

Cambridge IGCSE · Economics 0455 · Notes

Supply

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Read first: [The role of markets in allocating resources](#), [Demand](#)

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What you need to know

By the end of this topic you should be able to:

1. **Define supply:** the willingness **and** ability of producers to sell a product at a given price, over a given period of time. Draw a supply curve and read it.
2. **Link price, supply and quantity.** Draw a supply curve (price on the vertical axis, quantity supplied on the horizontal) and use it to show a **movement along** the curve when the product's own price changes. Use the right words: a rise in price causes an **extension** in supply; a fall in price causes a **contraction** in supply.
3. **Link individual and market supply.** Market supply is found by adding up (aggregating) the supply of every individual firm at each price.
4. **Explain the conditions of supply:** the things other than the product's own price that **shift** the whole supply curve, with the right words: a shift to the right is an **increase in supply**, a shift to the left is a **decrease in supply**.

The whole topic is the same for every candidate (0455 has no Core/Extended split). Price elasticity of supply and how demand and supply together set the price are later topics.

Understand it

What supply means

Supply is the amount of a product that producers are **willing and able** to sell at a given price over a period of time (a week, a month, a year). Willingness comes from the profit a firm expects to make; ability comes from the resources it has (land, workers, machines, raw materials). A farmer who would like to sell more tomatoes but has no more land or seeds cannot supply them.

The supply schedule and the supply curve

A **supply schedule** is a table of how much producers plan to sell at each price. Suppose a region's farmers plan to sell these amounts of tomatoes each week:

Price per kg	Quantity supplied (kg per week)
\$1	20
\$2	40
\$3	60
\$4	80
\$5	100

Plot each pair with **price on the vertical axis** and **quantity supplied on the horizontal axis**, join the points and label the line **S**. That is the **supply curve**.

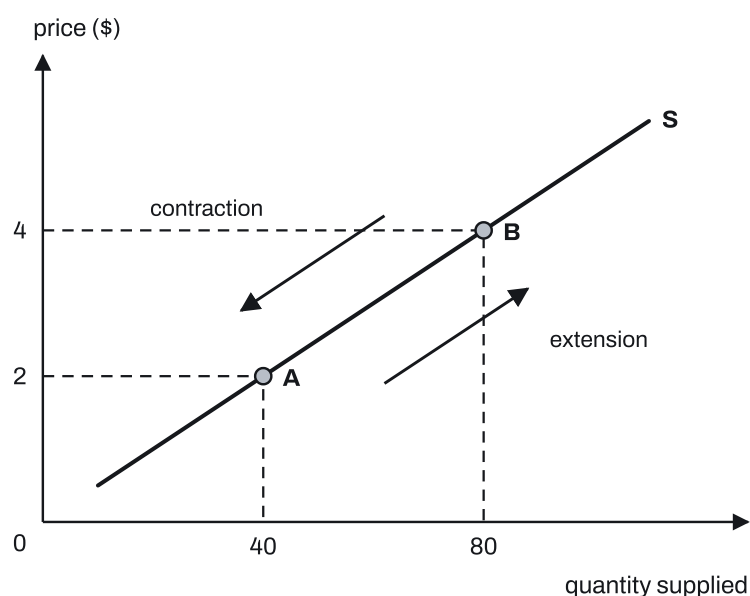
It **slopes upwards from left to right**: the higher the price, the more producers plan to sell. There is a **positive** (direct) relationship between price and quantity supplied. Three reasons:

- a higher price means **more profit** on each unit, so firms have an **incentive** to produce more;
- producing extra units often costs more (overtime pay, less suitable land, older machines), and a higher price **covers these higher costs**;
- a higher price attracts **new firms** into the market and makes existing firms switch resources from other products towards this one.

A supply curve is drawn assuming that **everything except the product's own price stays the same** (costs of production, technology, taxes, subsidies, the weather, and so on).

Movements along the curve: extension and contraction

Only a change in the product's **own price** moves you **along** the supply curve.



