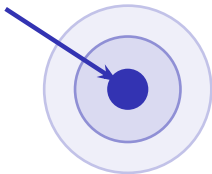


Government Macroeconomic Intervention

A-Level Economics ■ Topic 5

A-Level Economics



What we will cover

- 1 Policy objectives
- 2 Fiscal policy & the budget
- 3 Types of tax
- 4 Monetary policy
- 5 The transmission mechanism
- 6 Supply-side policy



the state steers the economy

1

Objectives

Start with the problem the policy must address

Core AS objective	What would improve?	Evidence to check
Price stability 物价稳定 Low unemployment	Low, stable inflation 通货膨胀. Jobseekers can find suitable work.	Price indices and the stated target. Employment, participation and unemployment together.
Economic growth 经济增长	Rising real output and productive capacity.	Real GDP, population and use of resources.

Full employment 充分就业 need not mean zero unemployment: matching takes time.
 Diagnose weak demand versus a skills mismatch before choosing a tool.

Policy labels can overlap

One government action, two mechanisms

A government pays builders to improve a port. Explain its immediate spending effect and its possible later effect on capacity. Must it be only a demand-side policy or only a supply-side policy?

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The purchase raises G , a component of **aggregate demand** 总需求. If the completed port reduces transport delays, it may also improve **aggregate supply** 总供给 and productive capacity.

Fiscal and monetary tools are often called **demand-side policies** 需求侧政策, but the spending or tax change can also affect supply. Timing, design and actual use determine the effects.

2

Fiscal policy

A budget is a flow; national debt is a stock

Fiscal policy 财政政策 uses government taxation and spending. A **budget** 预算 records planned revenue and expenditure for a period.

Illustrative annual government accounts; £bn/year

Spending is 120 and revenue is 100. Find the deficit. Debt at the start of the year is £500bn. Assume the entire deficit is financed by net borrowing, with no other debt adjustments. Find closing debt.

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$$\text{deficit} = \text{spending} - \text{revenue}$$

$$\text{deficit} = \text{£120bn/year} - \text{£100bn/year} = \text{£20bn/year}$$

$$D_1 = D_0 + \text{net borrowing during year}$$

$$D_1 = \text{£500bn} + \text{£20bn} = \text{£520bn}$$

A smaller deficit can still raise the debt

Continue the simplified accounts

Next year's spending is £118bn and revenue £110bn. Debt starts at £520bn. Find the deficit and closing debt under the same financing assumptions. Does a falling deficit mean falling debt?

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Next year's spending is £118bn and revenue £110bn. Debt starts at £520bn. Find the deficit and closing debt under the same financing assumptions. Does a falling deficit mean falling debt?

$$\text{deficit} = \text{spending} - \text{revenue}$$

$$\text{deficit} = £118\text{bn} - £110\text{bn} = £8\text{bn}$$

$$D_2 = D_1 + \text{net borrowing}$$

$$D_2 = £520\text{bn} + £8\text{bn} = £528\text{bn}$$

The **budget deficit** 预算赤字 falls, but **national debt** 国债 rises. A **budget surplus** 预算盈余 is revenue above spending. Actual debt also depends on financing and other adjustments.

Classify spending by what it buys

A school investment and its running costs

The government buys new classroom computers, pays teachers' wages and rent, and pays grants to students. Which purchase is capital spending? Which payments purchase current services, and which are transfers?

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The government buys new classroom computers, pays teachers' wages and rent, and pays grants to students. Which purchase is capital spending? Which payments purchase current services, and which are transfers?

Capital spending 资本支出 buys or improves long-lived assets: new computers.

Current spending 经常性支出 supports ongoing activity: teachers' wages and rent for services this year.

Student grants transfer income rather than directly buying current output. They may support consumption when recipients spend them. Government purchases enter G ; a transfer payment does not itself count as a purchase in G .

Why tax and spend? Trace the intended result

Illustrative action	Mechanism	Check before judging
Tax funds street lighting.	Revenue funds a service markets may underprovide.	Benefits and resource cost.
Tax on a harmful product.	Higher prices can reduce consumption and external harm.	Demand response and alternatives.
Schooling and transfers.	Support changes incomes and access to education.	Targeting and who actually gains.
More public purchases in a downturn.	Higher G adds to demand for output.	Spare capacity and timing.

