

A-level ECONOMICS

Paper 2 National and International Economy

Thursday 23 May 2019

Morning

Time allowed: 2 hours

Materials

For this paper you must have:

- an AQA 12-page answer book
- a calculator.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Write the information required on the front of your answer book. The **Examining Body** for this paper is AQA. The **Paper Reference** is 7136/2.
- In **Section A**, answer **EITHER** Context 1 **OR** Context 2.
- In **Section B**, answer **one** essay.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- There are 40 marks for **Section A** and 40 marks for **Section B**.
- You will be marked on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Advice

- You are advised to spend 1 hour on **Section A** and 1 hour on **Section B**.

Section A

Answer **EITHER** Context 1 **OR** Context 2.

EITHER

Context 1

Total for this context: 40 marks

GDP and living standards

Study **Extracts A, B and C** and then answer **all** parts of Context 1 which follow.

Extract A

Figure 1: Selected data for Costa Rica, UK and USA, 2015/2016 unless stated

	Costa Rica	UK	USA
GDP (PPP \$bn)	69.6	2 518.1	16 890.2
Population (millions)	4.9	64.7	321.8
Mean years of schooling	8.7	13.3	13.2
Infant mortality rate (under 5s per 1000 births)	9.7	4.2	6.5
Average annual increase (%) of the HDI (1990–2015)	0.7	0.6	0.3
Gini coefficient (average 2010–2015)	0.49	0.33	0.41
CO ₂ emissions (tonnes per capita)	1.6	6.2	16.1

Footnote: PPP = Purchasing Power Parity
HDI = Human Development Index

Source: United Nations and World Bank

Extract B: What is GDP?

Imagine £50 notes stacked on top of each other, stretching almost 4500 kilometres into the sky. This fantastically large amount of money (more than £2 trillion) is the current estimated value of the UK's Gross Domestic Product (GDP). 1

GDP is the standard measure of the size and health of a country's economy but it is important to distinguish between nominal and real GDP. It's the way we measure and compare how well or badly countries are doing. In other words, it is the total value of the output of goods and services produced in an economy over a period of time. The higher the value of GDP, the bigger the economy. If injections into an economy's circular flow of income increase, then this may generate multiple increases in GDP, depending upon the size of the marginal propensity to consume. 5 10

Why is the measurement of GDP important? Well, it's a way of keeping track of how the economy is doing, and whether it is growing. We can also use it to measure one economy against other economies using purchasing power parity exchange rates. If real GDP goes up, the economy is doing well; this is associated with higher incomes, more jobs and higher spending. If real GDP goes down, the economy is not doing so well; this is associated with falling incomes, lower consumption and a lower standard of living. 15

Source: News reports, 2017

Extract C: A happy planet?

We are facing tough times. The crises that dominate the media today are set against a background of an increasingly unstable global economy, rising inequalities and the ever-present challenges of climate change. GDP growth on its own does not mean a better life for everyone, particularly in countries that are already wealthy. This growth of GDP may not reflect inequalities in material conditions between people in a country and does not value the things that really matter to people, such as social relations, health, or how they spend their free time.

The Happy Planet Index is one of the alternative ways of measuring what really matters: sustainable wellbeing for all. This year, Costa Rica has topped the Happy Planet Index for the third time, achieving relatively high life expectancy and wellbeing with a small ecological footprint. Costa Ricans generally have higher wellbeing than the residents of many rich nations and live longer than people in the USA (who are ranked 108th in the index). This is achieved with an impact on the environment which is much smaller than that of the USA or UK (ranked 34th).

Costa Rica is a world leader when it comes to environmental protection, with 99% of its electricity coming from renewable sources, and a commitment to becoming carbon neutral by 2021. They also abolished the army in 1949 and reallocated the defence budget to funding education, health and pensions, further enriching the lives of its citizens. Other measures of living standards, such as the HDI, do not rank Costa Rica quite so highly (66th compared to the USA in 10th position). This is because the HDI does not place as much emphasis on the environment compared to the Happy Planet Index.

Increasingly economic growth is incompatible with the planetary limits we are up against. Rising GDP may be a sign that we are using more of the earth's scarce resources. Some believe the Happy Planet Index gives a clearer picture of broader living standards and their sustainability.

Source: News reports, 2017

0 1 Using the data in **Extract A**, calculate the GDP per capita for Costa Rica in 2015/2016 to the **nearest dollar**.

[2 marks]

0 2 Explain how the data in **Extract A** indicate living standards may be higher in the UK than in the USA.

[4 marks]

0 3 **Extract B** (lines 8–9) states 'If injections into an economy's circular flow of income increase, then this may generate multiple increases in GDP.'

With the help of a diagram, explain how an increase in injections may generate multiple increases in an economy's GDP.

[9 marks]

0 4 **Extract B** (lines 13–15) states 'If real GDP goes up, the economy is doing well; this is associated with higher incomes, more jobs and higher spending.'

Using the data in the extracts and your knowledge of economics, assess the view that to improve the living standards of their citizens, governments across the world should prioritise achieving economic growth.

[25 marks]

Turn over ►

Do **not** answer Context 2 if you have answered Context 1.

OR

Context 2

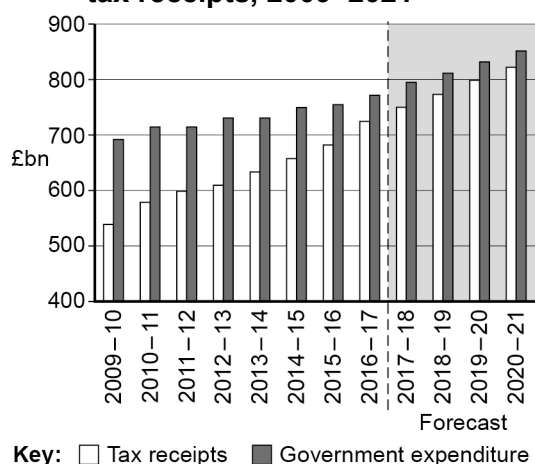
Total for this context: 40 marks

UK fiscal policy and taxation

Study **Extracts D, E and F** and then answer **all** parts of Context 2 which follow.

Extract D

Figure 2: UK Government expenditure and tax receipts, 2009–2021



Source: OBR

Figure 3: Marginal income tax rates in Scotland and the rest of the UK, April 2018

Scotland		Rest of the UK	
Tax Band £	Tax Rate	Tax Band £	Tax Rate
0 – 11 850	0%	0 – 11 850	0%
11 851 – 13 850	19%	11 851 – 46 350	20%
13 851 – 24 000	20%		
24 001 – 43 430	21%		
43 431 – 150 000	41%	46 351 – 150 000	40%
150 001+	46%	150 001+	45%

Source: gov.uk

Extract E: Deficit reduction

In 2017, the Chancellor of the Exchequer claimed that the government was on course to create a budget surplus by 2025. However, the Office for Budget Responsibility (OBR) has suggested that the budget deficit will not be wiped out until 2031. This is 16 years later than originally forecast.

1

The Government borrowed £52bn in 2016–17, a fall of £20bn compared to the year before, as the long struggle to eliminate the deficit moved closer towards its goal. However, the OBR has forecast a 'weaker' economy than it did just nine months ago; it expects economic growth to slow and government borrowing to rise as a result. The OBR also delivered the biggest downgrade to productivity growth in its history, with output per hour expected to be 4.6% lower in 2022 than originally forecast.

5

The financial crisis of 2007–08 led to a budget deficit of almost 11% of GDP in 2009–10; the deficit has now fallen to 2.6% of GDP, the lowest level of borrowing since 2007–08. If growth could be increased, the budget deficit would fall much faster.

10

Why is deficit reduction so important in the first place? Firstly, there are the negative effects of larger interest repayments caused by a higher national debt. There is also the argument that public spending crowds out the private sector. Some economists point to the effects on future generations and the possibility that the government's credit rating may fall if borrowing is high.

