BRETTONOMICS · STUDY GUIDE · UNIT 1 TOPIC 3

Market Forces

Demand, supply, the price mechanism, equilibrium and the elasticities

How to use this guide

Information in this guide is colour-coded and labelled. Each coloured box carries a word label as well as a colour, so you can use it whether or not you distinguish the colours easily.

KEY DEFINITION	The precise meaning of a syllabus term. Learn the wording.
AUSTRALIAN CONTEXT	Real Australian evidence or data you can quote as examples.
WORKED EXAMPLE	A model, diagram or calculation worked through step by step.
COMMON MISTAKE	An error that commonly costs marks — check yourself against it.
EXAM TIP	How to turn the knowledge into marks in an exam response.
BRETTONOMICS INTERACTIVE	A matching interactive tool on brettonomics.com.

SECTION 1 Key concepts and terminology

1.1 The core terms

Term	What it means
Market	Any arrangement that brings buyers and sellers together to exchange a good or service. A market need not have a physical location.
Consumer sovereignty	The principle that consumers, through their spending decisions, ultimately determine what is produced. Producers who ignore consumer preferences make losses and leave the market.
The law of demand	As the price of a good rises, the quantity demanded falls, ceteris paribus — and as price falls, quantity demanded rises.
The law of supply	As the price of a good rises, the quantity supplied rises, ceteris paribus — and as price falls, quantity supplied falls.
Equilibrium	The price at which quantity demanded equals quantity supplied, so there is no tendency for price to change. Also called the market-clearing price.

Term	What it means
Elasticity	A measure of how responsive the quantity demanded or supplied is to a change in another variable, most commonly the good's own price.

1.2 Why the demand curve slopes downward

KEY DEFINITION

The two effects behind the law of demand

The substitution effect. When a good becomes dearer relative to its substitutes, consumers switch to the substitutes, so quantity demanded falls.

The income effect. When a good becomes dearer, a given income buys less in total, reducing the quantity consumers can afford.

Together. These two effects explain the inverse relationship between price and quantity demanded that the law of demand describes.

IN ONE SENTENCE Demand slopes down, supply slopes up, and the price where they meet is equilibrium.

SECTION 2 Characteristics of goods and services

2.1 The five classifications

Term	What it means
Private good	Rival and excludable — one person's consumption prevents another's, and non-payers can be excluded. Most goods traded in markets are private goods.
Public good	Non-rival and non-excludable — one person's consumption does not reduce the amount available to others, and non-payers cannot be excluded. Street lighting and national defence are examples.
Merit good	A good whose benefits to the individual and to society are greater than consumers recognise, so the market under-consumes it. Education and vaccination are examples.
Substitute	A good that can be consumed in place of another. A rise in the price of one raises demand for the other — beef and lamb, for instance.
Complement	A good consumed together with another. A rise in the price of one reduces demand for the other — printers and ink cartridges, for instance.

COMMON MISTAKE

Substitutes and complements describe demand, not supply. These terms describe how a change in the price of one good shifts the demand curve for another. Do not use them to describe two goods a firm happens to produce together.

A merit good is not simply a good thing. The defining feature is that the market under-provides it because consumers undervalue the benefit, not that society approves of it.

IN ONE SENTENCE Rivalry and excludability classify goods; substitutes and complements describe how their demands interact.

SECTION 3 Markets and consumer sovereignty

3.1 What a market does

- A market brings buyers and sellers together and generates a price through their interaction.
- That price carries information. A high price signals that a good is scarce relative to demand; a low price signals the reverse.
- The price also creates incentives. A high price rewards producers who supply more and encourages consumers to economise.
- Together, signalling and incentives allocate resources without any central direction. This is the price mechanism.

3.2 Consumer sovereignty and its limits

KEY DEFINITION

Consumers as the ultimate directors of production

The principle. Consumers direct production through their spending. Firms that produce what consumers want earn profits; firms that do not make losses and exit.

Why it matters. It explains how a market economy answers the question "what and how much to produce?" without anyone deciding centrally.

The limits. Sovereignty is weakened where advertising shapes preferences, where firms have market power, where consumers lack information, and where consumption affects third parties. These limits are the subject of Unit 2.

