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1.1–1.2 What is economics? How do economists approach the world?

Scarcity, choice and opportunity cost, economic systems, the production possibilities curve, the circular flow of income, positive and normative economics, and the history of economic thought

Standard Level and Higher Level: all content in this chapter is SL and HL (no HL-only statements in 1.1–1.2)

What you must be able to do

Topic	You must be able to...	Level · depth
1.1 Economics as a social science	Explain micro and macroeconomics and the nine central concepts	SL HL
1.1 The problem of choice	Explain factors of production, scarcity, opportunity cost and free goods; the three basic economic questions	SL HL
1.1 Economic systems	Compare market, planned and mixed economies and the role of government intervention	SL HL
1.1 PPC model	Draw and use a PPC: choice, opportunity cost (increasing and constant), unemployment, actual growth, growth in production possibilities	SL HL
1.1 Circular flow model	Draw the circular flow with leakages and injections; explain interdependence	SL HL
1.2 Methodology	Distinguish positive from normative economics; ceteris paribus, hypotheses, refutation; equity and equality	SL HL
1.2 Economic thought	Explain how economic ideas developed from the 18th to the 21st century	SL HL

What is inside

1. Concept notes with 6 diagrams and 7 worked examples (all numbers checked)
2. Links to the nine key concepts throughout
3. "Applying it" box: an AO2 paragraph and an AO3 evaluation with a judgement
4. Common mistakes and a command-term "How to score" box
5. 12 Quick-check questions, explained
6. Paper 1 style: part (a) [10] and part (b) [15] with mark schemes and markbands
7. Paper 2 style: data response with parts (a)–(d) and (g), mark scheme and markband
8. Quick reference sheet and "I can" checklist

How to read these notes

SL = Standard Level content

HL = needed at Higher Level only

red = key term green = definition

1 = one mark in the mark scheme

★ **Exam tip:** Any command term in the exam may be used at its own depth or below (see the How to score box). Calculators are allowed. Money is in US dollars ($) with fictional economies. All questions are original exam-style questions, not past-paper questions; all figures are drawn by us. Paper 3 is not set for this chapter because Unit 1 has no HL-only content.

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Economics as a social science SL HL AO2

Definition ✎ **Economics** is a **social science**: the study of how people, firms and governments make choices about using scarce resources to improve their economic well-being. It is "social" because it studies human behaviour and the way people **interact** (they are interdependent), and a "science" because it builds models and tests them with evidence.

Economists use logic and data, but human behaviour is complex. Motives, values and surroundings (culture, history, politics, the natural environment) all matter, so economics borrows ideas from philosophy, politics, history and psychology. The economic world is also **dynamic**: conditions change all the time, so a model that works in one place or period may not in another.

	Microeconomics	Macroeconomics
Studies	the behaviour of individual decision-makers and markets: consumers, workers, firms, one product's price	the economy as a whole: total output, price level, employment, trade with the rest of the world
Typical question	Why does the price of coffee rise after a poor harvest?	What causes unemployment to rise across a whole country?
Examples of topics	demand and supply, elasticity, market failure	growth, inflation, unemployment, exchange rates

The nine central concepts AO2

The course is organized around nine concepts. Each one returns in every unit, and your internal assessment commentaries use one as a lens. Here is each in one line, with a link to this chapter.

Concept	Meaning in short	Where you meet it here
Scarcity	wants are unlimited, resources are limited	the economic problem; PPC
Choice	because of scarcity, decision-makers must select between alternatives	opportunity cost; basic questions
Efficiency	making the best use of resources, with no waste	points on the PPC; unemployment of resources
Equity	fairness in how income, wealth and opportunities are shared	"for whom to produce?"; normative economics
Economic well-being	the standard of living and quality of life of people	aim of economic activity; growth
Sustainability	meeting present needs without harming the ability of future generations to meet theirs	scarce, finite resources; circular economy

Change	economies and conditions are always changing	PPC shifts; history of ideas
Interdependence	decision-makers and economies depend on one another	circular flow of income
Intervention	government action in markets	economic systems; mixed economy

★ *Exam tip:* The guide tests this section at AO2: do not just list concepts. Show you can apply one to a situation, for example "choice" and "scarcity" to a government deciding between a hospital and a road.

The problem of choice SL HL AO2

Factors of production

The factors of production are the resources used to make goods and services. Economists group them in four:

Factor	What it is	Example in a fishing industry
Land	natural resources: land, water, minerals, forests, fish, sunshine	the sea, fish stocks
Labour	the physical and mental effort of people	crew, boat builders, fish sellers
Capital	man-made goods used to produce other goods (not money itself)	boats, nets, refrigerated lorries
Entrepreneurship	organizing the other factors and taking the risk of production	the owner who sets up a fishing company

Scarcity

> **Definition** ✎ **Scarcity** is the basic economic problem: human needs and wants are unlimited, but the resources available to meet them are limited.

Unlimited wants and needs + **Limited** resources → **Scarcity** → **Choice** what, how, for whom → **Opportunity cost** next best use given up

A **need** is required for life (food, water, shelter); a **want** is something people desire beyond that. Scarcity affects rich and poor countries alike: even the richest society cannot produce everything that everyone wants. Scarcity is **not** the same as shortage in one market; it is a permanent condition of all societies.

Scarcity and sustainability. Many resources are **finite** (oil, minerals) or renewable only slowly (forests, fish). Using them faster than they renew leaves less for future generations. Sustainability asks decision-makers to weigh **today's** wants against **tomorrow's** resources: a choice about time as well as goods.

Opportunity cost and free goods

> **Definition** ✎ **Opportunity cost** is the value of the next best alternative that is given up when a choice is made. It is the *real cost of choice*, and it is not always money.

A **free good** has **no opportunity cost**: using it does not use up scarce resources, so there is enough for everyone who wants it (for example, sea air for a walker on a beach). Most goods are **economic goods**, which are scarce and have an opportunity cost.

Worked example 1: opportunity cost of time and of a budget

(a) Maya spends 4 hours revising instead of working in a café that pays $9 per hour. (b) The council of Tavira has $90 million. A hospital wing costs $90 million; each new school costs $18 million. What is the opportunity cost in each case?

