Demand, supply, equilibrium and elasticity

Edexcel IGCSE Economics 4EC1 sections 1.1.3-1.1.4 full package

Topic 2 at a glance

> Two curves meet at a price; elasticity measures how far quantities respond.

- 4EC1 spec sections 1.1.3 and 1.1.4.
- One shared model: $Q_d = 140 - 2P$, $Q_s = 20 + 4P$.

Moving along or shifting

> Own price: a movement along. Anything else: a shift.

- Demand: willing AND able to buy, at each price.
- Never "demand rises" when only the price fell.

What shifts demand

Change	Demand for this good
income or advertising up	shifts right
fashion and tastes towards it	shifts right
price of a substitute up	shifts right
price of a complement up	shifts left
demographic change	either way

What shifts supply

Costs, technology, taxes, subsidies and nature shift supply.

- Supply: willing AND able to sell, at each price.
- Natural factors: disasters and weather.

Finding the equilibrium

1. **Set equal** $140 - 2P = 20 + 4P$
2. **Solve** $120 = 6P$, so $P^* = 20$
3. **Quantity** $Q^* = 140 - 2 \times 20 = 100$

Decision

Equilibrium: P = 20, Q = 100 items a day.

Shortage and surplus

> Below equilibrium a shortage; above it a surplus.

- Shortage bids the price up; surplus pushes it down.
- Market forces return the market to equilibrium.

When demand rises

Demand up: equilibrium price and quantity both rise.

- Supply rising: quantity up, price down.
- Both shifting: one variable is indeterminate.

Price elasticity of demand

1. **Price** $20 \to 22$: $+10\%$
2. **Quantity** $100 \to 96$: -4%
3. **PED** $-4 \div 10 = -0.4$

Decision

PED $= -0.4$: demand is price inelastic.

Reading a PED value

PED	Demand is	Curve
0	perfectly inelastic	vertical
0 to -1	inelastic	steep
-1	unitary	
beyond -1	elastic	flatter
infinite	perfectly elastic	horizontal

The total revenue test

> A price rise that raises revenue proves demand is inelastic.

- $TR = P \times Q$.
- Price up and TR up: demand is inelastic.

Price elasticity of supply

1. **Price** $20 \to 24$: $+20\%$
2. **Quantity** $100 \to 116$: $+16\%$
3. **PES** $16 \div 20 = +0.8$

Decision

PES $= +0.8$: supply is price inelastic.

Manufactured or primary?

Manufactured: more elastic

stocks held

spare capacity

quick retooling

Primary: less elastic

growing periods

perishable

fixed land

Income elasticity of demand

YED	The good is	As incomes rise
above 1	a luxury	demand grows faster
0 to 1	a normal necessity	demand grows slower
below 0	inferior	demand falls

Data response: the cocoa harvest

A poor harvest shifts supply left: price up, quantity down.

- Rain, drought and disease in Côte d'Ivoire and Ghana.
- Cocoa above \$10,000 a tonne in 2024, about 4×.

Data response: PED and revenue

1. **Changes** price $+20\%$; sales $500{,}000 \to 450{,}000$, -10%
2. **PED** $-10 \div 20 = -0.5$
3. **Revenue** $500{,}000 \to 540{,}000$ dollars a week

Decision

PED -0.5: inelastic, so revenue rises by 40,000 dollars a week.

Data response: raise the price again?

For	Against
PED -0.5: revenue rises	PED may not stay -0.5
bean costs are high	buyers switch to other snacks
rivals face the same costs	a smaller bar instead

Check yourself

Question	**Answer**
Price of a complement rises?	demand shifts left
Excess demand at P = 12?	116 − 68 = 48
Price up, revenue up: PED?	inelastic
YED below 0?	inferior good