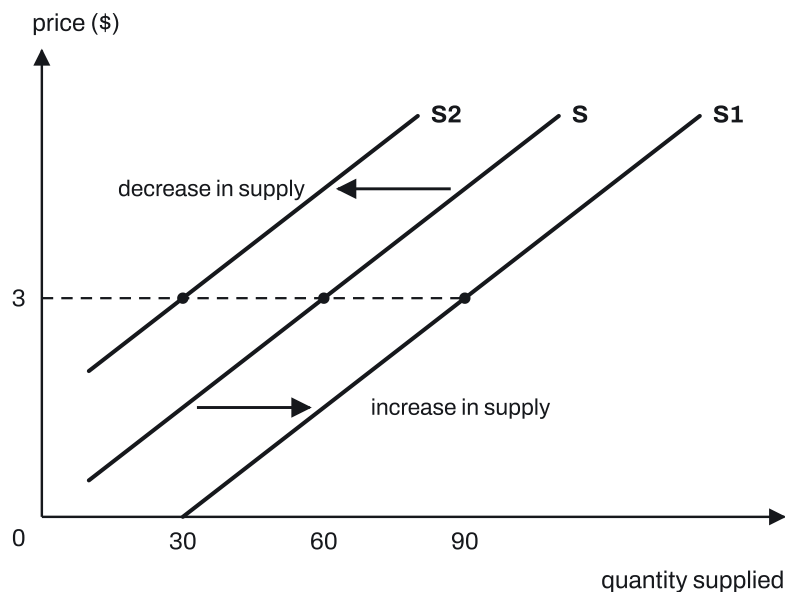
- The price rises from \$2 to \$4: quantity supplied rises from 40 kg to 80 kg. This is an **extension in supply** (an increase in the quantity supplied): a movement **up** the curve from A to B.

- The price falls from \$4 to \$2: quantity supplied falls from 80 kg to 40 kg. This is a **contraction in supply** (a decrease in the quantity supplied): a movement **down** the curve from B to A.

The curve stays where it is. What usually changes the price is a change in **demand**. If consumers' incomes rise, demand for rice increases, its price rises, and farmers respond with an **extension** in supply: a movement up the supply curve, not a shift of it.

Shifts of the curve: the conditions of supply

If something **other than the product's own price** changes, producers are willing and able to sell more (or less) **at every price**. The whole curve moves.



- Increase in supply:** the curve shifts to the **right** (S to S₁). At the same price of \$3, farmers now offer 90 kg instead of 60 kg.
- Decrease in supply:** the curve shifts to the **left** (S to S₂). At \$3 they now offer only 30 kg.

Be careful: an increase in supply shifts the curve to the right, which on the diagram also looks like a shift **down**. Always think "more at every price", which is to the right.

These are the **conditions of supply**, the non-price causes of a shift. Most of them work through the **costs of production**: lower costs mean each unit is more profitable, so firms are willing and able to supply more at every price. For each, know the direction and **why**:

Condition of supply	Change that increases supply (shift right)	Why
Costs of production	Lower wages, cheaper raw materials, components, energy, fertiliser or transport	Each unit costs less to make, so it is more profitable to supply

Condition of supply	Change that increases supply (shift right)	Why
Productivity	Workers or machines produce more per hour (training, mechanisation, better management)	More output from the same resources, so the cost per unit falls
Technology	New, more efficient methods or machines (robots on an assembly line)	Output per worker rises and costs fall
Indirect taxes (taxes on goods, such as a sales tax)	The tax is cut or removed	Firms pay less tax on each unit sold, like a cut in costs
Corporation tax (a direct tax on firms' profits)	The tax is cut	Firms keep more of their profit, so producing is more profitable. Mark schemes credit this in written answers, but indirect taxes and subsidies are the safer points to lead with
Subsidies (government payments to producers)	A subsidy is given or increased	It adds to what firms receive, or pays part of their costs
Weather and natural disasters (mainly farming)	Good weather, a good harvest	Bigger crop yields; fewer crops destroyed
Number of firms	New firms enter the market	More producers selling at every price
Prices of other products the firm could make	Another product becomes less profitable (its price falls)	Firms switch resources towards this product
Government regulation	Fewer or simpler rules	It becomes easier and cheaper to produce
Raw materials	A new source is discovered (a new oil field)	More of the resource is available, often more cheaply

Every change the other way gives a **decrease** in supply: higher wages with no rise in productivity, dearer raw materials, a new or higher indirect tax, a subsidy removed, a drought, flood or storm, firms leaving the market, and so on.

