

A-level ECONOMICS

Paper 2 National and international economy

Tuesday 13 June 2017

Afternoon

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 **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

Economic development in India

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

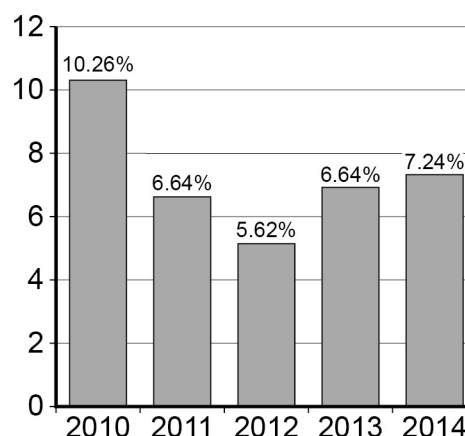
Extract A

Figure 1: India's Human Development Index (HDI) trends, 1980 to 2014

Year	Life expectancy at birth	Expected years of schooling	GNI per capita (2011 PPP \$)	HDI value
1980	53.9	6.4	1 255	0.362
1990	57.9	7.7	1 754	0.428
2000	62.6	8.5	2 522	0.496
2010	66.5	11.1	4 499	0.586
2014	68.0	11.7	5 497	0.609

GNI = gross national income
PPP = purchasing power parity

Figure 2: India's real GDP growth rate, 2010 to 2014



Source: Official statistics, 2015

Extract B: Is India still a developing country?

Every region of the world has seen improvements in its HDI and India, in particular, has seen major changes. Job creation is a key aspect of development. However, 95% of all workers in India are in informal employment where there is no monitoring or taxation. Nearly 120 million more workers will enter the Indian labour force over the next 10 years seeking manufacturing jobs but, so far, these jobs have not appeared. Manufacturing still counts for less than 20% of all jobs and more than half of all workers are in low productivity agriculture. The large amount of informal employment also reduces tax receipts, which limits the amount the Indian government can spend to improve the economy.

1

5

India is still a very poor country with low per capita income, widespread destitution, hunger and malnutrition. Moreover, it has poor health facilities, housing and infrastructure as well as slowly expanding education and a strong reliance on foreign aid. Despite the emergence of a rising middle class, inequality is growing and the majority of the population lack basic social and economic rights. The Indian government must find a way to do more to provide for its citizens. However, when the government has intervened in the economy, it has often resulted in failure. Some say the Indian government should adopt the Chinese model of export-led industrialisation.

10

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Until the early 1990s, India was a closed economy: average tariffs exceeded 200%, quotas on imports were extensive and there were restrictions on foreign investment. India still protects its economy with anti-dumping measures and export subsidies that are designed to promote economic growth. In the past, nearly all advanced economies have benefited from protectionist policies, why should India be any different?

20

Source: News reports, 2016

Extract C: 'Make in India' – the road to development?

India has steadily opened up its economy and reduced regulations that have sometimes held it back. More recently, India has begun to use more market-based strategies to help its development, including liberalising trade and privatisation. These may be risky strategies as India lacks the infrastructure that most of its global competitors have.

1

Trade reforms do appear to have produced remarkable results. India's trade, as a percentage of GDP, has increased from 15% to 40% between 1990 and 2014, and the economy is now among the fastest growing in the world. In more recent years, the Indian government's stand on trade and investment policy has displayed a shift from protecting producers to benefiting consumers. 'Make in India' is an initiative to encourage multinational companies to manufacture their products in India and shift Indian employment from the unstable primary sector to the secondary sector.

5

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Recently, there has been a promise by foreign companies to invest \$222 billion in India. When foreign companies come to a 'Make in India' event, they see an economy that is growing at 7% annually with a large well-educated and skilled workforce. However, problems persist with regulation and tax. In the World Bank's Doing Business Index, which indicates how easy it is to set up and run a business, India is ranked 130th out of 189 countries. The question still remains, is the road to a more developed India one which involves the free market and liberalisation of trade, or one which involves government intervention and protectionism?

15

Source: News reports, 2016

0 1

Using the data in **Extract A (Figure 2)**, calculate, to **two** decimal places, the mean growth rate for India from 2010 to 2014.

[2 marks]

0 2

Explain why the data in **Extract A (Figure 1)** show that living standards in India have improved.

[4 marks]

0 3

Extract B (lines 17–19) states 'India still protects its economy with anti-dumping measures and export subsidies that are designed to promote economic growth.'

With the help of a diagram, explain how export subsidies may help promote economic growth in India.

[9 marks]

0 4

Extract C (lines 2–3) states 'More recently, India has begun to use more market-based strategies to help its development, including liberalising trade and privatisation.'

Using the data in the extracts and your knowledge of economics, evaluate the view that greater use of market-based strategies is the best way to improve the economic development of India.

[25 marks]

Turn over ►

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

OR

Context 2

Total for this context: 40 marks

Inflation, deflation and economic policy

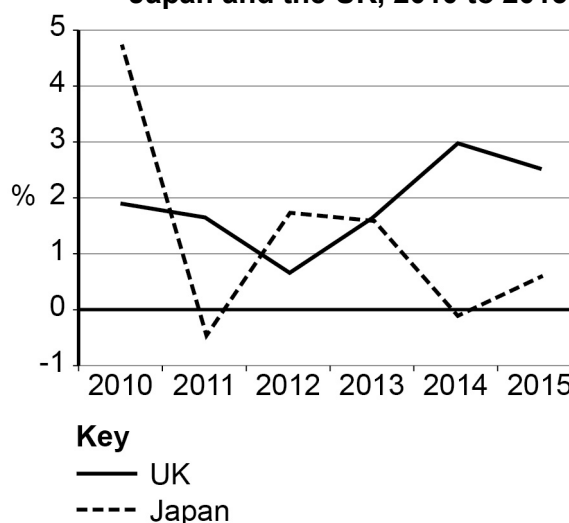
Study **Extracts D, E and F** and then answer **all** parts of Context 2 which follow.

Extract D

Figure 3: CPI inflation rates (%) for Japan and the UK, 2010 to 2015

Year	Japan	UK
2010	-0.72	3.29
2011	-0.28	4.48
2012	-0.03	2.83
2013	0.36	2.56
2014	2.75	1.46
2015	0.80	0.05

Figure 4: Real GDP growth rates (%) for Japan and the UK, 2010 to 2015



Source: Official Statistics

Extract E: Good and bad deflation

Deflation is bad when it is the result of falling aggregate demand. Consumers buy fewer goods and services and firms cut prices whilst consumption and investment decisions are delayed. This can lead to worsening company profits, cost cutting and job losses. Less spending damages economic growth and could lead to a deflationary spiral. However, this has not been the UK's recent experience. A glut in the supply of oil has driven down its price. This has had a positive effect on most businesses who face lower costs. In the retail sector, in particular, prices are lower because goods are cheaper to manufacture and transport. Businesses can also spend more on investment, hiring staff or offering pay rises. This has led to pay growth and productivity gains in the private sector after years of stagnation. Improvements in productivity on the supply side of the economy could actually lead to more deflation but this could be viewed as good deflation. 10

Professor Steve Keen believes even mild deflation is bad news. If the government continues with its programme of austerity, he is convinced the UK is heading for bad deflation. "Deflation is only benign, or even beneficial, in a world in which no one has any debt. Bizarrely, this is the world that conventional economists actually imagine we live in, since their models have ignored debt. Deflation increases the burden of people's debt, which is what happened in the 1930s, during the Great Depression." 15

The most immediate implication of continued deflation is that it makes a rise in interest rates less likely and, in the short term, this is good news for borrowers, but not for savers. This should also allow more time for the economy to recover, with low interest rates helping consumers and firms to access cheaper credit. 20

Source: News reports, 2016

Extract F: The Japanese problem

If the UK wishes to see another economy's experience of when deflation turns bad, then it only needs to look at Japan. Over the last two decades, Japan has used a variety of policies in an attempt to overcome deflation. For almost 20 years, the Bank of Japan's main interest rate has hovered around 0% and at times been negative. Japan has embarked on several fiscal stimulus programmes, although with a debt to GDP ratio of 245% in 2015, some see this as a worry. Furthermore, the Bank of Japan is currently carrying out quantitative easing equivalent to approximately £500bn per year. So far, the Japanese economy has not escaped from the risk of deflation.

