The Macroeconomy

A-Level Economics ▪ Topic 9

A-Level Economics

What we will cover

investment drives growth

1 The multiplier

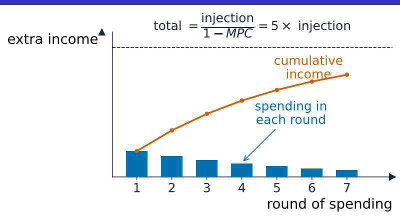
The multiplier

An injection of spending raises income, which raises further spending:

$$k = \frac{1}{\mathrm{MPW}} = \frac{1}{1-\mathrm{MPC}}$$

> A larger **MPC** 边际消费倾向 (or smaller withdrawals) means a larger multiplier.

The multiplier, in detail



$k = 1/(1-\mathrm{MPC})$ · successive spending rounds

> An injection is spent round after round (each smaller by the MPC), so total income rises by a mu

Why an injection is worth more than itself

the multiplier 乘数	an injection raises income by more than the first amount
the mechanism	a firm builds a factory; the builders earn income and spend part of it; those receipts become someone else's income, and so on
MPC 边际消费倾向	the marginal propensity to consume – the fraction of extra income that is spent on domestic goods
the leakages	**MPS** 边际储蓄倾向 saving, **MPT** 边际税收倾向 tax, **MPM** 边际进口倾向 imports
the size	$k = \frac{1}{1-\mathrm{MPC}} = \frac{1}{\mathrm{MPS}+\mathrm{MPT}+\mathrm{MPM}}$ – a bigger MPC, or smaller leakages, gives a bigger multiplier

> An open economy with high taxes has a small multiplier, because most of each round leaks abroad or to the exchequer before it can be re-spent.

The accelerator and what drives spending

consumption & saving	**investment 投资**
disposable income 可支配收入, wealth, interest, confidence	interest, expected profit, technology, confidence

The **accelerator** 加速数: investment depends on the rate of change of output – it jumps when demand rises fast.

The accelerator, and how unemployment is counted

the accelerator 加速数	**investment** 投资 depends on the rate of change of output, not its level
the consequence	when demand rises *quickly*, firms need a lot of new capital at once – so investment is far more volatile than output
and when growth merely slows	investment can fall even while output is still rising
claimant count 申领救济人数	people claiming unemployment benefits – cheap to collect, and it misses everyone ineligible
labour force survey 劳动力调查	a wider survey of people seeking work – the internationally comparable measure, and usually the higher one

The two measures disagree by design. Quoting which one a figure comes from is the difference between a described number and an analysed one.

2 Growth and unemployment

Growth, the output gap and sustainability

The **output gap** 产出缺口 is actual minus potential output.

- positive gap → inflation
- negative gap → spare capacity, unemployment

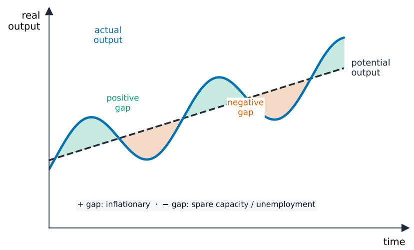
Sustainable growth 可持续增长 weighs output today against tomorrow.

Two kinds of growth, and the floor under unemployment

Actual growth	**Actual growth** 实际增长: a rise in real output – using more of the capacity already there. It closes an output gap.
Potential growth	**Potential growth** 潜在增长: a rise in what the economy *could* produce, from more or better resources. It shifts LRAS right.
Economic growth	**Economic growth** 经济增长 in the headlines means the actual kind, measured as the change in real GDP.
The natural rate	The **natural rate of unemployment** 自然失业率 is what remains at full employment: the **frictional** 摩擦性失业, **structural** 结构性失业 and **seasonal unemployment** 季节性失业 that no demand policy removes.

Only **cyclical unemployment** 周期性失业 sits above the natural rate – which is why stimulus below it buys inflation rather than jobs.

Growth, the output gap and sustainability, in detail



The **output gap** 产出缺口 is actual minus potential output.

Unemployment

frictional 摩擦性失业 – between jobs (short)

cyclical 周期性失业 – low demand in a recession

structural 结构性失业 – skills no longer match

seasonal 季节性失业 – only at certain times

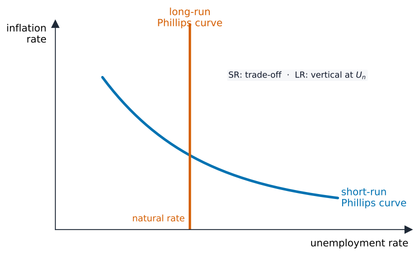
The **natural rate** 自然失业率 (frictional + structural) cannot be removed just by raising demand.

The Phillips curve

The **Phillips curve** 菲利普斯曲线 links unemployment & inflation.

- short run – a trade-off: less unemployment, more inflation
- long run – vertical at the natural rate; no lasting trade-off

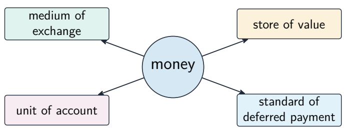
The Phillips curve, in detail



The **Phillips curve** 菲利普斯曲线 links unemployment & inflation.

