The macroeconomy (A Level)

The circular flow and multiplier effect, the Keynesian and classical views, economic growth and sustainability, unemployment and the Phillips curve, and money and banking including the role of central banks.

9.1 The circular flow of income

Consumption, saving and the multiplier

Consumption depends mainly on **disposable income**; the **marginal propensity to consume (MPC)** is the **fraction of an extra dollar of income spent**; the **marginal propensity to save (MPS)** the fraction saved. **Other factors: wealth, interest rates, confidence, expectations, credit**. **Autonomous consumption** is the spending that takes place **even when income is zero** (financed from savings or borrowing) and does **not depend on income**; **induced consumption** rises with income. In the same way, **autonomous investment** does **not depend on income or output** (for example government projects or investment driven by new technology), while **induced investment** responds to **changes in output** (the accelerator).

> **MPC + MPS + MPT + MPM = 1 (taxes and imports also leak). Multiplier = 1 ÷ (1 − MPC) in a simple model, or 1 ÷ MPW where MPW = MPS + MPT + MPM. With MPS 0.1, MPT 0.2 and MPM 0.2, MPW = 0.5 and the multiplier is 2.**

The **multiplier effect**: an **initial injection** leads to **successive rounds of spending**, so **national income rises by a multiple**. **Size limits: leakages**, **spare capacity**, **time lags** and **crowding out**.

The accelerator

The **accelerator** says **investment depends on the rate of change of output**: growth in demand leads to **bigger investment**; **falling growth** cuts investment sharply. Together with the multiplier it helps explain **business cycles**.

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Keynesian and classical views

	Keynesian	Classical / monetarist
LRAS shape	**can be horizontal** (spare capacity), rises as full employment nears	**vertical** at the **full-employment level**
Unemployment	can be **demand-deficient** and **persistent**	**market clears** through **wage flexibility**
Policy	**active demand management** by the government	**limit intervention**; **supply-side policy** and **stable money growth**
Money	less important	**inflation is a monetary phenomenon**

TRY IT

The economy is in a deep recession with high unemployment. Which view supports expansionary fiscal policy?

The **Keynesian** view: **spare capacity** means that raising **AD** increases **output and employment**, with little inflation.

Full employment national income is the output when all resources are in use; **equilibrium national income** is where **AD = AS**. If equilibrium is **above** full employment there is an **inflationary gap** (AD too high); if **below**, a **deflationary (recessionary) gap**. The **multiplier** is the **ratio of the change in national income to the initial change in injections**. In a **closed economy without a government**, k = 1 ÷ MPS; **with government**, k = 1 ÷ (MPS + MPT); in an **open economy**, **k = 1 ÷ (MPS + MPT + MPM)**. With MPS = 0.2, MPT = 0.2 and MPM = 0.1, k = 1 ÷ 0.5 = **2**. The national income is found where **injections equal withdrawals** (or **AD = income**), then the **multiplier** gives the full effect of a change in autonomous spending. **Net exports** (X − M) are a component of AD: **exports** add to demand and **imports** are a leakage; they depend on **exchange rates**, **world income** and **competitiveness**.

9.2 Economic growth and sustainability

Growth is driven by **investment, technology and human capital**; **supply-side** factors raise **LRAS**. **Measuring** it: real GDP, GDP per head, **PPP**.

Sustainability and the environment

Sustainable development meets **present needs without compromising future generations**. **Environmental costs of growth: pollution**, **climate change**, **depletion of resources**, **loss of biodiversity**. The **market ignores** many **external costs**, so policy is needed: **carbon taxes**, **permits**, **regulation**, **green investment**.

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Alternative measures of welfare: HDI, **green GDP** (adjusts for **environmental damage and depletion**), and **genuine progress indicators**.

Costs and benefits of growth: higher incomes, **jobs**, **choice** and **public revenue** against **inequality**, **environmental damage**, **congestion**, **structural change**.

Phases of the cycle

The **business cycle**: **boom**, **slowdown**, **recession**, **recovery**; **output gap**. Policies **stabilise** the cycle.

Actual growth is the **increase in real GDP** (using existing capacity); **potential growth** is the **increase in productive capacity** (LRAS shifting right). A **positive output gap** (actual above potential) means **inflationary pressure**; a **negative output gap** means **spare capacity and unemployment**. **Causes of the cycle: changes in confidence and expectations**, the **multiplier and accelerator**, **stock cycles**, **interest rate changes**, **external shocks** and **policy**. **Automatic stabilisers** (progressive taxes and benefits) **dampen** the cycle without new decisions.

Policies to promote growth: demand-side (lower interest rates, tax cuts) and **supply-side** (investment, education, innovation, competition); **effectiveness** depends on **spare capacity** and **time lags**. **Inclusive growth** is growth whose **benefits are widely shared** (across income groups, regions and genders); **growth can raise or reduce equity**: it can **increase inequality** if gains go to the rich, though a larger economy **funds redistribution**. **Policies for inclusive growth: education and training**, **support for small firms**, **regional investment** and **progressive taxes and benefits**. **Sustainable growth** is growth **that does not harm the environment or use up resources** needed by future generations: **using and conserving resources** (recycling, renewable energy, protecting ecosystems) with **green taxes** and **regulation**.