Two things that do **not** shift supply:

- **Anything on the demand side**, such as consumers' incomes, tastes, advertising or the price of a substitute for the product. These shift **demand**. The price then changes, and supply responds with a movement **along** its curve.

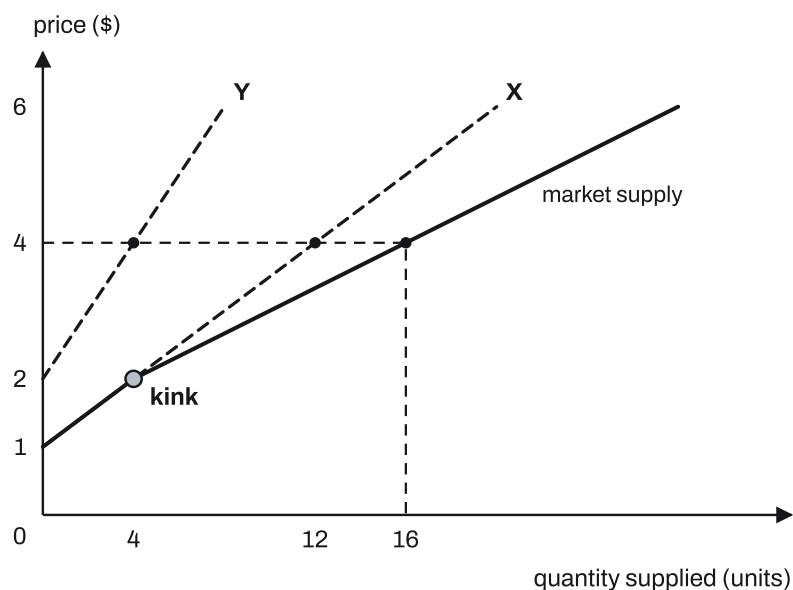
- **Direct taxes, in multiple choice.** Cambridge is not fully consistent here, so learn both rules. In multiple choice, "changes in direct taxes" is the standard answer to "what would **not** shift supply?". Think of income tax on workers, which is not a cost of producing each unit. In written Explain and Analyse answers, mark schemes **do** credit a change in **corporation tax** (the tax on firms' profits): a cut makes production more profitable and increases supply, and a rise may be passed on in higher prices. Lead with indirect taxes and subsidies, which are always credited, and use corporation tax as an extra point.

Individual and market supply

Individual supply is one firm's supply. **Market supply** is the total supply of all the firms in the market, found by **adding up the quantities every firm supplies at each price** (aggregation).

Price	Farm X	Farm Y	Market supply
\$1	0	0	0
\$2	4	0	4
\$3	8	2	10
\$4	12	4	16
\$5	16	6	22
\$6	20	8	28

On a diagram you add the curves **sideways** (the quantities), never the prices.



Below \$2 only farm X is willing to supply, so market supply is just X's supply. Above \$2 farm Y joins in, so the market curve bends (a kink) and becomes flatter. The market curve always lies **on or to the right of** every individual curve. If more firms join the market, or one firm's supply increases, market supply increases.

Key facts and formulas

This topic has no formula list in the exam. "Learn it" means you must remember it.

Fact	Status
Supply: the willingness and ability of producers to sell a product at a given price over a period of time	Learn it
Supply curve: price on the vertical axis, quantity supplied on the horizontal; slopes up from left to right (a positive relationship)	Learn it
Own price rises → extension (movement up the curve); own price falls → contraction (movement down)	Learn it
Any other condition changes → the whole curve shifts: right = increase in supply, left = decrease	Learn it
Conditions of supply: costs of production, productivity, technology, indirect taxes, subsidies, weather, number of firms, prices of other products, regulation	Learn it
Lower costs, higher productivity, better technology, a subsidy, good weather → supply increases	Learn it
Higher costs, an indirect tax, a drought or natural disaster → supply decreases	Learn it
A change in demand changes the price, which causes a movement along the supply curve	Learn it
Market supply = the sum of every firm's quantity supplied at each price: $Q_{\text{market}} = Q_X + Q_Y + \dots$	Learn it

How to do it

In the questions we have tagged for this topic (15 questions, 2021–2025), the parts about this topic are these. Each question has one part on this topic: the 20- and 30-mark Paper 2 questions have other parts on other topics.