(a) 4 × $9 = **$36 of wages** given up (the next best use of her time). (b) The hospital wing uses the whole budget, so its opportunity cost is the schools it replaces: $90 million ÷ $18 million = **5 schools**. Doing both is impossible with one budget: that is scarcity forcing choice. (Check: 5 × $18 = $90 million.)

The basic economic questions and economic systems SL HL AO2

Every society must answer three basic questions because resources are scarce:

- **What and how much to produce?** (more food or more weapons, more hospitals or more roads?)
- **How to produce?** (labour-intensive or capital-intensive methods; renewable or non-renewable energy)
- **For whom to produce?** (how output is shared between people: this is where **equity** arises)

Societies answer them in two main ways: through **markets**, where prices and the choices of buyers and sellers direct resources, or through **government intervention** and planning. Real economies use a mix.

	Free market economy	*Planned (command) economy*	*Mixed economy*
Who decides?	consumers and firms through prices	the government / central planners	both: markets for most goods, government for some
Resource ownership	mostly private	mostly state-owned	private and public
What, how, for whom	profit and demand decide; those with more income get more	plans and targets decide; output shared by government rules	market decides most; government provides public goods, rules, welfare and corrects failures
Strengths	efficiency from competition; choice; innovation and incentives	can focus on national goals; can reduce inequality; may protect the environment	balance of efficiency and equity; can fix market failure
Weaknesses	inequality; under-provision of public services; ignores external costs	planners lack information; little incentive; shortages and surpluses; limited choice	government failure is possible; hard to find the right balance

Key point. No country is a pure free market or a pure planned economy. Every real economy is **mixed**, differing in *how much* the government does. The debate between **free markets and government intervention** is central to this course and returns in every unit.

Worked example 2: answering the three questions

Tavira (fictional) is a mixed economy. Private firms decide how many boats and how much rice to produce, guided by prices. The government runs the water supply and pays for schools from taxes, and gives pensions to retired people. State which basic question each action mainly answers.

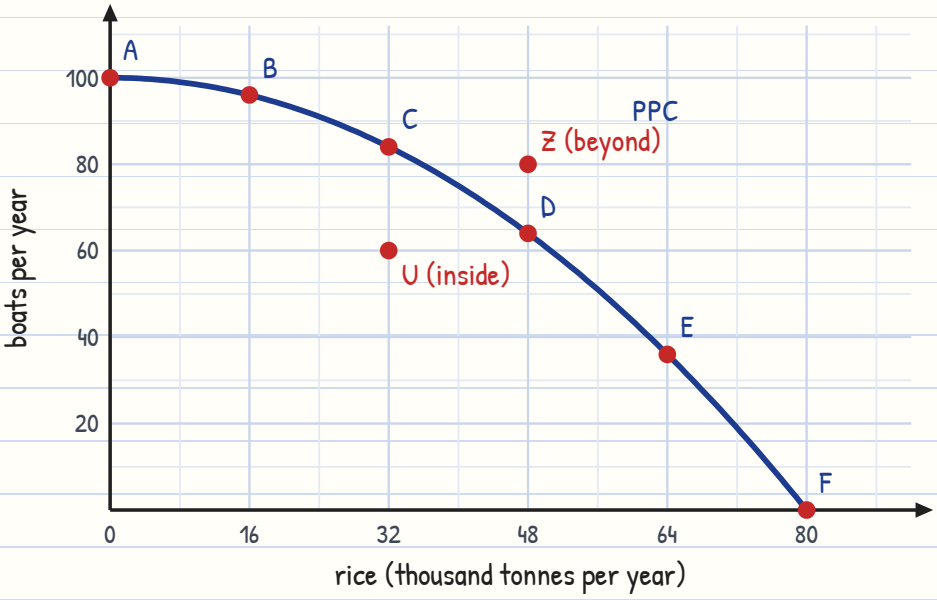
Private firms choosing output: **what and how much** (and, through technology choice, **how**). Government running water and schools: **what** to produce (it decides services are provided regardless of price). Pensions: **for whom**, as they redistribute income towards retired people for reasons of **equity**.

★ **Exam tip:** At AO2, link an economic system to the three questions: "In a planned economy planners decide *what* is produced, so firms may produce goods that consumers do not want." Naming the system alone earns little.

The production possibilities curve (PPC) SL HL AO2, AO4

Definition ✎ A **production possibilities curve (PPC)** shows the maximum combinations of two goods or services that an economy can produce in a given time, if all resources are fully and efficiently employed.

Assumptions of the model: only two goods are produced; the quantity and quality of the factors of production are fixed; technology is fixed; resources are fully employed and used efficiently (for points *on* the curve); time period is fixed. The model is a simplification: it shows the logic of choice, not an exact map of a real economy.



Tavira (fictional): rice and boats. Points A to F are on the curve (full employment, efficient); U is inside (unemployed resources); Z is beyond (unattainable now).

Point	A	B	C	D	E	F
Rice (000 t)	0	16	32	48	64	80
Boats	100	96	84	64	36	0
Boats lost for next 16 rice	4	12	20	28	36	-

What the PPC shows

- **Scarcity:** points beyond the curve (Z) cannot be reached with current resources.

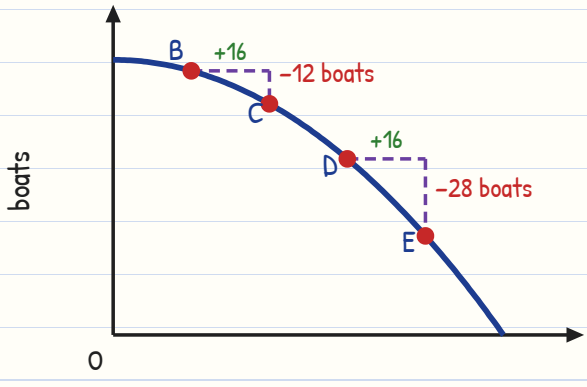
- **Choice:** the economy must choose one point on the curve (A to F), and the choice reflects what society values.
- **Opportunity cost:** moving along the curve means giving up one good to get more of the other. From B to C, 16 thousand tonnes more rice cost 12 boats.
- **Unemployment of resources** (U): some resources are idle or used inefficiently, so the economy is inside the curve. At U (32, 60) it could make 84 boats with the same rice (point C), so 24 boats are lost. This is an **efficiency** problem.
- **Efficiency:** all points *on* the curve are productively efficient: more of one good cannot be made without making less of the other.