15

Source: News reports, 2017

Extract F: Scottish income tax

In most of the UK, reducing the budget deficit has focused on austerity rather than tax rises. However, the Scottish Government has announced that from April 2018, Scotland will have different rates of income tax to the rest of the UK, with changes that will see higher earners pay more and lower earners pay less. There will be a new tax band of 21% for those earning more than £24 000. The higher rate of tax will be increased from 40% to 41% and the top rate from 45% to 46%. A starter rate of 19% will also be introduced. The move to a 'five-band' income tax system should mean that nobody earning less than £33 000 in Scotland will pay more tax than they do now.

Estimates show that 55% of Scottish taxpayers will pay less compared to the rest of the UK under the new system, with higher earners paying more. Someone in Scotland earning £150 000 will pay £1774 more than if they lived elsewhere in the UK, with someone earning £40 000 paying £140 more. The extra revenue raised will be used to give public sector workers a 3% pay rise for those earning less than £30 000, and a 2% rise for those earning more than that, and will help towards the cost of providing superfast broadband to all premises in Scotland by 2021.

Some business leaders have warned that Scotland cannot afford to be associated with higher taxation than the rest of the UK. The Finance Minister for Scotland, Derek Mackay, claimed the changes could raise an additional £164 million and were necessary to "mitigate UK budget cuts, protect our NHS and other public services, support our economy and tackle inequality in our society". He said the tax reforms would make "Scotland's income tax system even fairer and more progressive". He resisted a bigger increase in the top rate of tax for those earning more than £150 000, aware that high earners may find ways to avoid paying it.

Source: News reports, 2017

- 0 5** Using the data in **Extract D** (Figure 3), calculate, to the **nearest pound**, the amount of income tax payable for someone in Scotland earning £13 500. **[2 marks]**
- 0 6** Explain how the data in **Extract D** (Figure 2) show that the UK's public finances have been improving since 2010. **[4 marks]**
- 0 7** **Extract E** (lines 11–12) states 'If growth could be increased, the budget deficit would fall much faster.'
- With the help of a diagram, explain why a higher rate of economic growth is likely to reduce the budget deficit. **[9 marks]**
- 0 8** **Extract F** (line 1) states 'In most of the UK, reducing the budget deficit has focused on austerity rather than tax rises.'
- Using the data in the extracts and your knowledge of economics, evaluate the view that there is a strong case for significant increases in UK income tax rates. **[25 marks]**

Turn over ►

Section B

Answer **one** essay from this section.

Each essay carries 40 marks.

EITHER**Essay 1**

Between 2014 and 2018, the pound fell by more than 20% against the dollar and euro. Some argued that this would benefit the UK's macroeconomic performance, but others claimed that a lower exchange rate will cause problems.

0	9
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Explain why the value of a currency may fall in a floating exchange rate system.

[15 marks]

1	0
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Assess the view that a depreciation of the pound against other currencies is likely to improve the UK's macroeconomic performance.

[25 marks]

OR**Essay 2**

Since 1998, the Bank of England has had responsibility for the operation of monetary policy and maintaining price stability. In response to the financial crisis of 2007–08, the Financial Services Act 2012 gave the Bank of England overall responsibility for financial stability. This was designed to reduce systemic risk and the impact on the real economy of problems that arise in financial markets.

1	1
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Explain how the monetary policy transmission mechanism works when the Monetary Policy Committee (MPC) raises Bank Rate.

[15 marks]

1	2
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Evaluate the view that strict rules and regulations on financial markets are essential to help create a more stable economy.

[25 marks]

OR

Essay 3

In the past few years, CPI inflation has often differed by more than 1% from its 2% target. In the winter of 2015 the UK experienced a brief period of deflation but, more recently, inflation has been over 3%.

1	3
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Explain the main causes of a rise in inflation.

[15 marks]

1	4
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Evaluate the view that inflation is always preferable to deflation.

[25 marks]

END OF QUESTIONS

There are no questions printed on this page

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Question
number

0 1

$$\text{GDP per capita} = \text{GDP} \div \text{population} = \$69.6\text{bn} \div 4.9\text{m}$$

$$= \$69\,600\,000\,000 \div 4\,900\,000 = \$14\,204.08$$

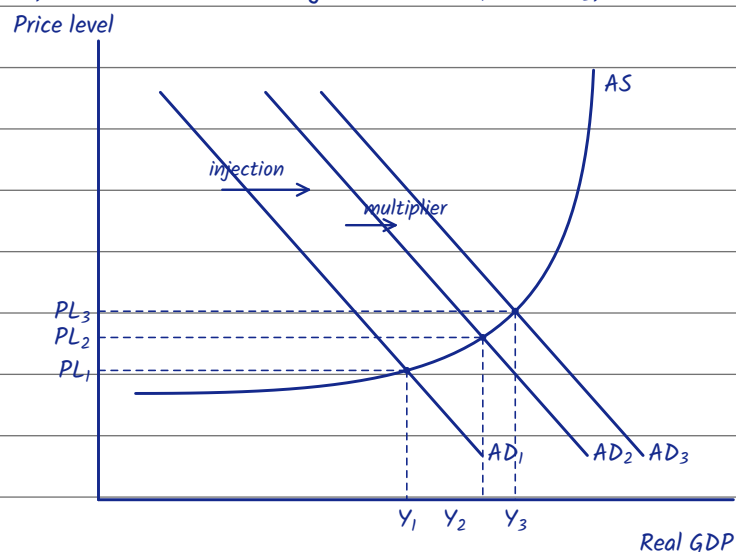
GDP per capita for Costa Rica = \$14 204 (to the nearest dollar)

0 2

Living standards refer to people's economic welfare, both material (income and consumption) and non-material (health, education, equality and the environment). Infant mortality is lower in the UK (4.2 per 1000 births against 6.5 in the USA), suggesting better and more accessible healthcare. Mean years of schooling are slightly higher (13.3 against 13.2), indicating a more educated population. The UK's Gini coefficient is lower (0.33 against 0.41), so income is more equally distributed and lower-income households are likely to be better off. CO₂ emissions per capita are far lower (6.2 against 16.1 tonnes), meaning less pollution, and the UK's HDI grew faster (0.6% a year against 0.3%). This is despite US GDP per capita being higher (\$52 487 against \$38 920).

0 3

Injectors are additions to the circular flow of income that do not come from domestic households' consumption: investment (I), government spending (G) and exports (X). Because they are components of aggregate demand ($AD = C + I + G + X - M$), a rise in injections, for example extra government spending on infrastructure, shifts AD to the right from AD₁ to AD₂, as shown in the diagram.



This is not the end of the process. The extra spending becomes income for the workers and firms who produce the extra output, so employment and disposable incomes rise. Households spend a fraction of this new income, determined by the marginal propensity to consume (MPC), and the rest leaks out of the circular flow as withdrawals: saving (MPS), taxation (MPT) and imports (MPM). The extra consumption becomes income for other firms and workers, who in turn spend a fraction of it, and so on in successive, ever smaller rounds of spending. These induced rounds of consumption shift AD further right to AD_3 , so the final rise in real GDP (Y_1 to Y_3) is a multiple of the initial injection. Higher sales may also encourage firms to invest more (the accelerator effect), adding a further injection.

The size of the multiplier is $k = 1/(1 - MPC) = 1/(MPS + MPT + MPM)$. For example, if the MPC is 0.6, $k = 1/0.4 = 2.5$, so a £10bn rise in injections would eventually raise GDP by £25bn. As Extract B notes, the larger the MPC, the smaller the leakages in each round and the larger the multiple increase in GDP. In an open economy such as the UK, where the MPM and MPT are high, the multiplier is smaller.

