point is on or inside its production possibility curve (PPC). In 2020, household

spending in Greece fell. This affected some firms' plans to merge. It also increased unemployment. More than half of those unemployed in Greece had been unemployed for more than a year.

- Explain the significance of a production point inside a PPC and a production point on its PPC. [4]

0455/23/M/J/21

Global spending on the health sector, by both the private and public sectors, is the highest compared with all other sectors including education and defence. Investment in education and the health sector has resulted in new life-saving technology being introduced. However, demand for certain vaccinations has decreased over the years, shifting the demand curve of vaccinations to the left.

- Analyse, using a production possibility curve diagram (PPC), the effect of increased investment in both education and the health sector. [6]

0455/22/F/M/21

Sweden has a mixed economic system. In 2018, it was operating at a point inside its production possibility curve (PPC). In 2018, the country's schools employed nearly 2500 extra teachers. A few of these had previously been actors. A higher number had previously been government officials involved with regulation of Swedish monopolies.

- Explain the difference between a point inside a PPC and a point outside a PPC. [4]

0455/23/O/N/20

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 population decline. 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]

0455/22/O/N/20

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. Several 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]

0455/21/O/N/20

Southeast 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]

0455/23/M/J/20

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]

0455/22/M/J/20

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.

- Discuss whether an ageing population is a benefit to an economy. [8]

0455/21/M/J/20

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]

0455/22/F/M/20

The main industries in Seychelles, an island country in the Indian Ocean, are tourism and fishing. The price elasticity of the supply of fish is affected by the relatively short time that fish can be stored. Economic goods and free goods play a role in both fishing and tourism. With rises in the skills of workers and an increase in enterprise, GDP per head has increased by more than seven times over the last fifty years.

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

0455/23/M/J/18

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, 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]

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