Worked example 3: opportunity cost along the curve

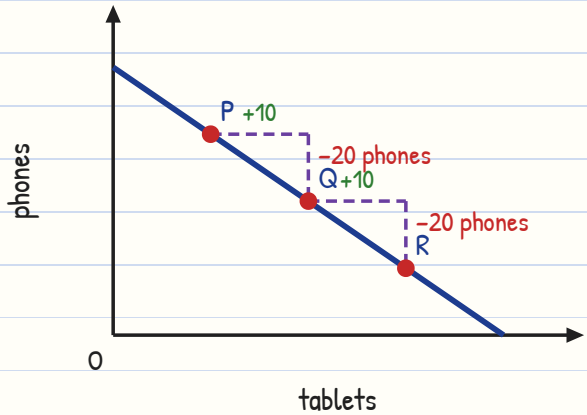
Use the table. (a) Find the opportunity cost of one thousand tonnes of rice between B and C and between D and E. (b) What does the difference show?

(a) B to C: rice rises by 16 and boats fall by 96 − 84 = 12, so 12 ÷ 16 = **0.75 boats** per thousand tonnes. D to E: boats fall by 64 − 36 = 28, so 28 ÷ 16 = **1.75 boats**. (b) The opportunity cost of rice rises as more rice is made: **increasing opportunity cost**. (Check: the cost of the same step in boats, 16 ÷ 12 = 1.33 rice per boat, shows the same trade-off from the other side.)

Increasing and constant opportunity cost SL HL AO2, AO4



Increasing opportunity cost: bowed-out (concave) PPC. Each extra +16 rice costs more boats (12, then 28).

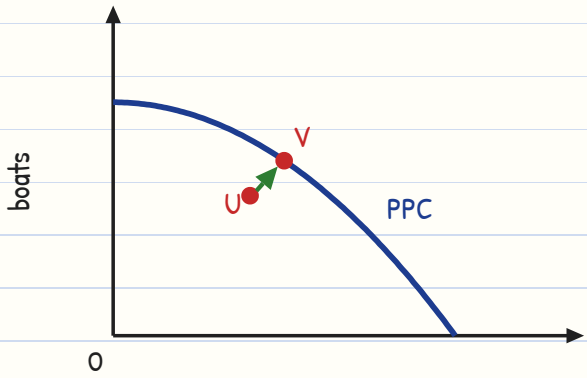


Constant opportunity cost: straight-line PPC. Each extra +10 tablets always costs 20 phones.

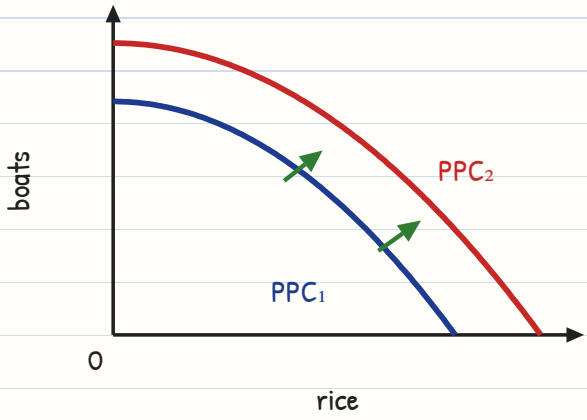
	Increasing opportunity cost	*Constant opportunity cost*
Shape	concave to the origin (bowed outwards)	straight line

Why	resources are not equally suited to both goods: the first resources moved are the best ones for the new good, later ones are less suitable	resources are equally productive in both goods; a simplifying assumption (rare in reality)

Unemployment, actual growth and growth in production possibilities



Actual growth: from U (inside) to V on the PPC. Unemployed resources are put to work: more of both goods with no new resources.



Growth in production possibilities: the whole PPC shifts outward (PPC_1 to PPC_2).

Actual growth is a move *towards* the PPC (the economy produces more). **Growth in production possibilities** (potential growth) is an *outward shift*, caused by more or better factors of production: new resources found, more capital, a larger or better-educated labour force, better technology. An **inward shift** is caused by loss of resources (war, disaster, depletion).

Worked example 4: actual and potential growth

Tavira is at U (32 thousand tonnes of rice, 60 boats). (a) Find the percentage rise in boats if it reaches C (32, 84). (b) Later, new technology scales the PPC up by 25%. State the new maximum for boats and rice.

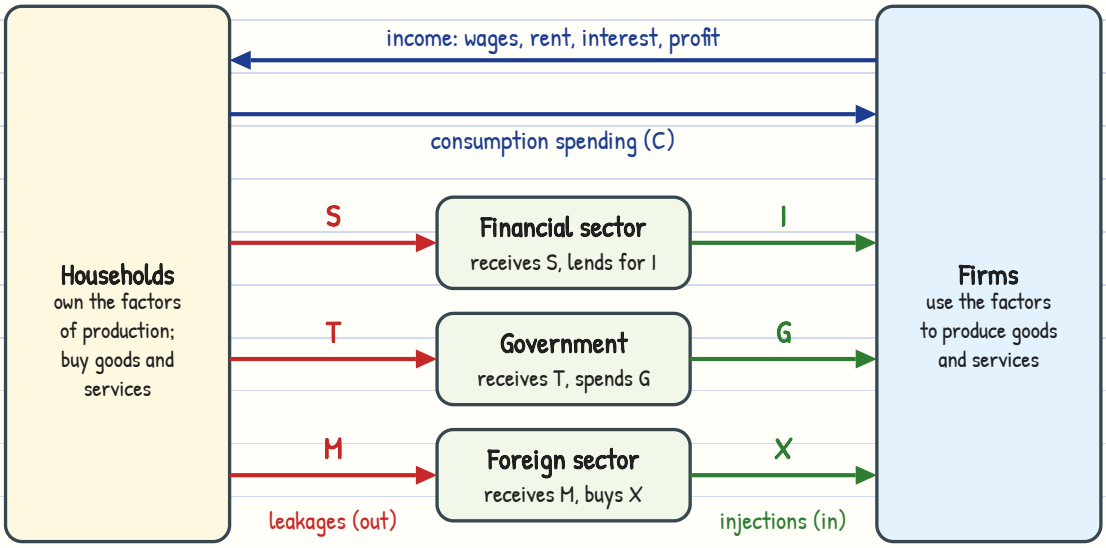
(a) (84 − 60) ÷ 60 × 100 = **40%** more boats with the same rice: actual growth from fuller employment.