Redistribution of income 收入再分配 changes who receives income. Tax and spending also use resources with an opportunity cost.

Separate the tax base from the income pattern

Classify what is taxed before judging its burden

Compare income tax deducted from earnings, corporation tax on profit, and a sales tax collected by a shop. Does paying a shop rather than the government make the sales tax a direct tax?

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A **direct tax** 直接税 is levied on income or profit. An **indirect tax** 间接税 is levied on expenditure and collected through a supplier. These labels describe the tax base and collection route, not who ultimately bears the burden.

Progressive, proportional and regressive describe how tax as a share of income changes as income rises. They answer a different question.

Calculate tax one income band at a time

Hypothetical annual income tax; no deductions

First £10000: 0%; next £10000: 10%; income above £20000: 20%. Find total tax on £25000. Does the 20% rate apply to the whole income?

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Band	Income in band	Rate	Tax
First	£10000	0%	£0
Next	£10000	10%	£1000
Above £20000	£5000	20%	£1000

$$T = \sum_i t_i Y_i$$

$$T = (0 \times £10000) + (0.10 \times £10000) + (0.20 \times £5000) = £2000$$

Only income within each band faces its rate; these rules are hypothetical.

Average and marginal rates answer different questions

Use the same tax bands

At £25000 income, total tax is £2000. At £26000, total tax is £2200. Find the average rate at £25000 and the marginal rate on this extra £1000.

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Use the same tax bands

At £25000 income, total tax is £2000. At £26000, total tax is £2200. Find the average rate at £25000 and the marginal rate on this extra £1000.

$$ATR = \frac{T}{Y} \times 100\%$$

$$ATR = \frac{£2000}{£25000} \times 100\% = 8\%$$

$$MTR = \frac{\Delta T}{\Delta Y} \times 100\%$$

$$MTR = \frac{£2200 - £2000}{£26000 - £25000} \times 100\% = 20\%$$

Average tax rate 平均税率: share of total income.

Marginal tax rate 边际税率: rate on extra income within this band.

Judge progressivity from the average rate

Compare two incomes under the same rules

At £15000, the band system charges £500; at £25000 it charges £2000. Calculate each average rate. Then compare a flat 10% income tax with a fixed £1000 charge per person.

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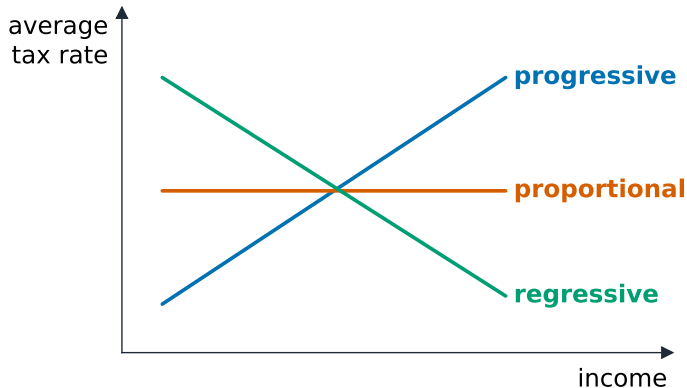
$$ATR = \frac{T}{Y} \times 100\%$$

$$ATR_{15000} = \frac{£500}{£15000} \times 100\% \approx 3.33\%$$

$$ATR_{25000} = \frac{£2000}{£25000} \times 100\% = 8\%$$

The band system is a **progressive tax** 累进税: average rate rises. A flat 10% is a **proportional tax** 比例税. The fixed charge is a **regressive tax** 累退税: its income share falls, from 6.67% to 4%, as income rises.

Do not classify a tax from the cash amount alone



Compare the **average tax rate** 平均税率 at different incomes. More pounds paid need not mean a higher income share; indirect-tax burdens depend on spending patterns and exemptions.

Explain how fiscal expansion reaches AD

Two routes to planned spending

A government buys an additional £10bn of domestic services. Separately, it cuts household income tax by £10bn. Explain why these need not initially increase AD by the same amount.