So what can the UK learn from Japan? For much of 2015, CPI inflation in the UK was at, or very close to, 0%. Consumer spending is fairly robust at the moment but if economic agents anticipate falling prices, they may begin to factor this into their expectations. This could lead to bad deflation which can be very difficult to tackle effectively.

In recent times, the UK has arguably seen a stronger recovery than many other developed economies, although there is uncertainty over what should be done to maintain this in the future. After the financial crisis of 2007/08, UK Bank Rate was reduced to an historic low of 0.5%, and although it has since been cut to 0.25%, there is little scope to reduce it much further. The Bank of England has also used quantitative easing to try to stimulate the economy. However, the results of this are debatable. In terms of fiscal policy, the current government appears to be determined to continue with its austerity programme. What is not clear is what should be done if low inflation turns to bad deflation.

Source: News reports, 2016

0 5

Using the data in **Extract D (Figure 3)**, calculate, to **two** decimal places, the mean inflation rate for Japan from 2010 to 2015.

[2 marks]

0 6

Explain how the data in **Extract D (Figure 4)** show that Japan has been less successful than the UK in achieving a stable rate of economic growth.

[4 marks]

0 7

Extract E (lines 9–10) states 'Improvements in productivity on the supply side of the economy could actually lead to more deflation.'

With the help of a diagram, explain how improvements in productivity could cause deflation.

[9 marks]

0 8

Extract F (lines 19–20) states 'What is not clear is what should be done if low inflation turns to bad deflation.'

Using the data in the extracts and your knowledge of economics, evaluate the view that monetary policy is the most effective way of tackling deflation in developed economies such as the UK and Japan.

[25 marks]

Turn over ►

Section B

Answer **one** essay from this section.

Each essay carries 40 marks.

EITHER**Essay 1**

Between 2011 and 2016, UK unemployment fell from a high of 8.5% to 4.8%. Some argue that government attempts to reduce unemployment inevitably lead to trade-offs with other macroeconomic policy objectives.

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Explain how government policies can reduce the natural rate of unemployment.

[15 marks]

1	0
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Discuss the view that falling unemployment will inevitably lead to trade-offs with other macroeconomic policy objectives.

[25 marks]

OR**Essay 2**

The UK has seen significant changes in its pattern of trade with the rest of the world in terms of what we trade and with whom. The UK's current account deficit widened from £29.1bn in 2011 to £100.2bn in 2015. The deficit in 2015 was 5.4% of GDP, the largest annual deficit as a percentage of GDP since records began in 1948.

1	1
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Explain the possible reasons for changes in the pattern of trade between the UK and the rest of the world.

[15 marks]

1	2
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Evaluate the measures that might be taken to reduce a deficit on the current account of the UK's balance of payments.

[25 marks]

OR

Essay 3

The Government has ruled out the possibility of a rise in VAT before 2020 but other indirect taxes may increase. It has also stated that the personal income tax allowance will be increased from £10 800 in 2015/16 to £12 500 by 2020, and plans to cut the main rate of corporation tax from 20% to 17%.

1	3
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 Explain how changes in both government spending **and** taxation might affect the level of economic activity.

[15 marks]

1	4
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 Evaluate the economic consequences for the UK economy of a significant shift in the burden of taxation from direct taxes to indirect taxes.

[25 marks]

END OF QUESTIONS

Turn over ►

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Question
number

0 1

Mean growth rate = $(10.26 + 6.64 + 5.62 + 6.64 + 7.24) \div 5$
 $= 36.40 \div 5 = 7.28\%$

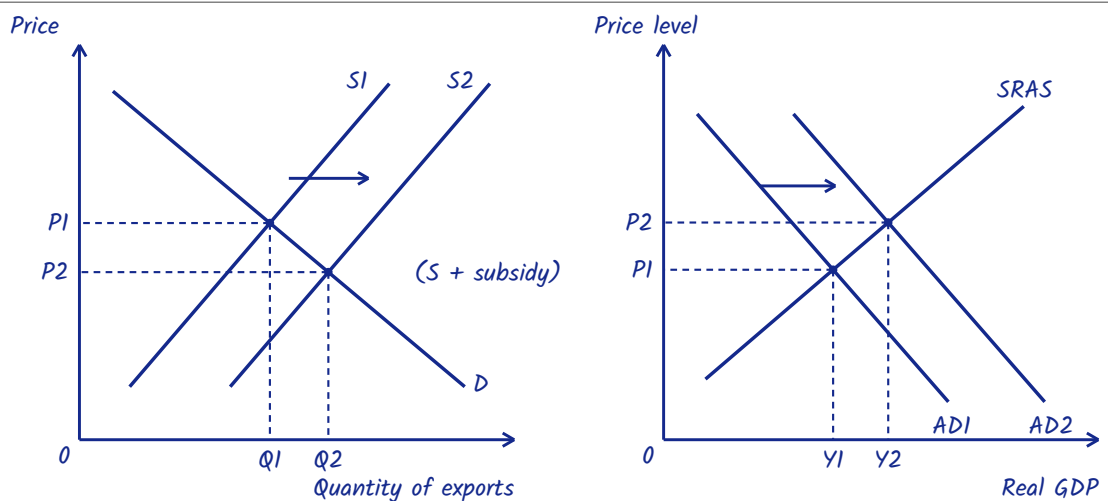
0 2

Living standards refer to the economic welfare of the population, both material (income and consumption) and non-material (health and education). Figure 1 shows that all three components of the HDI improved steadily in every period from 1980 to 2014.

Life expectancy at birth rose from 53.9 to 68.0 years, an increase of 14.1 years, showing better nutrition, sanitation and healthcare. Expected years of schooling rose from 6.4 to 11.7 years, so people gain more human capital and better job prospects. GNI per capita (2011 PPP \$) rose more than fourfold from \$1 255 to \$5 497; because it is adjusted for purchasing power, this shows a genuine rise in the quantity of goods and services the average person can buy. As a result, the HDI value rose from 0.362 to 0.609, moving India from low towards medium human development, which is clear evidence that living standards have improved.

0 3

An export subsidy is a payment made by the government to domestic firms for each unit of a good they export, which lowers their costs of supplying overseas markets. Economic growth is an increase in real GDP in the short run, or an increase in the productive potential of the economy in the long run.



As shown in the first diagram, the subsidy reduces Indian exporters' costs, so supply in the export market shifts from S1 to S2 (S + subsidy). Indian goods, such as textiles or steel, can then be sold more cheaply in world markets: price

falls from P_1 to P_2 and the quantity exported rises from Q_1 to Q_2 . Since demand for India's manufactured exports is likely to be price elastic, because buyers can easily switch to substitutes from China or Bangladesh, the percentage rise in quantity exceeds the fall in price, so the value of exports ($P_2 \times Q_2$) rises.

Exports (X) are an injection into the circular flow and a component of aggregate demand, $AD = C + I + G + (X - M)$. Higher export revenue therefore shifts AD from AD_1 to AD_2 in the second diagram, increasing real GDP from Y_1 to Y_2 . The effect is magnified by the multiplier: workers and firms in export industries earn more income and spend part of it on domestic goods, creating further rounds of spending. Because India has a large pool of underemployed labour (more than half of workers are in low productivity agriculture), output can rise with relatively little inflationary pressure.