(b) Boats: 100 × 1.25 = **125**; rice: 80 × 1.25 = **100 thousand tonnes**. The economy can now produce combinations that were impossible before: the PPC has shifted out.

Modelling the economy: the circular flow of income SL HL AO2, AO4

The **circular flow of income** model shows how money, goods and factors move between decision-makers, and why they are **interdependent**. In the simplest model two groups interact: **households** (own the factors of production, supply labour and spend income on goods and services) and **firms** (use the factors to produce goods and services). Firms pay households **income** (wages, rent, interest, profit); households spend it on firms' output as **consumption**. Real goods and services flow one way and the factors the other, so one person's spending is another's income.

To make the model realistic, we add the **financial sector** (banks), the **government** and the **foreign sector** (foreign firms and households). Each causes a **leakage** (withdrawal) from the flow and an **injection** back in:



Circular flow of income with leakages (red) and injections (green). Households and firms are linked by income and consumption; the other sectors take money out and put it back.

Sector	Leakage (out of the flow)	Injection (into the flow)
Financial sector	**Saving (S)**: income not spent	**Investment (I)**: firms borrow savings to buy capital goods
Government	**Taxes (T)**: income paid to government	**Government spending (G)**: schools, roads, wages
Foreign sector	**Imports (M)**: spending on foreign output	**Exports (X)**: foreign spending on domestic output

Key idea. If total **injections > leakages**, more money flows around than leaves, so national income tends to **rise**. If **leakages > injections**, it tends to **fall**. When they are equal, the flow is in balance. (How big the change is leads to the multiplier, a later topic.)

Worked example 5: leakages and injections

In Tavira ($ million), saving is 40, taxes 30 and import spending 25. Investment is 35, government spending 45 and exports 20. What does this suggest about national income?

Leakages = 40 + 30 + 25 = **95**. Injections = 35 + 45 + 20 = **100**. Net injection = 100 − 95 = **+5**: more money enters than leaves, so national income tends to **rise** (by more than 5 once spending is re-spent, a point developed later).

How economists approach the world: positive and normative economics SL HL AO2

> **Definition** **Positive economics** deals with objective statements about what is, was or will be, which can be tested against evidence. **Normative economics** deals with value judgments about what ought to be, which cannot be settled by evidence alone.

The role of positive economics

- **Logic:** arguments follow step by step from clear assumptions to conclusions.
- **Hypotheses, models and theories:** a **hypothesis** is a testable prediction (for example, "a higher price lowers quantity demanded"); a **model** is a simplified representation of reality (PPC, circular flow); a **theory** is a well-supported explanation built from models and tested hypotheses.
- **Ceteris paribus** (Latin: "other things being equal"): to isolate one cause and one effect, all other relevant variables are assumed to stay constant. It simplifies but also limits realism, because in practice many things change at once.
- **Empirical evidence:** data from observation and experiments are used to test hypotheses.
- **Refutation:** a theory can never be finally "proven" true, but evidence can show it to be false. If a theory repeatedly fails tests, it must be revised or rejected.

The role of normative economics

Policy decisions need **value judgments**: how important is growth against equality? Should a government protect the environment even at a cost to jobs? Positive economics can tell policymakers what a policy is likely to do; normative economics asks whether the result is *desirable*. Two economists can agree on the facts and still disagree on policy because their values differ.

Positive statement	Normative statement
"The unemployment rate in Selvora was 12% in 2025."	"The unemployment rate in Selvora is unacceptably high."
"A tax on plastic bags reduced bag use by 70% in Tavira."	"The government should tax plastic bags."
"The richest 10% own 55% of wealth."	"Wealth should be spread more equally."

A positive statement can be **false** (and still positive); what matters is that it can be tested. Words such as *should*, *ought*, *fair*, *too high* usually signal a normative statement.

Equity and equality

Equality means people have the **same** (the same income, or the same treatment). **Equity** means **fairness**, which may require *different* treatment for people in different circumstances. Fairness is a value judgment, so equity belongs to normative economics.

Worked example 6: equality or equity?

Two households in Tavira earn $20,000 and $80,000 (the richer earns 4 times as much). The government has $4,000 to give out. Option A: $2,000 to each. Option B: the full $4,000 to the poorer household only. Compare incomes after each option.

Option A: $22,000 and $82,000, ratio 82,000 ÷ 22,000 = **3.73**. Option B: $24,000 and $80,000, ratio 80,000 ÷ 24,000 = **3.33**. A treats households **equally**; B treats them **differently** and narrows the gap more. Whether B is "fairer" (more equitable) is a **value judgment**: some will argue it rewards low income, others that it is right because the need is greater.

Economic thought: how ideas developed SL HL AO2

Economic ideas do not appear from nowhere: they respond to the problems of their time (wars, depressions, inflation, environmental damage). The guide expects you to **describe the origins of ideas in context** and to explain how later ideas challenged earlier ones.

Period	Idea / thinker	Core of the idea
18th century	**Adam Smith** and **laissez faire**	Self-interest in competitive markets leads (as if by an "invisible hand") to outcomes that benefit society; the division of labour raises output; government should interfere little ("laissez faire": leave alone).
19th century	**Classical microeconomics:** utility and the margin	**Utility** is the satisfaction a consumer gets; people decide at the **margin** (one more unit), comparing extra benefit with extra cost. This explains demand and prices.
	Classical macroeconomics: Say's law	"Supply creates its own demand": the income from producing goods is spent, so a lasting general shortage of demand is impossible and the economy returns to full employment.
	Marxist critique	Capitalism divides society into owners of capital and workers; owners gain from workers' labour, inequality and conflict grow, and the system is unstable. Marx argued for collective ownership.
20th century	**Keynesian revolution** and macroeconomic policy	After the Great Depression, Keynes argued that total demand can be too low for long periods, leaving high unemployment. Governments can raise spending or cut taxes, so active macroeconomic policy became normal after 1945.
	Monetarist / new classical counter-revolution	From the 1970s, inflation and unemployment together (stagflation) challenged Keynesian ideas. Economists such as Friedman argued that markets adjust, that controlling the money supply and inflation is key, and that government intervention can do harm.

