

Cambridge IGCSE

Chuyên luyện thi IELTS/SAT → AP / IB / A-levels



Cambridge IGCSE Economics

Giáo trình luyện thi chuyên sâu

Song ngữ Anh-Việt

8020 ENGLISH

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ĐỘI NGŨ GIÁO VIÊN TẬN TÂM

*Tối thiểu 1500 SAT Overall

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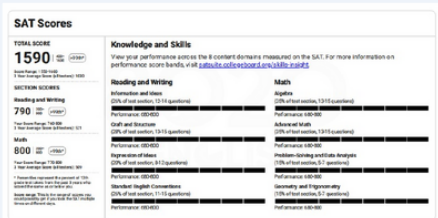
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SAT 1590

IELTS 8.0



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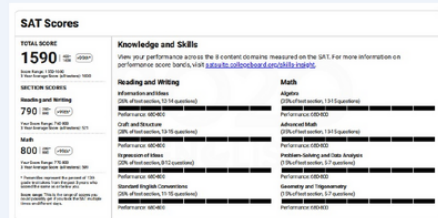
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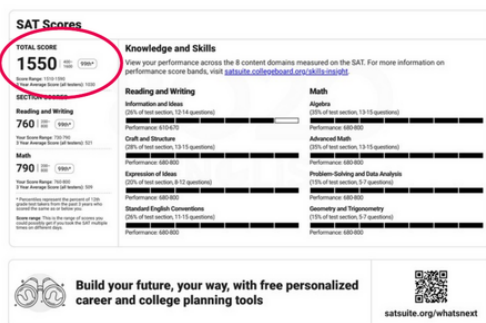
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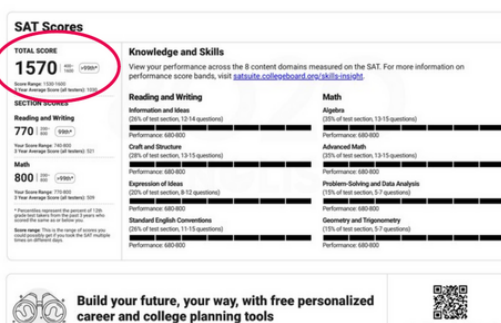


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SAT

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Bảng vàng học viên



Bé Khanh Đăng

SAT Bút phá + Năng cao Cam kết 140++ => Kết quả 1510



Bé Phan Nguyễn Thảo Nguyễn

SAT Năng cao



Bé Lê Tâm Anh

SAT Bút phá + Năng cao Cam kết 140++ => Bút phá kết quả 1530

KHÁNH ĐĂNG – SAT 1510

“SAT Bút phá + Năng cao cam kết 140++ → 1510”

THẢO NGUYỄN – SAT 1520

“SAT Năng cao → 1520”

TÂM ANH – SAT 1530

“SAT Bút phá + Năng cao cam kết 140++ → 1530”

Bảng vàng SAT – Học viên đạt 1510 · 1520 · 1530

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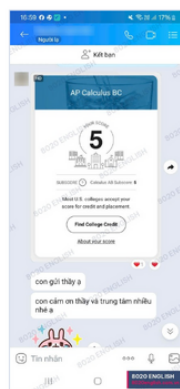
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AP Calculus AB: 5



AP Calculus BC: 5



AP Chemistry: 5

Bảng điểm AP thật của học viên – nhiều môn đạt điểm 4 & 5

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Mục lục • Contents

1	The Basic Economic Problem	7
1.1	The Nature of the Economic Problem	7
1.2	Opportunity Cost	9
1.3	Factors of Production	12
1.4	Division of Labour and Specialisation	16
1.5	The Production Possibility Curve	17
1.6	Economic Systems	23
1.7	Synthesis: From Scarcity to Economic Systems	26
1.8	Problem Bank	27
2	The Allocation of Resources	36
2.1	The Price Mechanism: Allocating Scarce Resources	36
2.2	Demand	37
2.3	Supply	40
2.4	Market Equilibrium	43
2.5	Price Elasticity of Demand	46
2.6	Income Elasticity of Demand (YED)	49
2.7	Cross Elasticity of Demand (XED)	50
2.8	Price Elasticity of Supply (PES)	51
2.9	Market Failure	52
2.10	Price Controls	58
2.11	Practice and Exam-Style Questions	62
3	Microeconomic Decision Makers	72
3.1	Money and Banking	72
3.2	Households as Consumers	76
3.3	Workers as Suppliers of Labour	78
3.4	Firms: Legal Structure and Objectives	83
3.5	Firms: Costs, Revenue, and Profit	85
3.6	Economies of Scale and Growth of Firms	87
3.7	Market Structure: Perfect Competition and Monopoly	91
3.8	The Circular Flow of Income	94
3.9	Practice	95
4	Government and the Macroeconomy	105
4.1	Aggregate Demand, Aggregate Supply and the Tools of Policy	105
4.2	The Five Macroeconomic Aims	106
4.3	Economic Growth and the Business Cycle	108
4.4	Fiscal Policy	111
4.5	Monetary Policy	116
4.6	Supply-Side Policy	118
4.7	Comparing Fiscal, Monetary and Supply-Side Policy	120
4.8	Inflation	121
4.9	Unemployment	125

4.10 Combining and Conflicting Policies	128
5 Economic Development	139
5.1 Economic Growth versus Economic Development	139
5.2 Measuring Living Standards and Development	140
5.3 Poverty	146
5.4 Population	150
5.5 LEDCs, MEDCs, and Strategies for Development	155
5.6 Sustainable Development	164
5.7 Practice Bank	164
6 International Trade and Globalisation	178
6.1 The Case for Specialisation and Trade	178
6.2 Exchange Rates	184
6.3 Trade Barriers and the Case for Free Trade	190
6.4 The Balance of Payments	196
6.5 Globalisation	200
6.6 Practice and Exam-Style Questions	204

The Basic Economic Problem

Mục tiêu Unit: Phân biệt nhu cầu (needs) và mong muốn (wants); hiểu vấn đề kinh tế cơ bản — nguồn lực khan hiếm (đất đai, lao động, vốn, doanh nhân) trong khi mong muốn của con người là vô hạn; tính **chi phí cơ hội** (opportunity cost) cho người tiêu dùng, người lao động, doanh nghiệp và chính phủ; phân biệt bốn yếu tố sản xuất và phần thưởng tương ứng (rent, wages, interest, profit); hiểu chuyên môn hoá và phân công lao động; vẽ và phân tích **đường giới hạn khả năng sản xuất** (PPC) — điểm trên/trong/ngoài đường cong, di chuyển dọc đường cong (chi phí cơ hội tăng dần) và dịch chuyển toàn bộ đường cong (tăng trưởng kinh tế); so sánh ba hệ thống kinh tế: thị trường, kế hoạch hoá tập trung, và hỗn hợp.

1.1 The Nature of the Economic Problem

1.1.1 Needs and wants

A **need** is something essential for survival — food, water, shelter, clothing, and basic healthcare. A **want** is something people would like to have but which is not essential for survival — a second pair of trainers, a smartphone upgrade, a holiday abroad. In everyday speech people use “need” loosely (“I need a new phone”), but in economics the distinction matters: needs are finite and relatively fixed for any individual, while wants are effectively unlimited — as soon as one want is satisfied, another tends to appear, and no society has ever run out of things its members would like to consume.

This is the starting point of economics as a discipline: human wants, taken together, are **unlimited**, but the resources available to satisfy them are **limited (scarce)**. This mismatch between unlimited wants and limited resources is called **scarcity**, and it is scarcity — not poverty in any one country — that creates the economic problem faced by every individual, firm, and government on earth, rich or poor.

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Nhu cầu (needs) là những thứ thiết yếu để tồn tại (thức ăn, nước uống, chỗ ở, quần áo, chăm sóc y tế cơ bản), trong khi **mong muốn (wants)** là những thứ con người muốn có nhưng không thiết yếu cho sự sống còn (điện thoại đời mới, du lịch, quần áo hàng hiệu). Nhu cầu có giới hạn, nhưng mong muốn của con người là **vô hạn** — thoả mãn mong muốn này thì mong muốn khác lại xuất hiện. Sự chênh lệch giữa mong muốn vô hạn và nguồn lực có hạn chính là **sự khan hiếm (scarcity)** — gốc rễ của mọi vấn đề kinh tế, ở bất kỳ quốc gia nào, giàu hay nghèo.

Examples of needs	Examples of wants
Clean drinking water	A branded soft drink
Basic nutritious food	A restaurant meal at a luxury venue
Simple, weatherproof shelter	A larger house with a swimming pool
Emergency and essential healthcare	Cosmetic (non-essential) medical treatment

1.1.2 Scarcity in every economy, rich or poor

It is tempting to think scarcity is only a problem for poorer countries, but this is incorrect. Even the wealthiest economy in the world cannot produce enough of everything to satisfy every want

of every citizen simultaneously — its government still cannot fund unlimited healthcare, unlimited defence spending, and unlimited environmental protection all at once, and its richest citizens still face a finite number of hours in each day. Scarcity is therefore **universal and relative**: it describes resources being insufficient relative to wants, not an absolute shortage of goods in a physical sense.

[Khái niệm cốt lõi] Scarcity does not mean "extreme poverty." A resource is economically scarce whenever the quantity demanded of it, at a zero price, would exceed the quantity freely available — true of clean air in a polluted city, of prime city-centre land in a wealthy capital, and of a top surgeon's time in the best-funded hospital, just as much as it is true of food in a famine.

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Khan hiếm **không đồng nghĩa với nghèo đói**. Ngay cả nền kinh tế giàu nhất cũng không thể sản xuất đủ mọi thứ để thoả mãn mọi mong muốn cùng lúc — chính phủ giàu nhất vẫn phải lựa chọn giữa các khoản chi tiêu, người giàu nhất vẫn chỉ có 24 giờ mỗi ngày. Khan hiếm là khái niệm **tương đối**: nguồn lực khan hiếm khi lượng cầu ở mức giá bằng không vượt quá lượng cung sẵn có — đúng với cả không khí sạch, đất đai trung tâm thành phố, hay thời gian của bác sĩ giỏi nhất.

1.1.3 Scarcity and the central economic questions

Because resources are scarce relative to the demands placed upon them, every society — regardless of its economic system — must find some way of answering three fundamental questions. This is known as **the basic economic problem**.

[Khái niệm cốt lõi] **The basic economic problem**: unlimited wants but limited (scarce) resources force every economy to decide:

- **What** to produce, and in what quantities — which goods and services should be made with the scarce resources available?
- **How** to produce it — which combination of land, labour, capital, and enterprise, and which techniques, should be used?
- **For whom** to produce it — how should the output be distributed among the members of society?

Different economic systems (studied later in this chapter) are, at heart, simply different institutional mechanisms for answering these same three questions — through the price mechanism of a market, through the directives of a central planning authority, or through some combination of both in a mixed economy.

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Vì nguồn lực khan hiếm so với nhu cầu, mọi nền kinh tế — dù theo hệ thống nào — đều phải trả lời **ba câu hỏi kinh tế cơ bản**: sản xuất **cái gì (what)**, sản xuất **như thế nào (how)**, và sản xuất **cho ai (for whom)**. Các hệ thống kinh tế khác nhau (thị trường, kế hoạch hoá, hỗn hợp) chỉ là những cách thức thể chế khác nhau để trả lời cùng ba câu hỏi này.

1.1.4 Renewable and non-renewable resources

Natural resources — one component of the factor of production called **land** (Section 1.3) — can be divided into two categories that matter enormously for long-run economic decision-making.

- **Renewable resources** can be replenished naturally within a relatively short period, provided they are not exploited faster than they regenerate: forests (if replanted), fish stocks (if not overfished), fresh water, solar energy, and wind energy are all renewable.

- **Non-renewable resources** exist in a fixed physical stock and, once used, cannot be replaced within a human timescale: crude oil, coal, natural gas, and metal ores (iron, copper, bauxite) are all non-renewable.

The renewable/non-renewable distinction reinforces why scarcity is not simply a short-run inconvenience: even resources that appear abundant today (fish stocks, forests) can become genuinely scarce if used unsustainably, while non-renewable resources are, by definition, permanently diminishing in total available quantity as they are extracted and consumed.

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Tài nguyên thiên nhiên chia thành **tài nguyên tái tạo được (renewable)** – có thể phục hồi tự nhiên nếu không khai thác quá mức (rừng, thủy sản, năng lượng mặt trời, năng lượng gió) – và **tài nguyên không tái tạo được (non-renewable)** – tồn tại với trữ lượng cố định, khai thác đến đâu mất đến đó, không thể phục hồi trong thời gian của một đời người (dầu mỏ, than đá, khí đốt, quặng kim loại). Ngay cả tài nguyên tưởng như dồi dào cũng có thể trở nên khan hiếm nếu khai thác không bền vững.

1.1.5 Scarcity forces choice at every level

Scarcity is not an abstract idea confined to textbooks – it forces every economic actor, at every level, to make choices continuously.

Scarcity forces choice

- **Consumers** have limited income and limited time, so they must choose which goods and services to buy and which to forgo.
- **Workers** have a limited number of hours in a day, so they must choose how to divide their time between paid work, leisure, and other activities, and which occupation to pursue.
- **Firms** have limited factors of production (land, labour, capital, finance), so they must choose what to produce, how much, and using which production methods.
- **Governments** have limited tax revenue and limited resources under their control, so they must choose how to allocate spending between competing priorities such as healthcare, education, defence, and infrastructure.

Every one of these choices, made under conditions of scarcity, involves giving something up – which brings us to the single most important concept in this chapter: opportunity cost.

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Sự khan hiếm buộc **mọi cấp độ** của nền kinh tế phải lựa chọn: **người tiêu dùng** với thu nhập giới hạn phải chọn mua gì; **người lao động** với quỹ thời gian giới hạn phải chọn làm việc hay nghỉ ngơi, làm nghề gì; **doanh nghiệp** với nguồn lực giới hạn phải chọn sản xuất gì, sản xuất như thế nào; **chính phủ** với ngân sách giới hạn phải chọn phân bổ chi tiêu cho lĩnh vực nào. Mọi lựa chọn dưới điều kiện khan hiếm đều phải đánh đổi (trade-off) – đây chính là nền tảng dẫn tới khái niệm **chi phí cơ hội**.

1.2 Opportunity Cost

1.2.1 Defining opportunity cost

Opportunity cost is the value of the next best alternative that is given up (sacrificed) when a choice is made. It is essential to understand precisely what this definition does – and does not – mean.

[Khái niệm cốt lõi] Opportunity cost is **not** simply "what a choice costs" in the everyday sense of a price paid. It is specifically the value of the **single next best alternative** that had to be sacrificed. If a consumer has three options ranked in order of preference — Option 1 (chosen), Option 2, Option 3 — the opportunity cost of choosing Option 1 is Option 2 alone, *not* Option 3, and *not* the sum of Options 2 and 3. Resources (time, money, land) can typically only be applied to one alternative use at a time, so only the alternative that would otherwise have been chosen is truly forgone.

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Chi phí cơ hội (opportunity cost) là giá trị của **phương án tốt nhất tiếp theo** bị từ bỏ khi ta đưa ra một lựa chọn — **không phải** là "giá tiền phải trả" theo nghĩa thông thường. Nếu có 3 lựa chọn được xếp hạng theo mức độ ưa thích, chi phí cơ hội của việc chọn phương án số 1 chỉ là phương án số 2 (phương án tốt nhất tiếp theo), **không phải** là phương án số 3, và cũng không phải là tổng của cả hai phương án còn lại.

1.2.2 Opportunity cost for the consumer

Consumers face opportunity cost whenever their income (or time) cannot stretch to cover every good they might like to buy.

Ví dụ mẫu · Worked example — a consumer's opportunity cost

Mai has \$60 in spending money. She is considering three uses for it, ranked in order of preference: (1) a new video game, \$60; (2) a pair of running shoes, \$60; (3) putting the \$60 into her savings account. Mai buys the video game. What is her opportunity cost?

Mai's opportunity cost is **not** the \$60 she paid — that is simply the price of the game. Her opportunity cost is the value of her **next best alternative**: the running shoes she gave up buying. Saving the money was only her third preference, so it is not counted as the opportunity cost at all — she would not have chosen to save instead of buying the game.

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Chi phí cơ hội của Mai **không phải** là \$60 cô đã trả cho trò chơi điện tử — đó chỉ là **giá tiền (price)**. Chi phí cơ hội chính là **đôi giày thể thao** — phương án tốt nhất tiếp theo mà cô đã từ bỏ. Việc gửi tiết kiệm chỉ xếp thứ ba nên không được tính là chi phí cơ hội.

1.2.3 Opportunity cost for the worker

Workers face an opportunity cost whenever they allocate a fixed number of hours to one activity rather than another.

Ví dụ mẫu · Worked example — a worker's overtime decision

Duc can work 5 hours of overtime at his factory job, paid at \$22.50 per hour, giving total overtime pay of $5 \times \$22.50 = \112.50 . Alternatively, he could spend those same 5 hours giving private tutoring lessons at \$18 per hour, giving $5 \times \$18 = \90 . He chooses to work the overtime shift. What is his opportunity cost?

Duc's opportunity cost of working overtime is the \$90 he could have earned tutoring — his next best alternative use of those 5 hours. Because $\$112.50 > \90 , working overtime is also the financially better choice for Duc in this case (a net benefit of $\$112.50 - \$90 = \$22.50$), but the opportunity cost itself is still measured as the full \$90 forgone, not the net gain.

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Chi phí cơ hội của Duc khi chọn tăng ca là **\$90** – số tiền anh có thể kiếm được nếu dạy kèm thay vì tăng ca – **không phải** là phần chênh lệch (\$22.50). Chi phí cơ hội luôn được đo bằng toàn bộ giá trị của phương án bị từ bỏ, dù lựa chọn cuối cùng vẫn có lợi hơn.

1.2.4 Opportunity cost for the firm

Firms with limited factory capacity, labour, and finance must choose which product line to expand, incurring the opportunity cost of the output not produced.

Ví dụ mẫu · Worked example – a firm's product-line decision

A furniture manufacturer's factory has enough capacity, for one month, to produce *either* 200 wooden tables (profit of \$40 per table) *or* 500 wooden chairs (profit of \$15 per chair), but not both at the same time, since both use the same workers and machinery. Total possible profit from tables: $200 \times \$40 = \$8,000$. Total possible profit from chairs: $500 \times \$15 = \$7,500$. The firm chooses to produce tables. What is the opportunity cost of this decision?

The firm's opportunity cost of producing tables is the **\$7,500** of profit it forgoes by not producing chairs instead – its next best alternative use of the same factory capacity.

GIẢI THÍCH TIẾNG VIỆT

VN

Nhà máy chỉ có đủ năng lực sản xuất **một trong hai** mặt hàng trong tháng: bàn gỗ (lợi nhuận \$8,000) hoặc ghế gỗ (lợi nhuận \$7,500). Khi chọn sản xuất bàn, chi phí cơ hội của doanh nghiệp là **\$7,500** lợi nhuận từ ghế bị bỏ lỡ – đây là phương án tốt nhất tiếp theo mà doanh nghiệp đã từ bỏ.

1.2.5 Opportunity cost for the government

Governments face opportunity cost when allocating a limited budget between competing areas of public spending.

Ví dụ mẫu · Worked example – a government's budget trade-off

A government has \$2 billion of new budget available this year. It could use the entire budget to build 10 new hospitals (at \$200 million each, so $10 \times \$200 \text{ million} = \2 billion), or to purchase 4 new fighter jet squadrons for national defence (at \$500 million each, so $4 \times \$500 \text{ million} = \2 billion). Both options cost exactly the same total budget, so the government cannot do both with this \$2 billion. It chooses the fighter jet squadrons. What is the opportunity cost?

The opportunity cost of the government's decision is the 10 **hospitals** that will not be built – the healthcare capacity forgone by choosing defence spending instead. This illustrates that opportunity cost for a government is very often non-monetary in its ultimate effect (fewer hospital beds, longer waiting times) even though the initial budget figures are expressed in money.

GIẢI THÍCH TIẾNG VIỆT

VN

Với ngân sách \$2 tỷ, chính phủ chỉ có thể chọn **một trong hai**: xây 10 bệnh viện mới **hoặc** mua 4 phi đội máy bay chiến đấu – cả hai phương án đều tốn đúng \$2 tỷ. Khi chọn quốc phòng, chi phí cơ hội là 10 **bệnh viện** không được xây – hậu quả thực tế của chi phí cơ hội đối với chính phủ thường không chỉ là con số tiền tệ mà còn là dịch vụ công bị mất đi.

Decision-maker	Choice made	Opportunity cost (next best alternative)
Consumer (Mai)	Buy a \$60 video game	The pair of running shoes not bought
Worker (Duc)	Work 5 hours of overtime	\$90 of forgone tutoring income
Firm (furniture maker)	Produce 200 tables	\$7,500 of forgone profit from chairs
Government	Fund 4 fighter squadrons	10 hospitals not built

Opportunity cost applies everywhere

Opportunity cost is not a narrow technical trick confined to exam questions — it applies to essentially every deliberate decision made under scarcity: a household's monthly budget, a student's choice of subjects to study, a firm's choice of which market to enter, a bank's choice of which loan applications to approve, and a government's entire annual budget, all involve weighing a chosen option against its single best alternative.

(!) Lỗi thường gặp: Học sinh thường nhầm "cost" (giá tiền / chi phí bằng tiền) với "opportunity cost" (chi phí cơ hội). Giá tiền chỉ là số tiền phải trả cho lựa chọn đã chọn; chi phí cơ hội là giá trị của phương án tốt nhất tiếp theo *bị từ bỏ* — hai khái niệm hoàn toàn khác nhau và không nên dùng thay thế cho nhau trong bài thi. Ngoài ra, chi phí cơ hội **chỉ** tính phương án tốt nhất tiếp theo, không cộng dồn tất cả các phương án bị từ chối khác.

1.3 Factors of Production

Every good and service is produced by combining four categories of resource, known as the **factors of production**. Each factor earns a distinct type of income (its "reward") in return for its contribution to output.

1.3.1 Land

In economics, **land** refers not only to the physical surface of the earth used for building or farming, but to **all natural resources** used in production: agricultural soil, forests, rivers and oceans, mineral deposits, oil and gas reserves, and even the electromagnetic spectrum used for telecommunications. As discussed in Section 1.1, these natural resources may be renewable (fish stocks, timber, solar and wind energy) or non-renewable (oil, coal, metal ores). The reward earned by the owners of land for allowing its use in production is **rent**.

- **Agricultural land** — soil used for growing crops or raising livestock.
- **Mineral resources** — metal ores, coal, and other deposits extracted through mining.
- **Energy resources** — oil and gas reserves, and renewable sources such as sunlight, wind, and flowing water.
- **Marine and forest resources** — fish stocks, timber, and other resources drawn from oceans and forests.

GIẢI THÍCH TIẾNG VIỆT

VN

Đất đai (land) trong kinh tế học không chỉ là mặt đất mà là **toàn bộ tài nguyên thiên nhiên** dùng trong sản xuất: đất nông nghiệp, khoáng sản, năng lượng (dầu khí, năng lượng tái tạo), tài nguyên biển và rừng. Phần thưởng cho chủ sở hữu đất đai là **tiền thuê (rent)**.

1.3.2 Labour

Labour is the physical and mental human effort used in production. Two dimensions of labour matter for an economy's productive capacity:

- **Size of the workforce** — determined by total population, the proportion of the population of working age, the labour force participation rate, the retirement age, and net immigration/emigration.
- **Quality of the workforce** — determined by the level of education, vocational training, skills, experience, and health of workers, all of which affect labour **productivity** (output per worker).

Two further concepts describe how easily labour can be reallocated between uses: **occupational mobility** is the ease with which workers can switch between different types of jobs or industries (limited by the specific qualifications, training, or licenses a job requires); **geographical mobility** is the ease with which workers can move between different locations to take up work (limited by family and social ties, the cost of relocating, and differences in housing costs between regions). Low occupational or geographical mobility is a major reason why unemployment can persist in one region or industry even while unfilled vacancies exist elsewhere. The reward earned by labour is **wages** (or salaries).

GIẢI THÍCH TIẾNG VIỆT

VN

Lao động (labour) được đánh giá qua **quy mô lực lượng lao động** (dân số, tỷ lệ tham gia lao động, tuổi nghỉ hưu, di cư) và **chất lượng lao động** (trình độ học vấn, đào tạo, kỹ năng, sức khỏe — quyết định năng suất lao động). **Tính linh động nghề nghiệp (occupational mobility)** là khả năng chuyển đổi giữa các loại công việc khác nhau; **tính linh động địa lý (geographical mobility)** là khả năng di chuyển giữa các vùng để tìm việc. Tính linh động thấp là lý do chính khiến thất nghiệp vẫn tồn tại ở một vùng/ngành dù nơi khác đang thiếu lao động. Phần thưởng cho lao động là **tiền lương (wages)**.

1.3.3 Capital

Capital is a man-made (produced) resource used to produce further goods and services — it is not a natural resource like land, and it is not simply money. Machinery, tools, factory buildings, vehicles, and computer equipment are all examples of **capital goods**. Capital is usefully divided into two types:

- **Fixed capital** — capital goods used repeatedly over a long period without being physically used up in a single act of production, e.g. a factory building, an assembly-line robot, or a delivery van.
- **Working (circulating) capital** — stocks of raw materials, part-finished goods, and finished-goods inventory that are used up or sold within a single production cycle, e.g. the flour held by a bakery or the unsold loaves of bread awaiting sale.

The reward earned by those who supply capital (through their own savings or through lending) is **interest**.

GIẢI THÍCH TIẾNG VIỆT

VN

Vốn (capital) là nguồn lực **do con người tạo ra** để sản xuất ra hàng hoá/dịch vụ khác — không phải tài nguyên thiên nhiên và **không phải là tiền**. **Vốn cố định (fixed capital)** được sử dụng lặp lại nhiều lần (nhà xưởng, máy móc, xe tải); **vốn lưu động (working capital)** là nguyên vật liệu và hàng tồn kho bị tiêu thụ/bán trong một chu kỳ sản xuất (bột mì, bánh mì chưa bán). Phần thưởng cho vốn là **tiền lãi (interest)**.

(!) Lỗi thường gặp: Một lỗi rất phổ biến: nhầm **vốn (capital)** — yếu tố sản xuất, tức là máy móc/nhà xưởng/công cụ do con người tạo ra để sản xuất thêm hàng hoá — với **"vốn bằng tiền" (money capital)**, tức là tiền mặt, tiền tiết kiệm, hay cổ phiếu. Tiền chỉ là **phương tiện** để

mua các loại vốn thực (máy móc, nhà xưởng); bản thân tiền mặt không trực tiếp sản xuất ra bất kỳ hàng hoá nào, nên tiền không phải là một yếu tố sản xuất.

1.3.4 Enterprise

Enterprise is the factor of production supplied by the **entrepreneur** — the individual who organises the other three factors of production (land, labour, capital) into a functioning business, and who bears the financial risk of the venture.

Functions of the entrepreneur

- **Risk-bearing:** the entrepreneur commits their own money (or borrowed money) to the business with no guarantee that it will be repaid or generate a return; if the business fails, the entrepreneur — not the workers or the landlord — absorbs the loss.
- **Organising and combining the other factors:** deciding what to produce, how much land, labour, and capital to employ, and coordinating them into an efficient production process.

The reward earned by the entrepreneur is **profit** — the residual amount left over after all other costs (rent, wages, interest) have been paid. Unlike rent, wages, and interest, profit is not guaranteed: it can be very large in a successful year, very small, or even negative (a **loss**) if the business does not generate enough revenue to cover its costs.

[Khái niệm cốt lõi] Rent, wages, and interest are all **contractual** payments, fixed in advance regardless of whether the business ultimately succeeds — a landlord, a worker, and a lender must all be paid what was agreed even if the firm makes no profit at all. Profit alone is **residual and uncertain**: it is whatever remains (if anything) after every other factor has already been paid, which is precisely why bearing this risk is treated as a distinct factor of production in its own right.

GIẢI THÍCH TIẾNG VIỆT

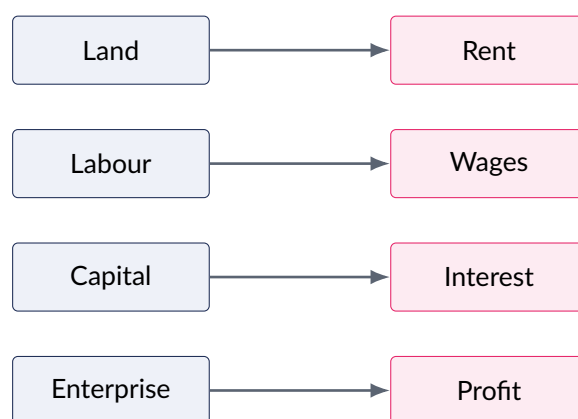
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Doanh nhân (enterprise) thực hiện hai chức năng: **chịu rủi ro** (bỏ vốn ra kinh doanh mà không được đảm bảo có lãi, và là người gánh chịu thua lỗ nếu doanh nghiệp thất bại) và **tổ chức, kết hợp** ba yếu tố sản xuất còn lại (đất đai, lao động, vốn) thành một quy trình sản xuất hiệu quả. Phần thưởng của doanh nhân là **lợi nhuận (profit)** — phần còn lại sau khi đã trả hết tiền thuê, tiền lương, tiền lãi; khác với ba phần thưởng kia, lợi nhuận **không được đảm bảo** và có thể âm (lỗ).

1.3.5 The rewards to the factors of production

The table below summarises the four factors of production and their corresponding rewards, alongside the figure that follows it.

Factor	What it is	Reward	Example
Land	All natural resources: soil, forests, water, minerals, oil and gas	Rent	A farmer's field
Labour	Human physical and mental effort in production	Wages	A factory worker
Capital	Man-made goods used to produce further goods (fixed or working)	Interest	A delivery van
Enterprise	Risk-bearing and organisation of the other three factors	Profit	A business founder



The four factors of production and the income (reward) each earns for its contribution to output.

Ví dụ mẫu · Worked example — classifying the factors of production

A small bakery rents a shopfront on the high street, owns one large industrial oven, and employs three bakers. Its founder invested her own life savings to start the business and personally decides what to bake each day, bearing full responsibility if the bakery fails. Classify each input as a factor of production and state the reward each would earn.

Shopfront (rented premises): land — natural/property resource used in production; reward = **rent**. **Industrial oven: capital** — a man-made produced good (fixed capital) used to bake further goods; reward = **interest** (on the finance used to buy it). **Three bakers: labour** — human effort in production; reward = **wages**. **Founder: enterprise** — she bears the financial risk and organises the other three factors; reward = **profit** (the residual after rent, wages, and interest are paid).

GIẢI THÍCH TIẾNG VIỆT

VN

Trong ví dụ tiệm bánh: **mặt bằng thuê** = đất đai (thường: tiền thuê); **lò nướng công nghiệp** = vốn (thường: tiền lãi); **ba thợ làm bánh** = lao động (thường: tiền lương); **người sáng lập** chịu rủi ro và tổ chức kinh doanh = doanh nhân (thường: lợi nhuận — phần còn lại sau khi trả hết tiền thuê, lương, lãi).

(!) Lỗi thường gặp: Đừng nhầm hai phần thưởng **lãi suất (interest)** và **lợi nhuận (profit)**. **Lãi suất** là phần thưởng cho **vốn** — trả cho người cung cấp tài chính để mua vốn thực (máy móc, nhà xưởng), thường có mức lãi suất tương đối cố định và được đảm bảo theo hợp đồng vay. **Lợi nhuận** là phần thưởng cho **doanh nhân** — phần còn lại sau khi đã trả tiền thuê, tiền lương, và tiền lãi; lợi nhuận **không được đảm bảo** và gắn liền với rủi ro kinh doanh, có thể rất cao hoặc thậm chí âm (lỗ). Học sinh thường gán nhầm "lợi nhuận" cho vốn và "lãi suất" cho doanh nhân.

1.3.6 Mobility and interconnection of the factors of production

Production almost always requires **combining all four factors** together — a bakery needs land (its shopfront), labour (its bakers), capital (its oven), and enterprise (its founder) simultaneously; none of the four can produce output alone. This interconnection matters for a second reason introduced earlier for labour (Section 1.3.2, occupational and geographical mobility): **land and capital can also be immobile**. A field of farmland cannot be relocated to a city where housing is in short supply; a specialised piece of machinery built to stamp car body panels cannot easily be converted to bake bread instead. The immobility of factors between alternative uses is precisely why, as Section 1.5.3 will show, the production possibility curve is normally bowed outward rather than a straight line: resources shifted from one use to another are frequently not equally productive in their new use.

Natural resource	Renewable?	Why
Fish stocks	Renewable	Reproduce naturally if not overfished
Forests (timber)	Renewable	Can be replanted and re-grown
Solar and wind energy	Renewable	Naturally replenished, effectively inexhaustible
Crude oil and natural gas	Non-renewable	Fixed underground stock, does not regenerate
Metal ores (iron, copper)	Non-renewable	Fixed physical deposits, extracted not replaced

GIẢI THÍCH TIẾNG VIỆT

VN

Sản xuất hầu như luôn cần **kết hợp cả bốn yếu tố sản xuất** cùng lúc — không yếu tố nào tự nó tạo ra sản phẩm. Ngoài lao động, **đất đai và vốn cũng có thể kém linh động**: một thửa ruộng không thể di dời đến thành phố; một máy móc chuyên dụng để dập vỏ xe hơi không thể dễ dàng chuyển sang nướng bánh mì. Chính sự kém linh động này giải thích vì sao đường PPC thường có dạng lồi ra ngoài — nguồn lực khi chuyển từ công dụng này sang công dụng khác thường không hiệu quả như nhau.

1.4 Division of Labour and Specialisation

An entire economy — not just a single factory — becomes more productive when workers, firms, regions, and even whole countries specialise in producing a narrower range of goods and services rather than each trying to be self-sufficient. **Division of labour** is the breaking down of a production process into a sequence of separate, specialised tasks, with different workers each responsible for only one stage rather than the whole process. **Specialisation** is the broader idea that a person, firm, region, or country concentrates on producing what it can produce comparatively well, relying on others for everything else.

1.4.1 Advantages of division of labour**Advantages of division of labour**

- **Higher productivity through practice:** a worker who repeats the same narrow task becomes faster and more skilled at it than someone who must perform an entire production process alone.
- **Faster and cheaper training:** it takes far less time to train a worker in one specific task than to train them in every stage of production.
- **Workers can specialise in what they do best:** different workers have different natural aptitudes; division of labour lets each person focus on the tasks suited to their particular skills.
- **Enables use of specialised machinery:** once a task is narrowly defined and repeated many times, it becomes worthwhile to design and install machinery specifically for that single task, further raising output.

GIẢI THÍCH TIẾNG VIỆT

VN

Phân công lao động (division of labour) là chia quy trình sản xuất thành nhiều công đoạn nhỏ, mỗi công nhân chỉ đảm nhận một công đoạn. Lợi ích: **năng suất tăng** nhờ luyện tập lặp lại một công việc; **đào tạo nhanh và rẻ hơn** vì chỉ cần dạy một kỹ năng hẹp; công nhân được **làm đúng sở trường**; và có thể **sử dụng máy móc chuyên dụng** cho từng công đoạn cụ thể.

1.4.2 Disadvantages of division of labour

Disadvantages of division of labour

- **Monotony:** performing the same narrow task repeatedly, day after day, can be tedious, reducing worker motivation and potentially reducing the quality of output through carelessness.
- **Over-dependence between stages:** because each worker or machine handles only one link in the chain, a breakdown, strike, or shortage at any single stage can halt the entire production process.
- **Risk of structural unemployment:** a worker who has spent years mastering one narrow task may have few transferable skills; if that task is automated or the industry declines, the worker can find it very difficult to move into a different occupation (low occupational mobility).

GIẢI THÍCH TIẾNG VIỆT

VN

Nhược điểm của phân công lao động: **đơn điệu, nhàm chán** do lặp lại một công việc hẹp; **phụ thuộc lẫn nhau** giữa các công đoạn – một khâu ngừng hoạt động (đình công, hỏng máy) có thể làm tê liệt toàn bộ dây chuyền; và nguy cơ **thất nghiệp cơ cấu (structural unemployment)** – công nhân chỉ thành thạo một kỹ năng hẹp sẽ khó chuyển sang nghề khác nếu công việc đó bị tự động hoá hay ngành đó suy thoái, do tính linh động nghề nghiệp thấp.

1.4.3 Specialisation beyond the factory

The same logic that applies to individual workers on a factory floor applies at larger scales too. Firms specialise by concentrating on a narrow range of products rather than trying to make everything they need in-house; regions within a country specialise according to their local resources and skills (a coastal region in fishing, a region with fertile soil in arable farming); and, as later chapters of this course develop in full, countries specialise and trade internationally for exactly the same reasons – to raise total output and allow each producer to concentrate on what it produces comparatively well.

Specialisation at different scales

- **Workers** specialise in a single task within a firm (division of labour).
- **Firms** specialise in a narrow range of goods or services rather than being self-sufficient.
- **Regions** specialise according to their local natural resources, climate, and accumulated skills.
- **Countries** specialise and trade internationally, a topic developed fully in a later unit of this course.

GIẢI THÍCH TIẾNG VIỆT

VN

Chuyên môn hoá không chỉ xảy ra ở cấp **người lao động** (phân công lao động) mà còn ở cấp **doanh nghiệp** (tập trung vào một nhóm sản phẩm hẹp), **vùng miền** (theo tài nguyên và kỹ năng sẵn có), và **quốc gia** (chuyên môn hoá và thương mại quốc tế – chủ đề sẽ học sâu hơn ở chương sau).

1.5 The Production Possibility Curve

The **production possibility curve** (PPC), also called the production possibility frontier, is a graphical model that shows the **maximum** combinations of two goods (or two categories of goods) that an

economy can produce, given its currently available resources and technology.

1.5.1 Definition and assumptions

[Khái niệm cốt lõi] The PPC is built on three simplifying assumptions:

- Only **two goods** (or two categories of goods, e.g. "consumer goods" and "capital goods") are considered at a time.
- The **quantity and quality of factors of production** available to the economy are fixed over the period being considered.
- The **state of technology** is fixed over the period being considered.

Total resources are fixed, but they can be **reallocated** between the production of the two goods.

GIẢI THÍCH TIẾNG VIỆT

VN

Đường giới hạn khả năng sản xuất (PPC) thể hiện các tổ hợp **tối đa** của hai loại hàng hoá mà một nền kinh tế có thể sản xuất với nguồn lực và công nghệ hiện có. Ba giả định: chỉ xét **hai hàng hoá**; **số lượng và chất lượng yếu tố sản xuất cố định**; **công nghệ cố định**. Tổng nguồn lực cố định nhưng có thể **tái phân bổ** giữa hai loại hàng hoá.

Real economies, of course, produce far more than two goods, and their resources and technology are constantly changing. The two-good, fixed-resource simplification is deliberate: it lets scarcity, choice, and opportunity cost be shown clearly on a single two-dimensional diagram, without the model becoming unreadable. Once the underlying ideas are understood for two goods, they generalise naturally to an economy producing millions of different goods and services simultaneously.

Why economists use the PPC model

- Illustrates scarcity directly: any point outside the curve is simply impossible with today's resources.
- Makes opportunity cost visible and measurable as the slope of the curve between two points.
- Distinguishes clearly between using existing resources better (movements toward the curve) and genuine economic growth (outward shifts of the curve).
- Provides a simple visual basis for comparing how efficiently, and in what direction, different economies are developing over time.

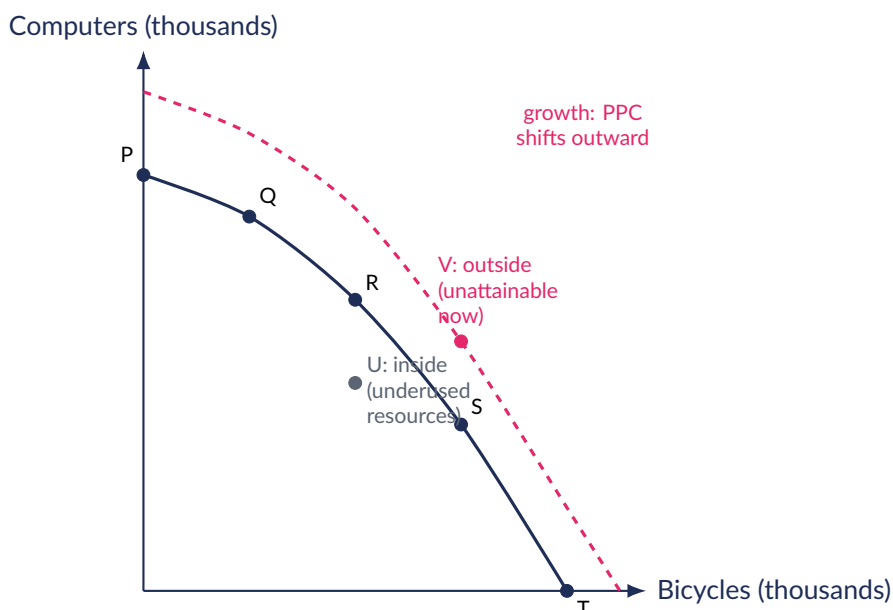
GIẢI THÍCH TIẾNG VIỆT

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Mô hình PPC chỉ xét **hai hàng hoá** và giữ nguồn lực/công nghệ **cố định** — đây là sự đơn giản hoá có chủ đích để thể hiện rõ ràng khái niệm khan hiếm, lựa chọn, và chi phí cơ hội trên một đồ thị hai chiều duy nhất. Mô hình giúp: (1) minh hoạ trực tiếp sự khan hiếm; (2) đo lường chi phí cơ hội qua độ dốc đường cong; (3) phân biệt việc sử dụng nguồn lực hiệu quả hơn (tiến về phía đường cong) với tăng trưởng kinh tế thực sự (dịch chuyển đường cong ra ngoài).

1.5.2 Points on, inside, and outside the curve

Consider a hypothetical economy that can produce only Bicycles and Computers.



The production possibility curve for Bicycles and Computers. Points P, Q, R, S, T lie **on** the curve (productively efficient, all resources fully and efficiently employed); U lies **inside** the curve (resources unemployed or underused – still attainable but wasteful); V lies **outside** the curve (unattainable with current resources and technology). The dashed curve shows an outward shift caused by economic growth.

Points **on** the curve (P, Q, R, S, T) are **productively efficient**: all available resources are fully and efficiently employed, and producing more of one good is only possible by producing less of the other. A point **inside** the curve, such as U, is attainable but represents **underused resources** – unemployed workers, idle factories, or resources used inefficiently; the economy could produce more of *both* goods simply by putting these resources to work, with no need to sacrifice anything. A point **outside** the curve, such as V, is **currently unattainable**: the economy simply does not have enough resources or sufficiently advanced technology to produce that combination – though it may become attainable in the future if the whole curve shifts outward (Section 1.5.4).

GIẢI THÍCH TIẾNG VIỆT

VN

Các điểm **trên đường cong** (P, Q, R, S, T) là các điểm **hiệu quả sản xuất** – mọi nguồn lực được sử dụng đầy đủ và hiệu quả. Điểm **bên trong** đường cong (U) vẫn khả thi nhưng thể hiện **nguồn lực chưa được sử dụng hết** (thất nghiệp, nhà máy nhàn rỗi) – nền kinh tế có thể sản xuất nhiều hơn *cả hai* hàng hoá mà không cần đánh đổi gì. Điểm **bên ngoài** đường cong (V) là **không thể đạt được** với nguồn lực và công nghệ hiện tại.

1.5.3 Movements along the curve: the law of increasing opportunity cost

Moving from one point to another *along* the same PPC represents a **reallocation** of the economy's existing (fixed) resources from one good to the other – it always involves an opportunity cost, since producing more of one good is only possible by producing less of the other.

Ví dụ mẫu · Worked example – reading opportunity cost from the PPC (1)

Using the Bicycles/Computers PPC above, the economy moves from point Q (20,000 bicycles, 90,000 computers) to point R (40,000 bicycles, 70,000 computers). Calculate the opportunity cost of this increase in bicycle output.

Change in bicycles: $40,000 - 20,000 = 20,000$ (an increase). Change in computers: $70,000 - 90,000 = -20,000$ (a decrease). Opportunity cost of the additional bicycles =

$$\frac{20,000 \text{ computers forgone}}{20,000 \text{ extra bicycles}} = 1 \text{ computer per bicycle.}$$

Ví dụ mẫu · Worked example – reading opportunity cost from the PPC (2): increasing opportunity cost

Calculate the opportunity cost of *each* successive 20,000-unit increase in bicycle output along the same curve: P→Q, Q→R, R→S, S→T.

P→Q: computers fall from 100,000 to 90,000 (−10,000) for +20,000 bicycles: $OC = 10,000/20,000 = 0.5$ computers per bicycle.

Q→R: computers fall from 90,000 to 70,000 (−20,000) for +20,000 bicycles: $OC = 20,000/20,000 = 1.0$.

R→S: computers fall from 70,000 to 40,000 (−30,000) for +20,000 bicycles: $OC = 30,000/20,000 = 1.5$.

S→T: computers fall from 40,000 to 0 (−40,000) for +20,000 bicycles: $OC = 40,000/20,000 = 2.0$.

The opportunity cost rises steadily – $0.5 \rightarrow 1.0 \rightarrow 1.5 \rightarrow 2.0$ computers per bicycle – as bicycle output increases. This is the **law of increasing opportunity cost**, and it is the reason the PPC is normally bowed outward (concave) rather than a straight line.

GIẢI THÍCH TIẾNG VIỆT

VN

Di chuyển **đọc theo** đường PPC (từ Q sang R, ví dụ) nghĩa là **tái phân bổ nguồn lực cố định** giữa hai hàng hoá – luôn có chi phí cơ hội. Ở ví dụ trên, chi phí cơ hội tăng dần $0.5 \rightarrow 1.0 \rightarrow 1.5 \rightarrow 2.0$ máy tính cho mỗi xe đạp khi sản lượng xe đạp tăng – đây là **quy luật chi phí cơ hội tăng dần**, lý do khiến PPC thường có dạng lõm ra ngoài (concave) thay vì là đường thẳng.

Why does opportunity cost rise like this? Most factors of production are **not equally suited** to producing both goods – some resources (specialised computer-assembly machinery, engineers skilled in electronics) are highly productive at making computers but comparatively poor at making bicycles, and vice versa (metalworking tools, welders skilled in frame assembly). As bicycle output expands, the economy must draw in progressively less-suitable resources away from computer production; each extra bicycle then costs more and more computers in forgone output, bowing the curve outward from the origin.

GIẢI THÍCH TIẾNG VIỆT

VN

Nguyên nhân chi phí cơ hội tăng dần: hầu hết nguồn lực **không phù hợp như nhau** với cả hai loại hàng hoá – một số nguồn lực rất hiệu quả khi sản xuất máy tính nhưng kém hiệu quả khi sản xuất xe đạp (và ngược lại). Khi sản lượng xe đạp tăng, nền kinh tế buộc phải chuyển những nguồn lực ngày càng kém phù hợp hơn sang sản xuất xe đạp, khiến mỗi đơn vị xe đạp tăng thêm "tốn" ngày càng nhiều máy tính bị từ bỏ – đây chính là lý do đường PPC có dạng **lõm ra ngoài (bowed outward)**.

1.5.4 Shifts of the whole curve: economic growth and decline

A **shift** of the entire PPC is fundamentally different from a movement along it: a shift means the economy's total productive capacity has changed, so that more (or less) of *both* goods can now be produced.

Causes of PPC shifts

Outward shift (economic growth) – an increase in the *quantity* of resources (population and labour force growth, new capital investment, discovery of new natural resources) or an increase in the *quality/productivity* of resources (improved education and training, technological progress, more efficient organisation of production).

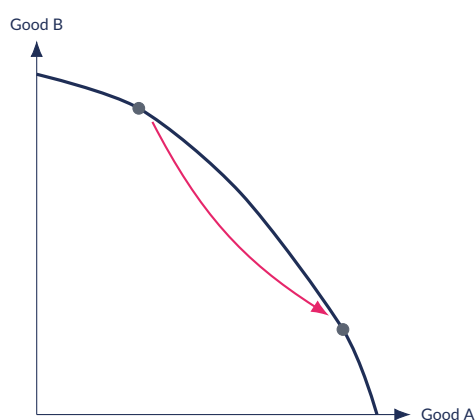
Inward shift (economic decline) – war damage or destruction of capital and infrastructure, natural disasters (earthquakes, floods) destroying land or capital, depletion of non-renewable natural resources, or net emigration of the workforce.

GIẢI THÍCH TIẾNG VIỆT

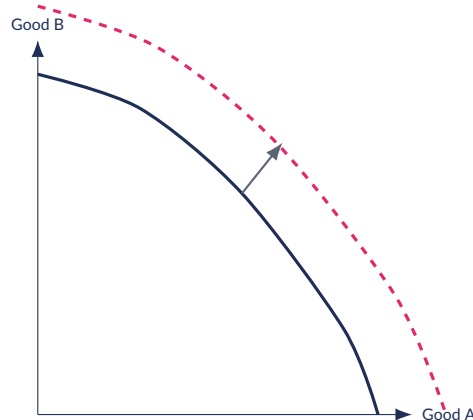
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(!) Lỗi thường gặp: Đừng nhầm **di chuyển dọc theo đường PPC (movement along)** với **dịch chuyển toàn bộ đường PPC (shift)**. Di chuyển dọc đường cong chỉ là **tái phân bổ nguồn lực hiện có** giữa hai hàng hoá (tổng năng lực sản xuất không đổi, luôn có chi phí cơ hội – phải từ bỏ một phần hàng hoá này để có thêm hàng hoá kia). Dịch chuyển toàn bộ đường cong nghĩa là **tổng năng lực sản xuất đã thay đổi** (do thay đổi số lượng/chất lượng nguồn lực hoặc công nghệ) – cho phép sản xuất nhiều hơn (hoặc ít hơn) **cả hai** hàng hoá cùng lúc, không đơn thuần là đánh đổi.

	Movement along the curve	Shift of the curve
Cause	Reallocating existing resources between the two goods	Change in the quantity or quality of resources, or in technology
Total capacity	Unchanged	Increases (outward) or decreases (inward)
Opportunity cost	Always incurred	Not directly relevant; more (or less) of both goods possible



Movement along the curve:
reallocating existing resources



Shift of the whole curve:
more/better resources or technology

Left: a movement along a fixed PPC reallocates existing resources between two goods and always carries an opportunity cost. Right: a shift of the whole PPC changes what the economy is capable of producing at every combination of the two goods.

1.5.5 The special case of a straight-line PPC: constant opportunity cost

A PPC does not always have to be concave. If the resources used in an economy are **equally well suited** to producing either good — so that transferring a unit of any resource from one good to the other always yields the same fixed amount of the second good, regardless of how much is already being produced — then the PPC is a **straight line**, and opportunity cost is **constant** rather than increasing.



A straight-line PPC: each additional 10 units of Good X always costs exactly 15 units of Good Y (constant opportunity cost = 1.5), because resources are equally well suited to producing either good — unlike the bowed-outward curve of Section 1.5.2.

Ví dụ mẫu · Worked example — constant opportunity cost on a linear PPC

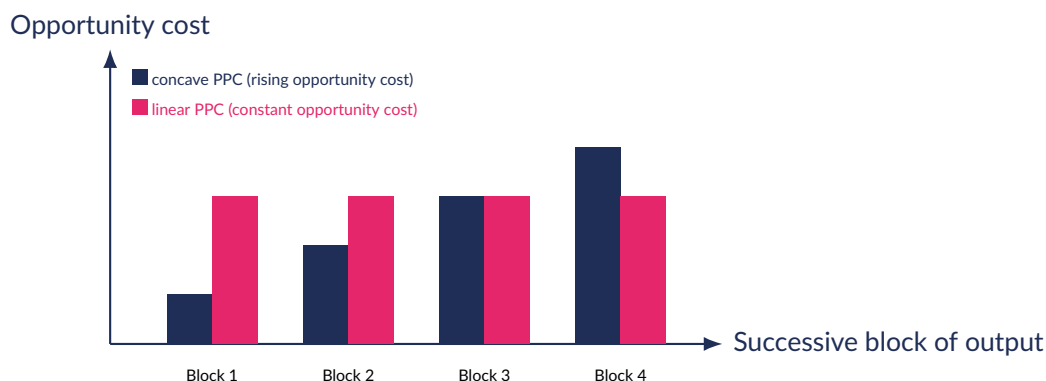
Using the linear PPC above, with points $(0, 75)$, $(10, 60)$, $(20, 45)$, $(30, 30)$, $(40, 15)$, $(50, 0)$, calculate the opportunity cost of each successive 10-unit increase in Good X.

Every step reduces Good Y by exactly 15 units: $75 \rightarrow 60$, $60 \rightarrow 45$, $45 \rightarrow 30$, $30 \rightarrow 15$, $15 \rightarrow 0$ — each a fall of 15. Opportunity cost of each 10-unit increase in Good X = $15/10 = 1.5$ units of Good Y, in **every** interval. Unlike the Bicycles/Computers example (where opportunity cost rose $0.5 \rightarrow 1.0 \rightarrow 1.5 \rightarrow 2.0$), here it is **constant** at 1.5 throughout, because resources can be transferred between the two goods with no loss of productivity at the margin.

GIẢI THÍCH TIẾNG VIỆT

VN

Nếu nguồn lực **phù hợp như nhau** với cả hai hàng hoá, đường PPC là **đường thẳng** và chi phí cơ hội **không đổi** — mỗi 10 đơn vị Good X tăng thêm luôn "tốn" đúng 15 đơn vị Good Y ($OC = 1.5$ không đổi), khác với trường hợp lỗi ra ngoài ở trên (nơi chi phí cơ hội tăng dần).



Opportunity cost of each successive equal-sized block of output on the two PPCs already examined: on the concave Bicycles/Computers PPC (Section 1.5.3), opportunity cost rises $0.5 \rightarrow 1.0 \rightarrow 1.5 \rightarrow 2.0$ computers per bicycle across four equal blocks of bicycle output; on the linear Good X/Y PPC (Section 1.5.5), opportunity cost stays constant at 1.5 throughout.

Ví dụ mẫu · Worked example — identify and explain: a farmer's land reallocation

A farmer owns 100 acres, currently split between wheat and soybeans. Wheat earns \$300 revenue per acre; soybeans currently earn \$350 revenue per acre after a recent rise in soybean prices. The farmer reallocates 20 acres from wheat to soybeans, keeping her total 100 acres unchanged. Identify what kind of change this represents on a wheat/soybean PPC, and calculate the opportunity cost of the switch.

Because her total land (100 acres) has not changed — she has only reallocated an existing, fixed resource between two uses — this is a **movement along** the PPC, *not* a shift of the curve. Revenue gained from the extra soybean acres: $20 \times \$350 = \$7,000$. Revenue forgone from the wheat no longer grown on those acres (the opportunity cost): $20 \times \$300 = \$6,000$. Net benefit of the switch: $\$7,000 - \$6,000 = \$1,000$. The opportunity cost of the switch is the **\$6,000** of wheat revenue given up — even though the switch is worthwhile overall, the opportunity cost is still measured as the full value of the alternative forgone, not the net gain.

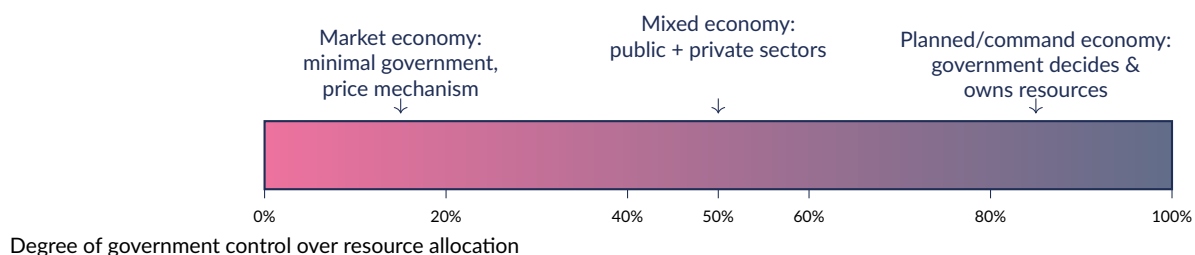
GIẢI THÍCH TIẾNG VIỆT

VN

Nông dân chuyển 20 mẫu đất từ lúa mì sang đậu nành nhưng **tổng diện tích đất không đổi** (100 mẫu) — đây là **di chuyển dọc theo PPC**, không phải dịch chuyển đường cong. Chi phí cơ hội của việc chuyển đổi là **\$6,000** doanh thu lúa mì bị mất, dù lợi ích ròng vẫn dương (\$1,000) vì đậu nành hiện có giá trị cao hơn.

1.6 Economic Systems

The three central questions of Section 1.1 — what, how, and for whom to produce — must be answered by every economy. The mechanism used to answer them defines a country's **economic system**. Real-world economies differ mainly in the *degree* to which resource-allocation decisions are made through free markets versus through government direction.



The spectrum of economic systems, classified by the degree of government control over resource allocation: from 0% (a pure market economy) to 100% (a pure planned/command economy), with mixed economies occupying every point in between.

GIẢI THÍCH TIẾNG VIỆT

VN

Ba hệ thống kinh tế nằm trên một **quang phổ (spectrum)** theo mức độ can thiệp của chính phủ vào phân bổ nguồn lực: từ 0% (thị trường tự do hoàn toàn) đến 100% (kế hoạch hoá tập trung hoàn toàn), với nền kinh tế hỗn hợp nằm ở giữa.

1.6.1 The market economy

In a **market economy**, resource allocation decisions are made almost entirely by individual consumers and firms interacting through free markets, with minimal government intervention. Prices, set by the interaction of supply and demand (the **price mechanism**), answer all three central questions: **what** to produce is signalled by which goods consumers are willing to pay for; **how** to produce is decided by firms competing to minimise costs; **for whom** is decided by who is willing and able to pay the market price.

Market economy: advantages and disadvantages

Advantages: **consumer sovereignty** – production responds directly to what consumers actually demand; an efficient, decentralised allocation of resources without the need for a central authority to gather information; strong **incentives** for firms to cut costs, innovate, and improve quality in order to win customers and profit.

Disadvantages: can generate significant **inequality**, since goods go to those who can pay rather than those who need them most; markets tend to **under-provide** goods that are not very profitable to sell privately even though they benefit society (public and merit goods); markets take no automatic account of **externalities** – costs or benefits that fall on third parties outside the transaction.

GIẢI THÍCH TIẾNG VIỆT

VN

Kinh tế thị trường (market economy): phân bổ nguồn lực gần như hoàn toàn qua **cơ chế giá** cả do cung cầu quyết định, chính phủ can thiệp tối thiểu. Ưu điểm: **chủ quyền người tiêu dùng**, phân bổ nguồn lực hiệu quả, tạo động lực đổi mới/cắt giảm chi phí. Nhược điểm: có thể gây **bất bình đẳng lớn**, **thiếu hụt cung cấp** hàng hoá công/hàng hoá thiết yếu ít lợi nhuận, và không tự động tính đến **ngoại tác (externalities)**.

1.6.2 The planned (command) economy

In a **planned (or command) economy**, the government owns the factors of production and makes the central decisions about what, how, and for whom to produce, typically through a central planning authority rather than through market prices.

Planned economy: advantages and disadvantages

Advantages: the government can direct resources deliberately toward **social priorities** (equity of provision, strategic industries) regardless of whether they would be profitable in a free market; can avoid the **wasteful duplication** of resources that sometimes occurs when many competing private firms all produce similar goods.

Disadvantages: without market prices to signal relative scarcity and consumer preference, planners can easily **misallocate** resources, producing too much of goods nobody wants and too little of goods that are needed; the absence of a **profit incentive** for individual enterprises

can lead to inefficiency and little pressure to innovate or cut costs; central planning of an entire economy requires a very large administrative **bureaucracy**, itself costly and slow to respond to changing conditions.

GIẢI THÍCH TIẾNG VIỆT

VN

Kinh tế kế hoạch hoá tập trung (planned/command economy): chính phủ sở hữu yếu tố sản xuất và ra quyết định trung tâm về sản xuất cái gì, như thế nào, cho ai. Ưu điểm: có thể ưu tiên **công bằng xã hội** và tránh **trùng lặp lãng phí** nguồn lực. Nhược điểm: thiếu **tín hiệu giá** cả dẫn đến phân bổ sai nguồn lực, thiếu **động lực lợi nhuận** gây kém hiệu quả, và bộ máy **quan liêu** cồng kềnh, phản ứng chậm.

1.6.3 The mixed economy and the role of government

In practice, no real-world economy sits at either extreme of the spectrum. A **mixed economy** combines a **private sector** (households and firms making decisions through markets) with a **public sector** (government providing certain goods and services, and regulating economic activity), with the precise balance between the two varying by degree from country to country. Even within a single mixed economy, government typically plays several distinct roles:

- **Providing public goods** — goods and services that private markets tend to under-supply because they are difficult to sell profitably to individual buyers (e.g. national defence, street lighting).
- **Regulating markets** — setting rules to promote fair competition and protect consumers.
- **Redistributing income** — using taxation and welfare payments to reduce inequality between richer and poorer members of society.
- **Correcting market failure** — intervening where free markets alone would produce an inefficient or undesirable outcome.

These four roles are introduced here only in outline; each is examined in far greater depth later in this course, once the tools of demand, supply, and market failure have been developed.

Typically private-sector responsibility	Typically public-sector responsibility
Manufacturing consumer goods (clothing, food)	National defence
Retail and hospitality services	Street lighting and basic road infrastructure
Most agricultural production	State-funded schooling (in many countries)

GIẢI THÍCH TIẾNG VIỆT

VN

Kinh tế hỗn hợp (mixed economy) kết hợp **khu vực tư nhân** (thị trường) và **khu vực công** (chính phủ), với mức độ can thiệp khác nhau tùy quốc gia. Vai trò của chính phủ trong nền kinh tế hỗn hợp gồm: **cung cấp hàng hoá công, điều tiết thị trường, tái phân phối thu nhập, và khắc phục thất bại thị trường** — các vai trò này sẽ được tìm hiểu sâu hơn ở các chương sau.

1.6.4 Comparing the three systems at a glance

Feature	Market economy	Mixed economy	Planned economy
Ownership of resources	Mostly private	Private and state, in varying proportions	Mostly state
Who decides what/how/for whom	Prices, via consumers and firms	Combination of prices and government decisions	Central planning authority
Role of the price mechanism	Central, drives all allocation	Important but modified by government policy	Minimal or absent
Main advantage	Efficient, responsive to consumer demand	Balances efficiency with some social protection	Can prioritise equity and strategic goals
Main disadvantage	Inequality; under-provision of public goods	Can inherit weaknesses of both systems	Misallocation without price signals; bureaucracy

Ví dụ mẫu · Worked example — comparing economic systems

Consider two hypothetical economies deciding how a new smartphone model will be produced and distributed. In Economy A, private manufacturers decide how many phones to produce based on consumer demand, compete with each other on price and features, and sell to whoever is willing to pay the market price. In Economy B, a central planning committee decides the total quantity of phones to manufacture and allocates them to regions by administrative rule, not by price. Identify each economic system, and give one advantage and one disadvantage of each in this context.

Economy A is a market economy. Advantage: production responds quickly to actual consumer demand, and competition can improve quality and lower price. Disadvantage: households unable to afford the market price may be excluded even if they have a genuine need for a phone.

Economy B is a planned (command) economy. Advantage: the planning committee can guarantee a more equal distribution of phones across regions regardless of income. Disadvantage: without price signals reflecting actual consumer demand, the committee may set production far above or below what people actually want, causing shortages in some regions and unwanted surpluses in others.

GIẢI THÍCH TIẾNG VIỆT

VN

Kinh tế A (tư nhân quyết định sản lượng theo nhu cầu, cạnh tranh giá) là **kinh tế thị trường**: ưu điểm đáp ứng nhanh nhu cầu, nhược điểm loại trừ người không đủ khả năng chi trả. Kinh tế B (ủy ban trung ương quyết định sản lượng và phân phối theo quy định hành chính) là **kinh tế kế hoạch hoá**: ưu điểm phân phối công bằng hơn theo vùng, nhược điểm dễ sai lệch cung-cầu do thiếu tín hiệu giá.

1.7 Synthesis: From Scarcity to Economic Systems

The four building blocks of this chapter connect into a single logical chain that underlies the whole of economics. **Scarcity** — unlimited wants confronting limited resources — forces **choice** at every level of decision-making, from the individual consumer to the national government. Every choice made under scarcity carries an **opportunity cost**: the value of the next best alternative given up. The **production possibility curve** is simply a graphical model of this same scarcity-choice-opportunity cost relationship, applied to an entire economy producing two goods: it shows the maximum combina-

tions available (scarcity), the trade-off involved in producing more of one good (choice and opportunity cost, visible as movements along the curve), and the possibility of producing more of everything through growth (shifts of the curve). Finally, different **economic systems** – market, planned, and mixed – are simply different institutional answers to the same underlying problem of scarcity: they differ in *who* makes the what/how/for-whom decisions (individual consumers and firms through prices, or government through central planning) and therefore in how the available (scarce) resources ultimately end up allocated among competing uses.

[Khái niệm cốt lõi]

- **Scarcity:** unlimited wants confront limited resources (land, labour, capital, enterprise).
- **Choice:** scarcity forces every consumer, worker, firm, and government to choose.
- **Opportunity cost:** every choice sacrifices the single next best alternative.
- **The PPC:** models scarcity, choice, and opportunity cost graphically for a whole economy producing two goods.
- **Economic systems:** market, planned, and mixed systems are different institutional mechanisms for deciding how scarce resources are actually allocated.

GIẢI THÍCH TIẾNG VIỆT

VN

Bốn khái niệm của chương này nối thành một chuỗi lô-gíc: **Khan hiếm** (mong muốn vô hạn, nguồn lực hữu hạn) buộc phải **lựa chọn**; mọi lựa chọn đều có **chi phí cơ hội**; **đường PPC** là mô hình đồ thị hoá mối quan hệ khan hiếm–lựa chọn–chi phí cơ hội cho cả nền kinh tế; và các **hệ thống kinh tế** (thị trường, kế hoạch hoá, hỗn hợp) chỉ là những cách thức thể chế khác nhau để quyết định nguồn lực khan hiếm đó cuối cùng được phân bổ như thế nào.

1.8 Problem Bank

Bài tập luyện tập

The basic economic problem arises because:

- | | |
|---|-----------------------------------|
| (A) Governments spend too much money | (C) Firms want to maximise profit |
| (B) Unlimited wants confront limited (scarce) resources | (D) Prices tend to rise over time |

Lời giải chi tiết

The basic economic problem is the mismatch between unlimited human wants and the limited resources available to satisfy them, forcing every society to decide what, how, and for whom to produce. **(B)**.

Bài tập luyện tập

Which of the following is best described as a *want* rather than a *need*?

- | | |
|---|---------------------------------|
| (A) Clean drinking water | (C) Basic shelter |
| (B) A second, more expensive smartphone | (D) Emergency medical treatment |

Lời giải chi tiết

A need is essential for survival (water, shelter, emergency healthcare); an additional, more expensive phone is not essential and is therefore a want. **(B)**.

Bài tập luyện tập

Define *opportunity cost*, and explain why it is not simply "the price paid" for a good.

Lời giải chi tiết

Opportunity cost is the value of the **next best alternative** forgone when a choice is made. It is not the price paid because the price is only the monetary amount handed over for the chosen option; opportunity cost instead measures what was *sacrificed* – the next best alternative that could have been chosen instead – which may not even be measured in money (e.g. leisure time, another good entirely).

Bài tập luyện tập

A student has 3 free hours before an exam. She could either work a part-time retail shift earning \$12 per hour, or use the time to revise for the exam. She chooses to revise. Calculate her opportunity cost of revising, in dollar terms.

Lời giải chi tiết

Opportunity cost = 3 hours × \$12/hour = **\$36** – the retail wages she forgoes by choosing to revise instead of working those 3 hours.

Bài tập luyện tập

Which of the following is *not* one of the four factors of production?

(A) Land

(C) Labour

(B) Money

(D) Enterprise

Lời giải chi tiết

Money is not itself a factor of production – it is only a means of purchasing the real factors of production (e.g. using money to buy machinery, which is capital). The four factors are land, labour, capital, and enterprise. **(B)**.

Bài tập luyện tập

A delivery company owns a fleet of vans, rents a warehouse plot on the edge of town, and employs 40 drivers. Its founder invested his own savings to start the company and personally organises its operations, bearing the risk if it fails. Classify each of these four inputs as a factor of production.

Lời giải chi tiết

Fleet of vans: capital (a man-made, produced resource, fixed capital, used repeatedly). **Warehouse plot: land** (a natural/property resource). **40 drivers: labour** (human effort). **Founder:**

enterprise (bears risk and organises the other three factors).

Bài tập luyện tập

The reward earned by the owner of a natural resource such as agricultural land is called:

- | | |
|--------------|------------|
| (A) Wages | (C) Rent |
| (B) Interest | (D) Profit |

Lời giải chi tiết

Rent is the payment made for the use of land (all natural resources) in production. **(C)**.

Bài tập luyện tập

The reward earned by an entrepreneur for bearing risk and organising a business is called:

- | | |
|-----------|--------------|
| (A) Rent | (C) Interest |
| (B) Wages | (D) Profit |

Lời giải chi tiết

Profit is the residual reward to enterprise, left over after rent, wages, and interest have all been paid; unlike the other three rewards, it is not guaranteed and can be negative. **(D)**.

Bài tập luyện tập

Distinguish between *fixed capital* and *working (circulating) capital*, giving one example of each.

Lời giải chi tiết

Fixed capital is used repeatedly over a long period without being used up in a single act of production, e.g. a delivery van or a factory building. **Working (circulating) capital** is a stock of raw materials or finished goods used up or sold within a single production cycle, e.g. the flour held by a bakery, or its unsold finished bread awaiting sale.

Bài tập luyện tập

A qualified electrician retrains to become a plumber instead. This best illustrates:

- | | |
|-------------------------------------|---------------------------------|
| (A) Geographical mobility of labour | (C) Division of labour |
| (B) Occupational mobility of labour | (D) An outward shift of the PPC |

Lời giải chi tiết

Switching between two different types of occupation (electrician to plumber) is an example of occupational mobility of labour. **(B)**.

Bài tập luyện tập

Using the example of a car assembly line, explain two advantages and two disadvantages of division of labour.

Lời giải chi tiết

Advantages: (1) each worker repeats one specific task (e.g. fitting a windscreen) and becomes highly fast and skilled at it, raising productivity; (2) training a new worker for one narrow task is much quicker and cheaper than training them to build an entire car alone. **Disadvantages:** (1) performing the same single task all day can be monotonous, potentially lowering motivation and quality; (2) if one stage of the line breaks down or workers there go on strike, the entire assembly line halts, since every stage depends on the ones before it.

Bài tập luyện tập

A major long-term disadvantage of division of labour is that a worker who has only ever performed one narrow task may face which of the following if that task is automated?

- | | |
|---------------------------------|---|
| (A) Guaranteed promotion | (C) Structural unemployment, due to low occupational mobility |
| (B) A higher wage automatically | (D) An outward shift of the PPC |

Lời giải chi tiết

A worker with only one narrow, non-transferable skill has low occupational mobility, making it hard to move to a different job if that task is automated – a risk of structural unemployment. (C).

Bài tập luyện tập

A point lying *inside* a country's production possibility curve represents:

- | | |
|--|---|
| (A) An unattainable combination of output | (C) The maximum efficient output of the economy |
| (B) A combination with unemployed or underused resources | (D) An economy with no scarcity |

Lời giải chi tiết

A point inside the PPC is attainable but reflects resources that are unemployed or used inefficiently; more of both goods could be produced by fully and efficiently employing existing resources. (B).

Bài tập luyện tập

A point lying *outside* a country's current production possibility curve represents:

- | | |
|---|---|
| (A) A combination currently unattainable with existing resources and technology | (C) A point representing unemployment |
| (B) The most efficient point on the curve | (D) A point that is always attainable next year |

Lời giải chi tiết

A point outside the current PPC cannot be produced with the resources and technology currently available — it may become attainable only if the whole curve shifts outward. **(A)**.

Bài tập luyện tập

An economy produces Wheat (tonnes) and Steel (tonnes). Four attainable combinations on its PPC are:

Combination	A	B	C	D
Wheat (tonnes)	0	10	20	30
Steel (tonnes)	50	45	38	28

Calculate the opportunity cost of increasing wheat output (a) from combination A to B, and (b) from combination C to D. Comment on how opportunity cost changes as wheat output rises.

Lời giải chi tiết

(a) A→B: wheat rises by 10 tonnes (0 → 10); steel falls by 5 tonnes (50 → 45). Opportunity cost = $5/10 = 0.5$ tonnes of steel per tonne of wheat.

(b) C→D: wheat rises by 10 tonnes (20 → 30); steel falls by 10 tonnes (38 → 28). Opportunity cost = $10/10 = 1.0$ tonne of steel per tonne of wheat.

Opportunity cost rises from 0.5 to 1.0 as wheat output increases — an illustration of the law of increasing opportunity cost, consistent with a concave (bowed-outward) PPC.

Bài tập luyện tập

Which of the following would most likely cause an *outward* shift of a country's production possibility curve?

- (A) A severe earthquake destroying factories (C) Net emigration of skilled workers
(B) A large improvement in workforce education and training (D) Depletion of the country's oil reserves

Lời giải chi tiết

Improved education and training raises the quality/productivity of the labour force, increasing the economy's total productive capacity and shifting the whole PPC outward — economic growth. **(B)**.

Bài tập luyện tập

Which of the following would most likely cause an *inward* shift of a country's production possibility curve?

- (A) New capital investment in factories (C) War damage destroying a large amount of capital and infrastructure
(B) Discovery of new mineral deposits (D) Improved technology raising productivity

Lời giải chi tiết

War damage that destroys capital and infrastructure reduces the economy's total available resources, shrinking its productive capacity and shifting the PPC inward. **(C)**.