Question type	Question parts
Multiple choice (concept)	11
Explain (4 marks)	2
Analyse (6 marks)	2

No Define (2), Discuss (8) or multiple-choice calculation parts on this topic have been set yet; section 3 ends with plans for them, and Example 2 shows a calculation.

1. Multiple choice (concept) (11 question parts)

1. **Decide: movement or shift?** Ask: "Is it the product's **own price** that changed (perhaps because demand changed)?" Yes → movement along the supply curve (extension or contraction). No, it changes producers' costs or ability to produce → shift (increase or decrease).
2. **Then the direction.** Use the table in "Understand it": say the chain in your head, "robots → higher productivity → lower cost per unit → supply increases → shift right".
3. **Match the words exactly.** Extension and contraction are movements; increase and decrease in supply are shifts.

Variations you will meet:

- **Which cause shifts the supply curve** (7 parts). A shift right comes from lower costs, higher productivity, better technology or a subsidy; a shift left from higher costs (such as a pay rise with no rise in productivity) or a tax on the product. Watch the traps:
 - options about **demand** (fewer people wanting to fly, dearer bus travel as a substitute, consumers' real incomes) do not shift the supply curve;
 - "an increase in the **price** of the good" is a movement, not a shift;
 - a pay rise for workers is a **cost**: if they do not buy the product themselves, only supply moves (left), not demand;
 - "S moves right **due to** an increase in productivity" is right; "due to an increase in consumer demand" is not;
 - "what would **not** shift supply?" out of costs, indirect taxes, subsidies and direct taxes: the **direct** tax (the multiple-choice convention; written answers may still use corporation tax, see "Understand it").
- **What the curve shows, and movements along it** (4 parts). A supply curve shows a **positive relationship between price and quantity supplied**: firms plan to sell more at a higher price. The benefit to firms of a higher price is the **ability to make more profit**. A movement **up** the curve (an extension) is caused by a rise in price, which usually comes from an **increase in demand** (for example higher consumer incomes); a rise in farm workers' wages would shift supply instead.

2. Explain (4 marks) (2 question parts)

These are marked **point plus explanation**: 1 mark for each cause identified and 1 for explaining it, so **two developed points** earn all 4.

1. **Name the cause precisely, with its direction** (1): "a **fall** in the price of fertiliser", not just "costs".
2. **Explain how it lets firms supply more (or less) at every price** (1): "it reduces the cost of growing each kilogram, so farming becomes more profitable and farmers can afford more fertiliser, raising crop yields".
3. Do the same for a second, different cause.
4. **Never use a demand-side cause** (more consumers wanting it, higher incomes) or the product's own price. Examiners report many answers that turned a supply question into a demand one.

Variations you will meet:

- **Two causes of an increase in supply of a product** (in general): lower costs of production, higher productivity from better technology, a subsidy, a cut in an indirect tax, fewer regulations, better weather. A cut in corporation tax (more profitable to produce) is also credited, but lead with the others.
- **Two causes in a context**, such as a crop in the source material: use what the source mentions (weather conditions, government subsidies, the price of fertiliser) and link each one to the crop.
- **Causes of a decrease**: just reverse the direction (higher wages or raw-material prices, a new indirect tax, a drought or storm).

No diagram is needed for a 4-mark Explain.

3. Analyse (6 marks) (2 question parts)

Analyse means building **chains of reasoning**: each link says why the next one happens. Plan **three chains**, each with a precise condition of supply (1), a reason it changes costs or the ability to produce (1), and a further step: the effect on supply, or on price if the question asks about price (1). Listing causes without developing them is capped at about 2 marks.