21st century	**Dialogue with other disciplines;** behavioural economics	Psychology shows people do not always act as perfectly rational: habits, mental shortcuts and social pressures shape decisions. Behavioural insights are now used in policy.
	Economy, society and environment: the circular economy	The economy depends on society and the environment. A **circular economy** designs out waste, keeps products and materials in use and regenerates nature, in contrast to the linear "take, make, dispose" model.

Worked example 7: matching an event to an idea

In a deep recession, firms in the fictional country Dorrin cut output and unemployment is 15% for four years. Compare the policy advice of Say's law and Keynes.

Say's law: a lasting shortage of demand is impossible; wages and prices will adjust, so the government should wait. **Keynes:** demand may stay too low and the economy may be stuck below full employment, so the government should raise spending or cut taxes. **Link to evidence:** four years of high unemployment is difficult to explain by Say's law; this is the kind of event that moved economists towards Keynesian ideas (refutation of the earlier view).

★ ***Exam tip:*** For "ideas in context" questions, write: **who / when**, the **idea**, the **problem it answered** and **one criticism**. Do not memorize dates beyond the century.

Applying it to a case: an AO2 paragraph and an AO3 evaluation

Case: Tavira's health budget (fictional). Tavira is a mixed economy. Its government has a fixed health budget of $90 million. It can build one large hospital wing ($90 million), or five rural clinics ($18 million each) that serve more people but offer fewer treatments. Private firms already provide clinics in the capital city. Rice and boat output (see the PPC on see 'The production possibilities curve (PPC) SLHL AO2, AO4') are left to markets.

Question: Explain the opportunity cost of building the hospital wing. (AO2: define, then apply to the case, then give a consequence)

Model answer. Opportunity cost is the value of the next best alternative given up [definition]. The government has a limited budget of $90 million [scarcity], so spending it all on the hospital wing means it cannot build the five rural clinics [apply: 90 ÷ 18 = 5]. The people in rural areas who would have used the clinics therefore lose easy access to basic care [consequence], although the wing may give better treatment to those who can reach it.

From explain to evaluate

AO3 questions (*discuss, evaluate, to what extent*) need a balanced argument and a **judgement**. Use the pattern **point, evidence, consequence, counter-point, judgement**.

Question: To what extent should the government, rather than the market, decide how Tavira's health resources are used?

For government decisions: health care has high **equity** value: left to the market, rural people with low

incomes may get no clinics because private firms look for profit (as in the capital city only). The government can use taxes to share care according to need.

For the market: private firms respond to what patients value and compete to cut costs; government planners may lack information about local needs and may waste money on a prestige project.

Judgement: a mixed approach is likely best: the government should **fund and ensure access** to basic care in rural areas (equity), while private providers add capacity where people can pay. The balance depends on how serious the market failure is and on how well the government can spend: if Tavira's government were known to waste funds, the market would deserve more weight.

Linking to the key concepts

This case uses **scarcity** (a fixed budget), **choice** and opportunity cost, **equity** (rural access), **efficiency** (best use of $90 million) and **intervention** (government versus markets). In an internal assessment commentary you would pick **one** of these as your lens.

★ ***Exam tip:*** Judgement words that score: "on balance", "the stronger argument is... because", "this depends on...". A conclusion that only repeats the points earns little; name the **criterion** you used (equity, efficiency, sustainability...).

Common mistakes

Mistake	Correct idea
Defining opportunity cost as "the money cost" or "all the alternatives"	It is the value of the **next best** alternative given up. It need not be money.
Saying "rich countries do not have scarcity"	Scarcity affects all societies: wants are unlimited and resources always limited.
Treating money or a loan as "capital"	In the factors of production, capital means man-made goods (machines, buildings) used to produce.
Drawing a PPC with a straight line, then saying costs rise	Concave (bowed out) = increasing opportunity cost; straight line = constant.
Showing growth as a move along the PPC	A move along is a change of choice. Growth in production possibilities = outward **shift**; actual growth = move from inside towards the curve.
Putting unlabelled axes or points off the curve	Label axes with the goods, name curves PPC_1 and PPC_2, and label points (A, B, U).
Calling a statement positive because it sounds factual	Positive means testable; check for value words (should, fair, too high). A false statement can still be positive.
Mixing up equity and equality	Equality = same; equity = fair. Fairness is a value judgment.
Listing leakages and injections without saying what happens to income	Compare totals: injections > leakages means national income tends to rise; leakages > injections means it falls.

How to score: command terms in this topic

Command term	Level	What it demands	Example in this unit

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Define, State, List	AO1	the precise meaning or a brief answer, no explanation	Define opportunity cost.
Outline, Describe	AO1	outline: brief account; describe: detailed account	Outline the three basic economic questions.
Calculate	AO4	a numerical answer with the working shown	Calculate the opportunity cost of one extra car.
Draw, Construct, Sketch, Label	AO4	an accurate, labelled diagram (draw: careful; sketch: general shape with key features)	Draw a PPC showing unemployment of resources.
Explain	AO2	a detailed account including reasons or causes; use a diagram when it helps	Explain why a PPC is concave.
Distinguish, Analyse, Comment	AO2	distinguish: make differences clear; analyse: break down into essential parts; comment: give a judgment on a statement or result	Distinguish positive from normative statements.
Compare, Contrast	AO3	similarities / differences, referring to both throughout	Compare a planned and a mixed economy.
Discuss, Evaluate, To what extent	AO3	a balanced review with a supported conclusion; weigh strengths and limitations; give a clear opinion	Discuss whether governments should decide what is produced.

Markbands reward: a clear definition of key terms, a relevant labelled diagram that you refer to in the text, application to the context or a real-world example, and (for the 15-mark parts) balanced evaluation ending in a judgement.

12 Quick-check questions

One mark each; no marks lost for a wrong answer. These are practice questions for quick recall; they are not an IB paper format. Answers and explanations are on the next page.

1. Maya spends 4 hours on Saturday revising rather than working in a café that pays $9 per hour. What is the opportunity cost of her revision?