BRETTONOMICS INTERACTIVE

The Price Mechanism — drag the demand and supply curves, change elasticity, and read equilibrium price, quantity and surplus from the outcomes panel
brettonomics.com/price-mechanism

IN ONE SENTENCE Prices signal scarcity and create incentives; consumer spending directs what gets produced.

SECTION 4 The theory of demand

4.1 The law of demand

- As price rises, quantity demanded falls, ceteris paribus. The demand curve therefore slopes downward from left to right.
- Demand means the whole relationship between price and quantity — the entire curve. Quantity demanded means one point on it.

4.2 The non-price determinants of demand

Determinant	Effect on the demand curve
Income	Rising income shifts demand right for a normal good and left for an inferior good
Price of a substitute	A rise in the substitute's price shifts demand right
Price of a complement	A rise in the complement's price shifts demand left
Tastes and preferences	A shift in fashion, health advice or advertising moves demand either way
Population and demographics	A larger or differently composed population shifts demand
Expectations of future prices	Expected price rises shift current demand right as buyers bring purchases forward
Interest rates	Lower rates shift demand right for goods commonly bought on credit, such as housing and cars

EXAM TIP

Memorise the list, then justify the direction. Marks come from stating which determinant has changed, which direction the curve shifts and why. Naming the determinant alone is not enough.

IN ONE SENTENCE Price changes move you along the demand curve; everything else shifts the whole curve.

SECTION 5 The theory of supply

5.1 The law of supply

- As price rises, quantity supplied rises, ceteris paribus. The supply curve therefore slopes upward from left to right.
- A higher price makes production more profitable, so existing firms expand output and new firms are drawn into the market.

5.2 The non-price determinants of supply

Determinant	Effect on the supply curve
Costs of production	Higher input prices or wages shift supply left; lower costs shift it right
Technology	Improved technology lowers unit costs and shifts supply right
Number of sellers	More firms in the market shift supply right
Taxes on production	A tax raises costs and shifts supply left
Subsidies	A subsidy lowers costs and shifts supply right
Climate and weather	Favourable conditions shift agricultural supply right; drought or flood shifts it left
Expectations of future prices	Expected higher prices can shift current supply left as producers withhold stock

> IN ONE SENTENCE Supply shifts when the cost or ease of producing changes, not when the good's own price changes.

SECTION 6 Market equilibrium

6.1 Finding equilibrium

WORKED EXAMPLE

Establishing equilibrium on a diagram

1. Draw both curves. Put price on the vertical axis and quantity on the horizontal axis. Draw demand sloping down and supply sloping up.

2. Find the intersection. Equilibrium is where the two curves cross — the only price at which quantity demanded equals quantity supplied.

3. Label both coordinates. Mark the equilibrium price on the vertical axis and the equilibrium quantity on the horizontal axis, with dotted lines to the intersection.

4. Explain why it holds. At this price there is neither shortage nor surplus, so no buyer or seller has reason to change their behaviour and the price is stable.

6.2 A change in equilibrium

- **Step 1:** identify which curve shifts, and in which direction.
- **Step 2:** name the determinant responsible and explain why it causes that shift.
- **Step 3:** read the new intersection and state the new equilibrium price and quantity.
- **Step 4:** describe the change in both price and quantity relative to the original position.

Change	Equilibrium price	Equilibrium quantity
Demand increases	Rises	Rises
Demand decreases	Falls	Falls
Supply increases	Falls	Rises
Supply decreases	Rises	Falls

IN ONE SENTENCE Equilibrium is where the curves cross; a shift in either curve moves both price and quantity in predictable directions.

SECTION 7 Movements along versus shifts of the curves

7.1 The distinction

KEY DEFINITION

Two different kinds of change

A movement along a curve. Caused only by a change in the good's own price. The curve itself does not move. Described as a change in quantity demanded or quantity supplied.

A shift of a curve. Caused by a change in any non-price determinant. The whole curve moves to a new position. Described as a change in demand or a change in supply.

The test. Ask what changed first. If it was the good's own price, you have a movement. If it was anything else, you have a shift.

COMMON MISTAKE

Never say "demand increased because the price fell". A fall in the good's own price raises quantity demanded, not demand. This is the single most frequently penalised error in this topic. Reserve the words "demand increased" for a rightward shift of the whole curve.