Explain how fiscal expansion reaches AD

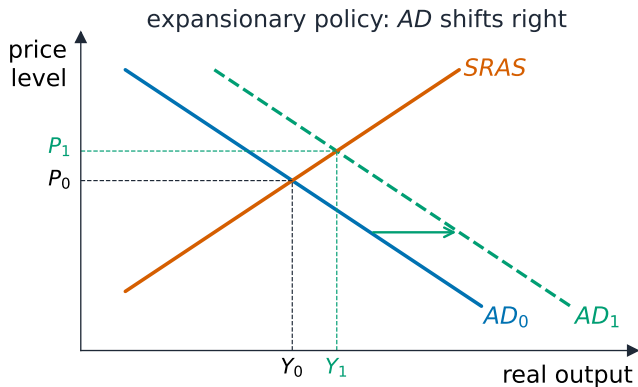
Two routes to planned spending

A government buys an additional £10bn of domestic services. Separately, it cuts household income tax by £10bn. Explain why these need not initially increase AD by the same amount.

Extra purchases directly raise G in $AD = C + I + G + (X - M)$. The tax cut raises disposable income, but households may save part or buy imports, so domestic consumption need not rise by the full £10bn.

Expansionary 扩张性 fiscal policy aims to raise demand through higher purchases or lower taxes. **Contractionary** 紧缩性 policy uses the reverse changes. A deficit alone does not prove a new discretionary expansion: weak activity can reduce revenue without a policy change.

Read fiscal effects in the stated AD/AS model



With upward SRAS, higher **aggregate demand** 总需求 raises real output and prices, other things unchanged. Spare capacity permits a larger output response; at capacity, demand mainly raises prices.

Evaluate the constraint, not a memorised policy label

Illustrative demand downturn

Orders fall and factories have idle capacity. Compare extra government purchases with an income-tax cut. Identify a condition that could weaken each, then explain a possible financing cost.

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Illustrative demand downturn

Orders fall and factories have idle capacity. Compare extra government purchases with an income-tax cut. Identify a condition that could weaken each, then explain a possible financing cost.

Purchases can support demand directly, but planning and delivery may delay them. A tax cut can support consumption, but cautious households may save the gain; imports may absorb part.

Borrowing can add debt-service costs. **Crowding out** 挤出效应 may occur if borrowing raises financing costs or public demand draws resources away from private activity. Its extent depends on credit conditions, spare resources and policy response; it is not automatically large or absent.

3

Monetary policy

Choose a monetary tool, then explain its route

Monetary policy 货币政策 influences monetary and credit conditions through the **central bank** 中央银行.

Tool	Expansionary direction	Why demand might rise
Interest rate 利率	Lower policy rates, passed on to borrowers.	Cheaper credit may support consumption and investment.
Money supply 货币供给	Increase available money in the simplified model.	With money demand unchanged, lower interest rates can support spending.
Credit regulation 信贷管制	Ease restrictions on lending.	More eligible borrowers may finance spending.

Contractionary changes work in the opposite direction. Banks' willingness to lend and customers' willingness to borrow affect the result.

Turn an interest-rate change into a borrowing cost

Illustrative variable-rate loan; one year, no repayments or fees

A £10000 loan's annual rate rises from 6% to 7%. Calculate interest before and after. Why might this discourage a new investment? What if an existing loan's rate is fixed?

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$$\text{annual interest} = \text{principal} \times \text{annual rate}$$

$$\text{interest}_0 = £10000 \times 0.06 = £600/\text{year}$$

$$\text{interest}_1 = £10000 \times 0.07 = £700/\text{year}$$

The annual cost rises £100; some projects become less attractive. A fixed-rate contract need not change immediately. Policy-rate changes influence commercial rates; they are not automatically identical.

Credit rules can matter even if the rate is unchanged

Hypothetical lending limit, not an actual country's rule

A borrowing limit falls from four times annual income to three times. Income is £40000/year. Calculate the old and new maximum loan. Explain why this is contractionary even with the interest rate unchanged.