   A 4 hours of revision **B** $9
   C $36 of wages given up **D** $36 plus the benefit of revising

2. Which of the following is closest to a free good in the economic sense?

   A Sea breeze for a walker on an open beach **B** Bottled water in a shop
   C Water from a tap supplied by a utility company **D** A city park paid for by taxes

3. A bakery buys a new oven to make bread. In which factor of production is the oven counted?

   A Land **B** Labour
   C Entrepreneurship **D** Capital

4. A point inside a country's production possibilities curve (PPC) shows that the country:

   A is producing a combination it cannot reach **B** has unemployed resources or is not using them efficiently
   C has no opportunity cost **D** has had economic growth

5. Which of the following would shift the whole PPC of an economy outward?

   A A fall in the unemployment rate **B** An improvement in the technology used to make both goods
   C A rise in consumer demand for one of the goods **D** A move from one point on the curve to another

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6. A straight-line PPC between two goods shows that:

A there is no scarcity

B the opportunity cost rises as more of a good is made

C resources are unemployed

D the opportunity cost of one good in terms of the other is constant

7. An economy on its PPC moves from 40 cars and 90 tractors to 50 cars and 70 tractors. What is the opportunity cost of each extra car?

A 2 tractors

B 0.5 tractors

C 20 tractors

D 10 tractors

8. Which statement is a positive statement?

A The government ought to reduce unemployment before inflation.

B Income tax rates are too high.

C Unemployment in Selvora rose from 9% to 12% between 2022 and 2025.

D Wealth should be shared more fairly.

9. Which of these is a leakage from the circular flow of income?

A Government spending on roads

B Foreign households buying exports

C Investment by firms

D Spending by households on imported goods

10. In an economy, saving is $50 million, taxes $40 million and import spending $30 million. Investment is $45 million, government spending $45 million and exports $30 million. What is likely to happen to national income?

A It rises

B It falls

C It stays the same

D It cannot be known without consumption data

11. Which economist is correctly linked with an idea?

A Keynes: government spending can raise demand in a recession

B Adam Smith: central planning is needed to set output

C Marx: markets always return the economy to full employment

D Say: demand can be too low for long periods

12. Why do economists use the ceteris paribus assumption?

A To prove that a theory is always true

B To isolate the effect of one variable by holding other relevant variables constant

C To make normative judgments about policy

D To show that economic models are unrealistic

Answers and explanations

1 C	2 A	3 D	4 B	5 B	6 D	7 A	8 C
9 D	10 C	11 A	12 B				

1. **C.** Opportunity cost is the value of the next best alternative given up: 4 × $9 = $36 of wages. The 4 hours of revision are what she chose (the benefit), and adding the benefit to the cost double counts.
2. **A.** A free good has no opportunity cost: no resources are used up in providing it for the user. The breeze fits. Bottled water, tap water and a park all use scarce resources (and often have a price or a tax cost).
3. **D.** Capital means man-made goods used to produce other goods. Land is natural resources, labour is human work, and entrepreneurship is organizing and risk-taking. Money lent to the bakery is finance, not the capital factor itself.
4. **B.** Inside the curve, more of one or both goods could be made with existing resources. A point beyond the curve is unattainable; opportunity cost exists along the curve; growth in production possibilities is an outward shift.
5. **B.** Better technology raises potential output of both goods. A fall in unemployment moves the economy toward the curve (actual growth); a change in demand or a move along the curve does not shift the curve.

6. **D.** A straight line has a constant slope, so each extra unit of one good always costs the same amount of the other. Scarcity and choice still exist. Rising opportunity cost gives a bowed-out (concave) curve.
7. **A.** 20 tractors are given up (90 – 70) for 10 extra cars (50 – 40): 20 ÷ 10 = 2 tractors per car. 0.5 inverts the ratio; 20 and 10 forget to divide.
8. **C.** A positive statement is about what is, was or will be, and can be tested with evidence (even if it turned out false). The other three contain value judgments (ought, too high, fairly): they are normative.
9. **D.** Saving, taxes and spending on imports are leakages (income not passed on as spending on domestic output). Government spending, exports and investment are injections.
10. **C.** Leakages: 50 + 40 + 30 = 120. Injections: 45 + 45 + 30 = 120. Leakages equal injections, so the flow of income is in balance and national income has no tendency to change. Consumption is already inside the flow.
11. **A.** Keynes argued demand can be deficient and policy can help. Smith favoured laissez-faire; Marx criticized capitalism; Say's law claims that supply creates its own demand, so it says the opposite of the last option.
12. **B.** Ceteris paribus ("all else equal") lets a model look at one cause and effect at a time. It does not prove a theory, it is not a value judgment, and although it simplifies reality that is its purpose, not a criticism.

Paper 1 style: extended response (25 marks)

Paper 1 is an extended-response paper: you choose one question from three, each with part (a) [10 marks] and part (b) [15 marks]. This is one practice question. The command terms and mark schemes are original; markbands follow the guide.

Question: scarcity, choice and the role of government

(a) Explain the concept of opportunity cost, using a production possibilities curve (PPC) diagram to illustrate your answer. *[10]*

(b) Discuss whether governments, rather than markets, should decide what an economy produces. *[15]*

Mark scheme

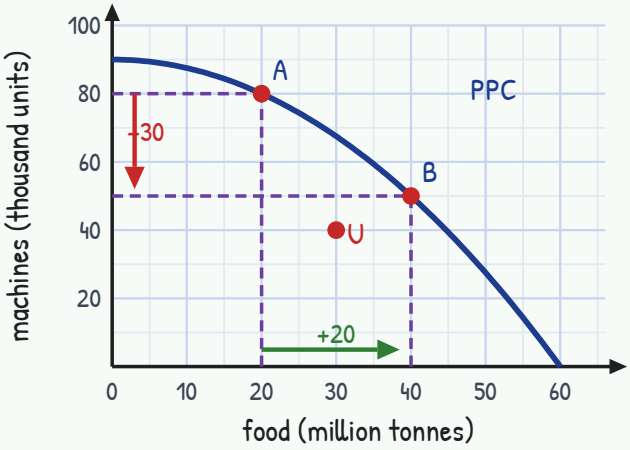
- **Part (a), indicative content** (AO1 knowledge, AO2 explanation, AO4 diagram; credit any valid content).