A shift in one curve causes a movement along the other. When supply shifts right, the new equilibrium is reached by a movement along the demand curve. Both things happen at once, and a complete answer identifies each separately.

IN ONE SENTENCE Own price changes move you along; anything else shifts the curve.

SECTION 8 Non-price factors and challenging cases

The syllabus expects you to handle cases where the outcome appears to contradict the theory. In every one of them, both curves have moved and the net effect depends on which moved further.

8.1 Why housing prices rise even as supply increases

WORKED EXAMPLE

Housing: both curves shift, demand shifts further

The puzzle. New dwellings are completed every year, yet prices keep rising. Does this disprove the law of supply?

Identify both shifts. Supply shifts right as new dwellings are completed. Demand also shifts right — population growth, migration, smaller household sizes, investor demand and periods of low interest rates all push it outward.

Compare the magnitudes. Demand has shifted right by more than supply, because housing supply is slow to respond — land release, approvals and construction take years.

State the net effect. Equilibrium price rises and equilibrium quantity rises. Both curves moved; demand moved further.

Resolve the puzzle. The theory is not contradicted. The ceteris paribus assumption was relaxed: other things were not equal, because demand changed at the same time.

8.2 Why flowers cost more at Valentine's Day despite a surge in supply

WORKED EXAMPLE

Valentine's Day flowers: inelastic supply meets a demand spike

The puzzle. Growers flood the market with roses in mid-February, yet prices rise sharply.

Identify both shifts. Supply shifts right as growers time their harvest for the date. Demand shifts right far more, because the occasion concentrates a year's worth of buying into a few days.

Add the supply constraint. Supply is relatively inelastic in the short run — roses take months to grow, so the quantity available on the day is close to fixed regardless of price.

Add the cost effect. Meeting the peak requires air freight, cold storage and overtime labour, which raises unit costs and limits how far supply can shift.

State the net effect. The large rightward shift in demand against a relatively inelastic supply produces a sharp rise in price alongside a rise in quantity.

EXAM TIP

When the result looks wrong, look for the second shift. Any time a real outcome appears to contradict the model, the explanation is almost always that both curves moved. Name both shifts, compare their size, and state the net effect.

IN ONE SENTENCE Apparent contradictions arise when both curves shift — identify both and compare their magnitudes.

SECTION 9 Shortage, surplus and the invisible hand

9.1 Markets out of equilibrium

Condition	Price is...	What results	How the market corrects
Shortage (excess demand)	Below equilibrium	Quantity demanded exceeds quantity supplied	Buyers compete, bidding price up toward equilibrium
Surplus (excess supply)	Above equilibrium	Quantity supplied exceeds quantity demanded	Sellers cut prices to clear unsold stock, pushing price down

9.2 The invisible hand

KEY DEFINITION

Self-interest and the allocation of resources

Adam Smith's idea. In The Wealth of Nations (1776), Smith argued that individuals pursuing their own self-interest are led, as if by an invisible hand, to promote an outcome that was no part of their intention.

How it works mechanically. A shortage raises price, which raises profits, which attracts resources into the industry — until the shortage is eliminated. A surplus does the reverse.

What it means for resource allocation. No central authority decides how much to produce. Price movements alone redirect resources toward goods consumers value most.

The qualification. The result depends on competitive markets with good information and no significant effects on third parties. Where those conditions fail, the invisible hand does not deliver an efficient outcome.

EXAM TIP

Describe the adjustment, not just the gap. A strong answer explains the behaviour that closes the gap — buyers bidding up a shortage, sellers discounting a surplus — rather than simply noting that quantity demanded and supplied differ.

IN ONE SENTENCE Shortages push price up and surpluses push it down, returning the market to equilibrium without direction.

SECTION 10 Price elasticity of demand

10.1 The measure and its categories

KEY DEFINITION

Measuring responsiveness to price

The formula. Price elasticity of demand = percentage change in quantity demanded ÷ percentage change in price.

The sign. The result is negative, because price and quantity move in opposite directions. It is conventionally reported as an absolute value.

Reading the number. Greater than 1 is elastic; less than 1 is inelastic; exactly 1 is unitary.