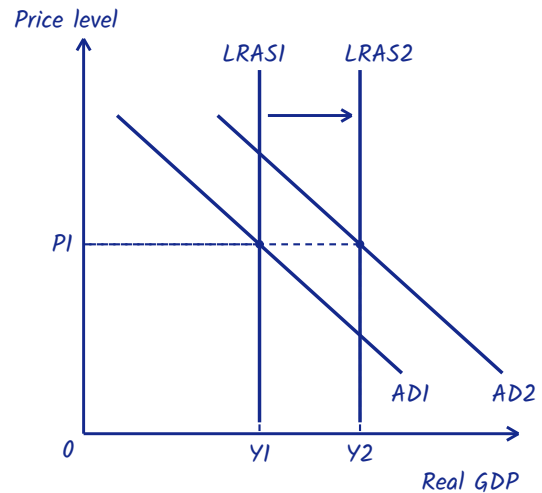
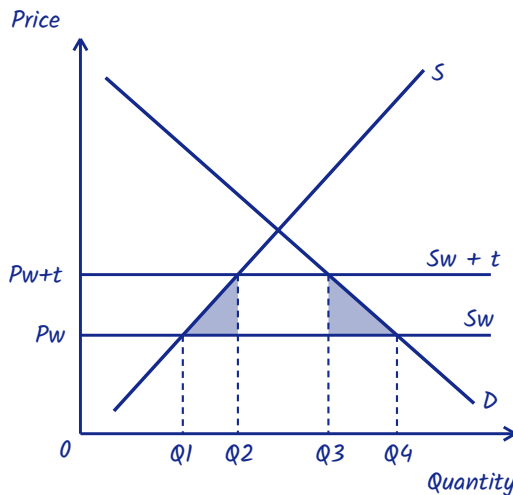
Export subsidies can also promote long-run growth. Larger overseas markets allow firms to exploit economies of scale and higher profits fund investment (an accelerator effect), adding to India's capital stock. Formal manufacturing jobs move workers out of agriculture into higher productivity work, and foreign currency earnings pay for imported machinery and technology. This raises productive potential, shifting LRAS to the right, so the growth is more sustainable.

However, the extent of the growth depends on the size of the subsidy, its opportunity cost to a government with limited tax receipts, and the risk that trading partners retaliate or that the WTO rules the subsidy illegal.

0 4

Economic development is a broad improvement in the economic welfare and quality of life of a population, including higher real incomes, better health and education, less poverty and greater freedom and choice. It is wider than economic growth, which is simply an increase in real GDP. Market-based strategies rely on the price mechanism and private enterprise to allocate resources, for example trade liberalisation, privatisation, deregulation and openness to foreign direct investment (FDI). Interventionist strategies rely on the state, for example spending on infrastructure, health and education, industrial policy and protectionism.

The strongest argument for market-based strategies is trade liberalisation. Until the early 1990s India was a closed economy with average tariffs over 200%, which kept domestic prices high and protected inefficient firms. Free trade allows India to specialise according to comparative advantage, for example in labour-intensive manufacturing and IT services, and to trade for goods it produces relatively less efficiently, raising world output and living standards.



As shown in the tariff diagram, removing a tariff lowers the domestic price from $P_w + t$ to P_w . Domestic consumption rises from Q_3 to Q_4 and consumer surplus increases, and the two shaded deadweight loss triangles, caused by inefficient domestic production and lost consumption, are removed. Cheaper imported raw materials and components also lower the costs of Indian manufacturers, and foreign competition forces domestic firms to reduce X-inefficiency and innovate. The data support this: India's trade rose from 15% to 40% of GDP between 1990 and 2014, real GDP growth averaged 7.28% from 2010 to 2014, and India's HDI rose from 0.428 in 1990 to 0.609 in 2014.

A second market-based strategy is encouraging FDI, as in 'Make in India', where foreign companies have promised to invest \$222 billion. FDI fills the savings gap that limits investment in low income countries (the Harrod-Domar model), and brings technology, management skills and access to global supply chains. As shown in the second diagram, investment raises AD from AD_1 to AD_2 in the short run and, by increasing the capital stock and productivity, shifts $LRAS_1$ to $LRAS_2$ in the long run, so growth can occur without inflation. It also helps shift employment from the unstable primary sector into manufacturing, which is vital

because nearly 120 million workers will join India's labour force in the next 10 years and manufacturing still accounts for less than 20% of jobs. Moving workers from low productivity agriculture to formal factory jobs (the Lewis model) raises incomes and, because 95% of workers are currently in untaxed informal employment, expands the tax base so the government can spend more on health and education.

Privatisation and deregulation give firms a profit incentive to cut costs and respond to consumers, improving productive and dynamic efficiency. India is ranked only 130th out of 189 in the World Bank's Doing Business Index, so cutting red tape and simplifying tax could attract far more domestic and foreign investment. Extract B also notes that government intervention 'has often resulted in failure': before liberalisation, the 'Licence Raj' of permits and state monopolies created corruption and slow growth, suggesting government failure can be worse than market failure.

However, there are strong reasons to doubt that markets alone are the best route to development. Growth does not guarantee development: India is still 'a very poor country' with hunger, malnutrition and destitution, GNI per capita is only \$5 497, and inequality is growing despite a rising middle class. Market-based growth benefits those with capital and skills first, and the benefits may not trickle down to the rural poor. Markets also fail to provide public goods and underprovide merit goods. India 'lacks the infrastructure that most of its global competitors have' and has poor health facilities and housing, which private firms will not supply sufficiently because they cannot exclude non-payers or capture the external benefits. Without state investment in roads, power, schools and hospitals, India cannot make full use of its workforce, so even FDI will be held back.

There are also risks in relying on multinationals. The \$222 billion is only a promise, MNCs may repatriate profits rather than reinvest them, and they are footloose, so jobs may move to cheaper locations. Rapid liberalisation can expose infant industries to competition before they reach the minimum efficient scale, causing unemployment. Extract B points out that nearly all advanced economies benefited from protection in the past, and the 'Chinese model' of export-led

industrialisation was heavily state-directed, using special economic zones, state banks and a managed exchange rate, rather than purely market-based.

The best approach also depends on the type of market-based strategy. Trade liberalisation and FDI appear to have produced 'remarkable results' for growth, whereas privatisation of utilities in a country with weak regulation can create private monopolies that raise prices for the poor. The effect also differs over time: in the short run liberalisation may cause job losses and widen inequality, but in the long run it is more likely to raise productivity and incomes. Finally, success depends on the quality of institutions; markets work well only where property rights, the rule of law and regulation are effective, which is why India's poor Doing Business ranking matters.

In conclusion, market-based strategies are probably the best way to raise India's growth rate and efficiency, and the data on trade and growth since 1990 support them. However, they are not sufficient on their own to improve economic development, because markets will not solve the infrastructure gap, widespread poverty or growing inequality. The most effective path is therefore a market-friendly strategy combined with targeted intervention: liberalised trade, FDI and deregulation to generate growth and formal jobs, with the extra tax revenue used by the state to invest in infrastructure, health and education. Whether this works depends above all on India improving governance so that both the market and the state function effectively.

Question
number

0 5

Mean inflation rate = $(-0.72 + -0.28 + -0.03 + 0.36 + 2.75 + 0.80) \div 6$
 $= 2.88 \div 6 = 0.48\%$

0 6

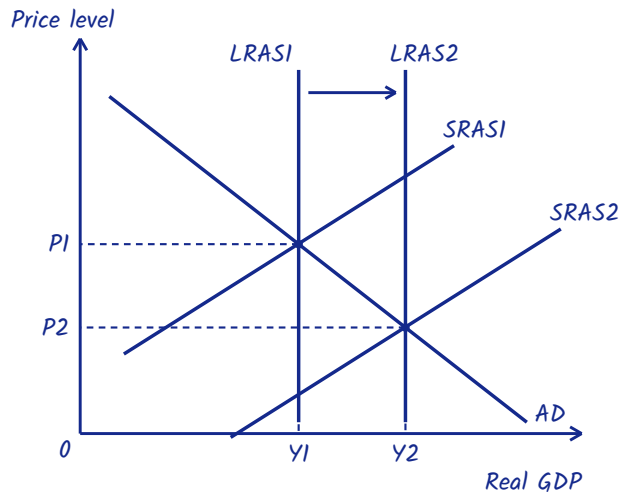
A stable rate of economic growth means real GDP grows at a steady rate close to its trend rate each year, without large fluctuations between boom and recession.