Bài tập luyện tập

Explain why a production possibility curve is normally drawn as bowed outward (concave) rather than as a straight line.

Lời giải chi tiết

Most factors of production are not equally well suited to producing both goods — some resources are highly productive at making one good but comparatively poor at making the other. As output of one good expands, progressively less-suitable resources must be transferred away from the other good's production, so each additional unit costs more and more of the other good in forgone output. This rising (increasing) opportunity cost is what bows the curve outward from the origin.

Bài tập luyện tập

A straight-line (linear) production possibility curve implies that:

- (A) Opportunity cost rises as more of one good is produced either good
(B) Opportunity cost is constant, because resources are equally suited to producing (C) The economy has no scarcity
(D) The economy is experiencing economic growth

Lời giải chi tiết

A straight-line PPC has a constant slope, meaning the opportunity cost of producing more of one good is the same at every point — this occurs because resources can be shifted between the two goods without any loss of productivity at the margin, i.e. they are equally well suited to both. **(B)**.

Bài tập luyện tập

An economy produces Rice (tonnes) and Machinery (units). Attainable combinations include:

Combination	B	C	D	E
Rice (tonnes)	10	20	30	40
Machinery (units)	48	43	35	24

Calculate the opportunity cost of increasing rice output (a) from B to C, and (b) from D to E. What pattern do these results confirm?

Lời giải chi tiết

- (a) B→C: rice rises by 10 tonnes; machinery falls from 48 to 43, a fall of 5 units. Opportunity cost = $5/10 = 0.5$ machines per tonne of rice.
(b) D→E: rice rises by 10 tonnes; machinery falls from 35 to 24, a fall of 11 units. Opportunity cost = $11/10 = 1.1$ machines per tonne of rice.

Opportunity cost rises from 0.5 to 1.1 as rice output increases, confirming the law of increasing opportunity cost along a concave PPC.

Bài tập luyện tập

A market economy relies primarily on which mechanism to decide what, how, and for whom to produce?

- (A) Central government planning
- (B) The price mechanism (supply and demand)
- (C) Religious custom
- (D) Military allocation

Lời giải chi tiết

In a market economy, prices set by the interaction of supply and demand allocate resources and answer the what/how/for-whom questions with minimal government intervention. **(B)**.

Bài tập luyện tập

A defining feature of a planned (command) economy is that:

- (A) Consumers have complete freedom to buy anything they wish at any price
- (B) The government owns the factors of production and centrally decides what, how, and for whom to produce
- (C) Firms compete freely to maximise profit
- (D) Prices are always set below the market equilibrium

Lời giải chi tiết

In a planned economy, the government owns the factors of production and a central planning authority – not market prices – decides what, how, and for whom to produce. **(B)**.

Bài tập luyện tập

A *mixed economy* is best defined as an economy in which:

- (A) The government owns 100% of all factors of production
- (B) Resource allocation is decided entirely by private markets with zero government involvement
- (C) Both a private sector (markets) and a public sector (government) play a role in allocating resources, in varying degrees
- (D) Only agricultural goods are traded

Lời giải chi tiết

A mixed economy combines a private sector, where households and firms interact through markets, with a public sector, where government provides certain goods and services and regulates economic activity; the exact balance between the two varies by country. **(C)**.

Bài tập luyện tập

State and briefly explain two roles that government plays within a mixed economy.

Lời giải chi tiết

Any two of: **(1) Providing public goods** – supplying goods such as national defence or street lighting that private markets tend to under-provide because they are difficult to sell profitably to individual buyers. **(2) Regulating markets** – setting rules to promote fair competition and protect consumers. **(3) Redistributing income** – using taxation and welfare payments to reduce inequality. **(4) Correcting market failure** – intervening where a free market alone would produce an inefficient outcome.

Bài tập luyện tập

Which sequence best represents the logical relationship between the following four economic ideas?

- (A) Opportunity cost → Scarcity → Choice → PPC (C) PPC → Scarcity → Opportunity cost → Choice
(B) Scarcity → Choice → Opportunity cost → PPC (D) Choice → PPC → Scarcity → Opportunity cost

Lời giải chi tiết

Scarcity (unlimited wants, limited resources) forces choice; every choice carries an opportunity cost; the PPC is the graphical model of this same relationship applied to a whole economy. **(B)**.

Bài tập luyện tập

In a short paragraph, explain how scarcity ultimately leads a society to adopt a particular economic system. Your answer should use the terms *opportunity cost* and *production possibility curve*.

Lời giải chi tiết

Because resources are scarce relative to unlimited wants, every society must decide what, how, and for whom to produce; the production possibility curve models the maximum combinations of goods attainable with those scarce resources, and moving along it always involves an opportunity cost, since producing more of one good requires producing less of another. An economic system is simply the institutional mechanism a society uses to make these choices – a market economy lets prices and individual decisions allocate the scarce resources shown on the PPC, a planned economy lets a central authority decide, and a mixed economy blends the two – but in every case the underlying problem being solved is the same: scarcity forces choice, and choice always carries an opportunity cost.

Bài tập luyện tập

A country's PPC for Consumer Goods and Capital Goods is currently bowed outward (concave). Explain, using the concept of opportunity cost, why choosing to produce more Capital Goods today could allow the whole PPC to shift outward in the future.

Lời giải chi tiết

Producing more capital goods today (e.g. machinery, factories, infrastructure) means producing fewer consumer goods now – an opportunity cost incurred today, shown as a movement along

the current PPC. However, capital goods directly increase the economy's stock of productive resources; once built, they raise the economy's total productive capacity, allowing more of *both* consumer and capital goods to be produced in future periods. This is why investment in capital goods today, despite its immediate opportunity cost, is one of the main causes of an outward shift of the PPC (economic growth) over time.

Bài tập luyện tập

Explain why "capital" in economics is not the same thing as "money."

Lời giải chi tiết

Capital is a factor of production: a man-made, produced good used to produce further goods and services, such as machinery, tools, or factory buildings. Money itself does not directly produce anything — it is only a means of purchasing real capital goods (or land, labour, and enterprise's other inputs). A large sum of cash sitting unused, for example, is not capital in the economic sense until it is used to acquire an actual capital good.

The Allocation of Resources

Mục tiêu Unit: Cơ chế giá và ba chức năng của giá (báo hiệu, khuyến khích, phân phối); cầu thị trường và các yếu tố phi giá quyết định cầu (thu nhập, thị hiếu, giá hàng thay thế/bổ sung, dân số, kỳ vọng, lãi suất/tín dụng); cung thị trường và các yếu tố phi giá quyết định cung (chi phí, công nghệ, số lượng nhà sản xuất, thuế/trợ cấp, thời tiết); cân bằng thị trường và quá trình điều chỉnh; thặng dư tiêu dùng và thặng dư sản xuất; độ co giãn của cầu theo giá (PED), theo thu nhập (YED), chéo (XED) và độ co giãn của cung theo giá (PES); thất bại thị trường (ngoại ứng, hàng hóa công, hàng khuyến dụng/hàng có hại); và các chính sách kiểm soát giá (giá trần, giá sàn).

2.1 The Price Mechanism: Allocating Scarce Resources

Every economic system must solve the same basic problem: resources (land, labour, capital, enterprise) are **scarce**, while human wants are effectively unlimited. In a **market economy**, this allocation problem — deciding *what* to produce, *how* to produce it, and *for whom* — is solved almost entirely through the **price mechanism**: the interaction of demand and supply that generates a price for every good, service, and factor of production, and that price in turn allocates the resource among competing uses.

The three functions of price

1. **Signalling function:** a price change transmits information about relative scarcity throughout the economy without any central authority issuing instructions. A rising price signals that a good has become scarcer (relative to demand); a falling price signals the opposite.
2. **Incentive function:** a price change creates a financial incentive for buyers and sellers to change their behaviour. A higher price encourages existing producers to supply more, encourages new firms to enter the market, and encourages consumers to economise on their use of the good (or switch to a substitute). A lower price does the reverse.
3. **Rationing function:** because resources are scarce, not everyone who wants a good at a zero price can have it. Price rations the available quantity to those consumers who are both willing *and able* to pay the market price; those unwilling or unable to pay go without.

These three functions work together and continuously: a shortage pushes the price up (signal), which encourages producers to expand output and some consumers to drop out of the market (incentive), which resolves the shortage by rationing the now-scarcer good toward those who value it most highly in monetary terms (rationing).

GIẢI THÍCH TIẾNG VIỆT

VN

Cơ chế giá là cách chính mà nền kinh tế thị trường phân bổ nguồn lực khan hiếm, thực hiện ba chức năng: **báo hiệu** (giá thay đổi truyền tải thông tin về sự khan hiếm tương đối mà không cần một cơ quan trung ương ra lệnh), **khuyến khích** (giá tăng khuyến khích người bán sản xuất nhiều hơn và người mua tiết kiệm hơn; giá giảm thì ngược lại), và **phân phối** (giá phân bổ số lượng hàng hóa khan hiếm cho những người vừa *sẵn lòng* vừa có *khả năng* chi trả mức giá đó).

— những ai không sẵn lòng hoặc không đủ khả năng chi trả sẽ không mua được hàng). Toàn bộ chương này phân tích chi tiết cách cầu và cung tương tác để tạo ra mức giá đó, cũng như những trường hợp cơ chế giá thất bại trong việc phân bổ nguồn lực một cách hiệu quả.

The remainder of this chapter builds up the full model of the price mechanism: first demand, then supply, then their interaction at market equilibrium; then the tool economists use to measure how responsive demand and supply are to price and other changes (elasticity); and finally the circumstances in which the free market price mechanism fails to allocate resources efficiently, and the tools governments use to correct that failure.

2.2 Demand

2.2.1 Individual and market demand

Demand is the quantity of a good or service that consumers are both **willing** and **able** to buy at a given price, over a given period of time (e.g. per week, per month). **Individual demand** is the demand of a single consumer; **market demand** is the horizontal sum of all individual consumers' demand at each price — that is, at every price level, add up the quantity each individual consumer would buy to obtain the total quantity demanded by the whole market.

(!) **Lỗi thường gặp:** "Demand" in economics is not the same as "desire" or "want." A consumer who would love to own a yacht but has no money to buy one does not contribute to market demand for yachts — demand requires both willingness *and* the financial ability to pay. This is why demand is sometimes called **effective demand**.

Ví dụ mẫu · Worked example — From individual to market demand

Three consumers, *A*, *B*, and *C*, are the only buyers of a good. Their individual weekly demand schedules are shown below. Find the market demand schedule.

Price (\$)	Q_A	Q_B	Q_C	Market $Q_d = Q_A + Q_B + Q_C$
2	10	8	6	24
4	7	5	4	16
6	4	3	2	9
8	2	1	0	3

Market demand at each price is simply the **horizontal sum** (the sum of quantities, at a given price) of every individual consumer's demand. At a price of \$4, for instance, market quantity demanded is $7 + 5 + 4 = 16$ units — this is the point plotted on the market demand curve. Note that as price rises, not only does each individual's own quantity demanded fall, but consumer *C* eventually drops out of the market entirely (buying zero at \$8), illustrating how the market demand curve is built up from the entry and exit of individual buyers as price changes.

2.2.2 The law of demand

Law of demand

The **law of demand** states that, *ceteris paribus* (holding all other influences on demand constant), as the price of a good **falls**, the quantity demanded of that good **rises**; as price **rises**, quantity demanded **falls**. This gives the demand curve its characteristic downward (negative)

slope when price is plotted on the vertical axis and quantity on the horizontal axis.

Two complementary reasons justify this inverse relationship. First, the **income effect**: a fall in the price of a good effectively increases a consumer's real purchasing power (the same money income now buys more), so consumers tend to buy more of that good (and, often, more of other goods too). Second, and more fundamentally, the **law of diminishing marginal utility** provides an intuitive justification for why the demand curve slopes downward at all: each successive unit of a good consumed in a given period yields *less* additional satisfaction (marginal utility) than the unit before it. Since a rational consumer will only buy an additional unit if the satisfaction gained from it is at least worth the price paid, a consumer will only be willing to purchase further units of a good if its price falls to match the falling marginal utility of those extra units. This is why a lower price is needed to induce consumers to buy a larger quantity.

GIẢI THÍCH TIẾNG VIỆT

VN

Quy luật cầu: trong điều kiện các yếu tố khác không đổi, khi giá của một hàng hóa giảm, lượng cầu về hàng hóa đó tăng; khi giá tăng, lượng cầu giảm — đây là lý do đường cầu luôn dốc xuống. Có hai lý do giải thích: (1) **hiệu ứng thu nhập** — giá giảm làm tăng sức mua thực tế của người tiêu dùng; (2) **quy luật hữu dụng biên giảm dần** — mỗi đơn vị hàng hóa tiêu dùng thêm mang lại mức độ thỏa mãn (hữu dụng biên) thấp hơn đơn vị trước đó, nên người tiêu dùng chỉ sẵn lòng mua thêm nếu giá giảm tương ứng với mức hữu dụng biên đang giảm dần.

2.2.3 Movement along vs. shift of the demand curve

It is essential to distinguish two very different causes of a change in quantity demanded.

A change in the good's **own price** causes a **movement along** a fixed demand curve (called an **extension** of demand when price falls and quantity demanded rises, or a **contraction** of demand when price rises and quantity demanded falls). A change in any **non-price determinant** of demand causes the *entire* demand curve to **shift** — rightward for an **increase in demand** (more is demanded at every price), or leftward for a **decrease in demand** (less is demanded at every price).



Left: a change in the good's own price causes a movement between points A and B on a fixed demand curve. Right: a change in income, tastes, or the price of a related good shifts the entire curve, here from D_1 to D_2 — an **increase** in demand (more is bought at every price).

(!) Lỗi thường gặp: The single most common error in this topic is describing a shift as “demand increased because price fell.” Price can never shift the demand curve for its *own* good — a change in own price only ever produces a movement *along* the existing curve. Only a change in income, tastes, the price of another good, population, expectations, or credit conditions can shift the whole demand curve.

GIẢI THÍCH TIẾNG VIỆT

VN

Phân biệt hai khái niệm dễ nhầm lẫn: **di chuyển dọc theo đường cầu** (movement along) xảy ra khi **CHÍNH** giá của hàng hóa đó thay đổi — điểm di chuyển trên cùng một đường cầu cố định. **Dịch chuyển đường cầu** (shift) xảy ra khi một yếu tố phi giá thay đổi (thu nhập, thị hiếu, giá hàng liên quan, dân số, kỳ vọng, tín dụng) — toàn bộ đường cầu di chuyển sang trái hoặc phải. Lỗi phổ biến nhất là nói “giá giảm nên cầu tăng” — giá của **CHÍNH** hàng hóa đó không bao giờ làm dịch chuyển đường cầu của nó, chỉ có thể gây ra sự di chuyển dọc theo đường cầu.

2.2.4 Non-price determinants of demand

Determinants of demand

- **Income:** for a **normal good**, a rise in consumer income shifts demand *right* (more is bought at every price) — most goods are normal. For an **inferior good**, a rise in income shifts demand *left* — consumers switch away from the inferior good toward higher-quality substitutes as they can now afford them (e.g. instant noodles, second-hand clothing, long-distance bus travel). This asymmetric response to a change in income is the income effect referred to earlier, and is measured precisely by income elasticity of demand, developed later in this chapter.
- **Tastes, fashion, and advertising:** a good becoming more fashionable, more socially desirable, or more heavily and effectively advertised shifts its demand curve right; a good falling out of favour (health warnings, changing social norms, a damaging news story) shifts demand left.
- **Price of substitutes and complements:** a **substitute** is a good that can be used *in place of* another to satisfy a similar want (e.g. tea and coffee, Coca-Cola and Pepsi). If the price of a substitute rises, demand for this good rises (shifts right), as some consumers switch over. A **complement** is a good consumed *together with* another (e.g. printers and ink cartridges, cars and petrol). If the price of a complement rises, demand for this good falls (shifts left), because the complementary pair becomes more expensive to consume as a unit. This qualitative relationship is measured precisely by **cross elasticity of demand (XED)**, covered in a later section: a positive XED confirms a substitute relationship, a negative XED confirms a complementary relationship.
- **Population size and structure:** a larger population (through natural increase or net migration) shifts market demand right, simply because there are more potential buyers. Changes in the *age structure* of the population also shift demand for specific goods — an ageing population increases demand for healthcare and retirement housing, while a rising birth rate increases demand for childcare and baby products.
- **Expectations of future price changes:** if consumers expect a good's price to rise in future, current demand shifts *right* as they buy now to beat the price rise (e.g. stockpiling); if consumers expect prices to fall, current demand shifts *left* as they delay purchases (common for consumer electronics, where waiting typically brings a lower price and better specification).
- **Interest rates and credit availability:** many durable goods (cars, houses, furniture, appli-

ances) are commonly bought using borrowed money. A fall in interest rates lowers the cost of borrowing and shifts demand for these goods right; tighter credit conditions (banks less willing to lend, higher deposit requirements) shift demand left, independent of the good's own price.

GIẢI THÍCH TIẾNG VIỆT

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Các yếu tố phi giá làm dịch chuyển đường cầu: **thu nhập** (hàng thông thường: thu nhập tăng → cầu tăng; hàng thứ cấp: thu nhập tăng → cầu GIẢM vì người tiêu dùng chuyển sang hàng chất lượng cao hơn); **thị hiếu/quảng cáo**; **giá hàng thay thế** (giá hàng thay thế tăng → cầu hàng này tăng) và **giá hàng bổ sung** (giá hàng bổ sung tăng → cầu hàng này giảm); **quy mô và cơ cấu dân số**; **kỳ vọng về giá tương lai** (kỳ vọng giá tăng → mua ngay bây giờ → cầu hiện tại tăng); và **lãi suất/khả năng tiếp cận tín dụng** đối với hàng lâu bền (ô tô, nhà cửa) mua bằng vay nợ.

Ví dụ mẫu · Worked example – Classifying a change in demand

For each event, state whether market demand for the named good shifts left or right, and identify which determinant is responsible. (a) The price of butter (a close substitute for margarine) rises sharply – effect on demand for margarine. (b) National average income falls during a recession – effect on demand for long-distance intercity bus travel (widely regarded as an inferior good). (c) The central bank cuts interest rates sharply – effect on demand for new cars financed by loans.

(a) Butter and margarine are substitutes. A rise in the price of butter causes some consumers to switch to margarine, so demand for margarine shifts **right** (determinant: price of a substitute).

(b) Bus travel is inferior: as income falls, consumers who previously drove or flew switch to the cheaper option, so demand for bus travel shifts **right** (determinant: income, inferior good – note the direction is opposite to what a normal good would show).

(c) Lower interest rates reduce the cost of loan-financed purchases, so demand for new cars shifts **right** (determinant: interest rates/credit availability).

2.3 Supply

2.3.1 Individual and market supply

Supply is the quantity of a good or service that producers are willing and able to offer for sale at a given price, over a given period of time. **Individual supply** is the supply from a single firm; **market supply** is the horizontal sum of the supply of every firm in the industry at each price.

Ví dụ mẫu · Worked example – From individual to market supply

Two firms, *X* and *Y*, are the only producers of a good. Their individual weekly supply schedules are shown below. Find the market supply schedule.

Price (\$)	Q_X	Q_Y	Market $Q_s = Q_X + Q_Y$
3	0	2	2
5	4	6	10
7	8	10	18
9	12	14	26

Market supply at each price is the **horizontal sum** of every individual firm's supply. At a price of \$5, market quantity supplied is $4 + 6 = 10$ units. Notice that firm *X* supplies nothing at all at \$3 — its production costs are too high to profitably sell at that price — but enters the market once price reaches \$5, illustrating how a rising market price progressively draws in higher-cost producers, expanding market supply.

2.3.2 The law of supply

Law of supply

The **law of supply** states that, *ceteris paribus*, as the price of a good **rises**, the quantity supplied **rises**; as price **falls**, quantity supplied **falls**. This gives the supply curve its characteristic upward (positive) slope.

The underlying reason is that **marginal cost** (the cost of producing one additional unit) normally **rises** as output increases in the short run, because at least one factor of production (typically capital/plant size) is fixed while firms add more of a variable factor (typically labour) to it. Beyond some point, each additional worker adds progressively less to total output than the worker before (the tendency toward diminishing returns), so the cost of producing each successive unit rises. A firm will only be willing to supply an additional unit if the price it receives is at least equal to the cost of producing that unit — so a higher price is needed to call forth a larger quantity supplied.

GIẢI THÍCH TIẾNG VIỆT

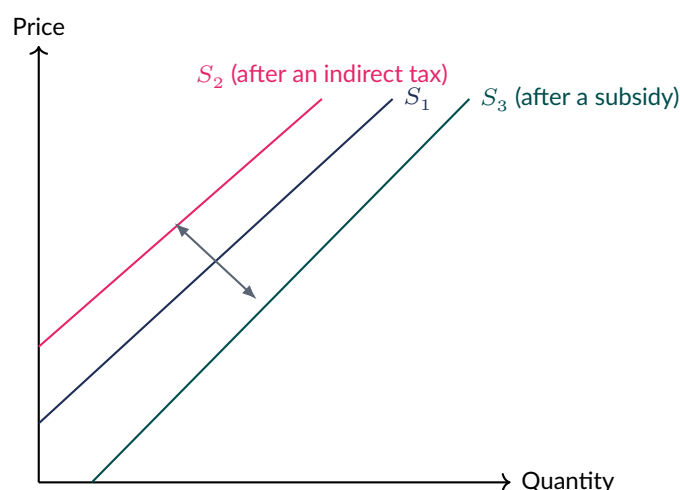
VN Quy luật cung: khi giá tăng, lượng cung tăng; khi giá giảm, lượng cung giảm — đường cung dốc lên. Lý do cốt lõi: **chi phí biên** (chi phí sản xuất thêm một đơn vị) thường **TĂNG** dần khi sản lượng tăng trong ngắn hạn, vì ít nhất một yếu tố sản xuất (thường là vốn/nhà xưởng) bị cố định trong khi doanh nghiệp thêm ngày càng nhiều yếu tố biến đổi (lao động) vào đó — dẫn đến năng suất biên giảm dần. Doanh nghiệp chỉ sẵn lòng cung thêm một đơn vị nếu giá bán ít nhất bằng chi phí sản xuất đơn vị đó, nên cần giá cao hơn để khuyến khích cung một lượng lớn hơn.

2.3.3 Non-price determinants of supply

Determinants of supply

- **Costs of production / input prices:** a rise in the price of any input (raw materials, wages, rent, energy) raises the cost of producing every unit, shifting supply *left* (less is supplied at every price); a fall in input costs shifts supply *right*.
- **Technology:** an improvement in production technology (more efficient machinery, better production techniques) lowers the cost of producing each unit and/or raises output from the same inputs, shifting supply *right*.
- **Number of producers/firms in the industry:** as more firms enter an industry (attracted, for example, by profits), market supply shifts *right*; as firms exit the industry, market supply shifts *left*.
- **Indirect taxes and subsidies:** a per-unit **indirect tax** (e.g. excise duty) imposed on a good adds directly to the cost of supplying each unit, shifting supply *left* (equivalently, upward, since a higher price is now needed to cover the tax at every quantity). A **subsidy** — a payment from government to producers — lowers the effective cost of supplying each unit, shifting supply *right* (downward).

- **Weather and other natural factors:** for primary-sector goods (agriculture, fishing), favourable weather (good rainfall, mild growing season) increases supply (shifts right); adverse weather (drought, flooding, disease, pests) reduces supply (shifts left). Natural disasters affecting extraction (mining, oil) have the same left-shifting effect on supply of raw materials.
- **Producer expectations:** if producers expect the price of their good to rise in future, they may withhold current supply (shifting current supply left) in order to sell at the higher expected future price; if they expect prices to fall, they may increase current supply to sell before the price drop.



An indirect tax raises the cost of supplying each unit, shifting supply left/upward from S_1 to S_2 ; a subsidy lowers the cost of supplying each unit, shifting supply right/downward from S_1 to S_3 .

GIẢI THÍCH TIẾNG VIỆT

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Các yếu tố phi giá làm dịch chuyển đường cung: **chi phí đầu vào** (nguyên liệu, tiền lương, tiền thuê tăng → cung giảm — dịch trái); **công nghệ** (cải tiến → cung tăng — dịch phải); **số lượng nhà sản xuất** (nhiều doanh nghiệp gia nhập → cung tăng); **thuế gián thu** (làm tăng chi phí mỗi đơn vị → cung dịch trái/lên trên) và **trợ cấp** (làm giảm chi phí mỗi đơn vị → cung dịch phải/xuống dưới); **thời tiết** (đối với nông sản: thời tiết thuận lợi → cung tăng, thời tiết xấu/hạn hán/lũ lụt → cung giảm); và **kỳ vọng của nhà sản xuất** về giá tương lai.

Ví dụ mẫu · Worked example — Classifying a change in supply

For each event, state whether market supply for the named good shifts left or right, and identify which determinant is responsible. (a) A new fertiliser technology allows farmers to grow 20% more wheat from the same land — effect on supply of wheat. (b) The government imposes a new excise duty on cigarettes — effect on supply of cigarettes. (c) An unusually severe frost destroys much of a country's orange crop — effect on supply of oranges.

(a) The new technology lowers the effective cost of producing each unit of wheat (more output from the same inputs), so supply shifts **right** (determinant: technology).

(b) The excise duty raises the cost of legally supplying each unit, so supply shifts **left** (determinant: indirect tax).

(c) The frost destroys crops that would otherwise have been supplied, reducing the quantity available at every price, so supply shifts **left** (determinant: weather/natural factors).

2.4 Market Equilibrium

2.4.1 Determining equilibrium

Market equilibrium

Market equilibrium occurs at the price where the demand curve and the supply curve intersect – the **equilibrium price** P_e at which quantity demanded exactly equals quantity supplied, the **equilibrium quantity** Q_e . At this price there is no economic force acting to change the price further: everyone willing and able to buy at P_e can do so, and every unit producers wish to sell at P_e finds a buyer.

2.4.2 Adjustment from disequilibrium

Away from equilibrium, market forces automatically push price back toward P_e .

- If price is *above* P_e : quantity supplied exceeds quantity demanded, creating a **surplus** (excess supply). Unsold stock accumulates, so sellers competitively lower price to clear it; as price falls, quantity demanded rises (extension of demand) and quantity supplied falls (contraction of supply) until the surplus is eliminated at P_e .
- If price is *below* P_e : quantity demanded exceeds quantity supplied, creating a **shortage** (excess demand). Frustrated buyers bid the price up; as price rises, quantity demanded falls (contraction of demand) and quantity supplied rises (extension of supply) until the shortage is eliminated at P_e .

Quick reference – disequilibrium adjustment: Price $> P_e \Rightarrow Q_s > Q_d \Rightarrow$ **surplus** $\Rightarrow$ price falls. Price $< P_e \Rightarrow Q_d > Q_s \Rightarrow$ **shortage** $\Rightarrow$ price rises. In both cases, the adjustment continues only until price returns to P_e , where $Q_d = Q_s$ exactly and no further pressure to change price remains – this self-correcting tendency of a free market, with no outside intervention needed, is itself a direct expression of the price mechanism's incentive and rationing functions introduced at the start of this chapter.

Ví dụ mẫu · Worked example – Solving for equilibrium price and quantity

The market demand and supply functions for a good are given by $Q_d = 500 - 20P$ and $Q_s = -100 + 30P$, where P is price in dollars and Q is quantity in units per week. Find the equilibrium price and quantity.

At equilibrium, $Q_d = Q_s$:

$$500 - 20P = -100 + 30P \Rightarrow 600 = 50P \Rightarrow P^* = \$12.$$

$$Q^* = 500 - 20(12) = 500 - 240 = 260 \quad (\text{check supply: } -100 + 30(12) = -100 + 360 = 260 \text{ as required})$$

The equilibrium price is \$12 and the equilibrium quantity is 260 units per week.

2.4.3 Simultaneous shifts of demand and supply

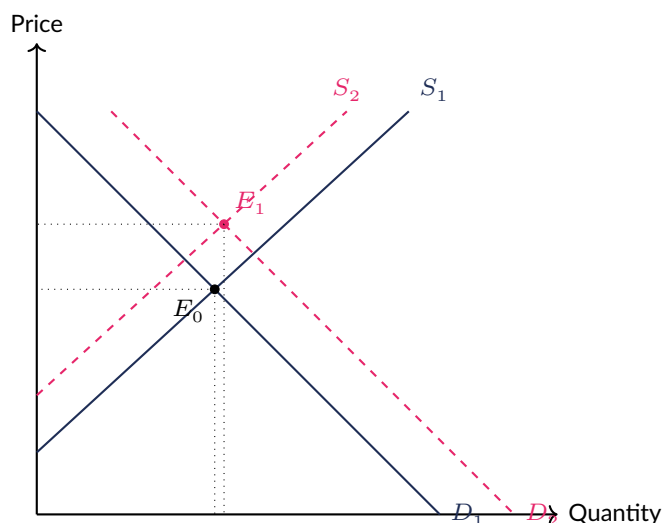
When demand and supply shift *at the same time*, the change in equilibrium price and quantity depends on the direction and relative size of each shift.

If demand and supply shift in the **same** direction (both increase, or both decrease), the change in equilibrium quantity is unambiguous (both rise together, or both fall together), but the change in equilibrium **price** is ambiguous — it depends on which shift is relatively larger. If demand and supply shift in **opposite** directions (e.g. demand increases while supply decreases), the change in equilibrium **price** is unambiguous (both effects push it the same way), but the change in equilibrium **quantity** is ambiguous.

Ví dụ mẫu · Worked example — Simultaneous shift of demand and supply

A good becomes more fashionable (demand increases, shifting $D_1 \rightarrow D_2$) at the same time as a rise in the cost of a key raw material (supply decreases, shifting $S_1 \rightarrow S_2$). Determine the direction of change in equilibrium price and quantity, and state which variable's direction is certain.

The rise in demand pushes price **up** and pushes quantity **up**. The fall in supply pushes price **up** and pushes quantity **down**. Both effects agree that price rises, so the equilibrium price **definitely rises**. The two effects disagree about quantity (one pushes it up, the other down), so the change in equilibrium quantity is **ambiguous** — it depends on whether the increase in demand or the decrease in supply is proportionately larger. If the rightward shift of demand is larger, quantity will rise overall; if the leftward shift of supply is larger, quantity will fall overall; if the two shifts are of equal proportional size, quantity could be unchanged even though price has risen.



Demand increases ($D_1 \rightarrow D_2$) at the same time as supply decreases ($S_1 \rightarrow S_2$). Both shifts push price up unambiguously (from E_0 to E_1); the effect on quantity is ambiguous in general and depends on the relative size of the two shifts — in this particular case quantity happens to rise slightly.

GIẢI THÍCH TIẾNG VIỆT

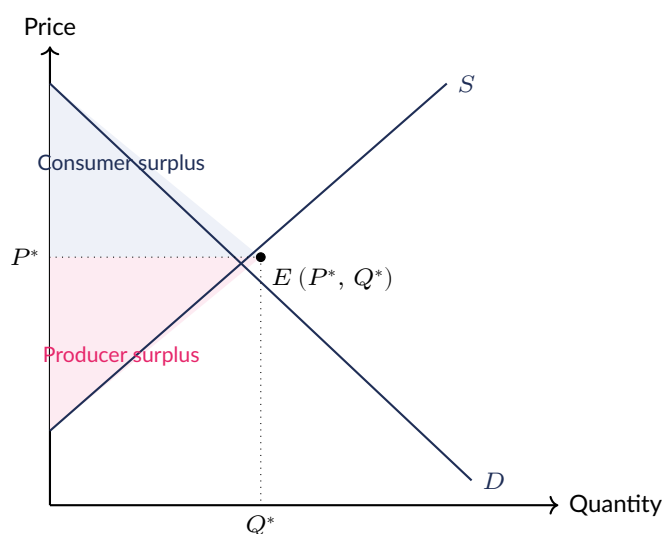
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Cân bằng thị trường là mức giá mà tại đó lượng cầu bằng lượng cung; nếu giá cao hơn mức cân bằng sẽ có **dư thừa** (surplus) khiến người bán hạ giá; nếu giá thấp hơn mức cân bằng sẽ có **thiếu hụt** (shortage) khiến giá bị đẩy lên — thị trường tự động điều chỉnh về mức cân bằng. Khi CẢ cầu và cung cùng dịch chuyển: nếu dịch chuyển CÙNG chiều, lượng cân bằng chắc chắn thay đổi theo chiều đó nhưng giá thì KHÔNG chắc chắn (phụ thuộc độ lớn tương đối); nếu dịch chuyển NGƯỢC chiều, giá cân bằng chắc chắn thay đổi nhưng lượng thì KHÔNG chắc chắn.

2.4.4 Consumer and producer surplus

Consumer and producer surplus

Consumer surplus is the difference between the maximum price consumers are *willing to pay* for each unit (shown by the height of the demand curve at that quantity) and the price they *actually pay* (the market price) – graphically, the area *above* the equilibrium price line and *below* the demand curve, up to the equilibrium quantity. **Producer surplus** is the difference between the price producers *actually receive* and the minimum price they would be willing to accept (shown by the height of the supply curve) – the area *below* the equilibrium price line and *above* the supply curve. The sum $CS + PS$ measures total economic welfare (community surplus) generated by the market, which is maximised at the free-market equilibrium in the absence of market failure.



Consumer surplus (area above price, below demand) and producer surplus (area below price, above supply) at market equilibrium E .

Ví dụ mẫu · Worked example – Calculating consumer and producer surplus

Demand and supply for a good are given by $Q_d = 200 - 4P$ and $Q_s = -40 + 4P$ (P in dollars, Q in units).

Step 1 – equilibrium: $200 - 4P = -40 + 4P \Rightarrow 240 = 8P \Rightarrow P^* = \30 , and $Q^* = 200 - 4(30) = 80$ units.

Step 2 – choke price (demand-curve intercept): setting $Q_d = 0$: $0 = 200 - 4P \Rightarrow P = \50 . This is the maximum price the most eager buyer would pay.

Step 3 – supply-curve intercept: setting $Q_s = 0$: $0 = -40 + 4P \Rightarrow P = \10 . This is the minimum price the least eager seller would accept.

Step 4 – surplus areas (each is a triangle with base $Q^* = 80$):

$$CS = \frac{1}{2} \times Q^* \times (P_{\max} - P^*) = \frac{1}{2} \times 80 \times (50 - 30) = \$800.$$

$$PS = \frac{1}{2} \times Q^* \times (P^* - P_{\min}) = \frac{1}{2} \times 80 \times (30 - 10) = \$800.$$

Total community surplus = $CS + PS = \$1,600$.

GIẢI THÍCH TIẾNG VIỆT

VN

Thặng dư tiêu dùng là phần chênh lệch giữa mức giá cao nhất người mua sẵn sàng trả và mức giá họ thực sự trả (diện tích phía trên đường giá, dưới đường cầu). **Thặng dư sản xuất** là phần chênh lệch giữa mức giá người bán thực nhận và mức giá tối thiểu họ chấp nhận bán (diện tích phía dưới đường giá, trên đường cung). Cả hai được tính bằng công thức diện tích tam giác đơn giản: $\frac{1}{2} \times \text{đáy} \times \text{chiều cao}$. Tổng phúc lợi cộng đồng ($CS + PS$) đạt giá trị lớn nhất tại điểm cân bằng thị trường tự do khi không có thất bại thị trường.

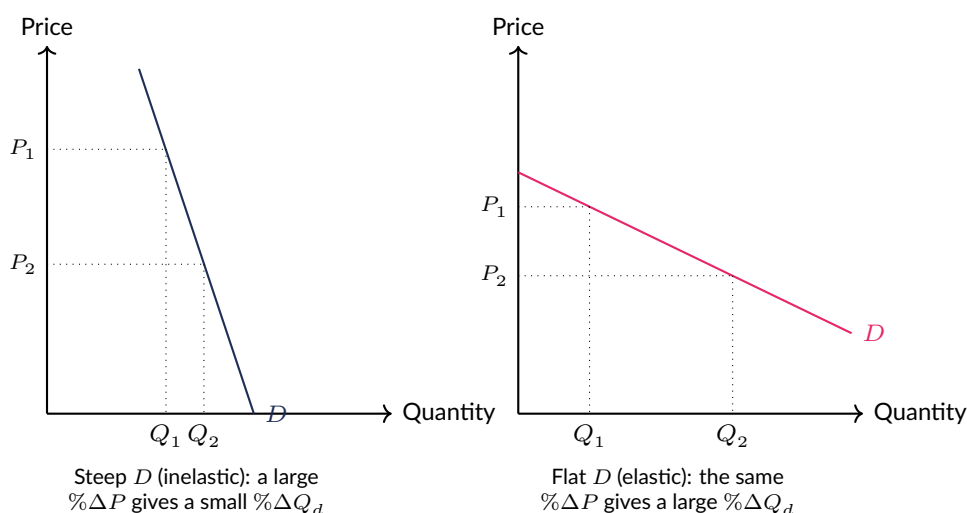
2.5 Price Elasticity of Demand

Elasticity measures how responsive one variable is to a proportionate change in another. **Price elasticity of demand (PED)** measures the responsiveness of quantity demanded to a change in the good's own price.

$$PED = \frac{\% \Delta Q_d}{\% \Delta P}$$

Because demand curves slope downward, PED is normally **negative**. Economists classify demand by the *magnitude* $|PED|$:

- $|PED| > 1$: demand is **price elastic** – quantity demanded changes proportionately *more* than price.
- $|PED| < 1$: demand is **price inelastic** – quantity demanded changes proportionately *less* than price.
- $|PED| = 1$: demand is **unit elastic** – quantity demanded changes in exactly the same proportion as price.
- $PED = 0$: demand is **perfectly inelastic** (a vertical demand curve – quantity does not respond to price at all).
- $PED \rightarrow -\infty$: demand is **perfectly elastic** (a horizontal demand curve).



Comparing a steep (inelastic) and a flat (elastic) demand curve: the same proportionate fall in price from P_1 to P_2 produces only a small increase in quantity demanded when demand is inelastic (left), but a much larger increase when demand is elastic (right).

2.5.1 Worked calculations of PED

Ví dụ mẫu · Worked example – PED calculation (elastic demand)

The price of a good rises from \$20 to \$25 (a 25% rise), causing quantity demanded to fall from 1,000 to 700 units per week (a 30% fall). Calculate PED and classify demand.

$$\% \Delta P = \frac{25 - 20}{20} \times 100 = 25\% \quad \% \Delta Q_d = \frac{700 - 1,000}{1,000} \times 100 = -30\%$$

$$PED = \frac{-30\%}{25\%} = -1.2$$

Since $|PED| = 1.2 > 1$, demand is **price elastic**: a given percentage change in price produces a larger percentage change in quantity demanded.

Ví dụ mẫu · Worked example – PED calculation (inelastic demand)

The price of a good rises from \$15 to \$18 (a 20% rise), causing quantity demanded to fall from 600 to 540 units per week (a 10% fall). Calculate PED and classify demand.

$$\% \Delta P = \frac{18 - 15}{15} \times 100 = 20\% \quad \% \Delta Q_d = \frac{540 - 600}{600} \times 100 = -10\%$$

$$PED = \frac{-10\%}{20\%} = -0.5$$

Since $|PED| = 0.5 < 1$, demand is **price inelastic**: quantity demanded changes proportionately less than price.

As a third worked variety, consider a cinema raising its ticket price from \$12 to \$15 (a rise of $\frac{15-12}{12} \times 100 = 25\%$) and observing weekly attendance fall from 900 to 800 tickets (a fall of $\frac{800-900}{900} \times 100 \approx -11.1\%$): $PED = \frac{-11.1\%}{25\%} \approx -0.44$, again price inelastic, since cinema tickets have few close substitutes at short notice and represent a small share of a typical consumer's budget.

The two extreme cases named in the keyfact above are rarely observed exactly in reality, but some goods come close. **Insulin** for a diagnosed diabetic is close to perfectly inelastic ($PED \approx 0$): patients must keep buying roughly the same quantity regardless of price, because there is no substitute for a life-sustaining medicine and no discretion to simply consume less. At the other extreme, an individual wheat farmer selling into a large, highly competitive world market faces demand that is close to **perfectly elastic**: since countless other farmers sell an identical, undifferentiated product at the going world price, this single farmer could sell any quantity at the prevailing price but would sell *nothing* at even a slightly higher price, as buyers would simply purchase from another farmer instead.

2.5.2 Factors affecting PED

Determinants of PED

- **Necessities vs. luxuries**: necessities (staple food, basic utilities, essential medicine) tend to have inelastic demand, since consumers must keep buying them even at a higher price; luxuries (holidays, jewellery, premium electronics) tend to have elastic demand, since consumers can more easily postpone or forgo the purchase.
- **Availability and closeness of substitutes**: the more (and closer) the substitutes available, the more elastic demand – consumers can easily switch away if price rises. A good with no

close substitutes (e.g. petrol in the short run, insulin for a diabetic) has inelastic demand.

- **Proportion of income spent on the good:** goods that take up a small share of a consumer's budget (salt, matches, chewing gum) tend to have inelastic demand, since a price change barely affects the household budget; goods that take up a large share (rent, a car, a foreign holiday) tend to have more elastic demand.
- **Time period:** demand is more inelastic in the short run (consumers have not yet found substitutes or adjusted habits) and becomes more elastic over a longer time period, as consumers have time to seek alternatives, change suppliers, or adapt technology (e.g. demand for petrol is far more inelastic in the short run than over several years, once consumers can switch to more fuel-efficient or electric cars).
- **Addictiveness / habit-forming goods:** goods such as tobacco, alcohol, and other addictive substances tend to have inelastic demand, because consumers continue purchasing them even as prices rise substantially.
- **Narrow vs. broad definition of the good:** demand for a narrowly defined good (e.g. "Granny Smith apples") is more elastic than demand for a broadly defined category (e.g. "food"), because a narrowly defined good has many close substitutes (other apple varieties, other fruit) while the broad category does not.

GIẢI THÍCH TIẾNG VIỆT

VN

Các yếu tố ảnh hưởng đến PED: **hàng thiết yếu** (co giãn thấp) so với **hàng xa xỉ** (co giãn cao); càng **nhieu và càng gần** với hàng thay thế thì cầu càng co giãn; **tỉ trọng thu nhập** chi cho hàng hóa càng lớn thì cầu càng co giãn; **thời gian** càng dài thì cầu càng co giãn (người tiêu dùng có thời gian tìm hàng thay thế); **hàng gây nghiện** thường có cầu kém co giãn; và hàng hóa được định nghĩa **càng hẹp** (ví dụ: một loại táo cụ thể) thì càng co giãn hơn so với định nghĩa **rộng** (ví dụ: "thực phẩm" nói chung).

2.5.3 PED and total revenue

Total revenue $TR = P \times Q$. The effect of a price change on total revenue depends entirely on $|PED|$:

- If demand is **elastic** ($|PED| > 1$): a price **rise** causes TR to **fall** (the proportionately larger fall in quantity dominates); a price **fall** causes TR to **rise**.
- If demand is **inelastic** ($|PED| < 1$): a price **rise** causes TR to **rise** (the small fall in quantity is outweighed by the higher price per unit); a price **fall** causes TR to **fall**.
- If demand is **unit elastic** ($|PED| = 1$): total revenue is **unchanged** by a price change, since the percentage rise in one variable exactly offsets the percentage fall in the other.

Ví dụ mẫu · Worked example – Revenue effect under elastic demand

Price rises from \$10 to \$12; quantity demanded falls from 500 to 350 units. Find PED and the change in total revenue.

$$\% \Delta P = \frac{12 - 10}{10} \times 100 = 20\% \quad \% \Delta Q_d = \frac{350 - 500}{500} \times 100 = -30\% \quad PED = \frac{-30\%}{20\%} = -1.5$$

Since $|PED| = 1.5 > 1$, demand is elastic. $TR_{\text{before}} = 10 \times 500 = \$5,000$. $TR_{\text{after}} = 12 \times 350 = \$4,200$. As predicted for elastic demand, the price rise causes total revenue to **fall** (by \$800).

Ví dụ mẫu · Worked example — Revenue effect under inelastic demand

Price rises from \$5 to \$6; quantity demanded falls from 200 to 180 units. Find PED and the change in total revenue.

$$\% \Delta P = \frac{6 - 5}{5} \times 100 = 20\% \quad \% \Delta Q_d = \frac{180 - 200}{200} \times 100 = -10\% \quad PED = \frac{-10\%}{20\%} = -0.5$$

Since $|PED| = 0.5 < 1$, demand is inelastic. $TR_{\text{before}} = 5 \times 200 = \$1,000$. $TR_{\text{after}} = 6 \times 180 = \$1,080$. As predicted for inelastic demand, the price rise causes total revenue to **rise** (by \$80).

2.5.4 Business and government uses of PED

Firms use knowledge of PED to set profit-maximising prices: a firm facing inelastic demand for its product can raise price to increase revenue, whereas a firm facing elastic demand should generally avoid price rises (and may instead compete on price cuts to gain revenue and market share) or focus on non-price competition (branding, quality, advertising) to make demand less elastic. Governments use PED to predict the effect of an indirect tax: a tax on a good with inelastic demand (e.g. tobacco, petrol) raises significant, predictable tax revenue with only a small fall in quantity traded, and consumers bear most of the tax burden (incidence); a tax on a good with elastic demand causes a large fall in quantity traded and raises relatively little revenue, with producers bearing more of the burden. This is why governments favour taxing inelastic goods (tobacco, alcohol, fuel) when the main goal is raising revenue, though a demerit-good tax aimed at discouraging consumption is more effective the more elastic demand becomes over time.

GIẢI THÍCH TIẾNG VIỆT

VN Theo PED, tổng doanh thu ($TR = P \times Q$) phản ứng với thay đổi giá như sau: nếu cầu **co giãn** ($|PED| > 1$), tăng giá làm doanh thu GIẢM; nếu cầu **kém co giãn** ($|PED| < 1$), tăng giá làm doanh thu TĂNG; nếu **co giãn đơn vị**, doanh thu KHÔNG đổi. Doanh nghiệp dựa vào PED để định giá tối ưu; chính phủ dựa vào PED để dự đoán số thuế thu được và ai (người mua hay người bán) sẽ gánh chịu phần lớn thuế gián thu (incidence) — hàng hóa có cầu càng kém co giãn thì người tiêu dùng càng gánh chịu phần thuế lớn hơn.

2.6 Income Elasticity of Demand (YED)

$$YED = \frac{\% \Delta Q_d}{\% \Delta \text{income}}$$

Sign convention: $YED > 0$ indicates a **normal good** (demand rises as income rises); $YED < 0$ indicates an **inferior good** (demand falls as income rises). Among normal goods, a further distinction matters: $0 < YED < 1$ identifies a **necessity** (demand rises less than proportionately with income — e.g. bread, basic clothing), while $YED > 1$ identifies a **luxury** (demand rises more than proportionately with income — e.g. overseas holidays, luxury cars).

Ví dụ mẫu · Worked example — YED calculation and interpretation

Average household income rises from \$30,000 to \$33,000 per year (a 10% rise). Quantity demanded of a good rises from 1,000 to 1,150 units (a 15% rise). Calculate YED and interpret the result.

$$\% \Delta \text{income} = \frac{33,000 - 30,000}{30,000} \times 100 = 10\% \quad \% \Delta Q_d = \frac{1,150 - 1,000}{1,000} \times 100 = 15\%$$

$$YED = \frac{15\%}{10\%} = 1.5$$

Since $YED > 0$, this is a **normal good**; since $YED > 1$, demand rises *more than proportionately* with income, so the good is classified specifically as a **luxury**. A firm producing this good would expect strong sales growth during an economic boom (rising average incomes) but a sharper-than-average fall in sales during a recession.

GIẢI THÍCH TIẾNG VIỆT

VN

YED đo lường mức độ phản ứng của lượng cầu khi thu nhập thay đổi. Dấu **dương**: hàng thông thường (thu nhập tăng → cầu tăng); dấu **âm**: hàng thứ cấp (thu nhập tăng → cầu giảm). Trong nhóm hàng thông thường: nếu $0 < YED < 1$ là **hàng thiết yếu** (cầu tăng chậm hơn thu nhập); nếu $YED > 1$ là **hàng xa xỉ** (cầu tăng nhanh hơn thu nhập). Doanh nghiệp bán hàng xa xỉ chịu ảnh hưởng mạnh hơn từ chu kỳ kinh tế (tăng trưởng mạnh khi kinh tế tăng trưởng, sụt giảm mạnh khi suy thoái) so với doanh nghiệp bán hàng thiết yếu.

2.7 Cross Elasticity of Demand (XED)

$$XED_{A,B} = \frac{\% \Delta Q_{d,A}}{\% \Delta P_B}$$

$XED_{A,B}$ measures how the quantity demanded of good A responds to a change in the *price of a different good, B*. **Sign convention**: $XED > 0$ indicates A and B are **substitutes** (a rise in the price of B increases demand for A , as consumers switch); $XED < 0$ indicates A and B are **complements** (a rise in the price of B decreases demand for A , since the two are consumed together); $XED \approx 0$ indicates the two goods are **unrelated**. The larger $|XED|$, the stronger (closer) the relationship between the two goods.

Ví dụ mẫu · Worked example – XED calculation and interpretation

The price of petrol rises by 10%. As a result, quantity demanded of new cars (good A) falls by 4%. Calculate $XED_{\text{cars, petrol}}$ and interpret the sign.

$$XED_{\text{cars, petrol}} = \frac{-4\%}{10\%} = -0.4$$

Since $XED < 0$, cars and petrol are **complements**: a rise in the price of petrol (the complement) makes running a car more expensive overall, reducing demand for new cars. Since $|XED| = 0.4 < 1$, the relationship is present but relatively weak.

GIẢI THÍCH TIẾNG VIỆT

VN

XED đo lường lượng cầu của hàng hóa A phản ứng thế nào khi giá của hàng hóa B (khác) thay đổi. Dấu **dương**: A và B là hàng **thay thế** (giá B tăng → cầu A tăng, người mua chuyển sang dùng A); dấu **âm**: A và B là hàng **bổ sung** (giá B tăng → cầu A giảm, vì hai hàng được dùng cùng nhau); giá trị gần 0: hai hàng **không liên quan**. Giá trị tuyệt đối càng lớn thì mối quan hệ giữa hai hàng càng chặt chẽ.

2.8 Price Elasticity of Supply (PES)

$$PES = \frac{\% \Delta Q_s}{\% \Delta P}$$

Because supply curves slope upward, *PES* is normally **positive**. *PES* > 1: supply is elastic; *PES* < 1: supply is inelastic; *PES* = 1: unit elastic; *PES* = 0: perfectly inelastic (vertical supply – e.g. a unique painting, or land in a fixed total area); *PES* → ∞: perfectly elastic (horizontal supply).

Determinants of PES

- **Spare capacity:** a firm with unused machinery and idle workers can expand output quickly and cheaply when price rises, making supply more elastic; a firm already operating at full capacity can only expand output slowly (requiring new investment), making supply more inelastic.
- **Ease of storing stock:** goods that can be stockpiled (manufactured goods, non-perishables) allow firms to draw on stored inventory to meet a price rise quickly, increasing elasticity; perishable goods (fresh produce, flowers, seafood) cannot be stored, reducing elasticity.
- **Time period:** in the very short run, output is largely fixed (especially for agriculture, where the harvest for the season is already determined), so supply is highly inelastic; over a longer period, firms can hire more labour, invest in new capital, and new firms can enter the industry, making supply progressively more elastic.
- **Ease of switching resources between uses:** if a firm's factors of production (machinery, skilled labour) can be easily redeployed to produce this good instead of something else, supply responds quickly to a price change (elastic); highly specialised factors that cannot be redeployed make supply more inelastic.

Ví dụ mẫu · Worked example – PES calculation

A manufacturer with spare factory capacity sees the market price of its product rise from \$8 to \$8.80 (a 10% rise). In response, quantity supplied rises from 2,000 to 2,500 units per month (a 25% rise). Calculate PES and classify supply.

$$\% \Delta P = \frac{8.80 - 8}{8} \times 100 = 10\% \quad \% \Delta Q_s = \frac{2,500 - 2,000}{2,000} \times 100 = 25\% \quad PES = \frac{25\%}{10\%} = 2.5$$

Since *PES* = 2.5 > 1, supply is **price elastic**, consistent with the firm's spare capacity, which allows it to respond to the higher price with a proportionately larger increase in output.

As with *PED*, real goods rarely sit at the exact theoretical extremes of *PES*, but some come close. **Land in a fixed, already fully built-up city centre** has supply that is close to perfectly inelastic (*PES* ≈ 0): no matter how high the price of land rises, the physical quantity of land within the city's existing boundary cannot increase (a vertical supply curve). By contrast, a **mass-produced consumer good manufactured by a firm with abundant spare capacity and easy access to more raw materials and labour** can have supply close to perfectly elastic over a meaningful price range: the firm is willing to supply as much as the market wants at the prevailing price, but has little reason to supply extra at a lower price, since costs per unit are roughly constant across that output range.

GIẢI THÍCH TIẾNG VIỆT

VN

PES đo lường mức độ phản ứng của lượng cung khi giá thay đổi. *PES* > 1: cung co giãn;

$PES < 1$: cung kém co giãn. Các yếu tố ảnh hưởng: **năng lực sản xuất dư thừa** (máy móc/lao động nhàn rỗi → dễ tăng cung → co giãn hơn); **khả năng lưu trữ hàng tồn kho** (hàng dễ bảo quản → co giãn hơn; hàng dễ hỏng → kém co giãn); **thời gian** (ngắn hạn: cung kém co giãn vì sản lượng gần như cố định, đặc biệt với nông sản; dài hạn: co giãn hơn vì có thể đầu tư thêm vốn, thuê thêm lao động, doanh nghiệp mới gia nhập); và **khả năng chuyển đổi nguồn lực** giữa các mục đích sử dụng khác nhau.

(!) Lỗi thường gặp: Do not confuse the sign conventions across the three elasticities: PED is (almost always) **negative**, because price and quantity demanded move in opposite directions along a normal demand curve. YED and XED can be **either sign**, and the sign itself carries the essential economic information — a negative YED signals an inferior good (not an error!), and a negative XED signals complements (not substitutes). Always state both the numerical value *and* its sign when reporting an elasticity, and interpret the sign before the magnitude.

Measure	Formula	Sign / range	Key determinants
PED	$\frac{\% \Delta Q_d}{\% \Delta P}$	Normally negative; classify by $ PED $ vs. 1	Substitutes, necessity/luxury, % of income, time, addictiveness, breadth of definition
YED	$\frac{\% \Delta Q_d}{\% \Delta \text{income}}$	> 0 normal (0–1 necessity, > 1 luxury); < 0 inferior	Nature of the good, income level of typical buyer
XED	$\frac{\% \Delta Q_{d,A}}{\% \Delta P_B}$	> 0 substitutes; < 0 complements; ≈ 0 unrelated	Closeness of the relationship between A and B
PES	$\frac{\% \Delta Q_s}{\% \Delta P}$	Normally positive; classify vs. 1	Spare capacity, storability, time period, factor mobility

2.9 Market Failure

2.9.1 Defining market failure

Market failure

Market failure occurs whenever the free market, left alone, fails to allocate resources at the socially optimal level — that is, the market produces either *too much* or *too little* of a good relative to what would maximise total welfare for society as a whole. The root cause in most cases is a divergence between **private** costs/benefits (borne or enjoyed only by the individual consumer or producer directly involved in the transaction) and **social** costs/benefits (borne or enjoyed by *society as a whole*, including third parties not directly involved in the transaction).

Social cost = Private cost + External cost Social benefit = Private benefit + External benefit

An **externality** is exactly this gap — a cost or benefit falling on a third party who is not part of the original market transaction, and which the free market price therefore fails to reflect.

GIẢI THÍCH TIẾNG VIỆT

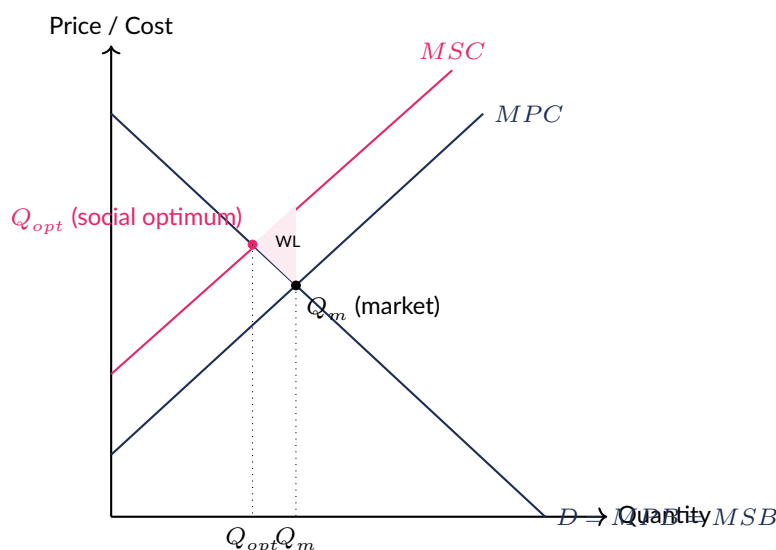
VN

Thất bại thị trường xảy ra khi thị trường tự do không phân bổ nguồn lực ở mức tối ưu cho toàn xã hội – sản xuất/tiêu dùng QUÁ NHIỀU hoặc QUÁ ÍT so với mức tối ưu xã hội. Nguyên nhân cốt lõi là sự chênh lệch giữa **chi phí/lợi ích tư nhân** (chỉ người mua/người bán trực tiếp gánh chịu hoặc hưởng lợi) và **chi phí/lợi ích xã hội** (toàn xã hội, bao gồm cả bên thứ ba không tham gia giao dịch). **Ngoại ứng** (externality) chính là khoảng chênh lệch này – chi phí hoặc lợi ích rơi vào bên thứ ba mà mức giá thị trường tự do không phản ánh được.

2.9.2 Negative externalities

A **negative externality** arises when the **social cost** of an activity exceeds its **private cost** – a third party bears an external cost that the producer or consumer does not pay for (classic example: a factory's pollution imposes health and clean-up costs on nearby residents who are not party to the factory's transactions).

Because a producer generating a negative production externality only takes its own **private** costs into account when deciding output, it ignores the external cost imposed on third parties. The free market therefore settles at the quantity where $D = MPC$ (marginal private cost) – a level of output **greater** than the socially optimal quantity, where $D = MSC$ (marginal social cost = $MPC + \text{external cost}$). The good is **overproduced and overconsumed** relative to the social optimum, and the units produced between the optimal quantity and the (larger) market quantity represent a net **welfare loss** to society, since their social cost exceeds the value society places on them.



Negative externality (e.g. pollution): MSC lies above MPC by the external cost of each unit. The free market produces Q_m (where $D = MPC$); the socially optimal output is the smaller Q_{opt} (where $D = MSC$). Output between Q_{opt} and Q_m creates a welfare loss (shaded), since MSC exceeds the value consumers place on those units.

GIẢI THÍCH TIẾNG VIỆT

VN

Ngoại ứng tiêu cực xảy ra khi chi phí xã hội (MSC) LỚN HƠN chi phí tư nhân (MPC) – ví dụ điển hình: ô nhiễm từ nhà máy gây chi phí sức khỏe và dọn dẹp cho cư dân xung quanh mà nhà máy không phải trả. Vì doanh nghiệp chỉ tính chi phí TƯ NHÂN khi quyết định sản lượng, thị trường tự do sẽ sản xuất ở mức Q_m (giao điểm $D = MPC$) – LỚN HƠN mức tối ưu xã hội Q_{opt} (giao điểm $D = MSC$). Kết quả: hàng hóa bị **sản xuất và tiêu dùng QUÁ MỨC** so với tối ưu, gây ra tổn thất phúc lợi xã hội (welfare loss) ở phần sản lượng giữa Q_{opt} và Q_m .

2.9.3 Positive externalities

A **positive externality** arises when the **social benefit** of an activity exceeds its **private benefit** — a third party receives an external benefit that they do not pay for (classic examples: education raises a worker's own income *and* produces a more productive, better-informed workforce and citizenry that benefits the whole economy; vaccination protects the vaccinated individual *and* reduces disease transmission to others through herd immunity).

Underconsumption of positive-externality goods

Because a consumer deciding how much of such a good to consume weighs only their own **private** benefit, ignoring the external benefit to third parties, the free market settles at the quantity where $D = MPB$ (marginal private benefit) = S — a level of consumption **smaller** than the socially optimal quantity, where MSB (marginal social benefit = $MPB + \text{external benefit}$) = S . The good is **underproduced and underconsumed** relative to the social optimum.

GIẢI THÍCH TIẾNG VIỆT

VN

Ngoại ứng tích cực xảy ra khi lợi ích xã hội (MSB) LỚN HƠN lợi ích tư nhân (MPB) — ví dụ: giáo dục mang lại thu nhập cao hơn cho cá nhân VÀ tạo ra lực lượng lao động năng suất cao hơn cho cả nền kinh tế; tiêm chủng bảo vệ người được tiêm VÀ giảm lây lan bệnh cho người khác (miễn dịch cộng đồng). Vì người tiêu dùng chỉ cân nhắc lợi ích TƯ NHÂN, thị trường tự do sẽ tiêu dùng ở mức THẤP HƠN mức tối ưu xã hội — hàng hóa bị **tiêu dùng dưới mức** cần thiết.

2.9.4 Public goods, private goods, and merit/demerit goods

Two entirely separate classification systems are commonly confused at this level, so each must be kept distinct.

Public vs. private goods — defined by the good's characteristics

A **private good** is both **excludable** (a non-payer can be prevented from consuming it) and **rival** (one person's consumption reduces the amount available to others) — most goods are private goods (a sandwich, a haircut, a car). A **public good** is both **non-excludable** (impossible, or prohibitively costly, to prevent anyone — including non-payers — from consuming it) and **non-rival** (one person's consumption does not reduce the amount available to anyone else) — classic examples are national defence, street lighting, and a lighthouse.

Non-excludability creates the **free-rider problem**: since no one can be forced to pay, and non-payers cannot be excluded from enjoying the good once it exists, rational self-interested individuals have every incentive to consume without paying, hoping others will pay instead. Because no private firm can profitably charge for a good it cannot exclude non-payers from, and because a public good would still cost real resources to provide even though one more user costs nothing extra, a competitive free market will provide **zero** (or a socially insufficient quantity) of a pure public good — this is a complete, rather than partial, market failure.

Ví dụ mẫu · Worked example — The free-rider problem, illustrated numerically

A small coastal town would benefit from a lighthouse costing \$10,000 per year to build and maintain. There are 500 ship-owners who use the surrounding waters, each of whom privately values the safety benefit of the lighthouse at \$30 per year. The town relies on *voluntary* contributions, since no ship can be prevented from seeing and benefiting from the light once it exists. Suppose that, in practice, only 60 of the 500 ship-owners choose to contribute their full \$30 valuation. (a) Compare total social value to total cost. (b) Compare voluntary contri-

butions actually raised to the cost. (c) Explain the outcome.

(a) Total social value = $500 \times \$30 = \$15,000$, which comfortably exceeds the \$10,000 cost – building the lighthouse is socially worthwhile (an efficient use of resources).

(b) Voluntary contributions raised = $60 \times \$30 = \$1,800$, far short of the \$10,000 needed.

(c) Despite the lighthouse being worth far more to society than it costs, the free market (relying on voluntary payment) fails to provide it, because each ship-owner reasons that the lighthouse will shine for them regardless of whether they personally pay (non-excludability), and that their own contribution makes no perceptible difference to whether it is built (non-rivalry in benefit). This incentive to **free-ride** on others' contributions means a purely private, voluntary-payment market persistently under-funds – or entirely fails to provide – a good that is clearly worth building from society's point of view. This is why pure public goods are instead funded through compulsory taxation and provided directly by government.

		Merit good	Demerit / ordinary good
Private	(excludable & rival)	Private healthcare, private education, private gym membership	Cigarettes, alcohol, sugary snacks (demerit); most ordinary consumer goods (neither merit nor demerit)
Public	(non-excludable & non-rival)	State-funded basic research with wide social spillovers; herd-immunity-generating mass vaccination programmes	(Rare in practice – most demerit goods are privately supplied and consumed)

The "public vs. private" row/column depends only on excludability and rivalry; the "merit/demerit" column depends only on externalities and information failure. The two classifications are independent – a good can occupy any cell.

Merit and demerit goods – defined by information and externalities, not excludability

A **merit good** (e.g. education, healthcare, vaccination) is a good that generates positive externalities and/or is under-valued by the individual consumer due to imperfect information about its true long-run benefits – so the free market **under-provides** it relative to the social optimum, even though it may be perfectly excludable and rival (a private school place is both excludable and rival, yet education is still a merit good). A **demerit good** (e.g. tobacco, alcohol, gambling) generates negative externalities and/or is over-valued by the consumer due to imperfect information about long-run harms (addiction, underestimating health risk) – the free market **over-provides** it relative to the social optimum.

(!) Lỗi thường gặp: Students very frequently confuse **merit goods** with **public goods**, but the two classifications answer entirely different questions. "Public vs. private" is about the good's physical/technical characteristics – excludability and rivalry – and determines whether a private market can function *at all*. "Merit vs. demerit" is about externalities and information failure, and applies even to goods that are fully excludable and rival, sold every day in ordinary private markets (education and healthcare are usually excludable and rival – a hospital bed used by one patient is unavailable to another – yet both are classic merit goods). A good can therefore be private *and* a merit good at the same time (private healthcare); it is incorrect to assume "merit good" automatically means "public good."

GIẢI THÍCH TIẾNG VIỆT

VN

Hàng hóa công (public goods) được định nghĩa bởi hai đặc điểm: **không loại trừ** (không thể ngăn người không trả tiền sử dụng) và **không cạnh tranh** (một người dùng không làm giảm lượng sẵn có cho người khác) – ví dụ: quốc phòng, đèn đường. Đặc điểm không loại trừ dẫn đến **vấn đề người ăn theo** (free-rider problem), khiến thị trường tự do KHÔNG cung cấp (hoặc cung cấp quá ít) hàng hóa công – đây là thất bại thị trường HOÀN TOÀN. **Hàng khuyến dụng** (merit goods, ví dụ: giáo dục, y tế) và **hàng có hại** (demerit goods, ví dụ: thuốc lá, rượu bia) được định nghĩa dựa trên NGOẠI ỨNG và THÔNG TIN KHÔNG HOÀN HẢO, hoàn toàn khác với hàng hóa công/tư. Một lỗi rất phổ biến là nhầm lẫn hàng khuyến dụng với hàng hóa công – thực tế, y tế tư nhân vẫn có tính loại trừ và cạnh tranh (là hàng hóa TƯ) nhưng vẫn là hàng khuyến dụng vì tạo ra ngoại ứng tích cực.

2.9.5 Government responses to market failure

Matching each policy to the failure it corrects

- **Indirect taxes** (e.g. a Pigouvian tax equal to the external cost per unit) raise the private cost of a good with a negative externality, shifting MPC up toward MSC and reducing output toward the social optimum – used against demerit goods and negative externalities (tobacco duty, carbon tax, sugar tax).
- **Subsidies** lower the private cost (or effective price) of a good with a positive externality, shifting supply/demand toward the social optimum and increasing output/consumption – used to encourage merit goods and positive externalities (subsidised vaccination, subsidised public transport, subsidised education).
- **Regulation and legislation** (bans, minimum ages, emissions standards, compulsory seat-belt/helmet laws, advertising restrictions) directly restrict or mandate behaviour, used especially against demerit goods and negative externalities where price-based tools alone may be insufficient (e.g. a total ban on a highly dangerous substance).
- **Direct government provision** of a good funded from general taxation is the standard response to **public goods**, since the free-rider problem rules out private provision entirely (national defence, street lighting, and – commonly – provision or heavy subsidy of core merit goods like state education and public healthcare).
- **Tradeable permits** (a cap-and-trade scheme) set a legal limit on total pollution (or another externality-generating activity) and allow firms to buy and sell permits within that cap, using the price mechanism itself to find the lowest-cost way of reducing a negative externality to a targeted level.
- **Information campaigns** (health warnings on cigarette packets, government advertising promoting exercise or vaccination) correct the imperfect-information element of merit/demerit goods directly, without altering price – used alongside taxes/subsidies for goods where the failure is partly informational rather than purely a matter of externalities.

GIẢI THÍCH TIẾNG VIỆT

VN

Mỗi công cụ chính sách nhắm đúng vào một loại thất bại thị trường cụ thể: **thuế gián thu** (thuế Pigou) đánh vào hàng có ngoại ứng tiêu cực/hàng có hại để đẩy MPC lên gần MSC ; **trợ cấp** khuyến khích hàng có ngoại ứng tích cực/hàng khuyến dụng; **quy định pháp luật** (cấm, độ tuổi tối thiểu, tiêu chuẩn khí thải) áp dụng khi công cụ giá không đủ mạnh; **nhà nước cung cấp trực tiếp** là giải pháp chuẩn cho hàng hóa công (vì vấn đề người ăn theo loại trừ khả năng tư nhân cung cấp); **giấy phép có thể giao dịch** (cap-and-trade) dùng cơ chế giá để giảm ô nhiễm ở mức

chi phí thấp nhất; **chiến dịch thông tin** khắc phục vấn đề thông tin không hoàn hảo mà không cần thay đổi giá.

Ví dụ mẫu · Worked example – A subsidy correcting under-consumption of a merit good

Demand and supply for a vaccination programme (priced per dose, provided through a mix of clinics) are $Q_d = 400 - 5P$ and $Q_s = -50 + 5P$. The government introduces a subsidy of \$10 per dose paid to providers, to correct the positive externality (herd immunity) that the free market ignores. Find the free-market equilibrium and the new equilibrium after the subsidy.

Before the subsidy: $400 - 5P = -50 + 5P \Rightarrow 450 = 10P \Rightarrow P = \45 , $Q = 400 - 5(45) = 175$ doses.

After the subsidy: a provider receiving consumer price P now effectively receives $P + 10$ once the subsidy is added, so $Q_s = -50 + 5(P + 10) = 5P$. Setting $Q_d = Q_s$:

$$400 - 5P = 5P \Rightarrow 400 = 10P \Rightarrow P_{\text{new}} = \$40, \quad Q_{\text{new}} = 400 - 5(40) = 200 \text{ doses.}$$

Providers receive $40 + 10 = \$50$ per dose (check: $Q_s = 5(40) = 200$ as required). The subsidy simultaneously **lowers** the price consumers pay (\$45→\$40) and **raises** the amount providers receive (\$45→\$50), while **quantity rises** from 175 to 200 doses – moving consumption closer to the socially optimal level that fully accounts for the external (herd-immunity) benefit to third parties.

Type of failure	Typical example	Effect on free-market outcome	Main remedy
Negative externality	Factory pollution	Overproduction/overconsumption at too low a price	Indirect tax; regulation; tradeable permits
Positive externality	Education, vaccination	Underproduction/underconsumption	Subsidy; direct provision
Public good	National defence, street lighting	Zero (or minimal) private provision – free-rider problem	Direct government provision (tax-funded)
Demerit good	Tobacco, alcohol	Overconsumption relative to true long-run cost to the user	Tax; regulation; information campaigns
Merit good	Healthcare, education	Underconsumption relative to true long-run benefit to the user	Subsidy; direct provision; information campaigns

Ví dụ mẫu · Worked example – Negative externality and a Pigouvian tax

A factory's private marginal cost of production gives $Q_s = -20 + 5P$ and demand (equal to marginal social benefit, since there is no externality on the consumption side) is $Q_d = 220 - 5P$. Every unit produced also imposes an external (pollution) cost of \$4 on nearby residents.

Find (a) the free-market equilibrium, (b) the socially optimal equilibrium, (c) the size of the overproduction, and (d) the per-unit tax that would correct it.

(a) Free-market equilibrium ($D = MPC$): $220 - 5P = -20 + 5P \Rightarrow 240 = 10P \Rightarrow P_m = \24 , $Q_m = 220 - 5(24) = 100$ units.

(b) Social supply curve: the external cost of \$4 per unit means the minimum acceptable price at every quantity is \$4 higher, so MSC : solving $P = \frac{Q+20}{5} + 4 = 0.2Q + 8$ gives $Q_s^{\text{social}} = -40 + 5P$.

(c) Socially optimal equilibrium ($D = MSC$): $220 - 5P = -40 + 5P \Rightarrow 260 = 10P \Rightarrow P_{\text{opt}} = \26 , $Q_{\text{opt}} = 220 - 5(26) = 90$ units.

(d) Overproduction $= Q_m - Q_{\text{opt}} = 100 - 90 = 10$ units, at a market price (\$24) that is \$2 below the true social optimum price (\$26) – exactly as the theory predicts for a negative externality: the market both overproduces and underprices the good.

(e) Correcting tax: an indirect (Pigouvian) tax of exactly \$4 per unit – equal to the external cost – shifts private supply $Q_s = -20 + 5P$ to $Q_s = -20 + 5(P - 4) = -40 + 5P$, which is precisely the social supply curve MSC . The tax internalises the externality: the firm's after-tax private cost now equals the true social cost, and the market settles at the efficient outcome $Q_{\text{opt}} = 90$, $P_{\text{opt}} = \$26$.

2.10 Price Controls

Governments sometimes intervene directly in a market by legally fixing a price away from its free-market equilibrium, rather than only shifting demand or supply through taxes and subsidies.