Value	Category	What it means	Example
0	Perfectly inelastic	Quantity does not change at all when price changes	A life-saving medicine with no substitute
Between 0 and 1	Inelastic	Quantity changes proportionally less than price	Petrol, bread, electricity
Exactly 1	Unitary	Quantity changes in the same proportion as price	A theoretical benchmark case
Greater than 1	Elastic	Quantity changes proportionally more than price	Restaurant meals, a particular brand of cereal
Infinite	Perfectly elastic	Any price rise reduces quantity demanded to zero	A single seller in a perfectly competitive market

10.2 The four factors affecting price elasticity of demand

Factor	Demand is more elastic when...	Demand is more inelastic when...
Necessity or luxury	The good is a luxury that can be gone without	The good is a necessity
Availability of substitutes	Close substitutes are readily available	Few or no close substitutes exist
Proportion of income spent	The good absorbs a large share of income	The good is a trivial share of income
Time since the price change	More time has passed, allowing adjustment	The change is recent and habits are fixed

COMMON MISTAKE

Elasticity is not the slope. A single straight-line demand curve has a constant slope but elasticity that varies along its length — elastic at the top, unitary at the midpoint, inelastic at the bottom. Do not treat a steep curve as automatically inelastic across its whole range.

Define the market before judging. Demand for "food" is highly inelastic. Demand for "bananas" is far more elastic, because substitutes exist. The breadth of the market changes the answer.

IN ONE SENTENCE Elasticity measures responsiveness: necessities with no substitutes are inelastic, luxuries with substitutes are elastic.

SECTION 11 Calculating percentage change and elasticity

11.1 The percentage change formula

WORKED EXAMPLE

Calculating a percentage change

The formula. Percentage change = (new value − original value) ÷ original value × 100.

A worked case. The price of a coffee rises from $5.00 to $5.60.

Substitute. ($5.60 − $5.00) ÷ $5.00 × 100.

Calculate. $0.60 ÷ $5.00 = 0.12, and 0.12 × 100 = 12 per cent.

State the answer. The price rose by 12 per cent.

11.2 The point method

WORKED EXAMPLE

Calculating price elasticity by the point method

The situation. When the coffee price rose from $5.00 to $5.60, weekly sales fell from 400 cups to 352.

Percentage change in quantity. (352 − 400) ÷ 400 × 100 = −12 per cent.

Percentage change in price. ($5.60 − $5.00) ÷ $5.00 × 100 = +12 per cent.

Apply the formula. PED = −12 ÷ 12 = −1.

Interpret the value. The absolute value is 1, so demand is unitary elastic — quantity changed in exactly the same proportion as price.

State the implication. Total revenue is unchanged: 400 × $5.00 = $2,000 and 352 × $5.60 = $1,971, close enough to confirm the unitary result.

11.3 The total revenue method

If price rises and total revenue...	Then demand is...	Because...
Falls	Elastic	Quantity fell proportionally more than price rose
Rises	Inelastic	Quantity fell proportionally less than price rose
Is unchanged	Unitary	Quantity fell in exactly the same proportion as price rose

EXAM TIP

Show every step. In calculation questions, marks are allocated to the formula, the substitution, the arithmetic and the interpretation. A bare number earns a fraction of what a worked answer earns, and always state whether the result is elastic, inelastic or unitary.

IN ONE SENTENCE PED = %ΔQ ÷ %ΔP. If price and total revenue move in opposite directions, demand is elastic.

SECTION 12 The significance of price elasticity

12.1 For business

- If demand is inelastic, raising price raises total revenue, because quantity falls proportionally less than price rises.
- If demand is elastic, raising price lowers total revenue. A firm facing elastic demand raises revenue by cutting price.
- This is why firms invest heavily in branding and product differentiation: both reduce the availability of close substitutes and make demand less elastic.

12.2 For government

- A tax on a good with inelastic demand raises substantial revenue, because consumption falls only slightly.
- A tax intended to change behaviour works only where demand is sufficiently elastic, or where the tax is large enough to overcome inelasticity.
- Where demand is inelastic, most of the tax is passed on to consumers as a higher price. Where demand is elastic, producers absorb more of it.

12.3 For consumers

- Consumers who have no substitutes available bear the burden of price rises and taxes most heavily.
- Where demand is inelastic because the good is a necessity, price rises absorb a larger share of low-income households' budgets — an equity concern as well as an efficiency one.