Figure 4 shows that Japan's growth was much more volatile than the UK's. Japan's highest growth rate was 4.75% in 2010, but this fell to -0.5% in 2011, so real GDP actually shrank, and growth was negative again at about -0.1% in 2014. Japan's growth therefore had a range of 5.25 percentage points. In contrast, the UK's lowest growth rate was 0.75% in 2012 and its highest was 3.0% in 2014, a range of only 2.25 percentage points, and the UK never experienced negative growth. The much larger and more frequent swings in Japan's growth rate, including two years of falling output, show that Japan has been less successful than the UK in achieving stable growth.

0 7

Productivity is output per unit of input, usually output per worker per hour. Deflation is a sustained fall in the general price level, shown by a negative rate of inflation in the CPI. Productivity can be improved by investment in new technology and capital, better training and education, improved management, and supply-side policies. Extract E notes that UK businesses have been spending more on investment, leading to productivity gains in the private sector. Higher productivity reduces unit labour costs, which equal the wage rate divided by output per worker. For example, if a worker is paid £100 a day and output rises from 10 to 20 units a day, the labour cost per unit halves from £10 to £5. With lower average costs of production, firms can supply more at every price level, so SRAS shifts to the right from SRAS1 to SRAS2. Because the economy's capacity to produce has also increased, LRAS shifts from LRAS1 to LRAS2.

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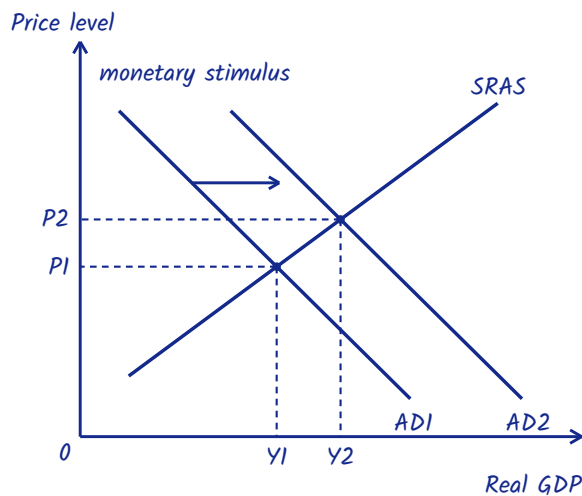
As shown in the diagram, with AD unchanged, the increase in aggregate supply creates excess supply at the original price level P_1 . In competitive markets such as retailing, firms pass their cost savings on to consumers through lower prices to win market share, so the price level falls from P_1 to P_2 while real output rises from Y_1 to Y_2 . If productivity keeps improving faster than AD grows, prices fall year after year, which is deflation.

This is 'good' or benign deflation, because it is caused by rising aggregate supply rather than falling aggregate demand. Real incomes rise as prices fall, output and employment increase, and international competitiveness improves, unlike 'bad' deflation where falling AD causes lower output and job losses. However, deflation will only occur if the increase in AS outweighs any increase in AD; if AD is also growing, higher productivity may simply lead to disinflation, a lower but still positive inflation rate.

08

Deflation is a sustained fall in the general price level. It can be benign, when it is caused by rising aggregate supply or falling costs, such as the glut of oil that cut UK prices in 2015, or malign, when it is caused by falling aggregate demand, which delays spending and can lead to a deflationary spiral of falling output and job losses. Monetary policy is the use of interest rates, the money supply, quantitative easing (QE) and the exchange rate by the central bank to influence aggregate demand. In the UK the Bank of England's MPC aims for a symmetric CPI target of 2%, so it should act against inflation that is too low as well as too high.

The data show why tackling deflation matters. Japan's CPI inflation was negative from 2010 to 2012 and averaged only 0.48% from 2010 to 2015, far below a 2% target, while UK inflation fell from 4.48% in 2011 to just 0.05% in 2015.



The main monetary tool is Bank Rate. A cut in interest rates lowers the cost of borrowing for households and firms, reduces mortgage repayments so that disposable income rises, and reduces the reward for saving, so consumption increases. Investment rises because the cost of financing capital projects falls relative to their expected returns. Lower rates also raise asset prices, creating a positive wealth effect, and cause hot money outflows that depreciate the currency, making exports cheaper and imports dearer. As shown in the diagram, these effects shift AD from AD1 to AD2, raising the price level from P1 to P2 and real output from Y1 to Y2, ending the deflation. Extract E notes that low rates help 'consumers and firms to access cheaper credit'.

When interest rates approach zero, central banks can use QE: the central bank creates new money to buy government bonds and other assets. This raises bond prices and lowers long-term interest rates, increases the liquidity of banks and pushes investors into riskier assets such as shares, stimulating spending. Monetary policy has advantages over other policies: decisions are made monthly by an independent central bank, so it can respond quickly and is free from political short-termism, and a credible inflation target helps anchor expectations.

However, the experience of Japan suggests that monetary policy may not be effective once deflation becomes established. The Bank of Japan's interest rate has been around 0%, at times negative, for almost 20 years, and it is carrying

out QE of about £500bn a year, yet Japan 'has not escaped from the risk of deflation'. This is a liquidity trap: at the zero lower bound rates cannot be cut much further, and the UK too has 'little scope' after cutting Bank Rate to 0.25%. Furthermore, with falling prices the real interest rate (nominal rate minus inflation) is positive even at a 0% nominal rate, so borrowing remains expensive in real terms. If people expect prices to fall, as Extract F warns, they postpone purchases, and cheap credit will not persuade them to spend.

Debt is also important. Professor Keen argues that deflation increases the real burden of debt. Highly indebted households and firms will use any extra income to repay debt rather than borrow more, and banks damaged by the financial crisis may be unwilling to lend, so lower rates are like 'pushing on a string'. The results of QE are 'debatable': much of the new money may have raised asset prices, benefiting wealthier households with low propensities to consume, rather than boosting spending in the real economy. Monetary policy also works with long time lags of up to two years, and a weaker exchange rate is less helpful if other countries are loosening policy at the same time.

Fiscal policy may be more effective at the zero lower bound. Higher government spending, for example on infrastructure, injects demand directly into the circular flow and has a multiplier effect, and with interest rates near zero there is little crowding out of private investment. Tax cuts raise disposable income. However, Japan's debt to GDP ratio of 245% in 2015 limits its ability to borrow more, and its several fiscal stimulus programmes have not ended deflation, perhaps because households save tax cuts in anticipation of future tax rises. The UK government is committed to austerity, which Professor Keen believes could cause bad deflation. The best policy also depends on the type of deflation. The UK's low inflation in 2015 was largely benign, driven by lower oil prices and productivity gains with consumer spending 'fairly robust', so aggressive policy may not be needed and could even risk future inflation. Japan's deflation is malign and long-standing, linked to an ageing population and entrenched expectations, so supply-side reforms to raise productivity and labour force participation are needed alongside demand management.

