ANGELFISH ECONOMICS

1.1 Scarcity, choice and opportunity cost

CIE 9708 AS Economics (demo)

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Syllabus requirements

1.1.1 fundamental economic problem of scarcity
1.1.2 need to make choices at all levels (individuals, firms, governments)
1.1.3 nature and definition of opportunity cost, arising from choices
1.1.4 basic questions of resource allocation
• what to produce
• how to produce
• for whom to produce

1.1.1 The Fundamental Economic Problem of Scarcity

Scarcity: when available resources are insufficient to satisfy all wants and needs.

The fundamental economic problem: unlimited wants exceed limited/scarce resources, requiring choices to be made about resource allocation.

Scarcity arises because **human wants are unlimited** while **resources are finite**. It is the central problem faced by all societies, regardless of wealth or level of development.

Key distinctions:

- **Needs** — things necessary for survival, such as food, water, shelter
- **Wants** — desires beyond basic needs, such as luxury cars, holidays, the latest technology
- **Economic agents** — individuals (consumers), firms, and governments — all face scarcity

Scarcity is permanent and universal — it applies to all societies at all times, not just poor countries. A billionaire still faces scarcity: resources are finite even when purchasing power is high, and there are only 24 hours in a day.

Scarcity ≠ shortage (≠). Scarcity is a **permanent, universal** condition (wants always exceed resources). A shortage is a **temporary, market-specific** situation where quantity demanded exceeds quantity supplied at a given price — it can be resolved through price adjustment or increased supply.

1.1.2 The Need to Make Choices

Because of scarcity, all economic agents must make **choices** about how to allocate scarce resources among competing uses.

> **Choice** (▓▓): the need to decide between different alternatives due to scarcity of resources.

Economic agent	Examples of choices
Individuals / Households (▓▓/▓▓)	How to spend income; work vs leisure; save vs spend; which goods to buy
Firms / Producers (▓▓/▓▓▓)	What to produce; which production method; how many workers to hire; how much to invest
Governments (▓▓)	Healthcare vs defence vs education spending; which taxes to impose; whether to intervene in markets

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Logic chain:

Unlimited wants+ Limited resources= Scarcity → Choice → Opportunity cost

Every choice involves a **trade-off** (▓▓▓▓) — gaining something means giving up something else.

1.1.3 Nature and Definition of Opportunity Cost

> **Opportunity cost** (▓▓▓▓): the next best alternative forgone when making a choice; the value of the benefit that could have been gained from the next best alternative.

This is one of the most frequently tested definitions across all CIE 9708 papers.

Key features:

1. It is the **next best** alternative — not all alternatives. If you choose A over B and C, the opportunity cost is whichever of B or C was the next most valued option, not both.
2. It is **not necessarily measured in money**. Opportunity cost includes time, enjoyment, and any other benefit sacrificed.
3. It applies to **all economic decisions** — by individuals, firms, and governments.

Examples at each level:

Level	Decision	Opportunity cost
Individual	A student studies economics instead of watching a film	The enjoyment from the film
Firm	A company invests $1m in new machinery	The return from the next best use of that $1m (e.g. staff training, bank interest)
Government	An additional $500m allocated to military spending	The hospitals or schools that could have been built

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Common exam mistakes:

- Defining opportunity cost as "what you give up" without specifying **"next best"** — the key word is next best, not all alternatives
- Listing **multiple** forgone alternatives as the opportunity cost — only the **single** next best alternative counts
- Measuring opportunity cost only in **monetary** terms — it includes time, pleasure, and any other benefit
- Confusing a **trade-off** with opportunity cost — a trade-off is the act of giving something up; opportunity cost is the value of the specific next best alternative forgone

The production possibility curve (PPC, see 1.5) provides a graphical illustration: moving along the curve, producing more of one good requires producing less of the other — the reduction is the opportunity cost.

Exam tip — how to answer "Explain the opportunity cost of..." [4 marks]:
Step 1: **Define** opportunity cost (next best alternative forgone)
Step 2: **Identify** what is being chosen (the action or decision)
Step 3: **Identify** the next best alternative (what was given up)
Step 4: **Explain** the benefit sacrificed (what value/utility was lost by not choosing the alternative)

1.1.4 Basic Questions of Resource Allocation

Because of scarcity, every society must answer three fundamental questions:

1. What to produce? (▮▮▮▮▮)

Which goods and services should be produced, and in what quantities? Should the economy prioritise consumer goods or capital goods? More healthcare or more military equipment?

- **2. How to produce?** (▮▮▮▮▮)

What combination of factors of production should be used? Should production be **labour-intensive** (▮▮▮▮▮) or **capital-intensive** (▮▮▮▮▮)? This relates to **productive efficiency** — producing output at the lowest possible cost.

> ! "How to produce" is not purely an economic question — moral and social considerations may also apply (e.g. using cheap child labour may be cost-efficient but ethically unacceptable).

- **3. For whom to produce?** (▮▮▮▮▮)

How should the output be distributed? Based on ability to pay (market mechanism), need (government allocation), or some other criteria? This relates to **equity** (▮▮) and the distribution of income and wealth.

Different economic systems answer these questions differently:

(How different economic systems answer these questions is analysed in detail in 1.4.)

- **The margin and decision-making**

How do rational agents make the choices described above? By **thinking at the margin**.

The margin (▮▮): economists assume that rational agents make decisions by comparing the **marginal** (additional) benefit and **marginal** cost of each extra unit. This "thinking at the margin" is a Key concept that runs through the entire syllabus — from consumer choices (marginal utility, 7.1) to firm decisions (marginal cost/revenue, 7.5) to policy evaluation (marginal social benefit vs marginal social cost, 7.3).

Example 1 — study time: a student with 3 hours of study time should allocate each **additional** hour to the subject where the extra marks gained are highest. If the 3rd hour of Economics study yields fewer marks than 1 hour of Maths revision, the rational choice is to switch — because the **marginal** benefit of Economics has fallen below that of Maths.

Example 2 — everyday life: should I eat one more slice of pizza? Compare the marginal benefit (enjoyment of an extra slice) with the marginal cost (feeling too full, extra calories). If MB > MC, eat it. If MC > MB, stop. This is marginal thinking applied to a simple decision.

Cross-references

- 1.3 Factors of production — the four scarce resources (land, labour, capital, enterprise) that give rise to the economic problem

- 1.4 Resource allocation in different economic systems — how market, planned, and mixed economies answer the three basic questions
- 1.5 Production possibility curves — graphical illustration of scarcity, choice, and opportunity cost

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Exam-style thinking questions

1. Distinguish between scarcity and shortage. [2]
2. Explain, with examples, why the concept of opportunity cost is relevant to individuals, firms, and governments. [8]
3. A government decides to spend an additional $2 billion on defence. Explain the opportunity cost of this decision. [4]
4. A student gives up a part-time job paying $100/week to attend university. The next best alternative to university was travelling, which would have cost $200. What is the opportunity cost of attending university? [1]
   A. $100
   B. $200
   C. $300
   D. The part-time job and its earnings

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