AUSTRALIAN CONTEXT

Australian tobacco excise. Tobacco demand was long treated as inelastic, and successive excise increases raised both revenue and the price of cigarettes. Excise revenue peaked at about $16.3 billion in 2019–20.

What changed. Revenue fell to about $12.6 billion in 2022–23 and the government expected about $7.4 billion in 2024–25, even though excise rates kept rising. The value of illicit tobacco entering the market grew from roughly $980 million in 2016–17 to more than $6 billion in 2022–23.

The economics of it. A close substitute appeared. Once untaxed illicit tobacco became widely available, demand for legal tobacco became far more elastic, and further excise rises shifted consumption to the black market rather than reducing smoking proportionally.

The lesson for evaluation. Elasticity is not a fixed property of a good. It depends on the substitutes available, and policy itself can create the substitute that undermines it.

EXAM TIP

Use elasticity to evaluate, not just to describe. The strongest answers use elasticity to judge whether a policy will achieve its stated aim — revenue, behaviour change or both — and identify the conditions under which it would fail.

IN ONE SENTENCE Elasticity determines who bears a price rise, whether a tax raises revenue, and whether it changes behaviour.

SECTION 13 Supply, income and cross elasticities

13.1 Price elasticity of supply

KEY DEFINITION

Measuring the responsiveness of supply

The formula. Price elasticity of supply = percentage change in quantity supplied ÷ percentage change in price.

The sign. Positive, because price and quantity supplied move in the same direction.

What makes supply elastic. Spare productive capacity, the ability to store stock, mobile factors of production, and a longer time period.

What makes supply inelastic. Production lags, perishability, specialised factors and a short time period. Agricultural supply is highly inelastic within a season because the crop is already planted.

13.2 Income elasticity of demand

Value	Type of good	What happens when income rises
Greater than 1	Luxury (superior)	Demand rises proportionally more than income — overseas travel, dining out
Between 0 and 1	Normal necessity	Demand rises proportionally less than income — bread, milk, electricity
Less than 0	Inferior	Demand falls as income rises — home-brand staples, long-distance bus travel

13.3 Cross elasticity of demand

Value	Relationship	Interpretation
Positive	Substitutes	A rise in the price of one raises demand for the other — beef and lamb
Negative	Complements	A rise in the price of one reduces demand for the other — cars and petrol
Close to zero	Unrelated	A price change in one has no meaningful effect on the other

> EXAM TIP
>
> **Let the sign do the work.** For cross elasticity the sign identifies the relationship and the magnitude indicates its strength. State both: "the cross elasticity is +1.8, so the goods are close substitutes."

> IN ONE SENTENCE Supply elasticity turns on time and capacity; income elasticity classifies the good; cross elasticity identifies the relationship.

SECTION 14 Investigating a specific market

The syllabus requires you to select data and investigate how the price mechanism operates in one real Australian market. The choice is yours — agriculture, minerals and energy, housing, labour, shares, health or community services.

14.1 A method you can follow

- **Step 1:** define the market precisely, including the good, the geographic scope and the time period.
- **Step 2:** gather a price series and a quantity series from a credible source such as the ABS, the RBA, ABARES or an industry body.
- **Step 3:** calculate percentage changes between periods and identify the significant movements.
- **Step 4:** for each movement, determine whether demand shifted, supply shifted, or both.
- **Step 5:** name the specific determinant responsible and support it with evidence.
- **Step 6:** assess the elasticity of demand and supply in that market and explain how it shaped the size of the price movement.
- **Step 7:** evaluate the effect on consumers and businesses, using stated economic criteria.

14.2 Where to find Australian market data

Market	Source
Agriculture	ABARES Agricultural Commodities report; Meat & Livestock Australia for livestock prices
Minerals and energy	Department of Industry Resources and Energy Quarterly; ABS International Trade
Housing	ABS Residential Property Price Indexes; CoreLogic home value indices
Labour	ABS Labour Force, Australia; ABS Wage Price Index
Shares	ASX market statistics
General prices	ABS Consumer Price Index, Australia

COMMON MISTAKE

Do not assert a cause without evidence. Stating that "demand increased" explains nothing on its own. Identify which determinant changed, cite the evidence for it, and only then conclude that the curve shifted.