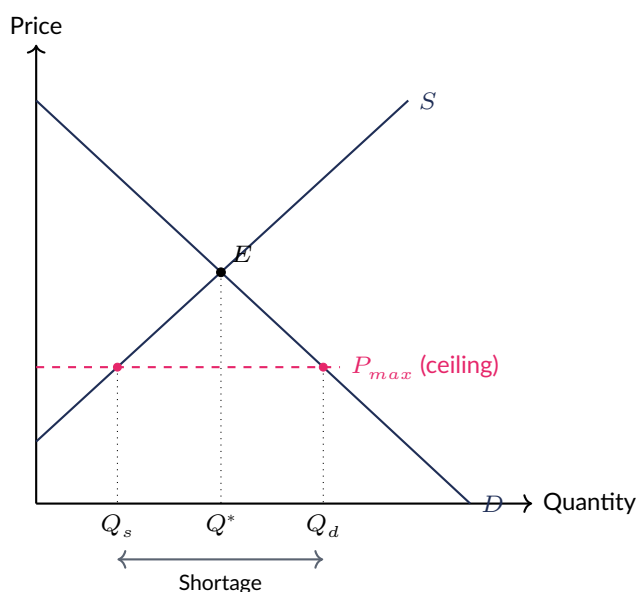
2.10.1 Maximum price (price ceiling)

Price ceiling

A **maximum price** (price ceiling) is a legal upper limit on the price that may be charged for a good, typically imposed to make an essential good more affordable (e.g. rent controls, price caps on staple foods or medicines during a crisis).

(!) Lỗi thường gặp: A price ceiling only has any effect if it is set **below** the free-market equilibrium price. A ceiling set above equilibrium is not binding – the market simply settles at its normal equilibrium, below the legal maximum, and the policy has no practical effect at all. (Symmetrically, a price **floor** only has any effect if set **above** equilibrium – a floor set below equilibrium is not binding.) This single condition – “binding” means below equilibrium for a ceiling, above equilibrium for a floor – is the most heavily tested idea in this topic.

Because a binding ceiling holds price below the level that would normally equate quantity demanded and quantity supplied, quantity demanded exceeds quantity supplied at the controlled price: a persistent **shortage**. Consequences of a shortage under a price ceiling include: queues and waiting lists for the scarce good; the need for a **non-price rationing mechanism** to allocate the good among excess demanders, since price itself can no longer perform its rationing function (examples include first-come-first-served queuing, ration coupons/cards, a waiting-list system, or supplier discretion – each with its own fairness and efficiency problems); and the emergence of a **black market**, where the good is illegally resold at a price above the legal maximum (often approaching, or even exceeding, the free-market equilibrium price) to buyers unable to obtain it through official channels.



A maximum price (price ceiling) set below the equilibrium price P^* causes quantity demanded (Q_d) to exceed quantity supplied (Q_s) at the controlled price – a persistent shortage.

Ví dụ mẫu · Worked example – Calculating the shortage under a price ceiling

Demand and supply for a staple food are $Q_d = 300 - 5P$ and $Q_s = -60 + 5P$ (P in dollars per sack, Q in sacks per week). The government imposes a maximum price of \$30 per sack to keep the good affordable. Find the free-market equilibrium and the size of the resulting shortage.

Free-market equilibrium: $300 - 5P = -60 + 5P \Rightarrow 360 = 10P \Rightarrow P^* = \36 , $Q^* = 300 - 5(36) = 120$ sacks.

Since the ceiling (\$30) is **below** the equilibrium price (\$36), it is binding. At $P = \$30$:

$$Q_d = 300 - 5(30) = 150 \text{ sacks} \quad Q_s = -60 + 5(30) = 90 \text{ sacks}$$

$$\text{Shortage} = Q_d - Q_s = 150 - 90 = 60 \text{ sacks per week.}$$

At the legal maximum price, 60 sacks of excess demand each week must be rationed by queuing, ration cards, or another non-price mechanism, and a black market is likely to emerge in which some sacks are resold above \$30.

GIẢI THÍCH TIẾNG VIỆT

VN

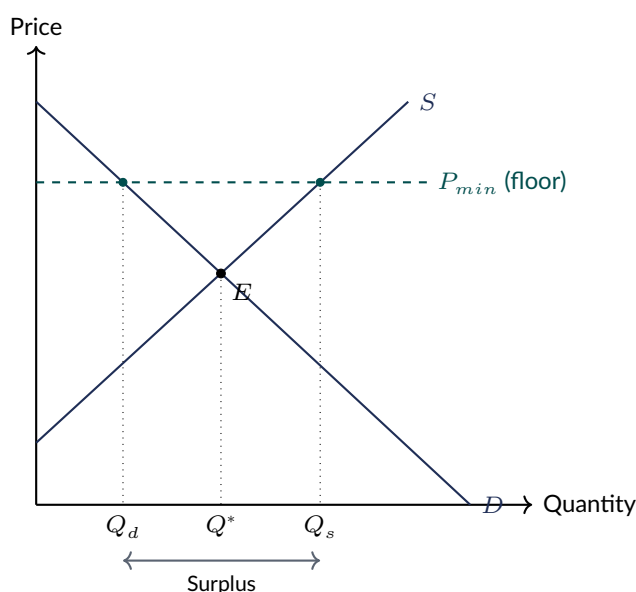
Giá trần (price ceiling) là mức giá tối đa hợp pháp, CHỈ có tác dụng khi đặt THẤP HƠN giá cân bằng – nếu đặt cao hơn giá cân bằng thì hoàn toàn không có hiệu lực (thị trường tự điều chỉnh về mức cân bằng bình thường). Khi giá trần ràng buộc (dưới cân bằng), lượng cầu vượt lượng cung, gây ra **thiếu hụt** (shortage), dẫn đến xếp hàng, cần cơ chế phân phối phi giá (tem phiếu, danh sách chờ), và có thể phát sinh **chợ đen** (black market) nơi hàng hóa được bán lại với giá cao hơn mức trần hợp pháp.

2.10.2 Minimum price (price floor)

Price floor

A **minimum price** (price floor) is a legal lower limit on the price that may be charged, typically imposed to guarantee producers a minimum income (e.g. agricultural price supports/guaranteed prices, a national minimum wage in the labour market).

Because a binding floor holds price above the level that would normally equate quantity demanded and quantity supplied, quantity supplied exceeds quantity demanded at the controlled price: a persistent **surplus**. In agricultural markets, the government (or an intervention agency) typically must **buy up and store** (or destroy/export at a loss) the unsold surplus at the guaranteed minimum price, in order to keep the floor price from collapsing back toward equilibrium — an ongoing cost to the taxpayer, on top of the loss of allocative efficiency from producing beyond the level actually demanded.



A minimum price (price floor) set above the equilibrium price P^* causes quantity supplied (Q_s) to exceed quantity demanded (Q_d) at the controlled price — a persistent surplus.

Ví dụ mẫu · Worked example — Calculating the surplus under a price floor

Demand and supply for a farm product are $Q_d = 400 - 8P$ and $Q_s = -80 + 8P$ (P in dollars per tonne, Q in tonnes per week). The government guarantees farmers a minimum price of \$40 per tonne. Find the free-market equilibrium and the size of the resulting surplus.

Free-market equilibrium: $400 - 8P = -80 + 8P \Rightarrow 480 = 16P \Rightarrow P^* = \30 , $Q^* = 400 - 8(30) = 160$ tonnes.

Since the floor (\$40) is **above** the equilibrium price (\$30), it is binding. At $P = \$40$:

$$Q_d = 400 - 8(40) = 80 \text{ tonnes} \quad Q_s = -80 + 8(40) = 240 \text{ tonnes}$$

$$\text{Surplus} = Q_s - Q_d = 240 - 80 = 160 \text{ tonnes per week.}$$

To maintain the \$40 floor, the government must purchase and store (or otherwise dispose of) 160 tonnes per week that the free market alone would not absorb at that price.

GIẢI THÍCH TIẾNG VIỆT

VN

Giá sàn (price floor) là mức giá tối thiểu hợp pháp, CHỈ có tác dụng khi đặt CAO HƠN giá cân bằng. Khi giá sàn ràng buộc, lượng cung vượt lượng cầu, gây ra **dư thừa** (surplus) — ví dụ điển hình là chính sách giá nông sản, buộc chính phủ phải mua và lưu kho phần dư thừa để duy trì mức giá sàn, gây tổn kém ngân sách. Đây là hình ảnh **ĐỐI XỨNG** với giá trần: giá trần (dưới cân bằng) → thiếu hụt; giá sàn (trên cân bằng) → dư thừa.

(!) Lỗi thường gặp: Do not mix up the direction of the two controls and their consequences. A **ceiling** is a *maximum* set *below* equilibrium, causing a *shortage* (queues, black markets). A **floor** is a *minimum* set *above* equilibrium, causing a *surplus* (government stockpiles, wasted output). A useful anchor: think of the ceiling as a "lid pressing the price down" (so the price cannot rise enough to choke off excess demand — a shortage), and the floor as "a platform holding the price up" (so the price cannot fall enough to choke off excess supply — a surplus).

A common real-world refinement of a simple minimum price is the **buffer stock scheme**, widely used to stabilise agricultural prices that would otherwise swing sharply from one harvest to the next due to weather. A government (or commodity board) sets both a minimum *and* a maximum price around the long-run average equilibrium. In a bumper-harvest year, supply shifts right and price would otherwise fall below the minimum; the board buys up the surplus at the guaranteed minimum price and adds it to a stored buffer stock. In a poor-harvest year, supply shifts left and price would otherwise rise above the maximum; the board releases stored stock onto the market, increasing supply back toward the target range and preventing the price spike. Over time, purchases in good years are intended to be offset by sales in bad years, in principle allowing the scheme to be self-financing — though storage costs, spoilage of stockpiled produce, and the risk of persistent oversupply (if the guaranteed price is set too high relative to the true long-run equilibrium) are common practical weaknesses of buffer stock schemes.

2.10.3 Indirect taxes and subsidies as alternative intervention tools

Price ceilings and floors fix a price directly and prevent the market from clearing at all, generating a persistent shortage or surplus for as long as the control remains binding. **Indirect taxes and subsidies**, covered earlier as determinants of supply and as government responses to externalities, work differently: they shift the supply curve itself (raising or lowering the cost of supplying each unit), and the market is then left free to find a *new* equilibrium at the shifted intersection of demand and supply. Unlike price controls, a tax or subsidy therefore does not by itself create a shortage or surplus — the market still clears, but at a different price and quantity than before, with the tax/subsidy per unit driving a wedge between the price paid by consumers and the price received (net of tax, or including subsidy) by producers.

Ví dụ mẫu · Worked example — Tax incidence: who really pays?

Demand and supply for a good are $Q_d = 300 - 3P$ and $Q_s = -60 + 9P$. The government imposes a per-unit tax of \$8, collected from producers. Find (a) the equilibrium before the tax, (b) the new equilibrium price paid by consumers and price received by producers after the tax, and (c) how the \$8 tax burden splits between consumers and producers.

(a) Before the tax: $300 - 3P = -60 + 9P \Rightarrow 360 = 12P \Rightarrow P = \30 , $Q = 300 - 3(30) = 210$ units.

(b) After the tax: a producer who receives price P from the consumer keeps only $P - 8$ after paying the tax, so the supply curve in terms of the *consumer* price becomes $Q_s = -60 + 9(P - 8)$

8) = $-132 + 9P$. Setting $Q_d = Q_s$:

$$300 - 3P = -132 + 9P \Rightarrow 432 = 12P \Rightarrow P_{\text{consumer}} = \$36, \quad Q_{\text{new}} = 300 - 3(36) = 192 \text{ units.}$$

Producers receive $P_{\text{producer}} = 36 - 8 = \28 per unit (check supply: $-132 + 9(36) = 192$ as required).

(c) Incidence: consumer price rose from \$30 to \$36 – consumers bear $\$36 - \$30 = \$6$ of the \$8 tax per unit. Producer price received fell from \$30 to \$28 – producers bear $\$30 - \$28 = \$2$ of the tax per unit. ($\$6 + \$2 = \$8$ as required, the full tax.) Consumers bear **three-quarters** of this tax, because demand here is comparatively less responsive to price than supply (the demand curve's quantity response, 3 units per \$1, is smaller than supply's, 9 units per \$1) – confirming the general rule that **the side of the market with the less elastic response bears the larger share of an indirect tax**. Total tax revenue raised = $\$8 \times 192 = \$1,536$.

2.11 Practice and Exam-Style Questions

Bài tập luyện tập

Which of the following best describes the "signalling" function of the price mechanism?

- | | |
|--|---|
| (A) Prices ration a scarce good to those willing and able to pay for it | (C) A price rise motivates producers to supply more |
| (B) Prices transmit information about the relative scarcity of a good throughout the economy | (D) Government sets a legal minimum price to protect producer incomes |

Lời giải chi tiết

The signalling function specifically refers to prices conveying *information* – a rising price signals growing scarcity, and vice versa – without requiring any central instruction. Option (A) describes the rationing function; option (C) describes the incentive function; option (D) is unrelated to the price mechanism's own functions (it is a government price control). **(B)**.

Bài tập luyện tập

Explain, using the three functions of price, how a sudden shortage of a popular smartphone model would be resolved by the free market without any government intervention.

Lời giải chi tiết

The shortage (quantity demanded exceeding quantity supplied at the current price) causes the price to rise – this is the **signalling** function, informing the market that the phone has become relatively scarcer. The higher price then acts as an **incentive**: existing manufacturers increase production, new firms may consider entering the market, and some consumers decide the higher price is no longer worth paying and drop out of the market or delay purchase. Finally, price performs its **rationing** function: at the new, higher price, the smaller number of phones actually available goes to those consumers most willing and able to pay that price, while others go without – resolving the shortage without queues, ration cards, or any government action.

Bài tập luyện tập

A rise in the price of coffee (holding all else constant) leads to a fall in the quantity of coffee demanded. This is best described as:

- (A) A decrease in demand
(B) An increase in demand
(C) A contraction of demand
(D) An extension of demand

Lời giải chi tiết

A change caused by the good's own price is always a movement *along* the existing demand curve, not a shift of it. A price rise causing quantity demanded to fall is specifically called a **contraction** of demand (the reverse of an extension). **(C)**.

Bài tập luyện tập

State, for each event, whether market demand for the named good shifts left or right, and name the determinant responsible. (a) A sharp rise in national income – effect on demand for restaurant meals (a normal good). (b) A widely reported health study links a food additive in a snack brand to illness – effect on demand for that snack brand. (c) The price of a complementary good (games consoles) falls sharply – effect on demand for video games.

Lời giải chi tiết

(a) Restaurant meals are a normal good, so rising income shifts demand **right** (determinant: income). (b) Negative publicity reduces consumer tastes for the product, shifting demand **left** (determinant: tastes/fashion). (c) A fall in the price of a complement (consoles) makes gaming overall cheaper, shifting demand for the complementary good (video games) **right** (determinant: price of a complement).

Bài tập luyện tập

A government imposes a new per-unit tax on sugary drinks. Using a supply-and-demand diagram in words, explain the effect on the market supply curve, and distinguish this effect clearly from a change in the price of sugary drinks itself.

Lời giải chi tiết

An indirect (per-unit) tax raises the cost of supplying each unit of the drink, so the entire supply curve **shifts left/upward** – at every price, producers are now willing to supply less than before, because part of the revenue from each unit must be paid to the government. This is fundamentally different from a change in the good's own market price: a market price change would only cause a **movement along** a fixed supply curve, whereas the tax changes producers' underlying cost structure and therefore shifts the whole curve. Following the shift, the market settles at a new equilibrium with a higher price and lower quantity than before the tax.

Bài tập luyện tập

A severe drought devastates the wheat harvest in a major exporting country. Explain the effect on the market supply curve for wheat and predict the effect on the world equilibrium price and quantity of wheat.

Lời giải chi tiết

Drought is a natural/weather-related determinant of supply: with a smaller harvest, less wheat is available at every price, so the supply curve for wheat shifts **left**. With demand for wheat unchanged, this leftward shift of supply along a fixed demand curve raises the equilibrium price and lowers the equilibrium quantity traded.

Bài tập luyện tập

Demand and supply for a good are $Q_d = 600 - 15P$ and $Q_s = -150 + 35P$. Find the equilibrium price and quantity.

Lời giải chi tiết

Setting $Q_d = Q_s$: $600 - 15P = -150 + 35P \Rightarrow 750 = 50P \Rightarrow P^* = \15 . Then $Q^* = 600 - 15(15) = 600 - 225 = 375$ units (check supply: $-150 + 35(15) = -150 + 525 = 375$ as required).

Bài tập luyện tập

A market is initially at equilibrium. Simultaneously, (i) consumer incomes rise sharply, and this is a normal good, and (ii) a new, more efficient production technology is adopted industry-wide. Determine the certain direction of change in equilibrium quantity, and explain why the change in equilibrium price is ambiguous.

Lời giải chi tiết

Rising income for a normal good shifts demand **right** (increase); the new technology lowers production costs and shifts supply **right** (increase) too – both shifts are in the *same* direction. Since both an increase in demand and an increase in supply independently raise equilibrium quantity, the equilibrium quantity **definitely rises**. However, the increase in demand alone would raise price, while the increase in supply alone would lower price – the two effects work in *opposite* directions on price, so the net change in equilibrium price is **ambiguous**, depending on which shift is proportionately larger.

Bài tập luyện tập

Demand and supply for a good are $Q_d = 180 - 3P$ and $Q_s = -60 + 3P$. Calculate the equilibrium price and quantity, then calculate consumer surplus and producer surplus.

Lời giải chi tiết

Equilibrium: $180 - 3P = -60 + 3P \Rightarrow 240 = 6P \Rightarrow P^* = \40 , $Q^* = 180 - 3(40) = 60$ units. Demand-curve (choke) price intercept: $Q_d = 0 \Rightarrow P = 60$. Supply-curve intercept: $Q_s = 0 \Rightarrow P = 20$.

$$CS = \frac{1}{2} \times 60 \times (60 - 40) = \frac{1}{2} \times 60 \times 20 = \$600 \quad PS = \frac{1}{2} \times 60 \times (40 - 20) = \frac{1}{2} \times 60 \times 20 = \$600$$

Total community surplus = \$1,200.

Bài tập luyện tập

Price rises from \$40 to \$50 (a 25% rise), and quantity demanded falls from 800 to 720 units (a 10% fall). Calculate PED and classify demand, and state what happens to total revenue.

- (A) $PED = -0.4$, inelastic, revenue rises (C) $PED = -0.4$, elastic, revenue falls
(B) $PED = -1.25$, elastic, revenue falls (D) $PED = 2.5$, inelastic, revenue rises

Lời giải chi tiết

$\% \Delta P = \frac{50 - 40}{40} \times 100 = 25\%$. $\% \Delta Q_d = \frac{720 - 800}{800} \times 100 = -10\%$. $PED = \frac{-10\%}{25\%} = -0.4$.
Since $|PED| = 0.4 < 1$, demand is **inelastic**. $TR_{\text{before}} = 40 \times 800 = \$32,000$; $TR_{\text{after}} = 50 \times 720 = \$36,000$. As predicted for inelastic demand, the price rise causes total revenue to rise (by \$4,000). (A).

Bài tập luyện tập

Price falls from \$25 to \$20 (a 20% fall), and quantity demanded rises from 300 to 480 units (a 60% rise). Calculate PED, classify demand, and state the effect on total revenue.

Lời giải chi tiết

$\% \Delta P = \frac{20 - 25}{25} \times 100 = -20\%$. $\% \Delta Q_d = \frac{480 - 300}{300} \times 100 = 60\%$. $PED = \frac{60\%}{-20\%} = -3.0$.
Since $|PED| = 3.0 > 1$, demand is strongly **elastic**. $TR_{\text{before}} = 25 \times 300 = \$7,500$; $TR_{\text{after}} = 20 \times 480 = \$9,600$. As predicted for elastic demand, the price fall causes total revenue to rise (by \$2,100).

Bài tập luyện tập

List and briefly explain three factors that would make demand for a specific brand of table salt highly price inelastic.

Lời giải chi tiết

Any three of: (1) Table salt is a **necessity** in cooking, purchased regardless of small price changes. (2) It typically represents a very small **proportion of household income/spending**, so even a large percentage price change has a negligible effect on the household budget. (3) A specific branded salt may still have few genuinely **close substitutes** if consumers are loyal to the brand or perceive quality differences, though the wider category ("salt in general") is even more inelastic than one brand. (4) Salt has essentially **no habit/behavioural switching cost** argument against it, but being a minor, low-cost, habitual purchase in the short run also reduces the incentive to search for alternatives when price rises.

Bài tập luyện tập

Household income rises from \$40,000 to \$44,000 (a 10% rise). Quantity demanded of instant noodles (widely regarded as an inferior good) falls from 500 to 450 packs per year (a 10% fall). Calculate YED and interpret the result fully.

Lời giải chi tiết

$\% \Delta \text{income} = 10\%$. $\% \Delta Q_d = \frac{450 - 500}{500} \times 100 = -10\%$. $YED = \frac{-10\%}{10\%} = -1.0$. Since $YED < 0$, instant noodles are confirmed to be an **inferior good**: as income rises, consumers buy less of it, presumably switching to higher-quality substitutes they can now better afford.

Bài tập luyện tập

Which value of YED would classify a good as a necessity (rather than a luxury or an inferior good)?

(A) $YED = -0.5$

(C) $YED = 1.8$

(B) $YED = 0.6$

(D) $YED = 0$ exactly

Lời giải chi tiết

A necessity is a normal good ($YED > 0$) whose demand rises *less than proportionately* with income, i.e. $0 < YED < 1$. Only $YED = 0.6$ satisfies this. (A) is negative (inferior good); (C) exceeds 1 (luxury); (D) would mean demand for the good does not respond to income at all. (B).

Bài tập luyện tập

The price of flights (good B) falls by 20%. Quantity demanded of hotel bookings at the destination (good A) rises by 8%. Calculate $XED_{A,B}$ and interpret both its sign and its magnitude.

Lời giải chi tiết

$XED_{A,B} = \frac{8\%}{-20\%} = -0.4$. The negative sign confirms flights and hotel bookings are **complements** – cheaper flights make the whole trip (flight + hotel) cheaper, encouraging more hotel bookings even though the price of hotels themselves has not changed. Since $|XED| = 0.4 < 1$, the complementary relationship, while genuine, is relatively weak.

Bài tập luyện tập

Two independent, unrelated goods – laundry detergent and cinema tickets – would be expected to show a cross elasticity of demand close to which value, and why?

(A) Close to +1

(C) Close to 0

(B) Close to -1

(D) Impossible to say without more information

Lời giải chi tiết

Since the two goods are genuinely unrelated (neither substitutes nor complements), a change in the price of one should have essentially no systematic effect on demand for the other, so $XED \approx 0$. (C).

Bài tập luyện tập

A firm operating well below full capacity, holding easily storable inventory, sees the price of its product rise by 12%; quantity supplied rises by 30%. Calculate PES, classify supply, and explain – using two determinants of PES – why this firm's supply responds so strongly.

Lời giải chi tiết

$PES = \frac{30\%}{12\%} = 2.5$. Since $PES = 2.5 > 1$, supply is **price elastic**. This is explained by (1) **spare capacity**: the firm is not operating at full capacity, so it can raise output quickly using existing machinery and labour without new investment; and (2) **ease of storing stock**: because the good is easily storable, the firm can draw on inventory to meet the higher price immediately, rather than needing time to produce more before it can sell more.

Bài tập luyện tập

Explain why the market supply of a fresh, highly perishable crop (such as strawberries) in the very short run (the day of harvest) is likely to be almost perfectly price inelastic, using the concept of PES.

Lời giải chi tiết

On the day of harvest, the quantity of strawberries available is essentially fixed by decisions and biological/weather processes that occurred weeks earlier – growers cannot quickly grow more strawberries in response to a sudden price rise, nor can they easily store unsold strawberries as inventory to sell later, because the crop is highly perishable. With almost no ability to adjust quantity supplied regardless of the price on that particular day, $PES \approx 0$: the very-short-run supply curve is close to **perfectly inelastic** (near-vertical). Over a longer time period (the next growing season), farmers could plant more (or less), making supply progressively more elastic.

Bài tập luyện tập

Distinguish between a private cost and a social cost, and use your answer to explain why a free market operating without government intervention tends to overproduce goods that generate negative externalities.

Lời giải chi tiết

The **private cost** of production is the cost borne directly by the producer (wages, raw materials, rent, etc.). The **social cost** is the *total* cost to society of producing the good, equal to the private cost *plus* any **external cost** imposed on third parties who are not part of the transaction (e.g. costs of pollution borne by nearby residents). Because a profit-seeking producer bases its output decision only on its own private cost (and the price it receives), it ignores the external cost entirely. The market therefore keeps expanding output as long as price covers only *private* marginal cost, well beyond the point at which price would just cover the *full social* marginal cost – resulting in an equilibrium quantity greater than the socially optimal quantity: **overproduction**.

Bài tập luyện tập

Which of the following is a positive externality of an individual getting a flu vaccination?

- (A) The individual is personally less likely to catch the flu (C) People who come into contact with the vaccinated individual are less likely to catch the flu from them
- (B) The individual pays a fee to the clinic for the vaccination (D) The vaccine manufacturer earns a profit on the sale

Lời giải chi tiết

An externality, by definition, is a cost or benefit falling on a **third party** outside the original transaction. The vaccinated individual being personally protected (A) is a *private* benefit, not an externality; (B) and (D) are simply the payment within the transaction. Reduced disease transmission to *other people* (C) is a benefit received by third parties who did not pay for the vaccination – a genuine positive externality, and the basis for herd immunity. (C).

Bài tập luyện tập

Explain, with reference to non-excludability and non-rivalry, why a private firm operating for profit would not choose to build and maintain a lighthouse, even though ships in the area clearly benefit from it.

Lời giải chi tiết

A lighthouse is **non-excludable**: once its light is shining, it is impossible (or far too costly) to prevent any particular ship from seeing and benefiting from it, whether that ship's owner paid toward the lighthouse or not. It is also **non-rival**: one ship using the light to navigate safely does not reduce its usefulness to any other ship at the same time. Because no ship owner can be forced to pay (non-excludability) and each has an incentive to **free-ride** on other owners' payments, a private firm could not collect enough in voluntary fees to cover its costs, even though the lighthouse is clearly valuable to society as a whole. This is why pure public goods like lighthouses are typically provided directly by government (or a body funded by compulsory charges/taxation) rather than by the free market.

Bài tập luyện tập

Distinguish clearly between a "public good" and a "merit good," and explain why private, fee-charging healthcare is still classified as a merit good even though it is both excludable and rival.

Lời giải chi tiết

"Public vs. private" is a classification based on a good's **technical characteristics**: excludability (can non-payers be kept out?) and rivalry (does one person's use reduce what is left for others?). "Merit vs. demerit" is a completely different classification, based on **externalities and information failure**, regardless of excludability. Private healthcare is excludable (non-payers can be refused treatment) and rival (a doctor's time or a hospital bed used by one patient is unavailable to another) – so, technically, it is a **private good**. It is nonetheless a **merit good** because healthcare generates positive externalities (a healthier population is more productive and less likely to spread infectious disease to others) and because individuals tend to under-

value their own future healthcare needs due to imperfect information – causing the free market, left alone, to under-provide it relative to the social optimum. The two classifications are independent of one another.

Bài tập luyện tập

For each government policy, state which specific market failure it is designed to correct: (a) a carbon tax on fossil fuel producers; (b) a total ban on selling cigarettes to anyone under 18; (c) free state-funded primary schooling; (d) a subsidy for households installing solar panels.

Lời giải chi tiết

(a) A **carbon tax** raises the private cost of production to reflect the external cost of carbon emissions – correcting a **negative externality** (Pigouvian tax). (b) An **age-restriction ban** is a form of regulation used against a **demerit good**, protecting a group (minors) judged especially vulnerable to imperfect information/addiction. (c) **Free state schooling** is direct government provision correcting the underprovision of a **merit good** (education) that generates positive externalities and is undervalued privately. (d) A **solar panel subsidy** lowers the private cost of an activity that generates a **positive externality** (reduced carbon emissions benefiting third parties), encouraging more of it than the unaided market would provide.

Bài tập luyện tập

A government sets a legal maximum price for rented apartments in a city, at a level below the free-market equilibrium rent. Using the concept of a binding price ceiling, explain three consequences that are likely to follow, other than the headline effect of "lower rent for tenants who already have a flat."

Lời giải chi tiết

Any three of: (1) A persistent **shortage** of rental housing, since quantity demanded (tenants wanting flats at the low controlled rent) exceeds quantity supplied (landlords willing to offer flats at that rent). (2) Because price can no longer ration the scarce flats, a **non-price rationing mechanism** emerges – long waiting lists, landlords selecting tenants by criteria other than willingness to pay, or informal queuing – which may be less fair or efficient than price-based rationing. (3) A **black market** may develop, with under-the-table "key money" or informal premiums paid to secure a rent-controlled flat, pushing the effective price actually paid back up toward (or above) the free-market level. (4) Landlords facing a controlled rent below equilibrium have less financial incentive to maintain or invest in their properties, potentially reducing the quality of the rental housing stock over time, and some landlords may exit the rental market altogether, worsening the long-run shortage.

Bài tập luyện tập

Demand and supply for rice in a country are $Q_d = 500 - 10P$ and $Q_s = -100 + 10P$ (P in dollars per 50kg sack, Q in thousands of sacks per month). To keep rice affordable, the government sets a maximum price of \$25 per sack. Find the free-market equilibrium, confirm the ceiling is binding, and calculate the resulting shortage.

Lời giải chi tiết

Free-market equilibrium: $500 - 10P = -100 + 10P \Rightarrow 600 = 20P \Rightarrow P^* = \30 per sack, $Q^* = 500 - 10(30) = 200$ thousand sacks (check supply: $-100 + 10(30) = 200$ as required). Since the ceiling (\$25) is **below** the equilibrium price (\$30), it is binding. At $P = \$25$: $Q_d = 500 - 10(25) = 250$ thousand sacks; $Q_s = -100 + 10(25) = 150$ thousand sacks. Shortage $= Q_d - Q_s = 250 - 150 = 100$ thousand sacks per month, which must be rationed by queuing or another non-price mechanism, and which may encourage a black market in rice sold above the legal maximum.

Bài tập luyện tập

Demand and supply for a manufactured good are $Q_d = 350 - 7P$ and $Q_s = -70 + 7P$. The government sets a legal minimum price of \$35. Find the free-market equilibrium, confirm the floor is binding, and calculate the resulting surplus.

Lời giải chi tiết

Free-market equilibrium: $350 - 7P = -70 + 7P \Rightarrow 420 = 14P \Rightarrow P^* = \30 , $Q^* = 350 - 7(30) = 140$ units (check supply: $-70 + 7(30) = 140$ as required). Since the floor (\$35) is **above** the equilibrium price (\$30), it is binding. At $P = \$35$: $Q_d = 350 - 7(35) = 105$ units; $Q_s = -70 + 7(35) = 175$ units. Surplus $= Q_s - Q_d = 175 - 105 = 70$ units, which the government (or an intervention agency) would need to buy up and store to maintain the \$35 floor.

Bài tập luyện tập

A government wants to reduce smoking. Compare, using the concept of PED, why an indirect tax on cigarettes might raise substantial government revenue in the short run but be a comparatively weak tool for reducing the *quantity* of cigarettes smoked in that same short run – and explain why the policy becomes more effective at reducing quantity over a longer time period.

Lời giải chi tiết

In the short run, demand for cigarettes is highly **price inelastic** ($|PED| < 1$), because cigarettes are addictive/habit-forming and existing smokers have few readily available substitutes for satisfying nicotine dependence. Because $|PED| < 1$, a tax-driven price rise causes only a small proportionate fall in quantity demanded, so total spending (and hence tax revenue collected per unit times the still-large quantity still sold) remains substantial – but the policy only modestly reduces the actual quantity smoked in the short run. Over a longer time period, however, PED for cigarettes rises (demand becomes more elastic) as smokers have more time to seek cessation support, substitutes (e-cigarettes, nicotine replacement) become more established, and social norms adjust – so the same tax produces a progressively larger fall in quantity smoked the longer it remains in place, even as revenue collected may decline somewhat as quantity falls.

Bài tập luyện tập

A local government is deciding between three possible policies to address traffic congestion (a negative externality of driving): (i) building more free public car parks, (ii) introducing a congestion charge (a per-trip fee for driving into the city centre at peak times), (iii) launching an

advertising campaign encouraging cycling. Identify which of these policies directly targets the negative externality itself through the price mechanism, and explain why the other two are less directly matched to that specific failure.

Lời giải chi tiết

The **congestion charge** (ii) directly targets the negative externality through the price mechanism: it raises the private cost of driving into the city centre to better reflect the external cost (congestion, pollution, lost time) that each additional driver imposes on other road users, shifting the effective "supply/demand" for road space toward the socially optimal level of traffic – essentially a Pigouvian tax on driving. Building more free car parks (i) does not address the externality at all; it may actually **worsen** congestion by lowering the (parking) cost of driving and encouraging more car trips. An advertising campaign (iii) targets the **information failure** element of the problem (encouraging drivers to reconsider cycling) but does not change the price incentive to drive and so is likely to have a smaller and less reliable effect on quantity of car trips than a direct price-based tool like the congestion charge.

Bài tập luyện tập

Four consumers make up the entire market for a good. At a price of \$6, their individual quantities demanded are 5, 3, 2, and 0 units respectively. At a price of \$4, their individual quantities demanded rise to 8, 5, 4, and 2 units respectively. Find market quantity demanded at each price, and state the economic principle used to obtain it.

Lời giải chi tiết

Market demand is the **horizontal sum** of individual demand at each price. At $P = \$6$: $5 + 3 + 2 + 0 = 10$ units. At $P = \$4$: $8 + 5 + 4 + 2 = 19$ units. Note that at \$6 the fourth consumer buys nothing at all (has dropped out of the market), but re-enters once price falls to \$4 – market demand is built up from summing every individual consumer's quantity demanded at a given price, including consumers who currently buy zero.

Bài tập luyện tập

Demand and supply for a good are $Q_d = 250 - 2P$ and $Q_s = -50 + 8P$. The government imposes a \$5 per-unit tax on producers. Find the equilibrium before the tax, the new price paid by consumers and price received by producers after the tax, and state which side of the market bears the larger share of the tax burden, with a brief explanation.

Lời giải chi tiết

Before tax: $250 - 2P = -50 + 8P \Rightarrow 300 = 10P \Rightarrow P = \30 , $Q = 250 - 2(30) = 190$ units.

After tax: producer's supply in terms of consumer price becomes $Q_s = -50 + 8(P - 5) = -90 + 8P$. Setting $Q_d = Q_s$: $250 - 2P = -90 + 8P \Rightarrow 340 = 10P \Rightarrow P_{\text{consumer}} = \34 , $Q_{\text{new}} = 250 - 2(34) = 182$ units. Producers receive $34 - 5 = \$29$ per unit (check: $-90 + 8(34) = 182$ as required).

Consumer burden $= 34 - 30 = \$4$ per unit; producer burden $= 30 - 29 = \$1$ per unit ($\$4 + \$1 = \$5$ as required). **Consumers** bear the much larger share (four-fifths) of the tax, because demand here is far less responsive to price (quantity changes by only 2 units per \$1) than supply (8 units per \$1) – confirming that the side of the market with the more inelastic response bears the greater tax burden.

Microeconomic Decision Makers

Mục tiêu Unit: Vai trò của tiền tệ và hệ thống ngân hàng (bốn chức năng của tiền, đặc điểm của một loại tiền tốt, vai trò ngân hàng thương mại và ngân hàng trung ương); hộ gia đình với tư cách người tiêu dùng (các yếu tố quyết định tiêu dùng và tiết kiệm); người lao động với tư cách người cung ứng lao động (cung-cầu lao động, xác định tiền lương, chênh lệch tiền lương, công đoàn, phân công lao động); doanh nghiệp (cơ cấu pháp lý, mục tiêu, chi phí, doanh thu, lợi nhuận, kinh tế/phi kinh tế theo quy mô, tăng trưởng và sáp nhập, phân tích điểm hoà vốn); cấu trúc thị trường (cạnh tranh hoàn hảo và độc quyền); và sơ đồ chu chuyển thu nhập hai khu vực.

3.1 Money and Banking

3.1.1 From barter to money

Before money existed, exchange took the form of **barter** — trading one good or service directly for another. Barter can work in a very small, simple economy, but it breaks down quickly as an economy grows, because it depends on the **double coincidence of wants**: a shoemaker who wants rice must find a rice farmer who, at that very moment, happens to want shoes. If the farmer instead wants tools, no trade can occur until the shoemaker first finds someone who wants shoes *and* has tools to offer. Barter also creates problems of *divisibility* (how does a farmer buy "half a cow's worth" of rice?), *storage* (perishable goods cannot be saved for later trades), and *measurement* (there is no common unit to compare the value of a cow against a pair of shoes). **Money** evolved precisely to solve these problems: it is anything generally accepted, by convention or law, as payment for goods and services and in settlement of debts.

GIẢI THÍCH TIẾNG VIỆT

VN

Trao đổi hàng đổi hàng (barter) là hình thức trao đổi trực tiếp hàng hoá lấy hàng hoá, không dùng tiền. Vấn đề lớn nhất của barter là **sự trùng khớp kép về nhu cầu (double coincidence of wants)**: hai bên phải đồng thời có thứ đối phương cần thì trao đổi mới xảy ra được — điều này rất hiếm khi nền kinh tế có nhiều loại hàng hoá. Barter còn gặp khó khi hàng hoá không thể chia nhỏ, không thể cất trữ lâu, và không có đơn vị chung để so sánh giá trị. **Tiền** ra đời để giải quyết chính những vấn đề này.

3.1.2 The four functions of money

Cambridge IGCSE Economics identifies four functions that any form of money must perform.

The four functions of money

1. **Medium of exchange:** money is accepted by everyone in payment for goods, services, and debts, removing the need for a double coincidence of wants. A seller accepts money not to consume it, but because they know others will accept it from them in turn.
2. **Unit of account:** money provides a common measure of value, so the price of every good and service can be expressed in the same units (e.g. Vietnamese dong or US dollars) and compared directly.

3. **Store of value:** money can be saved and used to buy goods and services in the future, because (unlike, say, fresh fish) it does not perish and normally keeps its purchasing power reasonably well, provided inflation is not too high.
4. **Standard of deferred payment:** money allows debts and future obligations (loans, wages owed, instalment payments) to be fixed and settled at a later date in agreed monetary terms.

Ví dụ mẫu · Worked example – Classifying a function of money

For each situation below, identify which function of money is being illustrated.

- (a) A supermarket labels a carton of milk at \$1.20 so shoppers can compare it with a \$0.90 carton of soy milk.
 - (b) A worker signs a one-year loan agreement to repay \$6,000 in monthly instalments of \$500.
 - (c) A market vendor accepts cash for vegetables, confident she can later use that same cash to buy rice elsewhere.
 - (d) A family keeps \$3,000 in a savings account to use for next year's school fees.
- (a) **Unit of account** – prices expressed in a common unit allow direct comparison of value.
(b) **Standard of deferred payment** – the loan fixes a future obligation in monetary terms.
(c) **Medium of exchange** – money is accepted because it can be passed on and accepted by others.
(d) **Store of value** – money retains purchasing power to be used at a later date.

GIẢI THÍCH TIẾNG VIỆT

VN

Bốn chức năng của tiền: (1) **phương tiện trao đổi** – được chấp nhận rộng rãi để thanh toán; (2) **đơn vị hạch toán** – đo lường và so sánh giá trị hàng hoá; (3) **phương tiện cất trữ giá trị** – giữ được sức mua để dùng sau này; (4) **phương tiện thanh toán trả chậm** – cho phép ấn định các khoản nợ/nghĩa vụ trong tương lai bằng đơn vị tiền tệ.

3.1.3 Characteristics of good money

Not every object can serve as effective money. Economists identify several characteristics that a good form of money should have:

- **Durability** – it must not decay, tear, or wear out quickly, so it can circulate repeatedly and be stored.
- **Divisibility** – it must be divisible into smaller units so both very cheap and very expensive transactions can be made precisely.
- **Portability** – it must be easy to carry and transfer, especially for large-value transactions.
- **Acceptability** – it must be widely and confidently accepted by the community (or backed by law as legal tender).
- **Scarcity (limited supply)** – it must not be so freely available that anyone can produce it; if supply is not controlled, its value collapses.

Modern currency (banknotes and coins issued by a central bank) and, increasingly, bank deposits accessed electronically, satisfy all five characteristics far better than historical forms of money such as cattle, shells, or salt.

Characteristic	Cattle / salt (historical)	Modern banknotes / bank deposits
Durability	Cattle die; salt dissolves or washes away	Banknotes are replaceable when worn; deposits exist only as secure records, so they cannot physically wear out
Divisibility	Cannot be split into small, equal units without killing/wasting the item	Divides precisely into cents/dong and smaller electronic units
Portability	Cattle are heavy and slow to move; salt is bulky	Notes are light; electronic deposits transfer instantly
Scarcity	Can be bred/mined, supply hard to control	Central bank tightly controls the supply of currency

GIẢI THÍCH TIẾNG VIỆT

VN

Một loại tiền tốt cần có: **độ bền** (không hư hỏng nhanh), **khả năng chia nhỏ** (chia được thành đơn vị nhỏ để giao dịch chính xác), **tính di động** (dễ mang theo, dễ chuyển giao), **tính được chấp nhận** (cộng đồng tin tưởng và sẵn sàng nhận), và **tính khan hiếm** (không ai có thể tự do tạo ra, nếu không giá trị sẽ sụp đổ). Bảng trên cho thấy vì sao tiền hàng hoá cổ xưa (gia súc, muối) kém hiệu quả hơn nhiều so với tiền giấy/tiền gửi ngân hàng hiện đại.

3.1.4 Commercial banks

A **commercial bank** is a financial institution that provides everyday banking services to households and firms. Its core functions are:

- **Accepting deposits:** current accounts (for everyday transactions, withdrawable on demand) and savings accounts (which typically pay interest in exchange for less frequent withdrawal).
- **Lending:** commercial banks lend a large proportion of the money deposited with them, as personal loans, mortgages, and business loans, earning interest income – the difference between the (higher) interest rate charged on loans and the (lower) interest rate paid on deposits is a major source of bank profit.
- **Payment services:** enabling cheques, bank transfers, direct debits, and card payments, so money can move between accounts without physical cash changing hands.
- **Credit creation:** because banks only keep a fraction of deposits in reserve (expecting that not all depositors will withdraw at once) and lend out the rest, and because loaned money is typically re-deposited elsewhere in the banking system and lent out again, the banking system as a whole can expand the total amount of money and credit in the economy well beyond the value of the original deposits.

GIẢI THÍCH TIẾNG VIỆT

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Ngân hàng thương mại nhận tiền gửi (tài khoản vãng lai – rút bất cứ lúc nào; tài khoản tiết kiệm – có lãi nhưng rút hạn chế hơn), cho vay để kiếm lãi (chênh lệch giữa lãi suất cho vay và lãi suất trả cho người gửi), và cung cấp dịch vụ thanh toán. Vì ngân hàng chỉ giữ lại một phần tiền gửi làm dự trữ và cho vay phần còn lại – và tiền cho vay lại thường được gửi lại vào hệ thống ngân hàng rồi tiếp tục được cho vay – nên toàn bộ hệ thống ngân hàng có thể **tạo ra tín dụng (credit creation)**, khiến tổng lượng tiền lưu thông lớn hơn nhiều so với lượng tiền gửi ban đầu.

A simple illustration of credit creation: suppose a bank receives a \$1,000 deposit and keeps only 10% (\$100) as reserves, lending out the remaining \$900. If that \$900 is spent and then re-deposited in (the same or another) bank, which again keeps 10% in reserve and lends out \$810, and this process continues, the total value of deposits and loans circulating in the banking system can end up several times larger than the original \$1,000 deposit. This is why the banking system as a whole is said to "create" credit — the full multiplier arithmetic behind this process is developed further when money supply is studied in later chapters.

3.1.5 The central bank

Every country's banking system is headed by a **central bank** (e.g. the State Bank of Vietnam, the Bank of England, the Federal Reserve), which does not compete with commercial banks for ordinary customers but instead regulates and supports the whole financial system.

The five roles of a central bank

1. **Issuing currency:** the central bank has the sole legal right to print banknotes and mint coins.
2. **Banker to the government:** it holds the government's accounts, manages government borrowing (issuing bonds), and handles government payments and receipts.
3. **Banker to commercial banks:** commercial banks hold accounts and reserves at the central bank and settle payments with one another through it.
4. **Regulator and supervisor of the banking system:** the central bank sets and enforces rules (e.g. minimum reserve requirements, capital adequacy) to keep banks safe and depositors protected.
5. **Lender of last resort:** if a solvent bank faces a short-term shortage of cash (e.g. many depositors withdrawing at once), the central bank will lend to it so it does not collapse, protecting confidence in the whole banking system.

The central bank also sets the economy's **base (policy) interest rate**, the benchmark rate that influences all other interest rates in the economy — this is the central bank's key tool of **monetary policy**. Raising the base rate makes borrowing more expensive and saving more attractive, which tends to reduce spending; cutting the base rate has the opposite effect. How monetary policy interacts with government fiscal policy (taxation and spending) to manage the whole economy is examined in a later chapter of this course.

GIẢI THÍCH TIẾNG VIỆT

VN

Ngân hàng trung ương có năm vai trò: (1) **phát hành tiền** — độc quyền in tiền giấy, đúc tiền xu; (2) **ngân hàng của chính phủ** — quản lý tài khoản và các khoản vay của chính phủ; (3) **ngân hàng của các ngân hàng thương mại** — các ngân hàng gửi dự trữ và thanh toán qua ngân hàng trung ương; (4) **giám sát, điều tiết hệ thống ngân hàng** — đặt ra quy định an toàn; (5) **người cho vay cuối cùng (lender of last resort)** — cứu một ngân hàng đang gặp khó khăn thanh khoản tạm thời để bảo vệ niềm tin vào cả hệ thống. Ngân hàng trung ương còn đặt **lãi suất cơ bản** — công cụ chính của **chính sách tiền tệ** — để điều tiết vay và tiêu dùng trong nền kinh tế.

(!) **Lỗi thường gặp:** Do not confuse **capital** in the sense used later in this chapter (a factor of production — man-made goods such as machinery, tools, and factories used to produce other goods) with **money capital** (funds raised by a firm, e.g. by selling shares or borrowing, used to purchase those physical capital goods). A firm's "capital" on an exam answer should be identified precisely: if the question is about production, it usually means physical capital

goods; if the question is about financing a business, it usually means money capital.

3.2 Households as Consumers

3.2.1 Consumption and saving

Every household receives **income** from supplying factors of production (mainly labour, in the form of wages). Each period, that income is allocated between **consumption** (spending on goods and services now) and **saving** (postponing spending to the future, typically by depositing money with a bank or other financial institution). Because income is finite, consumption and saving are the two competing uses of any given income: $\text{Income} = \text{Consumption} + \text{Saving}$.

3.2.2 Determinants of consumption and saving

Several factors determine how a household splits its income between consumption and saving.

- **Level of income:** households with higher income can, after meeting basic needs, afford to save a larger proportion of each extra dollar earned; households with very low income may not be able to save at all, and some borrow or run down past savings just to maintain consumption.
- **Stability of income (permanent vs. temporary income):** households tend to base their regular consumption on their expected long-run (*permanent*) income rather than on any single month's income. A one-off, temporary payment — such as a bonus or lottery win — is more likely to be saved (or spent on a one-off purchase) than added to ongoing weekly spending, because households do not expect it to recur; by contrast, a permanent pay rise is more likely to raise ongoing consumption, because the household now expects a higher income indefinitely.
- **Interest rates:** a higher interest rate is both a greater reward for saving (more future consumption can be bought by giving up a dollar of consumption now) and a higher cost of borrowing, so higher rates tend to increase saving and reduce borrowing-financed consumption; lower rates have the opposite effect.
- **Consumer confidence:** households who feel optimistic about future job security and incomes tend to spend more and save less now; households who are worried about a recession or job losses tend to save more as a precaution and cut back on consumption.
- **Availability and cost of credit:** if credit (loans, credit cards, instalment plans) is easy and cheap to obtain, households can consume more than their current income by borrowing; if credit is scarce or expensive, consumption is constrained closer to current income.
- **Age and life-cycle stage:** young adults (often borrowing for education, a first home) and retired people (living off savings and pensions) frequently consume more than their current income (dis-saving); people in their middle working years, with fewer major expenses ahead and higher earnings, tend to save the largest proportion of income.
- **Wealth effects:** households who own assets that rise in value (e.g. property, shares) often feel wealthier and increase consumption even without any rise in current income, because they perceive their overall financial position has improved — for example, a homeowner who sees the market value of their house rise sharply may choose to spend more or save less this year, even though their monthly salary has not changed at all.

Seven determinants of household consumption/saving to remember: (1) level of income, (2) stability of income (permanent vs. temporary), (3) interest rates, (4) consumer confidence, (5) availability/cost of credit, (6) age and life-cycle stage, and (7) wealth effects.

Ví dụ mẫu · Worked example — Permanent versus temporary income

Two employees at the same firm each unexpectedly receive extra money this month: Employee A receives a permanent \$400-per-month pay rise; Employee B receives a one-off \$400 bonus. Explain why their spending responses are likely to differ, even though both received the same amount.

Employee A now expects \$400 extra every month indefinitely — this is a rise in **permanent income** — so Employee A is likely to raise ongoing monthly consumption (e.g. a bigger grocery budget, a new subscription) close to the full \$400, confident the higher income will continue. Employee B's \$400 is a one-off, **temporary** receipt that will not recur; a household basing spending on its long-run income is more likely to **save** most of this bonus (or spend it on a single one-off item) rather than permanently raise weekly spending, since ongoing income has not actually changed. This distinction — permanent versus temporary income — helps explain why one-off government stimulus payments are often saved more than economists initially expect.

GIẢI THÍCH TIẾNG VIỆT

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Hộ gia đình chia thu nhập thành **tiêu dùng** và **tiết kiệm**. Các yếu tố ảnh hưởng: mức thu nhập (thu nhập cao hơn thường tiết kiệm được tỷ lệ lớn hơn), tính ổn định của thu nhập (**thu nhập thường xuyên** ảnh hưởng tiêu dùng nhiều hơn **thu nhập tạm thời/một lần**), lãi suất (lãi suất cao khuyến khích tiết kiệm, hạn chế vay), niềm tin người tiêu dùng, khả năng tiếp cận tín dụng, độ tuổi/giai đoạn cuộc đời (người trẻ và người già thường tiêu nhiều hơn thu nhập hiện tại), và hiệu ứng của cải (tài sản tăng giá trị khiến người ta cảm thấy giàu hơn và chi tiêu nhiều hơn).

3.2.3 Income, consumption, and the savings ratio

A useful simplified relationship in this course is that, as household income rises, the *proportion* of income saved (the **savings ratio**, sometimes called the average propensity to save) tends to rise as well: low-income households often spend all (or more than all) of their income simply meeting basic needs, while higher-income households, having already met those needs, can set aside a growing share of each additional dollar earned. This is one reason government policies that redistribute income (e.g. progressive taxation) can affect the economy's overall saving rate as well as its consumption level.

Income = Consumption + Saving. As income rises, both consumption and saving normally rise in absolute terms, but for higher-income households the *proportion* saved (savings ratio) tends to be higher than for lower-income households.

3.2.4 Consumer choice and consumer protection

Households make consumption decisions with limited income and, often, limited information, so making good choices matters as much as having the income to spend. **Consumer choice** refers to a household's freedom to decide which goods and services to buy, based on price, quality, and personal preference, in a market offering a range of competing products. This freedom of choice works best when consumers have reasonably good information; where sellers might otherwise mislead buyers (e.g. false advertising, unsafe products, hidden charges), governments commonly introduce **consumer protection** measures — laws on product safety and accurate labelling, rules against misleading advertising, and agencies that investigate complaints — to help households make informed decisions and to maintain trust in the market. The wider question of when and why governments intervene in markets on behalf of consumers is developed further later in this course.

GIẢI THÍCH TIẾNG VIỆT

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Lựa chọn của người tiêu dùng (consumer choice) là quyền tự do lựa chọn hàng hoá/dịch vụ dựa trên giá cả, chất lượng và sở thích cá nhân. Để việc lựa chọn này thực sự có ý nghĩa, người tiêu dùng cần có thông tin đầy đủ và chính xác — đây là lý do chính phủ thường ban hành các quy định **bảo vệ người tiêu dùng** (an toàn sản phẩm, nhãn mác trung thực, cấm quảng cáo gây hiểu lầm) để bảo vệ quyền lợi người mua và duy trì niềm tin vào thị trường.

3.3 Workers as Suppliers of Labour**3.3.1 The individual labour supply decision**

Each individual worker effectively chooses how to divide a fixed amount of time (e.g. 24 hours a day) between paid work and **leisure** (all non-working time, including rest, family time, and unpaid activities). Every extra hour spent working earns a wage but means giving up an hour of leisure; every extra hour of leisure means forgoing the wage that could have been earned. The wage rate is therefore the **opportunity cost** of an hour of leisure (and, in reverse, an hour of leisure is “purchased” at the opportunity cost of the wage foregone) — a direct application of the opportunity-cost concept introduced earlier in this course. As wages rise, working becomes more rewarding relative to leisure, which is generally expected to encourage individuals to supply more hours of labour, at least up to a point.

GIẢI THÍCH TIẾNG VIỆT

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Mỗi người lao động phải lựa chọn giữa **làm việc** (kiếm tiền lương) và **ngủ ngơi/giải trí (leisure)**. Tiền lương chính là **chi phí cơ hội** của một giờ ngủ ngơi — nếu ngủ ngơi, người đó mất đi khoản lương lẽ ra kiếm được. Khi tiền lương tăng, làm việc trở nên hấp dẫn hơn so với ngủ ngơi, nên thông thường người lao động sẽ có xu hướng cung ứng nhiều giờ lao động hơn.

3.3.2 Determinants of the supply of labour to a particular occupation

The number of workers willing and able to supply their labour to a specific occupation depends on:

- **Wage rates:** a higher relative wage in an occupation attracts more workers into it (and away from lower-paid alternatives).
- **Qualifications and training required, and the time needed to acquire them:** occupations demanding long, costly training (e.g. medicine, engineering) restrict the pool of qualified workers able to supply labour, holding supply down relative to demand.
- **Non-monetary factors:** working conditions, job satisfaction, social status, and fringe benefits (e.g. pension, health insurance, holiday allowance) all affect how attractive an occupation is, independent of the wage itself; a pleasant, high-status job can attract labour even at a somewhat lower wage.
- **Geographical mobility of labour:** workers' willingness and ability to move location to take a job; barriers include family ties, the cost of moving and housing, and language or cultural differences.
- **Occupational mobility of labour:** workers' ability to move between different types of job; barriers include the time and cost of retraining, and licensing/qualification requirements that must be met before a worker can legally practise a new occupation.

3.3.3 Labour mobility and its limits

When labour is highly **mobile**, workers can respond easily to changing wages and job opportunities, which helps keep wage differences between similar jobs modest and helps the whole economy re-allocate labour efficiently as some industries grow and others decline. In practice, labour is often significantly **immobile**, which sustains larger and more persistent wage differentials than a perfectly mobile labour market would produce.

- **Geographical immobility:** workers may be unwilling or unable to relocate for a better-paid job because of family and social ties, the financial cost and disruption of moving house, large differences in housing costs between regions, and language or cultural barriers (particularly across national borders).
- **Occupational immobility:** workers may be unable to move into a better-paid occupation because they lack the specific qualifications, skills, or experience required, and retraining takes time and money that not every worker can afford to give up — this is the same barrier, from the demand side, discussed above as a determinant of the supply of labour to skilled occupations.

Because immobility prevents workers from simply moving toward higher-paid opportunities, it is one of the underlying reasons wage differentials between occupations and regions can persist for long periods rather than being competed away.

GIẢI THÍCH TIẾNG VIỆT

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Di chuyển lao động (labour mobility) càng dễ dàng thì chênh lệch tiền lương giữa các công việc tương tự càng nhỏ, vì người lao động có thể chuyển sang nơi trả lương cao hơn. Trong thực tế, lao động thường **kém di động**: **kém di động theo địa lý** (ràng buộc gia đình, chi phí chuyển nhà, chênh lệch giá nhà giữa các vùng, rào cản ngôn ngữ/văn hoá) và **kém di động theo ngành nghề** (thiếu bằng cấp/kỹ năng cần thiết, chi phí và thời gian đào tạo lại). Chính sự kém di động này khiến chênh lệch tiền lương tồn tại lâu dài thay vì bị san bằng bởi cạnh tranh.

3.3.4 Determinants of the demand for labour

Firms do not want labour for its own sake — they want it in order to produce goods and services that consumers demand. Demand for labour is therefore a **derived demand**: it depends on, and moves with, the demand for the final good or service that the labour helps to produce. Demand for labour in a given occupation or industry depends on:

- **Demand for the good or service produced:** if demand for new houses rises, demand for construction workers rises with it; if demand for a product collapses, demand for the workers who make it collapses too.
- **Productivity of labour:** more productive workers (through better training, technology, or management) produce more output per hour, raising the value each worker adds to the firm and increasing the wage firms are willing to pay for that labour.
- **Price and availability of substitute capital:** if machinery or automation becomes cheaper or more capable relative to a given type of labour, firms will substitute capital for labour, reducing demand for that labour; if capital is expensive or unavailable, firms rely more heavily on labour.

GIẢI THÍCH TIẾNG VIỆT

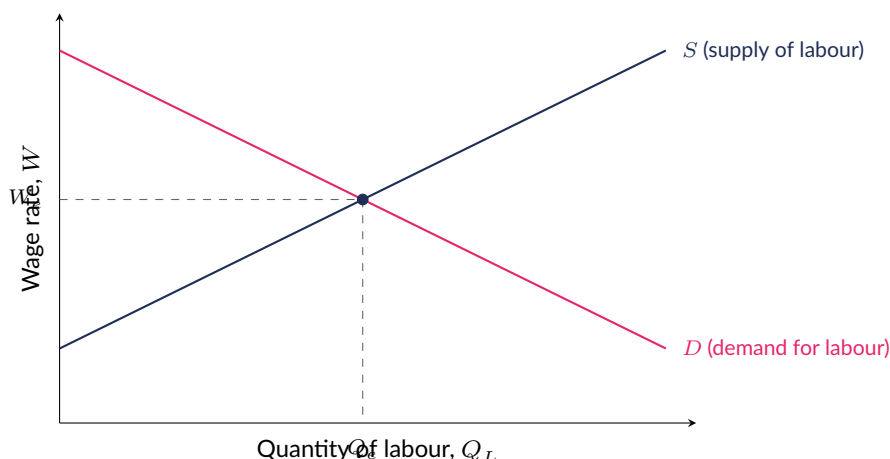
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Cung lao động cho một nghề cụ thể phụ thuộc vào: mức lương, yêu cầu bằng cấp/thời gian đào tạo (nghề càng khó đào tạo thì cung càng hạn chế), các yếu tố phi tiền tệ (điều kiện làm việc, sự hài lòng, địa vị xã hội, phúc lợi), và khả năng di chuyển của lao động (theo địa lý và theo ngành nghề). **Cầu lao động** là **cầu phái sinh (derived demand)** — bắt nguồn từ cầu đối với hàng hoá/dịch vụ mà lao động đó tạo ra — và còn phụ thuộc vào năng suất lao động cũng như giá/khả năng thay thế bằng máy móc (vốn).

3.3.5 Wage determination

Just as in a goods market, the wage rate in a competitive labour market is determined by the interaction of demand and supply — except that here the "price" is the **wage rate** (W) and the "quantity" is the **quantity of labour** (Q_L), typically measured in workers or worker-hours. The demand curve for labour slopes downward (firms demand more labour at a lower wage), and the supply curve of labour slopes upward (more workers are willing to work, or work more hours, at a higher wage). The

market wage settles at the **equilibrium wage** (W_e), where the quantity of labour demanded exactly equals the quantity supplied.



The labour market: the demand for labour (D , derived demand, downward sloping) and the supply of labour (S , upward sloping) determine the equilibrium wage rate W_e and equilibrium quantity of labour employed Q_e .

Ví dụ mẫu · Worked example – Shifting the labour market

A surge in tourism sharply raises demand for the goods and services produced by hotel workers. Using the labour market diagram above, explain the effect on the equilibrium wage and quantity of hotel workers employed.

Because demand for hotel workers is a *derived* demand, a rise in demand for hotel services shifts the whole demand-for-labour curve (D) to the right (more workers demanded at every wage). With the supply curve of hotel labour unchanged in the short run, the new intersection of D and S occurs at a **higher equilibrium wage** and a **greater equilibrium quantity** of hotel workers employed. If the boom persists, the higher wage may in time also draw more workers to train for or move into hotel work, gradually shifting supply outward too.

GIẢI THÍCH TIẾNG VIỆT

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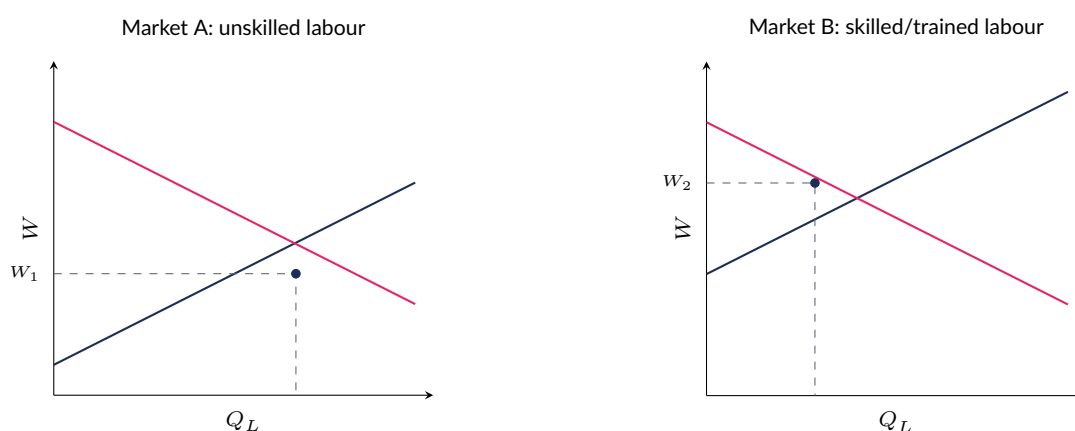
Cũng giống thị trường hàng hoá, thị trường lao động có **đường cầu lao động** dốc xuống (cầu phái sinh) và **đường cung lao động** dốc lên, giao nhau tại **mức lương cân bằng** (W_e) và **lượng lao động cân bằng** (Q_e). Khi cầu về hàng hoá/dịch vụ tăng, đường cầu lao động dịch chuyển sang phải, làm lương cân bằng và lượng lao động được thuê đều tăng.

3.3.6 Wage differentials

In practice, different occupations (and different workers within the same occupation) are paid very different wages. These **wage differentials** arise from several factors:

- **Skill and qualification levels:** occupations requiring rare or advanced skills have a restricted supply of qualified workers, pushing the equilibrium wage up relative to occupations anyone can enter.
- **Degree of risk, danger, or unpleasantness:** dangerous or unpleasant jobs (e.g. deep-sea diving, mining) must often pay a wage premium (a "compensating differential") to attract workers, since fewer people are willing to supply labour to such jobs at an ordinary wage — this restricts effective supply and raises the equilibrium wage.
- **Trade union bargaining power:** strongly unionised occupations can negotiate wages above what an unregulated market would produce.

- **Government minimum wage legislation:** a legal minimum wage directly raises pay for the lowest-paid workers above the market-clearing level.
- **Discrimination:** unequal pay for equally productive workers based on characteristics such as gender, ethnicity, or age (rather than genuine differences in productivity or working conditions) is a real-world cause of wage gaps, and is the target of equal-pay legislation in many countries.
- **Regional/geographical differences:** wages for the same occupation often differ between regions because of differences in the cost of living, local demand for labour, and how easily workers can move between regions.
- **Applied example — the gender pay gap:** in many countries, average pay for women remains below that for men in comparable roles. Explanations offered include occupational segregation (women historically over-represented in lower-paid occupations), career breaks affecting experience and seniority, and outright discrimination; closing this gap is a common target of government equal-pay policy.



A wage differential explained by restricted supply. In Market A (unskilled work — no training barrier), supply is relatively abundant, giving a lower equilibrium wage W_1 . In Market B (skilled work requiring years of training), the supply curve sits much further left (only qualified workers can supply this labour), so despite a similar demand curve the equilibrium wage W_2 is substantially higher.

Ví dụ mẫu · Worked example — Explaining a wage differential

A hospital surgeon earns far more than a hospital cleaner. Using labour market analysis, explain this wage differential.

Supply-side factors: becoming a surgeon requires many years of expensive, difficult training and a licence to practise, so the supply of qualified surgeons is small relative to demand — this is exactly the "Market B" case above. Cleaning requires little or no formal training, so the supply of workers able to do the job is comparatively large — the "Market A" case. **Additional factors:** surgery carries much greater responsibility, stress, and risk (e.g. legal liability for errors), which also commands a compensating wage premium; cleaning work carries far less risk and responsibility. **Demand-side factors:** a surgeon's labour is highly productive in value terms (a life-saving operation is worth a great deal to a hospital and patient), whereas a cleaner's marginal contribution to hospital revenue, though genuinely valuable, is much lower in market terms. Together, restricted supply (training barrier), a risk/responsibility premium, and higher derived demand explain why the equilibrium wage for surgeons sits far above that for cleaners.

GIẢI THÍCH TIẾNG VIỆT

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Chênh lệch tiền lương (wage differentials) bắt nguồn từ: trình độ kỹ năng/bằng cấp (nghề cần đào tạo lâu có nguồn cung hạn chế nên lương cao hơn), mức độ rủi ro/nguy hiểm/khó chịu của công việc (cần "phụ cấp bù đắp"), sức mạnh thương lượng của công đoàn, luật lương tối thiểu, sự phân biệt đối xử, và sự khác biệt vùng miền. Ví dụ áp dụng: **khoảng cách lương theo giới** thường được giải thích bởi sự phân bổ không đều giữa các ngành nghề, gián đoạn sự nghiệp, và cả yếu tố phân biệt đối xử.

3.3.7 Trade unions

A **trade union** is an organisation of workers that negotiates collectively with employers over pay and working conditions, rather than each worker bargaining individually.

- **Purpose:** collective bargaining gives workers far greater negotiating power than any one worker could have alone, since an employer facing the loss of its entire workforce (rather than one individual) has a much stronger incentive to agree to union demands.
- **Methods: collective bargaining** (union representatives negotiate pay and conditions on behalf of all members with the employer, rather than each worker negotiating alone); and, if negotiation fails, **industrial action** such as strikes (workers withhold their labour entirely, imposing an immediate cost on the employer through lost production), working-to-rule (workers do the absolute minimum required by their contract, slowing operations without formally striking), and overtime bans (workers refuse extra hours beyond their contract), all intended to pressure the employer into a more favourable settlement.
- **Advantages to workers:** higher wages and better conditions than individual bargaining would likely achieve; job security protections; a collective voice in disputes and disciplinary matters; support during disputes with management.
- **Possible disadvantages:** if a union successfully negotiates a wage above the level that reflects workers' productivity, this acts much like a legal minimum wage — a price floor in the labour market — and can **price some workers out of jobs:** firms respond to the higher cost of labour by employing fewer workers (or investing in labour-saving machinery instead), so some union members may be better paid but a proportion of workers who would have been employed at the market wage lose out. Excessive wage demands can also make a firm less competitive, potentially threatening the survival of jobs in the longer run.

A trade union (or a legal minimum wage) that pushes the wage above the free-market equilibrium acts as a **price floor** in the labour market: at the higher wage, the quantity of labour supplied exceeds the quantity demanded, creating a surplus of labour — that is, unemployment among those willing to work at the union/minimum wage but not hired.

GIẢI THÍCH TIẾNG VIỆT

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Công đoàn (trade union) thương lượng tập thể thay mặt người lao động để đạt được lương và điều kiện làm việc tốt hơn so với từng cá nhân tự thương lượng — bằng đàm phán, hoặc nếu thất bại thì bằng đình công/hành động công nghiệp. Lợi ích: lương cao hơn, điều kiện tốt hơn, tiếng nói tập thể. Bất lợi tiềm ẩn: nếu công đoàn đẩy lương lên cao hơn năng suất lao động phản ánh, điều này hoạt động giống một **mức giá sàn (price floor)** trên thị trường lao động — có thể khiến doanh nghiệp thuê ít lao động hơn, đẩy một số người lao động ra khỏi việc làm (dư cung lao động = thất nghiệp).

3.3.8 Division of labour and specialisation revisited

Division of labour occurs when the production process is broken into many small, repetitive tasks, with each worker specialising in just one (or a few) of them, rather than each worker carrying out an entire production process alone. Adam Smith's classic illustration used a pin factory: one worker performing all eighteen steps of pin-making alone could produce only a handful of pins in a day, whereas ten workers, each specialising in just one or two of those steps, could together produce many thousands of pins per day — an enormous rise in output per worker achieved purely by reorganising exactly the same workers and tools around specialisation rather than by adding any extra resources.

- **Advantages:** workers become highly skilled and fast at their one task through repetition; no time is lost switching between different tools or tasks; specialisation makes it worthwhile to design and use specialised machinery for each narrow task — all of which raise output per worker (productivity).
- **Disadvantages:** repeating one narrow task all day can cause monotony and boredom, lowering job satisfaction and potentially motivation and quality; workers who have only ever learned one narrow task risk **structural unemployment** if that specific skill becomes obsolete (e.g. through automation) and they lack the broader skills to move easily into another role; and production becomes **interdependent** — if workers at one stage of a specialised production line stop working (e.g. through illness or a dispute), the entire line may be forced to halt, since later stages depend completely on earlier ones.

GIẢI THÍCH TIẾNG VIỆT

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Phân công lao động (division of labour): chia nhỏ quy trình sản xuất thành nhiều công đoạn, mỗi công nhân chuyên một công đoạn (ý tưởng "nhà máy đinh ghim" của Adam Smith). Lợi ích: công nhân thành thạo và nhanh hơn, không mất thời gian chuyển đổi công việc, có thể dùng máy móc chuyên dụng cho từng công đoạn — năng suất tăng mạnh. Bất lợi: công việc lặp đi lặp lại gây nhàm chán, giảm sự hài lòng; công nhân chỉ biết một kỹ năng hẹp dễ bị **thất nghiệp cơ cấu** nếu kỹ năng đó lỗi thời; và các công đoạn phụ thuộc lẫn nhau — một công đoạn ngừng có thể làm ngừng toàn bộ dây chuyền.

3.4 Firms: Legal Structure and Objectives

3.4.1 Legal structures of business

A business can be legally organised in several different ways, each with different implications for who owns it, who is liable for its debts, how easily it can raise capital, who controls decisions, and how long it continues to exist.

- **Sole trader:** a business owned and run by one person. Simple and cheap to set up, with the owner keeping all profit and full control, but the owner has **unlimited liability** (personal assets can be seized to pay business debts) and capital is limited to what the owner can provide or borrow personally.
- **Partnership:** a business owned jointly by two or more people (partners) who share capital, decision-making, and profit according to a partnership agreement. More capital and shared expertise/-workload than a sole trader, but partners typically also have **unlimited liability**, and disagreements between partners can disrupt the business; the partnership may also end if a partner leaves or dies (unless otherwise agreed).
- **Private limited company (Ltd):** a company owned by shareholders (often family and friends, since shares cannot be offered to the general public), whose liability is **limited** to the amount they invested. It can raise more capital than a sole trader or partnership by selling shares privately,

and it continues to exist independently of any one owner, but shares cannot be freely traded on a public stock exchange, and it must file more paperwork/accounts than a sole trader.

- **Public limited company (Plc):** a large company whose shares can be bought and sold by the general public on a stock exchange. This allows access to very large amounts of capital, and owners (shareholders) have limited liability, but the original founders may lose some control as shares are sold to outside shareholders, and the company faces stricter regulation, more public disclosure of accounts, and the risk of a hostile takeover.
- **Public corporations / state-owned enterprises:** businesses owned and controlled by the government rather than private shareholders (e.g. a national railway or postal service), often set up to provide an essential service or to run a natural monopoly, rather than purely to maximise profit. Because the government stands behind them, they can usually raise finance relatively easily and are guaranteed continuity regardless of profitability, but they may lack the profit incentive to control costs efficiently, and important decisions can be influenced by political considerations rather than purely commercial ones.

Unlimited liability in practice: if a sole trader's business runs up \$50,000 of debt and the business itself has no assets left to cover it, the owner's own personal possessions – savings, car, even their house – can legally be sold to repay the remaining debt. **Limited liability** (private and public limited companies) caps this risk: a shareholder can lose, at most, the amount they paid for their shares, and no more, however large the company's debts.

Structure	Liability	Capital-raising	Control	Continuity
Sole trader	Unlimited	Very limited (owner's own funds/loans)	Full control by one owner	Ends if owner retires/dies
Partnership	Unlimited (usually)	Limited but greater than sole trader (multiple partners)	Shared among partners	May end if a partner leaves
Private limited company	Limited to investment	Larger – shares sold privately	Held by founder/-family shareholders	Continues independently of owners
Public limited company	Limited to investment	Very large – shares sold on stock exchange	Diluted among many shareholders	Continues indefinitely

Ví dụ mẫu · Worked example – Classifying a legal structure

Mai runs a small flower stall by herself. She keeps all the profit but is personally responsible for any debts the stall runs up, and the business would simply cease if she stopped trading. Identify Mai's legal structure and justify your answer using its key features.

Mai's business is a **sole trader**. The defining features match precisely: single owner with full control and full claim to profit; **unlimited liability** (she is personally responsible for debts, meaning her personal assets are at risk); and no separate continuity from the owner (the business ends when she stops trading, since it has no separate legal identity of its own).

GIẢI THÍCH TIẾNG VIỆT

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Bốn hình thức pháp lý chính: **doanh nghiệp tư nhân/cá thể (sole trader)** — một chủ, trách nhiệm vô hạn; **hợp danh (partnership)** — nhiều chủ chung vốn, thường vẫn trách nhiệm vô hạn; **công ty TNHH tư nhân (private limited company)** — cổ phần không bán ra công chúng, trách nhiệm hữu hạn; **công ty cổ phần đại chúng (public limited company)** — cổ phần giao dịch trên sàn chứng khoán, huy động vốn rất lớn nhưng chủ sáng lập có thể mất quyền kiểm soát. Ngoài ra còn có **doanh nghiệp nhà nước** do chính phủ sở hữu.