  Definition and scarcity: opportunity cost = value of the next best alternative given up 1; it arises because resources are scarce and wants unlimited, so choice is necessary 1.

  Diagram: a PPC for two goods with labelled axes (for example food and machines), concave to the origin, with two points on the curve (A, B) and the movement from A to B 3 (axes 1, curve 1, points and movement 1).

  Explanation using the diagram: moving from A to B means more of one good and less of the other; the amount given up is the opportunity cost; for the figure shown, a gain of 20 million tonnes of food costs 30 thousand machines, so 1.5 machines per extra million tonnes 3 (idea of giving up one good 1, use of the figures 1, calculation 1). A point inside (U) shows unemployed resources: more of both is possible, so moving to the curve involves no opportunity cost 1.

  Extension: opportunity cost rises along a concave curve because resources are not equally suited to both goods; examples (a government choosing a hospital over schools; a worker choosing leisure over wages) 1. Total capped at 10 (2 + 3 + 4 + 1).



Model diagram: Orland's PPC. A (20, 80) to B (40, 50): +20 food, −30 machines (1.5 machines per unit of food). U (30, 40) is inside the curve.

Markbands, part (a), 10 marks (SL and HL; paraphrased from the guide).

Part (a): marks	Descriptor in short
1–2	little understanding of the demands; theory and terms stated but not relevant
3–4	some understanding; relevant theory described; some relevant terms
5–6	demands only partially addressed; theory partly explained; terms used appropriately; relevant diagram(s) included where appropriate
7–8	demands understood and addressed; theory explained; terms mostly appropriate; diagram(s) included and explained
9–10	demands understood and addressed; theory fully explained; terms used appropriately throughout; diagram(s) included and fully explained

Mark scheme

- **Part (b), indicative content** (credit balanced, developed, exemplified points; no set number). **Theory:** the three basic questions; market system (price signals, profit, consumer choice, efficiency, innovation) and planned/government decision-making; mixed economy as the reality. **For government:** markets underprovide public goods and merit goods (defence, health, education); ignore external costs (pollution, sustainability), so government can take longer-term decisions; markets can leave large inequality (equity, "for whom?"); government can aim at national goals (a planned economy can mobilize resources quickly). **For markets:** prices carry information and give incentives, so resources go to where they are valued most; planners lack information, so shortages and surpluses; little consumer choice; risk of government failure, corruption or waste; competition drives innovation. **Real-world examples** (developed): mixed economies such as the Nordic countries (high taxes and services, strong markets); historical planned economies (central planning in the former Soviet Union with shortages); modern state-led investment in infrastructure. **Evaluation:** depends on the type of good (public goods vs ordinary goods), the country's stage of development, the quality of institutions, the value placed on equity versus efficiency (normative); most economies are mixed, so the real question is *how much*. **Judgement:** a clear conclusion supported by criteria such as efficiency, equity and sustainability.

Markbands, part (b), 15 marks (SL and HL; paraphrased from the guide).

Part (b): marks	Descriptor in short
1–3	little understanding; theory and terms not relevant; no evidence of synthesis or evaluation; irrelevant real-world example
4–6	some understanding; relevant theory described; superficial synthesis or evaluation; relevant real-world example identified
7–9	partial address of the demands; theory partly explained; evaluation present but lacks balance; example partly developed in context
10–12	demands addressed; theory explained; terms mostly appropriate; diagram(s) explained; evaluation mostly balanced; example developed in context
13–15	theory fully explained; terms used appropriately throughout; diagram(s) fully explained; effective and balanced evaluation (a clear judgement); example fully developed to support the argument

★ *Exam tip:* To reach 13–15 in part (b): define the key terms, use a real-world example with detail, argue **both** sides, and finish with a **judgement** that names a criterion (efficiency, equity, sustainability) and a condition ("it depends on…").

Model response outline for (b), top band

Intro: define "government decides what to produce" (planning, regulation, public provision) against market allocation; note that all real economies are mixed. **Para 1 (for government):** public and merit goods; external costs; equity; example. **Para 2 (against):** information problem, incentives, government failure; example of shortages under planning. **Para 3 (evaluation):** depends on the good, institutions and values. **Conclusion:** governments should decide for public goods and sustainability goals, markets for most private goods; the balance is a normative judgement about equity versus efficiency.

Paper 2 style: data response (practice set of 32 marks)

Paper 2 has parts (a) to (g), 40 marks. This set uses (a), (b), (c), (d), (g): 4 + 5 + 4 + 4 + 15 = 32 marks.

Selvora: more coffee or more boats? (fictional)

Selvora is a small island economy that produces coffee and fishing boats for export and home use. Most coffee farms are private, but since 2023 the government has owned the shipyard and decides how many boats are built. In 2025 Selvora produced 20 thousand tonnes of coffee and 40 boats. Table 1 shows the maximum combinations it could produce.

Unemployment rose from 9% in 2022 to 12% in 2025. The finance minister said: "Selvora's unemployment rate was 12% in 2025. The government should spend more on the shipyard, because fairness matters more than speed of growth." Critics say the shipyard is inefficient and more spending will only add to the budget deficit. Table 2 shows money flows in 2025.

Table 1: Selvora's production possibilities					
Coffee (000 tonnes)	0	10	20	30	40
Boats	80	75	60	35	0

Table 2: leakages and injections, 2025 ($ million)			
Leakages	Saving 120	Taxes 180	Imports 90
Injections	Investment 100	Government spending 170	Exports 110

(a) (i) Define the term *opportunity cost*. [2]

(a) (ii) Using Table 1, calculate the opportunity cost, in boats, of increasing coffee production from 20 to 30 thousand tonnes. [2]

(b) Using a PPC diagram and Table 1, explain what Selvora's 2025 output suggests about its use of resources. [5]