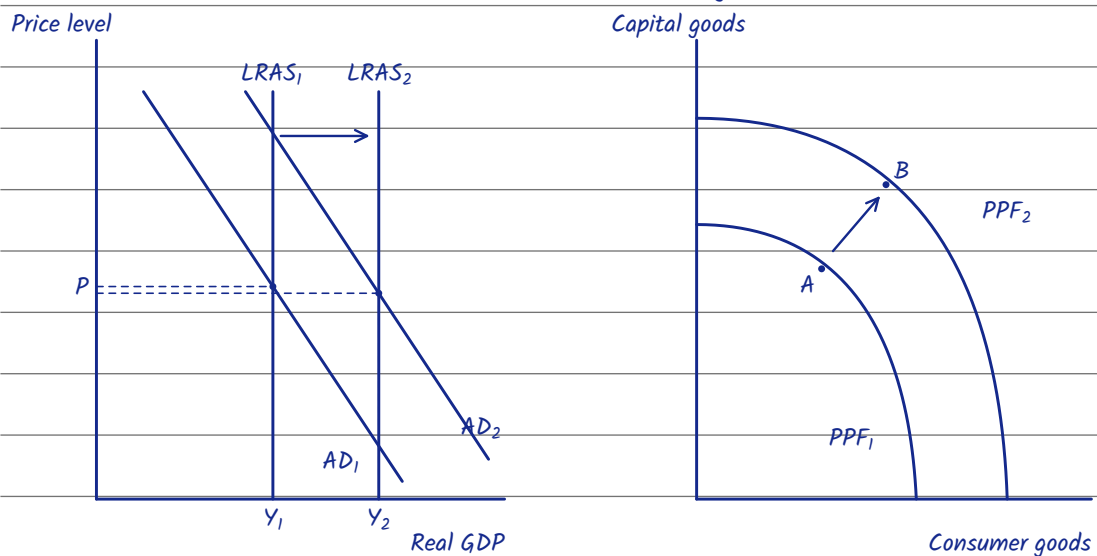
The effect on real GDP also depends on spare capacity. On the flat part of the AS curve there is a negative output gap, so the rise in AD mainly increases real output with little inflation (PL_1 to PL_2). Near full capacity, AS becomes steeper and more of the multiplied rise in AD raises the price level (PL_3) rather than real GDP. In the long run, if the injection is investment or spending on infrastructure, it may also increase productive capacity, shifting AS to the right and allowing further non-inflationary increases in GDP.

Question
number

0 4

Living standards refer to the economic welfare of a population: their material wellbeing (real income and consumption of goods and services) and non-material wellbeing such as health, education, leisure, the environment and happiness.

Short-run economic growth is an increase in real GDP, often as AD rises and spare capacity is used up. Long-run economic growth is an increase in the productive potential of the economy, shown by a rightward shift of the LRAS curve or an outward shift of the PPF, as in the diagrams below.



There is a strong case for prioritising growth. As Extract B says, when real GDP rises it is associated with higher incomes, more jobs and higher spending. Rising output increases the derived demand for labour, reducing cyclical unemployment and raising disposable incomes, so households can consume more goods and services. If growth is faster than population growth, real GDP per capita rises, the usual indicator of material living standards. On this measure the USA, with GDP per capita of about \$52 487 ($\$16\,890.2\text{bn} \div 321.8\text{m}$), should enjoy far higher living standards than the UK (about \$38 920) or Costa Rica (\$14 204).

Growth also raises tax revenue from income tax, VAT and corporation tax and reduces spending on unemployment benefits, without the need to raise tax rates.

This allows governments to provide more merit goods such as healthcare and education. Costa Rica shows how important this is: reallocating its defence budget to education, health and pensions has helped it to achieve relatively high life expectancy. For low-income countries growth is vital to reduce absolute poverty and to finance clean water, sanitation and schooling, which lower infant mortality.

Do not write outside the box

Long-run growth driven by supply-side improvements, such as investment in education, training and infrastructure, also allows AD to rise without causing inflation, so living standards can rise sustainably.

However, GDP is an imperfect measure of living standards. Extract C points out that GDP growth 'does not value the things that really matter to people', such as social relations, health or free time. The data support this. The USA has GDP per capita almost four times that of Costa Rica, yet Costa Rica tops the Happy Planet Index while the USA is ranked 108th, and Costa Ricans live longer than Americans. Even compared with the UK, the USA has a higher infant mortality rate (6.5 against 4.2 per 1000 births) and greater inequality (a Gini coefficient of 0.41 against 0.33), so higher GDP does not automatically mean higher wellbeing. Beyond a certain level of income, extra GDP seems to add little to happiness.

Moreover, growth can actively reduce living standards. Production and consumption create negative externalities such as pollution and carbon emissions: CO₂ emissions are 16.1 tonnes per capita in the USA compared with only 1.6 in Costa Rica.

Growth uses up scarce, non-renewable resources so that, as Extract C warns, it may be 'incompatible with the planetary limits' and unsustainable, harming the living standards of future generations. The gains from growth may also be unequally distributed: if most of the extra income goes to the richest, the living standards of the poor barely change, and wider inequality can reduce overall welfare. Rapid demand-led growth can also cause demand-pull inflation, which reduces the real incomes of those on fixed incomes or with little wage-bargaining power, while longer working hours and stress reduce leisure and wellbeing.

Whether governments should prioritise growth also depends on how it is achieved. Short-run growth from expansionary fiscal policy (higher government spending or lower income tax) or monetary policy (lower interest rates) may be temporary and inflationary if the economy is close to full capacity, and may worsen the budget deficit. Long-run growth from supply-side policies, such as spending on education and training or lower corporation tax to encourage investment, is more likely to raise living standards sustainably, but it takes many years to work. It

also depends on the stage of the economic cycle: in a recession with high unemployment, prioritising growth is clearly sensible, whereas in a boom the priority may be controlling inflation or the current account deficit.

The right priority also depends on the country. For a low-income developing country, faster growth is likely to be the most effective way of improving living standards, because extra income is used for basic needs such as food, shelter, healthcare and schooling. For rich countries such as the UK and USA, the marginal benefit of extra GDP is smaller and the external costs larger, so other objectives such as reducing inequality, improving public services and protecting the environment may matter more. Costa Rica shows that a country can achieve high wellbeing and the fastest growth of the HDI of the three countries (0.7% a year) with a small ecological footprint, by prioritising education, health and renewable energy (99% of its electricity).

In conclusion, economic growth is a necessary condition for improving living standards, especially in low-income countries, because it raises incomes, creates jobs and pays for public services. However, it is not sufficient, and governments should not pursue growth at any cost. The extracts show that the countries with the highest GDP per capita do not necessarily have the highest wellbeing.

Governments should therefore prioritise sustainable and inclusive long-run growth, driven by supply-side improvements and combined with policies to reduce inequality and protect the environment, and should judge success using broader measures such as the HDI or the Happy Planet Index rather than GDP alone.

Question
number

0 5

Taxable income in the 19% starter band = £13 500 – £11 850 = £1 650

Tax = £1 650 × 0.19 = £313.50

Income tax payable = £314 (to the nearest pound)

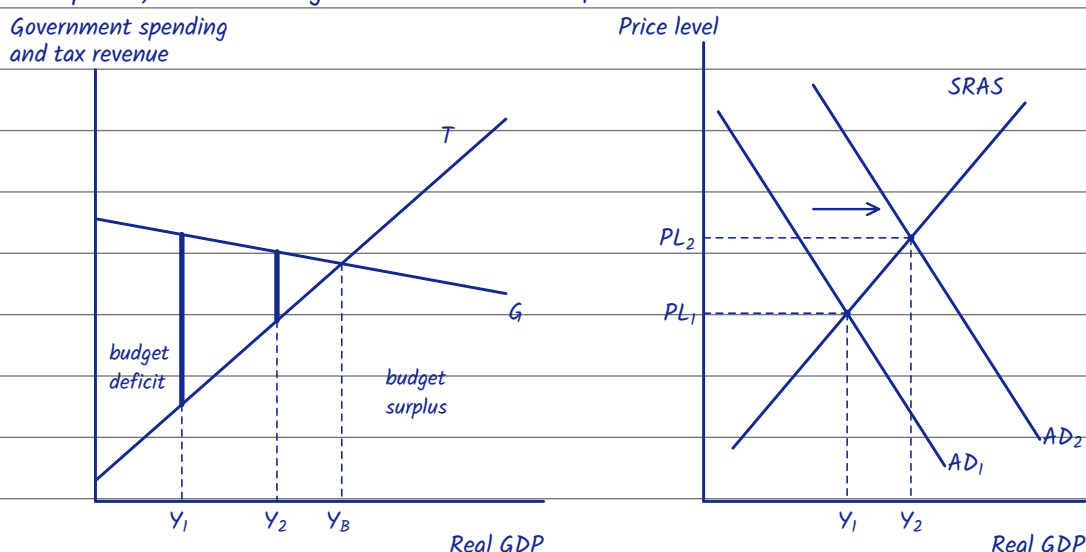
0 6

Public finances are improving when the budget deficit (government spending minus tax receipts) falls, so the government needs to borrow less and the national debt grows more slowly.