3.4.2 Objectives of firms

Standard economic analysis usually assumes firms aim for **profit maximisation** — producing at the output where the gap between total revenue and total cost is greatest (equivalently, where the cost of producing one more unit, marginal cost, just equals the extra revenue earned from selling it, marginal revenue). In reality, firms may instead (or additionally) pursue:

- **Growth maximisation:** expanding market share and size, even at some cost to short-run profit, because bigger firms often gain economies of scale, market power, and prestige.
- **Sales/revenue maximisation:** maximising total revenue rather than profit, sometimes because managers' pay or status is linked to firm size/turnover rather than profit itself.
- **Managerial/behavioural objectives:** in large firms, managers (who run day-to-day operations) may pursue goals that benefit themselves (job security, larger budgets, easier working life) rather than strictly maximising profit for shareholders — a divergence sometimes called the "principal-agent problem."
- **Survival:** especially during a recession or a price war, a firm's overriding short-term objective may simply be to survive (cover costs and stay in business) rather than maximise profit — for instance, a restaurant facing a sharp fall in customer numbers during a downturn may deliberately cut its prices to below its normal profit-maximising level, accepting a temporary loss, purely to keep enough cash flowing in to cover rent and wages and remain open until demand recovers.
- **Social/ethical objectives:** some firms deliberately pursue environmental or social goals (e.g. fair-trade sourcing, reducing pollution) alongside or instead of pure profit, partly to build reputation and long-run customer loyalty.

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VN

Mục tiêu phổ biến nhất trong lý thuyết kinh tế là **tối đa hoá lợi nhuận**. Tuy nhiên trong thực tế doanh nghiệp có thể theo đuổi: **tối đa hoá tăng trưởng** (mở rộng thị phần), **tối đa hoá doanh thu**, **mục tiêu của nhà quản lý** (đôi khi khác lợi ích cổ đông), **sự sống còn** (đặc biệt trong suy thoái), hoặc **mục tiêu xã hội/đạo đức** (môi trường, cộng đồng).

3.5 Firms: Costs, Revenue, and Profit**3.5.1 Costs of production**

- **Fixed costs (FC):** costs that do not change with the level of output in the short run (e.g. rent, insurance, salaried management) — they must be paid even if output is zero.
- **Variable costs (VC):** costs that rise directly with the level of output (e.g. raw materials, piece-rate wages, packaging) — zero if nothing is produced.
- **Total cost (TC):** $TC = FC + VC$.
- **Average cost (AC):** the cost per unit of output, $AC = TC \div Q$.

- **Marginal cost (MC):** the extra cost of producing one more unit of output — conceptually, $MC = \frac{\Delta TC}{\Delta Q}$, the change in total cost when output changes by one unit.
- **Short run vs. long run:** in the **short run**, at least one factor of production (typically capital — the size of the factory/machinery) is fixed, so a firm can only expand output by using its existing capital more intensively (e.g. more workers, more shifts). In the **long run**, all factors of production are variable — the firm can build a new factory, buy more machinery, or change its entire scale of operation.

Ví dụ mẫu · Worked example — Average and marginal cost from a cost schedule

A workshop reports the following total cost at each output level: $Q = 1, TC = \$50$; $Q = 2, TC = \$90$; $Q = 3, TC = \$120$; $Q = 4, TC = \$160$; $Q = 5, TC = \$210$. Calculate average cost (AC) and marginal cost (MC) at each output level, and comment on the pattern.

$AC = TC \div Q$: $Q = 1: 50/1 = \$50.00$; $Q = 2: 90/2 = \$45.00$; $Q = 3: 120/3 = \$40.00$; $Q = 4: 160/4 = \$40.00$; $Q = 5: 210/5 = \$42.00$.

MC (change in TC per extra unit): $Q = 2: 90 - 50 = \$40$; $Q = 3: 120 - 90 = \$30$; $Q = 4: 160 - 120 = \$40$; $Q = 5: 210 - 160 = \$50$.

As long as MC is below AC (as at $Q = 2, 3$), AC keeps falling; once MC rises above AC (at $Q = 5, MC = \$50 > AC = \40 from the previous unit), AC starts to rise again ($\$40 \rightarrow \42) — this is the standard relationship between marginal and average cost: MC pulls AC toward it.

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VN

Chi phí cố định (FC) không đổi theo sản lượng (VD tiền thuê mặt bằng); **chi phí biến đổi (VC)** tăng theo sản lượng (VD nguyên vật liệu); **tổng chi phí (TC)** = FC + VC; **chi phí bình quân (AC)** = TC chia sản lượng; **chi phí biên (MC)** là chi phí tăng thêm để sản xuất thêm một đơn vị. Trong **ngắn hạn**, ít nhất một yếu tố sản xuất (thường là vốn/nhà xưởng) là cố định; trong **dài hạn**, mọi yếu tố sản xuất đều có thể thay đổi.

(!) Lỗi thường gặp: Do not label a cost "fixed" or "variable" based only on its type of expense in isolation — always ask whether it changes *with the level of output*. Rent and machinery-lease payments are fixed because the business pays the same amount whether it produces 10 units or 10,000 (in the short run); raw materials and piece-rate wages are variable because more output directly requires more of them. A common error is assuming all wages are variable — a salaried manager's pay, unlike a factory worker paid per unit produced, is a fixed cost.

3.5.2 Revenue and profit

- **Total revenue (TR):** the total income a firm receives from selling its output, $TR = P \times Q$ (price per unit multiplied by quantity sold).
- **Average revenue (AR):** revenue per unit sold, $AR = TR \div Q$; under the simple assumption of a single selling price for every unit, AR equals the price, P .
- **Profit:** Profit = $TR - TC$. If $TR > TC$, the firm makes a profit; if $TR < TC$, it makes a loss.
- **Normal profit:** the minimum return needed to keep an entrepreneur/owner running this particular business rather than switching to their next best alternative use of their time and capital. Crucially, normal profit is treated as a **cost** of production (a reward for enterprise, just as a wage rewards labour), not as a surplus — it is already included in a firm's costs (TC) in economic analysis, even though it does not appear as an explicit cash expense.

- **Abnormal (supernormal) profit:** any profit earned *above and beyond* normal profit — a genuine economic surplus that gives the owner more return than their next best alternative, and is the profit figure ($TR - TC$) referred to in the cost/revenue calculations above.

(!) Lỗi thường gặp: Do not treat "normal profit" as meaning "zero profit" or as a synonym for "no profit at all." Normal profit is a **cost** — the payment necessary to keep the entrepreneur in this line of business — and a firm earning only normal profit is doing perfectly well by economic standards (it is covering all its opportunity costs, including the owner's time and capital). **Abnormal (supernormal) profit** is the separate concept: profit earned in excess of normal profit, over and above what is needed to keep the firm operating.

GIẢI THÍCH TIẾNG VIỆT

VN

Tổng doanh thu (TR) = giá bán × sản lượng; **doanh thu bình quân (AR)** = TR chia sản lượng, thường bằng giá bán. **Lợi nhuận** = $TR - TC$. **Lợi nhuận thông thường (normal profit)** là mức lợi nhuận tối thiểu để giữ chân doanh nhân ở lại ngành này — được coi là một **chi phí** (giống tiền lương trả cho lao động), **KHÔNG** phải phần dư ra. **Lợi nhuận siêu ngạch (abnormal/supernormal profit)** mới là phần lợi nhuận vượt trên mức lợi nhuận thông thường đó.

Ví dụ mẫu · Worked example — Costs, revenue, and profit (a profitable outcome)

A workshop makes wooden deckchairs. Fixed costs are \$2,000 per month; variable cost is \$15 per chair; the workshop sells 500 chairs in a month at \$35 each. Calculate TC, TR, profit, AC, and AR.

$$TC = FC + (VC \text{ per unit} \times Q) = 2,000 + (15 \times 500) = 2,000 + 7,500 = \$9,500.$$

$$TR = P \times Q = 35 \times 500 = \$17,500.$$

$$\text{Profit} = TR - TC = 17,500 - 9,500 = \$8,000.$$

$$AC = TC \div Q = 9,500 \div 500 = \$19.00.$$

$$AR = TR \div Q = 17,500 \div 500 = \$35.00 \text{ (equal to price, as expected).}$$

Since AR (\$35.00) > AC (\$19.00), the workshop earns a profit of \$16.00 per chair, matching the total profit of \$8,000 over 500 chairs.

Ví dụ mẫu · Worked example — Costs, revenue, and profit (a loss-making outcome)

A small bakery has fixed costs of \$1,200 per week and a variable cost of \$3.50 per loaf. In a week when demand is weak, it sells only 300 loaves at \$6.00 each. Calculate TC, TR, profit or loss, AC, and AR, and comment.

$$TC = 1,200 + (3.50 \times 300) = 1,200 + 1,050 = \$2,250.$$

$$TR = 6.00 \times 300 = \$1,800.$$

$$\text{Profit} = TR - TC = 1,800 - 2,250 = -\$450 \text{ — a loss of } \$450.$$

$$AC = 2,250 \div 300 = \$7.50; AR = 1,800 \div 300 = \$6.00.$$

Because AC (\$7.50) > AR (\$6.00), the bakery loses \$1.50 on every loaf sold, totalling the \$450 loss. Unless demand recovers or costs fall, the bakery cannot sustain this position indefinitely.

3.6 Economies of Scale and Growth of Firms

3.6.1 Economies and diseconomies of scale

As a firm expands its scale of production in the long run, its **long-run average cost (LRAC)** often falls at first — these cost savings are **economies of scale** — before eventually rising again as the firm becomes too large to manage efficiently — **diseconomies of scale**.

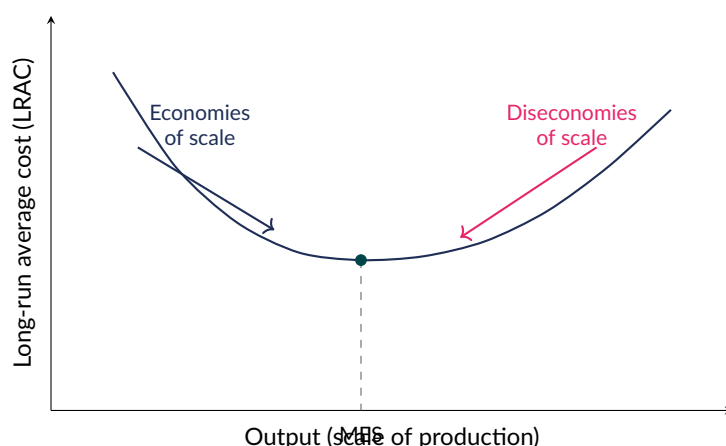
Internal economies of scale

- **Purchasing (bulk-buying) economies:** larger firms buy raw materials in bulk and can negotiate lower prices per unit from suppliers.
- **Technical economies:** larger-scale production allows the use of more efficient, specialised machinery and mass-production techniques that are not viable at small scale, spreading the (fixed) cost of the machinery over far more units.
- **Financial economies:** large, well-established firms can usually borrow at lower interest rates and access a wider range of finance (e.g. issuing shares/bonds) than small firms, which lenders view as riskier.
- **Managerial economies:** large firms can afford to employ specialist managers (e.g. dedicated finance, marketing, and human-resources managers) rather than one generalist manager trying to do everything, raising efficiency in each area.
- **Marketing (and risk-bearing) economies:** the cost of a national advertising campaign, or of maintaining a sales force, can be spread over a much larger output, lowering the marketing/advertising cost per unit; a larger, more diversified firm can also spread risk across multiple products or markets, reducing the impact if any one product or market performs poorly.

External economies of scale arise not from the size of an individual firm but from the growth of the *whole industry* in a particular area – for example, a concentration of firms in one industry in a region can support a local pool of appropriately skilled labour, a network of specialist local suppliers and support services, and good specialised infrastructure, benefiting every firm located there (even small ones), regardless of that individual firm's own size.

Diseconomies of scale occur when a firm grows so large that unit costs start to *rise* again, typically because of:

- **Communication and coordination problems:** information can be delayed, distorted, or lost as it passes through many layers of a very large organisation, leading to slower and worse decisions.
- **Poor motivation:** workers in a huge organisation may feel like a small, replaceable part of a distant machine, reducing morale, effort, and productivity compared with a smaller, more personal workplace.



The long-run average cost (LRAC) curve. LRAC falls as output rises while the firm captures economies of scale, reaches a minimum at the minimum efficient scale (MES), then rises again if diseconomies of scale set in beyond that point.

Ví dụ mẫu · Worked example — Identifying types of economies of scale

A supermarket chain grows from 5 stores to 200 stores. As it grows, it: (i) negotiates a 12% discount from food suppliers because of the huge volumes it now orders; (ii) borrows money for a new distribution centre at a lower interest rate than a small independent shop could get; (iii) hires a dedicated logistics manager and a dedicated marketing manager instead of one generalist store manager doing both jobs; and (iv) spreads the cost of a single national television advertising campaign across all 200 stores. Identify the type of economy of scale illustrated by each example.

- (i) **Purchasing (bulk-buying) economy** — lower per-unit input prices from bulk ordering.
- (ii) **Financial economy** — access to cheaper borrowing due to size and lower perceived risk.
- (iii) **Managerial economy** — specialist managers replacing one generalist, raising efficiency.
- (iv) **Marketing economy** — the fixed cost of the campaign is spread over far more units of output (many more stores' worth of sales), lowering the advertising cost per unit sold.

GIẢI THÍCH TIẾNG VIỆT

VN

Kinh tế theo quy mô nội bộ (internal economies of scale) gồm: kinh tế mua hàng (mua số lượng lớn được giảm giá), kinh tế kỹ thuật (dùng máy móc chuyên dụng hiệu quả hơn), kinh tế tài chính (vay vốn lãi suất thấp hơn), kinh tế quản lý (thuê quản lý chuyên môn hoá), và kinh tế marketing/phân tán rủi ro (chi phí quảng cáo/rủi ro được san sẻ trên sản lượng lớn). **Kinh tế theo quy mô bên ngoài (external economies)** đến từ sự phát triển của cả ngành tại một khu vực (nguồn lao động lành nghề, nhà cung cấp chuyên biệt). **Phi kinh tế theo quy mô (diseconomies of scale)** xảy ra khi doanh nghiệp quá lớn dẫn đến vấn đề giao tiếp/phối hợp và động lực làm việc kém, khiến chi phí bình quân dài hạn tăng trở lại.

3.6.2 Reasons firms grow, and types of integration

Firms have several motives for wanting to grow larger: capturing the internal economies of scale described above to reduce unit costs; gaining greater market share and market power, which can allow more control over price; spreading risk across a wider range of products, customers, or markets; and, in some cases, growth is pursued by managers for the prestige, job security, and higher pay that often come with running a larger organisation, even where this does not maximise profit for shareholders.

Firms can grow either **internally (organically)** — expanding by reinvesting profit to build new capacity, hire more staff, or open new outlets — or **externally**, through **merger** (two firms agreeing to combine) or **takeover** (one firm acquiring control of another). Organic growth tends to be slower but lower-risk and easier to finance from a firm's own profits; external growth is typically much faster, immediately acquiring an established brand, customer base, or supply chain, but can be expensive, carries the risk of clashing management styles or cultures between the combining firms, and can be classified by direction:

- **Horizontal integration:** joining with a firm at the *same* stage of production in the *same* industry — e.g. one car manufacturer merging with a rival car manufacturer. Motive: increased market share and economies of scale by combining similar operations.
- **Vertical integration (backward):** joining with a firm at an *earlier* stage of the same production chain (a supplier) — e.g. a furniture manufacturer taking over a timber-supply company. Motive: securing control over inputs, supply, and quality.
- **Vertical integration (forward):** joining with a firm at a *later* stage of the same production chain (closer to the final customer) — e.g. a clothing manufacturer taking over a chain of retail shops. Motive: securing control over distribution and direct access to customers.

- **Conglomerate integration:** joining with a firm in a *completely unrelated* industry — e.g. a soft-drinks company acquiring a film-production studio. Motive: diversifying risk by spreading operations across unrelated markets, so poor performance in one industry can be offset by others.

Ví dụ mẫu · Worked example — Identifying the type of integration

Identify the type of integration described in each scenario.

- (a) A national coffee-shop chain merges with its biggest rival coffee-shop chain.
 (b) A smartphone manufacturer buys a company that mines the rare-earth metals used in its batteries.
 (c) A clothing manufacturer buys a chain of retail stores to sell its own clothes directly to the public.
 (d) An airline company buys a chain of unrelated hotels.
- (a) Horizontal integration** — same stage of production, same industry (direct competitors).
(b) Backward vertical integration — acquiring a supplier at an earlier stage of the production chain.
(c) Forward vertical integration — acquiring a business at a later stage, closer to the final consumer.
(d) Conglomerate integration — acquiring a firm in a completely unrelated industry, to diversify risk.

(!) Lỗi thường gặp: To tell **backward** from **forward** vertical integration, trace the production chain from raw material to final consumer and ask which direction the takeover moves: a firm moving *toward its suppliers* (upstream, toward raw materials/inputs) is **backward** integration; a firm moving *toward its customers* (downstream, toward the final point of sale) is **forward** integration. Do not confuse either with **horizontal** integration, which stays at exactly the *same* stage of the same industry (e.g. two rival producers combining) rather than moving up or down the chain.

GIẢI THÍCH TIẾNG VIỆT

VN

Doanh nghiệp có thể tăng trưởng **nội bộ** (tái đầu tư lợi nhuận) hoặc **bên ngoài** (sáp nhập/thâu tóm). **Sáp nhập ngang (horizontal)**: hai doanh nghiệp cùng ngành, cùng công đoạn (VD hai hãng xe hơi hợp nhất). **Sáp nhập dọc ngược (backward vertical)**: thu mua nhà cung cấp (công đoạn trước). **Sáp nhập dọc xuôi (forward vertical)**: thu mua khâu phân phối/bán lẻ (công đoạn sau, gần khách hàng hơn). **Sáp nhập tổ hợp (conglomerate)**: thu mua doanh nghiệp ở ngành hoàn toàn khác để phân tán rủi ro.

3.6.3 Break-even analysis

Break-even output is the level of output at which a firm's total revenue exactly equals its total cost — it makes neither profit nor loss.

Contribution per unit = Price – Variable cost per unit — the amount each unit sold contributes toward covering fixed costs (and, beyond break-even, toward profit).

$$\text{Break-even output} = \frac{\text{Fixed costs}}{\text{Contribution per unit}}$$

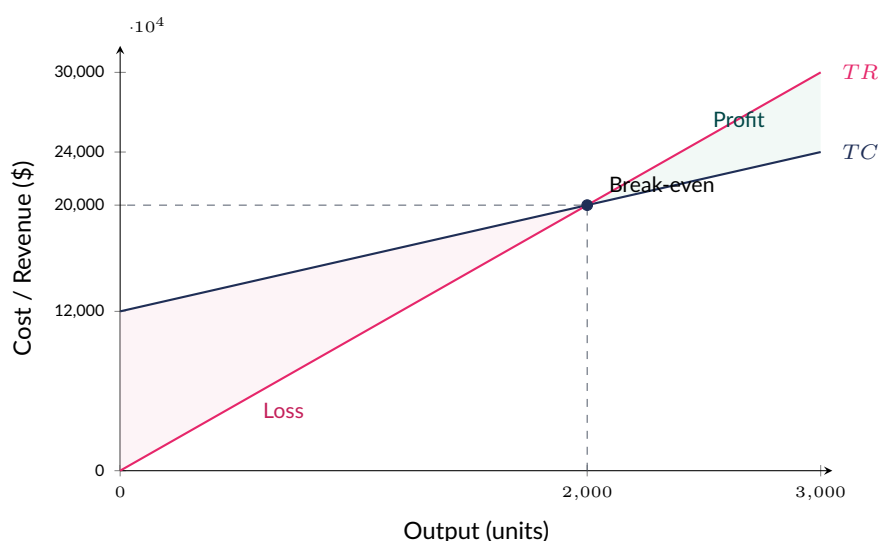
Ví dụ mẫu · Worked example — Break-even output (contribution method)

A company manufactures phone cases. Fixed costs are \$12,000 per month; variable cost is \$4 per case; the selling price is \$10 per case. Calculate the break-even output, and verify it using total revenue and total cost.

Step 1 — contribution per unit: $10 - 4 = \$6$ per case.

Step 2 — break-even output: $\frac{12,000}{6} = 2,000$ cases per month.

Verification at $Q = 2,000$: $TC = 12,000 + (4 \times 2,000) = 12,000 + 8,000 = \$20,000$; $TR = 10 \times 2,000 = \$20,000$. Since $TR = TC$, this confirms 2,000 cases is indeed the break-even output.



Break-even chart for the phone-case example above. Total cost (TC) starts at fixed costs (\$12,000) and rises with output; total revenue (TR) starts at zero and rises faster (steeper slope, since price exceeds variable cost per unit). Below the break-even output of 2,000 units, $TC > TR$ (shaded loss region); above it, $TR > TC$ (shaded profit region).

Break-even analysis relies on simplifying assumptions that should be kept in mind: that price and variable cost per unit remain constant regardless of output, that every unit produced is actually sold (no unsold stock building up), and that fixed costs genuinely stay fixed over the whole output range being considered. In reality, a firm may need to cut its price to sell a larger quantity, or fixed costs may rise once output grows beyond the capacity of existing premises/machinery — any such change would shift the TR or TC line and move the break-even point itself.

GIẢI THÍCH TIẾNG VIỆT

VN

Đóng góp trên một đơn vị (contribution per unit) = giá bán – chi phí biến đổi trên một đơn vị — đây là phần mỗi sản phẩm bán ra đóng góp để bù đắp chi phí cố định (và sau điểm hoà vốn, đóng góp vào lợi nhuận). **Sản lượng hoà vốn** = chi phí cố định chia cho đóng góp trên một đơn vị — tại đó $TR = TC$, doanh nghiệp không lãi cũng không lỗ. Lưu ý phân tích hoà vốn giá định giá bán và chi phí biến đổi trên đơn vị không đổi theo sản lượng.

3.7 Market Structure: Perfect Competition and Monopoly

3.7.1 The spectrum of market structures

Real-world markets sit along a spectrum according to how much market power individual firms hold, ranging from many small firms with essentially no power over price at one end, to a single dominant firm with substantial power over price at the other. Between these extremes lie market structures

such as **monopolistic competition** (many firms selling similar but not identical products, e.g. restaurants) and **oligopoly** (a small number of large firms dominating an industry, e.g. major mobile-network operators), which this course does not require in the same depth – the two structures examined in full here are the two ends of the spectrum: **perfect competition** and **monopoly**.

	Perfect competition	Monopolistic competition / oligopoly	Monopoly
Number of firms	Very many, each tiny	Monopolistic competition: many; oligopoly: few, large	One (or one dominant firm)
Product	Homogeneous (identical)	Differentiated (similar but branded)	Unique, no close substitute
Barriers to entry	None	Some, moderate	Very high
Firm's price power	None – price taker	Some price-setting power	Substantial – price maker

3.7.2 Perfect competition

Perfect competition is a theoretical market structure defined by a strict set of assumptions:

- **Many small firms**, each producing only a tiny fraction of total industry output.
- **Homogeneous product**: every firm's output is identical (indistinguishable) to every other firm's, so buyers have no reason to prefer one firm's product over another's.
- **Freedom of entry and exit**: no barriers prevent new firms from entering the industry (attracted by profit) or existing firms from leaving (if making a loss).
- **Perfect information**: all buyers and sellers know all prices and relevant information.

Because each firm is so small relative to the whole market, and its product is identical to every rival's, no individual firm can influence the market price at all – every firm is a **price taker**, simply accepting whatever price the whole market determines. If a firm tried to charge even slightly above the market price, buyers would switch instantly to an identical, cheaper product elsewhere; there is no need to charge below the market price, since the firm can already sell all it wants at the going price. This means each firm faces a **horizontal (perfectly elastic) demand curve** at the market price – it can sell any quantity it chooses at that one price, but nothing at all above it.

Freedom of entry and exit also has an important consequence for profit. If firms in the industry are earning **abnormal profit**, that profit signals an attractive opportunity, and – because there are no barriers stopping them – new firms are free to enter, increasing total industry supply and driving the market price back down until abnormal profit is competed away, leaving only **normal profit** in the long run. If firms were instead making a loss, some would exit, reducing supply and pushing the price back up, again until only normal profit remains. This tendency for abnormal profit to be eliminated by entry and exit is a defining long-run feature of perfect competition, and stands in sharp contrast to monopoly, discussed next.

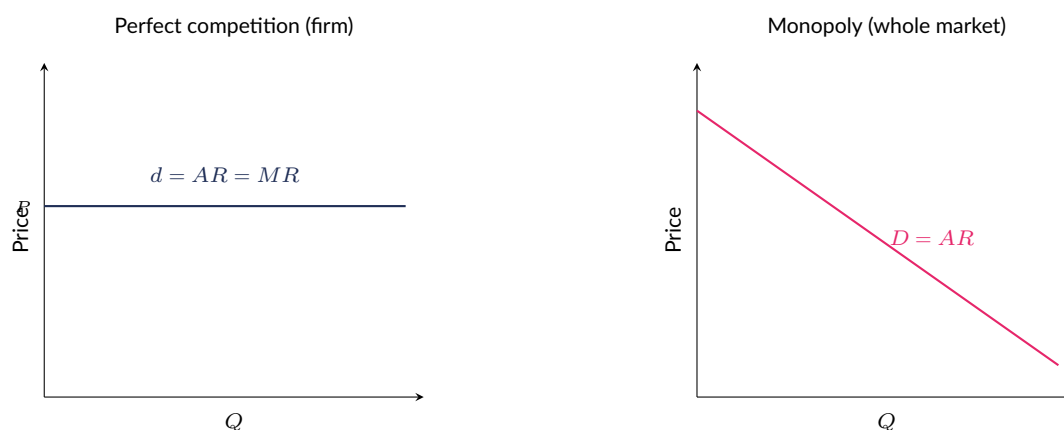
3.7.3 Monopoly

A **monopoly** is, in the strict theoretical sense, a single firm that is the sole supplier of a good or service in a market, with no close substitutes available (in practice, the term is also applied more loosely to a firm with a dominant, though not literally 100%, market share). Because high barriers to entry (described below) prevent new firms from entering even when abnormal profit is being earned, a monopolist can potentially go on earning abnormal profit indefinitely – unlike a firm in perfect competition, whose abnormal profit is only ever a temporary, short-run phenomenon.

Barriers to entry that sustain a monopoly

- **Patents and legal barriers:** laws granting a firm the sole legal right to produce a good or use a process for a period of time.
- **High start-up/sunk costs:** industries requiring enormous upfront investment (e.g. building a national power grid) deter potential rivals who cannot easily recover such costs if they fail.
- **Control of essential resources:** a firm controlling a scarce raw material or resource that competitors need can prevent them from entering at all.
- **Brand loyalty and advertising:** a well-established brand with strong customer loyalty is difficult and expensive for a new entrant to compete against.
- **Predatory pricing:** an incumbent monopolist can temporarily slash prices below cost when a new firm tries to enter, deliberately forcing the entrant out of business before raising prices again once the threat is gone.

Because a monopolist is the only supplier, it faces the entire market's downward-sloping demand curve directly: to sell a larger quantity, it must lower the price (on all units sold, under simple assumptions). This makes the monopolist a **price maker** – it can choose its own price (though it cannot choose price *and* quantity independently, since higher quantity necessarily requires a lower price along the demand curve).



Demand facing the firm under each market structure. A perfectly competitive firm faces a horizontal (perfectly elastic) demand curve at the ruling market price – it is a price taker. A monopolist faces the entire downward-sloping market demand curve – it is a price maker, able to influence price by restricting quantity.

Ví dụ mẫu · Worked example – Classifying market structure

Classify each scenario as closest to perfect competition or monopoly, with justification.

(a) Hundreds of small family farms sell an identical grade of wheat into a national market; no single farm's output is large enough to affect the market price.

(b) A single company owns the entire national electricity transmission grid, and no other firm is permitted to build a rival grid.

(a) Perfect competition: many small, price-taking sellers of a homogeneous product (wheat is graded and effectively identical across producers) with no single firm able to influence price.

(b) Monopoly: a single supplier with an enormous barrier to entry (the huge sunk cost of building a rival grid, reinforced by legal restriction) – a classic example of a **natural monopoly**, where the market can be served more efficiently by one large firm than by many small duplicating

firms.

(!) Lỗi thường gặp: Do not confuse **price taker** with **price maker**. A price-taking firm (perfect competition) has *no* power to set its own price — it simply accepts the price set by the whole market and decides only how much to produce at that price. A price-making firm (monopoly) faces the downward-sloping market demand curve directly and can choose its price, though doing so also fixes the quantity it can sell at that price (it cannot sell an unlimited quantity at a high price).

3.7.4 Monopoly: advantages and disadvantages

- **Disadvantages to consumers/the economy:** monopolists can charge **higher prices** and restrict output/choice compared with a more competitive market, since there is no rival to undercut them; with no competitive pressure, monopolists have less incentive to innovate, improve quality, or cut costs, potentially leading to **X-inefficiency** (production at a higher cost than necessary, because there is no competitive pressure to eliminate organisational slack).
- **Possible advantages:** a large monopolist may achieve substantial **economies of scale**, and if any of that cost saving is passed on, prices could still be lower than many smaller competing firms could offer; monopoly profits can fund significant **research and development**, potentially financing innovation that smaller, more financially constrained competitive firms could not afford; and in industries with very large fixed infrastructure costs (**natural monopolies**, e.g. water or electricity networks), a single provider avoids the wasteful duplication of building multiple competing networks.

Because of these potential harms, many governments intervene to limit the damage a monopoly can do: setting up dedicated **regulatory bodies** to oversee prices and service quality in industries dominated by a single firm (especially natural monopolies such as water or electricity networks); passing **competition law** that reviews or blocks mergers and takeovers likely to substantially reduce competition in a market; and, in some cases, imposing price controls or breaking up a firm that is judged to be abusing its dominant position. The full range of tools governments use to intervene in markets is explored in more depth later in this course.

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Cạnh tranh hoàn hảo: rất nhiều doanh nghiệp nhỏ, sản phẩm đồng nhất, tự do gia nhập/rút lui, thông tin hoàn hảo — mỗi doanh nghiệp là **người chấp nhận giá (price taker)**, đối mặt đường cầu nằm ngang (co giãn hoàn toàn). **Độc quyền:** một doanh nghiệp duy nhất, có rào cản gia nhập lớn (bằng sáng chế, chi phí chìm cao, kiểm soát nguồn lực, uy tín thương hiệu, định giá hủy diệt) — là **người định giá (price maker)**, đối mặt đường cầu dốc xuống của toàn thị trường. Độc quyền có thể gây hại (giá cao hơn, sản lượng/lựa chọn ít hơn, kém động lực đổi mới — **phi hiệu quả X**), nhưng cũng có thể mang lại lợi ích trong một số trường hợp (kinh tế theo quy mô, nguồn quỹ cho nghiên cứu & phát triển, tránh trùng lặp hạ tầng lãng phí ở độc quyền tự nhiên).

3.8 The Circular Flow of Income

The **circular flow of income** is a simplified model showing how income flows continuously between the two main groups of economic decision-makers studied in this chapter: **households** and **firms**. It distinguishes two linked types of flow:

- **Real flows:** the physical movement of factors of production and of goods and services.

- **Money flows:** the payments that flow in the opposite direction to compensate for those real flows.

Households supply **factors of production** (land, labour, capital, enterprise) to firms; in return, firms pay households **income** (wages, rent, interest, and profit) for the use of those factors. Firms use those factors to produce **goods and services**, which they supply to households; in return, households pay firms **consumer expenditure** for those goods and services.



The two-sector circular flow of income. Real flows (navy): factors of production pass from households to firms, and goods/services pass from firms to households. Money flows (pink): firms pay income to households for the use of their factors, and households pay expenditure to firms for goods and services.

This is a deliberately **simplified two-sector model**, involving only households and firms. Later chapters of this course add a **government sector** (with taxation as a leakage from the flow and government spending as an injection into it) and an **international trade sector** (with imports as a leakage and exports as an injection), building up to the full circular flow of income used to study the whole macroeconomy.

GIẢI THÍCH TIẾNG VIỆT

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Sơ đồ chu chuyển thu nhập (mô hình hai khu vực) mô tả dòng chảy giữa **hộ gia đình** và **doanh nghiệp**: hộ gia đình cung cấp các **yếu tố sản xuất** (đất đai, lao động, vốn, doanh nhân) cho doanh nghiệp (dòng thực), đổi lại nhận **thu nhập** (tiền lương, tiền thuê, lãi suất, lợi nhuận – dòng tiền); doanh nghiệp sản xuất **hàng hoá/dịch vụ** cung cấp cho hộ gia đình (dòng thực), đổi lại nhận **chi tiêu tiêu dùng** (dòng tiền). Đây là mô hình **đơn giản hoá hai khu vực**; các chương sau sẽ bổ sung khu vực chính phủ và khu vực nước ngoài (thương mại quốc tế) để hoàn thiện sơ đồ.

3.9 Practice

Bài tập luyện tập

Which of the following is *not* one of the four functions of money?

- | | |
|------------------------|----------------------------------|
| (A) Medium of exchange | (C) Factor of production |
| (B) Unit of account | (D) Standard of deferred payment |

Lời giải chi tiết

The four functions of money are medium of exchange, unit of account, store of value, and standard of deferred payment. "Factor of production" refers to land, labour, capital, and enterprise – a different economic concept entirely. (C).

Bài tập luyện tập

Explain, using the concept of the "double coincidence of wants," why barter is inefficient in an economy with many different goods and services.

Lời giải chi tiết

Barter requires that two people each happen to want exactly what the other is offering at the same time (a "double coincidence of wants"). As the number of different goods and services in an economy grows, the probability that any two people's wants line up this way falls sharply, making direct trades increasingly hard to arrange without a huge amount of searching – money solves this by being accepted by everyone, so a seller no longer needs to find someone who wants precisely what they are selling.

Bài tập luyện tập

State and briefly explain *three* characteristics that a good form of money should possess.

Lời giải chi tiết

Any three of: **durability** (must not decay or wear out, so it can be reused and stored); **divisibility** (must split into smaller units for transactions of different sizes); **portability** (must be easy to carry/transfer); **acceptability** (must be widely and confidently accepted); **scarcity** (supply must be limited, or its value collapses).

Bài tập luyện tập

Which function of the central bank is illustrated when it lends emergency funds to a solvent commercial bank facing a short-term shortage of cash?

- | | |
|------------------------------|-------------------------------------|
| (A) Issuing currency | (C) Lender of last resort |
| (B) Banker to the government | (D) Regulator of the banking system |

Lời giải chi tiết

This describes the central bank acting as **lender of last resort** – supporting an otherwise solvent bank through a short-term liquidity crisis to protect confidence in the whole banking system. (C).

Bài tập luyện tập

Distinguish between the roles of a commercial bank and a central bank in the banking system.

Lời giải chi tiết

A **commercial bank** deals directly with households and firms: accepting deposits (current and savings accounts), lending, and providing payment services, earning profit mainly from the interest-rate spread between loans and deposits. A **central bank** sits above the commercial banking system: it alone issues currency, acts as banker to the government and to commercial banks, regulates/supervises the banking system, acts as lender of last resort, and sets the base interest rate as its main tool of monetary policy – it does not compete with commercial banks for ordinary retail customers.

Bài tập luyện tập

A household receives a one-off inheritance rather than a permanent rise in salary. Using the concept of permanent versus temporary income, explain why this household is more likely to

save most of the inheritance than to permanently raise its weekly spending.

Lời giải chi tiết

Households generally base ongoing (regular) consumption on their expected **permanent** income, not on any single windfall. Because an inheritance is a one-off, non-recurring receipt, the household does not expect its long-run income to be any higher afterwards, so raising weekly spending permanently would be unsustainable once the inheritance is spent. It is therefore more rational (and more typically observed) for the household to save most of the inheritance, or use it for a one-off purchase, rather than build it into ongoing consumption habits.

Bài tập luyện tập

Which of the following would most likely *reduce* household saving, other things equal?

- | | |
|---|---|
| (A) A rise in the central bank's base interest rate | (C) Easier availability of cheap consumer credit |
| (B) A fall in consumer confidence about future job security | (D) An increase in household income with no change in spending habits |

Lời giải chi tiết

Easier, cheaper credit allows households to finance more consumption without needing to draw on or build up savings, and can even encourage borrowing instead of saving – this tends to **reduce** saving. A higher interest rate rewards saving more, and lower confidence about the future typically raises precautionary saving – both would tend to *increase*, not reduce, saving; an income rise with unchanged spending habits raises saving, not reduces it. **(C)**.

Bài tập luyện tập

Explain why the demand for labour is described as a "derived demand," using an example of a fall in demand for new cars.

Lời giải chi tiết

Firms do not employ labour for its own sake; they employ it only because that labour helps to produce a good or service that is itself demanded. If demand for new cars falls, car manufacturers need to produce fewer cars, so they need fewer assembly-line workers – demand for that labour falls purely because it is *derived* from the (now lower) demand for the final product (cars), not from any change in workers' own characteristics.

Bài tập luyện tập

A particular occupation requires a costly, five-year professional qualification. Explain how this is likely to affect the equilibrium wage in that occupation compared with an occupation requiring no formal training.

Lời giải chi tiết

The long, costly qualification acts as a barrier that restricts the number of people able to supply labour to this occupation, shifting the labour supply curve to the left (or keeping it far to the

left) relative to an untrained occupation. With demand for labour held roughly constant, this restricted supply intersects demand at a **higher equilibrium wage** than in an occupation anyone can enter freely – this is the supply-side explanation for why highly qualified occupations tend to pay more.

Bài tập luyện tập

Explain two non-wage (non-monetary) factors that might make a lower-paid job more attractive to a worker than a higher-paid alternative.

Lời giải chi tiết

Any two of: better **working conditions** (e.g. safer, more comfortable, more convenient hours); greater **job satisfaction** (more interesting or meaningful work); higher **social status** associated with the role; and better **fringe benefits** (e.g. pension contributions, health insurance, paid holiday, subsidised training) – any of these can make a lower-paid job more attractive overall than a higher-paid job lacking them.

Bài tập luyện tập

A trade union successfully negotiates a wage for its members that is above the free-market equilibrium wage. Using the concept of a price floor, explain the likely effect on employment in that labour market.

Lời giải chi tiết

A wage set above the free-market equilibrium acts as a **price floor**: at that higher wage, the quantity of labour supplied (workers willing to work) exceeds the quantity of labour demanded (workers firms are willing to hire), creating a surplus of labour. In practice, this means some workers who would have been employed at the market-clearing wage are now priced out of jobs – those still employed may enjoy a higher wage, but total employment in that market is likely to be **lower** than it would be at the free-market wage.

Bài tập luyện tập

Which of the following best explains why division of labour tends to raise output per worker?

- | | |
|---|---|
| (A) Every worker learns every stage of production equally well. | (C) Workers are paid less, which increases firm profit. |
| (B) Workers specialising in one narrow task become faster and more skilled at it, and no time is lost switching tasks or tools. | (D) Specialisation eliminates the need for any machinery. |

Lời giải chi tiết

Division of labour raises productivity because repeated practice at one narrow task builds speed and skill, no time is lost switching between different tools or tasks, and specialisation makes dedicated machinery for each task worthwhile. **(B)**.

Bài tập luyện tập

Explain *one* disadvantage of division of labour for an individual worker whose factory later replaces their specific task with automated machinery.

Lời giải chi tiết

Because the worker specialised narrowly in one repetitive task under division of labour, they may have few other transferable skills, making it hard to move quickly into a different role once their task is automated — this risk of **structural unemployment** (unemployment caused by a specific skill becoming obsolete) is a direct disadvantage of narrow specialisation, as opposed to a more broadly skilled worker who could more easily switch tasks.

Bài tập luyện tập

A furniture workshop has fixed costs of \$800 per month and a variable cost of \$2.50 per chair. It sells 250 chairs in a month at \$6.50 each. Calculate (a) total cost, (b) total revenue, (c) profit or loss, and (d) average cost.

Lời giải chi tiết

(a) $TC = 800 + (2.50 \times 250) = 800 + 625 = \$1,425$.

(b) $TR = 6.50 \times 250 = \$1,625$.

(c) Profit = $1,625 - 1,425 = \$200$ (a profit).

(d) $AC = 1,425 \div 250 = \$5.70$.

Bài tập luyện tập

A juice stall has fixed costs of \$450 per week and a variable cost of \$1.50 per cup. It sells cups at \$3.00 each. Using the contribution method, calculate the break-even output per week, and verify your answer.

Lời giải chi tiết

Contribution per unit = $3.00 - 1.50 = \$1.50$.

Break-even output = $450 \div 1.50 = 300$ cups per week.

Verification: $TC = 450 + (1.50 \times 300) = 450 + 450 = \900 ; $TR = 3.00 \times 300 = \$900$. Since $TC = TR$, 300 cups is confirmed as the break-even output.

Bài tập luyện tập

"A firm earning only normal profit is failing as a business." Evaluate this statement.

- | | |
|---|--|
| <p>(A) True, because normal profit means the firm is making a loss.</p> <p>(B) False, because normal profit is a cost that fully compensates the entrepreneur for their time and capital in this line of business, so a firm earning it is covering all op-</p> | <p>portunity costs and can continue indefinitely.</p> <p>(C) True, because only abnormal profit counts as real profit in accounting terms.</p> <p>(D) False, because normal profit only applies to monopolies.</p> |
|---|--|

Lời giải chi tiết

Normal profit is treated as a **cost** of production (the minimum reward needed to keep the entrepreneur in this business rather than their next best alternative). A firm earning exactly normal profit is covering all its costs, including this opportunity cost of enterprise, and has no economic reason to exit the industry — it is not failing. **(B)**.

Bài tập luyện tập

Amir and two friends jointly own and run a small accounting practice, sharing profits and management duties according to a written agreement between them. If the business fails, each partner's personal assets could be used to repay business debts. Identify the legal structure of this business and justify your answer.

Lời giải chi tiết

This is a **partnership**: it is owned and run jointly by two or more people (Amir and his two friends) who share capital, management, and profit under an agreement, and — as stated — they have **unlimited liability** for business debts, which rules out a limited company structure.

Bài tập luyện tập

Which of the following is the main reason a public limited company (Plc) can typically raise far more capital than a sole trader?

- | | |
|---|--|
| (A) Plcs are exempt from paying tax on profit. | (C) Plcs are always owned by the government. |
| (B) Plc shares can be sold to the general public on a stock exchange, and shareholders have limited liability, encouraging many outside investors to buy shares. | (D) Sole traders are legally forbidden from ever expanding. |

Lời giải chi tiết

A Plc can sell shares to the general public via a stock exchange, and because shareholders' liability is **limited** to their investment, many more people are willing to invest than would risk unlimited personal liability — giving access to vastly more capital than a sole trader relying only on personal funds and loans. **(B)**.

Bài tập luyện tập

A national bakery chain takes over a wheat-flour milling company that previously supplied it with flour. Identify the type of integration and explain one likely motive.

Lời giải chi tiết

This is **backward vertical integration**: the bakery chain is moving toward an earlier stage of its own production chain (its supplier), not toward a rival bakery (which would be horizontal) or toward retail/distribution (which would be forward). A likely motive is to secure control over the quality, reliability, and cost of its key raw material input (flour), reducing dependence on an external supplier.

Bài tập luyện tập

A large supermarket chain negotiates a lower per-unit price from its suppliers because it now orders in much larger volumes than before. Which type of economy of scale does this illustrate?

- (A) Technical economy (C) Managerial economy
(B) Purchasing (bulk-buying) economy (D) External economy of scale

Lời giải chi tiết

Negotiating lower per-unit prices from suppliers due to large-volume ordering is a **purchasing (bulk-buying) economy** – an internal economy of scale arising directly from the firm's own increased size. **(B)**.

Bài tập luyện tập

Distinguish between an *internal* economy of scale and an *external* economy of scale, using an example of each.

Lời giải chi tiết

An **internal economy of scale** arises from the growth of an individual firm itself – for example, a large firm negotiating bulk-buying discounts from suppliers, a benefit available only because that specific firm has grown large. An **external economy of scale** arises from the growth of the whole industry in a local area, benefiting all firms located there regardless of their own individual size – for example, a cluster of technology firms in one city supporting a large pool of skilled IT workers and specialist local suppliers that any firm in that area, even a small one, can draw on.

Bài tập luyện tập

Using the long-run average cost (LRAC) diagram, explain what happens to a firm's unit costs if it expands output *beyond* the minimum efficient scale (MES).

Lời giải chi tiết

Beyond the minimum efficient scale, the LRAC curve turns upward: unit costs start to **rise** again as the firm becomes too large to manage efficiently. This reflects **diseconomies of scale** – typically communication and coordination problems as information travels through too many layers of a very large organisation, and poor worker motivation as employees feel like a small, replaceable part of a huge, impersonal organisation, both of which raise costs per unit despite the larger scale.

Bài tập luyện tập

Which assumption is *not* part of the standard model of perfect competition?

- (A) Many small firms
- (B) A single dominant firm controls the majority of output
- (C) Freedom of entry and exit
- (D) A homogeneous (identical) product across all firms

Lời giải chi tiết

Perfect competition assumes many small firms, a homogeneous product, freedom of entry/exit, and perfect information — the exact opposite of a single dominant firm, which describes monopoly instead. **(B)**.

Bài tập luyện tập

Explain why a firm operating in perfect competition is described as a "price taker" rather than a "price maker."

Lời giải chi tiết

Because each firm in perfect competition is tiny relative to the whole market and sells a product identical to every rival's, no individual firm can influence the market price by changing its own output. If it tried to charge above the market price, buyers would switch instantly to an identical product from a competitor; it has no reason to charge below the market price, since it can already sell all it wants at the going price. It must therefore simply accept ("take") the price set by overall market demand and supply — hence "price taker," facing a horizontal (perfectly elastic) demand curve at that price.

Bài tập luyện tập

Explain two barriers to entry that help a monopolist maintain its dominant market position.

Lời giải chi tiết

Any two of: **patents/legal barriers** (exclusive legal right to a product or process); **high start-up/sunk costs** (detering rivals who cannot easily recover large upfront investment if they fail); **control of an essential resource** that rivals need; **brand loyalty/advertising** built up over time, which a new entrant would need to overcome at great expense; and **predatory pricing**, where the incumbent temporarily cuts prices below cost to force a new entrant out of business.

Bài tập luyện tập

State *one* possible advantage and *one* possible disadvantage of monopoly for consumers.

Lời giải chi tiết

Possible advantage: a monopolist may achieve substantial economies of scale (or fund significant research and development from its profits), potentially lowering costs or driving innovation more than a fragmented competitive industry could. **Possible disadvantage:** with no competitive pressure, a monopolist can charge higher prices, restrict output/choice, and has less incentive to innovate or control costs, potentially leading to X-inefficiency.

Bài tập luyện tập

A single company is the only supplier of piped water to an entire city, due to the enormous cost of laying a second, competing network of pipes. Explain why this is described as a "natural monopoly," and state one way this can still benefit consumers.

Lời giải chi tiết

This is a **natural monopoly**: because the fixed infrastructure cost (laying pipes across an entire city) is so enormous, it is far more efficient for a single firm to serve the whole market than for multiple competing firms to each build and maintain their own duplicate networks — competition here would waste resources on unnecessary duplication. This can still benefit consumers because a single large provider can achieve substantial economies of scale in building and running the network, potentially keeping the average cost of supplying water lower than if several smaller, competing networks each bore their own fixed costs.

Bài tập luyện tập

In the two-sector circular flow of income, which of the following correctly pairs a real flow with its corresponding money flow?

- (A) Real flow: consumer expenditure; money flow: goods and services (from firms to households)
- (B) Real flow: factors of production (from households to firms); money flow: income (wages, rent, interest, profit, from firms to households)
- (C) Real flow: taxation; money flow: government spending
- (D) Real flow: imports; money flow: exports

Lời giải chi tiết

In the two-sector circular flow, households supply factors of production (land, labour, capital, enterprise) to firms as a **real flow**; in return, firms pay households income (wages, rent, interest, profit) as the corresponding **money flow**. (Taxation/government spending and imports/exports belong to the government and international sectors added in later chapters, not the basic two-sector model.) (B).

Bài tập luyện tập

Explain why the circular flow of income studied in this chapter is described as a "two-sector" model, and name the two additional sectors added in a fuller model of the whole economy.

Lời giải chi tiết

It is called a two-sector model because it includes only **households** and **firms**, ignoring any role for government or trade with other countries. A fuller model of the whole economy adds a **government sector** (with taxation as a leakage from the flow and government spending as an injection into it) and an **international trade sector** (with imports as a leakage and exports as an injection), each covered in later chapters of this course.

Bài tập luyện tập

A restaurant chain increases the quality of its ingredients and raises prices even though its main rival's product remains identical and cheaper. Yet the chain's sales barely fall, because its brand carries strong customer loyalty built up over many years of advertising. Explain, using the concept of price takers and price makers, why this behaviour would be impossible in a market that truly satisfied all the assumptions of perfect competition.

Lời giải chi tiết

Under the strict assumptions of perfect competition, every firm sells a completely **homogeneous** product, so buyers have absolutely no reason to prefer one firm's identical output to another's, and each firm is so small that it cannot influence the market price — it must act purely as a **price taker**. If the restaurant chain in this scenario can raise its price above a rival's without losing most of its customers, this shows its product is *not* perceived as identical (brand loyalty and quality differences give it some power over price), meaning the market does not satisfy the perfect-competition assumption of a homogeneous product — the firm is behaving with some elements of a **price maker**, which is inconsistent with pure perfect competition.

Government and the Macroeconomy

Mục tiêu Unit: Nắm mục tiêu kinh tế vĩ mô của chính phủ và cách đo lường từng mục tiêu; xung đột giữa các mục tiêu (tăng trưởng nóng, đánh đổi thất nghiệp-lạm phát, tăng trưởng và cân cân thanh toán); tăng trưởng thực tế và tăng trưởng tiềm năng; chu kỳ kinh tế; chính sách tài khoá (ngân sách, thuế trực thu/gián thu, thuế lũy tiến/lũy thoái/tỷ lệ, thâm hụt ngân sách và nợ công, chính sách mở rộng/thắt chặt); chính sách tiền tệ (lãi suất, cơ chế truyền dẫn, chính sách mở rộng/thắt chặt); chính sách trọng cung (thị trường tự do và can thiệp); chỉ số giá tiêu dùng (CPI), lạm phát do cầu kéo và chi phí đẩy, hậu quả của lạm phát; bốn loại thất nghiệp, nguyên nhân và chính sách ứng phó; và cách phối hợp/xung đột giữa ba nhóm chính sách.

4.1 Aggregate Demand, Aggregate Supply and the Tools of Policy

Before studying each aim and each policy in turn, it is useful to see how the different tools of macroeconomic policy fit into a single picture. Total planned spending in an economy in a given period is called **aggregate demand (AD)**: the sum of consumption spending by households (C), investment spending by firms (I), government spending (G), and net exports (exports X minus imports M), so that $AD = C + I + G + (X - M)$. **Aggregate supply (AS)** reflects the total output the economy is able to produce, given its resources, technology and productivity – closely related to the economy's productive capacity and the production possibility curve (PPC) introduced in Chapter 1 and developed further in Section 4.2 below.

Government policy affects the macroeconomy chiefly by shifting one side or the other of this relationship:

- **Fiscal policy** (Section 4.3) and **monetary policy** (Section 4.4) are **demand-side** policies: fiscal policy changes G and T directly; monetary policy changes interest rates, which alter borrowing costs and therefore C and I . Both work by shifting **aggregate demand**.
- **Supply-side policy** (Section 4.5) works differently: instead of shifting AD, it aims to shift **aggregate supply outward** – raising the economy's productive capacity (equivalently, shifting the whole PPC outward) so that a given, or growing, level of demand can be met by more output rather than mainly higher prices.

Demand-side tools (fiscal and monetary policy) manage the level of spending in the economy, mainly to smooth out the short-run fluctuations of the business cycle (Section 4.2). **Supply-side tools** raise the economy's productive capacity, mainly to raise long-run potential output. A rounded macroeconomic strategy typically uses demand-side tools for short-run stabilisation and supply-side tools to raise the economy's long-run ceiling – used together thoughtfully, the two can complement each other; used carelessly, they can also conflict (Section 4.9).

GIẢI THÍCH TIẾNG VIỆT

VN

Tổng cầu $AD = C + I + G + (X - M)$ là tổng chi tiêu dự kiến trong nền kinh tế; tổng cung (AS) phản ánh khả năng sản xuất tối đa dựa trên nguồn lực, công nghệ và năng suất (liên hệ trực tiếp với đường giới hạn khả năng sản xuất – PPC – ở Chương 1). **Chính sách tài khoá và tiền tệ** là chính sách "phía cầu" – tác động vào G , T hoặc lãi suất để thay đổi C , I , từ đó dịch chuyển

TỔNG CẦU. Chính sách **trọng cung** là chính sách "phía cung" – nâng cao năng lực sản xuất, dịch chuyển TỔNG CUNG (hay cả đường PPC) ra ngoài. Đây là lý do chính sách trọng cung có thể giúp tăng sản lượng mà ít gây áp lực lạm phát hơn so với chính sách phía cầu thuần túy.

4.2 The Five Macroeconomic Aims

Governments do not manage an economy for its own sake – they pursue a small set of widely shared **macroeconomic aims (objectives)**, and judge the performance of the whole economy against these targets using published statistics. These aims give the government a scorecard: each year, ministries and central banks publish the statistics introduced below, compare them against past performance and against other countries, and use the gap between the actual outcome and the aim to decide whether – and how – to intervene using the policy tools developed later in this chapter. Cambridge IGCSE Economics identifies five traditional aims.

The five macroeconomic aims

1. **Low unemployment** – as many people who want to work as possible are in paid employment.
2. **Low and stable inflation** – the general price level rises only slowly and predictably.
3. **Economic growth** – a sustained increase in the economy's real output (real GDP) over time.
4. **A stable balance of payments (external balance)** – the country's trade and financial transactions with the rest of the world do not generate persistent, unsustainable deficits.
5. **A fair (equitable) distribution of income** – the gains from economic activity are not concentrated too narrowly among a small share of the population.

GIẢI THÍCH TIẾNG VIỆT

VN

Năm mục tiêu kinh tế vĩ mô truyền thống mà hầu hết chính phủ theo đuổi: (1) **thất nghiệp thấp**; (2) **lạm phát thấp và ổn định**; (3) **tăng trưởng kinh tế**; (4) **cán cân thanh toán ổn định** với phần còn lại của thế giới; (5) **phân phối thu nhập công bằng**. Đây là những chỉ tiêu mà chính phủ dùng để đánh giá "sức khỏe" của nền kinh tế, và cũng là căn cứ để lựa chọn chính sách tài khóa, tiền tệ, trọng cung.

4.2.1 How each aim is measured

Each aim corresponds to a specific, regularly published statistic.

- **Unemployment** is measured by the **unemployment rate**: the number of people without work who are actively seeking and available for work, expressed as a percentage of the total labour force.
- **Inflation** is measured by the percentage annual change in the **Consumer Price Index (CPI)** – the **inflation rate** (explored fully in Section 4.7).
- **Economic growth** is measured by the annual percentage change in **real GDP** (gross domestic product adjusted for inflation, so that only genuine changes in the physical quantity of output are captured, not price rises).
- **Balance of payments stability** is assessed using the **current account balance** – broadly, the difference between the value of a country's exports and imports of goods and services (plus net income and transfers) over a period. A persistent, large current account deficit signals instability; rough balance, or a small manageable deficit/surplus, is the aim.

- **Income distribution** is assessed conceptually using a measure such as the **Gini coefficient**, a single number between 0 and 1 summarising how unequally income (or wealth) is spread across a population: a coefficient close to 0 indicates a very equal distribution, while a coefficient close to 1 indicates extreme inequality (one person/household holding almost all income). IGCSE does not require you to calculate a Gini coefficient – only to understand what it represents and that a rising Gini coefficient over time signals worsening inequality.

GIẢI THÍCH TIẾNG VIỆT

VN

Cách đo từng mục tiêu: **thất nghiệp** → tỷ lệ thất nghiệp (% lực lượng lao động); **lạm phát** → % thay đổi hàng năm của CPI; **tăng trưởng** → % thay đổi GDP thực; **cán cân thanh toán** → số dư tài khoản vãng lai (chênh lệch xuất khẩu – nhập khẩu và các khoản thu nhập/chuyển giao); **phân phối thu nhập** → hệ số Gini (0 = hoàn toàn bình đẳng, 1 = bất bình đẳng cực độ). Học sinh IGCSE không cần tính hệ số Gini, chỉ cần hiểu ý nghĩa của nó.

Macroeconomic aim	Statistic used to measure it
Low unemployment	Unemployment rate (% of the labour force without work, seeking work)
Low and stable inflation	Inflation rate (% annual change in the CPI)
Economic growth	Real GDP growth rate (% annual change in real GDP)
Stable balance of payments	Current account balance (exports minus imports of goods/services, plus net income/transfers)
Fair income distribution	Gini coefficient (conceptual; 0 = perfect equality, 1 = maximum inequality)

Applying the aims to real data. Suppose a finance ministry publishes four headline statistics for the year: (i) real GDP rose by 3.2%; (ii) the CPI rose by 4.5%; (iii) the current account moved from a small surplus to a deficit equal to 2% of GDP; (iv) the Gini coefficient rose from 0.31 to 0.36. Statistic (i) relates to **economic growth** and is an improvement (assuming it is not so rapid as to overheat the economy); (ii) relates to **inflation** and, at 4.5% (above most countries' target of around 2–3%), is a deterioration; (iii) relates to **balance of payments stability** and is a deterioration; (iv) relates to **fair income distribution**, and a rising Gini coefficient indicates a deterioration – income has become more unequally distributed.

4.2.2 Conflicts between macroeconomic aims

In practice, the five aims frequently pull against one another, forcing governments to accept trade-offs rather than achieve every aim simultaneously.

Growth versus inflation ("overheating"). If aggregate demand grows faster than the economy's productive capacity can supply, firms respond to excess demand by raising prices rather than raising output further. This state – growth so rapid that inflationary pressure builds – is often called an **overheating economy**. A government that stimulates very fast growth therefore risks pushing inflation above its target.

Low unemployment versus low inflation (the short-run trade-off). Pushing unemployment very low usually requires strong aggregate demand; but very strong demand also tends to bid up wages (as firms compete for increasingly scarce workers) and prices. This is sometimes described as a short-run trade-off between unemployment and inflation: policies that succeed in driving unemployment down often do so partly by allowing inflation to rise, and vice versa.

Growth versus the balance of payments. Faster growth raises household incomes and firms' output, and richer consumers and expanding firms typically buy more imported goods, components and raw materials. Rapid growth can therefore "suck in" imports, widening the current account deficit even while domestic output and incomes are rising strongly.

Growth versus environmental sustainability. A modern, additional constraint on the pursuit of growth is environmental sustainability: rapid increases in output often raise resource use, pollution and carbon emissions, so a government pursuing maximum growth may have to weigh this against environmental costs and the long-run sustainability of that growth.

Fair income distribution versus incentives (equity–efficiency trade-off). Achieving a fairer distribution of income usually requires higher, more progressive direct taxes on higher earners and more generous benefits for lower-income households (Section 4.3). But, as noted in Section 4.3's discussion of direct taxes, very high marginal tax rates can weaken the incentive to work extra hours, take a promotion, or start a business, while generous benefits can weaken the incentive to seek work at all – so pursuing the fifth aim too aggressively can reduce the economy's overall efficiency and long-run output, a trade-off often summarised as the **equity–efficiency trade-off**.

Ví dụ mẫu · Worked example – identifying a conflict between macroeconomic aims

Country Z reports the following changes over five years: real GDP growth accelerates from 2% to 7% per year; the unemployment rate falls from 8% to 3%; the inflation rate rises from 2% to 9%; and the current account moves from balance into a growing deficit as import spending rises sharply. Identify **two** distinct conflicts between macroeconomic aims illustrated by this data.

Conflict 1 – growth vs. inflation: as growth accelerates from 2% to 7%, inflation rises sharply from 2% to 9% – a classic sign that demand is growing faster than the economy's productive capacity, i.e. the economy is **overheating**.

Conflict 2 – growth vs. the balance of payments: the same burst of growth is associated with a current account moving into deficit, because faster growth and rising incomes have pulled in a sharply higher volume of imports.

(A third acceptable answer: the fall in unemployment from 8% to 3% alongside the rise in inflation from 2% to 9% also illustrates the short-run unemployment–inflation trade-off.)

4.3 Economic Growth and the Business Cycle

4.3.1 Defining economic growth

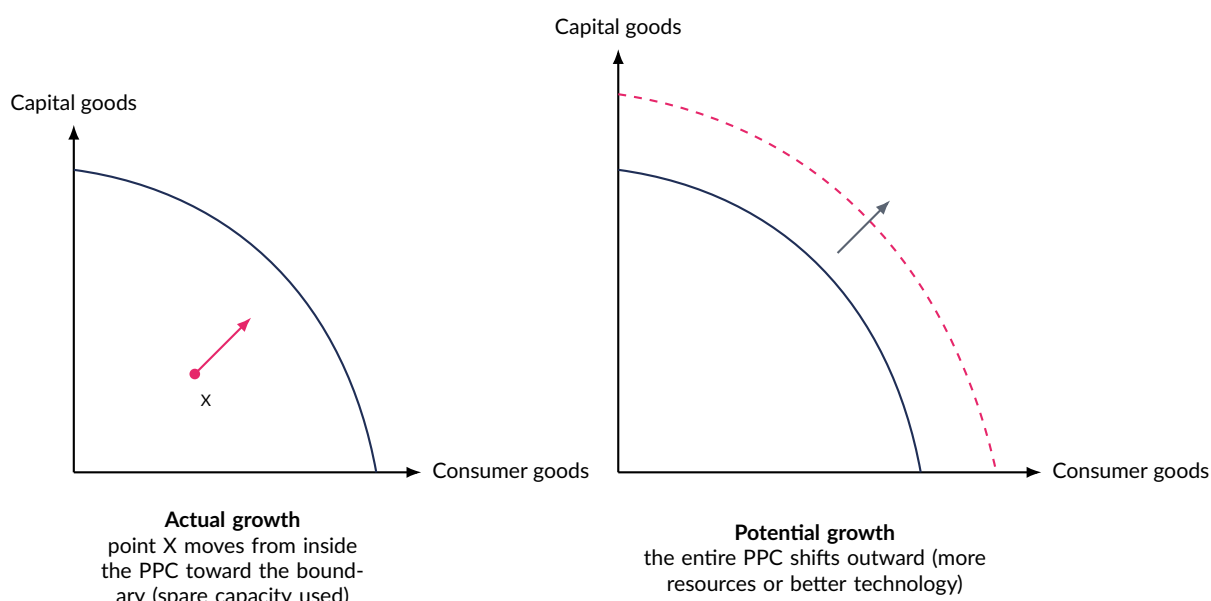
Economic growth is a sustained increase in an economy's real output (real GDP) over time. Because it is measured in *real* terms, growth reflects genuine increases in the quantity of goods and services produced, not simply rising prices.

4.3.2 Actual growth versus potential growth

IGCSE distinguishes two conceptually different kinds of growth, both best understood through the **production possibility curve (PPC)** introduced in Chapter 1: a boundary showing the maximum combinations of two types of output (e.g. capital goods and consumer goods) an economy can produce when using all its resources fully and efficiently.

- **Actual growth** occurs when an economy that was previously operating *inside* its PPC (with spare capacity – unemployed workers, idle factories) increases output by putting that spare capacity to use. On the diagram, this is a movement of a point from *inside* the PPC *toward* the boundary. Actual growth requires no increase in the economy's maximum potential output – it simply uses existing resources more fully.
- **Potential growth** occurs when the economy's maximum possible output rises – more factors of production become available (a larger labour force, more capital, newly discovered natural resources) or the same resources are used more productively (improved technology, better education and training, more efficient organisation). On the diagram, this is an **outward shift of the entire PPC**, raising the ceiling on what the economy could produce even if it made full use of its

resources.



Left: actual growth is a movement from a point (X) inside the PPC toward the boundary, using previously idle capacity.

Right: potential growth is an outward shift of the whole PPC, raising the economy's maximum possible output.

GIẢI THÍCH TIẾNG VIỆT

Tăng trưởng thực tế (actual growth): nền kinh tế đang hoạt động dưới mức tối đa (có nguồn lực nhàn rỗi – lao động thất nghiệp, nhà máy chưa dùng hết công suất) và sản lượng tăng lên nhờ sử dụng tốt hơn các nguồn lực sẵn có – trên đồ thị là một điểm di chuyển từ TRONG đường PPC ra phía đường biên. **Tăng trưởng tiềm năng (potential growth):** sản lượng tối đa mà nền kinh tế CÓ THỂ đạt được tăng lên – do có thêm nguồn lực (lao động, vốn, tài nguyên) hoặc công nghệ/năng suất tốt hơn – trên đồ thị là toàn bộ đường PPC dịch chuyển ra ngoài.

4.3.3 Costs and benefits of economic growth

Benefits: rising real incomes and living standards, as households have more goods and services available to them; more tax revenue flowing automatically to the government (without needing to raise tax rates), since a larger national income generates more income tax, corporation tax and VAT receipts, helping to fund public services or reduce the budget deficit; more jobs created as firms expand output and hire additional workers to meet rising demand; and typically greater business and consumer confidence, which itself can encourage further investment and spending, reinforcing the expansion.

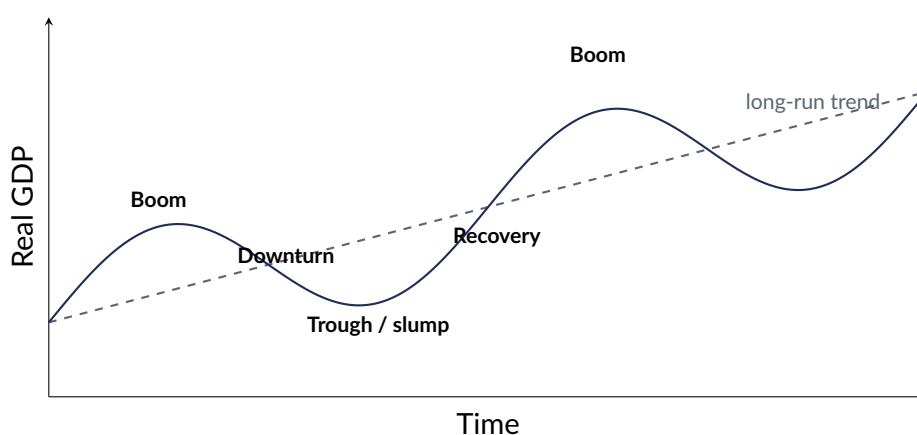
Costs: growth that is too rapid relative to the economy's productive capacity can generate demand-pull inflationary pressure (an overheating economy, Section 4.1 and Section 4.7); growth is frequently associated with environmental damage and depletion of natural resources (pollution, deforestation, depletion of non-renewable resources, rising carbon emissions), raising concerns about the long-run sustainability of that growth; and the benefits of growth are not automatically shared evenly across the population – some individuals, regions or industries may gain much more than others, potentially worsening income distribution (Section 4.1's fifth aim) even while average measures of income and output are rising.

Because real GDP growth does not by itself capture how evenly income is shared, how much leisure time people have, or the state of the environment, some economists argue living standards should be assessed using broader measures alongside real GDP (for example, composite indices that also factor in life expectancy and education) – a reminder that “growth” and “rising living standards for everyone” are related but not identical concepts.

4.3.4 The business (trade) cycle

Real GDP rarely grows smoothly. Instead, most economies experience a recurring pattern of fluctuation around a rising long-run trend, known as the **business cycle** (or trade cycle), conventionally divided into four phases:

- **Boom:** real GDP is growing rapidly, unemployment is low, consumer and business confidence are high, and inflationary pressure tends to build as the economy approaches or exceeds its productive capacity.
- **Downturn / recession:** growth slows and then turns negative; a widely used working definition of a **recession** is two or more consecutive quarters of falling real GDP. Unemployment begins rising as firms cut back production.
- **Trough / slump:** the low point of the cycle – output and confidence are at their weakest, and unemployment is typically at its highest.
- **Recovery:** real GDP growth turns positive again; output, employment and confidence gradually rise back toward (and eventually beyond) their previous peak, beginning a new cycle.



The business (trade) cycle: actual real GDP (solid curve) oscillates around a rising long-run trend (dashed line), passing repeatedly through boom, downturn/recession, trough and recovery.

Ví dụ mẫu – interpreting business-cycle data

An economy records the following annual real GDP growth rates over five years: Year 1: +5%; Year 2: +2%; Year 3: –1%; Year 4: –2%; Year 5: +3%. Identify the business-cycle phase most likely occurring in each year.

Year 1 (+5%, rapid growth): consistent with a **boom**.

Year 2 (+2%, growth slowing sharply): the beginning of a **downturn**.

Years 3–4 (growth turns negative for two consecutive years): a **recession**, reaching its **trough** around Year 4.

Year 5 (growth turns positive again after two years of contraction): the start of a **recovery**.

Ví dụ mẫu – actual growth or potential growth?

An economy currently has 12% of its workforce unemployed and many factories running below full capacity. Classify each development below as actual growth or potential growth. (a) A rise in consumer confidence increases spending, and previously idle workers and factories are brought back into use to meet the extra demand. (b) The government funds a major national programme of investment in new technology, machinery and infrastructure that raises

the economy's maximum possible output.

(a) **Actual growth:** no new resources or technology are involved – existing spare capacity (unemployed workers, unused factory space) is simply put back to work, i.e. a movement from inside the PPC toward the boundary.

(b) **Potential growth:** new technology and infrastructure raise the maximum output the economy could ever produce, i.e. the whole PPC shifts outward.

(!) **Lỗi thường gặp:** Do not treat “growth” as a single undifferentiated idea. **Actual growth** is a movement toward an unchanged PPC (using spare capacity that already existed); **potential growth** is an outward shift of the PPC itself (a rise in the economy's maximum capacity). An economy can experience actual growth even while its potential output is unchanged (simply by using idle resources), and conversely its potential output can rise (through investment or new technology) without any actual growth occurring immediately, if the new capacity is not yet fully used.

4.4 Fiscal Policy

Fiscal policy is the use of government spending (G) and taxation (T) to influence the level of economic activity. Every year, a government sets out a **budget**: its planned revenue (mainly from taxation) and planned spending for the coming fiscal year. Comparing planned revenue with planned spending, and choosing how to raise each tax and allocate each pound/dollar of spending, is itself a set of deliberate policy choices with real consequences for aggregate demand, the distribution of income, and the incentives facing households and firms.

4.4.1 The government budget: revenue and spending

Governments raise revenue mainly through taxation, distinguished into two broad categories:

- **Direct taxes** are levied directly on the income, profits or wealth of individuals and firms, and are paid directly to the government by the person or firm on whom they are levied. Examples: **income tax** (on wages and salaries), **corporation tax** (on company profits), and **wealth or inheritance tax** (on the value of assets held or transferred).
- **Indirect taxes** are levied on spending – on goods and services – and are collected by sellers on the government's behalf, but the burden ultimately falls, at least partly, on the buyer through a higher price. Examples: **Value Added Tax (VAT)** or general sales tax, and **excise duties** on specific goods such as tobacco, alcohol and fuel.

Government spending falls into three categories, which matter for distinguishing what does and does not count as part of GDP:

- **Current (recurrent) spending:** spending on the day-to-day running of public services, such as public-sector wages (teachers, doctors, civil servants) and the running costs of hospitals and schools.
- **Capital spending:** spending on long-lived infrastructure and assets that add to the economy's productive capacity, such as new roads, hospitals, schools and rail networks.
- **Transfer payments:** payments made by the government for which no good or service is received in return, such as **pensions** and **unemployment benefits**. Because no output is produced in exchange for a transfer payment, transfer payments are **not** counted as part of GDP expenditure – unlike current and capital spending, which *are* direct purchases of goods and services and therefore *do* count toward GDP.

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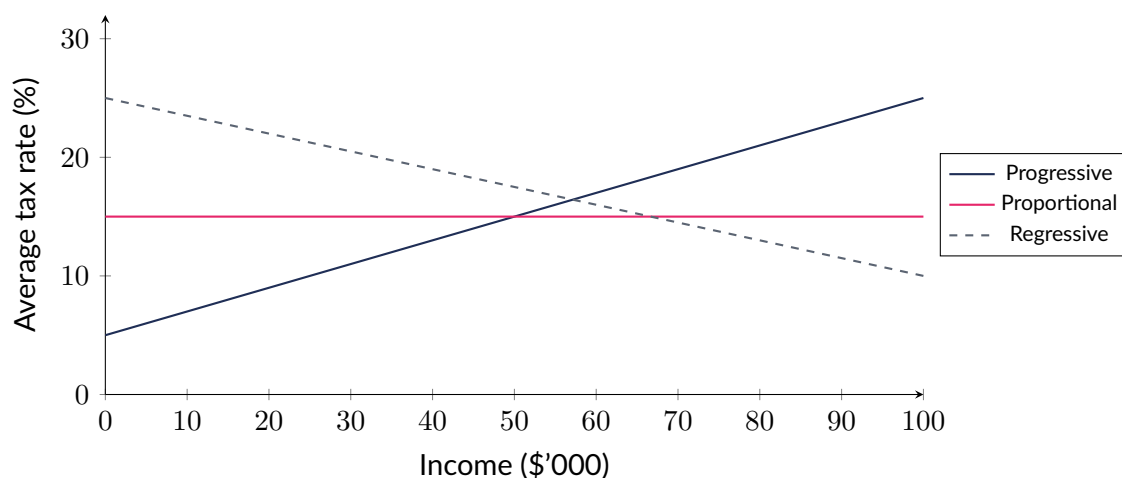
Chi tiêu chính phủ gồm ba loại: **chi thường xuyên (current spending)** – VD lương công chức, giáo viên, bác sĩ; **chi đầu tư (capital spending)** – VD xây đường, bệnh viện, trường học (làm tăng năng lực sản xuất); và **chi chuyển nhượng (transfer payments)** – VD lương hưu, trợ cấp thất nghiệp. Điểm quan trọng: chi chuyển nhượng KHÔNG được tính vào GDP vì không có hàng hoá/dịch vụ nào được tạo ra để đổi lấy khoản chi đó – khác với chi thường xuyên và chi đầu tư, vốn là các khoản mua hàng hoá/dịch vụ thực sự nên được tính vào GDP.