3 Money and banking

The functions of money



Money 货币 does four jobs:

- **medium of exchange** 交换媒介 – avoids barter
- **store of value** 价值储藏 – save it
- **unit of account** 记账单位 – measure prices
- **deferred payment** 延期支付标准 – borrow & repay

Banks

- the **central bank** 中央银行 runs policy & is **lender of last resort** 最后贷款人
- **commercial banks** 商业银行 take deposits & lend – creating money

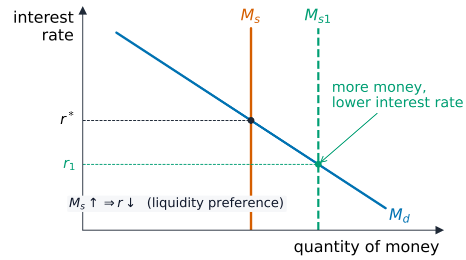
Moral hazard 道德风险: banks may take big risks expecting a bailout.

The money market

People hold money for its **liquidity** 流动性 (**liquidity preference** 流动性偏好).

> The **interest rate** 利率 is set where money demand meets the **money supply** 货币供给; a larger supply lowers it.

The money market, in detail



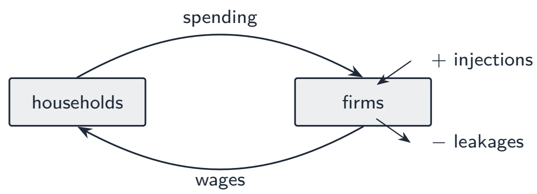
> People hold money for its **liquidity** 流动性 (**liquidity preference** 流动性偏好).

What money is for, and why people hold it

the four functions	medium of exchange, store of value, unit of account, standard of deferred payment
good money is	durable, easy to carry, easy to divide, hard to fake, and limited in supply
liquidity 流动性	money can be spent at once, which other assets cannot – that is why people hold it despite the lost interest
demand for money 货币需求	also called liquidity preference: transactions, precautionary and speculative motives
the interest rate	the price of holding money – higher rates make holding cash more costly, so the quantity demanded falls
moral hazard 道德风险	banks take bigger risks when they expect to be rescued – the reason bank regulation exists

> Money is defined by what it does, not what it is made of. That is why a token with no intrinsic value works perfectly well as money.

The circular flow and the multiplier



> Income circulates between households and firms, with injections and leakages

The circular flow, and what leaks from it

The flow	The **circular flow of income** 收入循环流 runs firms → households (wages) → firms (spending), round and round.
Injections	Investment, government spending and exports add to it.
Withdrawals	Saving, tax and imports leak out. The **marginal propensity to save** 边际储蓄倾向 and the **marginal propensity to import** 边际进口倾向 say how much of each extra pound leaks.
So the multiplier	The bigger those leakages, the smaller the multiplier – since less of each round is passed on.

> Equilibrium is not where the flow stops; it is where injections equal withdrawals.

Employment and unemployment

frictional – between jobs

cyclical – low demand in a slump

structural – skills no longer fit

seasonal – only at certain times

> Four types of unemployment: frictional, structural, cyclical and seasonal

Sustainability

The wind these turbines use is never used up, and they burn no fuel. Switching output from coal and oil to renewables like this lets an economy keep growing without spending the resources – or filling the air with the pollution – that would rob future generations

> Sustainability

Exam tips

- Calculate the **multiplier** $= 1 \div (1 - MPC) = 1 \div MPS$ and apply it to an injection.
- Distinguish **actual from potential** growth and link sustainability to long-run capacity.
- Explain the **functions of money** and the role of banks and the central bank.
- Explain the **Phillips curve** trade-off (unemployment vs inflation) and why it may not hold in the long run.

4 Recap

Worked example – the multiplier

MPC $= 0.8$. Find the multiplier, then the effect of a £10bn rise in investment.

- $k = \dfrac{1}{1 - \text{MPC}} = \dfrac{1}{1 - 0.8} = \dfrac{1}{0.2} = 5$
- $\Delta Y = k \times \Delta\text{injection} = 5 \times 10 =$ £50bn
- The extra spending becomes someone's income, 80% of which is spent again, and so on.
- With spare capacity that is real output; near full employment it is mostly inflation.

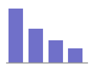
> $k = \frac{1}{1-\text{MPC}} = \frac{1}{\text{MPW}}$. A bigger MPC ⇒ bigger multiplier. Leakages (saving, tax, imports) shrink it.

Topic 9 – key takeaways

1. **Multiplier** — $1/(1 - MPC)$; an injection multiplies
2. **Output gap** — positive → inflation; negative → slack
3. **Phillips curve** — short-run trade-off; long-run vertical
4. **Money** — four functions; banks create money

Check yourself

1. If MPC $= 0.8$, what is the multiplier?
2. A positive output gap tends to cause what?
3. The long-run Phillips curve is what shape?
4. Name one function of money.



> **Answers** **1.** 5 **2.** inflation **3.** vertical (at the natural rate) **4.** medium of exchange / store of value / unit of account