Information and market power

IB DP Economics HL 2.10 asymmetric information and 2.11 market power, with the market structures

Why market power matters

> A firm can give orders only when buyers and sellers have few other choices.

- HL market failures: **asymmetric information** (2.10) and market power (2.11).
- Market power needs the four **market structures**.

Before and after the contract

Adverse selection comes before the contract; **moral hazard** after it.

- **Asymmetric information**: one side of a deal knows more.
- Some good trades do not happen; some bad ones do.

The market for lemons

> At one average price, the good products leave the market.

- Buyers cannot tell good used cars from bad ones.
- Insurance works the same way: the riskiest buy most.

Responses and their limits

Response	Example	Limit
screening	health checks, credit scores	costs money
signalling	a **warranty**, qualifications	can be faked
regulation	labels, licences	needs trusted inspectors
contract design	an excess, no-claims discount	some risk stays

Marginal revenue from demand

For a straight-line demand curve, MR is twice as steep: $\text{MR} = 70 - \text{Q}$.

- AR is the price, so the AR curve is the demand curve.
- MR falls: to sell one more, the firm cuts the price on all units.

The profit rule: MR = MC

Output Q	Price P	TR	Change in TR
20	60	1,200	
40	50	2,000	+800
60	40	2,400	+400
80	30	2,400	0

Profit and efficiency tests

Test	Condition	Meaning
abnormal profit	P above ATC	more than normal
normal profit	P = ATC	just keeps the owner
loss	P below ATC	owners may leave
allocative	P = MC	the right amount made
productive	lowest ATC	nothing wasted

Perfect competition

> Each firm is a **price-taker**: $P = AR = MR$.

- No single firm can change the market price.
- The benchmark for judging the other structures.

From abnormal to normal profit

Entry pushes the price from 36 down to the lowest ATC, 24.

- MC $= 4 + 2q$ and ATC $= 100/q + 4 + q$ for one firm.
- Entry continues until profit is normal.

Why perfect competition is efficient

1. **Short run** $P = 36$: $q = 16$, ATC 26.25, profit 156 a day
2. **Entry** no barriers, so supply shifts right and P falls
3. **Long run** $P = 24 =$ lowest ATC $=$ MC at $q = 10$

Decision

Allocatively ($P = MC$) and productively (lowest ATC) efficient.

Monopoly and barriers to entry

> No barriers, no lasting **monopoly**.

- One firm, no close **substitutes**: a **price-maker**.
- Its power lasts only while barriers keep rivals out.

The monopoly diagram

$Q = 40$, $P = 50$, ATC $= 42.5$: profit $(50 - 42.5) \times 40 = 300$ a day.

- $MR = 70 - Q$ and $MC = 10 + Q/2$ meet at $Q = 40$.
- The price comes from the demand curve: $70 - 40/2 = 50$.

Monopoly against competition

Consumers lose 400 to the firm; 200 of welfare is lost.

- Competition: P = MC at Q = 60, P = 40.
- **Monopoly**: 20 fewer units at a price 10 higher.

The case for large firms

Against

Price above MC; output below the lowest-ATC 60.

X-inefficiency: costs drift up without rivals.

For

Economies of scale can make even the **monopoly** price low.

Profit pays for R&D: dynamic efficiency.

Regulating a natural monopoly

Rule	**Output**	**Price**	**Result**
unregulated	60	40	**abnormal profit** 800
P = MC	120	10	efficient; **loss** of 1,000
P = AC	100	20	**normal profit**, no subsidy

Monopolistic competition

1. **Short run** d: $P = 44 - q$. MR = MC at $q = 10$, $P = 34$, ATC 24: profit 100
2. **Entry** new shops take customers, so each demand curve shifts left
3. **Long run** d touches ATC at $q = 8$: $P = ATC = 24.5$, **normal profit**

Decision

P 24.5 is above MC 20, and 8 is below the cost-minimising 10: **excess capacity**.

Oligopoly: a game

> Low is each airline's **dominant strategy**, so both end on 12, not 20.

- A few large firms, high barriers, **interdependence**.
- A payoff matrix shows each firm's profit for each pair of choices.

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Collusion or competition

> Price cuts are copied fast, so most oligopolies compete without price.

- The prisoner's dilemma: the reward for cooperating, the temptation to cheat.
- Cartels tend to break down as members exceed their quotas.

Measuring concentration

CR4 $= 40 + 25 + 15 + 10 = 90\%$: highly concentrated.

- A **concentration ratio** adds the largest firms' shares.
- It ignores imports and how firms behave.

Comparing the market structures

> Fewer firms and higher barriers mean more power over price.

- **Perfect competition** is the efficient benchmark.
- **Oligopoly** is usually inefficient, depending on behaviour.

Government responses

Response	Example	Cost
competition law	ban cartels, block **mergers**	needs evidence
regulation	price caps on water	firm hides true costs
nationalisation	state-owned grid	**X-inefficiency**
trade liberalisation	let foreign firms in	local jobs at risk

Check yourself

Perfect competition: 36 falls to 24, the lowest ATC

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Monopoly: 40 at 50, profit 300, **deadweight loss** 200

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Natural monopoly: P = AC at 100 and 20

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Oligopoly: Nash (12, 12) against collusion (20, 20)