IN ONE SENTENCE Define the market, find the data, identify which curve moved and why, then judge the effect.

ASSESSMENT Multiple choice questions

20 questions covering demand, supply, the price mechanism, equilibrium and the elasticities. Answers and explanations follow the question set.

Question 1

The law of demand states that, ceteris paribus:

A. As the price of a good rises, the demand for that good falls
B. As consumer income rises, the quantity demanded of all goods rises
C. As the price of a good rises, the quantity supplied of that good falls
D. As the price of a good rises, the quantity demanded of that good falls

Question 2

A fall in the price of petrol causes an increase in the demand for large cars. This is because petrol and large cars are:

A. Substitutes
B. Complements
C. Both inferior goods
D. Both public goods

Question 3

Which of the following would cause a movement along the supply curve for wheat rather than a shift of it?

A. A severe drought across the growing region
B. A new government subsidy for wheat growers
C. A change in the market price of wheat
D. An improvement in harvesting technology

Question 4

A good is non-rival and non-excludable. It is best classified as a:

A. Public good
B. Merit good
C. Private good
D. Inferior good

Question 5

At a price above equilibrium, a competitive market will experience:

A. A shortage, which places upward pressure on price
B. A surplus, which places downward pressure on price
C. A surplus, which places upward pressure on price
D. Neither a shortage nor a surplus, because markets always clear

Question 6

Adam Smith's "invisible hand" describes how:

A. Governments guide markets toward socially desirable outcomes through regulation

B. Large firms coordinate their production decisions to stabilise prices

C. Individuals pursuing their own self-interest in competitive markets produce an efficient allocation of resources without central direction

D. Consumers act collectively to keep prices low for everyone

Question 7

House prices in a city rise over a decade even though thousands of new dwellings are completed each year. The best explanation is that:

A. The law of supply does not apply to housing markets

B. Supply shifted left as new dwellings were completed

C. Consumers became less responsive to price, making demand perfectly inelastic

D. Demand shifted right by more than supply, because population growth and other factors outpaced construction

Question 8

The price of a good rises by 10 per cent and the quantity demanded falls by 4 per cent. Price elasticity of demand is:

A. 0.4, so demand is inelastic

B. 2.5, so demand is elastic

C. 0.4, so demand is elastic

D. 6.0, so demand is inelastic

Question 9

A firm raises its price and finds that total revenue falls. This indicates that demand for its product is:

A. Inelastic, because quantity fell proportionally less than price rose

B. Unitary, because revenue responded to the price change

C. Elastic, because quantity fell proportionally more than price rose

D. Perfectly inelastic, because consumers continued to buy

Question 10

Which factor would make demand for a good more inelastic?

A. The good absorbs a large proportion of consumer income

B. The good is a necessity with few close substitutes

C. Many close substitutes are readily available

D. A long period has passed since the price change

Question 11

Agricultural supply is typically highly inelastic in the short run because:

A. Production decisions were made in advance and the crop cannot be increased within the season

B. Farmers are unaware of changes in market prices

C. Agricultural goods have very few substitutes in consumption

D. Governments regulate the quantity farmers may sell

Question 12

A good has an income elasticity of demand of −0.6. This good is:

A. A luxury good, because demand is responsive to income
B. A normal necessity, because the value is less than 1
C. A complement, because the value is negative
D. An inferior good, because demand falls as income rises

Question 13

Two goods have a cross elasticity of demand of +2.1. The goods are:

A. Strong complements
B. Close substitutes
C. Unrelated goods
D. Both inferior goods

Question 14

A government wishes to raise revenue by taxing a single good. It should choose a good for which demand is:

A. Elastic, because consumers will switch to alternatives
B. Unitary, because revenue will remain unchanged
C. Inelastic, because quantity consumed will fall only slightly as price rises
D. Perfectly elastic, because the tax will be fully absorbed by producers

Question 15

Australian tobacco excise revenue fell from about $16.3 billion in 2019–20 to a forecast $7.4 billion in 2024–25 despite continued increases in excise rates. The best economic explanation is that:

A. The growth of untaxed illicit tobacco provided a close substitute, making demand for legal tobacco far more elastic
B. Demand for tobacco became perfectly inelastic over the period
C. The excise rate was reduced in each of those years
D. Tobacco became a normal good rather than an inferior good