In 2009-10 tax receipts were about £540bn and spending about £690bn, a deficit of roughly £150bn. Tax receipts then rose in every year, to about £725bn in 2016-17, an increase of over 30%, whereas spending grew much more slowly, from £690bn to about £770bn (around 12%), and did not rise at all between 2010-11 and 2011-12 (about £715bn). As receipts grew faster than spending, the deficit narrowed to about £50bn in 2016-17, and it is forecast to fall to about £30bn by 2020-21.

0 7

Economic growth is an increase in real GDP. The budget deficit is the amount by which government spending exceeds tax revenue in a year; Extract E puts it at 2.6% of GDP. Part of the deficit is cyclical, rising in a downturn and falling in an upturn, and faster growth reduces this part.



As shown in the AD/AS diagram, faster growth, for example from rising consumption, investment or net exports, shifts AD from AD_1 to AD_2 , increasing real GDP from Y_1 to Y_2 . Because labour is a derived demand, firms employ more

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workers to produce the extra output, so cyclical unemployment falls.

This reduces the deficit from both sides. First, tax revenue rises automatically.

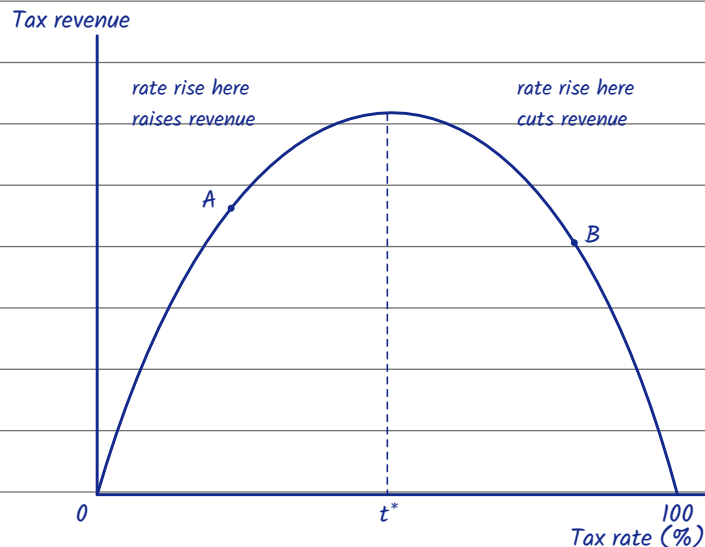
More people in work and higher wages raise income tax and National Insurance receipts, and because income tax is progressive, receipts rise faster than incomes as people move into higher tax bands (fiscal drag). Higher incomes lead to more consumer spending, so VAT and excise duty receipts rise, and higher company profits raise corporation tax revenue. Second, government spending falls as fewer people claim unemployment-related benefits such as Jobseeker's Allowance. These automatic stabilisers mean that, in the first diagram, tax revenue (T) rises with real GDP while government spending (G) falls slightly, so the deficit (the vertical gap between G and T) narrows as GDP rises from Y_1 to Y_2 , and beyond Y_B the budget moves into surplus.

In addition, the deficit is usually measured as a percentage of GDP, so even if the deficit in pounds were unchanged, a larger GDP gives a smaller ratio; the fall from almost 11% of GDP in 2009-10 to 2.6% partly reflects the recovery. Lower borrowing also means lower debt interest payments in future, cutting spending further. This is why the OBR's forecast of slower growth and a 4.6% downgrade to productivity means the deficit is not expected to be eliminated until 2031. However, growth only removes the cyclical deficit; any structural deficit remains and needs spending cuts or tax rises.

Income tax is a direct tax on individuals' incomes; income tax rates are the percentages paid on income in each band above the personal allowance (£11 850 in 2018). UK income tax is progressive, as marginal rates rise from 20% to 40% and 45%. Raising income tax rates is a contractionary fiscal policy that could be used to reduce the budget deficit, the gap between government spending and tax revenue, instead of austerity (cuts in government spending).

The main argument for significant increases is that they would raise revenue to reduce the deficit and the national debt. Extract E shows the deficit was still 2.6% of GDP, with £52bn borrowed in 2016-17, and the OBR expects it will not be eliminated until 2031. Higher revenue would reduce borrowing, slow the growth of the national debt and so reduce debt interest payments, which have a large opportunity cost because the money could be spent on public services. Less government borrowing would also reduce crowding out: with less upward pressure on interest rates, private sector investment is not discouraged. It would also help protect the UK's credit rating, keeping borrowing costs low for future generations. Raising taxes may also be fairer and less damaging than further austerity. Years of spending cuts have put pressure on public services such as the NHS, education and local councils, which provide merit goods with positive externalities. Using tax revenue to fund public services and investment, as Scotland plans with public sector pay rises and superfast broadband for all premises by 2021, can improve human capital and infrastructure, raising productivity (which the OBR has downgraded by 4.6%) and long-run growth. Spending cuts reduce AD directly, whereas part of a tax rise comes out of saving, so tax rises may have a smaller negative multiplier effect on AD than an equivalent cut in spending. Higher income tax rates, especially for higher earners, would also make the tax system more progressive and reduce inequality in disposable income, in line with the ability-to-pay principle of taxation. Under Scotland's changes, 55% of taxpayers pay less than in the rest of the UK while someone earning £150 000 pays £1 774 more, supporting the claim that the system is 'fairer and more progressive'. Because high earners have a lower marginal propensity to consume, taxing them more has a relatively small effect on AD.

However, significant increases in income tax rates may not raise much revenue. As the Laffer curve below shows, revenue rises with the tax rate up to t^* , but beyond that point higher rates reduce revenue, as at B.



Higher marginal rates reduce the reward for working an extra hour, so through the substitution effect some people work fewer hours, retire early or turn down promotion, reducing labour supply and the tax base. The income effect may lead some to work more to maintain their income, but at high rates the disincentive effect is likely to dominate. High earners also have the most scope to avoid tax, for example by taking income as dividends or pension contributions, or to evade it. This is exactly why Derek Mackay resisted a bigger rise in the top rate, 'aware that high earners may find ways to avoid paying it'. Skilled workers and entrepreneurs may also move abroad, or from Scotland to the rest of the UK, causing a brain drain, as business leaders warned.

Higher income tax also reduces disposable income and consumption, so AD falls. With growth forecast to slow (Extract E), this could reduce real GDP and raise unemployment, and the resulting fall in tax receipts and rise in benefit spending would offset part of the extra revenue as the cyclical deficit widens. Lower post-tax rewards may also discourage enterprise and investment, harming the supply side and long-run growth. A more complex system, such as Scotland's five bands, also raises administration and compliance costs, breaking the principles of a good tax (simplicity, convenience and efficiency).

The magnitude of the revenue gain from modest increases may be small.