Illustrative government budget item	Category	Counted in GDP?
Teachers' and doctors' salaries	Current spending	Yes
New motorway/hospital construction	Capital spending	Yes
State retirement pensions	Transfer payment	No
Unemployment benefit	Transfer payment	No

4.4.2 Progressive, regressive and proportional taxation

Taxes are classified by how the **average rate of tax** (tax paid ÷ income, as a percentage) behaves as income rises:

- **Progressive tax:** the average rate of tax *rises* as income rises – higher earners pay a larger proportion of their income in tax. Most income tax systems are progressive, achieved through rising marginal tax rates in higher income bands.
- **Regressive tax:** the average rate of tax *falls* as income rises – lower earners pay a larger proportion of their income in tax. Indirect taxes on necessities tend to be regressive in effect, because poorer households spend a larger share of their income on such goods.
- **Proportional tax:** the average rate of tax stays *constant* as income rises – everyone pays the same percentage of income regardless of how much they earn (a “flat tax”).



Average tax rate against income under progressive, proportional and regressive tax systems (illustrative). Under a progressive tax the average rate rises with income; under a proportional tax it is constant; under a regressive tax it falls.

Ví dụ mẫu – worked example: a progressive income-tax system

A country taxes income as follows: the first \$10,000 is tax-free; income from \$10,000 to \$30,000 is taxed at 20%; income above \$30,000 is taxed at 40%. Calculate the average tax rate for (a) a person earning \$20,000 and (b) a person earning \$40,000, and confirm the system is progressive.

(a) Tax on \$20,000 = $20\% \times (20,000 - 10,000) = 20\% \times 10,000 = \$2,000$. Average rate = $\frac{2,000}{20,000} = 10\%$.

(b) Tax on \$40,000 = $20\% \times (30,000 - 10,000) + 40\% \times (40,000 - 30,000) = 20\% \times 20,000 + 40\% \times 10,000 = 4,000 + 4,000 = \$8,000$. Average rate = $\frac{8,000}{40,000} = 20\%$.

Because the average rate rises from 10% (lower income) to 20% (higher income), the tax is confirmed to be **progressive**.

Ví dụ mẫu – worked example: comparing three earners

Using a different tax system – first \$6,000 tax-free; \$6,000–\$16,000 taxed at 10%; \$16,000–\$40,000 taxed at 25%; above \$40,000 taxed at 35% – calculate the average tax rate for three earners with incomes \$15,000, \$30,000 and \$50,000.

Earners 1 (\$15,000): tax = $10\% \times (15,000 - 6,000) = 10\% \times 9,000 = \900 . Average rate = $900/15,000 = 6\%$.

Earners 2 (\$30,000): tax = $10\% \times 10,000 + 25\% \times (30,000 - 16,000) = 1,000 + 3,500 = \$4,500$. Average rate = $4,500/30,000 = 15\%$.

Earners 3 (\$50,000): tax = $10\% \times 10,000 + 25\% \times 24,000 + 35\% \times (50,000 - 40,000) = 1,000 + 6,000 + 3,500 = \$10,500$. Average rate = $10,500/50,000 = 21\%$.

The average rate rises steadily – 6% → 15% → 21% – as income rises, confirming the system is progressive.

4.4.3 Direct versus indirect taxes: advantages and disadvantages

	Direct taxes	Indirect taxes
Advantages	Based on ability to pay (linked to income/wealth); cannot be avoided by simply changing consumption habits; can be made progressive to reduce inequality	Cheap and easy to collect (collected by sellers at the point of sale); can be targeted at specific goods, e.g. high excise duty to discourage consumption of demerit goods (tobacco, alcohol); harder for taxpayers to notice/resist
Disadvantages	Very high marginal rates may reduce the incentive to work, save or invest (a disincentive effect); can be complex/costly to administer and enforce	Tend to be regressive in effect, since lower-income households spend a larger share of income on taxed goods; raising indirect taxes directly raises prices and can fuel cost-push inflation

Ví dụ mẫu – classifying direct and indirect taxes

A government introduces a new tax deducted directly from wages according to an employee's income bracket, and separately raises the sales tax rate applied to all retail purchases. Classify each tax as direct or indirect, and give one advantage and one disadvantage of each.

The wage-based tax is a **direct tax** (levied on income, paid straight to government by the earner): advantage – based on ability to pay; disadvantage – very high rates can discourage extra work effort.

The sales tax is an **indirect tax** (levied on spending, collected by retailers): advantage – cheap and simple to collect; disadvantage – regressive in effect, since it takes a larger share of a low-income household's spending than a high-income household's.

4.4.4 Budget deficit, budget surplus and the national debt

Comparing government revenue and spending in a single year (a **fiscal year**) gives the government's **budget position**:

- **Budget deficit**: government spending exceeds tax revenue ($G > T$) in that year.
- **Budget surplus**: tax revenue exceeds government spending ($T > G$) in that year.
- **Balanced budget**: government spending exactly equals tax revenue ($G = T$).

A government running a budget deficit must finance the shortfall, almost always through **government borrowing** (issuing government bonds). Each year's new borrowing adds to the **national debt** – the total, accumulated stock of everything the government has borrowed and not yet repaid, built up over many years of deficits (partly offset by any years of surplus).

(!) Lỗi thường gặp: Do not assume every item of government spending counts toward GDP. **Current spending** (e.g. public-sector wages) and **capital spending** (e.g. new infrastructure) are direct purchases of goods and services, and both count as part of GDP expenditure. **Transfer payments** (pensions, unemployment benefits) involve no good or service being produced in exchange, so they are **excluded** from GDP – even though they are a very large part of many governments' total budgets.

Classifying a budget position. In a given fiscal year, a government collects \$420 billion in tax revenue and spends \$455 billion. The budget balance is revenue minus spending: $420 - 455 = -\$35$ billion. Because spending exceeds revenue, the government has a **budget deficit of \$35 billion**, which must be financed by government borrowing, adding \$35 billion to the national debt (assuming no other financing source).

A budget **deficit** is a **flow** – the shortfall between spending and revenue *in one year*. The **national debt** is a **stock** – the total accumulated borrowing built up over *all previous years*. Running a deficit *adds to* the national debt; running a surplus can be used to *pay down* the national debt. A country can therefore have a large national debt even in a year when it runs only a small deficit (or even a surplus), simply because of the accumulated effect of many past years of deficits.

Ví dụ mẫu – budget deficit (flow) versus national debt (stock)

A government's national debt stands at \$150 billion. Over the next three years it runs budget deficits of \$10bn, \$6bn and \$14bn respectively, with no debt repaid. Calculate the national debt at the end of each of the three years.

End of Year 1: $150 + 10 = \$160\text{bn}$. End of Year 2: $160 + 6 = \$166\text{bn}$. End of Year 3: $166 + 14 = \$180\text{bn}$.

Each year's deficit (a flow of \$10bn, \$6bn, then \$14bn) adds directly onto the accumulated stock of national debt, which rises from \$150bn to \$180bn over the three years.

(!) Lỗi thường gặp: Do not confuse a budget **deficit** with the **national debt**. The deficit is measured over *one year* (a flow); the national debt is the *total accumulated* borrowing built up over many years (a stock). A government that "reduces its deficit" is still very likely adding to its national debt every year, just by a smaller amount than before – the national debt only falls if the government runs an actual budget *surplus* large enough to repay some of the accumulated debt.

4.4.5 Automatic stabilisers and discretionary fiscal policy

Not all changes in G and T are the result of a deliberate new policy decision. **Automatic stabilisers** are features of the tax and benefit system that change automatically, without any new legislation, in a way that smooths out fluctuations in the business cycle: during a downturn, tax revenue automatically falls (as incomes and spending fall, progressive income tax and VAT receipts fall with them) while spending on unemployment benefits automatically rises (as more people become eligible) – both effects cushion the fall in aggregate demand without the government having to act. During a boom, the reverse happens automatically: tax revenue rises and benefit spending falls, dampening the risk of overheating. This is distinct from **discretionary fiscal policy**: a deliberate, one-off change in tax rates or spending programmes that the government announces and legislates in response to current economic conditions (the expansionary/contractionary measures discussed below).

A related idea is **fiscal drag**: if income tax bands are not adjusted for inflation, rising nominal (money) wages can push taxpayers into higher tax brackets over time even though their real income has not risen, quietly increasing the average tax rate paid without any deliberate policy change.

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Bộ ổn định tự động (automatic stabilisers): thuế và trợ cấp tự động thay đổi theo chu kỳ kinh tế mà không cần chính phủ ra quyết định mới – suy thoái → thu thuế tự động giảm, chi trợ cấp thất nghiệp tự động tăng (giúp giảm nhẹ suy thoái); tăng trưởng nóng → thu thuế tự động tăng, chi trợ cấp giảm (giúp hạ nhiệt). Khác với **chính sách tài khoá chủ động (discretionary)** – là quyết định thay đổi thuế/chi tiêu có chủ đích của chính phủ.

4.4.6 The multiplier effect

When the government (or any other sector) increases spending, the eventual rise in national income is often **larger** than the initial injection of spending. This is the **multiplier effect**: one person's spending becomes another person's income, and that person, in turn, spends part of their new income, generating a further round of income for someone else, and so on – each round smaller than the last, but the rounds sum to a total rise in national income greater than the original injection.

The size of the multiplier depends on how much of each extra unit of income is **re-spent** within the domestic economy versus how much "leaks out" (is saved, taxed, or spent on imports – collectively the **marginal propensity to withdraw, MPW**). A simple version of the multiplier formula is:

$$\text{Multiplier} = \frac{1}{MPW}$$

where a smaller MPW (more of each extra dollar of income is re-spent domestically) produces a **larger** multiplier, and a larger MPW (more leaks out immediately) produces a **smaller** multiplier.

Applying the multiplier. Suppose a government increases infrastructure spending by \$20 million, and in this economy households save, pay tax on, or spend on imports 20% of every extra dollar of income they receive ($MPW = 0.2$). The multiplier is $1/MPW = 1/0.2 = 5$, so the eventual total change in national income is $\$20m \times 5 = \100 million – the initial injection of government spending eventually raises national income by five times as much, as it circulates through successive rounds of spending and re-spending in the domestic economy.

GIẢI THÍCH TIẾNG VIỆT

VN

Số nhân (multiplier): một khoản chi tiêu ban đầu (VD chi tiêu chính phủ) sẽ tạo ra mức tăng thu nhập quốc dân LỚN HƠN khoản chi ban đầu, vì chi tiêu của người này là thu nhập của người khác, và người đó lại tiếp tục chi tiêu một phần thu nhập mới nhận được. Số nhân $= 1/MPW$, trong đó MPW (xu hướng "rò rỉ" biên – tiết kiệm, thuế, nhập khẩu) càng nhỏ thì số nhân càng lớn.

4.4.7 Crowding out: a limitation of debt-financed fiscal expansion

A commonly cited limitation of expansionary fiscal policy, particularly when financed by heavy government borrowing, is **crowding out**: to finance a larger deficit, the government borrows more from the same pool of domestic savings that private firms would otherwise borrow from to fund their own investment. If this extra government borrowing pushes up interest rates, private-sector investment can fall, partly or fully offsetting the intended boost to aggregate demand from higher government spending – an important reason expansionary fiscal policy and a very tight (high-interest-rate) monetary stance can work against each other, as discussed further in Section 4.9.

4.4.8 Expansionary and contractionary fiscal policy

Fiscal policy can be used deliberately to manage the level of aggregate demand:

- **Expansionary (reflationary) fiscal policy:** the government *raises* spending (G) and/or *cuts* taxes (T), increasing the budget deficit (or reducing any surplus), in order to boost aggregate demand. This is typically used to fight a recession or high unemployment.
- **Contractionary (deflationary) fiscal policy:** the government *cuts* spending (G) and/or *raises* taxes (T), reducing the budget deficit (or increasing any surplus), in order to reduce aggregate demand. This is typically used to fight demand-pull inflation or to cool an overheating economy.

Ví dụ mẫu – classifying a fiscal policy

An economy is experiencing rising unemployment. The government responds by cutting the corporation tax rate and increasing spending on new roads and hospitals. Classify this policy and explain how it should affect aggregate demand.

This is **expansionary fiscal policy**: cutting corporation tax leaves firms with more after-tax profit to spend or invest, and increased infrastructure spending directly raises government expenditure (G). Both actions raise aggregate demand, which should stimulate output and reduce unemployment (though at the risk of adding to inflationary pressure and/or the budget deficit).

4.5 Monetary Policy

Monetary policy is the use of interest rates and related tools, normally controlled by a country's **central bank**, to influence the level of economic activity.

4.5.1 Tools of monetary policy

- **The policy interest rate:** the main, most commonly used tool. The central bank sets a benchmark interest rate that influences the rates commercial banks charge borrowers and pay savers

throughout the economy.

- **Open market operations:** the central bank buys or sells government bonds in the financial markets. Buying bonds injects money into the banking system (pushing interest rates down); selling bonds withdraws money from the system (pushing interest rates up).
- **Control of the money supply:** more broadly, the central bank can influence the total quantity of money circulating in the economy – a larger money supply is generally associated with lower interest rates and more borrowing/spending, and vice versa.

As a broad rule of thumb, if the money supply grows persistently faster than the economy's real output, there tends to be more money chasing the same quantity of goods and services, placing sustained upward pressure on the general price level – one reason central banks watch money-supply growth closely alongside interest rates when assessing inflation risk.

Monetary policy in most countries is set by a **central bank** (e.g. a country's national/reserve bank), often operating with a degree of independence from the elected government and a published inflation target, so that interest-rate decisions are guided primarily by the state of the economy rather than short-term political pressure. Under **inflation targeting**, a central bank publicly commits to keeping inflation close to a specific numerical target (commonly around 2–3% per year in many economies) and adjusts interest rates up or down as needed to keep actual and expected inflation close to that target – giving households and firms a clear, credible benchmark for what to expect, which itself helps keep inflation **anticipated** rather than a destabilising surprise (Section 4.7).

4.5.2 The transmission mechanism of an interest rate change

A change in the policy interest rate does not affect the economy instantly – it works through a chain of linked steps, known as the **transmission mechanism**. For a **rise** in the interest rate:

1. Borrowing becomes more expensive (higher interest charged on loans, mortgages, credit) and saving becomes more attractive (higher interest paid on deposits).
2. Households and firms respond by borrowing and spending less, and saving more.
3. Consumption (*C*) and investment (*I*) both fall.
4. Aggregate demand falls.
5. With aggregate demand growing more slowly (or falling), demand-pull inflationary pressure eases.

A **fall** in the interest rate works through the same chain in reverse: cheaper borrowing and less attractive saving → higher *C* and *I* → higher aggregate demand → a stimulus to output and employment (at the risk of adding to inflationary pressure).

An additional channel operates through international capital flows: a higher domestic interest rate (relative to other countries) tends to attract foreign “hot money” inflows seeking the higher return, increasing demand for the domestic currency and causing it to **appreciate**. (The consequences of exchange rate movements for trade and competitiveness are developed fully in Chapter 6.)



The transmission mechanism of a contractionary (interest-rate-raising) monetary policy. A fall in the interest rate works through the identical chain of links in reverse.

4.5.3 Expansionary and contractionary monetary policy

- **Expansionary monetary policy:** the central bank *cuts* interest rates (and/or expands the money supply through open market bond purchases), to stimulate borrowing, spending, aggregate demand, output and employment.

- **Contractionary monetary policy:** the central bank *raises* interest rates (and/or contracts the money supply through open market bond sales), to reduce borrowing, spending and aggregate demand, easing demand-pull inflationary pressure.

4.5.4 Advantages and limitations of monetary policy

Monetary policy can typically be adjusted quickly and flexibly – a central bank can change interest rates at short notice, often faster than a government can legislate changes in tax rates or spending programmes, which usually require parliamentary approval and take time to implement. However, it also has real limitations: it works through several linked steps (the transmission mechanism above), so it takes **time** – often many months – for a rate change to fully affect consumption, investment and inflation (a **time lag**). In a severe downturn, monetary policy may also become less effective: even very low interest rates may fail to stimulate borrowing and spending if households and firms are too pessimistic, indebted, or uncertain about the future to want to borrow and spend regardless of how cheap credit has become – in the most extreme case, interest rates can fall so low that further cuts do little to encourage extra borrowing at all, leaving fiscal policy as the main remaining demand-side tool.

When interest rates are already very low and further cuts would have little effect, some central banks have used an additional, unconventional tool: **quantitative easing (QE)**, in which the central bank creates new money electronically and uses it to buy large quantities of government (and sometimes other) bonds directly from financial institutions. This is a more aggressive form of open market operations, intended to inject money directly into the banking system, lower longer-term borrowing costs further, and encourage additional lending, spending and investment when the ordinary interest-rate tool has been exhausted.

Ví dụ mẫu – classifying monetary policy and tracing the transmission mechanism

An economy has an inflation rate of 8%, well above the central bank's target. The central bank raises its main interest rate from 3% to 5.5%. (a) Classify this policy. (b) Explain the chain of effects by which it is intended to reduce inflation.

(a) This is **contractionary monetary policy**.

(b) The higher rate makes borrowing more expensive and saving more attractive, so households and firms cut back on borrowing-funded consumption and investment; with C and I both falling, aggregate demand growth slows; this eases the upward pressure on prices that was driving demand-pull inflation. (A higher domestic rate may also attract hot-money inflows, appreciating the currency and cutting import prices – a further channel reducing inflation.)

(!) **Lỗi thường gặp:** Do not confuse the *direction* of a policy with its *name*. **Expansionary** policy always means action that *raises* aggregate demand (higher G , lower T , lower interest rates) – used against recession/unemployment. **Contractionary** (deflationary) policy always means action that *reduces* aggregate demand (lower G , higher T , higher interest rates) – used against demand-pull inflation/overheating. A common error is assuming “raising the interest rate” is automatically expansionary because it sounds like an increase – in fact a *higher* interest rate is *contractionary*, because it reduces borrowing, spending and aggregate demand.

4.6 Supply-Side Policy

Supply-side policy aims to raise the economy's **productive capacity** – its potential output – rather than manage the level of demand directly. Supply-side measures are usually grouped into two broad approaches.

4.6.1 Market-based supply-side policies

Market-based policies aim to make markets work more freely and efficiently, strengthening incentives, by reducing government intervention:

- **Deregulation:** removing rules and red tape that restrict competition or raise firms' costs.
- **Privatisation:** transferring state-owned enterprises to the private sector, aiming to increase efficiency and competition.
- **Reducing income tax rates:** increasing the financial incentive to work, take on more hours, or seek promotion.
- **Reducing trade union power:** making labour markets more flexible, potentially lowering wage costs and easing hiring.
- **Reducing unemployment benefits:** increasing the financial incentive for the unemployed to actively seek and accept work.

4.6.2 Interventionist supply-side policies

Interventionist policies use direct government spending or support to raise capacity:

- **Education and training:** raising the skills, productivity and employability of the workforce (human capital).
- **Infrastructure spending:** new roads, ports, energy networks and digital infrastructure that lower costs and raise efficiency across the whole economy.
- **Research and development (R&D) subsidies:** government support for innovation, encouraging new products, processes and technologies.
- **Healthcare spending:** a healthier workforce is more productive and has fewer days lost to illness.

GIẢI THÍCH TIẾNG VIỆT

VN

Chính sách trọng cung (supply-side policy) nhằm nâng cao NĂNG LỰC SẢN XUẤT của nền kinh tế (chứ không phải điều chỉnh tổng cầu như tài khoá/tiền tệ). Có hai nhóm: **chính sách theo hướng thị trường tự do (market-based)** – bãi bỏ quy định, tư nhân hoá, giảm thuế thu nhập, giảm quyền lực công đoàn, giảm trợ cấp thất nghiệp – nhằm tăng động lực làm việc/đầu tư; và **chính sách can thiệp (interventionist)** – chính phủ trực tiếp chi tiêu cho giáo dục/đào tạo, cơ sở hạ tầng, nghiên cứu & phát triển (R&D), y tế – nhằm trực tiếp nâng cao chất lượng nguồn lực.

	Market-based	Interventionist
Philosophy	Government steps back; strengthens private incentives	Government steps in; directly funds capacity-raising projects
Main cost to government	Low direct cost (often involves cutting taxes/spending)	High direct cost (requires sustained public spending)
Speed	Can shift incentives fairly quickly, though behavioural responses take time	Typically very slow (education, infrastructure take years)
Equity risk	Can widen inequality if benefits/union protections are cut sharply	Can narrow inequality if targeted at disadvantaged groups (e.g. access to education)

Ví dụ mẫu – market-based or interventionist supply-side policy?

Classify each of the following as market-based or interventionist supply-side policy: (i) reducing trade union bargaining power; (ii) government subsidies for research into renewable energy; (iii) cutting the top rate of income tax; (iv) increased government spending on primary and secondary education.

- (i) **Market-based** (reduces labour-market rigidity/wage pressure by weakening union power).
(ii) **Interventionist** (direct government financial support for R&D). (iii) **Market-based** (strengthens the financial incentive to work/earn more). (iv) **Interventionist** (direct government spending raising the workforce's human capital).

4.6.3 Advantages and limitations of supply-side policy

A key advantage of supply-side policy over demand-side (fiscal/monetary) policy is that, by raising the economy's productive capacity directly, it can raise output and reduce unemployment **without** necessarily adding to inflationary pressure – unlike a pure demand-side stimulus, which pushes against an unchanged supply ceiling. The main limitations are that most supply-side measures take a very long time to work (**time lags**) – building new infrastructure or raising skills through education takes years, not months, so supply-side policy is poorly suited to fighting a sudden recession, where demand-side policy responds far faster; many measures (especially interventionist ones) are expensive for the government to fund, adding to government spending and potentially the budget deficit; and cutting welfare benefits or union power to strengthen work incentives can, if implemented carelessly, increase inequality in the short run, working against the fifth macroeconomic aim from Section 4.1.

Ranking policy speed. If a government needs to reduce a sudden, sharp rise in cyclical unemployment as quickly as possible, **monetary policy** is fastest – a central bank can change its interest rate at short notice, although the full effect still takes months to flow through the transmission mechanism; **fiscal policy** is second – discretionary changes in G or T require a government decision and often parliamentary approval, but can typically be enacted within months; **supply-side policy** is slowest – new infrastructure or education/training programmes take years to plan, build and take effect, making it the least suitable tool for a sudden cyclical downturn, though the most suitable for raising long-run potential output.

4.7 Comparing Fiscal, Monetary and Supply-Side Policy

Sections 4.3–4.5 have introduced three distinct groups of policy tools – fiscal, monetary and supply-side – each with its own instruments, speed of action, and effect on the economy. Before turning to inflation and unemployment in detail, and to the ways these policies interact in Section 4.9, it is useful to bring the three together in a single reference table.

Policy type	Expansionary / demand-boosting tools	Contractionary / demand-reducing tools
Fiscal	Raise government spending (G); cut taxes (T); larger budget deficit	Cut government spending (G); raise taxes (T); smaller deficit or a surplus
Monetary	Cut the policy interest rate; expand the money supply (buy bonds)	Raise the policy interest rate; contract the money supply (sell bonds)
Supply-side	Not classified by demand direction – aims to raise long-run productive capacity regardless of the current state of demand. Market-based tools: deregulation, privatisation, lower income tax, weaker union power, lower benefits. Interventionist tools: education/training, infrastructure, R&D subsidies, healthcare spending.	

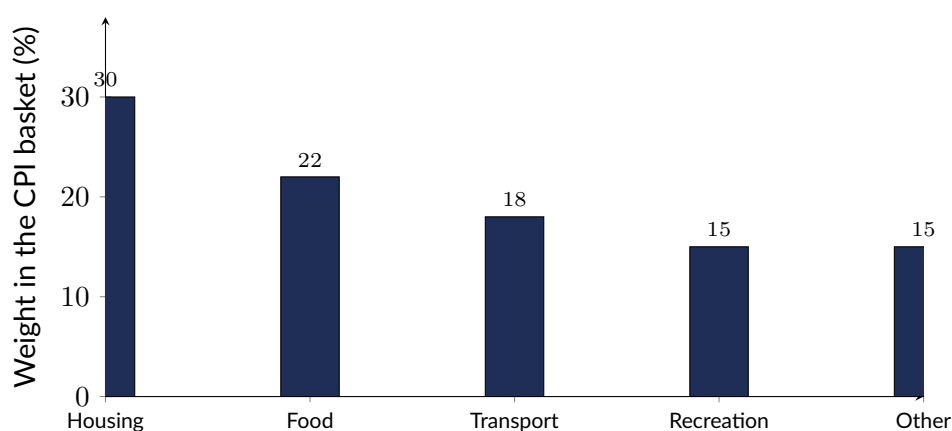
4.8 Inflation

Inflation is a sustained rise in the general (average) price level of an economy over time, measured as the annual percentage change in the **Consumer Price Index (CPI)**.

4.8.1 Constructing the CPI

The CPI is built in a series of steps:

1. A large-scale **household expenditure survey** identifies what a typical household buys and in what proportions.
2. A representative “**basket**” of **goods and services** is selected (e.g. food, housing, transport, recreation), covering the main categories of household spending.
3. Each item in the basket is given a **weight** reflecting its share of total household spending – categories that take up a larger share of typical spending (e.g. housing) are given a larger weight than minor categories.
4. Prices of every item in the basket are collected regularly (e.g. monthly) from retailers nationwide.
5. An overall **price index** is calculated for the basket as a whole (set to 100 in a chosen base year), and the **inflation rate** is the percentage change in this index from one period to the next.



Illustrative CPI basket weights: each category's weight reflects its share of a typical household's total spending, based on household expenditure surveys (weights sum to 100%).

GIẢI THÍCH TIẾNG VIỆT

VN

CPI (Consumer Price Index) được xây dựng qua các bước: (1) khảo sát chi tiêu hộ gia đình để biết người dân mua gì; (2) chọn một "giỏ hàng hoá" đại diện; (3) gán **trọng số (weight)** cho từng nhóm hàng theo tỷ trọng chi tiêu thực tế (nhóm chi nhiều hơn có trọng số lớn hơn); (4) thu thập giá định kỳ; (5) tính chỉ số giá chung và % thay đổi của chỉ số này qua thời gian chính là **tỷ lệ lạm phát**.

Ví dụ mẫu – worked example: calculating the inflation rate from the CPI

The CPI is 120 in Year 1 and rises to 126 in Year 2. Calculate the inflation rate.

$$\text{Inflation rate} = \frac{126 - 120}{120} \times 100\% = \frac{6}{120} \times 100\% = 5\%.$$

Ví dụ mẫu – a second CPI inflation-rate calculation

The CPI is 175 in Year 1 and rises to 189 in Year 2. Calculate the inflation rate.

$$\text{Inflation rate} = \frac{189 - 175}{175} \times 100\% = \frac{14}{175} \times 100\% = 8\%.$$

Ví dụ mẫu – worked example: weighted CPI calculation

A basket is divided into two categories: food & drink, weighted 60%, with prices rising 5%; all other goods, weighted 40%, with prices rising 10%. Calculate the overall (weighted) rate of inflation.

$$\text{Weighted inflation rate} = (0.60 \times 5\%) + (0.40 \times 10\%) = 3\% + 4\% = 7\%.$$

Ví dụ mẫu – a second weighted CPI calculation with four categories

A basket has four categories: Food (weight 30%, price rise 4%); Housing (weight 40%, price rise 6%); Transport (weight 20%, price rise 2%); Other (weight 10%, price rise 8%). Calculate the overall weighted rate of inflation.

$$\begin{aligned} \text{Weighted inflation rate} &= (0.30 \times 4\%) + (0.40 \times 6\%) + (0.20 \times 2\%) + (0.10 \times 8\%) \\ &= 1.2\% + 2.4\% + 0.4\% + 0.8\% = 4.8\%. \end{aligned}$$

4.8.2 Demand-pull inflation

Demand-pull inflation occurs when aggregate demand grows faster than the economy's ability to supply extra output, so firms respond to excess demand mainly by raising prices. Once an economy is close to or beyond full employment of its resources – close to the boundary of its PPC (Section 4.2) – extra demand cannot easily be met with extra real output, since there is little or no spare capacity left, so more of the extra spending shows up as higher prices rather than higher quantities produced. Common causes: rising consumer confidence and spending; lower interest rates encouraging more borrowing and spending; rapidly rising incomes/wages that outpace productivity; strong government spending or export demand; and falling unemployment, which strengthens households' spending power and confidence.

4.8.3 Cost-push inflation

Cost-push inflation occurs when firms' production costs rise, and firms pass these higher costs on to consumers through higher prices, independent of the strength of demand. Crucially, cost-push inflation can occur even in a weak economy with plenty of spare capacity and high unemployment

– unlike demand-pull inflation, it does not require aggregate demand to be strong, which is why cost-push inflation is sometimes associated with the uncomfortable combination of rising prices *and* stagnant output or rising unemployment simultaneously. Common causes: rising wages (especially if wage growth exceeds productivity growth); rising costs of imported raw materials or energy (e.g. an oil price shock); increases in indirect taxes (e.g. a rise in VAT directly raises the prices firms must charge); and currency depreciation, which raises the domestic-currency price of imported inputs.

Demand-pull causes	Cost-push causes
Rising consumer confidence and spending	Rising wages (above productivity growth)
Lower interest rates (cheaper borrowing)	Rising imported raw material/energy prices
Rapidly rising incomes/wages	A rise in indirect taxes (e.g. VAT)
Strong government or export-led demand	Currency depreciation (dearer imports)
Falling unemployment (tighter labour market)	Reduced competition/supply-side shocks

GIẢI THÍCH TIẾNG VIỆT

VN

Lạm phát do cầu kéo (demand-pull): tổng cầu tăng nhanh hơn khả năng cung ứng, khiến giá bị đẩy lên – do niềm tin tiêu dùng tăng, lãi suất giảm, thu nhập tăng nhanh, chi tiêu chính phủ/xuất khẩu mạnh, thất nghiệp thấp. **Lạm phát do chi phí đẩy (cost-push):** chi phí sản xuất tăng khiến doanh nghiệp tăng giá bán, không liên quan đến sức cầu – do lương tăng, giá nguyên liệu/nhập khẩu tăng, thuế gián thu tăng, hoặc đồng nội tệ mất giá làm hàng nhập khẩu đắt hơn.

(!) **Lỗi thường gặp:** When classifying a cause of inflation, ask whether it originates from the **demand** side (something that raises spending – confidence, lower interest rates, rising incomes, strong exports/government spending, low unemployment) or the **supply/cost** side (something that raises firms' costs – wages, raw material/import prices, indirect taxes, a weaker currency). A rise in oil prices or an indirect tax increase is **cost-push**, not demand-pull, even though the end result – a higher general price level – looks identical on a CPI chart.

4.8.4 Consequences of inflation

- **Menu costs:** the real resource cost firms incur in repeatedly updating price lists, menus, labels and advertising as prices change.
- **Shoe-leather costs:** the time and effort people spend shopping around and monitoring prices more carefully to avoid holding cash that is losing value.
- **Redistribution effects:** unexpected inflation redistributes real income and wealth – **borrowers** gain (they repay fixed nominal debts with money that is worth less in real terms), while **lenders/savers** and people on **fixed incomes** (e.g. pensioners on a fixed pension) lose real purchasing power.
- **Uncertainty:** high or unpredictable inflation makes it harder for firms to plan and price contracts, which can discourage investment.
- **Loss of international competitiveness:** if a country's inflation rate persistently exceeds that of its trading partners, its exports become relatively more expensive and imports relatively cheaper, harming the balance of payments (linking back to Section 4.1's conflict between aims).

Ví dụ mẫu — inflation and the redistribution of real income

Explain why unexpected inflation tends to benefit a borrower with a fixed-rate loan at the expense of the lender.

The borrower must repay a fixed *nominal* sum. As the general price level rises unexpectedly, the *real* (purchasing-power) value of that fixed repayment falls – the borrower effectively repays in money that buys less than it did when the loan was taken out. This is a real gain for the borrower and an equal real loss for the lender, who receives repayment in devalued money.

International competitiveness in practice. If Country A's inflation rate is 7% per year while its main trading partner, Country B, has an inflation rate of 2% per year, and this gap persists with exchange rates not adjusting to offset it, Country A's goods become steadily more expensive relative to Country B's. Country A's exports become less price-competitive abroad while imports from Country B become relatively cheaper, so Country A's exports tend to fall and its imports to rise – worsening its current account balance, an example of inflation directly threatening the balance-of-payments aim from Section 4.1.

4.8.5 Anticipated versus unanticipated inflation

The severity of many of inflation's costs depends heavily on whether the inflation is **anticipated** (correctly expected in advance) or **unanticipated** (a surprise). If inflation is fully anticipated, workers can negotiate wage rises to match it, lenders can build the expected rate into the interest rate they charge, and firms can adjust prices and contracts in advance – much of the redistribution and uncertainty cost is avoided. **Unanticipated** inflation is far more damaging: wages, loan contracts and prices agreed *before* the surprise price rises are left unadjusted, so the redistribution effects between borrowers/lenders and the uncertainty facing firms and households are much larger. This is one reason governments and central banks place such heavy emphasis on keeping inflation not just low, but *stable and predictable* (Section 4.1's second aim).

GIẢI THÍCH TIẾNG VIỆT

VN

Lạm phát **được dự đoán trước (anticipated)** ít gây hại hơn vì người lao động, người cho vay và doanh nghiệp đều có thể điều chỉnh trước (đàm phán lương, lãi suất, giá hợp đồng) để bù trừ. Lạm phát **bất ngờ (unanticipated)** gây hại nhiều hơn vì các hợp đồng lương/vay đã ký từ trước không kịp điều chỉnh, khiến hiệu ứng phân phối lại thu nhập và sự bất định trở nên nghiêm trọng hơn. Đây là lý do ngân hàng trung ương coi trọng việc giữ lạm phát không chỉ THẤP mà còn ỔN ĐỊNH VÀ DỰ ĐOÁN ĐƯỢC.

Group	Gains from unanticipated inflation	Losses from unanticipated inflation
Borrowers (fixed-rate debt)	✓ repay in devalued money	
Lenders / savers		✓ repaid/hold money worth less
Workers with strong bargaining power	✓ can push wages up quickly	
Pensioners / fixed-income earners		✓ fixed nominal income buys less
Exporters (if domestic inflation is lower than trading partners')	✓ improved competitiveness	
Exporters (if domestic inflation exceeds trading partners')		✓ lost competitiveness

4.8.6 Deflation and hyperinflation

Deflation is a sustained *fall* in the general price level – the opposite extreme from inflation. Deflation carries its own dangers: consumers may **postpone spending**, expecting prices to fall further, which can weaken aggregate demand and deepen a recession; and the *real* burden of existing fixed nominal debts **rises** as prices fall (the mirror image of inflation's redistribution effect).

Hyperinflation is an extreme case of very rapid, accelerating inflation (often defined as exceeding some very high threshold, e.g. tens of percent per month), which can destroy confidence in a currency altogether, as money loses value so quickly that people rush to spend it immediately or switch to barter/foreign currency.

4.9 Unemployment

Unemployment refers to people of working age who are without a job but are actively seeking and available for work. Keeping unemployment low is one of the five macroeconomic aims (Section 4.1) precisely because unemployment represents wasted human resources: workers willing and able to produce goods and services are instead producing nothing, at a direct cost both to themselves and to the wider economy (Section 4.8's discussion of consequences, below).

It is not realistic, or even necessarily desirable, for a government to aim for literally 0% unemployment. Even a healthy, well-functioning economy will always have some workers between jobs (frictional unemployment) and some seasonal fluctuation, so economists often talk about a economy being at **full employment** when unemployment consists only of this normal, unavoidable frictional and seasonal "churn," with no cyclical or structural unemployment present. The aim of macroeconomic policy is therefore usually to keep unemployment as close as possible to this minimum unavoidable level, not to eliminate it completely.

4.9.1 Measuring unemployment

Two common approaches are used to measure unemployment: a **labour force survey** approach, which samples households directly and asks whether each working-age person is employed, unemployed (actively seeking work) or economically inactive; and a **claimant count**, which simply counts the number of people officially registered as unemployed and receiving unemployment-related benefits. The claimant count is cheaper and faster to compile, but can understate true unemployment, since not everyone without a job is eligible for, or chooses to claim, benefits.

Method	How it works	Main limitation
Labour force survey	Samples households directly; asks about employment status regardless of benefit eligibility	Expensive and time-consuming to run; based on a sample, so subject to some sampling error
Claimant count	Counts people officially registered for unemployment-related benefits	Excludes anyone unemployed but ineligible for, or not claiming, benefits – tends to understate true unemployment

Both measures can also miss the **discouraged worker effect**: people who want a job and would work if one were available, but who have stopped actively searching after repeated failure to find work, and so are classified as economically **inactive** rather than unemployed in either measure. A rising number of discouraged workers can therefore make the official unemployment rate understate the true scale of joblessness in an economy.

A related but distinct concept is **underemployment**: someone who has a job, but works fewer hours than they would like, or works in a role that does not use their skills or qualifications fully. Underemployed workers are counted as **employed** in both the labour force survey and the claimant count, so a rise in underemployment (e.g. more people working part-time when they would prefer full-time work) can leave the headline unemployment rate looking healthy even while genuine slack in the labour market is rising.

4.9.2 The four types of unemployment

Type	Cause	Typical policy response
Structural	A permanent decline in demand for a particular industry or region (e.g. automation, foreign competition, changing consumer tastes) leaves workers with skills no longer in demand	Retraining and education (interventionist supply-side policy) to equip workers with skills that are in demand
Frictional	Short-term unemployment while workers are between jobs, searching for or waiting to start new work, even when suitable jobs exist	Better job-centre information and job-matching services to shorten search time
Cyclical (demand-deficient)	A fall in aggregate demand during a downturn/recession causes firms across the economy to reduce output and lay off workers	Expansionary fiscal and/or monetary (demand-side) policy to raise aggregate demand
Seasonal	Demand for labour in certain industries varies predictably with the time of year (e.g. tourism, agriculture, construction)	Diversifying the local economy and/or off-season employment schemes

GIẢI THÍCH TIẾNG VIỆT

VN

Bốn loại thất nghiệp: **cơ cấu (structural)** – một ngành/khu vực suy giảm vĩnh viễn (tự động hoá, cạnh tranh nước ngoài), kỹ năng người lao động không còn phù hợp → giải pháp: đào tạo lại; **tạm thời/ma sát (frictional)** – người lao động đang trong giai đoạn tìm việc mới → giải pháp:

cải thiện thông tin việc làm/trung tâm giới thiệu việc làm; **chu kỳ (cyclical/demand-deficient)** – tổng cầu giảm trong suy thoái khiến doanh nghiệp sa thải hàng loạt → giải pháp: chính sách tài khoá/tiền tệ mở rộng; **thời vụ (seasonal)** – nhu cầu lao động biến động theo mùa (du lịch, nông nghiệp) → giải pháp: đa dạng hoá kinh tế địa phương/việc làm trái mùa.

Ví dụ mẫu – classifying types of unemployment

For each scenario, identify the type of unemployment and one appropriate policy response.
(a) A coal-mining town's mines close permanently as the country switches to renewable energy, and miners' specific skills are not in demand elsewhere. (b) A graduate spends six weeks searching for a marketing job that matches her degree. (c) A national recession causes aggregate demand to collapse, and factories across many industries lay off workers. (d) Ski instructors at an alpine resort are without work every year once the snow melts.

(a) **Structural unemployment** – policy: retraining/re-skilling programmes.

(b) **Frictional unemployment** – policy: better job-centre information and matching services.

(c) **Cyclical (demand-deficient) unemployment** – policy: expansionary fiscal/monetary policy.

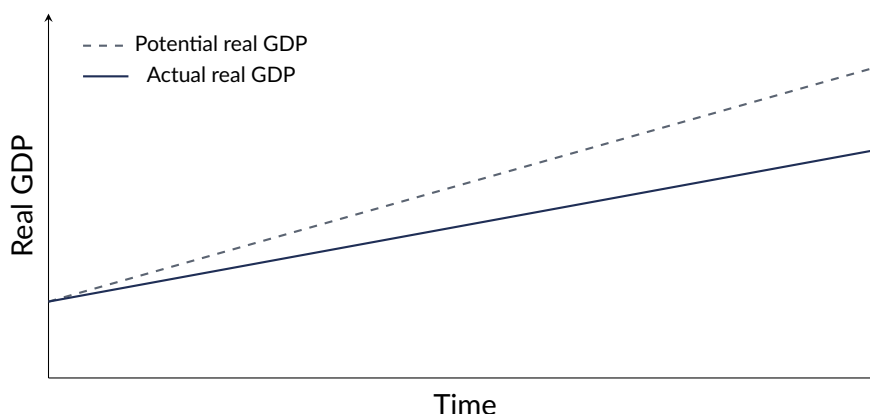
(d) **Seasonal unemployment** – policy: diversifying the local economy or offering off-season employment schemes.

4.9.3 Consequences of unemployment

To the individual: lost income; a gradual loss of skills and employability the longer unemployment lasts (erosion of human capital); and psychological/wellbeing effects of prolonged joblessness. This erosion of skills can itself become self-reinforcing – a phenomenon sometimes called **hysteresis**: the longer someone remains unemployed, the more their skills fade and the less attractive they appear to employers relative to recently-employed applicants, making it progressively harder to find work even once the wider economy recovers from a downturn.

To the economy and government: output produced falls short of the economy's potential output – a **negative output gap** – representing a permanent loss of goods and services that could have been produced; the government simultaneously loses **tax revenue** (fewer people earning and spending) and faces **higher spending** on unemployment benefits, worsening the budget position (linking back to Section 4.3's discussion of the budget deficit).

Measuring the output gap. If an economy's potential real GDP is \$500 billion but, due to cyclical unemployment during a downturn, actual real GDP is only \$470 billion, the output gap is $\frac{470 - 500}{500} \times 100\% = -6\%$. A negative output gap of 6% means the economy is producing 6% less than it is capable of – a direct real-terms measure of the output lost to unemployment and spare capacity, alongside the associated loss of tax revenue and higher benefit spending.



A persistent negative output gap: actual real GDP (solid) grows more slowly than potential real GDP (dashed), widening the gap between what the economy produces and what it is capable of producing.

4.10 Combining and Conflicting Policies

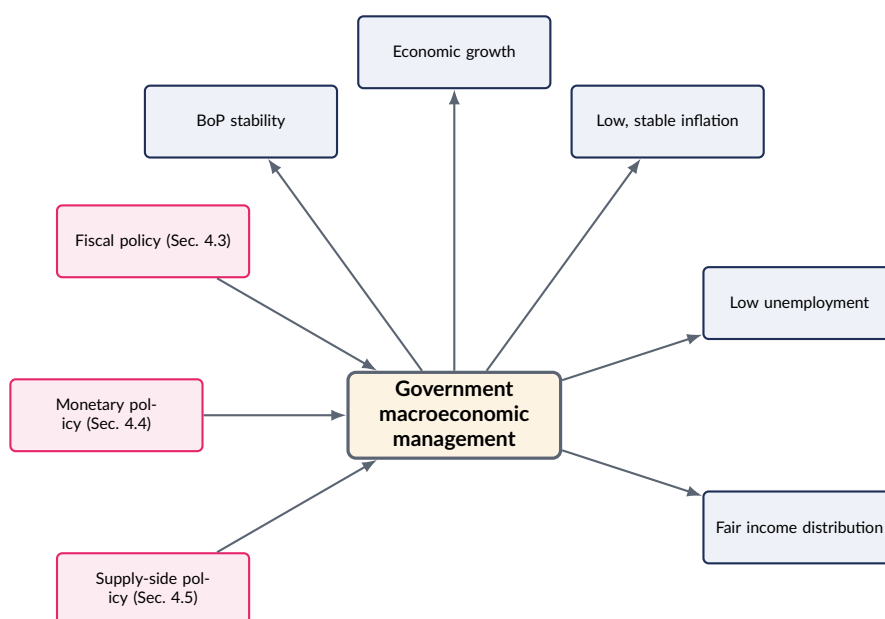
Fiscal, monetary and supply-side policy are not used in isolation – governments frequently combine them, but the three can also pull in opposite directions.

Working together: a government fighting a recession might combine expansionary fiscal policy (higher G , lower T) with expansionary monetary policy (lower interest rates) to reinforce the boost to aggregate demand, while simultaneously funding interventionist supply-side measures (education, infrastructure) so that the economy's productive capacity grows alongside demand – allowing demand to expand with less risk of hitting a fixed supply ceiling and generating inflation.

Potential conflicts:

- An **expansionary fiscal policy financed by heavy government borrowing** can conflict with a **tight (contractionary) monetary policy** stance – fiscal policy is pushing aggregate demand up at the same time the central bank is trying to hold it down (or bring inflation under control), working against each other.
- Using **demand-side policy to fight unemployment** (expansionary fiscal/monetary policy) risks pushing aggregate demand up faster than the economy's productive capacity can respond, **raising inflation** – the unemployment–inflation trade-off introduced in Section 4.1 re-emerges here as a direct consequence of policy choice, not just an abstract statistical pattern.

Fiscal and monetary policy manage aggregate demand and act relatively quickly, but risk adding to inflation if pushed too hard, and can conflict with each other if pulling in opposite directions (e.g. fiscal expansion alongside monetary tightening). **Supply-side policy** raises long-run productive capacity and is less inflationary, but acts slowly and can be costly. Sound macroeconomic management typically blends demand-side tools for short-run stabilisation with supply-side tools for long-run capacity – consciously checking that fiscal, monetary and supply-side settings are not working against one another.



The three policy tool-sets (left) are deployed together, or in tension, to pursue the five macroeconomic aims (right) introduced in Section 4.1.

Ví dụ mẫu – synthesis: combining policy to reduce unemployment without raising inflation

Explain one way fiscal, monetary and supply-side policy could be combined consistently to reduce unemployment without significantly raising inflation.

A government could use a moderate expansionary fiscal and/or monetary stimulus to raise aggregate demand and reduce cyclical unemployment, while simultaneously funding interventionist supply-side policy (education/training, infrastructure investment) to raise the economy's productive capacity at the same time. Because the supply-side measures raise the ceiling on what the economy can produce, the extra demand can be met by higher output rather than simply higher prices – limiting the inflationary pressure that a demand-side stimulus alone, unaccompanied by any increase in capacity, would otherwise create.

4.10.1 A worked policy case study: responding to a downturn

To see how the tools of this chapter fit together in practice, consider a hypothetical economy, Vantia, facing the following situation: real GDP has fallen for two consecutive quarters (Year 3 of the business-cycle example in Section 4.2); the unemployment rate has risen from 4% to 9%, driven mainly by factory lay-offs across many industries; inflation has fallen from 4% to 1%; the government's budget, previously balanced, has slipped into a small deficit as tax revenue has fallen and benefit spending has risen (an automatic stabiliser effect, Section 4.3); and the current account is roughly balanced.

Step 1 – diagnose the type of unemployment. Because job losses are occurring simultaneously across many industries, and are linked to a general fall in real GDP rather than a single industry's structural decline or a seasonal pattern, this is principally **cyclical (demand-deficient) unemployment** (Section 4.8) – the appropriate first response is demand-side policy, not supply-side retraining.

Step 2 – select demand-side tools. With inflation already low (1%, comfortably below target) and unemployment rising sharply, there is room to use **expansionary fiscal policy** (e.g. a temporary rise in infrastructure spending, or a cut in income tax to support household spending) and **expansionary monetary policy** (a cut in the policy interest rate) together, since the usual risk of demand-side stimulus – fuelling inflation – is low while inflation is already well under control. The government could also let the **automatic stabilisers** already in motion (falling tax revenue, rising benefit spending) continue to operate without offsetting them with contractionary measures.

Step 3 – consider financing and coordination. If the fiscal expansion is financed by borrowing, the government should be mindful of the **crowding-out** risk (Section 4.3) and check that monetary policy is not working against it – in this case, since the central bank is also cutting rates (not raising them), fiscal and monetary policy are working in a coordinated, mutually reinforcing direction rather than conflicting (contrast with the crowding-out/tight-money conflict scenario discussed in Section 4.9).

Step 4 – add a supply-side dimension for the medium term. If part of the workforce laid off is unlikely to be re-absorbed by their previous industry even once demand recovers (for example, if the downturn accelerates a longer-term structural shift), the government could simultaneously fund **interventionist supply-side policy** – retraining programmes – so that, once the cyclical recovery (Section 4.2) begins, as many workers as possible are equipped to be re-employed rather than remaining structurally unemployed.

Step 5 – monitor against the five aims. Throughout, the government should track all five macroeconomic aims (Section 4.1), not just unemployment: the stimulus should be sized so that, as the recovery takes hold, inflation does not overshoot target (growth-vs-inflation conflict), imports do not surge so fast as to move the current account into a large deficit (growth-vs-balance-of-payments conflict), and any tax cuts do not disproportionately favour higher earners in a way that worsens income distribution (equity–efficiency trade-off, Section 4.1).

GIẢI THÍCH TIẾNG VIỆT

VN

Case study minh họa cách phối hợp chính sách trong thực tế: (1) chẩn đoán đúng loại thất nghiệp (ở đây là thất nghiệp chu kỳ vì sa thải diễn ra đồng loạt nhiều ngành); (2) vì lạm phát đang thấp nên có dư địa dùng cả tài khoá và tiền tệ mở rộng cùng lúc mà ít rủi ro lạm phát; (3) cần lưu ý rủi ro "crowding out" nếu vay nợ nhiều, và kiểm tra xem chính sách tiền tệ có đang đi cùng hướng hay ngược hướng với tài khoá; (4) kết hợp thêm chính sách trọng cung (đào tạo lại) cho phần lao động có nguy cơ chuyển thành thất nghiệp cơ cấu; (5) trong suốt quá trình, luôn theo dõi cả 5 mục tiêu kinh tế vĩ mô, không chỉ riêng thất nghiệp.

4.10.2 A second case study: responding to an overheating boom

Now consider the mirror-image case: Vantia's economy is later in a **boom** phase of the business cycle (Section 4.2) – real GDP growth has accelerated to 6%, the unemployment rate has fallen to 2.5%, inflation has risen from 2% to 8%, and the current account has moved into a widening deficit as strong consumer spending pulls in more imports.

Step 1 – diagnose the problem. Growth this rapid, alongside sharply rising inflation and a widening current account deficit, is a textbook case of an **overheating economy**: aggregate demand is growing faster than the economy's productive capacity, and the resulting conflicts between aims (growth vs. inflation, growth vs. balance of payments, Section 4.1) are now visible in the data simultaneously.

Step 2 – select demand-side tools. With inflation well above target, the appropriate response is now **contractionary** demand-side policy: the central bank could raise the policy interest rate (contractionary monetary policy, Section 4.4), and the government could consider raising taxes and/or trimming planned spending increases (contractionary fiscal policy, Section 4.3) – deliberately slowing the growth of aggregate demand to bring it back in line with the economy's productive capacity.

Step 3 – weigh the unemployment cost. Because unemployment is already very low (2.5%), the short-run cost of cooling the economy – some rise in unemployment as demand growth slows – is judged acceptable relative to the risk of allowing inflation to become entrenched; this is the unemployment–inflation trade-off from Section 4.1 playing out as an explicit policy choice.

Step 4 – use supply-side policy to raise the ceiling instead of only restricting demand. An alternative (or complementary) approach is to fund interventionist supply-side measures – infrastructure and skills investment – so that the economy's productive capacity itself expands, allowing some of the strong demand to be met by more output rather than requiring demand to be curbed as sharply. Because supply-side policy takes years to act (Section 4.5), it cannot resolve an overheating episode on its own in the short run, but it reduces the extent of future demand restriction needed as capacity catches up.

GIẢI THÍCH TIẾNG VIỆT

VN

Case study thứ hai (nền kinh tế tăng trưởng nóng – boom/overheating): (1) chẩn đoán: tăng trưởng quá nhanh + lạm phát tăng mạnh + cán cân vãng lai xấu đi cùng lúc là dấu hiệu kinh điển của nền kinh tế "quá nóng"; (2) dùng chính sách phía cầu **THẮT CHẶT** (tăng lãi suất, tăng thuế/giảm chi tiêu) để hạ nhiệt tổng cầu; (3) chấp nhận đánh đổi – thất nghiệp có thể tăng nhẹ để kiềm chế lạm phát, đúng theo đánh đổi thất nghiệp–lạm phát; (4) kết hợp chính sách trọng cung để nâng năng lực sản xuất về dài hạn, giảm bớt áp lực phải thắt chặt cầu quá mạnh trong tương lai.

Practice Bank

Bài tập luyện tập

Which of the following is **not** one of the five traditional macroeconomic aims of government?

- | | |
|------------------------------|---|
| (A) Low unemployment | (C) Maximizing government tax revenue |
| (B) Low and stable inflation | (D) A stable balance of payments position |

Lời giải chi tiết

The five traditional aims are low unemployment, low/stable inflation, economic growth, balance of payments stability, and a fair distribution of income. Maximizing tax revenue is not itself a macroeconomic aim. **(C)**.

Bài tập luyện tập

Which indicator is used to measure economic growth?

- | | |
|------------------------------------|---------------------------------|
| (A) The Consumer Price Index (CPI) | (C) The real GDP growth rate |
| (B) The Gini coefficient | (D) The current account balance |

Lời giải chi tiết

Economic growth is measured by the annual percentage change in real GDP. **(C)**.

Bài tập luyện tập

Explain, using an example, how the pursuit of rapid economic growth can conflict with the aim of a stable balance of payments.

Lời giải chi tiết

Rapid growth raises household incomes and firms' output; richer consumers and expanding firms typically buy more imported goods, components and raw materials. This can "suck in" imports faster than exports grow, widening the current account deficit even as domestic output and incomes are rising strongly – e.g. a country growing at 7% per year may see its import bill rise sharply, pushing its current account from balance into a growing deficit.

Bài tập luyện tập

Which of the following is an example of a transfer payment rather than government spending on goods and services?

- | | |
|---|--|
| (A) Salaries paid to public school teachers | (C) Purchase of new hospital equipment |
| (B) Unemployment benefit payments | (D) Spending on new road construction |

Lời giải chi tiết

A transfer payment is made without any good or service received in return; unemployment benefit is the clearest example and is not counted as part of GDP expenditure. **(B)**.

Bài tập luyện tập

A country's income tax system taxes the first \$8,000 of income at 0%, income from \$8,000 to \$25,000 at 15%, and income above \$25,000 at 30%. Calculate the average tax rate for incomes of (a) \$20,000 and (b) \$45,000, and state whether the system is progressive, regressive or proportional.

Lời giải chi tiết

(a) Tax = $15\% \times (20,000 - 8,000) = 15\% \times 12,000 = \$1,800$. Average rate = $1,800/20,000 = 9\%$.

(b) Tax = $15\% \times 17,000 + 30\% \times (45,000 - 25,000) = 2,550 + 6,000 = \$8,550$. Average rate = $8,550/45,000 = 19\%$.

Because the average rate rises from 9% to 19% as income rises, the system is **progressive**.

Bài tập luyện tập

Which of the following is an indirect tax?

(A) Income tax

(C) Value Added Tax (VAT)

(B) Corporation tax

(D) Inheritance tax

Lời giải chi tiết

VAT is levied on spending (collected by sellers, ultimately borne partly by the buyer through price), the defining feature of an indirect tax. (C).

Bài tập luyện tập

Explain the difference between a budget deficit and the national debt. A government's national debt is currently \$150 billion. It then runs budget deficits of \$10bn, \$6bn and \$14bn over the next three years, with no debt repaid. Calculate the national debt at the end of each of the three years.

Lời giải chi tiết

A budget deficit is the shortfall between government spending and revenue in a single year (a flow); the national debt is the total accumulated stock of borrowing built up over all previous years.

End of Year 1: $150 + 10 = \$160\text{bn}$. End of Year 2: $160 + 6 = \$166\text{bn}$. End of Year 3: $166 + 14 = \$180\text{bn}$.

Bài tập luyện tập

Which combination of policies is most clearly an expansionary fiscal policy?

(A) Raise income tax and cut government spending

(C) Cut income tax and raise government spending

(B) Cut government spending and raise interest rates

(D) Raise VAT and raise interest rates

Lời giải chi tiết

Expansionary fiscal policy raises G and/or cuts T to boost aggregate demand. **(C)**.

Bài tập luyện tập

Which of the following is **not** a monetary policy tool?

- (A) Adjusting the central bank's policy interest rate (C) Changing the rate of income tax
(B) Open market operations (buying/selling government bonds) (D) Controlling the growth of the money supply

Lời giải chi tiết

Changing the income tax rate is a fiscal policy tool, not a monetary policy tool. **(C)**.

Bài tập luyện tập

Classify each of the following as a market-based or an interventionist supply-side policy: (i) reducing trade union bargaining power; (ii) government subsidies for research and development in renewable energy; (iii) cutting the top rate of income tax; (iv) increased government spending on primary and secondary education.

Lời giải chi tiết

(i) Market-based – reduces labour-market rigidity/wage pressure. (ii) Interventionist – direct government financial support. (iii) Market-based – strengthens the incentive to earn more. (iv) Interventionist – direct government spending raising human capital.

Bài tập luyện tập

A key advantage of supply-side policy over demand-side policy in reducing unemployment is that it:

- (A) Works instantly, with no time lag (C) Is always cheaper to implement than fiscal or monetary policy
(B) Raises productive capacity without necessarily adding to inflationary pressure (D) Guarantees full employment

Lời giải chi tiết

By raising the economy's productive capacity (rather than pushing demand against a fixed ceiling), supply-side policy can raise output and employment without necessarily fuelling inflation, unlike a pure demand-side stimulus. **(B)**.

Bài tập luyện tập

A CPI basket has four categories: Housing (weight 35%, price rise 3%); Food (weight 25%, price rise 6%); Transport (weight 20%, price rise 1%); Recreation (weight 20%, price rise 5%). Calculate the overall weighted rate of inflation.

Lời giải chi tiết

Weighted inflation = $(0.35 \times 3\%) + (0.25 \times 6\%) + (0.20 \times 1\%) + (0.20 \times 5\%) = 1.05\% + 1.5\% + 0.2\% + 1.0\% = 3.75\%$.

Bài tập luyện tập

The CPI is 210 in Year 1 and rises to 222.6 in Year 2. Calculate the inflation rate.

Lời giải chi tiết

Inflation rate = $\frac{222.6 - 210}{210} \times 100\% = \frac{12.6}{210} \times 100\% = 6\%$.

Bài tập luyện tập

A sharp rise in global oil prices raises firms' production costs across the economy and pushes inflation up. This is best described as:

- | | |
|---------------------------|--------------------|
| (A) Demand-pull inflation | (C) Deflation |
| (B) Cost-push inflation | (D) Hyperinflation |

Lời giải chi tiết

A rise in production costs (imported raw material/energy prices) passed on as higher prices is cost-push inflation, not driven by excess demand. **(B)**.

Bài tập luyện tập

State two causes of demand-pull inflation and two causes of cost-push inflation.

Lời giải chi tiết

Demand-pull (any two): rising consumer confidence/spending; lower interest rates encouraging borrowing and spending; rapidly rising incomes/wages outpacing productivity; strong government spending or export demand; falling unemployment.

Cost-push (any two): rising wages (above productivity growth); rising costs of imported raw materials/energy; increases in indirect taxes (e.g. VAT); currency depreciation raising import prices.

Bài tập luyện tập

The real resource cost firms incur from repeatedly reprinting price lists, menus and labels as prices change is known as:

- | | |
|------------------------|----------------------------|
| (A) Shoe-leather costs | (C) Redistribution effects |
| (B) Menu costs | (D) Fiscal drag |

Lời giải chi tiết

This is the definition of menu costs. **(B)**.

Bài tập luyện tập

Explain why unexpected inflation tends to benefit borrowers with fixed-rate debt at the expense of lenders/savers.

Lời giải chi tiết

The borrower must repay a fixed nominal sum; as prices rise unexpectedly, the real (purchasing-power) value of that repayment falls, so the borrower effectively repays in money worth less than when the loan was taken out – a real gain for the borrower and an equal real loss for the lender/saver.

Bài tập luyện tập

One key danger of deflation (a falling general price level) is that it can encourage:

- | | |
|--|-------------------------------------|
| (A) Consumers to bring forward spending immediately | (C) Firms to raise wages rapidly |
| (B) Consumers to postpone spending, expecting even lower future prices | (D) Unions to demand large pay cuts |

Lời giải chi tiết

If consumers expect prices to keep falling, they delay purchases, which can weaken aggregate demand and deepen a downturn. **(B)**.

Bài tập luyện tập

For each scenario, state the type of unemployment illustrated and one appropriate policy response: (a) A textile factory permanently closes as production shifts overseas, and workers' specific weaving skills are not needed elsewhere. (b) Ice-cream vendors on a beach boardwalk are without work throughout the winter months. (c) National output falls for two consecutive quarters and firms across the whole economy reduce staffing.

Lời giải chi tiết

(a) **Structural unemployment** – policy: retraining/education (supply-side). (b) **Seasonal unemployment** – policy: diversify the local economy/off-season work schemes. (c) **Cyclical unemployment** – policy: expansionary fiscal/monetary (demand-side) policy.

Bài tập luyện tập

The claimant count method of measuring unemployment counts:

- | | |
|--|---|
| (A) Everyone of working age without a job | (C) All part-time workers |
| (B) Only those actively registered and receiving unemployment-related benefits | (D) All workers in the informal economy |

Lời giải chi tiết

The claimant count is based on official registration for unemployment-related benefits, not a full survey of the working-age population. **(B)**.

Bài tập luyện tập

Identify one cost of unemployment to the individual and one cost to the wider economy/government.

Lời giải chi tiết

Individual: lost income, and a gradual loss of skills/employability the longer unemployment continues (erosion of human capital), plus psychological effects.

Economy/government: lost output relative to the economy's potential (a negative output gap), combined with lower tax revenue and higher spending on unemployment benefits, worsening the government's budget position.

Bài tập luyện tập

The phase of the business cycle in which real GDP is falling and unemployment is rising is called:

- | | |
|--------------------------|----------------------|
| (A) Boom | (C) Recovery |
| (B) Recession (downturn) | (D) Potential growth |

Lời giải chi tiết

Falling real GDP and rising unemployment define a recession/downturn. **(B)**.

Bài tập luyện tập

An economy currently has 12% of its workforce unemployed and factories running below full capacity. State, with reasoning, whether the following represent actual or potential growth: (i) a rise in consumer confidence increases demand, and idle workers/factories are brought back into use; (ii) the government funds a major programme of investment in new technology and infrastructure that raises the economy's maximum possible output.

Lời giải chi tiết

- (i) **Actual growth** – a movement from inside the (unchanged) PPC toward the boundary, using previously idle capacity.
- (ii) **Potential growth** – the entire PPC shifts outward, raising the economy's maximum output.

Bài tập luyện tập

A government pursues expansionary fiscal policy financed mainly through heavy borrowing, while the central bank simultaneously raises interest rates to control inflation. This is an example of:

- | | |
|---|------------------------|
| (A) Fiscal and monetary policy working in the same expansionary direction | (C) Supply-side policy |
| (B) A potential conflict between fiscal and | (D) A balanced budget |

Lời giải chi tiết

Expansionary fiscal policy is pushing aggregate demand up while contractionary monetary policy is simultaneously trying to hold it down (or reduce inflation) – the two stances work against each other. **(B)**.

Bài tập luyện tập

Explain one way in which fiscal, monetary and supply-side policy could be combined consistently to reduce unemployment without significantly raising inflation.

Lời giải chi tiết

A moderate expansionary fiscal/monetary stimulus can raise aggregate demand and reduce cyclical unemployment, combined with interventionist supply-side policy (education/training, infrastructure) that raises the economy's productive capacity at the same time – so the extra demand is met with higher output rather than mainly higher prices, limiting the inflationary pressure that demand-side stimulus alone would create.

Bài tập luyện tập

The aim of “a fair distribution of income” is most directly assessed using:

- | | |
|---|--|
| (A) The Consumer Price Index (CPI) | (C) The current account balance |
| (B) The Gini coefficient | (D) The claimant count |

Lời giải chi tiết

The Gini coefficient summarises how unequally income (or wealth) is spread across a population. **(B)**.

Bài tập luyện tập

State one advantage and one disadvantage of indirect taxes compared with direct taxes.

Lời giải chi tiết

Advantage: indirect taxes are cheap and easy to collect (collected by sellers at the point of sale) and can be targeted at specific goods, e.g. high excise duty to discourage consumption of demerit goods such as tobacco.

Disadvantage: indirect taxes tend to be regressive in effect (they take a larger share of a low-income household's spending on the same taxed good than a high-income household's), and raising them directly raises prices, which can fuel cost-push inflation.

Bài tập luyện tập

Explain why **unanticipated** inflation tends to be more damaging to an economy than **anticipated** inflation of the same size, and explain why underemployment can make the official unemployment rate understate genuine slack in the labour market.

Lời giải chi tiết

If inflation is correctly anticipated, wages, interest rates and contracts can be adjusted in advance to account for it, largely avoiding the redistribution effects and uncertainty inflation would otherwise cause. Unanticipated inflation catches wage agreements, loan contracts and prices already fixed before the surprise price rises, so the redistribution between borrowers/lenders and the uncertainty facing firms and households are both much larger.

An underemployed worker has a job (working fewer hours than desired, or below their skill level) and is therefore classified as **employed** in official statistics, even though genuine slack exists in the labour market. A rise in underemployment can therefore leave the headline unemployment rate looking healthy while hiding a real loss of potential output and household income.

Economic Development

Mục tiêu Unit: Phân biệt tăng trưởng kinh tế (economic growth) và phát triển kinh tế (economic development); đo lường mức sống bằng GDP/GNP bình quân đầu người (danh nghĩa, thực tế, ngang giá sức mua – PPP) và các hạn chế của GDP bình quân đầu người; Chỉ số Phát triển Con người (HDI) và các chỉ số phát triển khác (tỉ lệ biết chữ, tiếp cận nước sạch, tỉ lệ tử vong trẻ sơ sinh, hệ số Gini); nghèo tuyệt đối và nghèo tương đối, vòng luẩn quẩn nghèo đói và các chính sách giảm nghèo; các yếu tố dân số (tỉ suất sinh, tỉ suất tử, di cư ròng, gia tăng tự nhiên), quá độ dân số, tháp dân số và tỉ số phụ thuộc; dân số quá đông, quá thưa và dân số tối ưu; đặc điểm của các nước kém phát triển (LEDCs) và các nước phát triển (MEDCs); rào cản phát triển và các chiến lược phát triển (thương mại, FDI, viện trợ, xóa nợ, tài chính vi mô, đa dạng hóa, công nghệ phù hợp); khái niệm phát triển bền vững.

5.1 Economic Growth versus Economic Development

Economic growth is a purely quantitative concept: an increase in the real output (real GDP) of an economy over time, usually measured as the annual percentage change in real GDP. **Economic development** is a much broader, qualitative concept: a sustained improvement in the overall well-being and standard of living of a population, encompassing rising incomes but also better health, wider access to education, greater political and economic freedom, improved infrastructure, and a cleaner environment. Growth is one possible *input* into development, but the two are not the same thing, and it is entirely possible for one to occur without the other.

Growth is necessary but not sufficient for development

A country's real GDP can rise steadily (growth) while ordinary living standards stagnate or even fall, if the extra output is not translated into broader well-being. This happens when growth is captured by a narrow elite with little of it reaching the wider population (worsening income distribution), when the growth is generated by industries that damage health or the environment (e.g. heavy pollution, resource depletion), when government revenue from growth is not reinvested in health, education, and infrastructure, or when population growth outpaces GDP growth so that GDP *per capita* barely moves even as total GDP rises. Conversely, a country can register only modest GDP growth yet still make major development gains, for example, by expanding free primary education or building basic sanitation infrastructure that dramatically improves life expectancy and literacy at relatively low cost. This is why examiners expect you to treat “the economy grew” and “the economy developed” as two separate claims, each requiring its own evidence.

GIẢI THÍCH TIẾNG VIỆT

VN

Tăng trưởng kinh tế (economic growth) chỉ đơn thuần là sự gia tăng về mặt **số lượng** của GDP thực tế theo thời gian (thường tính bằng % thay đổi GDP thực mỗi năm). **Phát triển kinh tế** (economic development) là khái niệm rộng hơn nhiều, mang tính **chất lượng**: sự cải thiện toàn diện về mức sống, bao gồm cả thu nhập, sức khỏe, giáo dục, tự do chính trị – kinh tế, cơ sở hạ tầng, và môi trường. Một quốc gia có thể tăng trưởng mà **KHÔNG** phát triển (nếu lợi ích tăng trưởng không được chia sẻ rộng rãi hoặc không được đầu tư trở lại vào con người), và ngược

lại, một quốc gia có thể phát triển đáng kể dù tăng trưởng GDP khiêm tốn (ví dụ nhờ phổ cập giáo dục tiểu học miễn phí hoặc cải thiện vệ sinh cơ bản).

(!) Lỗi thường gặp: Students frequently use “growth” and “development” interchangeably in exam answers, which loses marks whenever a question specifically asks you to distinguish them. Always be ready to give a concrete example of growth without development (e.g. an oil-exporting economy where GDP rises sharply but the revenue is concentrated among a small elite, with no expansion of public health or education spending) and, where relevant, of development improving even when growth is slow.

Ví dụ mẫu · Worked example – distinguishing growth from development in a case

Over ten years, an oil-exporting country's real GDP grows by 60%. Over the same period, life expectancy rises by less than one year, the literacy rate is unchanged, and its Gini coefficient rises from 0.35 to 0.50. Has this country developed? Justify your answer with reference to the evidence given.

The 60% rise in real GDP is clear evidence of substantial economic **growth**. However, the evidence for **development** is weak: life expectancy and literacy – two core health and education indicators – have barely moved, suggesting that the extra national income has not been translated into improved health or education outcomes for the population as a whole. The sharply rising Gini coefficient (0.35 to 0.50) indicates that income distribution has become considerably more unequal, consistent with the growth being captured disproportionately by a narrow group (plausible for an oil-exporting economy where resource revenue often accrues to the government or a small number of firms/elites) rather than broadly shared. The overall conclusion: this country has experienced substantial economic growth without corresponding economic development.

5.2 Measuring Living Standards and Development

5.2.1 GDP, GNP, and GDP per capita: nominal, real, and PPP

Gross Domestic Product (GDP) is the total value of all final goods and services produced *within a country's borders* in a given period (usually a year). **Gross National Product (GNP)**, sometimes called Gross National Income (GNI), additionally includes net income earned by a country's residents and firms from assets held abroad, minus income earned domestically by foreign residents and firms – it measures output/income belonging to a country's *nationals*, wherever in the world it was earned.

Because larger countries naturally have larger total GDP, comparing total GDP across countries of very different population size tells us little about the standard of living of a typical resident. **GDP per capita** ($\text{GDP} \div \text{population}$) and **GNI per capita** correct for this by expressing output/income on a per-person basis, giving a far more meaningful proxy for average material living standards.

Nominal vs. real, and why we adjust for both inflation and population

Nominal GDP is measured in the prices of the current year, so part of any increase in nominal GDP over time may simply reflect inflation (rising prices) rather than any real increase in the quantity of goods and services produced. **Real GDP** strips out the effect of inflation by valuing output in constant (base-year) prices, isolating the genuine change in physical output. For living-standards comparisons, economists therefore look at **real GDP per capita**: real (inflation-adjusted) output, divided by population, so that neither rising prices nor a growing population disguise the true change in output available per person.

GIẢI THÍCH TIẾNG VIỆT

VN

GDP là tổng giá trị hàng hóa và dịch vụ cuối cùng được sản xuất **trong lãnh thổ** một quốc gia; GNP/GNI là tổng thu nhập của **công dân** quốc gia đó, kể cả thu nhập kiếm được ở nước ngoài. GDP/GNI **bình quân đầu người** = GDP hoặc GNI chia cho dân số, giúp so sánh mức sống công bằng hơn giữa các nước có quy mô dân số khác nhau. GDP **danh nghĩa** (nominal) đo bằng giá hiện hành nên bị lạm phát làm sai lệch; GDP **thực tế** (real) đã loại trừ lạm phát, phản ánh đúng sản lượng vật chất thay đổi ra sao theo thời gian. Vì vậy, khi so sánh mức sống, người ta dùng **GDP thực tế bình quân đầu người**.

Purchasing power parity (PPP) adjusts income/output comparisons for differences in the *price level* (cost of living) between countries. Simply converting one country's GDP into another currency at the market exchange rate can be highly misleading, because a US dollar (or its equivalent) typically buys far more in a low-income country – where non-traded goods and services such as haircuts, local transport, and basic food are cheap – than it does in a high-income country with a high domestic price level. A **PPP-adjusted** comparison instead asks how much of a common basket of goods and services a given income can actually buy in each country, giving a much fairer picture of real purchasing power and living standards.

Ví dụ mẫu · Worked example – GDP per capita comparison

Country X has a total GDP of \$1.2 trillion and a population of 60 million. Country Y has a total GDP of \$600 billion and a population of 200 million. Calculate GDP per capita for each country and comment on what this does and does not tell us.

$$\text{Country X: } \frac{\$1,200,000,000,000}{60,000,000} = \$20,000 \text{ per person.}$$

$$\text{Country Y: } \frac{\$600,000,000,000}{200,000,000} = \$3,000 \text{ per person.}$$

Country X has more than six times the GDP per capita of Country Y, suggesting a much higher average material living standard. However, GDP per capita is only an *average*: it tells us nothing about how income is distributed within either country, nor about non-income aspects of well-being such as health, education, or environmental quality – Country Y could, for instance, have more equal income distribution or better access to free healthcare despite its lower average income.