Question
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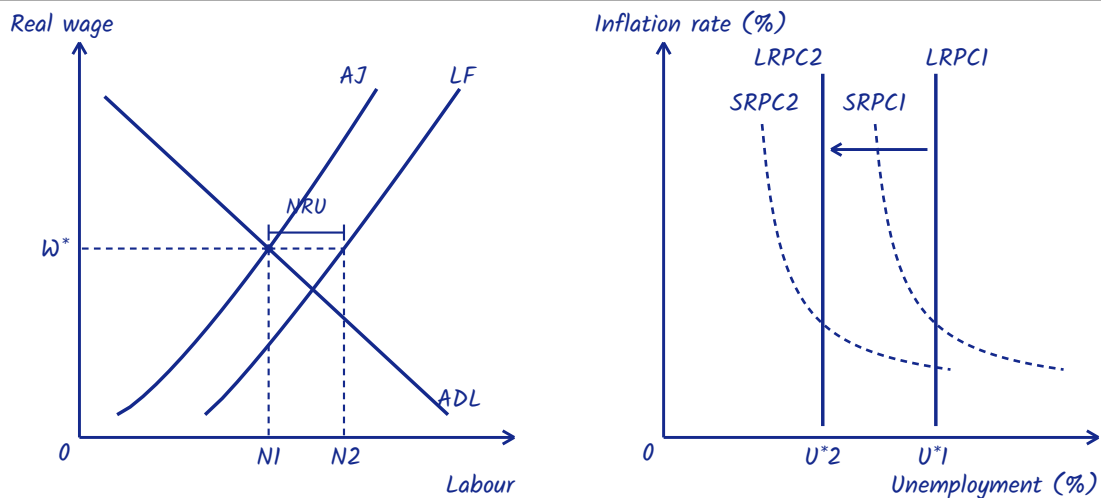
In conclusion, monetary policy is the most effective first response to mild, demand-driven deflation in a developed economy like the UK, because it is quick, flexible and credible, and keeping expectations anchored stops low inflation turning into a deflationary spiral. However, once deflation is entrenched and interest rates are at the zero lower bound, as in Japan, monetary policy on its own is weak. The most effective approach is then coordinated monetary and fiscal policy, such as low-cost borrowing to fund infrastructure investment, backed by supply-side reform. Its effectiveness ultimately depends on the cause of the deflation, the level of debt and how quickly expectations of falling prices become established.

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Question
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0 9

Unemployment is when people who are willing and able to work, and are actively seeking work, cannot find a job. The natural rate of unemployment is the rate of unemployment that exists when the labour market is in equilibrium, so that everyone who is willing to work at the current real wage has a job. It consists of frictional and structural unemployment and is the rate consistent with a stable rate of inflation, which is why the long-run Phillips curve (LRPC) is vertical at the natural rate. Because it is caused by supply-side factors, it can be reduced by supply-side policies rather than by increasing aggregate demand.



In the labour market diagram, ADL is the aggregate demand for labour, AJ shows the workers willing and able to accept a job at each real wage and LF is the total labour force. At the equilibrium real wage w^* , employment is $N1$ but the labour force is $N2$, so $N1$ to $N2$ is the natural rate of unemployment (NRU).

These workers are unemployed mainly because they are between jobs, lack the right skills or are in the wrong place, or because the gain from accepting a job is too small. Government policies that shift AJ to the right, towards LF, reduce the natural rate, shifting the LRPC from LRPC1 to LRPC2 as shown.

First, the government can increase incentives to work by reforming welfare benefits. If Jobseeker's Allowance is high relative to wages, the replacement ratio is high and some people stay voluntarily unemployed because they are in an unemployment trap. Reducing benefits relative to wages, making them conditional on active job search and tapering them gradually as income rises, as Universal Credit aims to do, increases the gain from working. Cutting income tax, for example by raising the personal allowance, has a similar effect by increasing

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take-home pay, so more people accept jobs at each wage and AD shifts right.

Second, structural unemployment can be reduced by improving occupational mobility. Training schemes, apprenticeships and better education give workers the transferable skills that firms demand, so workers who lose jobs in declining industries such as manufacturing can move into growing sectors such as digital and health services. Targeted help for the long-term unemployed also reduces hysteresis, where long periods out of work cause skills and motivation to decline, raising the natural rate.

Third, geographical mobility can be improved. If vacancies are in London and the south east but unemployed workers live in the north, unemployment persists.

Building more affordable housing, reforming planning laws, reducing stamp duty and offering relocation grants make it easier for workers to move to where jobs are.

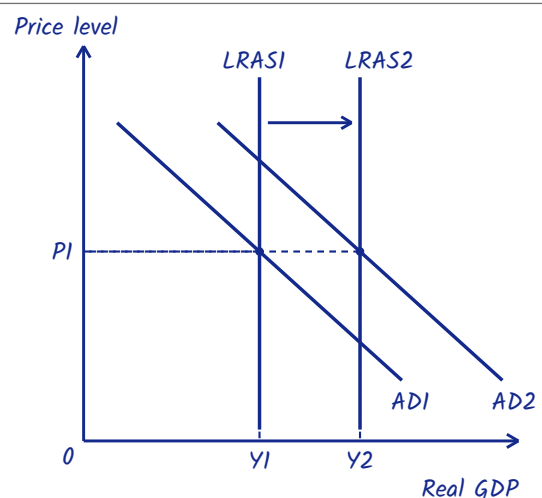
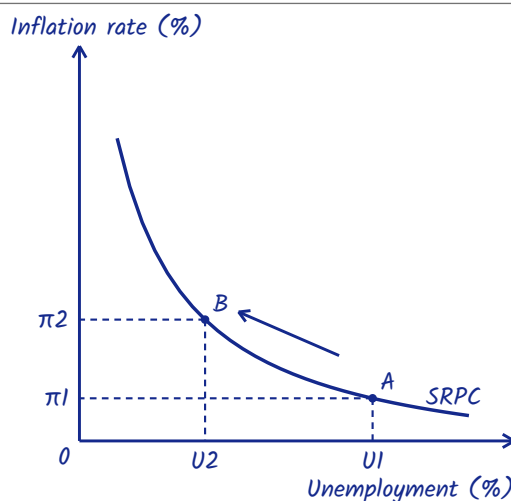
Fourth, frictional unemployment can be reduced by improving information about vacancies, for example through Jobcentre Plus and online job matching services, which cut the time people spend searching between jobs.

Fifth, policies can increase labour market flexibility. Trade union reform reduces the power of unions to push real wages above the equilibrium level, which reduces real wage unemployment, and reducing employment protection and employer national insurance contributions lowers the cost and risk of hiring, so ADL shifts right. Setting the national minimum wage at a level that does not price low-skilled or young workers out of jobs also helps. Childcare assistance enables parents to accept work, increasing participation.

Finally, by keeping inflation expectations low and stable, the government and central bank reduce workers' wage expectations, which allows lower unemployment to be achieved without wage-price pressures. Together, these policies reduce the natural rate from U^1 to U^2 , allowing the economy to sustain lower unemployment without accelerating inflation. The UK's fall in unemployment to 4.8% by 2016 with low inflation suggests such reforms have helped reduce its natural rate, although their effects take time and depend on how well they are designed and funded.

Unemployment is the number of people who are willing and able to work and actively seeking work but without a job. The government's main macroeconomic objectives are low unemployment, low and stable inflation (a CPI target of 2%), sustainable economic growth, a satisfactory balance of payments on current account and sound public finances. A trade-off occurs when making progress towards one objective makes it harder to achieve another.

The best known trade-off is between unemployment and inflation, shown by the short-run Phillips curve (SRPC). If unemployment falls because aggregate demand increases, the economy moves along the SRPC from point A to point B: unemployment falls from U_1 to U_2 but inflation rises from π_1 to π_2 . As AD rises towards the economy's productive capacity, firms bid up prices (demand-pull inflation). The labour market also becomes tighter, so firms compete for workers and trade unions have more bargaining power, raising wages and costs, which can lead to cost-push inflation and a wage-price spiral.



A second trade-off is with the current account. Lower unemployment means higher incomes, and as the UK has a high marginal propensity to import, spending on imports rises, worsening the current account deficit. If wages and prices rise faster than in other countries, UK exports also become less price competitive. The UK's current account deficit reached 5.4% of GDP in 2015 at the same time as unemployment was falling, which suggests this trade-off can be significant.