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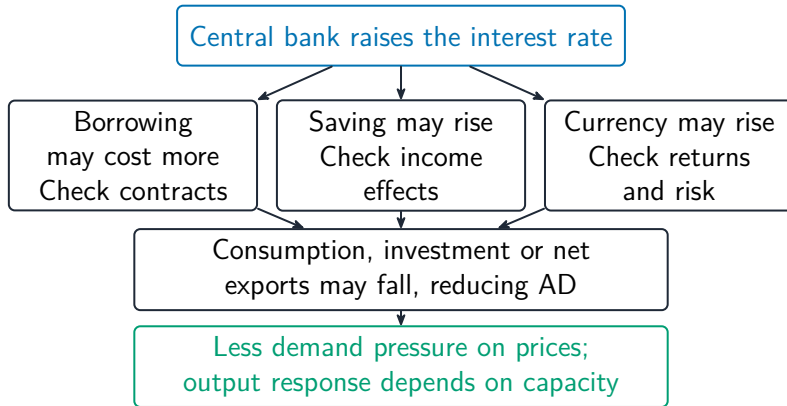
maximum loan = income multiple $\times$ annual income

$$L_0 = 4 \text{ years} \times \text{£}40000/\text{year} = \text{£}160000$$

$$L_1 = 3 \text{ years} \times \text{£}40000/\text{year} = \text{£}120000$$

Some borrowers face a £40000 smaller borrowing ceiling, limiting purchases they can finance. Those who did not need the extra credit may not change spending. Easing the rule reverses this restriction; it does not force borrowing.

Trace the transmission mechanism with conditions



The **transmission mechanism** 传导机制 has conditions: check contracts, confidence and capacity.

The exchange-rate channel is conditional

Explain a possible route, then its limitation

Domestic interest rates rise relative to foreign rates. Why might the currency appreciate, and how could this affect net exports? Why is appreciation not guaranteed?

The exchange-rate channel is conditional

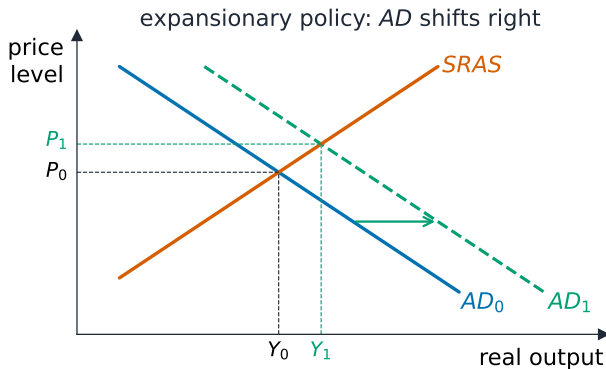
Explain a possible route, then its limitation

Domestic interest rates rise relative to foreign rates. Why might the currency appreciate, and how could this affect net exports? Why is appreciation not guaranteed?

Higher expected returns may attract funds and raise demand for the currency. A stronger **exchange rate** 汇率 can make exports dearer to foreign buyers and imports cheaper domestically, weakening net exports and AD.

Expectations, risk and changes abroad also affect capital flows. Trade quantities depend on contracts and responsiveness to prices. State the conditions rather than treating the interest-rate change as proof that exports must fall.

Show the AD/AS result, then evaluate the response



Effective monetary expansion can raise **aggregate demand** 总需求 through *C* or *I*. With upward SRAS, output and prices rise; at capacity, price pressure dominates.

Rate decisions can change quickly, but borrowing, spending and production take time. There is no fixed lag for every economy or instrument.

Low rates do not make every policy choice automatic

Compare tools in a demand downturn

Factories have spare capacity, confidence is weak and policy rates are near zero. Compare extra public purchases with further monetary easing. Give a strength and a limitation of each.

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Compare tools in a demand downturn

Factories have spare capacity, confidence is weak and policy rates are near zero. Compare extra public purchases with further monetary easing. Give a strength and a limitation of each.

Purchases can support demand directly, but delivery, funding and imports affect their impact. Weak confidence can limit new borrowing even when credit is cheap; near-zero rates restrict room for further conventional cuts.

This does not prove that every monetary tool is exhausted or that fiscal action must work. Compare feasible measures, response and timing. A different starting interest rate alone does not determine the best policy.

4

Supply-side policy

Separate productivity from the number of workers

Supply-side policy 供给侧政策 aims to raise **productivity** 生产率 and **productive capacity** 生产能力, shifting LRAS right.