1. **Read the exact wording**. "Causes of a shift to the right in the supply curve" wants **non-price** causes of an **increase** in supply. It is worth one mark to say what that means: **more is supplied at each and every price**.
2. **Point → why → effect**: "a subsidy to chocolate makers (point) → it adds to the revenue they receive for each bar, which in effect lowers their costs (why) → they are willing and able to supply more at every price, so the supply curve shifts to the right (effect)".
3. **"How changes in conditions of supply can affect a firm's prices"**: always **name the condition** first (answers that only said "supply increases, so price falls" were capped). Then link it to price: a rise in costs (1), for example from higher wages or raw-material prices (1), means the firm raises its price (1) to keep its profit (1). A subsidy (1) lowers the cost of production (1), so the firm can charge a lower price and still make the same profit (1). A rise in price is credited only once and a fall in price only once, so the other marks must come from the conditions and the reasons. Use both directions: at least one chain ending in a higher price and one ending in a lower price.
4. **A diagram** earns no marks in these parts but can help you think; if you draw one, label the axes price and quantity and the curves S and S1.

If a Discuss (8) part is set on supply (for example "whether a subsidy will always increase the supply of a product"), add the other side: firms might keep the subsidy as profit, a lack of resources or time might limit how much more they can produce, or other costs might rise at the same time. End with a justified judgement ("it depends on ..."). Both sides developed with a judgement reaches the top level (6–8). **If a Define (2) part is set**, give the full definition: willingness **and** ability (1) to sell at a given price over a period of time (1).

Worked examples

Example 1

What would cause the supply curve of wheat to shift to the left?

- **A** a fall in the price of wheat
- **B** a drought in the main wheat-growing region
- **C** a new government subsidy for wheat farmers
- **D** a rise in consumers' incomes

[1]

A is wheat's own price: a contraction, a movement along the curve. C increases supply (shift right). D shifts demand, not supply. A drought destroys crops and cuts yields, so less wheat is supplied at every price. The answer is **B**. (1)

Example 2

The table shows the weekly supply of the only three firms making a product.

Price	Firm P	Firm Q	Firm R
\$2	3	1	0
\$3	5	2	2
\$4	7	5	3
\$5	9	6	4

The price rises from \$3 to \$4. What is the extension in market supply?

- **A** 3 units
- **B** 6 units
- **C** 9 units
- **D** 15 units

[1]

Market supply at \$3 is $5 + 2 + 2 = 9$ units; at \$4 it is $7 + 5 + 3 = 15$ units. The extension is $15 - 9 = 6$ units: **B**. (1)
(C and D are the market supply at each price, not the change.)

Example 3

Explain two causes of a decrease in the supply of rice. [4]

One cause is a flood or drought in the rice-growing areas (1). Crops are damaged or yields fall, so farmers are able to sell less rice at every price (1). A second cause is a rise in the cost of production, such as higher wages for farm workers or dearer fertiliser (1). Each tonne of rice costs more to grow, so it is less profitable and farmers are willing to supply less at every price, shifting the supply curve to the left (1).

Example 4

Analyse how new technology and government policy can affect the supply of electric cars. [6]

New technology, such as robots on the assembly line or cheaper batteries, is a condition of supply (1). It raises productivity, so more cars are made with the same workers and machines and the cost of each car falls (1). Car makers are then willing and able to supply more electric cars at every price: supply increases and the supply curve shifts to the right (1).

A government subsidy to electric-car makers adds to the money they receive for each car, in effect covering part of their costs (1). This makes producing electric cars more profitable, so existing firms produce more and new firms may enter the market (1), again increasing supply at every price (1).

Government policy can also work the other way: stricter safety regulations or a higher indirect tax on cars raise the cost of each car, so supply decreases and the curve shifts to the left (1).

This is more than the 6 marks available; aiming a little over the maximum means one weak link still leaves full marks.