However, falling unemployment does not conflict with all objectives. It is

complementary with economic growth, since more workers produce more output (Okun's law), and with the government's budget, since more people in work pay income tax and fewer claim benefits, reducing the budget deficit. Lower unemployment also reduces poverty and inequality. So trade-offs are not inevitable across all objectives.

Whether a trade-off with inflation occurs depends greatly on why unemployment is falling. If it falls because of supply-side improvements, such as better training, greater labour market flexibility or higher productivity, the natural rate falls and LRAS shifts right. As shown in the second diagram, if AD rises from AD1 to AD2 at the same time as LRAS shifts from LRAS1 to LRAS2, real output and employment rise from Y1 to Y2 while the price level stays at P1, so there is no trade-off with inflation. Supply-side growth also improves competitiveness, so the current account need not worsen.

The UK's recent experience supports this. Between 2011 and 2016, unemployment fell from 8.5% to 4.8%, yet CPI inflation fell from about 4.5% in 2011 to around 0% in 2015. The Phillips curve appears to have flattened, because inflation expectations are anchored by the independent Bank of England, trade unions are weaker, more workers are self-employed or on flexible contracts, and globalisation and migration have kept wage growth low. Falling oil prices also helped keep inflation down. This suggests that the trade-off is much weaker than the traditional Phillips curve implies.

The position of the economy in the economic cycle is also important. After the 2008 recession the UK had a large negative output gap with plenty of spare capacity, so AD could rise and reduce unemployment with little upward pressure on prices. Trade-offs become far more likely as the economy approaches full capacity. With unemployment at 4.8%, close to estimates of the natural rate of around 4.5% to 5%, further falls are more likely to cause wage inflation, and the Bank of England may then have to raise interest rates, slowing growth.

The time period matters too. Monetarists argue that the trade-off exists only in the short run. If the government uses demand-side policy to push unemployment below the natural rate, workers come to expect higher inflation and demand

higher wages, the SRPC shifts up and unemployment returns to the natural rate at a higher inflation rate. In the long run, the Phillips curve is vertical, so there is no lasting trade-off to exploit, only higher inflation.

Finally, economic shocks can create or remove trade-offs regardless of the level of unemployment. The fall in sterling after the 2016 EU referendum raised import prices and inflation even though unemployment was also low, whereas the earlier fall in oil prices allowed unemployment and inflation to fall together.

In conclusion, falling unemployment will not inevitably lead to trade-offs. It is usually complementary with growth, the budget deficit and equality, and when it is caused by supply-side improvements or occurs when there is spare capacity, as in the UK between 2011 and 2016, it need not raise inflation or worsen the current account. Trade-offs are most likely when unemployment falls because of rising AD in an economy close to full capacity, as wage pressures and import spending grow. With UK unemployment now close to its natural rate, the risk of trade-offs is rising, so future reductions in unemployment will depend increasingly on supply-side policies.

Trade is the exchange of goods and services between countries. The pattern of trade refers to what a country exports and imports and which countries it trades with. The UK's pattern has changed significantly: it has shifted from exporting mainly manufactured goods to exporting services such as financial services, insurance, education and the creative industries, while importing more manufactured goods. Geographically, the share of UK trade with the EU has fallen from over half to under half of exports, while trade with China, India and other emerging economies has grown, and the USA remains the UK's largest single export market.

The main explanation is the theory of comparative advantage. A country has a comparative advantage in a good when it can produce it at a lower opportunity cost than another country. If countries specialise in the goods in which they have a comparative advantage and trade, total world output rises.

Output per worker per day (units)

	Machinery	Financial services
UK	10	20
China	8	4

In the example, the UK has an absolute advantage in both goods. However, the opportunity cost of one unit of machinery is 2 units of financial services in the UK but only 0.5 in China, so China has a comparative advantage in machinery.

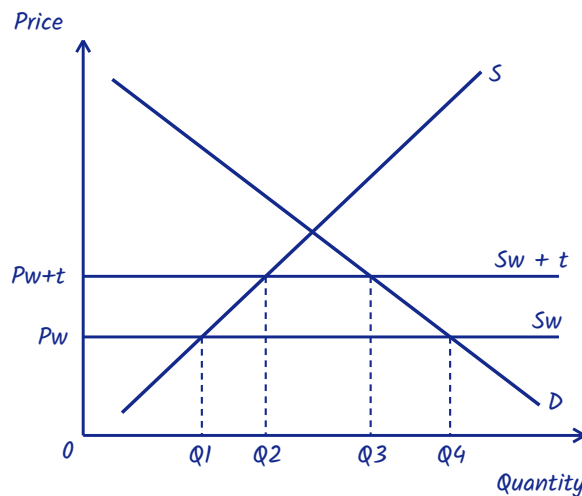
The opportunity cost of one unit of financial services is 0.5 machines in the UK but 2 machines in China, so the UK has a comparative advantage in financial services. Both countries gain if the UK specialises in services and imports machinery from China.

Comparative advantage changes over time, which changes the pattern of trade.

Emerging economies such as China have large supplies of low-cost labour and have invested heavily in capital and technology, giving them a comparative advantage in manufacturing. The UK's relative factor endowments have moved towards highly skilled labour and human capital, giving it a comparative advantage in knowledge-intensive services. Deindustrialisation in the UK reflects this, as

manufactured goods are increasingly imported. The decline of North Sea oil reserves has also turned the UK from an oil exporter into a net importer of oil.

Globalisation has also changed the pattern of trade. Containerisation and falling transport costs have made it cheaper to trade with distant countries, and improvements in ICT mean services such as banking and consultancy can be traded across the world. Multinational companies now organise production through global supply chains, so the UK imports components from many countries and exports high value stages of production such as design and finance.



Trade policy and trading blocs matter too. When the UK joined the EEC in 1973, tariffs on trade with other members were removed while a common external tariff applied to non-members. As shown in the diagram, removing a tariff on imports from partner countries lowers the domestic price from $P_w + t$ to P_w , so imports increase from the quantity Q_2 to Q_3 to the larger quantity Q_1 to Q_4 . This trade creation increased UK trade with Europe, while the common external tariff caused trade diversion away from lower-cost producers outside the EU. In contrast, WTO tariff reductions and China's entry to the WTO in 2001 increased trade with Asia, and new trade agreements after Brexit will change the pattern again.

Economic growth in other countries affects demand for UK exports. Rapid growth in China and India has created a large middle class that buys UK cars, luxury goods and education, whereas slow growth in the eurozone after the financial crisis reduced demand for UK exports to Europe, so the EU's share of UK exports fell.

Exchange rate changes alter relative prices. The depreciation of sterling after the

2008 crisis and the 2016 EU referendum made UK exports cheaper and imports dearer, which may increase exports to countries outside the EU in particular. Finally, non-price factors such as quality, reputation, innovation and new products change patterns of trade. For example, the UK's reputation in higher education and financial services attracts customers worldwide, while firms that fail to innovate lose market share to foreign competitors. Together, these factors explain why the UK now trades more services and why its trading partners have become more global.