Ví dụ mẫu · Worked example – a second GDP per capita comparison

Country Alpha has a total GDP of \$1.68 trillion and a population of 40 million. Country Beta has a total GDP of \$27.5 billion and a population of 25 million. Calculate GDP per capita for each and compare.

$$\text{Country Alpha: } \frac{\$1,680,000,000,000}{40,000,000} = \$42,000 \text{ per person.}$$

$$\text{Country Beta: } \frac{\$27,500,000,000}{25,000,000} = \$1,100 \text{ per person.}$$

Country Alpha's GDP per capita (\$42,000) is roughly 38 times that of Country Beta (\$1,100). This enormous gap is typical of the divide between a more economically developed country (MEDC) such as Alpha and a less economically developed country (LEDC) such as Beta – a contrast we will use consistently throughout this chapter.

Ví dụ mẫu · Worked example — reasoning through a PPP adjustment

Country Alpha's nominal GDP per capita is \$42,000; its PPP-adjusted GNI per capita is \$45,000. Country Beta's nominal GDP per capita is \$1,100; its PPP-adjusted GNI per capita is \$2,300. Explain, without doing a complex calculation, why the PPP adjustment raises Beta's figure proportionally far more than Alpha's.

The PPP adjustment corrects for the fact that a unit of currency buys more in a country with a lower domestic price level. Country Beta, as a lower-income economy, typically has much cheaper non-traded goods and services (local food, housing, labour-intensive services) than Country Alpha. Converting Beta's income at the market exchange rate therefore understates how much its residents can actually buy at home, so the PPP adjustment lifts Beta's figure by roughly 109% (from \$1,100 to \$2,300). Country Alpha, already a high-price-level economy, sees a much smaller proportional adjustment (from \$42,000 to \$45,000, about 7%), because its domestic prices are already closer to the international average implied by the exchange-rate conversion. The general lesson: raw exchange-rate GDP comparisons tend to *understate* the true living standards of lower-income countries relative to higher-income ones.

GIẢI THÍCH TIẾNG VIỆT

VN

Ngang giá sức mua (Purchasing Power Parity – PPP) điều chỉnh so sánh thu nhập giữa các nước theo **mức giá cả** (chi phí sinh hoạt) tại mỗi nước, thay vì chỉ quy đổi theo tỉ giá hối đoái thị trường. Ở các nước thu nhập thấp, hàng hóa/dịch vụ không thể xuất khẩu (cắt tóc, thực phẩm địa phương, vận chuyển...) thường rẻ hơn nhiều, nên nếu chỉ quy đổi theo tỉ giá, ta sẽ **đánh giá thấp** sức mua thực sự của người dân nước đó. Sau khi điều chỉnh PPP, thu nhập của các nước nghèo hơn thường tăng lên đáng kể so với con số danh nghĩa, trong khi thu nhập của các nước giàu thay đổi ít hơn nhiều.

Ví dụ mẫu · Worked example — why we deflate: nominal versus real GDP

A country's nominal GDP rises from \$500 billion in Year 1 to \$550 billion in Year 2 – a 10% increase. Over the same period, the general price level (price index) rises from 100 to 110. Calculate real GDP in Year 2 (Year 1 prices = 100) and comment on the true change in output.

$$\text{Real GDP (Year 2)} = \text{Nominal GDP (Year 2)} \times \frac{100}{\text{Price index (Year 2)}} = \$550\text{bn} \times \frac{100}{110} = \$500\text{bn}.$$

Real GDP in Year 2 (\$500 billion, valued at Year 1 prices) is exactly equal to nominal GDP in Year 1 (\$500 billion). In other words, despite a 10% rise in *nominal* GDP, the economy's *real* (inflation-adjusted) output has not grown at all – the entire nominal increase was due to a 10% rise in prices, not any increase in the actual quantity of goods and services produced. This is precisely why living-standards and growth comparisons should always be based on real, not nominal, figures.

5.2.2 Limitations of GDP per capita as a measure of living standards

Although GDP per capita is widely used, it has serious limitations as a measure of living standards and development.

Six key limitations of GDP per capita

(1) Income distribution/inequality: GDP per capita is an average – it says nothing about how income is shared. A country with extreme inequality can have a high average income while

most citizens live in poverty. The **Gini coefficient** (see below) is used alongside GDP per capita to capture this. **(2) The informal economy and unpaid work:** much economic activity – street vending, subsistence farming, unregistered small businesses, and especially unpaid household work such as childcare, cooking, and cleaning – is never recorded in official GDP statistics, so GDP per capita understates true output and welfare, particularly in LEDCs where the informal sector is large. **(3) Leisure time:** GDP per capita takes no account of how many hours people must work to earn their income; a country where citizens work very long hours to achieve a given income is not necessarily better off than one with a lower income but far more leisure time. **(4) Negative externalities and the environment:** GDP counts the value of output produced, but not the environmental damage (pollution, deforestation, resource depletion) that production may cause – indeed, cleaning up pollution afterwards can even *add* to GDP, perversely. **(5) Composition of output:** GDP treats \$1 of military spending exactly the same as \$1 of spending on hospitals or schools, even though the latter contributes far more directly to living standards. **(6) Political freedom and human rights:** GDP per capita says nothing about civil liberties, political participation, personal security, or human rights – a high-income country can still score poorly on these dimensions of well-being.

GIẢI THÍCH TIẾNG VIỆT

VN

GDP bình quân đầu người có nhiều **hạn chế**: (1) chỉ là con số **trung bình**, không phản ánh **phân phối thu nhập** (một nước có thể có GDP/người cao nhưng bất bình đẳng nghiêm trọng); (2) bỏ sót **khu vực kinh tế phi chính thức** và **công việc nội trợ không lương**; (3) không đo **thời gian nghỉ ngơi/giải trí**; (4) không trừ đi **tác động tiêu cực đến môi trường** (ô nhiễm, cạn kiệt tài nguyên); (5) không phân biệt **cơ cấu sản lượng** (chỉ tiêu quân sự và chỉ tiêu y tế/giáo dục được tính như nhau); (6) không phản ánh **tự do chính trị và nhân quyền**. Vì vậy, các nhà kinh tế thường kết hợp GDP/người với nhiều chỉ số khác để đánh giá phát triển toàn diện hơn.

5.2.3 The Human Development Index (HDI)

The **Human Development Index (HDI)**, published annually by the United Nations Development Programme, was designed specifically to address the narrowness of GDP per capita as a measure of development. It combines **three** dimensions of well-being into a single composite score between 0 and 1 (higher = more developed):

The three dimensions of HDI

(1) Health – measured by **life expectancy at birth**, capturing the cumulative effect of nutrition, healthcare, sanitation, and living conditions on longevity. **(2) Education** – measured by a combination of **mean years of schooling** (the average number of years of education actually completed by adults) and **expected years of schooling** (the number of years a child entering school today is expected to receive). **(3) Income** – measured by **GNI per capita**, PPP-adjusted, capturing command over the resources needed for a decent standard of living. Each dimension is converted into an index between 0 and 1, and the overall HDI is a geometric mean of the three sub-indices. Because HDI blends health and education alongside income, two countries with identical GDP per capita can have quite different HDI scores if one invests far more effectively in health and schooling.

The UNDP classifies countries into four broad HDI bands: **low** human development (HDI below 0.550), **medium** (0.550–0.699), **high** (0.700–0.799), and **very high** (0.800 and above).

Ví dụ mẫu · Worked example — interpreting HDI components

Country Alpha: life expectancy 81 years, mean years of schooling 12.5, expected years of schooling 16.8, GNI per capita (PPP) \$45,000; estimated HDI ≈ 0.91 . Country Beta: life expectancy 58 years, mean years of schooling 4.2, expected years of schooling 8.5, GNI per capita (PPP) \$2,300; estimated HDI ≈ 0.45 . Explain, dimension by dimension, why Alpha's HDI is so much higher than Beta's, and state each country's HDI band.

On the **health** dimension, Alpha's life expectancy of 81 years is 23 years longer than Beta's 58 years, reflecting Alpha's stronger healthcare, sanitation, and nutrition. On the **education** dimension, Alpha's adults have completed roughly three times as many years of schooling on average (12.5 vs. 4.2), and a child in Alpha today can expect twice as many years of schooling as a child in Beta (16.8 vs. 8.5). On the **income** dimension, Alpha's PPP-adjusted GNI per capita (\$45,000) is nearly twenty times Beta's (\$2,300). Because all three underlying dimensions favour Alpha strongly and simultaneously, its composite HDI (≈ 0.91) is far higher than Beta's (≈ 0.45). By the UNDP bands, Alpha (0.91) falls in the **very high** human development category, while Beta (0.45) falls in the **low** human development category.

(!) Lỗi thường gặp: Do not treat GDP per capita and HDI as the same thing. GDP per capita is a single, narrowly economic indicator; HDI is a *composite* index that deliberately blends income with health and education outcomes. A country can rank higher on GDP per capita than another country while ranking *lower* on HDI, if its health and education outcomes lag behind its income level (and vice versa). When a question asks you to evaluate “development,” HDI (or a basket of indicators) is almost always the more appropriate measure to discuss than GDP per capita alone.

GIẢI THÍCH TIẾNG VIỆT

VN

HDI (Chỉ số Phát triển Con người) kết hợp **ba khía cạnh**: (1) **sức khỏe** – đo bằng tuổi thọ trung bình; (2) **giáo dục** – đo bằng số năm đi học trung bình và số năm đi học kỳ vọng; (3) **thu nhập** – đo bằng GNI bình quân đầu người (đã điều chỉnh PPP). HDI có giá trị từ 0 đến 1, càng cao càng phát triển. UNDP phân loại: HDI < 0.550 là **thấp**; 0.550–0.699 là **trung bình**; 0.700–0.799 là **cao**; ≥ 0.800 là **rất cao**. Vì HDI kết hợp cả sức khỏe và giáo dục chứ không chỉ thu nhập, hai nước có GDP/người bằng nhau vẫn có thể có HDI khác nhau đáng kể.

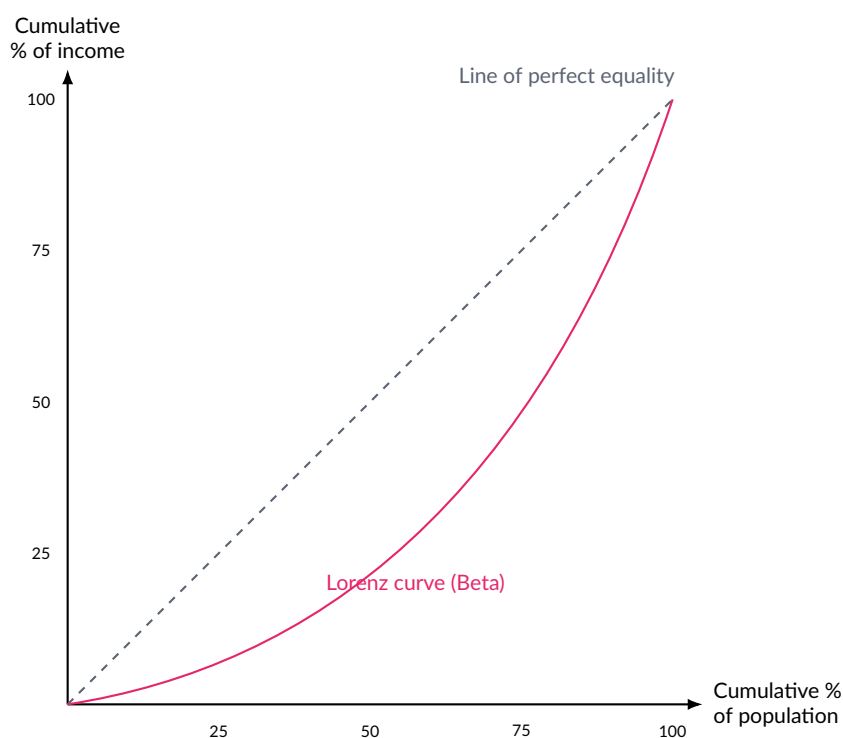
5.2.4 Other indicators of development and the case for a “basket” of measures

Because no single number can capture every dimension of development, economists and development agencies also track a wider basket of indicators, including: **access to clean water and sanitation** (% of population), the **literacy rate** (% of adults who can read and write), **doctors per 1,000 population** (a proxy for access to healthcare), **access to the internet and mobile phones** (% of population, a proxy for connectivity and access to information/markets), the **infant mortality rate** (deaths of infants under age one per 1,000 live births, a sensitive indicator of health and nutrition), and the **Gini coefficient** (a single number, typically between 0 and 1, summarising how unequally income or wealth is distributed within a country – a value of 0 would represent perfect equality and a value of 1 would represent one person holding all the income; higher values indicate more inequality). No calculation of the Gini coefficient is required at this level, only the ability to interpret and compare given values.

No single indicator is perfect: GDP per capita ignores distribution and non-market activity; HDI ignores inequality and the environment; any one health or education indicator captures only part of the picture. This is why development is best assessed using a **basket of indicators** covering income, health, education, inequality, and access to basic services together, rather than relying on any single measure in isolation.

Visualising inequality: the Lorenz curve

The Gini coefficient is itself derived from a graphical tool called the **Lorenz curve**, which plots the cumulative percentage of total income (or wealth) on the vertical axis against the cumulative percentage of the population, ranked from poorest to richest, on the horizontal axis. A perfectly equal distribution – where the poorest 20% of the population always earns exactly 20% of total income, the poorest 50% always earns exactly 50%, and so on – would trace the 45-degree diagonal “line of perfect equality.” In every real economy, the Lorenz curve instead bows below this diagonal, because the poorest population groups always earn a smaller cumulative share of income than their population share. The **further** the Lorenz curve bows away from the diagonal, the **more unequal** the income distribution, and the Gini coefficient is formally defined as the ratio of the area between the diagonal and the Lorenz curve to the total area under the diagonal – though no such calculation is required at this level, only the ability to read what a more sharply bowed curve implies.



A Lorenz curve for a country with a relatively high Gini coefficient (such as Country Beta, Gini 0.48): the curve bows well below the line of perfect equality, showing that the poorest population groups hold a much smaller cumulative income share than their population share – for instance, the poorest 50% of the population here earns well under 25% of total income. A country with a lower Gini coefficient (such as Country Alpha, Gini 0.32) would have a Lorenz curve sitting closer to the diagonal.

GIẢI THÍCH TIẾNG VIỆT

VN

Đường cong Lorenz (Lorenz curve) biểu diễn % cộng dồn thu nhập (trục tung) theo % cộng

dồn dân số, xếp từ nghèo nhất đến giàu nhất (trục hoành). Nếu phân phối thu nhập hoàn toàn bình đẳng, đường cong trùng với đường chéo 45 độ (“đường bình đẳng tuyệt đối”). Trong thực tế, đường Lorenz luôn nằm **dưới** đường chéo; đường cong càng **cong xa** đường chéo thì bất bình đẳng càng **lớn**. Hệ số Gini chính là tỉ lệ giữa diện tích khoảng cách (giữa đường chéo và đường Lorenz) so với toàn bộ diện tích dưới đường chéo – ở cấp độ này chỉ cần đọc hiểu ý nghĩa, không cần tính toán.

Indicator	Country Alpha (high-HDI)	Country Beta (low-HDI)
GDP per capita (nominal)	\$42,000	\$1,100
GNI per capita (PPP-adjusted)	\$45,000	\$2,300
HDI (approx.)	0.91 (very high)	0.45 (low)
Life expectancy at birth	81 years	58 years
Adult literacy rate	99%	62%
Access to clean water/sanitation	99%	68%
Infant mortality (per 1,000 live births)	3	55
Doctors (per 1,000 population)	3.2	0.2
Gini coefficient	0.32	0.48

Illustrative comparison of development indicators, Country Alpha (a high-HDI, more economically developed country) versus Country Beta (a low-HDI, less economically developed country). This pair is used consistently through the remainder of this chapter.

GIẢI THÍCH TIẾNG VIỆT

VN

Ngoài GDP/người và HDI, các nhà kinh tế còn theo dõi một “giỏ chỉ số” (basket of indicators) khác: tỉ lệ tiếp cận nước sạch/vệ sinh, tỉ lệ biết chữ, số bác sĩ trên 1.000 dân, tỉ lệ tiếp cận internet/điện thoại di động, tỉ lệ tử vong trẻ sơ sinh, và **hệ số Gini** (đo bất bình đẳng thu nhập, từ 0 = hoàn toàn bình đẳng đến 1 = bất bình đẳng tuyệt đối). Vì không chỉ số nào là hoàn hảo, việc kết hợp nhiều chỉ số cùng lúc cho bức tranh phát triển đầy đủ và đáng tin cậy hơn so với chỉ dùng một con số duy nhất.

Ví dụ mẫu · Worked example – interpreting the Gini coefficient

Country Alpha has a Gini coefficient of 0.32; Country Beta has a Gini coefficient of 0.48. Which country has more unequal income distribution, and is this consistent with Beta also having a lower HDI?

A Gini coefficient closer to 1 indicates greater inequality, so Country Beta (0.48) has substantially more unequal income distribution than Country Alpha (0.32). This is consistent with – though not automatically implied by – Beta’s lower HDI: low-HDI countries very often combine low average income with highly unequal distribution of what income exists, meaning the poorest households in Beta are likely to be considerably worse off than Beta’s (already low) average income figure alone would suggest.

5.3 Poverty

5.3.1 Absolute poverty versus relative poverty

Absolute poverty is defined against a fixed minimum standard needed for survival, independent of how anyone else in society is doing. A widely used international benchmark is the **international poverty line**: a household is considered to be in absolute poverty if it lives on income below roughly

\$2 a day per person, measured in PPP terms so that the line reflects genuinely equivalent purchasing power in every country (the World Bank has periodically updated the exact figure – historically around \$1.90, more recently \$2.15 at 2017 PPP prices – but the underlying concept, a fixed subsistence-level minimum expressed in PPP dollars, is unchanged; this chapter uses the round \$2-a-day benchmark). **Relative poverty**, by contrast, is defined *relative to the standard of living in a particular society* – typically, a household is considered to be in relative poverty if its income falls below a set fraction (commonly 50% or 60%) of the median or average income in that country. Relative poverty can therefore exist even in very wealthy countries, and, by definition, some relative poverty can persist even if every household's absolute income rises, so long as the poorest households do not keep pace with the rest of society.

Why the distinction matters

Absolute poverty is about survival needs (food, shelter, clean water) measured against a fixed, internationally comparable line; it can, in principle, be eliminated as incomes rise everywhere above the line. Relative poverty is about a household's position *within its own society*; because it moves with the median/average income of that society, relative poverty can never be fully eliminated by growth alone – it requires narrowing the *gap* between low-income and typical households, not just raising everyone's income in absolute terms.

Ví dụ mẫu · Worked example – classifying a household using the poverty line

A household of four people has a monthly income of \$180. Using the \$2-a-day PPP international poverty line, determine whether this household is in absolute poverty.

Income per person per month = $\$180 \div 4 = \45 . Income per person per day = $\$45 \div 30 = \1.50 . Since \$1.50 per person per day is below the \$2-a-day international poverty line, this household is in absolute poverty. (If the same household instead earned \$336 per month, income per person per day would be $336 \div 4 \div 30 = \$2.80$, which is above the line, so that household would *not* be classified as being in absolute poverty – though it might still be in relative poverty if \$2.80/day is well below the median income in its own country.)

(!) Lỗi thường gặp: Do not treat “poor” as a single, undifferentiated category. Absolute poverty (below a fixed subsistence line, comparable across countries) and relative poverty (below a fraction of a country's own median/average income) answer different questions and can move in opposite directions – a country can reduce absolute poverty sharply through overall growth while relative poverty stays unchanged or even rises, if the gains are concentrated among higher-income households.

GIẢI THÍCH TIẾNG VIỆT

VN

Nghèo tuyệt đối (absolute poverty) được xác định theo một **mức tối thiểu cố định** cần thiết để sinh tồn, không phụ thuộc vào người khác trong xã hội sống ra sao – chuẩn quốc tế phổ biến là ngưỡng nghèo quốc tế khoảng **2 đô la/ngày** (theo PPP). **Nghèo tương đối** (relative poverty) được xác định **so với mức sống chung** của xã hội đó – ví dụ, thu nhập dưới 50% hoặc 60% thu nhập trung vị/trung bình của quốc gia. Nghèo tương đối vẫn có thể tồn tại ngay cả ở nước giàu, và không thể bị xóa bỏ hoàn toàn chỉ bằng tăng trưởng kinh tế nếu khoảng cách giàu – nghèo không được thu hẹp.

5.3.2 Causes of poverty

Poverty typically arises from a combination of interacting factors rather than any single cause: **low income and unemployment** (the most direct cause – households without a stable income source

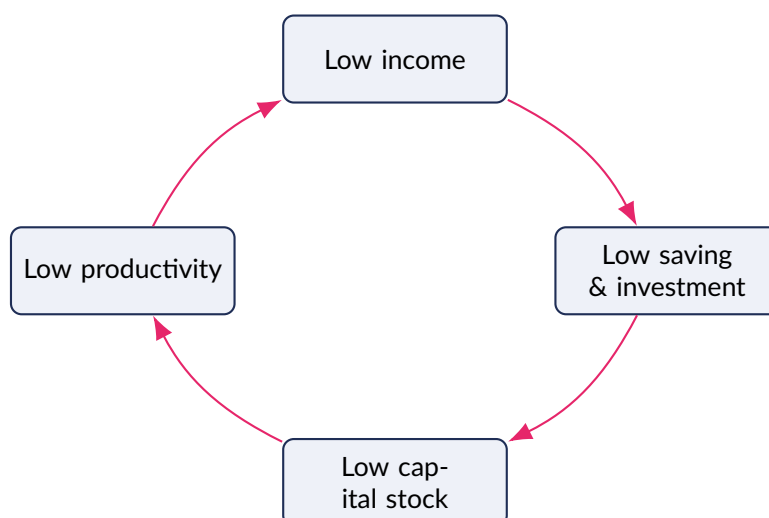
cannot meet basic needs); **low levels of education and skills** (workers without literacy, numeracy, or vocational training are confined to low-productivity, low-paid work); **poor health** (illness reduces the ability to work and can trap households in a cycle of medical costs and lost income); **discrimination** (based on gender, ethnicity, caste, or region, which can restrict access to jobs, land, credit, or education regardless of ability); **geographic isolation** (remote rural areas often lack access to markets, infrastructure, schools, and clinics); **war and conflict** (which destroys physical capital and infrastructure, displaces populations, and disrupts normal economic activity); and **corruption and weak institutions** (which divert public resources away from productive investment and distort access to opportunity) – this last factor is especially significant in explaining persistent poverty in many LEDCs even where natural resources or aid inflows are substantial.

GIẢI THÍCH TIẾNG VIỆT

VN Nguyên nhân nghèo đói thường là sự **kết hợp** của nhiều yếu tố: thu nhập thấp/thất nghiệp; trình độ học vấn và kỹ năng thấp; sức khỏe kém; phân biệt đối xử (giới tính, dân tộc, vùng miền); cô lập địa lý (vùng sâu vùng xa thiếu cơ sở hạ tầng); chiến tranh/xung đột; và tham nhũng/thể chế yếu kém – yếu tố cuối cùng này đặc biệt quan trọng ở nhiều nước LEDC, nơi nguồn tài nguyên hoặc viện trợ dồi dào vẫn không giúp giảm nghèo hiệu quả nếu bị quản lý kém.

5.3.3 The vicious circle of poverty

Poverty can become **self-perpetuating**: households and countries that start out poor often find it very difficult to escape poverty through their own resources alone, because poverty itself removes the means needed to escape it. This is known as the **vicious circle (or cycle) of poverty**.



The vicious circle of poverty: low income leaves little surplus for saving and investment; low investment means the capital stock (machinery, tools, infrastructure) fails to grow; a low capital stock means each worker has little to work with, so productivity (output per worker) stays low; low productivity in turn keeps wages and income low, closing the loop.

Breaking the cycle

Because each stage of the cycle reinforces the next, an outside intervention is usually needed to break it – for example, an injection of investment (from domestic saving encouraged by financial inclusion, foreign direct investment, aid, or debt relief that frees up government revenue) that raises the capital stock without first requiring the country to generate high income and saving on its own. This is the core economic rationale behind most of the development strategies discussed later in this chapter.

GIẢI THÍCH TIẾNG VIỆT

VN

Vòng luẩn quẩn nghèo đói (vicious circle of poverty): thu nhập thấp → tiết kiệm/đầu tư thấp → vốn (tư bản) thấp → năng suất lao động thấp → quay lại thu nhập thấp. Mỗi giai đoạn củng cố giai đoạn tiếp theo, khiến quốc gia khó tự thoát nghèo nếu không có **can thiệp từ bên ngoài** (đầu tư nước ngoài, viện trợ, xóa nợ, hoặc khuyến khích tiết kiệm/tài chính vi mô trong nước) để phá vỡ vòng lặp này.

5.3.4 Policies to reduce poverty

Governments use a range of policy tools to reduce poverty, each with its own strengths and limitations.

Poverty-reduction policies and their trade-offs

Progressive taxation combined with welfare/cash transfers redistributes income from higher to lower earners, directly narrowing relative poverty; the trade-off is that very high marginal tax rates can weaken incentives to work, save, and invest, and welfare payments must be carefully designed (e.g. tapered gradually) to avoid discouraging recipients from taking paid work. **Minimum wage legislation** sets a legal wage floor above the market equilibrium wage, intended to guarantee low-paid workers a living income; however, a minimum wage is a form of **price floor** in the labour market (as studied for markets generally) – if set above the market-clearing wage, it can create an excess supply of labour (unemployment), particularly harming the very low-skilled workers it aims to help, and may push some employment into the unregulated informal sector instead. **Free or subsidised education and healthcare** raise human capital and reduce the ongoing cost burden on poor households, tackling poverty's underlying causes rather than just its symptoms; the trade-off is the substantial and sustained public spending required, which may need to be financed by taxation or, in LEDCs, may compete with debt-servicing obligations. **Microfinance and financial inclusion** give low-income households and small entrepreneurs access to small loans, savings accounts, and insurance they could not otherwise obtain, enabling self-employment and small business creation; the trade-off is that some microfinance institutions charge high interest rates to cover the administrative cost of very small, uncollateralised loans, and poorly regulated schemes can leave borrowers over-indebted. **Job creation and infrastructure investment** (e.g. public-works programmes building roads, irrigation, or housing) directly create employment and raise future productive capacity; the trade-off is the upfront cost and the risk of low-quality or poorly targeted projects if not carefully designed. **Targeted anti-poverty programmes** (conditional cash transfers, food subsidies, targeted at the poorest households) can be more cost-effective than universal programmes, but require accurate identification of who is genuinely poor, which is administratively difficult and can exclude some genuinely needy households or include some non-needy ones.

GIẢI THÍCH TIẾNG VIỆT

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Các chính sách giảm nghèo chính: **thuế lũy tiến + trợ cấp phúc lợi** (chuyển thu nhập từ người giàu sang người nghèo, nhưng thuế cao có thể làm giảm động lực làm việc); **lương tối thiểu** (là một dạng **giá sàn** trên thị trường lao động – nếu đặt quá cao so với mức cân bằng, có thể gây dư cung lao động, tức **thất nghiệp**); **giáo dục/y tế miễn phí hoặc trợ giá** (giải quyết tận gốc nguyên nhân nghèo nhưng tốn kém ngân sách); **tài chính vi mô** (giúp người nghèo tiếp cận vốn nhỏ để khởi nghiệp, nhưng lãi suất một số tổ chức tài chính vi mô khá cao); **đầu tư cơ sở hạ tầng/tạo việc làm**; và **chương trình hỗ trợ nghèo có mục tiêu** (hiệu quả về chi phí nhưng khó xác định chính xác đối tượng thụ hưởng).

5.4 Population

5.4.1 Demographic factors: birth rate, death rate, migration

The size and structure of a country's population change through three demographic channels. The **birth rate** is the number of live births per 1,000 population per year. The **death rate** is the number of deaths per 1,000 population per year. **Net migration** is the difference between the number of people immigrating into a country and the number emigrating out of it over a period (positive net migration = net inflow; negative = net outflow). The **rate of natural increase** of the population is simply the birth rate minus the death rate (expressed as a percentage of population per year, since both rates are already per 1,000):

$$\text{Natural increase (\%)} = \frac{\text{birth rate} - \text{death rate}}{10}.$$

Total population growth combines natural increase with net migration.

Ví dụ mẫu · Worked example — natural population increase

A country has a birth rate of 27 per 1,000 population and a death rate of 11 per 1,000 population. Calculate the rate of natural increase.

Natural increase = $27 - 11 = 16$ per 1,000 = $\frac{16}{10} = 1.6\%$ per year. If net migration were zero, the population would grow by approximately 1.6% annually from natural increase alone.

GIẢI THÍCH TIẾNG VIỆT

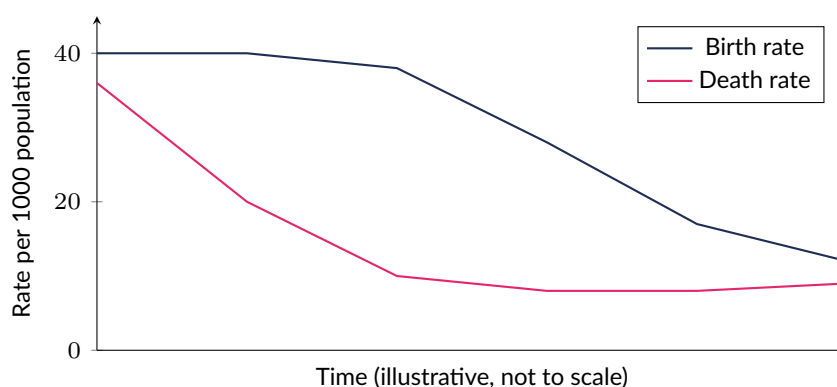
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Tỉ suất sinh (birth rate) và **tỉ suất tử** (death rate) đo số ca sinh/tử trên 1.000 dân mỗi năm. **Di cư ròng** (net migration) là chênh lệch giữa số người nhập cư và xuất cư. **Tỉ lệ gia tăng tự nhiên** = tỉ suất sinh – tỉ suất tử (chia 10 để ra %). Tổng mức tăng dân số = gia tăng tự nhiên + di cư ròng.

(!) Lỗi thường gặp: Birth rates, death rates, and net migration rates are all conventionally expressed **per 1,000 population**, not directly as a percentage. A common arithmetic slip is subtracting the two rates correctly (e.g. $27 - 11 = 16$) but then forgetting to divide by 10 to convert “per 1,000” into a percentage, writing the natural increase as “16%” instead of the correct 1.6% – a tenfold error that would make an entirely plausible growth rate look implausibly explosive. Always check whether a given figure is already a percentage or is expressed per 1,000 before combining it with other rates.

5.4.2 The demographic transition

Over the long run, as countries develop, both birth rates and death rates tend to change in a broadly predictable pattern known as the **demographic transition**, though the exact timing and pace vary widely between countries and there is no need to memorise a rigid numbered scheme of stages. In the earliest phase, both birth rates and death rates are **high** (reflecting limited healthcare, high infant mortality, and a cultural/economic preference for large families as a source of labour and old-age security), so population grows only slowly despite high birth rates. As basic public health measures, clean water, vaccination, and improved nutrition spread, **death rates fall sharply** while birth rates remain high for a time, producing a period of **rapid population growth**. Eventually, as incomes rise, child mortality falls further (reducing the need for large families as “insurance”), education and career opportunities for women expand, and the cost of raising children rises (particularly the cost of educating them), **birth rates also fall**, and population growth slows again. In the most developed economies, both birth rates and death rates settle at **low** levels, and population growth becomes slow, stagnant, or even negative – often accompanied by significant **population ageing**.



Stylised demographic transition. Death rates fall first (public health, sanitation, nutrition), opening a wide gap that produces rapid population growth; birth rates fall later (rising incomes, education, falling child mortality, urbanisation), narrowing the gap again as both rates settle at low levels.

This pattern explains why **LEDCs**, typically still in the phase where birth rates remain high relative to death rates, tend to have **wide-based** population pyramids (a large share of children and young people), while **MEDCs**, typically further along the transition with both rates low, tend to have **narrower-based, ageing** population pyramids (a smaller share of children, a larger share of older people).

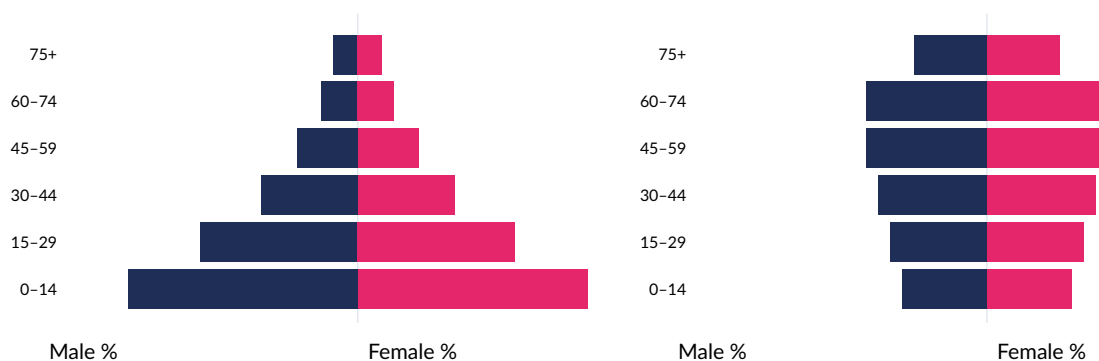
GIẢI THÍCH TIẾNG VIỆT

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Quá độ dân số (demographic transition) mô tả cách tỉ suất sinh và tỉ suất tử thay đổi khi một quốc gia phát triển: ban đầu cả hai đều **cao** (dân số tăng chậm); sau đó tỉ suất **tử giảm trước** nhờ y tế công cộng cải thiện, trong khi tỉ suất sinh vẫn cao $\Rightarrow$ dân số tăng **nhANH**; cuối cùng tỉ suất **sinh cũng giảm** (thu nhập tăng, giáo dục phụ nữ mở rộng, chi phí nuôi con tăng) $\Rightarrow$ dân số ổn định hoặc già hóa. Đây là lý do vì sao các nước LEDC thường có tháp dân số **đáy rộng** (nhiều trẻ em), còn các nước MEDC thường có tháp dân số **đáy hẹp, già hóa**.

5.4.3 Population pyramids and the dependency ratio

A **population pyramid** is a bar chart showing the number (or percentage) of males and females in each age group, with age bands stacked from youngest (bottom) to oldest (top), males conventionally shown on the left and females on the right. Reading a pyramid: a wide base indicates a large proportion of children (high recent birth rates); a shape that narrows quickly with age indicates high mortality at older ages or historically declining birth rates; a shape that stays wide well into older age groups (a more “rectangular” or top-heavy pyramid) indicates an ageing population with low birth and death rates.



Country Beta (LEDC) – wide base, young

Country Alpha (MEDC) – narrower base, ageing

Illustrative population pyramids. Country Beta's wide base (38% of the population aged 0–14) reflects high recent birth rates and gives it a high overall dependency ratio (approximately 83% by the working-age/dependant calculation below). Country Alpha's narrower base (14% aged 0–14) but relatively wide upper bars (20% aged 60–74) reflect low birth rates

and an ageing population, giving a somewhat lower but still substantial dependency ratio (approximately 61%), driven now mainly by elderly dependants rather than children.

The dependency ratio

The **dependency ratio** measures the number of economic “dependants” (usually defined as those aged under 15 and those aged 65 and over, who are typically not in paid employment) relative to the **working-age population** (usually 15–64):

$$\text{Dependency ratio} = \frac{\text{dependent population (under 15 and 65+)}}{\text{working-age population (15–64)}} \times 100.$$

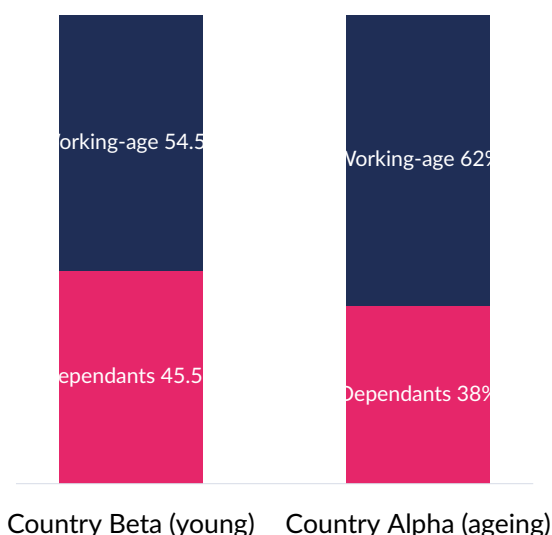
A **high** dependency ratio means relatively few working-age people must, through taxation and family support, provide for relatively many dependants – placing heavy pressure on government spending on education (for a young dependency burden) or pensions and healthcare (for an elderly dependency burden), and potentially constraining private saving and investment.

Ví dụ mẫu · Worked example – calculating a dependency ratio

Country Beta has a working-age population of 12 million and a dependent population of 10 million (total population 22 million). Calculate the dependency ratio and comment.

$$\text{Dependency ratio} = \frac{10}{12} \times 100 = 83.3.$$

A dependency ratio of approximately 83% means that, for every 100 working-age people in Country Beta, there are roughly 83 dependants (overwhelmingly children, given Beta’s young population structure) who must be supported. This implies substantial pressure on spending on schools and child healthcare, and relatively little of national income available per person for saving and investment – reinforcing the “low saving → low investment” link in the vicious circle of poverty.



Working-age versus dependent population shares. Country Beta’s dependency burden (45.5%) is driven mainly by a large child population; Country Alpha’s dependency burden (38%), though smaller overall, is driven increasingly by an ageing elderly population rather than children – with very different implications for the type of public spending required (schools versus pensions/healthcare).

(!) Lỗi thường gặp: Do not assume that a narrower-based (MEDC-style) population pyramid always implies a *lower* dependency ratio than a wide-based (LEDC-style) one. An ageing population can still carry a high dependency ratio – just concentrated at the *top* of the pyramid (elderly dependants) rather than the bottom (child dependants). Always check *which part* of the pyramid is generating the dependency burden, since the economic implications (pressure on schools versus pressure on pensions and healthcare) are very different.

GIẢI THÍCH TIẾNG VIỆT

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Tháp dân số (population pyramid) thể hiện số lượng nam/nữ theo từng nhóm tuổi. **Tỉ số phụ thuộc** (dependency ratio) = $\frac{\text{số người phụ thuộc (dưới 15 và trên 65 tuổi)}}{\text{số người trong độ tuổi lao động (15–64)}} \times 100$. Tỉ số phụ thuộc cao gây áp lực lớn lên chi tiêu công (giáo dục nếu phụ thuộc là trẻ em; y tế/lương hưu nếu phụ thuộc là người già) và làm giảm phần thu nhập quốc dân có thể tiết kiệm/đầu tư. Lưu ý: tháp đáy hẹp (già hóa) không chắc có tỉ số phụ thuộc thấp hơn tháp đáy rộng – gánh nặng phụ thuộc chỉ chuyển từ trẻ em sang người già.

5.4.4 Overpopulation, underpopulation, and optimum population

These concepts compare a country's population to its available resources, capital, and technology – not to any fixed number of people.

Precise definitions

A country is **overpopulated** if its current population is too large to be sustained at an acceptable standard of living given its current resources and level of technology – adding one more person would, on average, reduce output/income per head. A country is **underpopulated** if its current population is too small to make the most efficient use of its available resources and technology – adding more people would, on average, *raise* output/income per head (for example, by allowing greater specialisation, achieving economies of scale, or fully staffing available land and infrastructure). The **optimum population** is the population size that maximises output/income per head, given the resources and technology available *at that time*. Crucially, the optimum population is not fixed forever: it **changes over time** as new resources are discovered, as technology improves productivity (allowing more people to be supported at a given living standard), or as capital investment expands productive capacity – so a country judged overpopulated today could become optimally populated, or even underpopulated, in the future without its population falling, simply because its resource base or technology has improved.

GIẢI THÍCH TIẾNG VIỆT

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Một nước bị coi là **dân số quá đông** (overpopulated) nếu dân số hiện tại vượt quá khả năng đáp ứng của tài nguyên và công nghệ hiện có (thêm một người sẽ làm giảm sản lượng/thu nhập bình quân đầu người). **Dân số quá thưa** (underpopulated) là khi dân số quá ít để khai thác hết tiềm năng tài nguyên/công nghệ (thêm người sẽ làm tăng sản lượng bình quân đầu người). **Dân số tối ưu** (optimum population) là quy mô dân số tối đa hóa sản lượng/thu nhập bình quân đầu người với tài nguyên và công nghệ **hiện tại** – và mức tối ưu này **thay đổi theo thời gian** khi công nghệ cải tiến hoặc tài nguyên mới được phát hiện, dù dân số không đổi.

5.4.5 Consequences of population structure for development

A rapidly growing, youthful population (typical of many LEDCs, including Country Beta in our comparison) creates immediate pressure on government spending: more schools, teachers, and child healthcare are needed just to maintain existing standards, spreading limited public budgets thinly and often crowding out investment in infrastructure or productive capital. However, this same

young population can, if accompanied by rising employment and productivity as those children reach working age, produce a **demographic dividend** – a period during which the share of the working-age population rises relative to dependants, boosting output per head and potential saving, provided the economy can create enough jobs and provided investment in the health and education of that generation was adequate.

An ageing population (typical of many MEDCs, including Country Alpha) creates a different set of pressures: a **rising** dependency ratio as the elderly share of the population grows, mounting costs for pensions and healthcare that must be financed by a relatively shrinking working-age tax base, and potential **labour shortages** in key sectors as fewer young workers enter the labour force to replace retirees – sometimes prompting policy responses such as raising the retirement age, encouraging immigration of working-age people, or investing in automation.

GIẢI THÍCH TIẾNG VIỆT

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Dân số trẻ, tăng nhanh (như Country Beta) gây áp lực ngay lập tức lên chi tiêu giáo dục/y tế trẻ em, nhưng nếu được đầu tư tốt, thế hệ này khi bước vào tuổi lao động có thể tạo ra **lợi tức nhân khẩu học** (demographic dividend) – giai đoạn tỉ lệ dân số trong độ tuổi lao động tăng lên, thúc đẩy sản lượng và tiết kiệm. Dân số già hóa (như Country Alpha) gây áp lực lên chi lương hưu/y tế cho người già, và có thể dẫn đến **thiếu hụt lao động** khi lực lượng lao động trẻ không đủ thay thế người về hưu.

5.4.6 Population policies: influencing birth rates

Because rapid population growth (in a young, wide-based-pyramid LEDC) or population decline and ageing (in a low-birth-rate MEDC) both carry significant economic consequences, some governments actively intervene to influence birth rates.

Anti-natalist and pro-natalist policies

Anti-natalist policies aim to *reduce* the birth rate, typically used where rapid population growth is straining resources, infrastructure, and public spending (as discussed for Country Beta). Common measures include expanding access to family planning and contraception, investing in girls' and women's education (which is strongly associated with lower fertility, since better-educated women tend to marry later, have fewer children, and pursue careers alongside or instead of very large families), and, in some historical cases, direct legal limits or strong financial incentives/penalties tied to the number of children (most famously, China's one-child policy from 1979 to 2015). **Pro-natalist policies** aim to *raise* the birth rate, typically used in ageing, low-birth-rate MEDCs concerned about a shrinking future workforce and an ever-rising dependency ratio. Common measures include cash child benefits or baby bonuses, subsidised or free childcare, generous paid parental leave, and tax incentives for larger families. Both types of policy face real limits: anti-natalist policies can produce unintended social consequences (e.g. skewed sex ratios where son preference is strong) and are difficult to sustain politically once fertility has already fallen sharply; pro-natalist incentives have often proven only modestly effective at reversing deep-rooted low-fertility trends driven by lifestyle, career, and cost-of-living factors.

GIẢI THÍCH TIẾNG VIỆT

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Chính sách hạn chế sinh (anti-natalist) nhằm **giảm** tỉ suất sinh – thường áp dụng ở nước tăng dân số quá nhanh (như Country Beta): mở rộng kế hoạch hóa gia đình, đầu tư giáo dục cho phụ nữ (liên quan chặt đến tỉ suất sinh thấp hơn), hoặc giới hạn số con theo luật (ví dụ chính sách một con của Trung Quốc 1979–2015). **Chính sách khuyến khích sinh** (pro-natalist) nhằm **tăng** tỉ suất sinh – thường áp dụng ở nước già hóa dân số (như Country Alpha): trợ cấp tiền mặt cho trẻ sơ sinh, hỗ trợ giữ trẻ, nghỉ thai sản có lương hào phóng, ưu đãi thuế cho gia đình

đồng con. Cả hai loại chính sách đều có giới hạn: chính sách hạn chế sinh có thể gây hệ lụy xã hội không mong muốn, còn chính sách khuyến khích sinh thường chỉ có hiệu quả khiêm tốn trong việc đảo ngược xu hướng sinh thấp đã bén rễ sâu.

5.4.7 Urbanisation and rural-urban migration

Rapid population growth combined with a large agricultural sector and limited rural opportunity frequently drives **rural-urban migration**: people move from the countryside to cities in search of higher wages, better job prospects, and access to services (education, healthcare, entertainment) that are concentrated in urban areas. This process, **urbanisation**, is a near-universal feature of development, but when it happens faster than a city's infrastructure and formal job market can absorb, it creates serious problems that are especially visible in many LEDCs: overcrowded and under-served informal settlements (slums) lacking adequate housing, water, and sanitation; strain on urban transport, electricity, and waste systems; rising **informal-sector** employment (street vending, casual labour) as the formal job market cannot absorb all new arrivals; and a corresponding loss of labour from rural agriculture, which can depress agricultural output and further push rural incomes down relative to urban incomes, encouraging still more migration.

Ví dụ mẫu · Worked example – reasoning through rural-urban migration

Country Beta's capital city has grown by 6% per year for a decade, far outpacing the 1.5% growth rate of formal urban jobs. Explain the likely consequence for this city, and suggest one government policy response.

If the urban population is growing roughly four times faster than formal urban employment, the majority of new arrivals cannot find formal jobs and are likely to end up in **informal-sector** work (street vending, casual labour) or unemployed, often settling in informal housing lacking secure land tenure, reliable water, and sanitation – since formal housing supply cannot keep pace either. This tends to concentrate poverty and poor living conditions within the city itself, even as average national income statistics may still show gradual improvement. **Policy response:** any well-justified answer, e.g. investing in rural infrastructure, schools, and agricultural productivity to raise rural incomes and reduce the incentive to migrate; or investing directly in affordable urban housing, water, and sanitation infrastructure and formal job creation to absorb migrants more effectively once they arrive.

GIẢI THÍCH TIẾNG VIỆT

VN

Di cư nông thôn – thành thị (rural-urban migration) xảy ra khi dân nông thôn chuyển đến thành phố để tìm việc lương cao hơn và tiếp cận dịch vụ tốt hơn. Nếu tốc độ đô thị hóa vượt quá khả năng hạ tầng/việc làm chính thức của thành phố, hậu quả là: khu ổ chuột quá tải, thiếu nước sạch/vệ sinh; quá tải giao thông/điện/rác thải; gia tăng **lao động phi chính thức**; và suy giảm lao động nông nghiệp ở nông thôn, khiến thu nhập nông thôn càng tụt lại so với thành thị.

5.5 LEDCs, MEDCs, and Strategies for Development

5.5.1 Characteristics of LEDCs

Less economically developed countries (LEDCs) tend to share a cluster of structural characteristics, illustrated by Country Beta in our running comparison: low GDP per capita and low HDI; relatively high birth rates and (often) higher death rates, giving a young, wide-based population pyramid and a high dependency ratio; a workforce concentrated in the **primary sector** (agriculture, mining, fishing – for example, Beta has roughly 62% of employment in agriculture, versus only around 2% in Country Alpha), with correspondingly less employment in manufacturing (secondary sector) and services

(tertiary sector); heavy **export dependence on a narrow range of primary commodities** (for instance, a single crop such as coffee making up around 70% of Beta's export earnings); weak physical infrastructure (roads, electricity, water supply); and limited access to credit and capital markets for households and small firms, restricting private investment. Exporting mainly one or two primary commodities exposes an LEDC to serious risks: **price volatility** (commodity prices swing sharply with global supply and demand, making export earnings and government revenue unpredictable) and a long-run tendency toward **declining terms of trade** for primary-commodity exporters relative to manufactured-goods importers (as the prices of many primary commodities have tended to rise more slowly than the prices of manufactured goods and services over time).

GIẢI THÍCH TIẾNG VIỆT

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Đặc điểm điển hình của LEDC (như Country Beta): GDP/người và HDI thấp; tỉ suất sinh cao, thấp dân số dầy rộng, tỉ số phụ thuộc cao; lao động tập trung ở **khu vực I** (nông nghiệp, khai khoáng); **phụ thuộc xuất khẩu** vào một vài mặt hàng nguyên liệu thô (dễ bị tổn thương bởi biến động giá và **tỉ lệ trao đổi thương mại bất lợi** dài hạn); cơ sở hạ tầng yếu; và khó tiếp cận tín dụng/vốn.

5.5.2 Barriers to development

Beyond the structural characteristics above, LEDCs face a set of self-reinforcing **barriers** that make sustained development difficult to achieve: **lack of infrastructure** (poor roads, unreliable electricity, and limited water/sanitation raise the cost of doing business and deter investment); **low savings and investment rates** – often called the **poverty trap** – where low income leaves little surplus for saving, so domestic investment and capital accumulation remain low (this is precisely the vicious circle of poverty described earlier); **political instability and corruption**, which discourage both domestic and foreign investment and can divert public resources away from productive uses; a heavy **disease burden**, which reduces labour productivity and life expectancy and diverts household and government resources into treatment rather than investment; **low education levels**, which limit the workforce's productivity and its capacity to adopt new technology; a **debt burden**, where a large share of government revenue must go toward servicing (interest and principal on) past borrowing – for example, Country Beta devotes around 28% of its export revenue to debt service, versus around 4% for Country Alpha – crowding out spending on health, education, and infrastructure; and **unfavourable terms of trade** for primary-commodity exporters, as discussed above, which can steadily erode the purchasing power of export earnings over time even if export volumes are stable or rising.

GIẢI THÍCH TIẾNG VIỆT

VN

Rào cản phát triển ở LEDC: thiếu cơ sở hạ tầng; tỉ lệ tiết kiệm/đầu tư thấp (“bẫy nghèo” – poverty trap, chính là vòng luẩn quẩn nghèo đói); bất ổn chính trị/tham nhũng; gánh nặng bệnh tật; trình độ giáo dục thấp; **gánh nặng nợ** (một phần lớn doanh thu xuất khẩu phải dùng để trả nợ, làm giảm ngân sách cho y tế/giáo dục/hạ tầng); và **tỉ lệ trao đổi thương mại bất lợi** đối với các nước xuất khẩu nguyên liệu thô.

5.5.3 The role of institutions and governance

A recurring theme across the causes of poverty, the barriers to development, and the effectiveness of every strategy discussed in this chapter is the quality of a country's **institutions** – its system of property rights, contract enforcement, rule of law, and the honesty and competence of its public administration.

Why institutions matter so much

Strong institutions (secure property rights, an independent and reliable legal system, low corruption, competent public administration) give households and firms the confidence to save,

invest, and start businesses, since they can trust that the returns to their effort and capital will not be arbitrarily seized or destroyed by instability or bribery. Strong institutions also ensure that government revenue – whether from taxation, resource exports, aid, or FDI-related payments – is actually spent on its intended productive purpose (infrastructure, health, education) rather than diverted through corruption. Weak institutions, by contrast, can undermine every development strategy simultaneously: FDI is deterred by fear of expropriation or bribery demands; aid and debt relief may be diverted away from their intended use; microfinance and formal credit markets struggle to function without reliable contract enforcement; and even well-designed infrastructure or education spending can fail to reach its intended beneficiaries. This is why many development economists argue that improving governance and institutions is not just one strategy among many, but a pre-condition that determines how effective all the other strategies can be.

GIẢI THÍCH TIẾNG VIỆT

VN

Thể chế (institutions) – quyền sở hữu tài sản, hệ thống pháp luật, mức độ tham nhũng, năng lực quản lý nhà nước – ảnh hưởng đến **hiệu quả của mọi chiến lược phát triển**. Thể chế mạnh giúp người dân/doanh nghiệp yên tâm tiết kiệm, đầu tư, khởi nghiệp, và đảm bảo ngân sách nhà nước (từ thuế, tài nguyên, viện trợ, hay FDI) được chi đúng mục đích. Thể chế yếu có thể làm suy yếu **đồng thời** mọi chiến lược khác: FDI e ngại bị tịch thu tài sản hoặc bị đòi hối lộ; viện trợ/xóa nợ có thể bị thất thoát; tài chính vi mô khó vận hành nếu hợp đồng không được đảm bảo thực thi. Vì vậy, cải thiện thể chế/quản trị thường được xem là điều kiện tiên quyết cho mọi chiến lược phát triển khác.

5.5.4 Strategies for development

Countries and international agencies have pursued many strategies to overcome the barriers above. No single strategy works in isolation; most successful development experiences combine several of the following.

Import substitution versus export-led growth

Two broad, contrasting trade strategies have historically been used to industrialise developing economies.

Feature	Import substitution (inward-oriented)	Export-led growth (outward-oriented)
Core idea	Protect domestic industries (tariffs, quotas) so they can replace previously imported goods	Promote industries that can compete internationally and sell into world markets
Trade policy	Protectionist – high tariffs/quotas on imports	Liberal – low trade barriers, often with export incentives
Market size	Limited to the domestic market	The whole world market, allowing economies of scale
Main advantage	Builds domestic industry and jobs behind a protective wall; reduces reliance on imports	Forces firms to become efficient/competitive; earns foreign exchange; historically associated with the rapid growth of several East and Southeast Asian economies
Main disadvantage	Protected firms often stay inefficient/high-cost with no competitive pressure to improve; can invite retaliation and limits access to foreign technology/inputs	Domestic industries face intense foreign competition early on; success depends heavily on access to foreign markets and exchange-rate stability

Import substitution versus export-led (outward-oriented) growth strategies.

Ví dụ mẫu · Worked example – evaluating a trade strategy

Country Beta currently earns around 70% of its export revenue from a single primary commodity (coffee) and has a small domestic manufacturing base. Its government is deciding between an import-substitution strategy (tariffs to protect a new domestic textile industry) and an export-led strategy (removing tariffs and offering incentives to attract textile exporters). Briefly evaluate each option for Beta.

Import substitution could allow Beta's fledgling textile firms to establish themselves without being immediately overwhelmed by cheaper imports, building domestic jobs and industrial capacity; however, protected firms may remain inefficient and high-cost indefinitely without competitive pressure, and Beta's small domestic market limits how large these firms can grow. Export-led growth would force Beta's textile firms to become competitive quickly (since they must sell into world markets), potentially earning valuable foreign exchange and reducing Beta's dependence on coffee exports (a diversification benefit) – but it exposes new firms to intense competition from established textile exporters elsewhere before they have had time to develop, and success depends on factors partly outside Beta's control, such as global demand and exchange-rate movements. In practice, many successful developing economies have used a measured combination: initial, temporary protection to help an industry reach a viable scale, followed by a deliberate shift toward export orientation as the industry matures.

GIẢI THÍCH TIẾNG VIỆT

VN

Thay thế nhập khẩu (import substitution): bảo hộ ngành trong nước bằng thuế quan/hạn ngạch để thay thế hàng nhập khẩu – xây dựng được ngành công nghiệp nội địa nhưng dễ khiến doanh nghiệp trì trệ, kém cạnh tranh do không có áp lực cạnh tranh. **Tăng trưởng hướng xuất khẩu** (export-led growth): mở cửa thương mại, khuyến khích doanh nghiệp cạnh tranh trên

thị trường thế giới – giúp doanh nghiệp hiệu quả hơn và thu ngoại tệ, nhưng gây áp lực cạnh tranh sớm lên ngành non trẻ trong nước.

Infrastructure and human capital as pre-conditions for growth

Investment in physical **infrastructure** (roads, electricity, ports, telecommunications) and **human capital** (health and education) is widely regarded as a pre-condition for sustained development, because it raises the productivity of every other investment made in the economy. A factory is far less productive without a reliable electricity supply and passable roads to bring in inputs and ship out output; workers are far less productive without basic literacy, numeracy, and health. Because the returns to infrastructure and human-capital investment are often long-term and only partly captured by the individual firm or household that pays for them (they generate positive externalities for the wider economy), such investment is frequently under-provided by private markets alone and is a core justification for government (or aid-funded) spending in this area.

Trade liberalisation

Trade liberalisation – reducing tariffs, quotas, and other barriers to trade – can benefit developing economies by giving domestic firms access to larger export markets, cheaper imported inputs and capital goods, and greater exposure to foreign competition and technology, encouraging efficiency gains. The risk, as noted in the import-substitution/export-led comparison above, is that domestic infant industries may struggle to survive direct competition from established foreign firms before they have had a chance to develop.

Foreign direct investment (FDI)

Foreign direct investment occurs when a firm from one country builds or acquires productive assets (factories, mines, plantations, or a controlling stake in a local firm) in another country. From a development-strategy perspective, FDI brings clear **advantages**: it injects capital that the host country may not be able to generate domestically (helping to break the vicious circle of poverty); it typically transfers technology, management expertise, and worker training; it creates jobs and can generate tax revenue and foreign-exchange earnings (especially where output is exported); and it can stimulate local supplier industries. However, FDI also carries real **disadvantages**: profits are frequently **repatriated** to the investing country rather than reinvested locally, limiting the long-run benefit to the host economy; foreign firms may crowd out local businesses that cannot compete on the same scale; large-scale resource-extraction FDI can cause serious environmental damage; and a host country that becomes reliant on FDI in one sector (e.g. mining) may simply reproduce the same narrow, commodity-dependent export structure the strategy was meant to escape.

Ví dụ mẫu · Worked example – FDI cost-benefit reasoning

A multinational mining company proposes a \$500 million investment in Country Beta to extract and export a mineral resource. Weigh the likely benefits against the likely costs for Beta's development.

Likely benefits: an immediate large injection of capital that Beta could not easily generate through its own low domestic savings; thousands of direct and indirect jobs in mining, transport, and local services; government tax and royalty revenue that could, if well managed, fund health, education, or infrastructure spending; and some transfer of technical/managerial expertise to local workers and firms. **Likely costs:** much of the mine's profit is likely to be repatriated to the multinational's home country rather than reinvested in Beta; large-scale extraction

risks environmental damage (land degradation, water pollution) that is costly to remedy and may harm other industries such as agriculture or tourism; the investment could deepen Beta's existing dependence on a narrow range of primary-commodity exports rather than diversifying its economy; and if the government's institutions are weak, tax/royalty revenue may be poorly collected or poorly spent (a corruption risk). **Overall judgement:** the investment is more likely to support genuine development if the government negotiates a fair share of revenue, requires environmental safeguards, and channels the resulting revenue transparently into productive public investment (infrastructure, education) and economic diversification, rather than treating the FDI inflow as a substitute for these things.

GIẢI THÍCH TIẾNG VIỆT

VN

FDI (đầu tư trực tiếp nước ngoài) mang lại **lợi ích**: bổ sung vốn, chuyển giao công nghệ/kỹ năng quản lý, tạo việc làm, tăng thu ngân sách. Nhưng cũng có **bất lợi**: lợi nhuận thường được **chuyển về nước đầu tư** thay vì tái đầu tư tại chỗ; có thể lấn át doanh nghiệp nội địa; gây tổn hại môi trường (đặc biệt trong khai khoáng); và có thể làm sâu sắc thêm sự phụ thuộc vào một ngành nguyên liệu thô duy nhất nếu không đi kèm chiến lược đa dạng hóa.

Foreign aid

Foreign aid is the transfer of resources (money, goods, technical expertise) from one country or international body to a developing country, generally on concessional (below-market, often partly or fully grant) terms.

Classification	Type A	Type B
By source	Bilateral aid: given directly from one government to another	Multilateral aid: channelled through international institutions (e.g. the World Bank, IMF, UN agencies) pooling contributions from many donor countries
By conditions on spending	Tied aid: recipient must spend the aid on goods/services from the donor country (or a donor-approved list)	Untied aid: recipient may spend the aid freely, choosing the most cost-effective suppliers regardless of nationality
By purpose	Humanitarian/emergency aid: short-term relief after a disaster, famine, or conflict (food, medicine, shelter)	Development aid: longer-term support for projects such as infrastructure, education, or health systems, aimed at raising future productive capacity

Classifying foreign aid: by source (bilateral vs. multilateral), by spending conditions (tied vs. untied), and by purpose (humanitarian vs. development).

Criticisms of aid and aid dependency

Aid is not a costless solution. **Tied aid** can be considerably less valuable to the recipient than its face value suggests, since the recipient may be forced to buy from the donor country at above-market prices rather than the cheapest available supplier. Aid can be **poorly targeted or mismanaged**, especially where recipient-country institutions are weak or corrupt, so that resources fail to reach their intended purpose. Large, sustained aid inflows can also create **aid**

dependency: a recipient government may come to rely on aid rather than building its own tax base and institutions, and large aid inflows can push up the recipient's exchange rate (making its exports less competitive) – an effect sometimes called “Dutch disease” when applied to any large resource inflow. Finally, aid that is not aligned with a recipient's own development priorities, or that comes with onerous political conditions, may do little to build sustainable, self-generated growth.

GIẢI THÍCH TIẾNG VIỆT

VN

Viện trợ nước ngoài (foreign aid) được phân loại theo: **nguồn gốc** (song phương – bilateral, từ chính phủ này sang chính phủ khác; hay đa phương – multilateral, qua các tổ chức quốc tế như World Bank/IMF); **điều kiện chi tiêu** (viện trợ ràng buộc – tied, phải mua hàng/dịch vụ từ nước viện trợ; hay không ràng buộc – untied, được tự do lựa chọn nhà cung cấp); và **mục đích** (viện trợ nhân đạo/khẩn cấp ngắn hạn hay viện trợ phát triển dài hạn). Viện trợ có thể gây ra **lệ thuộc viện trợ** (aid dependency), bị quản lý kém do tham nhũng, hoặc kém hiệu quả nếu bị ràng buộc phải mua hàng đắt đỏ từ nước viện trợ.

Debt relief and debt cancellation

Many LEDCs carry large external debts, often built up through past borrowing (sometimes for productive investment, sometimes for consumption or poorly chosen projects) at a time of lower income and weaker institutions. **Debt relief** (rescheduling repayment terms) or **debt cancellation** (writing off some or all of the debt) frees up government revenue that would otherwise go toward debt service, allowing it to be redirected toward health, education, and infrastructure spending – directly easing the debt-burden barrier to development described earlier (recall Country Beta's 28% debt-service ratio). The rationale is strongest where the original debt is judged largely unpayable in any case, or where continued debt service would otherwise prevent the country from investing in the very capacity needed to grow its way toward eventually repaying its obligations. For example, if Country Beta earns \$800 million in export revenue annually and its debt-service ratio is reduced from 28% to 14% under a debt-relief agreement, annual debt-service payments fall from $\$800\text{m} \times 0.28 = \224 million to $\$800\text{m} \times 0.14 = \112 million – freeing up \$112 million per year, a substantial sum that could, for instance, roughly double government health spending if redirected there.

Microfinance in depth

Microfinance refers to the provision of small loans (microcredit), as well as savings accounts and insurance, to low-income individuals and small entrepreneurs who lack the collateral, credit history, or income required by conventional banks. A small, uncollateralised loan can allow, for example, a village entrepreneur to buy a sewing machine, farming inputs, or a market stall's initial stock – capital that would otherwise be entirely unattainable, enabling small business creation and self-employment that can lift a household's income directly and, through the resulting business's own saving and investment, potentially help break the vicious circle of poverty at the household level. Microfinance institutions (MFIs) often use group-lending models (borrowers organised into small groups who share responsibility for repayment) to substitute for the collateral a conventional bank would require.

Ví dụ mẫu · Worked example – microfinance in practice

An entrepreneur in Country Beta borrows a \$200 microloan, without collateral, to purchase a sewing machine and start a small tailoring business. Explain how this loan can help break the vicious circle of poverty, and identify one important limitation of microfinance.

Before the loan, the entrepreneur's low income left no surplus for saving, so she could not accumulate the \$200 needed to buy capital equipment on her own – exactly the “low income → low saving → low investment” stage of the vicious circle. The microloan supplies the missing capital directly, allowing her to set up a productive small business; the resulting extra income can then be used to repay the loan, support her household, and potentially save and reinvest further, breaking the cycle at the household level even without first requiring high income.

Limitation: many microfinance institutions charge relatively high interest rates (in some cases 20–30% or more per year) to cover the high administrative cost of processing very small, un-collateralised loans; if not carefully regulated, this can leave some borrowers over-indebted, particularly if their small business does not generate the expected extra income.

GIẢI THÍCH TIẾNG VIỆT

VN

Tài chính vi mô (microfinance) cung cấp các khoản vay nhỏ (không cần tài sản thế chấp), tài khoản tiết kiệm, và bảo hiểm cho người thu nhập thấp/doanh nghiệp nhỏ – giúp họ có vốn để khởi nghiệp, phá vỡ vòng luẩn quẩn nghèo đói ở cấp hộ gia đình. Hạn chế: một số tổ chức tài chính vi mô tính **lãi suất khá cao** (để bù chi phí quản lý khoản vay nhỏ), có thể khiến người vay rơi vào nợ nần nếu không được quản lý chặt chẽ.

Diversification and appropriate technology

Diversification – deliberately developing a wider range of industries and export products, rather than remaining dependent on a single primary commodity – directly addresses the price-volatility and terms-of-trade risks discussed earlier: if the price of one export commodity collapses, a diversified economy's overall export earnings and government revenue are far less severely affected than a Beta-style economy reliant on a single crop or mineral for the majority of its foreign-exchange earnings. Diversification can be pursued through processing raw materials domestically before export (capturing more value locally), developing manufacturing or service industries, and investing in the education and infrastructure needed to support new sectors.

Appropriate (or intermediate) technology refers to choosing production techniques and equipment suited to a country's actual resource endowment – for example, more labour-intensive techniques where labour is abundant and cheap but capital and skilled technicians are scarce, rather than automatically importing the most capital-intensive technology used in MEDCs. Appropriate technology is often cheaper to buy and maintain, easier to repair locally without imported spare parts or foreign specialists, and better suited to creating employment in a labour-abundant economy – though it may sacrifice some of the output-per-worker gains available from more advanced (but less locally sustainable) capital-intensive methods.

GIẢI THÍCH TIẾNG VIỆT

VN

Đa dạng hóa (diversification) nền kinh tế – phát triển nhiều ngành/mặt hàng xuất khẩu thay vì chỉ phụ thuộc vào một loại nguyên liệu thô – giúp giảm rủi ro khi giá một mặt hàng sụt giảm. **Công nghệ phù hợp/trung gian** (appropriate/intermediate technology) là lựa chọn công nghệ phù hợp với nguồn lực sẵn có của quốc gia (ví dụ: công nghệ thâm dụng lao động ở nơi lao động dồi dào, rẻ) thay vì áp dụng máy móc hiện đại, thâm dụng vốn của các nước MEDC một cách máy móc – rẻ hơn, dễ bảo trì tại chỗ, và tạo nhiều việc làm hơn.

Remittances from international migration

When residents of an LEDC migrate abroad for work, they frequently send part of their earnings back home to family members – these flows are known as **remittances**. For many LEDCs, remittances are a very large and relatively stable source of foreign-exchange income, in some cases exceeding both foreign aid and FDI inflows combined. Remittances directly raise the income of receiving households (often financing food, healthcare, education, and small business investment) without any of the conditions or debt obligations attached to aid or loans, and they tend to be more stable than FDI or commodity-export earnings, since migrants often continue sending money home even during downturns in the host country's economy or the recipient country's own economy. The main limitations are that remittances depend on migration opportunities existing in the first place (which may require costly, risky migration and separate migrant workers from their families for extended periods), and that heavy reliance on remittance income, like heavy reliance on a single export commodity, can leave a recipient economy vulnerable if labour-migration opportunities or host-country conditions change.

GIẢI THÍCH TIẾNG VIỆT

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Kiêu hối (remittances) là tiền người lao động di cư ra nước ngoài gửi về cho gia đình – với nhiều nước LEDC, đây là nguồn ngoại tệ lớn và ổn định, đôi khi vượt cả viện trợ và FDI cộng lại. Kiêu hối trực tiếp nâng cao thu nhập hộ gia đình (dùng cho thực phẩm, y tế, giáo dục, khởi nghiệp nhỏ) mà không kèm điều kiện hay nợ nần như viện trợ/vay vốn, và thường ổn định hơn FDI. Hạn chế: phụ thuộc vào cơ hội di cư lao động (tốn kém, rủi ro, xa cách gia đình), và phụ thuộc quá nhiều vào kiều hối cũng tiềm ẩn rủi ro tương tự như phụ thuộc vào một mặt hàng xuất khẩu duy nhất.

Strategy	Main benefit	Main limitation/risk
Import substitution	Builds domestic industry behind tariff protection	Protected firms may stay inefficient; limited by small domestic market
Export-led growth	Access to world markets; competitive pressure raises efficiency	New industries face intense foreign competition early on
Infrastructure/human capital	Raises productivity of all other investment	High upfront cost; benefits are long-term, not immediate
Trade liberalisation	Cheaper inputs; larger export markets	Infant industries may struggle against foreign competition
FDI	Capital, technology, jobs, tax revenue	Profit repatriation; may deepen commodity dependence; environmental risk
Foreign aid	Fills resource/financing gaps; can fund social spending	Tied aid less valuable; risk of dependency and mismanagement
Debt relief/cancellation	Frees revenue for productive spending	May weaken future borrowing discipline/lender confidence
Microfinance	Enables small business creation without collateral	Some MFIs charge high interest rates; over-indebtedness risk
Diversification	Reduces exposure to commodity-price volatility	Requires sustained investment in new sectors and skills
Remittances	Stable household income, no conditions attached	Depends on migration opportunities; vulnerable if these change
Appropriate technology	Cheaper, locally maintainable, labour-creating	May sacrifice some output-per-worker versus capital-intensive methods

Summary: strategies for development, their main benefit, and their main limitation or risk. No strategy is risk-free, and most successful development experiences combine several of these, underpinned by sound institutions and governance.

5.6 Sustainable Development

Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This concept acts as a qualifier on every development strategy discussed in this chapter: rapid economic growth achieved by depleting non-renewable resources, degrading agricultural land, or emitting large quantities of pollution may raise living standards today while leaving future generations with a smaller, more damaged resource base and higher environmental costs to bear. There is therefore a genuine **tension** between strategies that maximise the speed of growth and development in the short run (for example, rapid, unregulated resource extraction or heavy reliance on FDI in extractive industries) and the goal of preserving environmental quality and resource availability for the future. Increasingly, development strategies – infrastructure investment, FDI agreements, aid-funded projects, and diversification choices alike – are evaluated not only by how much growth or income they generate today, but by whether the resulting pattern of development can be sustained without undermining the environment and resource base that future growth will also depend on.

GIẢI THÍCH TIẾNG VIỆT

VN

Phát triển bền vững (sustainable development) là sự phát triển đáp ứng nhu cầu của thế hệ hiện tại mà KHÔNG làm tổn hại đến khả năng đáp ứng nhu cầu của các thế hệ tương lai. Khái niệm này áp dụng cho MỌI chiến lược phát triển đã học: tăng trưởng nhanh nhờ khai thác tài nguyên không tái tạo hoặc gây ô nhiễm nặng có thể nâng cao mức sống hiện tại nhưng để lại gánh nặng môi trường/tài nguyên cạn kiệt cho tương lai. Do đó luôn tồn tại sự **đánh đổi** giữa tốc độ tăng trưởng nhanh trong ngắn hạn và tính bền vững môi trường/tài nguyên trong dài hạn.

Formulas used in this chapter. GDP per capita = $\frac{\text{total GDP}}{\text{population}}$. Real GDP = Nominal GDP $\times \frac{100}{\text{price index}}$. Rate of natural increase (%) = $\frac{\text{birth rate} - \text{death rate}}{10}$ (birth/death rates given per 1,000 population). Overall population growth rate = natural increase + net migration rate. Dependency ratio = $\frac{\text{dependent population (under 15 and 65+)}}{\text{working-age population (15-64)}} \times 100$. Gini coefficient: ranges from 0 (perfect equality) to 1 (maximum inequality) – no calculation required at this level, only interpretation of given values. HDI: composite of health (life expectancy), education (mean/expected years of schooling), and income (GNI per capita, PPP), scored 0 to 1.

5.7 Practice Bank

Bài tập luyện tập

Which of the following best distinguishes economic development from economic growth?

- | | |
|---|--|
| (A) Development is a rise in real GDP; growth is a rise in nominal GDP | (C) Development can only be measured using GDP per capita; growth cannot |
| (B) Development is a broad, qualitative improvement in well-being; growth is a quantitative rise in real output | (D) Development and growth are two names for exactly the same concept |

Lời giải chi tiết

(B). Economic growth is a quantitative measure – the percentage rise in real GDP/output over time. Economic development is a much broader, qualitative concept covering health, education, freedom, infrastructure, and environmental quality alongside income. A country can experience one without the other.

Bài tập luyện tập

Country Alpha has total GDP of \$1.68 trillion and population 40 million. Country Beta has total GDP of \$27.5 billion and population 25 million. (a) Calculate GDP per capita for each country. (b) State one reason this comparison might overstate the true living-standards gap between the two countries.

Lời giải chi tiết

(a) Alpha: $\$1,680,000,000,000 \div 40,000,000 = \$42,000$. Beta: $\$27,500,000,000 \div 25,000,000 = \$1,100$.

(b) Any valid reason, e.g.: the comparison uses nominal (exchange-rate) figures rather than PPP-adjusted figures, and price levels are typically lower in Beta, so Beta's true purchasing power is understated relative to Alpha's; alternatively, GDP per capita ignores the informal economy, which is likely to be proportionally larger in Beta, again understating Beta's true output/welfare.