Illustrative factory; unchanged workers and hours

100 workers each work 8 hours/day. Output per worker-hour rises from 10 units to 12 after useful training and new machinery. Find possible daily output before and after. Must employment rise?

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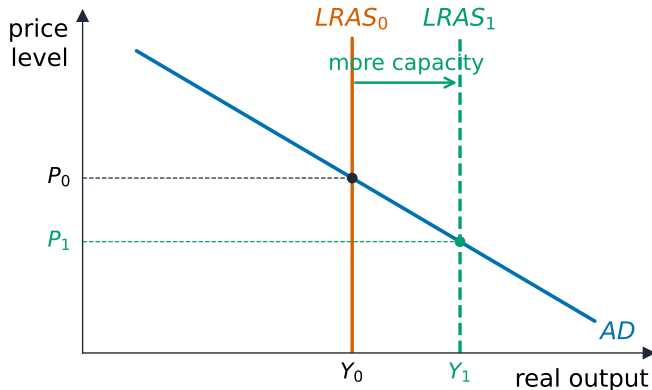
$$Q = W \times h \times q$$

$$Q_0 = 100 \times 8 \times 10 = 8000 \text{ units/day}$$

$$Q_1 = 100 \times 8 \times 12 = 9600 \text{ units/day}$$

Here W is workers, h hours per worker-day and q units per worker-hour. Capacity rises 20% without extra workers; actual output also needs demand and inputs.

Read a capacity increase in the long-run model



Higher **productive capacity** 生产能力, with AD unchanged in this model, raises output and lowers the price level. A lower price level does not prove continuously falling inflation.

Training must connect workers to suitable jobs

Illustrative retraining programme

An industry closes while local technician vacancies remain. Of 140 trainees, 120 qualify and 90 obtain suitable jobs. Explain the intended supply mechanism and why successful training is not the same as guaranteed employment.

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Training 培训 can improve relevant skills, reducing a mismatch and raising useful output per worker. Qualifications alone do not create vacancies; location, employer demand and access still matter.

Check completion, job matching and whether jobs are additional rather than displaced from other applicants. In a general demand slump, retraining alone need not restore sales. Time and programme quality determine how much capacity improves.

Infrastructure and technology need a usable mechanism

Two supply-side projects

A reliable freight link cuts delivery delays. Research support funds a new production method that may fail. Explain how each could increase capacity, and what evidence would show it worked.

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Better **infrastructure** 基础设施 can reduce wasted time, improve access to suppliers and lower unit costs. Check reliability, use and the value of saved resources against construction costs.

Research can improve methods and productivity, but success and adoption are uncertain. Check useful results and uptake, not funding alone. Construction spending can raise AD before either project's supply benefits arrive.

Market-based policies require a behavioural response

Tool	Intended mechanism	Why gains are not assured
Lower income tax	Higher reward for extra work or investment changes the incentive 激励.	People may value extra leisure; suitable jobs and finance still matter.
Privatisation 私有化	Private ownership may strengthen incentives to control costs.	Ownership alone does not create competition or better management.
Deregulation 放松管制	Remove unnecessary entry barriers, encouraging competition.	Removing useful safety or environmental rules can impose costs.

Lower benefits may change job-search incentives but do not create suitable vacancies by themselves. Evaluate access and hardship as well as incentives.

Compare approaches through the constraint

Choose a mechanism, not a label

Region A has workers with unsuitable skills and poor transport. Region B has qualified workers and efficient transport but few orders. Compare direct training/infrastructure with market-based tax or entry changes.

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Choose a mechanism, not a label

Region A has workers with unsuitable skills and poor transport. Region B has qualified workers and efficient transport but few orders. Compare direct training/infrastructure with market-based tax or entry changes.

Direct provision may address A's skill/access gaps, if programmes are useful and used. Tax incentives or easier entry can encourage work and investment, but do not automatically supply the missing skills or transport.

B's immediate constraint is weak demand; additional capacity may remain unused. Compare cause, likely response, cost and time. Policy combinations can complement each other; there is no universal winner.

A supply improvement is not a promise of no costs

Evaluate a proposed growth strategy

A government funds training and a port by raising taxes elsewhere. It promises higher output, lower inflation and no disadvantages. Explain what its LRAS diagram establishes and what the promise leaves out.