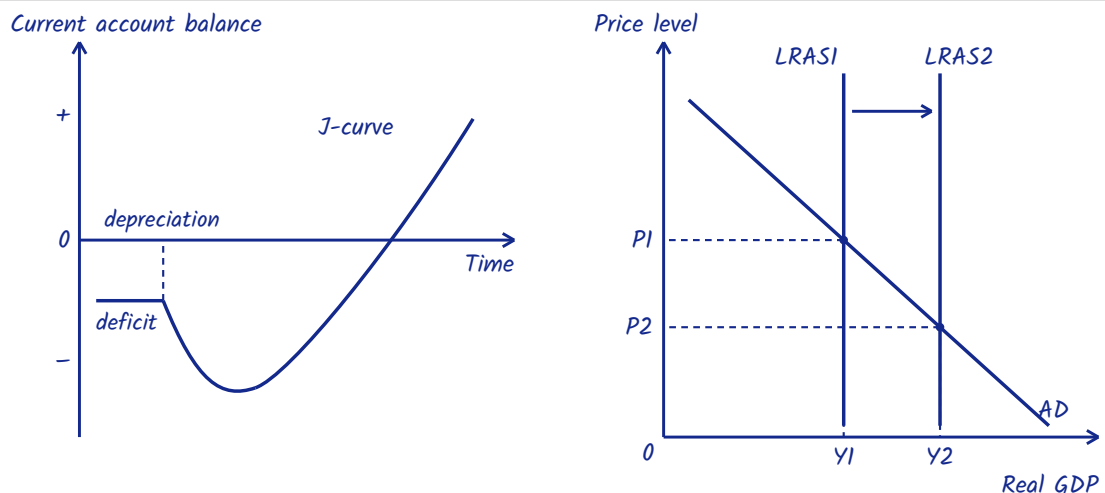
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The balance of payments is a record of all financial transactions between the UK and the rest of the world. The current account records trade in goods, trade in services, primary income (such as investment income and wages) and secondary income (transfers such as foreign aid and EU contributions). A current account deficit occurs when the outflows of money on these items exceed the inflows. The UK's deficit widened from £29.1bn in 2011 to £100.2bn in 2015, or 5.4% of GDP, the largest since records began in 1948. The UK runs a large deficit on trade in goods, partly offset by a surplus on services, and its primary income balance has moved into deficit as returns on UK investments abroad have fallen. The causes include weak price and non-price competitiveness because of low productivity, a high propensity to consume and import, and, until 2016, a relatively strong pound. The appropriate measures depend on which of these is the main cause.

The first measure is expenditure-reducing policy. Contractionary fiscal policy, such as higher income tax or lower government spending, or contractionary monetary policy, such as higher interest rates, reduces aggregate demand and real incomes. Since the UK has a high marginal propensity to import, spending on imports falls, and some domestic firms may switch to export markets. However, this policy conflicts with other objectives: lower AD reduces growth and raises unemployment, and higher interest rates attract hot money inflows that appreciate sterling, making exports less competitive and offsetting the effect. With the government already pursuing austerity, deeper cuts would be politically difficult.

The second is expenditure-switching policy, which aims to switch spending from imports to domestically produced goods. A depreciation of sterling, which the Bank of England can encourage by lowering interest rates or selling pounds, makes UK exports cheaper in foreign currency and imports more expensive in pounds.

According to the Marshall-Lerner condition, the current account improves only if the sum of the price elasticities of demand for exports and imports is greater than one.



As shown in the J-curve diagram, the current account often worsens at first after a depreciation, because demand for exports and imports is price inelastic in the short run due to existing contracts and slow responses, before improving as consumers and firms switch. Sterling fell sharply after the 2016 referendum, which should help exporters. However, the UK imports many raw materials, components and food, so depreciation raises firms' costs and causes imported cost-push inflation that erodes the gain in competitiveness. It also does not solve the underlying problem if UK goods are uncompetitive on quality or design, as demand for exports depends heavily on non-price factors and foreign incomes. Furthermore, with a floating exchange rate the authorities cannot control sterling precisely.

Protectionist measures, such as tariffs and quotas, could also switch spending away from imports. However, the UK's membership of the EU and WTO prevents it from imposing tariffs unilaterally, other countries are likely to retaliate, harming UK exports, and consumers lose out from higher prices and less choice. Because UK exporters use imported inputs, tariffs would also raise their costs, so this

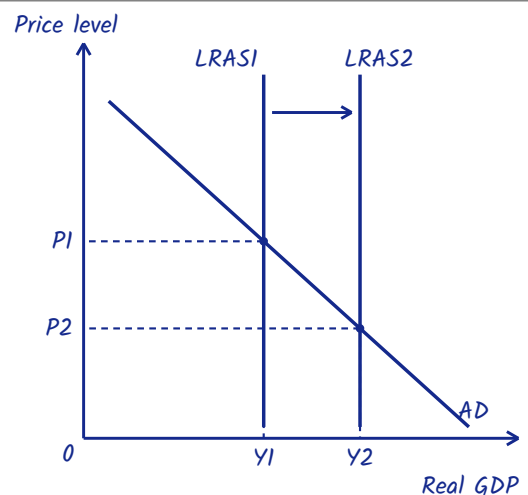
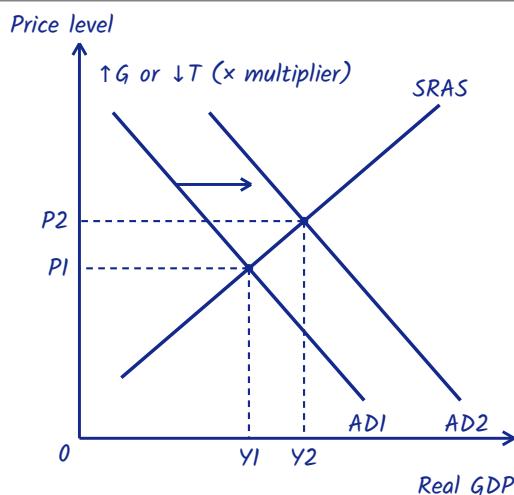
measure is unlikely to be effective.

The third and most sustainable measure is supply-side policy to improve competitiveness. UK labour productivity is lower than in many G7 economies, so unit labour costs are relatively high. Investment in education, training and infrastructure, R&D tax credits and the planned cut in corporation tax from 20% to 17% could raise investment and productivity. As shown in the second diagram, this shifts LRAS from LRAS1 to LRAS2, lowering the price level from P1 to P2 relative to other countries, so UK goods become more price competitive, while innovation improves quality and non-price competitiveness. Government export promotion and new trade deals could also help firms enter fast-growing markets in Asia. The weakness is that supply-side policies take many years to work, are costly for the government and their success is uncertain.

It is also worth evaluating whether the deficit needs to be reduced at all. A current account deficit must be matched by a surplus on the financial account, and the UK has been able to attract large inflows of foreign direct investment and portfolio investment because it is seen as a safe and attractive place to invest. If the deficit reflects strong investment in imported capital goods, it may be sustainable. Part of the recent deterioration came from lower investment income, which may recover as the world economy grows. However, a deficit of 5.4% of GDP relies on the confidence of foreign investors; if this falls, sterling could fall sharply and interest rates may need to rise, so the size of the deficit is a genuine risk.

In conclusion, no single measure is ideal. Expenditure-reducing policies would work quickly but at a high cost in lost output and jobs, protectionism is ruled out by trade rules and retaliation, and depreciation brings only temporary gains unless competitiveness improves. The best approach is a combination: allowing the lower exchange rate to give a short-run boost to exports while using supply-side policies to raise productivity and non-price competitiveness in the long run. The effectiveness of any measure depends on the cause of the deficit, the elasticities of demand for UK trade and the growth of the UK's trading partners.

Government spending includes current spending, such as the wages of NHS staff and teachers, capital spending on infrastructure such as roads and schools, and transfer payments such as pensions and benefits, which redistribute income but are not part of aggregate demand directly. Taxation can be direct, on income and wealth (income tax, corporation tax), or indirect, on spending (VAT, excise duties). Economic activity is the level of output, income, spending and employment in the economy, measured by real GDP. Changes in spending and taxation are fiscal policy and affect both aggregate demand and aggregate supply. On the demand side, government spending (G) is a component of aggregate demand, $AD = C + I + G + (X - M)$, so an increase in G directly increases AD . Lower taxes affect AD indirectly: a cut in income tax raises households' disposable income and consumption, and a cut in corporation tax increases firms' post-tax profits, which can be used for investment. Expansionary fiscal policy therefore shifts AD from AD_1 to AD_2 , increasing real GDP from Y_1 to Y_2 and creating jobs, as shown in the first diagram. Contractionary policy, such as the UK's austerity programme, has the opposite effect.