Scotland's changes are expected to raise only an extra £164 million, which is tiny compared with UK borrowing of £52bn in 2016-17 (about 0.3%). To make a significant impact on the deficit, rises would have to fall on the basic rate paid by most workers, which would hit low and middle-income households and be politically unpopular. It may be better to raise revenue in other ways, for example by tackling avoidance, taxing wealth, property or negative externalities, or allowing fiscal drag to raise revenue gradually.

The case also depends on the state of the economy and on whether rapid deficit reduction is necessary at all. With interest rates historically low, the cost of servicing the debt is low, and borrowing to fund productive investment can pay for itself through higher growth. As Extract E says, faster growth would reduce the deficit much faster, and supply-side growth may be a better route than higher tax rates. In a recession, raising taxes would be counterproductive; in a boom, when the economy is near full capacity, higher taxes could reduce the deficit while also reducing inflationary pressure.

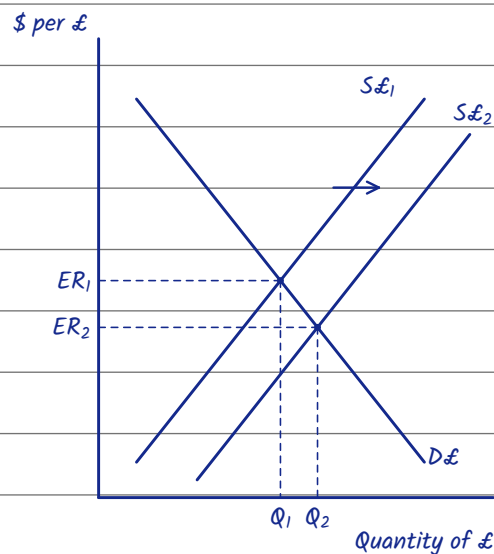
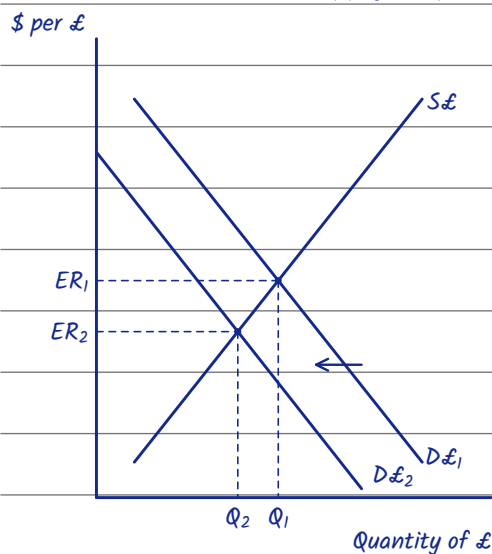
In conclusion, there is a reasonable case for some increases in income tax, particularly targeted, modest rises for higher earners to fund public services and reduce inequality, as Scotland has done. However, the case for significant increases across the board is weak. They risk disincentives to work, avoidance and lower AD, may raise less than expected because of Laffer curve effects, and with the deficit at 2.6% of GDP the public finances are no longer in crisis. A balanced approach combining modest progressive tax changes, closing loopholes and supply-side policies to boost productivity and growth is likely to be the most effective way to improve the public finances.

Question
number

0 9

An exchange rate is the price of one currency in terms of another, for example $\text{£1} = \$1.30$. In a floating exchange rate system, the value of a currency is determined by the market forces of demand for and supply of the currency on the foreign exchange (FOREX) market, without the central bank intervening to target a particular rate. A fall in the value of a floating currency is a depreciation; between 2014 and 2018 the pound fell from around $\$1.70$ to around $\$1.30$.

The demand for pounds comes from foreigners buying UK exports of goods and services, foreign tourists visiting the UK, inward foreign direct investment (FDI) and portfolio investment, and speculators. The supply of pounds comes from UK residents buying imports, UK tourists travelling abroad and UK firms investing overseas, as they exchange pounds for foreign currency. As shown in the diagrams, the exchange rate falls from ER_1 to ER_2 if the demand for pounds falls ($D\text{£}_1$ to $D\text{£}_2$) or the supply of pounds rises ($S\text{£}_1$ to $S\text{£}_2$).



Demand for the pound may fall for several reasons. If incomes in the UK's trading partners fall, for example during a recession in the eurozone, demand for UK exports falls, so foreigners need fewer pounds. UK exports may also become less competitive if UK inflation is higher than in other countries or productivity growth is weak. A fall in UK interest rates relative to other countries, such as when the Bank of England cut Bank Rate to 0.25% in 2016, reduces the return on holding sterling deposits, so fewer 'hot money' flows come into the UK. Political uncertainty, such as after the 2016 EU referendum, may reduce inward FDI and

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portfolio investment, and a fall in foreign tourism to the UK also reduces demand for pounds.

The supply of pounds may increase if UK residents buy more imports, for example when UK incomes rise, as the UK has a high marginal propensity to import, or when foreign goods become relatively cheaper or better quality. More UK tourists holidaying abroad and more outward FDI by UK firms also increase the supply of pounds, as does a fall in UK interest rates, which leads savers to move hot money to countries offering higher returns.

Speculation is often the most important cause in the short run. If speculators expect the pound to fall, for example because of a widening current account deficit or political uncertainty, they sell pounds, which both reduces demand and increases supply, so the expected depreciation actually happens, a self-fulfilling prophecy. Because speculative and hot money flows are far larger than trade flows, a currency can fall sharply in a short period, as the pound did in June 2016.

Finally, if the float is managed rather than free, the central bank may deliberately push the currency down, by selling its own currency in exchange for foreign currency reserves or by cutting interest rates, to improve the competitiveness of exports. Quantitative easing, which increases the money supply and lowers long-term interest rates, can also reduce the value of a currency. In each case, the currency falls because demand for it falls relative to supply.

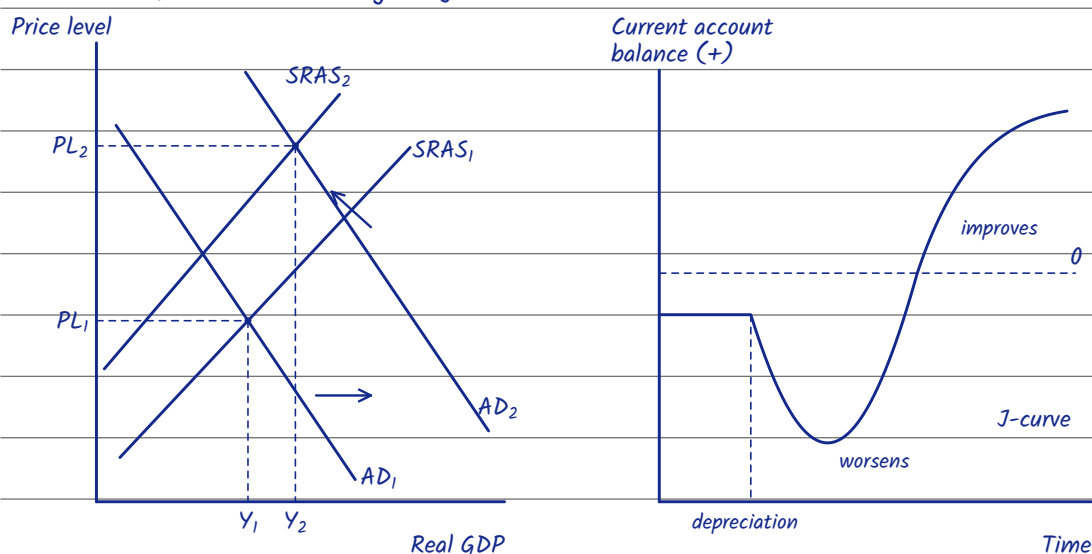
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A depreciation is a fall in the value of a currency in a floating exchange rate system. Macroeconomic performance is judged by how well the main macroeconomic objectives are achieved: strong and sustainable economic growth, low unemployment, low and stable inflation (the 2% CPI target) and a satisfactory current account position on the balance of payments.