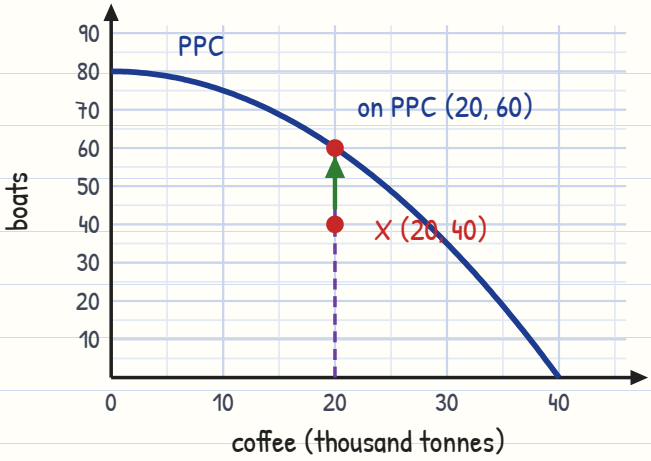
(c) Using two statements from the extract, distinguish between positive and normative economics. [4]

(d) Using Table 2, calculate the difference between total injections and total leakages, and explain what this suggests about national income. [4]

(g) Using the extract and your knowledge of economics, discuss whether Selvora's government should take a larger role in deciding what is produced. [15]

Mark scheme

- (a)(i) the value of the next best alternative 1 that is given up when a choice is made 1.
- (a)(ii) boats fall from 60 to 35 1 = **25 boats** 1. Award [2] for 25 boats without working; [1] for the correct subtraction with a slip.
- (b) **Diagram** 2: PPC drawn from Table 1 with labelled axes (coffee, boats), concave curve through (0, 80), (20, 60), (40, 0); the 2025 point X (20, 40) plotted inside the curve. **Explanation** 3: at 20 thousand tonnes of coffee the economy could make 60 boats, so X is 20 boats below the curve [1]; a point inside means unemployed or inefficiently used resources [1]; the economy could produce more of one or both goods without more resources (an efficiency gain) [1]. (Model diagram overleaf.)
- (c) **Positive example:** "Selvora's unemployment rate was 12% in 2025" can be tested against data 1; **normative example:** "fairness matters more than speed of growth" (or "the government should spend more") is a value judgment 1. **Distinction:** positive economics deals with what is, was or will be, and can be tested with evidence 1; normative economics deals with what ought to be and depends on values 1. Max [2] without extract examples.
- (d) injections = 100 + 170 + 110 = 380 1; leakages = 120 + 180 + 90 = 390 1; (difference = 380 − 390 = **−$10 million**: leakages exceed injections by $10 million; own figure rule if one total is mis-added). **Explanation** 2: more money leaves the circular flow than enters, so spending and national income tend to fall [1]; the flow will fall until leakages and injections are equal, which could add to unemployment [1].



Model diagram for (b): Selvora's PPC from Table 1; X is inside, 20 boats (one third) below the frontier.

Mark scheme

- (g) 15 marks, markbands below. **Indicative content.** *For a larger role:* unemployment is 12% and rising, and X is inside the PPC: resources are wasted, so government spending (G) could raise injections; equity: the minister stresses fairness; government can direct resources to the shipyard and the sectors where jobs matter; sustainability or long-term investment that markets undersupply. *Against:* the shipyard is described as inefficient; budget deficit risk; planners lack information on how many boats are needed; leakages exceed injections by only 10 (small), so the problem may not need large intervention; markets give incentives and coffee farms are private and productive; government failure. *Evaluation:* depends on the cause of unemployment (lack of demand or poor skills), on how efficiently funds are used, and on the weight put on equity (normative); a mixed approach (support for demand and training, markets for most coffee and boat decisions) is likely. *Use of data:* 9% to 12% (a rise of 3 percentage points); 20 boats below the PPC; Table 2 net of −$10 million. **Judgement** with a criterion.

Markbands for part (g), 15 marks (paraphrased from the guide). Same as Paper 1 part (b), plus **use of the text/data**:

Marks	Descriptor in short
1–3	little understanding; irrelevant theory and terms; no synthesis or evaluation; no use of text/data
4–6	some understanding; theory described; superficial synthesis or evaluation; limited use of text/data
7–9	demands partly addressed; theory partly explained; evaluation lacks balance; some relevant information from the text/data
10–12	demands addressed; theory explained; terms appropriate; diagram(s) explained; evaluation mostly balanced; text/data generally appropriate and correctly applied
13–15	theory fully explained; terms used appropriately throughout; diagram(s) fully explained; effective, balanced evaluation; text/data used to build a reasoned argument supported by analysis and evaluation

★ ***Exam tip:*** In part (g) quote or calculate from the data ("unemployment rose by 3 percentage points", "20 boats below the PPC"). A paragraph with no figures from the extract stays in the lower bands.

Quick reference

Key definitions

Scarcity: unlimited wants, limited resources.

Opportunity cost: value of the next best alternative given up.

Free good: no opportunity cost.

Factors of production: land, labour, capital, entrepreneurship.

PPC: maximum combinations of two goods with all resources fully and efficiently used.

Positive: testable, what is. **Normative:** value judgment, what ought to be.

Leakages: S, T, M. **Injections:** I, G, X.

Formulae and calculations

Opportunity cost per unit = amount of good given up ÷ amount of good gained.

Percentage change = (new – old) ÷ old × 100.

Net injection = (I + G + X) – (S + T + M): positive means income tends to rise.

Diagram checklist

PPC: label both axes with goods; concave curve; label PPC; points on, inside, beyond; arrows and PPC_1, PPC_2 for shifts.

Circular flow: households, firms, financial sector, government, foreign sector; label S, T, M out and I, G, X in.

Movement on the PPC diagram	What it means
Along the curve	a different choice; opportunity cost
From inside to the curve	actual growth; fuller use of resources
Outward shift of the curve	growth in production possibilities
Inward shift	loss of resources or capacity

"I can" checklist

☐ I can explain economics as a social science and distinguish microeconomics from macroeconomics.

☐ I can explain the nine central concepts and link them to examples.

☐ I can describe factors of production, scarcity, opportunity cost and free goods, and link scarcity to sustainability.

☐ I can explain the three basic economic questions and compare free market, planned and mixed economies.

☐ I can draw and use a PPC to show choice, opportunity cost (increasing and constant), unemployment of resources, actual growth and growth in production possibilities.

☐ I can draw the circular flow of income with leakages and injections and explain interdependence.

☐ I can distinguish positive from normative statements, and explain ceteris paribus, refutation, equity and equality.

☐ I can explain how economic ideas developed from Adam Smith to behavioural economics and the circular economy.

☐ I can answer a Paper 1 (a)/(b) question and a Paper 2 data response on this unit.