Bài tập luyện tập

Which of the following is *not* a recognised limitation of GDP per capita as a measure of living standards?

- | | |
|--|--|
| (A) It ignores how income is distributed within the country | (C) It is always calculated using PPP-adjusted exchange rates |
| (B) It excludes unpaid household work and informal-sector output | (D) It does not measure negative environmental externalities of production |

Lời giải chi tiết

(C). GDP per capita is not *always* PPP-adjusted – it is very often quoted at nominal (market exchange rate) values, which is itself one source of distortion in cross-country comparisons. The other three options are genuine, well-recognised limitations of GDP per capita.

Bài tập luyện tập

Country J: life expectancy 76 years, mean years of schooling 10.8, GNI per capita (PPP) \$18,000. Country K: life expectancy 63 years, mean years of schooling 6.1, GNI per capita (PPP) \$4,200. Without calculating an exact HDI value, explain which country is likely to have the higher HDI and why.

Lời giải chi tiết

Country J is likely to have the substantially higher HDI. All three underlying dimensions favour J: its life expectancy is 13 years longer (health dimension), its adults have nearly twice the average years of schooling (education dimension), and its PPP-adjusted income per person

is more than four times higher (income dimension). Because HDI is a composite of all three dimensions moving in the same direction, J's overall HDI score will clearly exceed K's.

Bài tập luyện tập

A country's Gini coefficient rises from 0.30 to 0.42 over ten years, while its GDP per capita also rises steadily over the same period. Explain what this combination of changes implies about how the benefits of growth have been distributed.

Lời giải chi tiết

A rising Gini coefficient (moving further from 0, closer to 1) indicates that income distribution has become *more unequal* over the period. Combined with rising GDP per capita, this suggests that the benefits of economic growth have not been shared evenly across the population – higher-income households have likely captured a disproportionate share of the gains, while lower-income households may have seen little improvement in relative terms (even if their absolute income has not fallen). This is a clear example of growth occurring without a correspondingly broad-based improvement in development/well-being for the whole population.

Bài tập luyện tập

Which combination correctly matches the type of poverty to its definition?

- | | |
|--|---|
| (A) Absolute poverty – below a fraction of the national median income; Relative poverty – below a fixed international subsistence line | (C) Absolute and relative poverty both use exactly the same fixed international benchmark |
| (B) Absolute poverty – below a fixed international subsistence line; Relative poverty – below a fraction of the national median/average income | (D) Neither type of poverty is measured using an income threshold |

Lời giải chi tiết

(B). Absolute poverty is defined against a fixed, internationally comparable subsistence-level line (e.g. \$2 a day, PPP-adjusted); relative poverty is defined relative to a country's own median or average income (commonly below 50% or 60% of it).

Bài tập luyện tập

A household of five people earns \$300 per month. Using the \$2-a-day PPP international poverty line, determine whether this household is in absolute poverty. Show your working.

Lời giải chi tiết

Income per person per month = $\$300 \div 5 = \60 . Income per person per day = $\$60 \div 30 = \2.00 . This is exactly equal to the \$2-a-day poverty line, so the household sits right at the threshold – by the strict definition (income *below* the line), this household is **not** classified as being in absolute poverty, though it has essentially no margin above the subsistence threshold and would fall into poverty with any small drop in income or rise in prices.

Bài tập luyện tập

Explain, using two named causes, why geographic isolation and discrimination can both lead to persistent poverty even in a country with reasonable average national income.

Lời giải chi tiết

Geographic isolation: households in remote rural areas often lack access to markets to sell produce, to schools and clinics, and to reliable infrastructure (roads, electricity), which keeps their productivity and income low regardless of how well the national economy as a whole is performing. **Discrimination:** groups facing discrimination based on gender, ethnicity, caste, or region may be denied equal access to jobs, land ownership, credit, or education even when they have the same ability as others, trapping them in poverty despite reasonable average national income – illustrating that national averages can mask severe pockets of poverty caused by unequal access rather than a lack of national resources.

Bài tập luyện tập

Place the following stages of the vicious circle of poverty in the correct cyclical order, starting from “low income”: (i) low capital stock, (ii) low productivity, (iii) low saving and investment, (iv) low income.

- (A) Low income → low productivity → low capital stock → low saving and investment → (back to) low income
- (B) Low income → low saving and investment → low capital stock → low productivity → (back to) low income
- (C) Low income → low capital stock → low saving and investment → low productivity → (back to) low income
- (D) The stages have no fixed order; they occur simultaneously and independently

Lời giải chi tiết

(B). Low income leaves little surplus for saving and investment; low investment means the capital stock fails to grow; a low capital stock means low productivity per worker; and low productivity in turn keeps income low, closing the loop.

Bài tập luyện tập

A government sets a national minimum wage significantly above the market equilibrium wage for unskilled labour in order to reduce poverty. Using the concept of a price floor, explain one way this policy could reduce poverty and one way it could unintentionally increase unemployment among the workers it aims to help.

Lời giải chi tiết

Reducing poverty: for workers who keep their jobs, a minimum wage set above the equilibrium wage guarantees a higher income than the market would otherwise deliver, directly raising their household income and potentially lifting them above the absolute poverty line. **Increasing unemployment:** a minimum wage is a **price floor** in the labour market. If set above the market-clearing (equilibrium) wage, the quantity of labour supplied (workers wanting jobs at the higher wage) exceeds the quantity of labour demanded (jobs firms are willing to offer at that wage), creating an excess supply of labour – i.e. unemployment. This unemployment falls disproportionately on the very low-skilled, low-productivity workers the policy aims to help,

since firms are least willing to employ them at a wage above their productivity's value, and some may be pushed into unregulated informal-sector work paid below the legal minimum.

Bài tập luyện tập

A country's birth rate is 33 per 1,000 population and its death rate is 14 per 1,000 population. (a) Calculate the rate of natural increase. (b) If net migration is -3 per 1,000 (net emigration), calculate the overall population growth rate.

Lời giải chi tiết

(a) Natural increase = $33 - 14 = 19$ per 1,000 = 1.9% per year.
(b) Overall population growth rate = natural increase + net migration rate = $1.9\% + (-0.3\%) = 1.6\%$ per year. (Net migration of -3 per 1,000 population converts to -0.3% .)

Bài tập luyện tập

Which statement about the demographic transition is correct?

- | | |
|--|--|
| (A) Birth rates typically fall before death rates as a country develops | (C) Both birth rates and death rates fall at exactly the same time in every country |
| (B) Death rates typically fall before birth rates, producing a period of rapid population growth | (D) Population growth is fastest when both birth rates and death rates are already low |

Lời giải chi tiết

(B). As basic public health, sanitation, and nutrition improve, death rates typically fall first while birth rates remain high for a time, opening a gap between the two that produces rapid population growth. Birth rates tend to fall later, as incomes, education, and the cost of raising children all rise.

Bài tập luyện tập

Country Alpha has a working-age population of 31 million and a dependent population of 19 million (total population 50 million). (a) Calculate the dependency ratio. (b) Contrast the likely composition of this dependency burden with that of Country Beta (dependency ratio 83.3%, calculated earlier).

Lời giải chi tiết

(a) Dependency ratio = $\frac{19}{31} \times 100 = 61.3$ (approximately 61%).
(b) Country Alpha's dependency burden (61.3%), while still substantial, is driven mainly by an **ageing** population – a relatively large share of elderly dependants – placing pressure chiefly on pension and healthcare spending. Country Beta's higher dependency burden (83.3%) is driven mainly by a large **child** population, placing pressure chiefly on education and child healthcare spending. Although Alpha's ratio is lower, both economies face significant constraints on the income available per working-age person for saving and investment.

Bài tập luyện tập

Which feature of a population pyramid most clearly indicates an ageing, low-birth-rate population typical of many MEDCs?

- (A) A very wide base that narrows sharply with each higher age band
(B) Roughly equal-width bars across most age bands, including the older ones, with a narrower base
(C) Zero population recorded in every age band above 60
(D) An identical shape to a rapidly growing LEDC population pyramid

Lời giải chi tiết

(B). An ageing, low-birth-rate population has relatively few young children (a narrow base) but a large share of the population surviving into middle and older age (wide or roughly equal-width bars higher up the pyramid), unlike the wide base and sharply narrowing shape of a rapidly growing, young LEDC population.

Bài tập luyện tập

A small island nation has abundant fertile land and natural resources but a very small population, leaving much farmland uncultivated and infrastructure under-used. Using the relevant population concept, classify this country and explain what would happen to output per head if its population increased moderately.

Lời giải chi tiết

This country is **underpopulated**: its population is too small, relative to its available resources and technology, to make full use of them. If its population increased moderately (bringing more farmland into cultivation and making fuller use of existing infrastructure), output per head would be expected to **rise**, since the additional workers would generate more output than the resources currently sitting idle are producing per existing resident. This would continue until the country reached its **optimum population** – the population size that maximises output per head given its resources and technology at that time.

Bài tập luyện tập

A country invests heavily in irrigation, electrification, and new farming technology over twenty years, without any change in its population. Explain, using the concept of optimum population, why a population level once judged “overpopulated” could later be judged “optimal” even though the number of people has not changed.

Lời giải chi tiết

The optimum population is not a fixed number – it depends on the resources and technology available *at a given time*. Investment in irrigation, electrification, and improved farming technology raises the amount of resources effectively available and the productivity of each worker, meaning the same population can now be supported at a higher, or at least sustainable, standard of living than before. A population level that was too large relative to the *old*, more limited resource/technology base (overpopulation) can therefore become appropriate relative to the *new*, expanded resource/technology base (closer to optimum population), even though the population itself never changed.

Bài tập luyện tập

Classify each of the following as more characteristic of an LEDC or an MEDC, and justify each briefly: (a) 62% of employment in agriculture and 70% of export revenue from a single commodity; (b) 76% of employment in services and a diversified export base; (c) a debt-service ratio of 28% of export revenue; (d) a dependency ratio driven mainly by an elderly population.

Lời giải chi tiết

- (a) **LEDC** – heavy reliance on primary-sector employment and a narrow, commodity-dependent export base (as in Country Beta) is a classic LEDC structural characteristic, exposing the economy to price volatility and unfavourable terms of trade.
- (b) **MEDC** – a large tertiary (services) sector and diversified exports (as in Country Alpha) indicate a mature, developed economic structure less exposed to commodity-price risk.
- (c) **LEDC** – a high debt-service ratio, crowding out spending on health, education, and infrastructure, is a common barrier to development in heavily indebted LEDCs.
- (d) **MEDC** – an elderly-driven dependency ratio reflects an ageing population typical of countries further along the demographic transition, with low birth and death rates.

Bài tập luyện tập

Explain how a heavy debt burden and unfavourable terms of trade can reinforce each other as barriers to development for a primary-commodity-exporting LEDC such as Country Beta.

Lời giải chi tiết

Country Beta relies on a single primary commodity (coffee) for around 70% of its export earnings, so a long-run decline in its terms of trade (the price of its primary-commodity exports rising more slowly than the price of the manufactured goods it imports, or falling outright) steadily erodes its foreign-exchange earnings even if export volumes hold steady. With weaker foreign-exchange earnings, Beta finds it harder to service its existing external debt (currently around 28% of export revenue), potentially forcing further borrowing simply to meet interest payments, or diverting an even larger share of scarce foreign exchange and government revenue toward debt service rather than productive investment in infrastructure, health, or education. This, in turn, keeps productivity and export capacity low, making it harder to escape reliance on the same narrow, terms-of-trade-vulnerable commodity export – reinforcing both barriers simultaneously.

Bài tập luyện tập

Which of the following is the best description of an import-substitution strategy for development?

- | | |
|--|---|
| (A) Removing all trade barriers so domestic firms are immediately exposed to full foreign competition | (C) Relying entirely on foreign aid rather than domestic industrial policy |
| (B) Using tariffs or quotas to protect domestic industries so they can replace goods previously imported | (D) Exporting only unprocessed primary commodities without any industrial development |

Lời giải chi tiết

(B). Import substitution uses protectionist trade policy (tariffs/quotas) to shield domestic industries from foreign competition while they establish themselves, with the aim of replacing previously imported goods with domestically produced ones.

Bài tập luyện tập

Country Beta is considering shifting from reliance on coffee exports toward an export-led manufacturing strategy. Give two potential benefits and two potential risks of this shift.

Lời giải chi tiết

Benefits: (1) diversifying away from a single primary commodity reduces exposure to commodity-price volatility and adverse terms-of-trade movements; (2) competing in export markets forces domestic manufacturers to become efficient and internationally competitive, potentially raising productivity and earning valuable foreign exchange. **Risks:** (1) new manufacturing firms may struggle to compete immediately against established, more efficient foreign exporters, risking business failure before the industry matures; (2) success depends heavily on factors partly outside Beta's control, such as global demand for manufactured goods and exchange-rate movements, so the strategy's benefits are not guaranteed.

Bài tập luyện tập

A government must choose between financing a new highway network (physical infrastructure) and expanding universal primary education (human capital) with the same fixed budget. Explain why both are often described as “pre-conditions” for growth, and outline one argument for prioritising each.

Lời giải chi tiết

Both are described as pre-conditions for growth because they raise the productivity of virtually every other investment in the economy: a highway network lowers the cost of moving goods and inputs (raising the return on private investment in factories and farms), while an educated workforce is more productive in any sector and better able to adopt new technology. **Argument for the highway:** without adequate transport infrastructure, goods cannot reach markets and new private investment (including FDI) is deterred regardless of how skilled the workforce is. **Argument for education:** without an educated workforce, even world-class infrastructure will not by itself raise productivity or attract higher-value investment, and the benefits of education compound over a worker's entire lifetime, and even into the next generation.

Bài tập luyện tập

Which of the following is a genuine disadvantage of foreign direct investment (FDI) for a developing host country, rather than an advantage?

- | | |
|---|--|
| (A) Transfer of technology and management expertise to local workers | (C) Creation of new jobs in the host country |
| (B) Profits earned by the foreign firm being repatriated rather than reinvested locally | (D) Additional tax revenue for the host government |

Lời giải chi tiết

(B). Profit repatriation – foreign investors sending profits back to their home country rather than reinvesting them locally – limits the long-run benefit of FDI to the host economy and is a genuine disadvantage. The other three options are commonly cited advantages of FDI.

Bài tập luyện tập

A mining multinational proposes a large FDI project in Country Beta. The government is negotiating the terms. List three conditions the government could negotiate for to increase the likelihood that this FDI genuinely supports Beta's development, rather than simply repeating its existing pattern of commodity dependence.

Lời giải chi tiết

Any three well-justified conditions, e.g.: (1) a guaranteed minimum share of tax/royalty revenue retained by the government, used transparently for productive public investment (infrastructure, education, health); (2) binding environmental safeguards and remediation requirements to limit damage to land, water, and other industries such as agriculture; (3) requirements for local employment, training, and technology transfer, so skills and management expertise remain in Beta after the project; (4) commitments to process some of the extracted mineral domestically (adding value locally) rather than exporting it entirely raw, supporting diversification rather than reinforcing single-commodity dependence.

Bài tập luyện tập

Which combination correctly matches each aid classification to its correct pair of categories?

- | | |
|---|--|
| (A) By source: humanitarian vs. development; By purpose: bilateral vs. multilateral | (C) By source: tied vs. untied; By purpose: bilateral vs. multilateral |
| (B) By source: bilateral vs. multilateral; By purpose: humanitarian vs. development | (D) Aid is classified only by its total dollar value, with no other categories |

Lời giải chi tiết

(B). Aid is classified by **source** as bilateral (government to government) or multilateral (through international institutions), and separately by **purpose** as humanitarian/emergency (short-term relief) or development (long-term capacity-building). It is also classified by spending conditions as tied or untied.

Bài tập luyện tập

A donor country provides \$100 million of tied aid to Country Beta, on the condition that Beta spends it purchasing construction equipment and consulting services from firms based in the donor country. Explain why the true value of this aid to Beta may be less than \$100 million, and contrast this with untied aid of the same face value.

Lời giải chi tiết

Because the aid is **tied**, Beta is required to spend it on the donor country's suppliers, even if equivalent or better equipment and consulting services are available more cheaply from other

countries. If donor-country suppliers charge above the lowest available market price, Beta effectively receives fewer real resources (less equipment, less consulting capacity) than the \$100 million face value suggests – the true economic value of the aid is therefore less than \$100 million. **Untied aid** of the same face value would allow Beta to shop for the cheapest, most suitable suppliers worldwide, meaning the full \$100 million would translate into the maximum possible quantity of real goods and services, making untied aid generally more valuable to the recipient for a given face value.

Bài tập luyện tập

Explain what is meant by “aid dependency” and describe one mechanism through which large, sustained aid inflows could weaken a recipient government’s incentive to build its own domestic tax base.

Lời giải chi tiết

Aid dependency describes a situation where a recipient country comes to rely on continued foreign aid inflows to fund ongoing government spending, rather than developing the domestic institutions and tax base needed to fund itself sustainably. **Mechanism:** if a government can reliably finance a large share of its budget through aid, it faces less immediate political and fiscal pressure to undertake the difficult, often politically unpopular work of building an effective tax-collection system and formalising the economy – since aid can substitute for tax revenue in the short run. If aid inflows are later reduced or withdrawn, the country may then be left without adequate domestic revenue capacity, having under-invested in its own institutions during the period of high aid dependency.

Bài tập luyện tập

Give one argument for and one argument against debt cancellation as a development strategy for a heavily indebted LEDC such as Country Beta.

Lời giải chi tiết

Argument for: cancelling Beta’s debt would immediately free up the roughly 28% of export revenue currently devoted to debt service, allowing that revenue to be redirected toward health, education, and infrastructure spending – investment that could raise Beta’s future productive capacity and genuinely help it escape the vicious circle of poverty. **Argument against:** unconditional debt cancellation could weaken the incentive for governments (in Beta or elsewhere) to borrow responsibly in the future, if they expect that unsustainable debts may eventually be written off; lenders may also become more reluctant to extend future credit to LEDCs generally, or may charge a higher risk premium, if they cannot be confident that debts will ultimately be repaid.

Bài tập luyện tập

An entrepreneur in a rural LEDC village wants to buy a small grain mill costing \$150 but has no collateral and no credit history, so no conventional bank will lend to her. Explain how a microfinance institution could address this specific problem, and state one limitation of relying on microfinance as a development strategy.

Lời giải chi tiết

A microfinance institution can provide a small, **uncollateralised** loan (microcredit) of \$150 directly, often using group-lending schemes (where a small group of borrowers shares responsibility for repayment) as a substitute for the collateral a conventional bank would require. This supplies exactly the missing capital needed to buy the grain mill, enabling the entrepreneur to start or expand a small business and generate income to repay the loan and support her household. **Limitation:** many microfinance institutions charge relatively high interest rates to cover the administrative cost of processing very small loans; if her milling business does not generate enough extra income, high interest charges could leave her over-indebted rather than better off.

Bài tập luyện tập

Explain how diversifying away from a single primary export commodity could reduce the economic risks facing a country such as Country Beta, and give one practical way a government could encourage diversification.

Lời giải chi tiết

Diversification spreads a country's export earnings and government revenue across multiple industries or commodities, so that a sharp fall in the world price of any single commodity (e.g. coffee) no longer has a severe effect on the whole economy's foreign-exchange earnings, tax revenue, or exchange rate – directly reducing exposure to commodity-price volatility and to a long-run adverse terms-of-trade trend in any one product. **Practical way to encourage diversification:** any reasonable answer, e.g. using tax incentives or targeted infrastructure investment to support new manufacturing or service industries; investing in education and vocational training aligned with these new sectors; or supporting domestic processing of the primary commodity (e.g. roasting and packaging coffee domestically rather than exporting raw beans) to capture more value locally before diversifying further into unrelated industries.

Bài tập luyện tập

A development agency is choosing farm equipment for a labour-abundant, capital-scarce LEDC region. Explain, using the concept of appropriate (intermediate) technology, why importing the most advanced, fully automated harvesting machinery used in MEDCs might not be the best choice, even if it is technically more productive per machine.

Lời giải chi tiết

Appropriate (intermediate) technology should be suited to a country's actual resource endowment. In a labour-abundant, capital-scarce region, fully automated MEDC-style machinery is capital-intensive and expensive to purchase, and typically requires imported spare parts and specialist technicians to maintain and repair – resources that are scarce and costly in this context. It also displaces labour that is locally abundant and needs employment, rather than making use of it. A more labour-intensive technology, even if less productive per machine, may generate more total output relative to the region's actual mix of scarce capital and abundant labour, be cheaper to buy and maintain, be repairable using local skills, and create far more local employment – all of which can make it the more appropriate development choice despite its lower per-machine productivity.

Bài tập luyện tập

Define sustainable development precisely, and explain, with reference to a country heavily dependent on mining FDI, why a strategy that maximises short-run GDP growth may not be sustainable.

Lời giải chi tiết

Definition: sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. **Application:** a country that maximises short-run GDP growth by allowing rapid, largely unregulated mineral extraction may see fast growth in output, exports, and tax revenue today. However, if this depletes a non-renewable resource, degrades agricultural land and water sources through pollution, and is not accompanied by reinvestment of the resulting revenue into diversified, renewable sources of future income (infrastructure, education, alternative industries), then future generations could inherit a smaller resource base, a damaged environment, and an economy still narrowly dependent on a resource that has since been exhausted or become far less valuable – precisely the outcome sustainable development is intended to avoid.

Bài tập luyện tập

Study the data: Country Alpha – HDI 0.91, Gini coefficient 0.32, life expectancy 81, literacy 99%, dependency ratio 61.3%. Country Beta – HDI 0.45, Gini coefficient 0.48, life expectancy 58, literacy 62%, dependency ratio 83.3%. (a) Identify which country is more developed, using at least three of the given indicators. (b) Explain one reason why relying on the Gini coefficient alone would give an incomplete picture of the difference between the two countries.

Lời giải chi tiết

(a) Country Alpha is clearly more developed: it has a far higher HDI (0.91 vs. 0.45, reflecting stronger health, education, and income outcomes together), a much longer life expectancy (81 vs. 58 years), and a substantially higher literacy rate (99% vs. 62%). Its lower dependency ratio (61.3% vs. 83.3%) also indicates less pressure on public spending per working-age person, though this pressure is composed differently (elderly-driven in Alpha, child-driven in Beta). (b) The Gini coefficient alone only tells us about the *distribution* of income within each country (Beta's 0.48 indicates more unequal distribution than Alpha's 0.32); it says nothing about the *level* of income, health, or education in either country. Two countries could have identical Gini coefficients while having vastly different average living standards, so Gini must be interpreted alongside level indicators (such as GDP per capita or HDI), not as a stand-alone development measure.

Bài tập luyện tập

"The fastest way for an LEDC to develop is simply to maximise foreign direct investment inflows, regardless of sector or conditions attached." Evaluate this statement, drawing on at least three strategies for development discussed in this chapter.

Lời giải chi tiết

The statement is only partly correct and requires significant qualification. FDI can indeed supply capital, technology, and jobs that a low-saving LEDC such as Country Beta could not generate domestically, directly helping to break the vicious circle of poverty. However, *uncon-*

ditional, sector-blind FDI maximisation carries real risks: FDI concentrated in a single primary sector (e.g. mining) can deepen existing commodity dependence rather than achieve the **diversification** needed to reduce exposure to price volatility and adverse terms of trade; profits may be repatriated rather than reinvested locally, limiting genuine long-run benefit; and, without complementary investment in **infrastructure and human capital**, the productivity gains from FDI may fail to spread to the rest of the economy. Sustainable development also requires that FDI-driven growth not come at the cost of irreversible environmental damage. A more balanced strategy would combine selective, well-negotiated FDI (with revenue-sharing, environmental, and local-training conditions) alongside deliberate diversification, continued investment in infrastructure and education, appropriate trade policy (a measured mix of import substitution and export orientation depending on the industry's stage of development), and management of any accompanying debt, rather than treating FDI volume alone as a sufficient development strategy.

Bài tập luyện tập

Country Beta earns \$800 million in export revenue annually and currently spends 28% of this on debt service. Under a new debt-relief agreement, its debt-service ratio falls to 14%. (a) Calculate the annual debt-service payment before and after the agreement, and the amount of revenue freed up per year. (b) Suggest one productive use for the freed revenue and explain how it addresses one barrier to development described in this chapter.

Lời giải chi tiết

(a) Before: $\$800\text{m} \times 0.28 = \224 million per year. After: $\$800\text{m} \times 0.14 = \112 million per year. Revenue freed up = $\$224\text{m} - \$112\text{m} = \$112$ million per year.
(b) Any well-justified use, e.g. investing the \$112 million in rural infrastructure and agricultural extension services: this would directly address the **lack of infrastructure** barrier described earlier, potentially raising agricultural productivity and rural incomes, reducing the pressure that drives excessive rural-urban migration, and building productive capacity that could, over time, make future debt service more sustainable without needing further relief.

Bài tập luyện tập

Using material from this entire chapter, write a short evaluation of the following claim: "Population pyramids and dependency ratios show that Country Beta's youthful population is purely a burden, while Country Alpha's ageing population is purely an advantage." Your answer should refer to at least four concepts covered in this chapter (e.g. dependency ratio, demographic dividend, vicious circle of poverty, sustainable development).

Lời giải chi tiết

The claim oversimplifies both cases and should be rejected in this stark form. Country Beta's high dependency ratio (83.3%), driven by its wide-based, youthful population pyramid, does impose real short-run costs – heavy pressure on education and child-healthcare spending, and little national income left over for saving and investment, reinforcing the **vicious circle of poverty**. However, this same young population is not *purely* a burden: if Beta invests adequately in the health and education of its children now, the same cohort will eventually enter the workforce and could produce a **demographic dividend** – a period of rising working-age population share that boosts output per head and saving, provided enough jobs are created to employ them (for instance, through the diversification and export-led strategies discussed

earlier). Conversely, Country Alpha's lower but still substantial dependency ratio (61.3%) is not *purely* an advantage: it reflects an ageing population that brings its own rising costs (pensions, healthcare) and the risk of future labour shortages, and unlike Beta's dependency burden, an elderly dependency burden generally cannot be converted into a future demographic dividend, since an ageing population's dependency ratio typically continues rising rather than falling. Finally, whichever demographic path either country follows, its long-run success also depends on **sustainable development**: Beta's demographic dividend will only materialise, and Alpha's ageing transition will only be manageable, if today's strategies (investment in human capital, appropriate technology, diversification, sound institutions) do not come at the cost of degrading the resource base and environment that both countries' futures ultimately depend on.

International Trade and Globalisation

Mục tiêu Unit: Phân biệt lợi thế tuyệt đối (absolute advantage) và lợi thế so sánh (comparative advantage) dựa trên chi phí cơ hội, gắn lại với khái niệm chi phí cơ hội ở Chương 1; tỉ lệ trao đổi thương mại (terms of trade) và giới hạn của mô hình lợi thế so sánh; tỉ giá hối đoái thả nổi được xác định bởi cung-cầu ngoại tệ, nguyên nhân và tác động của lên giá (appreciation)/giảm giá (depreciation) tiền tệ, quy đổi tiền tệ hai chiều; các rào cản thương mại (thuế quan, hạn ngạch, trợ cấp), lập luận ủng hộ và phản đối bảo hộ mậu dịch, lập luận cho thương mại tự do, vai trò của WTO; cấu trúc cán cân thanh toán (tài khoản vãng lai, tài khoản vốn, tài khoản tài chính), nguyên nhân và chính sách ứng phó với thâm hụt cán cân vãng lai kéo dài (liên hệ chính sách tài khóa/tiền tệ ở Chương 4); toàn cầu hóa, vai trò của công ty đa quốc gia (MNCs), lợi ích và chi phí của toàn cầu hóa (liên hệ chiến lược phát triển ở Chương 5).

6.1 The Case for Specialisation and Trade

6.1.1 Absolute advantage and comparative advantage

Countries, like individuals, cannot produce everything they need efficiently on their own; just as Chapter 1 showed that every choice involves an **opportunity cost** (the value of the next best alternative forgone), the decision of *what* a country should produce — and what it should instead import — is itself an opportunity-cost problem, applied at the level of an entire economy.

Absolute advantage vs. comparative advantage

A country has an **absolute advantage** in producing a good if it can produce *more* of that good than another country using the same quantity of resources (e.g. the same number of labour-hours) — equivalently, it needs *fewer* resources to produce a given quantity of the good. A country has a **comparative advantage** in producing a good if it can produce that good at a *lower opportunity cost* than another country — that is, it must sacrifice *less* of the other good in order to produce one more unit of this good. Crucially, comparative advantage depends only on the *relative* (opportunity-cost) efficiency of production between the two goods within each country, not on which country is absolutely more productive. This is why a country with an absolute advantage in *every* good can still gain from specialising and trading according to comparative advantage, and why mutually beneficial trade is possible even between countries of very different overall productivity.

GIẢI THÍCH TIẾNG VIỆT

VN

Lợi thế tuyệt đối (absolute advantage): một quốc gia sản xuất được NHIỀU HƠN một loại hàng hóa với cùng lượng nguồn lực. **Lợi thế so sánh** (comparative advantage): một quốc gia sản xuất một loại hàng hóa với **chi phí cơ hội THẤP HƠN** — tức phải hy sinh ÍT HƠN hàng hóa còn lại để sản xuất thêm một đơn vị. Đây chính là khái niệm **chi phí cơ hội** đã học ở Chương 1, áp dụng ở cấp độ quốc gia: quyết định quốc gia nên sản xuất gì và nhập khẩu gì phụ thuộc vào việc so sánh chi phí cơ hội TƯƠNG ĐỐI giữa các hàng hóa, chứ không chỉ dựa vào việc ai sản xuất "giỏi hơn" một cách tuyệt đối.

The basis for mutually beneficial trade is comparative advantage, not absolute advantage. Two countries can gain from trade even if one is absolutely more efficient at producing everything, so long as their relative (opportunity-cost) efficiencies differ across goods. Each country should specialise in producing the good for which it has the *lowest opportunity cost*, and trade for the other.

Ví dụ mẫu · Worked example — identifying comparative advantage (Cloth and Wine)

One worker-hour in Country A can produce either 10 units of Cloth or 5 units of Wine. One worker-hour in Country B can produce either 6 units of Cloth or 6 units of Wine. Determine each country's comparative advantage and the pattern of specialisation.

Step 1 — opportunity cost of Cloth (in Wine forgone):

Country A: $\frac{5 \text{ Wine}}{10 \text{ Cloth}} = 0.5 \text{ Wine per unit of Cloth}$, Country B: $\frac{6 \text{ Wine}}{6 \text{ Cloth}} = 1 \text{ Wine per unit of Cloth}$.

Step 2 — opportunity cost of Wine (in Cloth forgone):

Country A: $\frac{10 \text{ Cloth}}{5 \text{ Wine}} = 2 \text{ Cloth per unit of Wine}$, Country B: $\frac{6 \text{ Cloth}}{6 \text{ Wine}} = 1 \text{ Cloth per unit of Wine}$.

Step 3 — compare: Country A has the lower opportunity cost of Cloth ($0.5 \text{ Wine} < 1 \text{ Wine}$) ⇒ **A should specialise in Cloth**. Country B has the lower opportunity cost of Wine ($1 \text{ Cloth} < 2 \text{ Cloth}$) ⇒ **B should specialise in Wine**. Note that Country A also happens to have the *absolute* advantage in Cloth ($10 > 6$) while Country B has the absolute advantage in Wine ($6 > 5$) — here the two concepts point the same way, but it is the opportunity-cost comparison, not the raw output comparison, that formally justifies the pattern of specialisation.

GIẢI THÍCH TIẾNG VIỆT

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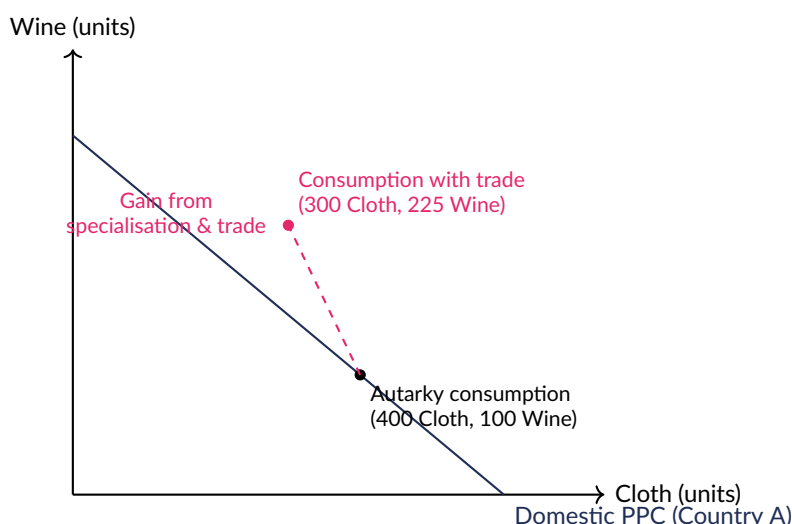
Cách làm nhanh: tính chi phí cơ hội của MỘT hàng hóa ở cả hai nước rồi so sánh. Nước nào có chi phí cơ hội THẤP HƠN cho một hàng hóa thì nên chuyên môn hóa sản xuất hàng hóa đó. Ở ví dụ trên, nước A hy sinh chỉ 0.5 đơn vị Rượu vang để sản xuất thêm 1 đơn vị Vải (thấp hơn mức 1 đơn vị Rượu vang của nước B) ⇒ A chuyên môn hóa Vải; nước B hy sinh chỉ 1 đơn vị Vải để sản xuất thêm 1 đơn vị Rượu vang (thấp hơn mức 2 đơn vị Vải của nước A) ⇒ B chuyên môn hóa Rượu vang.

(!) Lỗi thường gặp: Do not confuse absolute advantage with comparative advantage. A country can have the absolute advantage in *both* goods (produce more of everything with the same resources) and still not have a comparative advantage in both — comparative advantage is always about the trade-off (opportunity cost) *within* each country, compared *across* countries, never about simply comparing raw output numbers directly between countries. When a question gives you output-per-hour figures for two countries and two goods, always calculate opportunity costs before concluding who should specialise in what.

Because comparative advantage depends only on the *ratio* of opportunity costs within each country, it is entirely possible for a country to hold the absolute advantage in *every* good and still find it worthwhile to specialise and trade. Suppose, for example, Country A could instead produce 12 Cloth or 7 Wine per hour (absolute advantage over Country B in both goods, since $12 > 6$ and $7 > 6$). Its opportunity cost of Cloth would then be $\frac{7}{12} \approx 0.583 \text{ Wine}$ — still lower than Country B's 1 Wine per unit of Cloth — so Country A would still have the comparative advantage in Cloth, and gains from specialisation and trade between the two countries would still exist. This is the central

insight of the comparative advantage theory of trade: absolute productivity differences between countries never rule out mutually beneficial trade, so long as *relative* (opportunity-cost) efficiencies differ.

A country's **production possibility curve (PPC)**, introduced in Chapter 1 as the boundary of what an economy can produce with its existing resources, provides a graphical way to see the gain from trade directly: specialisation and trade allow a country to *consume* a combination of goods lying *beyond* its own domestic PPC – a combination it could never have produced for itself in isolation.



Country A's domestic PPC (assuming 60 labour-hours available) runs from 600 Cloth (all hours to Cloth) to 300 Wine (all hours to Wine). Producing 40 hours of Cloth and 20 hours of Wine gives an autarky consumption point on the PPC (400 Cloth, 100 Wine). By fully specialising in Cloth (its comparative advantage) and trading part of its Cloth output for Wine at an agreed rate of 0.75 Wine per unit of Cloth (between the two countries' domestic opportunity-cost ratios of 0.5 and 1), Country A can instead consume 300 Cloth and 225 Wine – a point that lies *beyond* its own domestic PPC, and so could never have been reached through domestic production alone.

GIẢI THÍCH TIẾNG VIỆT

VN

Đường giới hạn khả năng sản xuất (PPC, đã học ở Chương 1) cho thấy trực quan **lợi ích từ thương mại**: nhờ chuyên môn hóa theo lợi thế so sánh và trao đổi với tỉ lệ nằm giữa hai mức chi phí cơ hội nội địa, một quốc gia có thể TIÊU DÙNG một tổ hợp hàng hóa nằm NGOÀI đường PPC của chính mình – điều không thể đạt được nếu chỉ tự sản xuất trong nước. Đây là bằng chứng trực quan cho thấy vì sao lợi thế TUYỆT ĐỐI không quyết định việc thương mại có lợi hay không: kể cả khi một nước vượt trội tuyệt đối ở CẢ HAI hàng hóa, miễn là chi phí cơ hội tương đối giữa hai nước khác nhau, thương mại vẫn mang lại lợi ích cho cả hai bên.

6.1.2 A second worked example: specialisation and the gain from trade

The next example uses a different pair of goods and countries, and goes one step further by comparing **total world output** of both goods before and after specialisation, to show explicitly where the “gain from trade” actually comes from.

Ví dụ mẫu · Worked example – comparative advantage and the gain from trade (Rice and Machinery)

One worker-day in Country C can produce either 8 units of Rice or 4 units of Machinery. One worker-day in Country D can produce either 5 units of Rice or 5 units of Machinery. Each country has 100 worker-days of labour available. Before specialisation, each country divides its labour equally between the two goods (50 worker-days to each good). Find each country's comparative advantage, then compare total world output of Rice and Machinery before and

after full specialisation.

Opportunity costs:

Country C: OC of 1 Rice = $\frac{4}{8} = 0.5$ Machinery, OC of 1 Machinery = $\frac{8}{4} = 2$ Rice.

Country D: OC of 1 Rice = $\frac{5}{5} = 1$ Machinery, OC of 1 Machinery = $\frac{5}{5} = 1$ Rice.

Country C has the lower opportunity cost of Rice ($0.5 < 1$ Machinery) ⇒ **C specialises in Rice**. Country D has the lower opportunity cost of Machinery ($1 < 2$ Rice) ⇒ **D specialises in Machinery**.

Before specialisation (50 worker-days to each good in each country):

Country C: $50 \times 8 = 400$ Rice, $50 \times 4 = 200$ Machinery.

Country D: $50 \times 5 = 250$ Rice, $50 \times 5 = 250$ Machinery.

World total (before): Rice = $400 + 250 = 650$, Machinery = $200 + 250 = 450$.

After full specialisation (all 100 worker-days to the comparative-advantage good):

Country C: $100 \times 8 = 800$ Rice, 0 Machinery. Country D: 0 Rice, $100 \times 5 = 500$ Machinery.

World total (after): Rice = 800, Machinery = 500.

Gain from specialisation: world Rice output rises by $800 - 650 = 150$ units, and world Machinery output rises by $500 - 450 = 50$ units – *both* goods increase in total, even though neither country alone produces both any more. This combined extra output (150 Rice + 50 Machinery) is the “gain from trade”: as long as C and D can agree on a rate to exchange Rice for Machinery somewhere between their two domestic opportunity-cost ratios (0.5 and 1 Machinery per Rice), both countries can end up consuming *more* of both goods than they could have produced for themselves before specialising.

GIẢI THÍCH TIẾNG VIỆT

VN

Ví dụ thứ hai minh họa rõ **lợi ích từ thương mại** (gain from trade): khi mỗi nước chuyên môn hóa hoàn toàn vào hàng hóa mình có lợi thế so sánh, **TỔNG** sản lượng thế giới của CẢ HAI hàng hóa đều tăng lên (Gạo tăng thêm 150 đơn vị, Máy móc tăng thêm 50 đơn vị) so với khi mỗi nước tự sản xuất cả hai. Đây chính là lý do kinh tế học ủng hộ chuyên môn hóa và thương mại: “chiếc bánh” tổng sản lượng thế giới lớn hơn, miễn là hai nước trao đổi với nhau theo một tỉ lệ nằm giữa hai mức chi phí cơ hội nội địa của họ.

6.1.3 The terms of trade

Once two countries specialise, they must agree on a rate at which exports are actually exchanged for imports – this rate is captured by the **terms of trade**.

Terms of trade

The **terms of trade** measure the rate at which a country's exports exchange for its imports – in practice, usually expressed as an index number comparing the average price of a country's exports to the average price of its imports:

$$\text{Terms of trade index} = \frac{\text{Index of export prices}}{\text{Index of import prices}} \times 100.$$

An **improvement** (rise) in the terms of trade means export prices have risen relative to import prices, so a given quantity of exports can now buy *more* imports than before. A **deterioration** (fall) in the terms of trade means the same quantity of exports now buys *fewer* imports than before, even if the physical volume of trade is unchanged.

Ví dụ mẫu · Worked example – calculating a change in the terms of trade

In a base year, a country's export price index and import price index are both 100 (so its terms of trade index is 100). Over the following year, average export prices rise by 20%, while average import prices rise by only 8%. Calculate the new terms of trade index and interpret the result.

New export price index = $100 \times 1.20 = 120$. New import price index = $100 \times 1.08 = 108$.

$$\text{Terms of trade index} = \frac{120}{108} \times 100 \approx 111.1.$$

Since the index has risen from 100 to approximately 111.1, the terms of trade have **improved** by about 11.1%: a given quantity of this country's exports can now buy roughly 11% more imports than in the base year, because export prices have risen faster than import prices.

GIẢI THÍCH TIẾNG VIỆT

VN

Tỉ lệ trao đổi thương mại (terms of trade) đo tỉ lệ mà hàng xuất khẩu của một nước trao đổi được với hàng nhập khẩu, thường tính bằng chỉ số = $\frac{\text{chỉ số giá xuất khẩu}}{\text{chỉ số giá nhập khẩu}} \times 100$. Nếu chỉ số này **TĂNG** (cải thiện), một lượng hàng xuất khẩu nhất định mua được **NHIỀU** hàng nhập khẩu hơn trước; nếu **GIẢM** (xấu đi), lượng hàng xuất khẩu đó mua được **ÍT** hàng nhập khẩu hơn, dù khối lượng thương mại vật chất không đổi.

(!) Lỗi thường gặp: Do not confuse an "improvement" in the terms of trade with an improvement in a country's *trade balance*. The terms of trade compare only *prices* (export price index versus import price index); the trade balance compares the *value* of exports and imports, which also depends on the *volumes* traded. A country's terms of trade can improve (export prices rising faster than import prices) while its trade balance simultaneously worsens, if the higher relative export prices cause the physical volume of exports sold to fall by more than enough to offset the price rise (this is more likely when demand for the country's exports is price elastic).

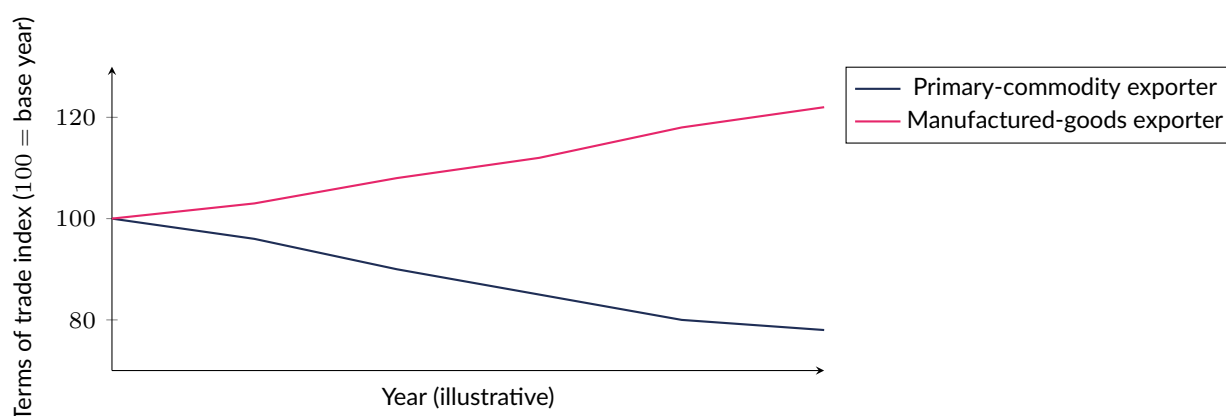
A country's terms of trade tend to move in a systematic direction depending on what it exports. Countries that export mainly **primary commodities** (unprocessed agricultural or mineral products) often experience *volatile*, and over the long run sometimes gradually *deteriorating*, terms of trade, because commodity prices can be highly sensitive to global supply conditions (e.g. a bumper harvest, a new mineral discovery) and have historically tended to rise more slowly than the prices of manufactured goods and services. Countries that export mainly **manufactured goods or services** are generally less exposed to this pattern. This connects directly to the vulnerability of commodity-dependent LEDCs discussed in Chapter 5: a persistently deteriorating terms of trade makes it harder for such countries to finance a given volume of imports (including capital goods needed for development) from a given volume of export earnings, reinforcing the case for the **diversification** strategies introduced there.

GIẢI THÍCH TIẾNG VIỆT

VN

Các nước xuất khẩu chủ yếu **hàng hóa cơ bản/thô** (nông sản, khoáng sản) thường có tỉ lệ trao đổi thương mại **BIẾN ĐỘNG** mạnh và có xu hướng **XẤU ĐI** dần theo thời gian, vì giá hàng hóa

thô thường tăng chậm hơn giá hàng chế biến/dịch vụ. Điều này liên hệ trực tiếp đến sự phụ thuộc vào hàng hóa cơ bản của các nước LEDC (đã học ở Chương 5): tỉ lệ trao đổi thương mại xấu đi kéo dài khiến một lượng xuất khẩu nhất định mua được ngày càng ÍT hàng nhập khẩu hơn, càng củng cố lý do cần **đa dạng hóa** cơ cấu xuất khẩu.



Stylised long-run terms of trade paths: a primary-commodity-exporting economy's terms of trade tend to drift downward over time (export prices rising more slowly than import prices), while a manufactured-goods exporter's terms of trade tend to improve, all else equal.

6.1.4 Limitations of the comparative advantage model

The comparative advantage model is a powerful and simplified illustration of the case for trade, but it rests on several assumptions that rarely hold exactly in the real world.

Key simplifying assumptions

The basic model assumes: **(1) no transport costs** between countries, so the full opportunity-cost gain from trade is not eroded by shipping costs; **(2) constant opportunity costs** (no economies or diseconomies of scale as production expands), whereas in reality opportunity costs often change as a country specialises further; **(3) factors of production are perfectly mobile domestically** (labour and capital can move freely between industries within a country) **but completely immobile internationally**, whereas in reality some international factor mobility (migration, foreign investment) does occur; and **(4) it ignores non-price factors** such as product quality, branding, reliability of supply, and consumer preference for variety, which can influence trade patterns independently of comparative opportunity cost.

GIẢI THÍCH TIẾNG VIỆT

VN

Mô hình lợi thế so sánh là một mô hình **đơn giản hóa**, dựa trên các giả định: (1) **KHÔNG** có chi phí vận chuyển; (2) chi phí cơ hội **KHÔNG** đổi khi sản lượng thay đổi (bỏ qua lợi thế/bất lợi thế theo quy mô); (3) các yếu tố sản xuất di chuyển **TỰ DO** trong nước nhưng **HOÀN TOÀN** không di chuyển giữa các nước; (4) bỏ qua các yếu tố phi giá như chất lượng, thương hiệu, độ tin cậy của nguồn cung. Vì vậy học sinh cần hiểu đây là một mô hình **MINH HỌA** nguyên lý, không phải mô tả chính xác tuyệt đối thực tế thương mại quốc tế.

Simplifying assumption	Real-world complication it ignores
No transport costs	Shipping, insurance, and time-in-transit costs can erode or even eliminate a comparative-advantage gain for bulky/low-value goods
Constant opportunity costs	Opportunity costs typically rise as a country specialises further (increasing scarcity of the most suitable resources), unlike the straight-line PPC assumed above
Perfect domestic mobility, zero international mobility of factors	Migration and foreign direct investment do shift some labour and capital across borders in reality
No role for quality, branding, or reliability	Consumers often pay a premium for a trusted brand or a more reliable supplier even when a cheaper, opportunity-cost-efficient alternative exists

Each simplifying assumption of the comparative advantage model, paired with the real-world complication it sets aside.

6.2 Exchange Rates

6.2.1 How a floating exchange rate is determined

An **exchange rate** is the price of one currency expressed in terms of another currency. Under a **floating exchange rate system**, this price is determined purely by the free interaction of demand for and supply of the currency in the foreign exchange market, with no government or central bank intervention to fix its level.

Demand for and supply of a currency

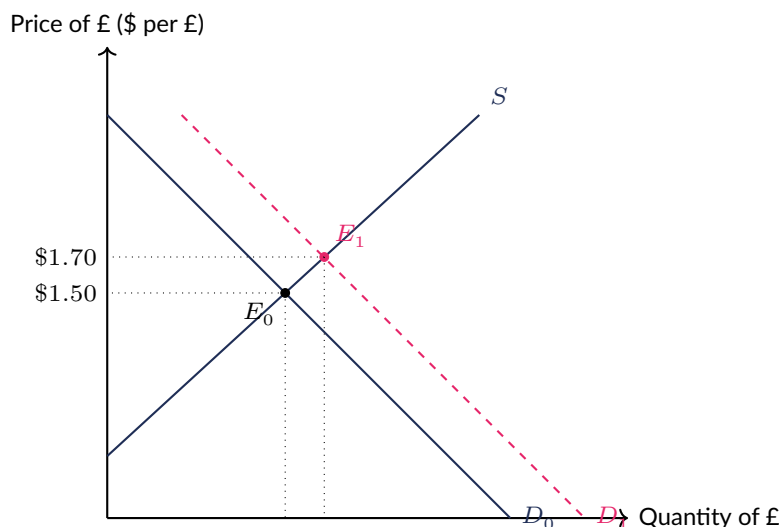
Demand for a country's currency arises from: foreigners wishing to buy that country's **exports** (they must first obtain the country's currency to pay for them); foreign investors wishing to buy assets in that country (**inward investment** — building a factory, buying shares or bonds, or depositing funds to earn the domestic interest rate); and **speculators** who buy the currency expecting it to rise in value, hoping to profit from the appreciation. **Supply** of a country's currency arises from: the country's own residents and firms wishing to buy **imports** (they must sell their domestic currency to obtain foreign currency to pay foreign suppliers); residents and firms wishing to invest **abroad** (**outward investment**, which requires selling domestic currency to buy foreign currency); and speculators who sell the currency expecting it to fall in value.

GIẢI THÍCH TIẾNG VIỆT

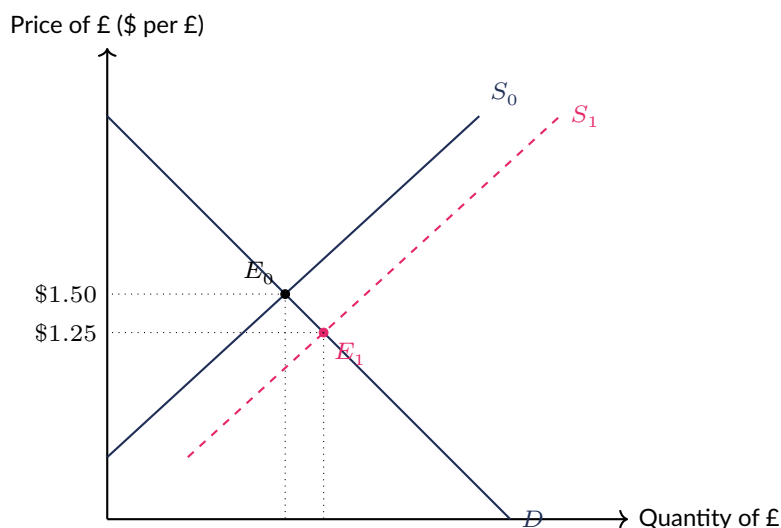
VN

Cầu đối với một đồng tiền đến từ: người nước ngoài mua **hàng xuất khẩu** của nước đó (phải mua đồng tiền nước đó trước); nhà đầu tư nước ngoài muốn đầu tư VÀO nước đó; và nhà đầu cơ kỳ vọng đồng tiền sẽ lên giá. **Cung** đối với một đồng tiền đến từ: người dân/doanh nghiệp trong nước mua **hàng nhập khẩu** (phải bán đồng tiền trong nước để lấy ngoại tệ); người dân/doanh nghiệp đầu tư RA NƯỚC NGOÀI; và nhà đầu cơ kỳ vọng đồng tiền sẽ giảm giá. Trong chế độ tỉ giá **thả nổi**, tỉ giá hoàn toàn do cung-cầu ngoại tệ trên thị trường quyết định, không có sự can thiệp của ngân hàng trung ương.

Appreciation is a *rise* in the price of a currency relative to other currencies, caused by an increase in demand for the currency, a decrease in its supply, or both. **Depreciation** is a *fall* in the price of a currency relative to other currencies, caused by a decrease in demand for the currency, an increase in its supply, or both.



Appreciation of the pound. An increase in demand for £ (e.g. stronger foreign demand for UK exports, or a rise in UK interest rates attracting inflows) shifts $D_0 \rightarrow D_1$, raising the equilibrium price of £ from E_0 to E_1 (illustratively, from \$1.50 to \$1.70 per £) at an unchanged supply curve.



Depreciation of the pound. An increase in the supply of £ (e.g. UK residents buying more imports, or UK residents investing more heavily abroad after a fall in UK interest rates) shifts $S_0 \rightarrow S_1$, lowering the equilibrium price of £ from E_0 to E_1 (illustratively, from \$1.50 to \$1.25 per £) at an unchanged demand curve.

GIẢI THÍCH TIẾNG VIỆT

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Hai sơ đồ trên minh họa **lên giá** (appreciation, cầu đồng bảng Anh tăng $\Rightarrow$ giá đồng bảng tăng từ \$1.50 lên \$1.70) và **giảm giá** (depreciation, cung đồng bảng Anh tăng $\Rightarrow$ giá đồng bảng giảm từ \$1.50 xuống \$1.25). Lưu ý: lên giá/giảm giá có thể đến từ dịch chuyển đường CẦU (D) HOẶC đường CUNG (S) của đồng tiền đó – học sinh cần xác định đúng đâu là nguyên nhân (cầu hay cung) trong mỗi tình huống được mô tả.

6.2.2 Factors causing appreciation and depreciation

What moves a floating exchange rate

Relative interest rates: if a country raises its interest rates relative to other countries, it attracts short-term speculative capital inflows (“hot money”) seeking the higher return, increasing demand for its currency and causing it to **appreciate**; a relative fall in interest rates has the opposite effect. **Relative inflation rates:** a country with persistently *higher* inflation than its trading partners sees its exports become steadily less price-competitive abroad (reducing foreign demand for its currency) while its imports become relatively more attractive to domestic residents (increasing supply of its currency), both of which push the currency to **depreciate** over time. **Current account performance:** a persistent current account deficit (imports of goods/services consistently exceeding exports) generally reflects – and reinforces – greater supply of the currency than demand for it, pushing it toward depreciation; a persistent surplus has the opposite effect. **Speculation:** if speculators expect a currency to rise (e.g. due to anticipated interest-rate rises or strong growth prospects), they buy it now, and this buying itself can help cause the very appreciation they expected – speculation can therefore be self-fulfilling and can also make exchange rates more volatile than underlying trade and investment flows alone would justify. **Relative growth rates:** a country growing faster than its trading partners tends to suck in more imports (as rising incomes raise import demand), increasing the supply of its own currency and putting downward pressure on it.

GIẢI THÍCH TIẾNG VIỆT

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Các yếu tố khiến tỉ giá lên giá/giảm giá: **lãi suất tương đối** (lãi suất trong nước cao hơn thu hút dòng vốn “nóng” ⇒ lên giá); **lạm phát tương đối** (lạm phát trong nước cao hơn làm hàng xuất khẩu kém cạnh tranh, hàng nhập khẩu hấp dẫn hơn ⇒ giảm giá); **cán cân vãng lai** (thâm hụt kéo dài ⇒ giảm giá; thặng dư kéo dài ⇒ lên giá); **đầu cơ** (kỳ vọng đồng tiền tăng/giảm có thể tự trở thành hiện thực); **tốc độ tăng trưởng tương đối** (tăng trưởng nhanh hơn ⇒ nhập khẩu nhiều hơn ⇒ cung tiền tệ tăng ⇒ giảm giá).

Factor	Mechanism	Effect
Relative interest rates rise	Hot money inflows seeking higher return ⇒ demand for currency rises	Appreciation
Relative inflation rises	Exports less competitive, imports more attractive ⇒ demand falls, supply rises	Depreciation
Current account moves into surplus	Demand for currency (from exports) exceeds supply (from imports)	Appreciation
Speculators expect a rise	Speculative buying itself increases demand now	Appreciation
Relative growth rate rises	Rising incomes suck in more imports ⇒ supply of currency rises	Depreciation

Quick-reference summary: each factor's mechanism and resulting direction of movement in a floating exchange rate.

6.2.3 Effects of appreciation and depreciation

Effects of an appreciation

When a currency appreciates: **exporters** find their goods become *more expensive* in foreign-currency terms (since foreign buyers now need more of their own currency to buy the same quantity of the exporting country's currency), which can reduce export volumes and squeeze exporters' competitiveness abroad, particularly if foreign demand for the exports is price elastic. **Importers and domestic consumers** benefit, as imports become *cheaper* in domestic-currency terms, raising consumers' purchasing power over foreign goods and lowering costs for domestic firms that rely on imported raw materials or components. **Inflation:** cheaper imports (including imported raw materials and finished consumer goods) reduce cost-push inflationary pressure in the domestic economy, and increased competition from now-cheaper imports can also restrain domestic firms from raising their own prices.

Effects of a depreciation

When a currency depreciates: **exporters** find their goods become *cheaper* in foreign-currency terms, potentially boosting export volumes and competitiveness abroad (particularly where foreign demand is price elastic) – though exporters may instead choose to keep the foreign-currency price unchanged and simply earn a higher domestic-currency profit margin per unit sold. **Importers and domestic consumers** are worse off, as imports become *more expensive* in domestic-currency terms, raising the cost of imported consumer goods and of imported raw materials/components used by domestic firms. **Inflation:** more expensive imports directly raise cost-push inflationary pressure (particularly significant for economies reliant on imported energy, food, or industrial inputs), and reduced competition from now-more-expensive imports can also allow domestic firms more room to raise their own prices.

GIẢI THÍCH TIẾNG VIỆT

VN

Lên giá (appreciation): xuất khẩu trở nên ĐẮT hơn với người nước ngoài (có thể làm giảm khối lượng xuất khẩu), nhập khẩu trở nên RẺ hơn (có lợi cho người tiêu dùng và doanh nghiệp dùng nguyên liệu nhập khẩu), và giúp GIẢM áp lực lạm phát (do chi phí đẩy từ hàng nhập khẩu giảm).
Giảm giá (depreciation): hiệu ứng NGƯỢC LẠI hoàn toàn – xuất khẩu RẺ hơn với người nước ngoài (có thể tăng khối lượng xuất khẩu), nhập khẩu ĐẮT hơn (bất lợi cho người tiêu dùng), và làm TĂNG áp lực lạm phát chi phí đẩy (đặc biệt với nước phụ thuộc nhiều vào nhập khẩu năng lượng/lương thực).

	Appreciation (currency rises)	Depreciation (currency falls)
Exporters	Goods more expensive abroad; export volumes may fall (especially if foreign demand is elastic)	Goods cheaper abroad; export volumes may rise (especially if foreign demand is elastic)
Importers / consumers	Imports cheaper; consumers and import-using firms benefit	Imports more expensive; consumers and import-using firms worse off
Inflation	Cheaper imports ease cost-push pressure; more import competition restrains domestic prices	Dearer imports add cost-push pressure; less import competition allows domestic prices to rise

Appreciation and depreciation produce exactly opposite effects on exporters, importers/consumers, and inflation.

(!) Lỗi thường gặp: Students very frequently reverse the effect of appreciation/depreciation on exporters. Remember: **appreciation makes a country's exports more expensive** to foreign buyers (bad news for exporters, all else equal), while **depreciation makes exports cheaper** to foreign buyers (good news for exporters). A useful check: appreciation means the currency is now "worth more," so foreigners need to hand over more of their own currency to buy the same amount of it — making anything priced in that currency (including exports) more expensive to them.

Ví dụ mẫu · Worked example — identifying appreciation and its effects

Country Zeta's central bank raises its policy interest rate significantly above the rates prevailing in its major trading partners, with no other change in the economy. Explain the likely effect on Zeta's exchange rate, and state one likely effect on Zeta's exporters.

The higher interest rate makes deposits and bonds denominated in Zeta's currency more attractive to foreign investors seeking a higher return, so foreign investors buy more of Zeta's currency to invest in it — an increase in **demand** for Zeta's currency (a rightward shift of the demand curve). With supply of the currency unchanged, this raises its equilibrium price: Zeta's currency **appreciates**. For Zeta's exporters, this appreciation means their goods become more expensive when priced in foreign currency, which is likely to reduce the volume of exports sold abroad (especially for goods facing price-elastic foreign demand), squeezing exporters' international competitiveness.

Ví dụ mẫu · Worked example — identifying depreciation and its effects

Country Omega experiences a sudden widening of its current account deficit at the same time as a sovereign credit-rating downgrade, which triggers an outflow of foreign investment capital. Explain the likely effect on Omega's exchange rate, and state one likely effect on Omega's domestic inflation.

The widening trade deficit means fewer of Omega's exports are being bought relative to its imports (weaker demand for its currency, and continuing strong supply of its currency as residents buy imports), while the credit downgrade causes foreign and domestic investors to move funds out of Omega-currency assets (further reducing demand for, and increasing supply of, the currency as it is sold to buy foreign currency instead). Both effects push Omega's currency to **depreciate**. For domestic inflation, the depreciation makes imported goods (raw materials, energy, and finished consumer imports) more expensive in Omega's own currency, directly adding **cost-push inflationary pressure** to the domestic economy.

Ví dụ mẫu · Worked example — quantifying the effect of appreciation on an export price

A UK exporter sells a machine for £10,000. At an exchange rate of £1 = \$1.50, calculate the price a US buyer pays in dollars. If the pound then appreciates to £1 = \$1.65, with the exporter's sterling price unchanged, recalculate the dollar price and the percentage increase faced by the US buyer.

Before appreciation: \$ price = £10,000 × 1.50 = \$15,000.

After appreciation: \$ price = £10,000 × 1.65 = \$16,500.

$$\text{Percentage increase} = \frac{\$16,500 - \$15,000}{\$15,000} \times 100 = 10\%.$$

The US buyer now pays 10% more in dollar terms for exactly the same machine, purely because of the pound's appreciation (which was itself a 10% rise, from \$1.50 to \$1.65 per £) – confirming that appreciation passes directly through into a higher foreign-currency export price whenever the exporter's home-currency price is left unchanged.

Ví dụ mẫu · Worked example – quantifying the effect of depreciation on an import cost

A UK refinery imports crude oil priced at \$80 per barrel on the world market (a dollar price, unaffected by the UK's own exchange rate). Calculate the cost per barrel in pounds sterling at an exchange rate of £1 = \$1.50, and again after the pound depreciates to £1 = \$1.30. State the percentage increase in the sterling cost.

Before depreciation: £ cost = $\frac{\$80}{1.50} = \text{£}53.33$ per barrel.

After depreciation: £ cost = $\frac{\$80}{1.30} = \text{£}61.54$ per barrel.

$$\text{Percentage increase} = \frac{\text{£}61.54 - \text{£}53.33}{\text{£}53.33} \times 100 \approx 15.4\%.$$

Even though the dollar price of oil has not changed at all, the pound's depreciation (from \$1.50 to \$1.30 per £, a fall of about 13.3%) raises the sterling cost of every barrel by about 15.4% – a direct illustration of how depreciation adds cost-push inflationary pressure through the price of imported inputs, independent of anything happening in the UK's own domestic market.

6.2.4 Currency conversion

Converting an amount of money from one currency to another using a given exchange rate is a direct multiplication or division, depending on the direction of conversion.

Ví dụ mẫu · Worked example – converting pounds into dollars

The exchange rate is £1 = \$1.60. How many US dollars will a traveller receive in exchange for £500?

$$\text{\$ received} = \text{£}500 \times 1.60 = \$800.$$

Ví dụ mẫu · Worked example – converting dollars into pounds (the inverse direction)

The exchange rate is £1 = \$1.28. An American tourist has \$960 to convert into pounds sterling before travelling to London. How many pounds will she receive?

Since £1 = \$1.28, each dollar is worth $\frac{\text{£}1}{1.28}$, so:

$$\text{£ received} = \frac{\$960}{1.28} = \text{£}750.$$

Check: converting back, $\text{£}750 \times 1.28 = \960 (✓).

GIẢI THÍCH TIẾNG VIỆT

VN

Quy đổi tiền tệ: nếu tỉ giá cho biết **1 đơn vị tiền A = X đơn vị tiền B**, thì để đổi từ A sang B ta **NHÂN** với X; để đổi từ B sang A ta **CHIA** cho X. Luôn kiểm tra chiều quy đổi cẩn thận: đổi

bảng Anh sang đô la thì nhân với tỉ giá (vì 1 bảng = nhiều đô la hơn), còn đổi đô la sang bảng thì chia cho tỉ giá.

6.2.5 Fixed and managed exchange rate systems

Not every country allows its currency to float freely. Under a **fixed exchange rate system**, the government or central bank commits to maintaining the exchange rate at (or very close to) a specific target level against another currency, typically by buying its own currency using foreign currency reserves when there is downward pressure on the rate, and selling its own currency (accumulating reserves) when there is upward pressure. A **managed float** sits between the two extremes: the exchange rate is mostly left to float according to market forces, but the central bank intervenes occasionally to smooth out excessive short-term volatility or to resist a movement it judges undesirable. This chapter's focus, in line with the syllabus, remains on the freely floating exchange rate system described above.

GIẢI THÍCH TIẾNG VIỆT

VN

Ngoài tỉ giá **thả nổi**, một số nước dùng tỉ giá **cố định** (ngân hàng trung ương mua/bán dự trữ ngoại hối để giữ tỉ giá ở mức mục tiêu) hoặc **thả nổi có quản lý** (chủ yếu để thị trường quyết định nhưng thỉnh thoảng can thiệp). Trọng tâm của chương này vẫn là cơ chế tỉ giá thả nổi tự do theo cung-cầu.

6.3 Trade Barriers and the Case for Free Trade

6.3.1 Tariffs

Tariffs

A **tariff** is a tax imposed on imported goods as they enter a country. A tariff raises the price paid by domestic consumers for the imported good (above the world price by the amount of the tariff), which reduces the quantity of the good demanded, encourages consumers to switch toward domestically produced substitutes, and raises revenue for the government.

Ví dụ mẫu · Worked example — the price and quantity effect of a tariff

A good is freely available on the world market at a price of \$10 per unit, and domestic quantity demanded is given by $Q_d = 1,000 - 50P$. The government imposes a specific tariff of \$4 per unit on imports of this good. Find quantity demanded before and after the tariff, and the resulting change in domestic price and quantity demanded.

Before the tariff ($P = \$10$):

$$Q_d = 1,000 - 50(10) = 1,000 - 500 = 500 \text{ units.}$$

After the tariff, the domestic price rises by the full amount of the tariff to $P = \$10 + \$4 = \$14$:

$$Q_d = 1,000 - 50(14) = 1,000 - 700 = 300 \text{ units.}$$

The domestic price rises from \$10 to \$14 (a 40% increase), and quantity demanded falls from 500 to 300 units (a fall of 200 units, or 40%). The tariff raises government revenue of $\$4 \times 300 = \$1,200$ on the units still imported, while also encouraging some of the lost import demand to be met by (typically less efficient, higher-cost) domestic producers instead.

GIẢI THÍCH TIẾNG VIỆT

VN

Thuế quan (tariff) là thuế đánh vào hàng nhập khẩu, làm **TĂNG** giá bán trong nước (bằng đúng mức thuế nếu chuyển hoàn toàn cho người tiêu dùng) và làm **GIẢM** lượng cầu đối với hàng nhập khẩu đó, đồng thời tạo nguồn thu ngân sách cho chính phủ.

Stakeholder	Effect of the tariff
Domestic producers	Gain: face less import competition, can sell more output at a higher price than under free trade
Domestic consumers	Lose: pay a higher price and/or have less choice than under free trade
Government	Gain: collects tariff revenue on units still imported
Foreign exporters	Lose: face a smaller, less profitable market as some demand switches to (higher-cost) domestic output

Distributional effects of a tariff: gains for domestic producers and the government are offset by losses for domestic consumers and foreign exporters, with the efficiency loss from producing above the internationally efficient level explaining why free trade is generally judged to raise total welfare despite these individual gains.

6.3.2 Quotas

Quotas

A **quota** is a direct physical limit on the *quantity* of a good that may be imported over a given period. Unlike a tariff, which works by raising price (leaving quantity to adjust indirectly through the demand curve), a quota works by directly capping **quantity**, and the domestic price then rises as a *secondary* consequence, because the restricted (capped) supply of imports is no longer sufficient to satisfy quantity demanded at the original world price.

Ví dụ mẫu · Worked example – comparing an equivalent tariff and quota

Using the same import demand as the tariff example above, $Q_d = 1,000 - 50P$, suppose that instead of a \$4 tariff, the government imposes an import **quota** limiting imports to exactly 300 units (chosen here to match the post-tariff quantity, for direct comparison). Find the price consumers must pay for the good under the quota, and compare the outcome with the tariff case, focusing on who captures the \$4-per-unit gap between the world price and the domestic price.

Setting quantity demanded equal to the fixed quota quantity, $Q_d = 300$, and solving the demand equation for price ($P = \frac{1,000 - Q_d}{50}$):

$$P = \frac{1,000 - 300}{50} = \frac{700}{50} = \$14.$$

The quota therefore produces exactly the same price (\$14) and quantity (300 units) as the \$4 tariff. However, the two policies differ in **who receives the \$4-per-unit gap** between the \$10 world price and the \$14 domestic price: under the tariff, this \$4 per unit ($\times 300$ units = \$1,200) is collected by the **government** as tariff revenue; under the quota, no such payment is made to the government at all – instead, this same \$4-per-unit gap becomes a scarcity rent captured by whichever firms hold the licences to import under the quota (unless the government instead auctions the import licences competitively, in which case it could capture some or all of this value itself).

GIẢI THÍCH TIẾNG VIỆT

VN

Hạn ngạch (quota) giới hạn TRỰC TIẾP về SỐ LƯỢNG hàng nhập khẩu, khác với thuế quan (giới hạn gián tiếp qua việc tăng giá). Dù hạn ngạch và thuế quan có thể tạo ra CÙNG một mức giá và số lượng, điểm khác biệt quan trọng là: với thuế quan, phần chênh lệch giá thuộc về CHÍNH PHỦ (doanh thu thuế); với hạn ngạch, phần chênh lệch đó thường thuộc về DOANH NGHIỆP nắm giữ giấy phép nhập khẩu, trừ khi chính phủ đấu giá giấy phép đó.

6.3.3 Subsidies to domestic producers

Subsidies as a trade barrier

A **subsidy** to domestic producers is a payment from the government that lowers a domestic firm's effective cost of production, making domestically produced goods more price-competitive against imports *without* directly taxing the import itself. Unlike a tariff or quota, a subsidy works entirely on the domestic **supply** side: it shifts the domestic supply curve to the right (lowering the price at which domestic firms are willing to supply each quantity), allowing domestic output to expand and compete more effectively against (still fully-priced) imports, at a direct cost to the government's budget rather than a source of revenue.

GIẢI THÍCH TIẾNG VIỆT

VN

Trợ cấp (subsidy) cho nhà sản xuất trong nước làm GIẢM chi phí sản xuất hiệu quả, giúp hàng nội địa cạnh tranh tốt hơn với hàng nhập khẩu MÀ KHÔNG đánh thuế trực tiếp lên hàng nhập khẩu. Khác với thuế quan (tạo doanh thu cho chính phủ), trợ cấp là một khoản CHI của chính phủ, làm dịch chuyển đường cung nội địa sang phải.

Ví dụ mẫu · Worked example — the effect of a production subsidy

Domestic supply of a good is $Q_s = -100 + 10P$, and the good is freely traded at a fixed world price of \$20 (so consumers continue to pay \$20 regardless of the domestic policy chosen). The government introduces a subsidy of \$5 per unit paid directly to domestic producers. Calculate domestic quantity supplied before and after the subsidy, and the total cost of the subsidy to the government.

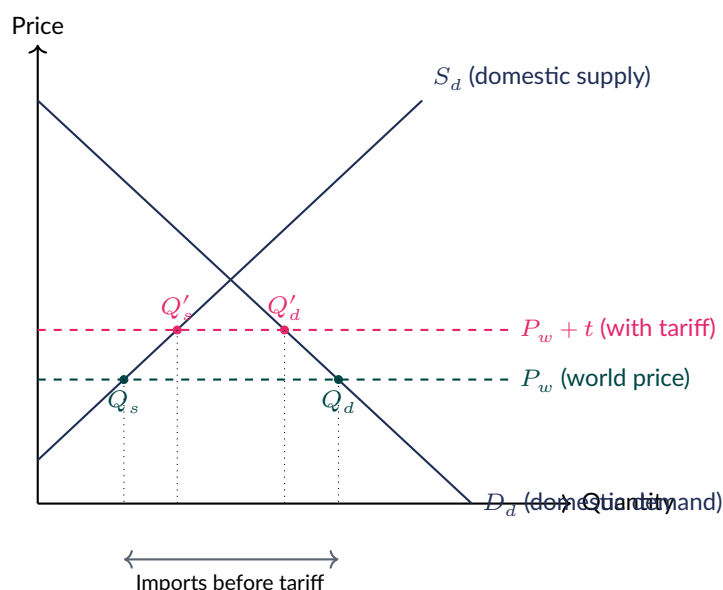
Before the subsidy (domestic producers receive the market price of \$20 per unit):

$$Q_s = -100 + 10(20) = -100 + 200 = 100 \text{ units.}$$

After the subsidy, domestic producers effectively receive $\$20 + \$5 = \$25$ per unit (the \$20 market price plus the \$5 subsidy), even though consumers continue to pay only \$20:

$$Q_s = -100 + 10(25) = -100 + 250 = 150 \text{ units.}$$

Domestic output rises from 100 to 150 units (a rise of 50 units) *without any change in the price paid by consumers*, unlike a tariff or quota — the entire adjustment happens through the effective price received by producers. The subsidy costs the government $\$5 \times 150 = \750 .