A depreciation makes UK exports cheaper in foreign currencies and imports more expensive in pounds. For example, if the pound falls from \$1.50 to \$1.20, a £100 UK product falls in price in the USA from \$150 to \$120, while a \$60 US product rises in price in the UK from £40 to £50. UK goods become more price competitive, so the volume of exports should rise and the volume of imports fall as consumers switch to domestically produced substitutes.

This should improve the current account, which the UK has had in deficit for many years. However, the Marshall-Lerner condition states that a depreciation only improves the current account if the sum of the price elasticities of demand for exports and imports is greater than one. In the short run demand is often price inelastic, because contracts are fixed and buyers take time to find substitutes, so the value of imports rises and the current account at first worsens before improving: the J-curve effect shown in the diagram below. Many UK imports, such as raw materials, components and food, have few domestic substitutes, so demand may stay inelastic.



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Higher net exports ($X - M$) increase AD, shifting AD from AD_1 to AD_2 , with a multiplier effect on real GDP as the extra income earned by exporters is spent.

Export industries and firms competing with imports, such as manufacturing and tourism, will expand output, and as labour is a derived demand, unemployment should fall. A cheaper pound also makes UK assets cheaper for foreign buyers, which may attract inward FDI, raising investment and possibly long-run productive capacity. After the 2016 fall in the pound, UK tourism and many exporters benefited.

However, a depreciation is likely to raise inflation. The rise in AD causes demand-pull inflation, especially if the economy is near full capacity. More importantly, higher prices of imported raw materials, energy and components raise firms' costs, shifting SRAS from $SRAS_1$ to $SRAS_2$ and causing cost-push inflation, as shown. After the 2016 depreciation, UK CPI inflation rose to about 3% in 2017, above the 2% target, and because wages rose more slowly than prices, real wages and living standards fell. Higher inflation may lead workers to demand higher wages, risking a wage-price spiral, and may force the MPC to raise interest rates, reducing AD and offsetting the gain in growth.

In the long run, the gain in competitiveness may be eroded. If UK inflation rises above that of trading partners, the real exchange rate moves back towards its original level and UK goods lose their price advantage. A weak pound also reduces the pressure on firms to cut costs and raise productivity, which is the more sustainable way to improve competitiveness. Non-price factors such as quality, design, reliability and after-sales service are often more important than price for UK exports such as financial services, pharmaceuticals and cars.

The impact also depends on the cause and size of the depreciation and on the global economy. A depreciation caused by a loss of confidence, as after the Brexit vote, may come with uncertainty that reduces investment and offsets the boost to exports. If the UK's trading partners are in recession, their incomes are falling, so demand for UK exports may not rise much however cheap they become. It also depends on spare capacity: with a negative output gap, the rise in AD mainly increases real GDP and employment with little inflation, but near full capacity it

is mostly inflationary. Finally, a depreciation raises the sterling value of UK firms' overseas earnings but increases the cost of servicing debts in foreign currencies.

In conclusion, a depreciation is likely to improve some aspects of the UK's macroeconomic performance in the short to medium run, particularly growth, employment and, after the J-curve, possibly the current account, provided the Marshall-Lerner condition holds and there is spare capacity. However, it is also likely to raise inflation and reduce real incomes, and its benefits tend to be eroded in the long run unless productivity and non-price competitiveness improve.

On balance, a depreciation can provide a useful temporary boost, especially in a recession, but it is not a reliable route to a lasting improvement in macroeconomic performance; supply-side improvements matter more.

Monetary policy is the use of interest rates, the money supply and the exchange rate to influence the economy. In the UK, the Monetary Policy Committee (MPC) of the Bank of England sets Bank Rate, the interest rate paid on commercial banks' reserves held at the Bank, to meet the government's CPI inflation target of 2% (plus or minus 1%), while supporting the government's objectives for growth and employment. The transmission mechanism describes the channels through which a change in Bank Rate affects AD, output and finally inflation, usually with a time lag of around 18 to 24 months.

When the MPC raises Bank Rate, commercial banks raise the interest rates they charge on loans, credit cards, overdrafts and mortgages, and the rates they pay on savings. This has several effects.

First, consumption falls. Saving becomes more attractive because the reward for saving rises, so households save more and spend less. Borrowing becomes more expensive, so spending on durable goods bought on credit, such as cars, falls.

Households with variable-rate mortgages face higher monthly repayments, reducing their discretionary income and therefore their spending.

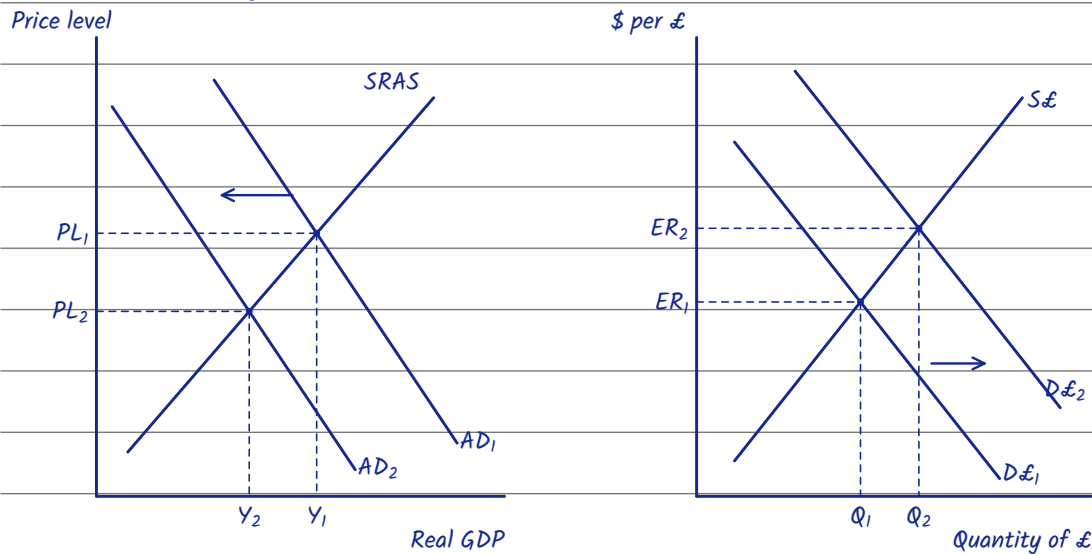
Second, asset prices fall. Dearer mortgages reduce the demand for housing, and higher interest rates reduce the present value of the future returns on shares and bonds. Falling house and share prices reduce household wealth, so through the wealth effect consumers feel less confident and spend less. Lower house prices also reduce the collateral available for borrowing.

Third, investment falls. The cost of borrowing to finance investment rises, and the expected return on a project must now exceed a higher interest rate, so fewer projects are profitable when firms carry out investment appraisal. Expectations of weaker consumer spending also make firms more pessimistic, reducing investment further.

Fourth, the exchange rate appreciates. Higher UK interest rates relative to other countries attract hot money inflows into UK bank accounts, increasing the demand for pounds ($D\pounds_1$ to $D\pounds_2$ in the second diagram), so the exchange rate rises from ER_1 to ER_2 . The stronger pound makes UK exports more expensive abroad and imports cheaper in the UK, so net exports ($X - M$) fall. Cheaper imports also

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reduce inflation directly by lowering the price of imported goods and raw materials, reducing firms' costs.