Common mistakes

- **Answering about demand instead of supply.** Examiners reported this in March 2022 (answers drew a demand shift and analysed why demand for chocolate rose) and in June 2025 (many answers to "causes of an increase in supply" wrote about consumers wanting more). Underline "supply" in the question and use only producers' costs and ability to produce.
- **Mixing up a movement and a shift.** A change in the product's own price (often caused by a change in demand) moves **along** the supply curve; a change in costs, such as higher farm wages, **shifts** it. In one multiple-choice question more candidates chose the wage rise than the correct answer.
- **Using demand words for supply.** Extension and contraction are movements; increase and decrease in supply are shifts.
- **Shifting the curve the wrong way.** An increase in supply is a shift to the **right** (more at every price), even though it looks lower on the diagram. A decrease is a shift to the **left**.
- **Only saying "supply increases, so price falls"** when asked how conditions of supply affect prices. Name the condition that changed (costs, weather, a subsidy, technology) first.
- **Saying "costs" without a direction.** Write "a **fall** in the cost of raw materials", not "the cost of raw materials".
- **Getting the curves the wrong way round or mislabelled** on a demand and supply diagram. Supply slopes **up**; label it S.

- **Forgetting "willing and able"** in a definition. Wanting to sell is not supply without the ability to produce.

How to get the marks

- **Multiple choice is 1 mark with no penalty for a wrong answer**, so never leave one blank. Watch for **not** in bold, and ask "own price, demand side or supply side?" first.
- **Identify** means name or pick out; **Define** means the exact meaning: "willingness and ability to sell at a given price over a period of time".
- **Explain** (4 marks) means two causes, each with a reason (1 + 1, 1 + 1). Name the cause with its direction and say how it lets firms supply more or less at every price.
- **Analyse** (6 marks) means chains of reasoning: condition → why it changes costs or ability to produce → effect on supply (or price), three times. The effect on price is credited once each way, so the other marks must come from different conditions and reasons. A list is capped.
- **Discuss** (8 marks) means both sides, each developed, then a justified judgement.
- **Use the terms precisely**: extension and contraction, increase and decrease in supply, conditions of supply, costs of production, productivity, subsidy, indirect tax, market supply.
- **Diagrams**: label the axes **price** and **quantity** (supplied), label each curve (S, S1), draw the new curve on the correct side and show the direction with an arrow.
- **Use the context**: name the product and the causes the source material gives (weather, subsidies, fertiliser prices for a crop).
- **If more causes are given than asked for**, only the first few are marked, so put your best two first.

Quick check

1. What would cause an extension in the supply of coffee?
 - **A** a rise in the wages of coffee workers
 - **B** an increase in the demand for coffee
 - **C** the use of new machines for picking coffee
 - **D** a new tax on each packet of coffee sold
2. At a price of \$5, one bakery supplies 6 cakes a day and another supplies 9. At \$7, they supply 10 and 12. They are the only two bakeries. Find the market supply at each price and the size of the extension when the price rises from \$5 to \$7.
3. For the supply of chairs, say whether each is a movement along the curve or a shift, and in which direction:
(a) the price of chairs falls; (b) a government subsidy for furniture makers; (c) a new indirect tax on furniture.
4. Explain two causes of an increase in the supply of fish. **[4]**

Answers

1. **B.** Higher demand raises the price of coffee, and producers respond with an extension (a movement up the supply curve). A and D raise costs (a decrease in supply) and C raises productivity (an increase in supply): all three are shifts. (1)
2. At \$5: $6 + 9 = 15$ cakes. At \$7: $10 + 12 = 22$ cakes. The extension is $22 - 15 = 7$ cakes a day.
3. (a) Movement: a contraction (down the curve). (b) Shift to the right: an increase in supply (costs are in effect lower). (c) Shift to the left: a decrease in supply (each chair costs more to sell).
4. One cause is a fall in the price of fuel for fishing boats (1): each trip costs less, so fishing is more profitable and more fish is supplied at every price (1). Another cause is new technology such as sonar to find fish (1): each boat catches more fish in the same time, raising productivity and lowering the cost of each kilogram, so supply increases (1).

Past questions to try

- 0455/11/M/J/23 Q9: what causes a movement up a supply curve.
- 0455/12/O/N/22 Q5: a pay rise without higher productivity.
- 0455/13/M/J/23 Q6: naming and explaining a movement along a supply curve.
- 0455/23/M/J/25 Q4: part (b), two causes of an increase in supply.