The final effect on economic activity is larger than the initial change because of the multiplier. Extra government spending becomes income for workers and firms, who spend part of it, creating further rounds of income and spending. The multiplier is $1 \div (1 - MPC)$, or $1 \div MPW$ in an open economy with taxes; if the marginal propensity to withdraw is 0.5, the multiplier is 2, so a £10bn rise in G raises GDP by £20bn. Rising output may also encourage firms to invest more to expand capacity (the accelerator), adding further to AD . The effect on the price

level depends on spare capacity: with a negative output gap output rises with little inflation, but near full capacity the main effect is a rise in the price level.

Spending and taxation also change automatically over the economic cycle. In a recession, tax receipts fall and spending on benefits rises, which cushions the fall in AD; in a boom the opposite happens. These automatic stabilisers reduce fluctuations in economic activity, whereas discretionary policy involves deliberate changes such as a fiscal stimulus.

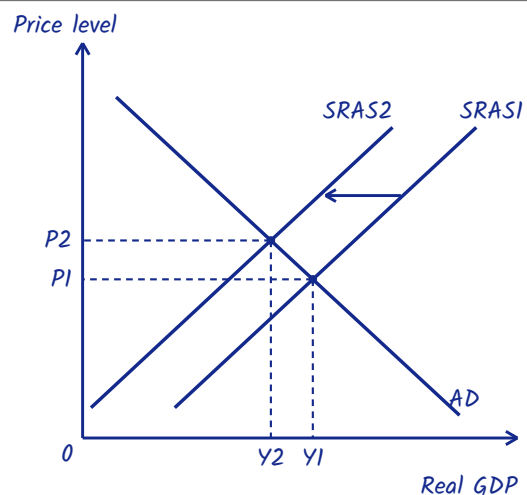
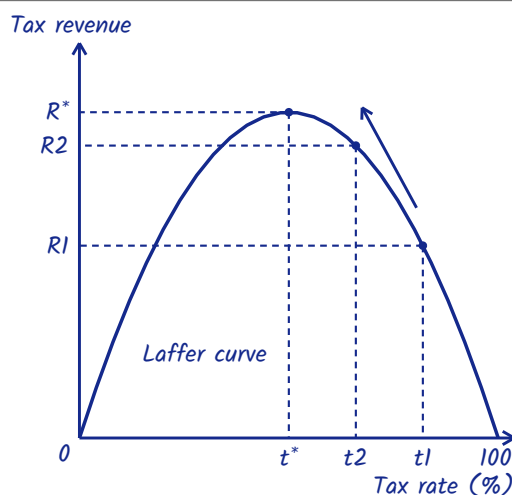
On the supply side, government spending can increase the productive potential of the economy. Capital spending on infrastructure, such as transport and broadband, reduces firms' costs, while spending on education and training increases human capital and labour productivity. Subsidies and grants for research and development and investment encourage innovation and capital accumulation, and assisted childcare increases labour supply by enabling parents to work. These shift LRAS from LRAS1 to LRAS2 in the second diagram, raising real output from Y1 to Y2 and lowering the price level from P1 to P2.

Changes in taxation also affect aggregate supply. Raising the personal income tax allowance from £10 800 to £12 500 increases the reward from work, encouraging people to enter employment and work more hours. Cutting the main rate of corporation tax from 20% to 17% allows firms to retain more profit for investment and makes the UK more attractive to foreign direct investment, increasing the capital stock. Lower taxes can also make UK firms more competitive abroad. In contrast, higher indirect taxes raise firms' costs and shift SRAS to the left, reducing output and raising prices in the short run, and tariffs can protect domestic producers.

The size of these effects depends on several factors: the marginal propensity to consume, since households may save tax cuts; the extent of crowding out, if government borrowing raises interest rates and reduces private investment; consumer and business confidence; and time lags, as infrastructure projects take years to complete. Nevertheless, changes in government spending and taxation can have a significant effect on economic activity in both the short run, through AD, and the long run, through AS.

The burden of taxation refers to the total amount of tax paid, often expressed as tax revenue as a percentage of GDP (about a third of GDP in the UK), and to who ultimately bears it. Direct taxes are taxes on income and wealth, such as income tax, national insurance and corporation tax, where the burden falls on the person or firm taxed. Indirect taxes are taxes on spending, such as VAT and excise duties on fuel, alcohol and tobacco, where the burden can be passed on to consumers through higher prices. A shift from direct to indirect taxes might involve raising the personal allowance and cutting corporation tax, as the government plans, while raising excise duties and other indirect taxes such as insurance premium tax.

The main argument for the shift is that it improves incentives. Lower marginal rates of income tax increase the reward for work, so the substitution effect encourages people to work longer hours, accept promotion or enter the labour force, reducing the unemployment and poverty traps. Lower corporation tax increases retained profits for investment and attracts foreign direct investment. This increases the quantity and quality of factors of production, shifting LRAS to the right and increasing long-run growth.



The Laffer curve suggests that cutting direct tax rates may not even reduce tax revenue. As shown in the diagram, if the current tax rate t_1 is above the revenue-maximising rate t^* , cutting it to t_2 raises revenue, because people work more and have less incentive to avoid or evade tax. Taxing spending rather than income also rewards saving, which could increase funds for investment in an

economy where the household saving ratio is low.

Higher indirect taxes on demerit goods can also improve resource allocation. Excise duties on tobacco, alcohol, sugary drinks and fuel raise the price of goods with negative externalities, reducing consumption towards the socially optimal level and raising revenue that could fund the NHS or environmental policies.

However, there are serious costs. Direct taxes such as income tax are progressive, taking a higher percentage of income from those on higher incomes, whereas indirect taxes are regressive, because poorer households spend a larger proportion of their income. In the UK the poorest fifth of households pay roughly twice as much of their disposable income in indirect taxes as the richest fifth. A significant shift would therefore increase inequality of disposable income and poverty, conflicting with the principle of equity. Raising the personal allowance offsets this only partly, since the poorest people earn below the allowance already and gain nothing from it.

A shift towards indirect taxes would also be inflationary in the short run. As shown in the second diagram, higher indirect taxes raise firms' costs, shifting SRAS from SRAS1 to SRAS2, so the price level rises from P_1 to P_2 and real output falls from Y_1 to Y_2 . Although this should be a one-off rise in the price level, higher prices reduce real wages and may lead to higher wage demands and a wage-price spiral, which could force the Bank of England to raise interest rates.

Higher CPI inflation also raises the cost of index-linked benefits and pensions.

There could also be effects on aggregate demand. Moving the burden onto consumers, especially lower income households with a high marginal propensity to consume, may reduce consumption more than lower income tax increases it, so AD could fall even if the change is revenue-neutral. Tax revenue may also become less stable, because spending on goods is more sensitive to the economic cycle and revenue from excise duties falls as people respond to them by smoking or driving less.

The size of these consequences depends on the size of the shift and how quickly it happens. Since VAT, the largest indirect tax, has been ruled out until 2020, any shift must come from excise and other duties with narrower bases, which

limits how large the shift can be. Empirical evidence on Laffer effects is mixed: at current UK income tax rates many workers have fixed hours, so labour supply is fairly inelastic, and the income effect of a tax cut may lead some people to work fewer hours, so the supply-side gains may be small. The benefits are more likely from cutting corporation tax, as capital is internationally mobile. Political ideology also matters, as governments that favour free markets put more weight on incentives, while others put more weight on fairness.

In conclusion, a significant shift from direct to indirect taxes could improve incentives, encourage saving and investment and reduce consumption of demerit goods, but the supply-side benefits are uncertain and likely to be modest and slow to appear. In contrast, the costs, greater inequality and a short-run rise in inflation, are more certain and immediate. On balance, a moderate shift focused on taxing negative externalities and cutting corporation tax may benefit the UK economy, but a significant shift would be justified only if accompanied by measures, such as higher benefits for low income households, to protect equity.