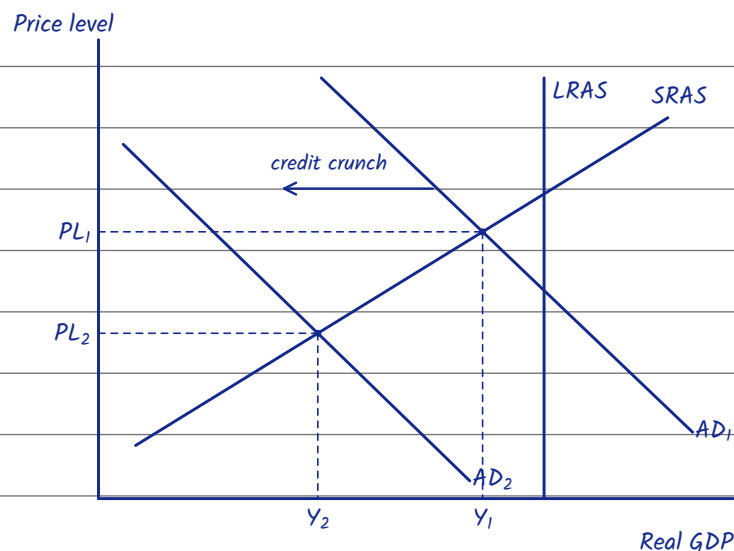
Because C , I and $(X - M)$ are components of AD , AD shifts left from AD_1 to AD_2 , as shown in the first diagram, and the fall in spending is magnified by the multiplier effect. Real GDP falls from Y_1 to Y_2 and the price level from PL_1 to PL_2 , reducing demand-pull inflationary pressure. Lower demand reduces the derived demand for labour, which slows wage growth, and a credible rise in Bank Rate lowers inflation expectations, so workers and firms moderate wage demands and price rises. In this way a rise in Bank Rate brings inflation back towards the 2% target, although the strength and timing of each channel are uncertain, for example if many households have fixed-rate mortgages.

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Financial markets are markets in which money and financial assets are traded, such as the money market, the capital market and the foreign exchange market; they channel savings into lending and investment. A stable economy has steady, sustainable growth, low unemployment, low and stable inflation and a financial system able to withstand shocks. Since the Financial Services Act 2012, the Financial Policy Committee (FPC) of the Bank of England carries out macro-prudential regulation, identifying and reducing systemic risks to the financial system as a whole; the Prudential Regulation Authority (PRA) carries out micro-prudential regulation of individual banks and insurers; and the Financial Conduct Authority (FCA) regulates the conduct of financial firms to protect consumers and market integrity.

There is a strong case that strict regulation is essential, because financial markets are prone to market failure. There is asymmetric information: banks know more about the risks of financial products than their customers, leading to mis-selling, as with payment protection insurance. Moral hazard arises because large banks believe they are 'too big to fail' and will be bailed out, so they take excessive risks. Speculative bubbles develop when herd behaviour pushes asset prices, such as house prices, far above their fundamental value.

The financial crisis of 2007-08 shows what can happen without strict regulation. Banks lent heavily, including sub-prime mortgages in the USA, held too little capital and relied on short-term wholesale funding. When house prices fell, losses spread through the system: Northern Rock suffered a bank run and RBS and Lloyds had to be rescued by the government. This is systemic risk: the failure of one institution spreads to others because they are interconnected. Banks stopped lending to each other and to households and firms (a credit crunch), so consumption and investment collapsed. As shown in the diagram, AD shifted sharply left from AD_1 to AD_2 ; UK real GDP fell by about 6%, unemployment rose above 8% and the budget deficit rose to almost 11% of GDP. A stable financial system is therefore a pre-condition for a stable real economy.



Strict regulation can reduce both the likelihood and the impact of such crises.

Higher capital requirements under the Basel III accords give banks a larger buffer to absorb losses, while liquidity ratios ensure they hold enough liquid assets to meet withdrawals. The FPC can use a counter-cyclical capital buffer, raising capital requirements when credit grows too fast, and can limit risky mortgage lending at high loan-to-income ratios to prevent house price bubbles. Annual stress tests check that banks could survive a severe recession, and ring-fencing separates retail banking from riskier investment banking. These rules reduce moral hazard and systemic risk and so help create a more stable economy.

However, rules that are too strict can harm the economy. Higher capital and liquidity requirements raise banks' costs and reduce how much they can lend, so credit becomes dearer and harder to obtain, especially for small firms, reducing investment and long-run growth. Financial services are one of the UK's most important industries and a major source of exports and tax revenue; excessive regulation could cause banks to relocate to other financial centres, a 'banking brain drain'. Strict rules may also push risky activity into the less regulated shadow banking sector, where it is harder to monitor.

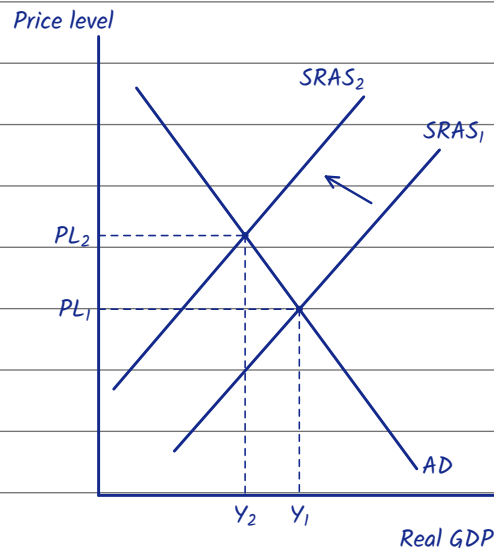
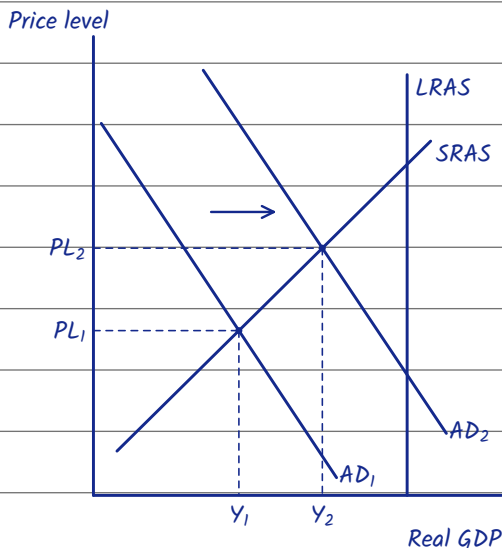
Regulation may also suffer from government failure. Regulators have less information than the banks about their own risks and may fail to spot new forms of risk. There is also a danger of regulatory capture, where regulators come to act in the interests of the industry rather than the public. Before 2008 the UK's 'light-touch' tripartite system failed to identify the build-up of risk, which

suggests that the quality and focus of regulation matter more than simply how strict it is.

Moreover, financial regulation is not the only requirement for a stable economy. Stability also depends on monetary policy, with the MPC using Bank Rate to keep inflation close to 2% and stabilise demand, and on fiscal policy, including automatic stabilisers and credible fiscal rules monitored by the OBR. Many shocks are external, such as oil price rises or global recessions, and cannot be prevented by financial regulation, although well-capitalised banks make the economy more resilient to them. International coordination is also needed, because financial crises spread across borders, as in 2008 when the crisis spread from the USA to the UK.

In conclusion, strict rules and regulations on financial markets are essential, because the 2007-08 crisis showed that poorly regulated financial markets create systemic risk that can cause deep recessions, high unemployment and huge costs to the public finances. However, they are not sufficient on their own and must be well designed: regulation should be proportionate and focused on systemic risk, using macro-prudential tools that can be adjusted over the economic cycle, so that it improves stability without unduly restricting lending and growth. Combined with credible monetary and fiscal policy, effective regulation is a necessary foundation for a more stable economy.

Inflation is a sustained rise in the general price level, measured in the UK by the annual percentage change in the Consumer Prices Index (CPI), a weighted average of the prices of a representative basket of goods and services. The government's target is 2%. There are two main causes, demand-pull and cost-push inflation, which are shown in the diagrams and often interact.