A tariff diagram: at the world price P_w , domestic supply Q_s falls short of domestic demand Q_d , and the gap is met by imports. A tariff t raises the domestic price to $P_w + t$, expanding domestic supply to Q'_s , contracting domestic demand to Q'_d , and shrinking the volume of imports to the narrower gap $Q'_d - Q'_s$.

Instrument	Mechanism	Effect on domestic price / import quantity	Who gains the price-cost gap?
Tariff	Tax per unit charged on imports at the border	Domestic price rises by (up to) the tariff; import quantity falls	Government (tariff revenue)
Quota	Direct legal limit on the quantity of imports allowed	Domestic price rises as a secondary effect of capped supply; import quantity fixed at the quota level	Holders of import licences (or government, if licences are auctioned)
Subsidy	Payment to domestic producers, lowering their effective production cost	Domestic supply curve shifts right; domestic output rises, import quantity typically falls; import price itself is unaffected	No one directly – it is a cost to the government's budget

Comparing tariffs, quotas, and subsidies as trade-barrier instruments.

(!) Lỗi thường gặp: Do not describe a quota as “just a type of tariff.” A tariff is fundamentally a **price** instrument (a tax that raises price, with quantity adjusting indirectly); a quota is fundamentally a **quantity** instrument (a direct cap on quantity, with price adjusting indirectly). They can be engineered to produce an identical price and quantity outcome (as in the worked example above), but they differ crucially in *who captures* the resulting price-cost gap, and a quota (unlike a tariff) generates no automatic government revenue.

Stakeholder	Effect of the quota
Domestic producers	Gain: face less import competition, exactly as with an equivalent tariff
Domestic consumers	Lose: pay a higher price and/or have less choice, exactly as with an equivalent tariff
Government	No automatic revenue (unlike a tariff), unless import licences are auctioned competitively
Holders of import licences	Gain: capture the scarcity rent (the gap between world and domestic price) on each unit they are licensed to import

Distributional effects of a quota. Compared with the tariff table above, domestic producers, consumers, and foreign exporters are affected in essentially the same way; the key difference is that the price–cost gap benefits import-licence holders rather than the government.

6.3.4 Arguments for protectionism

Reasons for protectionism, with evaluative counterpoints

Infant industry protection: a new domestic industry may need temporary protection from established, larger foreign competitors while it grows large enough to exploit economies of scale and become internationally competitive. *Counterpoint:* if protection is not genuinely temporary, the “infant” industry may never be forced to become efficient, remaining permanently reliant on protection (never actually “growing up”), while domestic consumers pay higher prices indefinitely. **Protecting/saving domestic jobs,** especially in politically sensitive industries with strong regional employment concentration. *Counterpoint:* saving jobs in one protected industry can raise costs (and therefore destroy jobs) in other domestic industries that use the now more-expensive protected import as a production input, so the net effect on total employment is often far smaller — or even negative — than the protected industry’s job losses alone would suggest. **Anti-dumping:** preventing foreign firms from selling exports below cost (dumping) to drive domestic competitors out of business before raising prices later. *Counterpoint:* anti-dumping measures are sometimes used as a pretext for protecting inefficient domestic industries from genuinely lower-cost foreign competition that is not actually dumping. **National security / strategic self-sufficiency:** maintaining minimum domestic production capacity in industries such as food or energy, so the country is not entirely dependent on potentially unreliable foreign supply during a crisis or conflict. *Counterpoint:* strategic self-sufficiency is typically far more costly than relying on international trade, so it must be weighed carefully against the (hopefully rare) risk it insures against. **Correcting a large or persistent trade deficit:** restricting imports directly to narrow an unsustainable current account deficit. *Counterpoint:* restricting imports invites retaliation from trading partners (who may protect their own markets in response, harming the country’s exporters), and does not address the underlying causes of the deficit (such as weak competitiveness or excessive domestic demand growth).

GIẢI THÍCH TIẾNG VIỆT

VN

Lý do bảo hộ mậu dịch: (1) **bảo vệ ngành công nghiệp non trẻ** – nhưng có thể “không bao giờ trưởng thành” nếu được bảo hộ mãi mãi; (2) **bảo vệ việc làm trong nước** – nhưng có thể làm tăng chi phí và mất việc làm ở CÁC ngành khác dùng hàng nhập khẩu bị bảo hộ làm đầu vào; (3) **chống bán phá giá** – nhưng đôi khi bị lạm dụng để bảo vệ ngành kém hiệu quả; (4) **an ninh quốc gia/tự chủ chiến lược** (lương thực, năng lượng) – nhưng thường tốn kém hơn nhiều so với thương mại tự do; (5) **khắc phục thâm hụt thương mại kéo dài** – nhưng có thể bị trả đũa và không giải quyết tận gốc nguyên nhân thâm hụt.

6.3.5 The case for free trade

The case for free trade, revisited in depth

Efficient resource allocation: free trade allows each country to specialise according to comparative advantage, raising total world output (as demonstrated numerically earlier in this chapter). **Lower prices and greater consumer choice:** removing tariffs/quotas lowers prices paid by consumers and widens the range of goods and brands available, including goods that cannot be produced domestically at all. **Increased competition:** exposure to foreign competition disciplines domestic firms to become more efficient, innovative, and cost-conscious, rather than growing complacent behind protective barriers. **Access to larger markets and economies of scale:** firms selling into the whole world market, rather than just their domestic market, can produce at a much larger scale, lowering average costs and passing some of the saving on as lower prices. **Transfer of technology and ideas:** trade (and the foreign investment and business links that often accompany it) spreads new production techniques, management practices, and innovations between countries, raising productivity more broadly.

GIẢI THÍCH TIẾNG VIỆT

VN Lý do ủng hộ thương mại tự do: (1) **phân bổ nguồn lực hiệu quả** nhờ lợi thế so sánh; (2) **giá thấp hơn, nhiều lựa chọn hơn** cho người tiêu dùng; (3) **cạnh tranh tăng** buộc doanh nghiệp trong nước hiệu quả hơn; (4) **tiếp cận thị trường lớn hơn**, khai thác được lợi thế kinh tế theo quy mô; (5) **chuyển giao công nghệ và ý tưởng** giữa các nước.

6.3.6 The World Trade Organisation

The **World Trade Organisation (WTO)**, established in 1995 as the successor to the General Agreement on Tariffs and Trade (GATT), is the main international institution promoting **multilateral trade liberalisation**: negotiating rounds of reductions in tariffs and other trade barriers among its member countries, setting agreed rules for international trade, and providing a formal mechanism for member countries to resolve trade disputes with one another.

GIẢI THÍCH TIẾNG VIỆT

VN **Tổ chức Thương mại Thế giới (WTO)**, thành lập năm 1995 (kế thừa GATT), là tổ chức quốc tế chính thúc đẩy **tự do hóa thương mại đa phương**: đàm phán giảm thuế quan/rào cản thương mại giữa các nước thành viên, đặt ra luật chơi chung, và giải quyết tranh chấp thương mại giữa các thành viên.

Alongside multilateral liberalisation through the WTO, many countries also pursue trade liberalisation on a smaller scale through **regional trade agreements**: a **free trade area** removes tariffs and quotas between its own member countries while each member keeps its own separate tariffs against non-members; a **customs union** goes further, additionally requiring members to adopt a common external tariff against non-members. Such arrangements can deliver many of the gains from free trade described above among their members more quickly than a full multilateral WTO round, but they can also divert trade away from lower-cost producers outside the bloc toward higher-cost producers inside it (**trade diversion**), which can partly offset the efficiency gains from the trade the bloc does create between its own members (**trade creation**).

GIẢI THÍCH TIẾNG VIỆT

VN Ngoài WTO (đa phương), nhiều nước còn tham gia **hiệp định thương mại khu vực**: **khu vực mậu dịch tự do** (free trade area) – xóa thuế quan giữa các thành viên nhưng mỗi nước vẫn giữ thuế quan riêng với nước ngoài khối; **liên minh thuế quan** (customs union) – đi xa hơn, áp dụng chung một mức thuế quan đối với nước ngoài khối. Các hiệp định này giúp tạo ra thương mại

mới giữa các thành viên (**trade creation**) nhưng cũng có thể làm **CHUYỂN HƯỚNG** thương mại (**trade diversion**) từ nhà sản xuất chi phí thấp bên ngoài khối sang nhà sản xuất chi phí cao hơn bên trong khối, làm giảm bớt lợi ích hiệu quả đạt được.

6.4 The Balance of Payments

6.4.1 Structure of the balance of payments

The three main accounts

The **balance of payments** is a record of all financial transactions between a country's residents and the rest of the world over a given period. It is conventionally divided into three main accounts. The **current account** (the syllabus focus, covered in full depth below) records trade in goods and services, investment income, and transfers. The **capital account** records relatively small-scale capital transfers, such as debt forgiveness and the transfer of non-produced, non-financial assets. The **financial account** records larger investment flows between a country and the rest of the world, including **foreign direct investment (FDI)** (building or acquiring lasting productive assets abroad), **portfolio investment** (buying foreign shares and bonds without acquiring management control), and changes in a country's official **reserve assets** (foreign currency and gold held by the central bank). The current account is only *one part* of the full balance of payments; a current account deficit must, by definition, be financed (balanced) by a corresponding net inflow recorded somewhere in the capital and financial accounts, and vice versa for a surplus.

Account	What it records
Current account	Visible trade (goods) + invisible trade (services) + primary income (net investment income) + secondary income (net current transfers)
Capital account	Capital transfers (e.g. debt forgiveness) and transactions in non-produced, non-financial assets (small in most economies)
Financial account	Foreign direct investment (FDI), portfolio investment (shares, bonds), and changes in official reserve assets

Headline structure of the balance of payments. The syllabus focus is the current account, detailed in full below; the capital and financial accounts are introduced here only so the current account is understood as one part of a larger whole.

GIẢI THÍCH TIẾNG VIỆT

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Cán cân thanh toán (balance of payments) gồm **ba** tài khoản chính: **tài khoản vãng lai** (current account – trọng tâm của chương này); **tài khoản vốn** (capital account – các khoản chuyển giao vốn nhỏ, ví dụ xóa nợ); và **tài khoản tài chính** (financial account – các dòng đầu tư lớn: FDI, đầu tư gián tiếp, thay đổi dự trữ ngoại hối). Tài khoản vãng lai chỉ là **MỘT PHẦN** của cán cân thanh toán tổng thể – thâm hụt vãng lai luôn phải được bù đắp bởi dòng vốn ròng chảy vào ghi nhận ở tài khoản vốn/tài chính, và ngược lại.

The financial account's two main investment flows are easy to tell apart: **FDI** means acquiring lasting control or a significant management stake in a foreign productive asset (e.g. an MNC building a factory abroad, as discussed later in this chapter), while **portfolio investment** means buying foreign financial assets (shares, bonds) purely for a financial return, with no intention of controlling or managing the underlying business. A current account deficit financed mainly by stable, long-term FDI inflows is generally viewed as more sustainable than one financed mainly by short-term,

easily-reversed portfolio inflows or “hot money,” since the latter can be withdrawn quickly if investor sentiment changes, potentially forcing a sudden, disruptive adjustment.

GIẢI THÍCH TIẾNG VIỆT

VN

Trong tài khoản tài chính, **FDI** (đầu tư trực tiếp nước ngoài) là đầu tư dài hạn nhằm nắm quyền kiểm soát/quản lý một tài sản sản xuất ở nước ngoài (ví dụ MNC xây nhà máy), còn **đầu tư gián tiếp** (portfolio investment) chỉ là mua cổ phiếu/trái phiếu nước ngoài để hưởng lợi tức tài chính, không nhằm kiểm soát doanh nghiệp. Thâm hụt vãng lai được tài trợ chủ yếu bằng FDI ổn định thường được coi là bền vững hơn so với thâm hụt được tài trợ bằng dòng vốn ngắn hạn (“nóng”), vốn có thể rút đi nhanh chóng nếu tâm lý nhà đầu tư thay đổi.

6.4.2 The current account in depth

The four components of the current account

Visible trade (trade in goods): exports minus imports of physical, tangible goods (e.g. cars, oil, foodstuffs). **Invisible trade (trade in services):** exports minus imports of intangible services (e.g. tourism, banking and insurance, shipping, consulting). **Primary income:** net investment income earned from assets held abroad minus income paid out to foreign owners of domestic assets (interest, profits, and dividends flowing in both directions). **Secondary income:** net current transfers for which nothing is received in direct economic return, such as workers' remittances sent home and foreign aid (grants) received or given. The **current account balance** is simply the sum of these four components; a positive total is a current account **surplus**, and a negative total is a current account **deficit**.

GIẢI THÍCH TIẾNG VIỆT

VN

Tài khoản vãng lai gồm bốn thành phần: **thương mại hữu hình** (xuất khẩu – nhập khẩu hàng hóa); **thương mại vô hình** (xuất khẩu – nhập khẩu dịch vụ); **thu nhập sơ cấp** (thu nhập đầu tư ròng: lãi, lợi nhuận, cổ tức); **thu nhập thứ cấp** (chuyển giao vãng lai ròng: kiều hối, viện trợ). Cộng cả bốn thành phần lại ra **cán cân tài khoản vãng lai** – dương là **THẶNG DƯ**, âm là **THÂM HỤT**.

Ví dụ mẫu · Worked example – calculating a current account deficit

In a given year, a country records: trade in goods –\$80 million; trade in services +\$30 million; net investment income +\$10 million; net current transfers –\$5 million. Calculate the current account balance.

$$-\$80\text{m} + \$30\text{m} + \$10\text{m} - \$5\text{m} = -\$45\text{ million.}$$

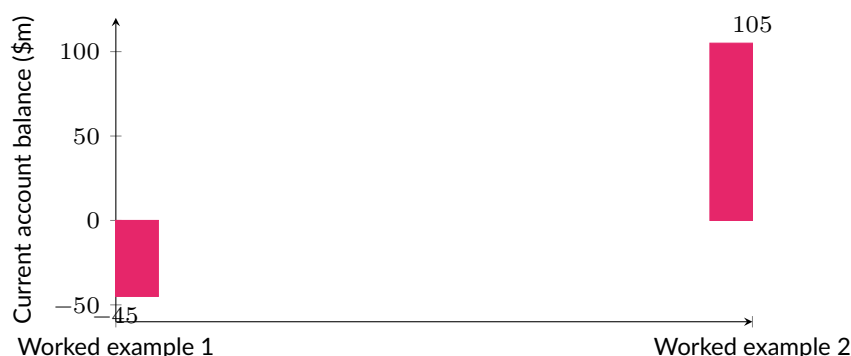
The current account balance is –\$45 million: a **deficit**, driven mainly by a substantial trade-in-goods deficit that is only partly offset by a services surplus and net investment income.

Ví dụ mẫu · Worked example – calculating a current account surplus

In a given year, a different country records: trade in goods +\$120 million; trade in services –\$20 million; net investment income +\$15 million; net current transfers –\$10 million. Calculate the current account balance.

$$\$120\text{m} - \$20\text{m} + \$15\text{m} - \$10\text{m} = +\$105\text{ million.}$$

The current account balance is +\$105 million: a **surplus**, driven mainly by a strong trade-in-goods surplus (e.g. a manufacturing- or resource-exporting economy), despite a services deficit (e.g. this country's residents spend more on foreign tourism/shipping than it earns from foreigners) and a net outflow of transfers.



Comparing the two worked current-account examples: Worked example 1 results in a deficit (−\$45m); Worked example 2 results in a surplus (+\$105m) – both are calculated by summing the same four current-account components (visible trade, invisible trade, primary income, secondary income).

(!) Lỗi thường gặp: Do not treat “the current account” and “the balance of payments” as synonyms. The current account is only one (albeit the syllabus-focus) part of the full balance of payments, which also includes the capital and financial accounts. A country can run a current account deficit indefinitely in an accounting sense only because it is matched by an offsetting net inflow recorded in the capital/financial account (e.g. foreign investment flowing in); it is not simply “money disappearing.”

6.4.3 Causes and consequences of a persistent current account deficit

Causes of a persistent deficit

The economy growing faster than its trading partners: rising domestic incomes suck in more imports than the more slowly growing partner economies buy in return. **Loss of international competitiveness:** persistently higher domestic inflation than trading partners, or an overvalued/appreciated exchange rate, makes exports relatively expensive and imports relatively attractive, widening the trade deficit. **Structural decline of export industries:** long-run decline in the competitiveness of industries that used to be major exporters (e.g. due to failure to invest, innovate, or keep pace with lower-cost foreign competitors) steadily erodes export revenue.

Consequences and possible policy responses

Deflating domestic demand: contractionary fiscal policy (raising taxes/cutting government spending) or contractionary monetary policy (raising interest rates), as covered in Chapter 4, reduces domestic incomes and therefore import spending, narrowing the deficit – at the cost of slower growth and higher unemployment. **Supply-side policies:** improving long-run competitiveness (e.g. investment in skills, infrastructure, and innovation) can raise export quality/efficiency without the demand-side cost of deliberately slowing the economy, though such policies typically take a long time to have an effect. **Allowing or encouraging currency depreciation:** a weaker currency makes exports cheaper and imports more expensive in relative

terms, which should narrow the deficit, provided export and import demand are sufficiently price elastic. **Protectionism:** restricting imports directly (Section 6.3) is a possible, but controversial, short-term response – it risks retaliation from trading partners and does not address the underlying loss of competitiveness driving the deficit.

GIẢI THÍCH TIẾNG VIỆT

VN

Nguyên nhân thâm hụt vãng lai kéo dài: (1) kinh tế tăng trưởng NHANH hơn đối tác thương mại (hút nhiều hàng nhập khẩu); (2) mất sức cạnh tranh quốc tế (lạm phát cao hơn hoặc đồng tiền lên giá quá mức); (3) suy giảm cơ cấu của các ngành xuất khẩu. Chính sách ứng phó: (1) **giảm phát tổng cầu** bằng chính sách tài khóa/tiền tệ thắt chặt (liên hệ Chương 4) – đánh đổi bằng tăng trưởng chậm hơn; (2) **chính sách trọng cung** cải thiện năng lực cạnh tranh dài hạn; (3) để đồng tiền **giảm giá**; (4) **bảo hộ mậu dịch** – biện pháp gây tranh cãi, có nguy cơ bị trả đũa và không giải quyết tận gốc vấn đề.

The current account and the exchange rate reinforce each other. A persistent current account deficit means residents are, on net, supplying more of the domestic currency (to buy imports) than foreigners demand of it (to buy exports), pushing the currency toward depreciation over time; conversely, an overvalued/appreciated exchange rate itself makes exports less competitive and imports more attractive, which can be a direct cause of a widening deficit. Without a market-driven or policy-driven adjustment of the exchange rate, a weak current account position and an overvalued currency can therefore persist together for an extended period.

Policy response	Mechanism	Main drawback
Contractionary fiscal/monetary policy	Deflates domestic demand, cutting import spending	Slower growth, higher unemployment
Supply-side policies	Raises long-run competitiveness (skills, infrastructure, innovation)	Slow to take effect
Currency depreciation	Makes exports cheaper, imports dearer	Only works if trade volumes are price elastic; raises import costs meanwhile
Protectionism	Restricts imports directly	Risks retaliation; ignores underlying competitiveness problem

Policy responses to a persistent current account deficit, each with its main drawback.

A given deficit figure in dollars only has real meaning once it is set against the size of the economy generating it: economists therefore usually assess a current account position as a **percentage of GDP**, since a \$45 million deficit is a minor concern for a \$500 billion economy but a serious one for a \$2 billion economy.

Ví dụ mẫu · Worked example – expressing a current account deficit as a share of GDP

Country J records a current account deficit of \$6 billion in a year when its GDP is \$120 billion. Country K records a current account deficit of \$6 billion in a year when its GDP is \$1,500 billion. Calculate each deficit as a percentage of GDP and comment on which country's position is more concerning.

$$\text{Country J: } \frac{\$6\text{bn}}{\$120\text{bn}} \times 100 = 5\% \text{ of GDP.} \quad \text{Country K: } \frac{\$6\text{bn}}{\$1,500\text{bn}} \times 100 = 0.4\% \text{ of GDP.}$$

Although both countries have an identical \$6 billion deficit in dollar terms, Country J's deficit (5% of GDP) is far more significant relative to the size of its economy than Country K's (0.4% of GDP), which is small enough to be considered easily sustainable. This confirms why current account figures are almost always compared as a percentage of GDP rather than in raw dollar terms.

6.5 Globalisation

6.5.1 Defining globalisation and its drivers

Globalisation

Globalisation is the growing economic interconnection and interdependence of countries around the world, driven by increasing flows of trade in goods and services, capital (investment), people, and ideas across national borders. Key **drivers** of globalisation include: **falling transport costs** (e.g. containerisation, larger and more efficient cargo ships/aircraft), making it economically viable to produce in one country and sell in another far away; **improvements in communication and technology** (the internet, mobile telecommunications), enabling firms to coordinate complex international supply chains and communicate instantly across the globe; **trade liberalisation**, the ongoing reduction of tariffs, quotas, and other trade barriers (Section 6.3), often coordinated through the WTO and regional trade agreements; the **growth of multinational companies (MNCs)**, whose cross-border production and investment decisions are themselves a major driver of deeper economic integration; and the **deregulation of international capital movements**, allowing funds to flow far more freely between countries than in previous decades.

GIẢI THÍCH TIẾNG VIỆT

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Toàn cầu hóa (globalisation) là sự gia tăng liên kết và phụ thuộc lẫn nhau về kinh tế giữa các quốc gia, thông qua thương mại, dòng vốn, con người, và ý tưởng xuyên biên giới. Động lực chính: **chi phí vận chuyển giảm**; **tiến bộ công nghệ/truyền thông** (internet, viễn thông); **tự do hóa thương mại** (giảm rào cản thuế quan/phi thuế quan); **sự phát triển của các công ty đa quốc gia (MNCs)**; và **tự do hóa dòng vốn quốc tế**.

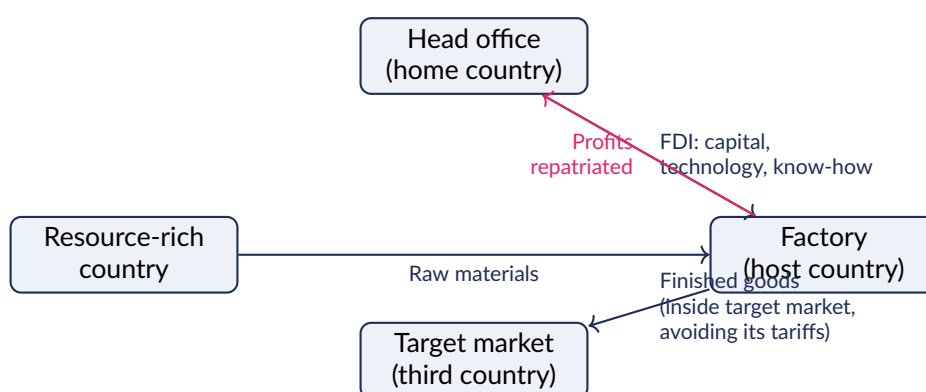
Driver	Illustrative example
Falling transport costs	Containerisation and larger cargo ships have sharply cut the cost of shipping goods across oceans
Communication/technology	The internet and mobile telecommunications let firms coordinate production across continents in real time
Trade liberalisation	WTO-coordinated tariff reductions and regional trade agreements progressively lower the cost of trading across borders
Growth of MNCs	An MNC's own decision to build facilities in several countries directly creates new cross-border trade/investment links
Deregulation of capital movements	Removal of controls on foreign investment allows much larger, faster cross-border financial flows

The five main drivers of globalisation, each illustrated with a concrete channel through which it increases international economic interconnection.

6.5.2 Multinational companies (MNCs)

Why firms become multinational

A **multinational company (MNC)** owns or controls production facilities in more than one country. Firms expand into multinational operations for several reasons: to **access new markets** (producing or selling directly within a large and growing foreign market, closer to its customers); to **lower production costs** by locating labour-intensive stages of production in countries with cheaper labour; to **avoid trade barriers** by producing *inside* a target market rather than exporting into it from abroad, thereby side-stepping any tariff or quota that market imposes on imports; and to **access natural resources** located in a particular country (e.g. minerals, oil, agricultural land) that cannot be relocated elsewhere.



A stylised MNC production network: the head office (home country) invests capital and technology (FDI) into a factory in a host country; the factory draws raw materials from a resource-rich country, sells finished goods directly into a target market (avoiding that market's own trade barriers by producing inside it), and repatriates profits back to the head office.

GIẢI THÍCH TIẾNG VIỆT

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Công ty đa quốc gia (MNC) mở rộng ra nước ngoài vì bốn lý do chính: (1) **tiếp cận thị trường mới**; (2) **giảm chi phí sản xuất** (lao động rẻ hơn); (3) **tránh rào cản thương mại** bằng cách sản xuất NGAY TRONG thị trường mục tiêu thay vì xuất khẩu vào đó; (4) **tiếp cận tài nguyên thiên nhiên**. Sơ đồ trên minh họa dòng vốn đầu tư (từ trụ sở chính ra nhà máy), dòng nguyên liệu (từ nước giàu tài nguyên vào nhà máy), dòng hàng hóa (từ nhà máy ra thị trường mục tiêu), và dòng lợi nhuận chuyển về (từ nhà máy về trụ sở chính).

6.5.3 Benefits of globalisation

Benefits for host developing countries, consumers, and firms

Host developing countries typically gain: **jobs** created directly by MNC investment and indirectly through local supplier networks; **technology transfer**, as local workers and firms learn modern production techniques and management practices from MNC operations; **tax revenue** from MNC profits, wages, and local spending; **infrastructure investment**, sometimes undertaken or supported by MNCs to serve their own operations but also benefiting the wider local economy (roads, ports, power); and **export growth**, as MNC-owned factories often produce primarily for export to the rest of the world. **Consumers worldwide** gain **wider choice** (access to a far larger range of goods and brands from around the world) and **lower prices**, driven by

the intensified global competition and economies of scale that globalisation enables. **Firms** gain access to much **larger markets** than their home country alone, allowing them to exploit **economies of scale** and to **diversify risk** by spreading sales and production across multiple economies rather than depending on a single domestic market.

GIẢI THÍCH TIẾNG VIỆT

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Lợi ích của toàn cầu hóa: với **nước tiếp nhận đầu tư (đang phát triển)**: việc làm, chuyển giao công nghệ, thu ngân sách, đầu tư cơ sở hạ tầng, tăng trưởng xuất khẩu. Với **người tiêu dùng toàn cầu**: lựa chọn đa dạng hơn và giá thấp hơn nhờ cạnh tranh và lợi thế kinh tế theo quy mô. Với **doanh nghiệp**: tiếp cận thị trường lớn hơn, khai thác lợi thế theo quy mô, và đa dạng hóa rủi ro.

Ví dụ mẫu · Worked example – economies of scale from access to a larger (global) market

A firm's average cost of production is given by $AC = \frac{100}{Q} + 5$, where Q is output in thousands of units. Selling only in its home market, the firm produces $Q = 10$ (thousand units). After globalisation-driven trade liberalisation allows it to sell into the world market, it expands output to $Q = 50$ (thousand units). Calculate average cost in each case and comment.

$$\text{Home market only: } AC = \frac{100}{10} + 5 = 10 + 5 = \$15 \text{ per unit.}$$

$$\text{Global market: } AC = \frac{100}{50} + 5 = 2 + 5 = \$7 \text{ per unit.}$$

By selling into a much larger, global market, the firm's average cost falls from \$15 to \$7 per unit – a direct illustration of **economies of scale**: spreading a largely fixed cost component (captured by the $\frac{100}{Q}$ term) over a much larger volume of output. Some of this cost saving can then be passed on to consumers as lower prices, exactly as described in the case for free trade and the benefits of globalisation above.

6.5.4 Costs and criticisms of globalisation

Costs and criticisms

Profit repatriation: much of the profit generated by MNC operations in a host country flows back to shareholders in the MNC's home country rather than remaining in the local economy, reducing the net local benefit of hosting the investment. **Environmental damage and a "race to the bottom"**: as countries compete to attract mobile international investment, some may weaken environmental and labour-standard regulations to appear more attractive to MNCs, risking a downward spiral in standards; MNC production itself can also directly cause pollution and resource depletion in host countries. **Structural unemployment**: workers and regions in import-competing industries that cannot compete internationally can suffer significant, often long-lasting job losses as production shifts to lower-cost countries. **Cultural homogenisation**: the global spread of a relatively narrow set of dominant brands, products, and media can erode the diversity of local cultures and traditions. **Increased vulnerability to global economic shocks**: as economies become more interconnected through trade and financial linkages, a shock (financial crisis, pandemic, commodity price collapse) originating in one part of the world can spread rapidly to others through trade and investment channels ("contagion"), a risk that is smaller for more closed, self-sufficient economies.

GIẢI THÍCH TIẾNG VIỆT

VN

Chi phí/chỉ trích đối với toàn cầu hóa: **chuyển lợi nhuận về nước** (lợi ích cục bộ giảm); **tổn hại môi trường** và nguy cơ "cuộc đua xuống đáy" về tiêu chuẩn môi trường/lao động; **thất nghiệp cơ cấu** ở các ngành cạnh tranh nhập khẩu không thể cạnh tranh quốc tế; **đồng nhất hóa văn hóa**; và **dễ tổn thương hơn trước các cú sốc kinh tế toàn cầu** do các nền kinh tế ngày càng liên kết chặt chẽ với nhau.

Ví dụ mẫu · Worked example – quantifying profit repatriation

An MNC-owned factory in a host country generates an annual profit of \$80 million. Local wages and taxes paid to the host government total a further \$25 million, and the parent company repatriates \$65 million of the profit back to shareholders in its home country, reinvesting only \$15 million locally. Calculate the total financial benefit retained in the host economy (wages/taxes plus reinvested profit) as a percentage of the factory's total profit plus wages/taxes.

Total value generated locally (available for retention) = \$80m (profit) + \$25m (wages/taxes) = \$105 million.

Amount retained locally = \$25m (wages/taxes) + \$15m (reinvested profit) = \$40 million.

$$\text{Share retained locally} = \frac{\$40\text{m}}{\$105\text{m}} \times 100 \approx 38.1\%.$$

Despite the factory generating \$105 million in total local economic value, only about 38% is actually retained within the host economy; the remaining 62% (the \$65 million in repatriated profit) flows back to the MNC's home-country shareholders – a concrete illustration of why profit repatriation limits the *net* local benefit of hosting MNC investment, even where jobs, taxes, and export revenue are all genuinely being created.

(!) Lỗi thường gặp: Do not assume that jobs, tax revenue, and export figures reported for an MNC's host-country operations represent the *full* local benefit of that investment. A large share of the profit an MNC generates locally is frequently repatriated to shareholders in its home country, so the genuine net benefit retained in the host economy is usually considerably smaller than the total value the operation appears to generate.

Stakeholder	Benefit	Cost / criticism
Host developing country	Jobs, technology transfer, tax revenue, infrastructure, export growth	Profit repatriation, environmental damage, "race to the bottom" in standards
Domestic import-competing workers	–	Structural unemployment as production shifts to lower-cost countries
Consumers world-wide	Wider choice, lower prices from competition and economies of scale	Cultural homogenisation around dominant global brands
Firms / the wider economy	Larger markets, economies of scale, diversified risk	Greater exposure to global economic shocks and contagion

Globalisation's benefits and costs are distributed unevenly across different stakeholders, which is why its overall effect on any one country depends heavily on which groups are considered.

Globalisation interacts closely with the development strategies discussed in Chapter 5: trade and FDI inflows are, in practice, two of the principal channels through which globalisation reaches developing economies, shaping whether a country's growth translates into broader development.

Ví dụ mẫu · Worked example – an MNC cost-benefit reasoning example

A clothing MNC currently manufactures at home at a cost of \$8 per unit and exports its output to Country X, where a 20% import tariff applies. It is considering instead building a factory located inside Country X, where local labour costs would be \$6 per unit and local distribution would cost a further \$0.40 per unit, with no tariff payable (since the goods would be produced, not imported, within Country X). Calculate the landed cost per unit under each option, and explain which two motives for becoming multinational this decision illustrates.

Continuing to export (with tariff): landed cost = $\$8 \times (1 + 0.20) = \$8 \times 1.20 = \$9.60$ per unit.

Producing inside Country X: landed cost = $\$6 + \$0.40 = \$6.40$ per unit.

Saving from relocating production = $\$9.60 - \$6.40 = \$3.20$ per unit.

Relocating production to Country X is considerably cheaper (\$6.40 vs. \$9.60 per unit landed cost), so the MNC has a clear cost incentive to invest directly in Country X rather than continuing to export. This decision illustrates two classic motives for becoming multinational simultaneously: **avoiding a trade barrier** (the 20% tariff no longer applies once production happens inside Country X) and **accessing lower production costs** (local labour at \$6 per unit is cheaper than the \$8 home production cost, even before the tariff saving is considered).

6.6 Practice and Exam-Style Questions

Bài tập luyện tập

One worker-hour in Country E can produce either 9 units of Grain or 3 units of Steel. One worker-hour in Country F can produce either 4 units of Grain or 4 units of Steel. (a) Calculate the opportunity cost of Steel in each country. (b) State which country should specialise in which good, justifying your answer using opportunity cost.

Lời giải chi tiết

(a) Country E: OC of 1 Steel = $\frac{9}{3} = 3$ Grain. Country F: OC of 1 Steel = $\frac{4}{4} = 1$ Grain.

(b) Country F has the lower opportunity cost of Steel (1 Grain < 3 Grain), so **Country F should specialise in Steel**. Equivalently, Country E's OC of Grain = $\frac{3}{9} = 0.33$ Steel, which is lower than Country F's OC of Grain ($\frac{4}{4} = 1$ Steel), so **Country E should specialise in Grain**. The two conclusions are consistent (each country specialises in the good for which it does *not* have the lower opportunity cost of the other good).

Bài tập luyện tập

Referring to the Country A / Country B production possibility curve diagram earlier in this chapter (Country A: 60 labour-hours, up to 600 Cloth or 300 Wine), suppose Country A instead trades to reach a consumption point of 350 Cloth and 200 Wine. (a) Using the PPC equation $\frac{\text{Cloth}}{600} + \frac{\text{Wine}}{300} = 1$ for points exactly on the PPC, determine whether this consumption point lies on, inside, or beyond Country A's domestic PPC. (b) Explain what your answer implies about whether this consumption point requires trade.

Lời giải chi tiết

(a) $\frac{350}{600} + \frac{200}{300} = 0.583 + 0.667 = 1.25$. Since this sum exceeds 1, the point (350 Cloth, 200 Wine) lies **beyond** Country A's domestic PPC.

(b) Because the point lies beyond the domestic PPC, Country A could not reach this combination of Cloth and Wine through domestic production alone, however it allocates its 60 labour-hours; reaching it requires specialising according to comparative advantage and **trading** with another country (such as Country B) at an agreed terms-of-trade rate, exactly as illustrated in the worked PPC example earlier in this chapter.

Bài tập luyện tập

- (A) A country has a comparative advantage in a good if it
- (B) Can produce more of that good than another country with the same resources
- (C) Can produce that good at a lower opportunity cost than another country
- (D) Has a lower wage rate than another country

Exports more of that good than it imports

Lời giải chi tiết

Correct answer: (B). Comparative advantage is defined by a lower *opportunity cost* of production relative to another good, not by absolute output levels (A, an absolute-advantage definition), wage rates (C), or existing trade volumes (D).

Bài tập luyện tập

Using the Country C / Country D data from the worked example in this chapter (Rice and Machinery), suppose instead Country C has 150 worker-days and Country D has 80 worker-days available. Calculate total world output of Rice and Machinery (i) if each country splits its labour equally between the two goods, and (ii) after each country fully specialises according to comparative advantage. State whether both goods show a gain from specialisation.

Lời giải chi tiết

Recall: Country C produces 8 Rice or 4 Machinery per worker-day (specialises in Rice); Country D produces 5 Rice or 5 Machinery per worker-day (specialises in Machinery).

(i) Equal split: Country C (75 days each): $75 \times 8 = 600$ Rice, $75 \times 4 = 300$ Machinery. Country D (40 days each): $40 \times 5 = 200$ Rice, $40 \times 5 = 200$ Machinery. World total: Rice = $600 + 200 = 800$; Machinery = $300 + 200 = 500$.

(ii) Full specialisation: Country C (150 days to Rice): $150 \times 8 = 1,200$ Rice, 0 Machinery. Country D (80 days to Machinery): 0 Rice, $80 \times 5 = 400$ Machinery. World total: Rice = 1,200; Machinery = 400.

Comparing: Rice rises from 800 to 1,200 (+400), but Machinery *falls* from 500 to 400 (−100). Unlike the equal-worker-day example in the chapter, here **only one** good (Rice) shows a gain in total world output under full specialisation, illustrating that the size and direction of each good's change in total output depends on the specific labour endowments involved; the theoretical case for trade still rests on both countries being able to *consume* more of both goods than in autarky by trading at an intermediate rate, not on every single worked numerical example automatically showing both totals rising.

Bài tập luyện tập

A country's export price index rises from 100 to 135 over five years, while its import price index rises from 100 to 150 over the same period. Calculate the terms of trade index after five years and state whether the terms of trade have improved or deteriorated.

Lời giải chi tiết

$$\text{Terms of trade index} = \frac{135}{150} \times 100 = 90.$$

The index has fallen from 100 to 90, so the terms of trade have **deteriorated** by 10%: a given quantity of this country's exports now buys about 10% fewer imports than five years earlier, because import prices have risen faster than export prices.

Bài tập luyện tập

- (A) Which of the following is an assumption of the basic comparative advantage model? (C) Opportunity costs change as production expands (economies of scale)
- (B) Transport costs between countries are significant (D) Factors of production are perfectly mobile domestically but immobile internationally

Consumers value branding and product quality above price

Lời giải chi tiết

Correct answer: (C). The basic model assumes no transport costs (contradicting A), constant opportunity costs with no scale effects (contradicting B), and ignores non-price factors such as branding (contradicting D) – leaving (C), perfect domestic mobility but international immobility of factors, as the genuine simplifying assumption.

Bài tập luyện tập

The exchange rate is £1 = \$1.45. (a) Convert £820 into US dollars. (b) A separate transaction requires converting \$1,131 into pounds at this same rate. Calculate the amount in pounds, and explain why your two calculations in (a) and (b) use opposite arithmetic operations.

Lời giải chi tiết

(a) $£820 \times 1.45 = \$1,189$.

(b) $\$1,131 \div 1.45 = £780$.

Converting from pounds *into* dollars means **multiplying** by the exchange rate (since each pound is worth \$1.45, more dollars than pounds), while converting from dollars *into* pounds means **dividing** by the same rate (since it takes \$1.45 to make up just £1, so the dollar amount must be divided down into the smaller number of pounds it represents).

Bài tập luyện tập

For each scenario, state whether the domestic currency is likely to appreciate or depreciate, and explain the mechanism (via demand for or supply of the currency) in one sentence. (a) The central bank cuts interest rates sharply relative to other countries. (b) Global demand for the

country's main export commodity rises sharply. (c) Domestic inflation rises well above the rate in all major trading partners.

Lời giải chi tiết

(a) **Depreciation:** lower interest rates make domestic-currency deposits/bonds less attractive to foreign investors, reducing demand for the currency (and encouraging residents to invest abroad, increasing its supply).

(b) **Appreciation:** foreign buyers must purchase more of the domestic currency to pay for the now more sought-after commodity exports, increasing demand for the currency.

(c) **Depreciation:** higher relative inflation makes exports less price-competitive (reducing foreign demand for the currency) and imports relatively more attractive to domestic residents (increasing supply of the currency).

Bài tập luyện tập

Country G's currency depreciates by 15% against its major trading partners' currencies. Explain, referring to *both* exporters and consumers, why this depreciation might not immediately eliminate Country G's trade deficit, even though depreciation is generally expected to help exports.

Lời giải chi tiết

For depreciation to narrow a trade deficit, the physical *volumes* of exports and imports must respond enough to price changes (i.e. demand for exports and imports must be sufficiently price elastic). In the short run, foreign buyers may not immediately switch to now-cheaper exports (due to existing contracts, brand loyalty, or the time needed to find and start using new suppliers), and domestic consumers may be unable to quickly cut back on now more expensive imports (especially if imports are necessities with few domestic substitutes, e.g. certain raw materials or fuel). If both export and import volumes only adjust sluggishly at first, the immediate effect of depreciation can even be a *larger* trade deficit measured in domestic currency (import bills rise before export volumes catch up) before eventually improving as volumes adjust over time.

Bài tập luyện tập

A good is available on the world market at \$20 per unit. Domestic quantity demanded is $Q_d = 2,000 - 40P$. The government imposes a specific tariff of \$5 per unit. (a) Calculate quantity demanded before and after the tariff. (b) Calculate the tariff revenue collected by the government on the units still imported.

Lời giải chi tiết

(a) Before tariff ($P = \$20$): $Q_d = 2,000 - 40(20) = 2,000 - 800 = 1,200$ units. After tariff ($P = \$25$): $Q_d = 2,000 - 40(25) = 2,000 - 1,000 = 1,000$ units.

(b) Tariff revenue = $\$5 \times 1,000 = \$5,000$.

Bài tập luyện tập

Using the data in the previous question (world price \$20, $Q_d = 2,000 - 40P$), suppose the government instead imposes an import quota of exactly 1,000 units (matching the post-tariff

quantity). (a) Find the domestic price consumers must pay under the quota. (b) Explain one key difference between the tariff and quota outcomes even though price and quantity are identical.

Lời giải chi tiết

(a) Setting $Q_d = 1,000 = 2,000 - 40P \Rightarrow 40P = 1,000 \Rightarrow P = \25 – the same price as under the \$5 tariff.
(b) Although price (\$25) and quantity (1,000 units) are identical, under the tariff the \$5-per-unit gap between the \$20 world price and \$25 domestic price (\$5,000 total) is collected by the **government**; under the quota, this same gap accrues as a scarcity rent to whoever holds the import licences, unless the government auctions those licences itself.

Bài tập luyện tập

- (A) A subsidy paid to domestic producers of a good competing against imports works primarily by
- (C) Restricting the physical quantity of imports allowed
- (B) Taxing imports directly at the border
- (D) Shifting the domestic supply curve to the right, lowering domestic firms' effective production cost

Fixing the exchange rate to make imports more expensive

Lời giải chi tiết

Correct answer: (C). A subsidy lowers domestic producers' effective cost of production, shifting domestic supply to the right, without directly taxing imports (A, a tariff), capping import quantity (B, a quota), or altering the exchange rate (D).

Bài tập luyện tập

Domestic supply of a good is $Q_s = -60 + 8P$, and the fixed world price is \$25. The government pays domestic producers a subsidy of \$3 per unit. (a) Calculate domestic quantity supplied before and after the subsidy. (b) Calculate the total cost of the subsidy to the government. (c) Explain one way this policy differs from an equivalent tariff in its effect on consumers.

Lời giải chi tiết

(a) Before: $Q_s = -60 + 8(25) = -60 + 200 = 140$ units. After (producers effectively receive $25 + 3 = \$28$): $Q_s = -60 + 8(28) = -60 + 224 = 164$ units.
(b) Subsidy cost = $\$3 \times 164 = \492 .
(c) A subsidy leaves the price paid by **consumers** unchanged at the \$25 world price, since it operates only on the effective price received by domestic producers; an equivalent tariff, by contrast, would raise the price consumers pay directly, making consumers unambiguously worse off in a way this subsidy policy does not.

Bài tập luyện tập

"Protecting domestic jobs is always a sufficient justification for imposing a tariff." Evaluate this statement, referring to at least one argument for and one argument against protectionism covered in this chapter.

Lời giải chi tiết

The statement is too simplistic and should be rejected in this absolute form. It is true that a tariff can protect employment directly within the specific industry shielded from foreign competition, which is a genuine short-run benefit, especially where the affected industry is geographically concentrated and job losses would be politically and socially costly. However, protecting jobs in one industry is not automatically a net gain for total employment: if the protected good is also used as an input by other domestic industries (e.g. protecting a domestic steel industry raises costs for domestic car manufacturers that use steel), the tariff can raise costs and destroy jobs elsewhere in the economy, potentially by more than the jobs saved in the protected industry. In addition, a broader case for free trade (efficient resource allocation via comparative advantage, lower prices, greater competition and choice, economies of scale, technology transfer) is being sacrificed by the tariff, and trading partners may retaliate with tariffs of their own, harming other domestic exporters. A more defensible position is that job protection can be *one legitimate consideration* among several, to be weighed against these costs, rather than an automatically sufficient justification on its own.

Bài tập luyện tập

Explain briefly what the World Trade Organisation (WTO) does, and identify one connection between its work and the case for free trade discussed in this chapter.

Lời giải chi tiết

The WTO is the main international institution promoting multilateral trade liberalisation: it negotiates rounds of reductions in tariffs and other trade barriers among member countries, sets agreed rules for international trade, and provides a mechanism for resolving trade disputes between members. Its work is directly connected to the case for free trade: by coordinating reductions in tariffs, quotas, and other barriers across many countries simultaneously, the WTO helps countries realise the gains from comparative advantage, lower prices, and economies of scale described earlier in this chapter, which might otherwise be undermined if countries protected their markets unilaterally or engaged in retaliatory protectionism against one another.

Bài tập luyện tập

A country records the following for one year: trade in goods –\$150 million; trade in services +\$60 million; net investment income –\$8 million; net current transfers +\$18 million. (a) Calculate the current account balance. (b) State whether this is a deficit or a surplus.

Lời giải chi tiết

- (a) $-\$150\text{m} + \$60\text{m} - \$8\text{m} + \$18\text{m} = -\$80\text{ million}$.
(b) This is a current account **deficit** of \$80 million, driven primarily by a large trade-in-goods deficit only partly offset by a services surplus and net transfers, with a small net investment-income outflow adding slightly to the deficit.

Bài tập luyện tập

- (A) Which of the following would be classified under the current account's *secondary income* component?
- (B) Profits earned by a domestic firm's foreign subsidiary
- (C) A migrant worker sending money home to their family abroad
- (D) A country's exports of manufactured cars
- A foreign company building a new factory in the country

Lời giải chi tiết

Correct answer: **(B)**. Secondary income records current transfers for which nothing is received in direct economic return, such as remittances (B) and foreign aid. Profits from a foreign subsidiary (A) belong to primary income; exports of cars (C) belong to visible trade; a new factory built by a foreign company (D) is foreign direct investment, recorded in the financial account, not the current account.

Bài tập luyện tập

A country has run a current account deficit for over a decade. Using material from this chapter and Chapter 4, explain (a) two possible underlying causes of this persistent deficit, and (b) two possible policy responses, noting one drawback of each response.

Lời giải chi tiết

(a) Two possible causes: (i) the economy may have been growing consistently faster than its major trading partners, so rising domestic incomes have persistently sucked in more imports than the more slowly growing partners have bought in return; (ii) the country may have suffered a loss of international competitiveness, for instance through persistently higher domestic inflation than its trading partners (making its exports steadily less price-competitive) or a currency that has remained overvalued/appreciated for a sustained period.

(b) Two possible responses: (i) **contractionary fiscal or monetary policy** (as in Chapter 4) to deflate domestic demand and reduce import spending – the drawback is that this deliberately slows growth and can raise unemployment; (ii) **allowing/encouraging currency depreciation** to make exports cheaper and imports more expensive – the drawback is that, in the short run, if export and import volumes are not very price elastic, the deficit (measured in domestic currency) may not improve quickly, and depreciation itself raises the cost of imported goods for domestic consumers and firms.

Bài tập luyện tập

Explain one way in which a persistent current account deficit is linked to the exchange rate factors discussed earlier in this chapter (i.e. describe the two-way relationship between the current account and the exchange rate).

Lời giải chi tiết

The relationship runs in both directions. From the current account to the exchange rate: a persistent current account deficit means the country's residents are, on net, supplying more of the domestic currency (to buy imports) than foreigners are demanding of it (to buy exports), which tends to push the exchange rate toward depreciation over time. From the exchange

rate to the current account: an appreciated (overvalued) exchange rate makes exports more expensive and imports cheaper in relative terms, which can itself be a *cause* of a widening current account deficit, by discouraging exports and encouraging import spending. In other words, a weak current account position and an overvalued exchange rate can reinforce each other unless something (market forces or policy) allows the exchange rate to adjust.

Bài tập luyện tập

List and briefly explain three drivers of globalisation discussed in this chapter, and for each, give one concrete example of how it has increased international economic interconnection.

Lời giải chi tiết

Any three of: (1) **Falling transport costs** – e.g. containerisation and larger cargo ships have dramatically cut the cost of shipping goods across oceans, making it economical to manufacture components in one country and assemble them in another. (2) **Improvements in communication/technology** – e.g. the internet and mobile telecommunications allow a firm's head office to coordinate production schedules and quality control with factories on the other side of the world in real time. (3) **Trade liberalisation** – e.g. WTO-coordinated rounds of tariff reductions, or regional trade agreements, have progressively lowered the cost of trading across many borders. (4) **Growth of MNCs** – e.g. a single MNC's decision to build production facilities across several countries directly creates new cross-border trade and investment links. (5) **Deregulation of international capital movements** – e.g. the removal of controls on foreign investment has allowed far larger and faster cross-border financial flows than in previous decades.

Bài tập luyện tập

- (A) A firm becomes multinational by building a factory inside a country that imposes a high tariff on the finished good, primarily in order to
- (B) Access cheaper natural resources un-
- (C) Avoid paying the tariff by producing the good inside the protected market
- (D) Take advantage of a more favourable exchange rate
- Reduce its exposure to global economic shocks

Lời giải chi tiết

Correct answer: **(B)**. Producing inside a market that imposes a tariff on the finished good side-steps that tariff entirely, since the good is no longer imported – this is the “avoiding trade barriers” motive for becoming multinational, distinct from the resource-access motive (A) or other considerations (C, D).

Bài tập luyện tập

A country hosting a large MNC-owned factory experiences rising exports, new jobs, and tax revenue, but a national newspaper reports that “almost none of the factory’s profit stays in the local economy.” Using material from this chapter, explain how both statements can be true at the same time.

Lời giải chi tiết

Both statements can be true because MNC investment generates several distinct *types* of benefit to the host economy, of which retained local profit is only one. The factory directly creates jobs and, indirectly, further employment through local suppliers; it generates tax revenue from wages, local spending, and (depending on the tax regime) some corporate profit; and its output being exported raises the country's export earnings — all of these benefits can be substantial even while the after-tax *profit* of the operation is largely repatriated to shareholders in the MNC's home country, precisely because profit repatriation (one of the standard criticisms of globalisation) reduces only the profit-based component of local benefit, not the wage, tax, and export-revenue components.

Bài tập luyện tập

Evaluate the view that globalisation has been unambiguously beneficial for developing (host) countries. Refer to at least two benefits and two costs discussed in this chapter.

Lời giải chi tiết

The view should be rejected in its unambiguous form; the true picture is mixed and depends heavily on how globalisation is managed. On the benefit side, globalisation has brought many developing host countries substantial job creation from MNC-owned factories and their local supplier networks, technology transfer as local workers and firms learn modern production methods, tax revenue, infrastructure investment, and export growth — several of these channels overlap directly with the development strategies (trade and FDI) discussed in Chapter 5. On the cost side, profit repatriation limits how much of the value created actually remains in the host economy; competitive pressure to attract mobile international investment can encourage a "race to the bottom" in environmental and labour standards; import-competing domestic industries that cannot compete internationally can suffer structural unemployment; and deeper integration into the world economy increases exposure to global economic shocks transmitted through trade and financial linkages. A balanced conclusion is that globalisation creates substantial *potential* gains for developing host countries, but realising them net of the costs typically requires deliberate policy (e.g. requiring some local reinvestment or training conditions on FDI, maintaining environmental/labour standards, diversifying rather than depending on a single MNC-dominated sector) rather than assuming the benefits will automatically outweigh the costs.

Bài tập luyện tập

A government is deciding between two responses to intensifying import competition in a domestic industry: (i) impose a tariff, permanently, on the competing import; or (ii) provide temporary financial support to help displaced workers retrain and relocate to growing industries, while allowing free trade to continue. Using ideas from this chapter and Chapter 2 (market intervention), evaluate which response is likely to leave the economy better off in the long run.

Lời giải chi tiết

Option (i), a permanent tariff, protects the domestic industry's price and output directly but imposes ongoing costs: domestic consumers permanently pay a higher price and have less choice (loss of the free-trade benefits set out in this chapter), resource allocation becomes less efficient because production no longer follows comparative advantage, and the protected industry has little incentive to become internationally competitive if protection never ends

(the same "never grows up" weakness identified for infant-industry protection). It also risks retaliation from trading partners against the country's own exporters. Option (ii) allows the economy to keep capturing the standard gains from free trade (lower prices, wider choice, efficient resource allocation, competitive pressure on firms) while directly addressing the transitional cost of import competition — displaced workers — through retraining and relocation support, similar in spirit to how targeted government intervention (as studied for correcting market failure and supporting vulnerable groups in Chapter 2) can address a specific problem without permanently distorting the whole market. Although option (ii) requires upfront government spending and does not eliminate the short-run hardship faced by displaced workers, it is generally judged more likely to leave the economy better off in the long run, because it avoids indefinitely sacrificing the economy-wide efficiency gains from trade to protect one industry.

Bài tập luyện tập

- (A) Which of the following best illustrates the "race to the bottom" criticism of globalisation? (C) Two countries competing for the same MNC factory both offer to relax environmental regulations to attract the investment
- (B) A country reduces tariffs on imported cars, lowering prices for consumers (D) An MNC transfers modern production technology to its overseas factory

A country experiences a current account surplus due to strong export demand

Lời giải chi tiết

Correct answer: **(B)**. The "race to the bottom" describes countries competing for mobile international investment by weakening environmental or labour standards, exactly as described in (B). Tariff reduction (A) reflects trade liberalisation, not standards competition; technology transfer (C) is a benefit rather than a criticism; a current account surplus (D) is unrelated to the standards-competition mechanism.

Bài tập luyện tập

Country H's central bank is considering raising domestic interest rates to combat inflation. Using material from this chapter (exchange rates) and Chapter 4 (monetary policy), explain one way in which this decision could affect Country H's balance of payments.

Lời giải chi tiết

Raising domestic interest rates, as a tool of contractionary monetary policy (Chapter 4), is likely to attract short-term speculative capital inflows ("hot money") seeking the now higher domestic return, increasing demand for Country H's currency and causing it to appreciate. This appreciation would then feed into the current account (this chapter): Country H's exports become more expensive in foreign-currency terms (potentially reducing export volumes and worsening the trade balance), while imports become cheaper for domestic residents (potentially increasing import spending). Both effects would tend to *worsen* the current account balance, even though the same interest rate rise is simultaneously working (through reduced domestic demand) to bring down inflation — illustrating a potential conflict between the goals of controlling inflation and maintaining a healthy current account position.

Bài tập luyện tập

A student claims: “Because trade is based on comparative advantage, and comparative advantage is a form of opportunity cost reasoning, any government intervention that prevents a country from following its comparative advantage (such as a tariff) must always reduce a country’s opportunity-cost efficiency and therefore its welfare.” Evaluate this claim, referring to at least one legitimate argument for protectionism from this chapter.

Lời giải chi tiết

The claim is broadly correct in its narrow economic logic – a tariff does prevent a country from fully following comparative advantage, generally lowering the overall efficiency of resource allocation and raising domestic prices, exactly the sacrifice made whenever a tariff is imposed – but it is too strong in concluding that welfare must *always* fall once every consideration is weighed. Some arguments for protectionism (e.g. infant industry protection, or maintaining minimum domestic capacity in a strategically important industry such as food or energy for national security) accept the static efficiency loss identified by the comparative advantage model as a deliberate, temporary or insurance-like cost, in exchange for a benefit the pure comparative-advantage framework does not capture at all – such as building a future competitive industry, or insuring against the risk of unreliable foreign supply during a crisis. Whether such protection genuinely raises overall welfare depends on whether the additional benefit (successfully “growing up,” or the value of the security insured against) exceeds the efficiency cost highlighted by the student’s claim – this is precisely the evaluative trade-off this chapter identifies for each argument for protectionism, rather than a case where the comparative-advantage logic can simply be declared decisive on its own.

Bài tập luyện tập

Study the data: a country’s current account has been in deficit for eight consecutive years, and its currency has depreciated by 30% over the same period, yet the deficit has continued to widen rather than narrow. Suggest two possible explanations for why depreciation has failed to correct the deficit, drawing on material from this chapter.

Lời giải chi tiết

Two possible explanations: (1) **Low price elasticity of demand for exports and imports:** if foreign demand for this country’s exports and domestic demand for imports are both price inelastic (e.g. because imports are necessities with few domestic substitutes, or exports face limited demand response to lower prices due to weak underlying foreign demand conditions), then the change in *volumes* traded following depreciation may be too small to offset the change in *prices*, so the deficit measured in value terms does not improve as the simple theory predicts. (2) **Underlying structural loss of competitiveness continuing to worsen:** if the country’s exporting industries are in structural decline (e.g. persistent underinvestment, or domestic inflation continuing to run above trading partners’ even as the currency depreciates), the depreciation may simply be offsetting a continuously worsening underlying competitiveness problem rather than actually improving it, so the deficit continues to widen despite (indeed, partly *because* of the underlying causes of) the falling currency.

Bài tập luyện tập

Using the full range of material in this chapter, write a short evaluation of the following claim: "For a small, developing economy, joining fully into globalisation (free trade, open capital markets, courting foreign MNC investment) is always the best strategy for raising living standards."

Lời giải chi tiết

The claim should be evaluated rather than accepted outright. In its favour, the theoretical case for trade developed early in this chapter shows that specialising according to comparative advantage and trading freely raises total world output and can allow even a small economy to consume combinations of goods beyond what it could produce alone; openness to FDI and globalisation more broadly can bring jobs, technology transfer, tax revenue, infrastructure investment, and export growth of the kind discussed in Section 6.5, complementing the trade- and FDI-based development strategies introduced in Chapter 5. However, the claim's use of "always" is too strong. A small economy that opens fully to global markets and capital flows without complementary domestic policy can experience: profit repatriation limiting the local benefit of hosting MNC investment; structural unemployment in import-competing industries unable to compete internationally; a "race to the bottom" in environmental/labour standards if it competes purely on cost to attract investment; heightened vulnerability to global economic shocks and volatile short-term capital flows (which can also destabilise its exchange rate, per the exchange rate analysis earlier in this chapter); and, in the extreme, a permanent, low-value-added role in global production if it never invests in the human capital and infrastructure needed to move into higher-value activities. A more defensible conclusion is that globalisation offers a small developing economy substantial *potential* gains, but converting that potential into a genuine, broad-based rise in living standards depends on complementary domestic policy (education, infrastructure, sound institutions, selective conditions on foreign investment, diversification) rather than openness alone being automatically sufficient.

Bài tập luyện tập

Country L records a current account deficit of \$9 billion in a year when its GDP is \$90 billion. Country M records a current account deficit of \$9 billion in a year when its GDP is \$3,000 billion. (a) Express each deficit as a percentage of GDP. (b) Explain why comparing the two deficits only in dollar terms would be misleading.

Lời giải chi tiết

- (a) Country L: $\frac{\$9\text{bn}}{\$90\text{bn}} \times 100 = 10\%$ of GDP. Country M: $\frac{\$9\text{bn}}{\$3,000\text{bn}} \times 100 = 0.3\%$ of GDP.
(b) Comparing only the raw \$9 billion figures would wrongly suggest the two countries face an equally serious problem. Once each deficit is scaled by the size of the economy generating it, Country L's position (10% of GDP) is far more serious and potentially unsustainable than Country M's (0.3% of GDP), which is easily manageable for an economy of that size.

Bài tập luyện tập

A firm's average cost of production is $AC = \frac{240}{Q} + 8$, where Q is output in thousands of units. It currently sells only domestically, producing $Q = 20$. After joining a regional customs union that removes tariffs between member countries, it expands output to $Q = 60$ by selling across the whole bloc. (a) Calculate average cost before and after the expansion. (b) Explain, using

one idea from this chapter, why the customs union might not raise welfare as much as this cost saving alone would suggest.

Lời giải chi tiết

(a) Before: $AC = \frac{240}{20} + 8 = 12 + 8 = \20 . After: $AC = \frac{240}{60} + 8 = 4 + 8 = \12 . Average cost falls from \$20 to \$12 per unit, an economies-of-scale gain from access to the larger bloc-wide market.

(b) A customs union can cause **trade diversion**: if the union's common external tariff against non-members means this firm's home country now imports certain inputs (or consumers now buy certain finished goods) from a higher-cost producer inside the union rather than a genuinely lower-cost producer outside it, some of the efficiency gain from the union's internal trade creation is offset by this less efficient pattern of trade with the rest of the world.

Ôn tập nhanh: (1) lợi thế so sánh dựa trên chi phí cơ hội THẤP HƠN (không phải lợi thế tuyệt đối) – mỗi nước chuyên môn hóa hàng hóa có chi phí cơ hội thấp nhất, và tổng sản lượng thế giới có thể tăng nhờ chuyên môn hóa và thương mại; tỉ lệ trao đổi thương mại (terms of trade) = $\frac{\text{chỉ số giá xuất khẩu}}{\text{chỉ số giá nhập khẩu}} \times 100$, tăng là cải thiện; (2) tỉ giá hối đoái thả nổi do cung-cầu ngoại tệ quyết định – cầu đến từ xuất khẩu/đầu tư vào/đầu cơ mua, cung đến từ nhập khẩu/đầu tư ra/đầu cơ bán; lên giá làm xuất khẩu ĐẮT hơn và nhập khẩu RẺ hơn (giảm lạm phát chi phí đẩy), giảm giá thì ngược lại hoàn toàn; (3) thuế quan tăng GIÁ nhập khẩu (giảm lượng gián tiếp, tạo doanh thu chính phủ); hạn ngạch giới hạn trực tiếp SỐ LƯỢNG (giá tăng là hệ quả phụ, không tạo doanh thu chính phủ trừ khi đấu giá giấy phép); trợ cấp giảm chi phí sản xuất nội địa (dịch chuyển cung sang phải, tổn ngân sách); (4) các lập luận bảo hộ (bảo vệ ngành non trẻ, việc làm, chống bán phá giá, an ninh quốc gia, khắc phục thâm hụt) đều có phản biện tương ứng, trong khi thương mại tự do mang lại hiệu quả phân bổ, giá thấp, cạnh tranh, lợi thế quy mô, và chuyển giao công nghệ; (5) cán cân thanh toán gồm ba tài khoản (vãng lai, vốn, tài chính) – tài khoản vãng lai = thương mại hữu hình + vô hình + thu nhập sơ cấp + thu nhập thứ cấp, có thể là thặng dư hoặc thâm hụt; (6) thâm hụt vãng lai kéo dài thường do tăng trưởng nhanh hơn đối tác hoặc mất sức cạnh tranh, ứng phó bằng giảm phát tổng cầu (chính sách tài khóa/tiền tệ thắt chặt, liên hệ Chương 4), chính sách trọng cung, để đồng tiền giảm giá, hoặc bảo hộ mậu dịch (gây tranh cãi); (7) toàn cầu hóa được thúc đẩy bởi chi phí vận chuyển giảm, công nghệ, tự do hóa thương mại, sự phát triển của MNCs, và tự do hóa dòng vốn – MNCs mở rộng để tiếp cận thị trường, giảm chi phí, tránh rào cản thương mại, và tiếp cận tài nguyên; (8) toàn cầu hóa mang lại việc làm, chuyển giao công nghệ, giá thấp hơn và lựa chọn đa dạng hơn, nhưng cũng gây ra chuyển lợi nhuận về nước, tổn hại môi trường, thất nghiệp cơ cấu, và dễ tổn thương hơn trước các cú sốc kinh tế toàn cầu – liên hệ trực tiếp với các chiến lược phát triển (thương mại, FDI) đã học ở Chương 5.

Đồng hành cùng 8020 English

Cảm ơn bạn đã học cùng bộ giáo trình quốc tế 8020. **Điểm thật · Thầy thật · Kết quả thật** — nhiều học viên chỉ cần 1–2 khoá để đạt kết quả mong muốn.

Chương trình đào tạo tại 8020 English

IELTS Academic/General · SAT · PTE · Duolingo · TOEFL | AP (College Board) · IB Diploma · Cambridge IGCSE / A-Level | sẵn học bổng du học.

Vì sao chọn 8020 English?

- **100% giáo viên** đạt tối thiểu 8.0 IELTS hoặc 1500 SAT — đội ngũ Giáo sư · Tiến sĩ · Thạc sĩ tốt nghiệp trường top đầu thế giới (Carnegie Mellon — #1 Hoa Kỳ về Khoa học Máy tính).
- **Kèm 1–1** mọi độ tuổi; lớp sĩ số nhỏ 2–5 bạn (đa số dưới 10 bạn/lớp).
- Lộ trình cá nhân hoá, theo sát tiến độ từng học viên; lớp OFFLINE tại TP.HCM & ONLINE toàn quốc.

Bảng vàng học viên

AP 5/5 — Calculus AB/BC
SAT 1590 / 1570 / 1550

AP 4–5 — Biology, Chemistry
IELTS 8.0–9.0

IB 90/100 — Economics
Duolingo 110 · PTE 90

Cảm nhận học viên & phụ huynh

"Bạn đã cải thiện được tư duy Writing — kỹ năng từng là nỗi sợ lớn nhất — và cuối cùng đã đậu vào trường top như mong muốn. Thái độ học tập cực kỳ nghiêm túc; ngay cả khi nằm viện vẫn cố gắng học đều đặn."

— Phan Thị Thanh Hằng • IELTS Overall 8.5

"Cần tất cả kỹ năng trên 7.5 để xét vào trường top 1 Anh Quốc về Y học (chương trình UKFPO của NHS) — và đã đạt mục tiêu sau khi học Writing 1-1."

— Trần Hoàng Bảo Ngọc • IELTS Overall 8.0 (Writing 6.0 → 7.5)

"Gia đình và bé xin cảm ơn thầy cô đã giúp con có hành trang chín chu khi qua Mỹ. Đạt điểm 5 môn Giải tích trong thời gian ngắn là quá mãn nguyện."

— Phụ huynh • AP Calculus BC 5/5

"Em cảm ơn thầy đã luôn đồng hành. Nhờ thầy, em học vững hơn rất nhiều dù thời gian ôn không dài."

— Học viên • AP Calculus AB 4

KẾT QUẢ HỌC VIÊN

FEEDBACK PHỤ HUYNH & HỌC VIÊN AP



Phụ huynh • AP Calculus BC: 5

"Gia đình cảm ơn thầy cô đã giúp con có hành trang chín chu khi qua Mỹ. Đạt điểm 5 môn Giải tích trong thời gian ngắn là quá mãn nguyện."



Phụ huynh • AP Calculus BC

"Mẹ con xin gửi lời cảm ơn chân thành tới thầy và cả nhóm. Thời gian ôn rất ngắn nhưng con nhận được rất nhiều sự hỗ trợ."



Học viên • AP Calculus AB: 4 • Statistics: 3

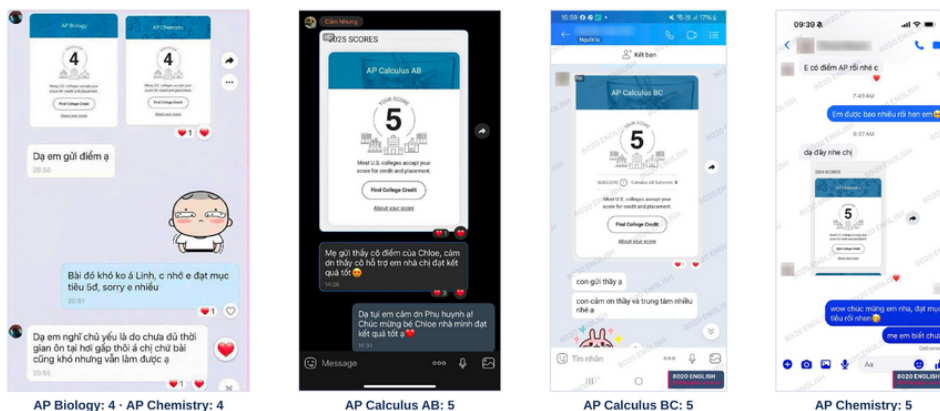
"Em cảm ơn thầy Steven đã luôn đồng hành. Nhờ thầy, em học vững hơn rất nhiều dù thời gian không dài."

Feedback phụ huynh & học viên AP — nhiều môn đạt điểm 4 & 5

Điểm thi thật của học viên

KẾT QUẢ HỌC VIÊN

ĐIỂM SỐ AP

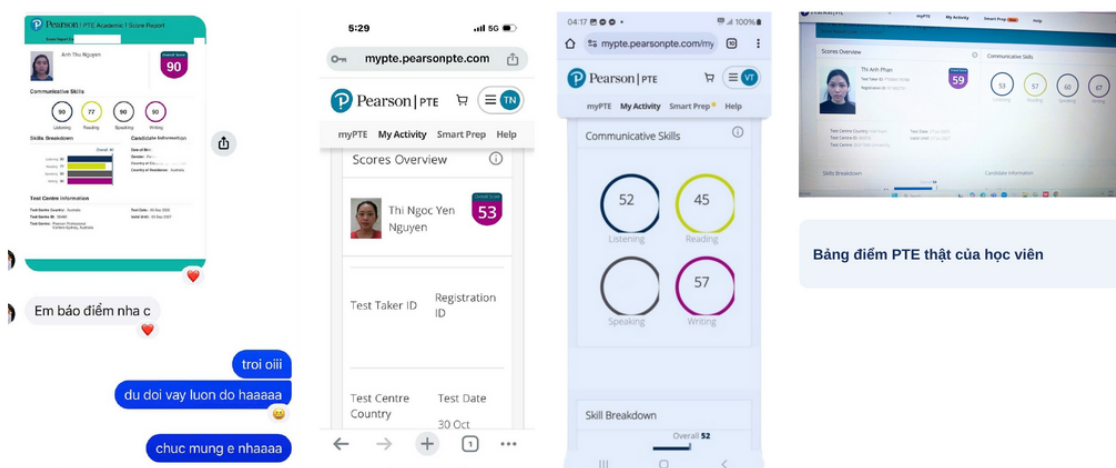
8020
ENGLISH

Bảng điểm AP thật của học viên – nhiều môn đạt điểm 4 & 5

Bảng điểm AP thật – Calculus AB/BC 5/5 · Biology & Chemistry 4-5 (College Board)

KẾT QUẢ HỌC VIÊN

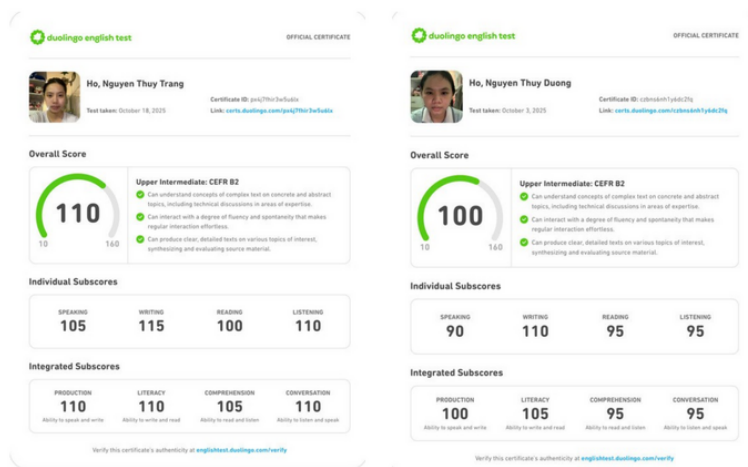
ĐIỂM SỐ PTE

8020
ENGLISH

Học viên 8020 – PTE Academic 90

KẾT QUẢ HỌC VIÊN

ĐIỂM SỐ DUOLINGO



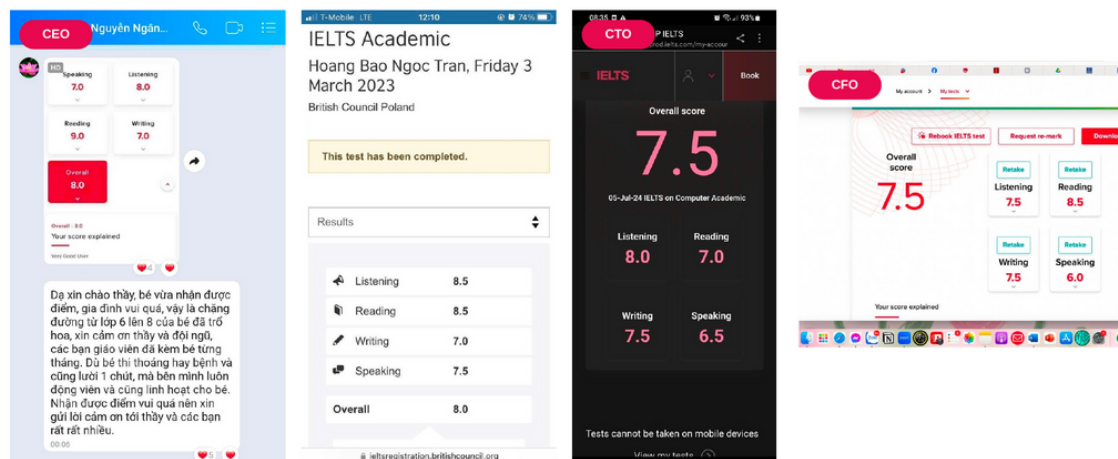
Duolingo English Test – 110 & 100

Học viên 8020 – Duolingo English Test 110 & 100

KẾT QUẢ HỌC VIÊN

THÀNH TÍCH HỌC VIÊN

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Học viên 8020 – IELTS 8.0 / 7.5 / 8.5 (báo điểm thật)

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