Question 16

Consumer sovereignty refers to the idea that:

A. Consumers have a legal right to a minimum standard of goods
B. Governments act on behalf of consumers in regulating markets
C. Producers determine consumer preferences through advertising
D. Consumers determine what is produced through their spending decisions

Question 17

A new technology substantially reduces the cost of producing solar panels. In the market for solar panels, the equilibrium:

A. Price rises and quantity falls, as supply shifts left
B. Price falls and quantity rises, as supply shifts right
C. Price falls and quantity falls, as demand shifts left
D. Price and quantity both rise, as demand shifts right

Question 18

A single straight-line demand curve has:

A. A constant slope but an elasticity that varies along its length

B. A constant slope and a constant elasticity at every point

C. A varying slope and a constant elasticity

D. An elasticity of exactly 1 at every point

Question 19

The price of roses rises sharply in the week before Valentine's Day even though growers supply far more roses than usual. This is best explained by:

A. A leftward shift in supply caused by higher freight costs alone

B. A breakdown of the law of demand on special occasions

C. Consumers becoming perfectly elastic in their response to price

D. A large rightward shift in demand against a supply that is relatively inelastic in the short run

Question 20

Which statement about the relationship between a shift and a movement is correct?

A. A shift of the supply curve causes a shift of the demand curve

B. A movement along the supply curve causes the demand curve to shift

C. A shift of the supply curve causes a movement along the demand curve to a new equilibrium

D. Shifts and movements cannot occur in the same market at the same time

ASSESSMENT

Marking guide

Answer key

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
D	B	C	A	B	C	D	A	C	B
Q11	**Q12**	**Q13**	**Q14**	**Q15**	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
A	D	B	C	A	D	B	A	D	C

Explanations

Q1 **D** The law of demand concerns quantity demanded, not demand. A change in the good's own price causes a movement along the curve, not a shift of it.

Q2 **B** Complements are consumed together, so a fall in the price of one raises demand for the other.

Q3 **C** Only a change in the good's own price causes a movement along the curve. Every other determinant shifts the whole curve.

Q4 **A** Non-rivalry and non-excludability together define a public good. Merit goods are under-consumed private goods.

Q5 **B** Above equilibrium, quantity supplied exceeds quantity demanded. Sellers discount unsold stock, pushing price down toward equilibrium.

Q6 **C** Smith's argument is that price movements driven by self-interest allocate resources to their most valued uses with no central authority involved.

Q7 **D** Both curves shifted right, but demand shifted further. Housing supply responds slowly because land release, approvals and construction take years.

Q8 **A** PED = 4 ÷ 10 = 0.4 in absolute terms. A value below 1 means quantity responded proportionally less than price, so demand is inelastic.

Q9 **C** Under the total revenue method, price and total revenue moving in opposite directions indicates elastic demand.

Q10 **B** Necessity and the absence of substitutes both reduce responsiveness. The other three options all increase elasticity.

Q11 **A** Price elasticity of supply depends on how quickly output can be adjusted. A planted crop cannot be expanded mid-season regardless of price.

Q12 **D** A negative income elasticity means demand moves inversely with income, which defines an inferior good.

Q13 **B** A positive cross elasticity means a rise in the price of one raises demand for the other, which defines substitutes. The large value indicates they are close substitutes.

Q14 **C** With inelastic demand, the tax raises price with little fall in quantity, so revenue rises. Elastic demand would see consumption shift away and revenue disappoint.

Q15 **A** Elasticity depends on the substitutes available. Once a cheap untaxed substitute was widely accessible, further excise rises diverted consumption rather than reducing it proportionally.

Q16 **D** Firms that produce what consumers want earn profits and expand; those that do not make losses and exit. Spending therefore directs production.

Q17 **B** Lower production costs shift supply right. The new intersection with the unchanged demand curve lies at a lower price and a higher quantity.

Q18 **A** Elasticity is a proportional measure, not a slope. Along a straight-line demand curve it is elastic at the top, unitary at the midpoint and inelastic at the bottom.

Q19 **D** Both curves shift right, but demand shifts much further, and roses take months to grow so supply cannot expand freely within the week.

Q20 **C** When supply shifts, the market reaches its new equilibrium through a movement along the unchanged demand curve. A complete answer identifies both.