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Evaluate a proposed growth strategy

A government funds training and a port by raising taxes elsewhere. It promises higher output, lower inflation and no disadvantages. Explain what its LRAS diagram establishes and what the promise leaves out.

Useful skills and infrastructure can expand capacity. In the illustrated long-run model with unchanged AD, that supports higher output at a lower price level.

Funding uses resources and may change spending/incentives; benefits can arrive unevenly or late. Construction can affect demand before supply improves. Judge quality, opportunity cost, distribution, demand and timing. A potential benefit is not proof that every measure has no costs.

5

Policy judgement and recap

Higher prices need a diagnosis before a policy

Two illustrative sources of rising prices

A has strong spending at near-full capacity. B has a fuel-cost shock and weak sales. Explain how tighter monetary policy acts in each, and why the same price headline need not justify the same judgement.

Higher prices need a diagnosis before a policy

Two illustrative sources of rising prices

A has strong spending at near-full capacity. B has a fuel-cost shock and weak sales. Explain how tighter monetary policy acts in each, and why the same price headline need not justify the same judgement.

In A, weaker borrowing/spending can restrain AD and demand pressure. In B, demand restraint does not directly remove the fuel shortage and may reduce output further.

Supply improvements can reduce cost pressure but may take time and may not address the specific shock. Compare the source, persistence and feasible response. Do not infer an appropriate instrument from inflation alone.

A strong assessment explains why the limitation matters

Improve an unfinished answer

“Training reduces unemployment, but there is a time lag.” Add the missing mechanism, the condition and a justified comparison with a demand policy.

A strong assessment explains why the limitation matters

Improve an unfinished answer

“Training reduces unemployment, but there is a time lag.” Add the missing mechanism, the condition and a justified comparison with a demand policy.

Training can reduce a skills mismatch if vacancies need the new skills. Completion and matching take time, so it may not quickly restore lost income. If firms have few orders, extra spending may address the immediate sales constraint more directly.

A judgement compares causes, scale, timing and costs in the case. Merely naming a lag or a policy is not itself a complete evaluation.

Retrieve the fiscal distinctions before choosing a policy

Attempt before revealing

Spending is £90bn/year and revenue £84bn/year; starting debt £300bn. Assume the deficit is funded by net borrowing with no other adjustments. Find deficit and closing debt. A worker pays £3000 tax on £30000 income, then £3200 on £31000: find ATR and MTR on the extra income.

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Spending is £90bn/year and revenue £84bn/year; starting debt £300bn. Assume the deficit is funded by net borrowing with no other adjustments. Find deficit and closing debt. A worker pays £3000 tax on £30000 income, then £3200 on £31000: find ATR and MTR on the extra income.

$$\text{deficit} = \text{spending} - \text{revenue} = £90\text{bn} - £84\text{bn} = £6\text{bn/year}$$

$$D_1 = D_0 + \text{net borrowing} = £300\text{bn} + £6\text{bn} = £306\text{bn}$$

$$\text{ATR} = \frac{T}{Y} \times 100\% = \frac{£3000}{£30000} \times 100\% = 10\%$$

$$\text{MTR} = \frac{\Delta T}{\Delta Y} \times 100\% = \frac{£3200 - £3000}{£31000 - £30000} \times 100\% = 20\%$$

Check yourself

Attempt, then justify

Name a monetary tool other than interest rates and explain its route to spending. Explain why training can raise capacity without guaranteeing more jobs. A government both raises income tax and funds apprenticeships: why can the package be fiscal and supply-side at once?

Check yourself

Attempt, then justify

Name a monetary tool other than interest rates and explain its route to spending. Explain why training can raise capacity without guaranteeing more jobs. A government both raises income tax and funds apprenticeships: why can the package be fiscal and supply-side at once?

Easing credit regulation can let more borrowers finance spending, if banks and customers respond. Increased money supply can lower interest rates in the simplified model with unchanged money demand.

Training can raise productivity or reduce mismatch; employment still needs suitable vacancies and demand. Taxes and purchases are fiscal tools; useful apprenticeships can also improve skills and capacity. Their demand and supply effects need separate explanations and time periods.