Demand-pull inflation occurs when aggregate demand grows faster than the economy's ability to supply goods and services. In the first diagram, a rise in AD from AD_1 to AD_2 raises the price level from PL_1 to PL_2 ; the closer the economy is to full capacity (LRAS), the more of the rise in AD causes inflation rather than extra output. Any component of AD can be the cause. Consumption may rise because of falling unemployment, rising confidence, rising house prices (the wealth effect) or lower interest rates. Investment may rise due to lower interest rates or business optimism. Government spending may rise, for example on pensions, or taxes may be cut. Exports may increase because of faster growth in trading partners, and a depreciation of the currency makes exports cheaper and imports dearer, raising net exports. In each case the initial rise in AD is magnified by the multiplier, and as spare capacity is used up, shortages of labour and materials lead firms to raise prices.

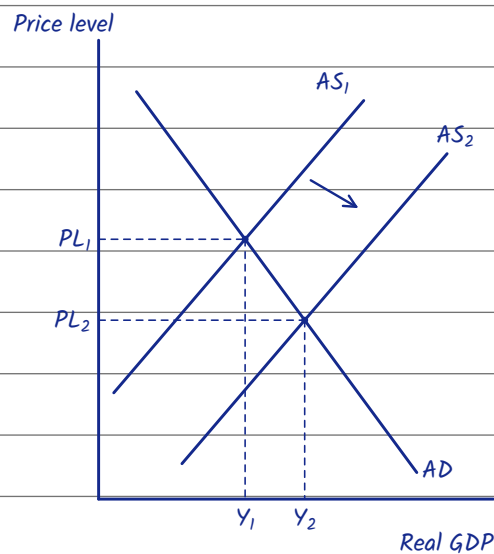
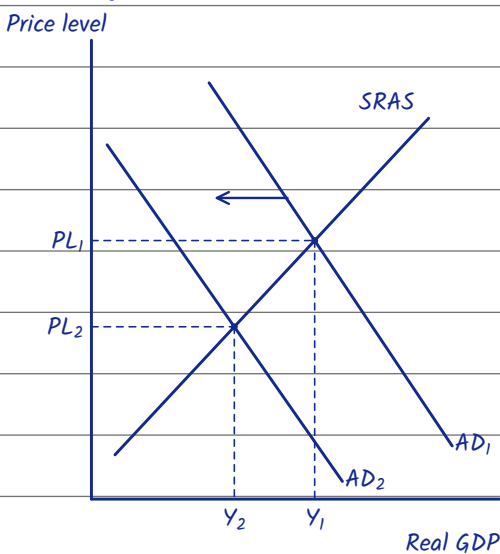
Monetarists argue that inflation is caused by excessive growth of the money supply. According to the Fisher equation of exchange, $MV = PT$. If the velocity of circulation (V) and the number of transactions (T) are fairly stable, an increase in the money supply (M), for example from rapid bank lending, leads to a

proportional rise in the price level (P): too much money chasing too few goods.

Cost-push inflation occurs when firms' costs of production rise, so they raise prices to protect profit margins. This shifts SRAS to the left from $SRAS_1$ to $SRAS_2$, raising the price level from PL_1 to PL_2 while reducing real output, as shown in the second diagram. Causes include rising wage costs, for example if trade unions negotiate pay rises above productivity growth or the National Living Wage is increased; rising world prices of raw materials and commodities such as oil, gas and food; and higher import prices after a depreciation, as in the UK after the pound fell in 2016, when CPI inflation rose to over 3%. Rises in indirect taxes, such as VAT rising to 20% in 2011, also raise prices directly.

These causes interact. If people expect inflation to rise, workers demand higher wages to protect their real incomes, which raises firms' costs, leading to higher prices and further wage demands: a wage-price spiral. An external shock such as a sharp rise in oil prices can therefore cause persistent inflation if expectations are not anchored. Particular markets can also push up measured inflation, such as rising housing costs, which affect the RPI, or a lack of competition in energy markets raising domestic fuel prices. In the short run, inflation is often caused by temporary supply shocks, whereas persistent inflation in the long run usually reflects excess demand or money supply growth.

Inflation is a sustained rise in the general price level; deflation is a sustained fall in the general price level, so the inflation rate is negative. Disinflation, a fall in the rate of inflation while prices are still rising, is different. Inflation can be demand-pull or cost-push and can range from low, creeping inflation of around 2% to hyperinflation. Deflation can be malign (bad) deflation, caused by falling AD, or benign (good) deflation, caused by rising aggregate supply, as shown in the diagrams.



Low, stable inflation is generally seen as preferable to deflation, which is why the Bank of England targets 2% CPI inflation rather than zero. Malign deflation is very damaging. If consumers expect prices to keep falling, they postpone purchases, especially of durable goods, so consumption and AD fall further. Firms respond by cutting output, investment and jobs, leading to further price falls: a deflationary spiral, as in Japan's 'lost decades' from the 1990s. Deflation also raises the real value of debt, so indebted households, firms and governments find repayments harder and cut spending further. Real interest rates rise when prices are falling, even if nominal rates are close to zero, which discourages borrowing and investment.

Deflation is also harder for policy makers to deal with. Nominal interest rates cannot easily be cut much below zero (the zero lower bound), so once deflation takes hold, monetary policy may be ineffective in a liquidity trap and unconventional policies such as quantitative easing are needed, whereas inflation can always be reduced by raising interest rates. Mild inflation also adds flexibility

to the labour market: workers resist cuts in money wages, but a little inflation allows real wages to fall when necessary, reducing unemployment. Low inflation also reduces the real burden of debt for borrowers and gives firms rising revenues, which encourages investment.

However, inflation is not always preferable. Inflation reduces the purchasing power of money and raises the cost of living. Savers lose when real interest rates are negative, and people on fixed incomes, such as pensioners or benefit claimants whose benefits are frozen or capped at 1% rises, and workers with little bargaining power suffer falling real incomes. Inflation redistributes income from savers to borrowers and can widen inequality. It causes menu costs and shoe-leather costs, creates uncertainty that discourages investment and, if UK inflation is above that of trading partners, reduces international competitiveness, worsening the current account. In 2017, UK inflation of about 3% exceeded wage growth, so real wages fell. High and accelerating inflation, and especially hyperinflation as in Zimbabwe or Venezuela, destroys confidence in money and is far more damaging than mild deflation.

Furthermore, not all deflation is harmful. Benign deflation is caused by an increase in aggregate supply, for example from technological progress, rising productivity or falling commodity prices, shifting AS to the right from AS_1 to AS_2 . Prices fall while real output and employment rise, as shown in the second diagram. The UK's brief deflation in 2015 was caused mainly by sharp falls in world oil and food prices. It raised consumers' real incomes and did not cause a deflationary spiral, as consumers did not delay buying essentials and inflation soon returned. Such deflation is preferable to cost-push inflation, which reduces output and real incomes at the same time.

Whether inflation is preferable to deflation therefore depends on the type, size and duration of each. Creeping inflation of 2% is preferable to prolonged malign deflation, but a short period of mild benign deflation is preferable to high or volatile inflation. It also depends on who is affected: inflation benefits borrowers, including governments with large debts, at the expense of savers, while deflation benefits savers and those on fixed incomes at the expense of debtors.

Expectations matter too: if price changes are anticipated, contracts and wages adjust and the costs are lower than when they are unexpected. Finally, it depends on the credibility of the central bank; if the MPC is trusted to return inflation to 2%, a short period of either is unlikely to cause lasting harm.

In conclusion, the view that inflation is always preferable to deflation is too strong. Low, stable and predictable inflation of about 2% is preferable to persistent malign deflation, because deflation risks a self-reinforcing spiral of falling demand, rising real debt and unemployment that monetary policy may struggle to escape at the zero lower bound. However, high or accelerating inflation is more damaging than mild deflation, and benign deflation caused by rising productivity or falling commodity prices can actually raise living standards.

Inflation is therefore usually, but not always, preferable to deflation: what matters is the cause of the price change, its magnitude and how long it lasts.