Demand, supply and policy

IB DP Economics HL Unit 2 sections 2.1-2.7 full package

One market, one model

> Every number in this topic comes from one diagram.

- Demand and supply cross at $P = 20$, $Q = 100$.
- Taxes, subsidies and price caps move it.

Demand: move or shift?

> Own price moves along; anything else shifts.

- Law of demand: diminishing marginal utility.
- Shifts: income, related prices, tastes.

Real consumers

> The rational consumer is a simplification.

- Bounded rationality, herding, framing.
- Behavioural economics supplies the evidence.

Supply and its shifts

> Costs, technology, taxes, subsidies.

- Higher price, more profitable, more supplied.
- Producers may satisfice, not maximise.

Shortage and surplus

> Away from equilibrium, the price corrects itself.

- At 12: demand 116, supply 68, shortage 48.
- At 25: supply 120, demand 90, surplus 30.

Consumer and producer surplus

Social surplus is largest at equilibrium.

- **Consumer surplus**: 2,500.
- **Producer surplus**: 1,200.

Price elasticity of demand

A 10% rise cut quantity by 4%: inelastic.

- PED $= \%\Delta Qd \div \%\Delta P$.
- $-4\% \div +10\% = -0.4$.

The total revenue test

Inelastic: raise the price, revenue rises.

- 2,000 $\rightarrow$ 2,112 when price rises to 22.
- Revenue peaks at 2,450 where PED is 1.

What makes demand elastic?

Substitutes, necessity, income share, time.

- A straight line is elastic at high prices.
- And inelastic at low prices.

Elasticity of supply

Commodities: inelastic both ways, so prices swing.

- $20 \to 24$ moves supply $100 \to 116$: PES $+0.8$.
- Spare capacity, stocks, mobility, time.

Income and cross elasticity

YED sorts goods; XED links them.

- YED: normal $+$, inferior $-$, luxury above 1.
- XED: substitutes $+$, complements $-$.

An indirect tax of 6

Consumers pay 4 more; producers keep 2 less.

- New price 24, quantity 92.
- Tax revenue: $6 \times 92 = 552$.

A subsidy of 6

The tax in reverse.

- Price falls to 16, quantity rises to 108.
- Cost: $6 \times 108 = 648$.

Price ceilings and floors

> A cap causes a shortage; a floor, a surplus.

- **Maximum price** 16: shortage of 24.
- **Minimum price** 24: surplus of 24.

Worked: a rise to 25

Inelastic demand: a higher price raises revenue.

- Quantity 100 $\to$ 90: -10%; price $+25\%$.
- Revenue 2,000 $\to$ 2,250.

India bans rice exports

A supply shock to a staple food.

- July 2023: about 40% of world exports.
- Price index up almost 10% in a month.

PED for rice: -0.16

A staple: people keep buying.

- Price 0.80 $\to$ 1.00: $+25\%$.
- Bought 50 $\to$ 48: -4%.

A cap at 85 cents

A shortage of 5.5 thousand tonnes a month.

- Supplied 44; wanted 49.5.
- Queues, rationing, black markets.

Evaluate the cap

> Protect the poor without killing supply.

- Cap: cheap for some, nothing for others.
- Better: targeted transfers, **buffer stock**.

Check yourself

Can you do each of these?

- Shifts, equilibrium, surplus, elasticity.
- Tax, **subsidy**, price controls, data response.