9.3 Employment/unemployment

Types and causes

Frictional, structural, cyclical (demand-deficient), seasonal, technological, voluntary and real-wage (classical) unemployment. **Technological** unemployment is caused by **automation and new technology replacing workers**; **voluntary** unemployment is when people **choose not to take** available jobs at the going wage (for example because **benefits** are high relative to wages). The **natural rate of unemployment** is the **rate when the labour market is in equilibrium** (frictional, structural), and **cannot be reduced by demand** without inflation.

Labour market flexibility (**wage flexibility, ease of hiring and firing**, **mobility**) affects the natural rate. **Policies: education and training**, **relocation help**, **cuts in benefits** (to raise the incentive to work), **job-search support**, **demand management** for cyclical unemployment.

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The Phillips curve

The **short-run Phillips curve** shows a **trade-off between inflation and unemployment**: **lower unemployment** goes with **higher inflation**. The **long-run Phillips curve** is **vertical at the natural rate**: with **adaptive expectations**, attempts to hold unemployment **below** the natural rate lead to **accelerating inflation** (the **expectations-augmented** Phillips curve). The **stagflation** of the 1970s (high unemployment **and** inflation) challenged the simple trade-off.

> **In the long run, the Phillips curve is vertical: there is no trade-off between inflation and unemployment at the natural rate, since people adjust their expectations.**

Employment trends

Changes in the structure of employment (**decline of manufacturing**, **growth of services**), **flexible working**, **the gig economy**, **ageing populations** and **technology** affect **unemployment and skills**.

Full employment is the situation when **everyone willing and able to work at the going wage has a job**, apart from **frictional and structural** unemployment. **Equilibrium unemployment** is the unemployment at the labour market's **natural** level; **disequilibrium unemployment** (such as **real-wage** and **demand-deficient** unemployment) is above it. **Hysteresis** is where **past unemployment raises the natural rate**: the long-term unemployed lose **skills and motivation** and become hard to employ, so **unemployment persists** after the recession ends. The **natural rate** is the rate of unemployment **when the labour market is in equilibrium and inflation is stable**; its **determinants** include **labour market flexibility, benefits, skills and mobility, trade union power and the pace of structural change**. **Policy implication:** demand policy **cannot permanently reduce** unemployment below it, so **supply-side** policies are needed.

Mobility of labour: geographical mobility (willingness and ability to **move place**; limited by **housing costs and family ties**) and **occupational mobility** (ability to **change jobs and skills**; limited by **training and qualifications**). Greater mobility **reduces structural unemployment**.

9.4 Money and banking

Money

Functions of money: medium of exchange, **store of value**, **unit of account**, **standard of deferred payment**. **Characteristics of good money: acceptable**, **durable**, **portable**, **divisible**, **scarce**, **uniform**.

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Banks and credit

Commercial banks accept deposits and **lend**: **financial intermediaries** linking **savers** and **borrowers**; they provide **payment services**, **create credit** and **manage risk**. Banks balance **liquidity**, **profitability** and **security**; **reserves** are kept to meet **withdrawals**. The **credit creation** process raises the **money supply** (the **money multiplier**).

Securities (financial instruments such as **shares, bonds and treasury bills**) are traded in **financial markets**: companies and governments **raise funds** by issuing them, and savers hold them to earn a **return**. Banks also hold securities as **liquid assets**.

Other financial institutions: building societies, **investment banks**, **insurers**, **stock exchange**, **the money market**.

Central bank

Role	Description
Issue notes and coins	the **monopoly issuer** of the currency
Government's banker	holds accounts and **manages debt**
Bankers' bank	holds commercial banks' reserves
Lender of last resort	**provides funds** to banks facing a **shortage of liquidity** to prevent **bank runs**
Monetary policy	sets **interest rates** and uses **QE**; may target **inflation**
Regulation	supervises banks (**capital and liquidity** requirements)

Interest rates and financial markets

Interest rates are the **price of money**. **Demand for money** arises from **transactions**, **precautionary** and **speculative** motives (**liquidity preference**). **Determined** by **supply and demand** for money, central bank policy, **risk** and **inflation**.

Financial crises: excessive lending, **asset bubbles**, **contagion**; **bail-outs** involve **moral hazard** (banks that are **too big to fail** may take excess risk). **Regulation** raises **capital buffers**.

> **The central bank acts as lender of last resort: it provides liquidity to solvent banks in trouble, preventing a loss of confidence from becoming a banking crisis.**

Commercial banks lend money (overdrafts, loans, mortgages), **accept deposits**, **hold cash, securities (liquid and investments), loans and deposits** and **equity (shareholders' funds)**, and provide **payment**

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services. A **reserve ratio** is the proportion of deposits **held in cash or liquid assets** to meet withdrawals; a **capital ratio** is the proportion of **assets funded by the bank's own equity**, which **absorbs losses**. Higher ratios make banks **safer** but **limit lending and profit**.

The **quantity theory of money**: **MV = PT** (money supply × velocity of circulation = price level × volume of transactions). If **V and T are constant**, a **rise in M** causes a **proportional rise in the price level** (monetarists argue inflation is a monetary phenomenon). **Quantitative easing raises the money supply** in an open economy, but some of the effect leaks through **exchange rate falls** and **capital outflows**.

Interest rate determination: the **loanable funds theory** (the interest rate is set by the **supply of savings and demand for borrowing**) and the **Keynesian** (liquidity preference) theory (the rate is set by the **demand for money** and the **supply of money**). **Policies to reduce inflation: contractionary** monetary and fiscal policy (higher interest rates, lower spending), **supply-side policies** and **exchange rate appreciation**; they **work with lags** and cost **growth and jobs**.

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