



Oxford Cambridge and RSA

Monday 6 June 2022 – Afternoon

A Level Economics

H460/02 Macroeconomics

Time allowed: 2 hours



You can use:

- a scientific or graphical calculator



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

--	--	--	--	--

Candidate number

--	--	--	--

First name(s)

--

Last name

StemUp Model Solution

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions in Section A, **one** question in Section B and **one** question in Section C.

INFORMATION

- The total mark for this paper is **80**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **16** pages.

ADVICE

- Read each question carefully before you start your answer.

2
SECTION A

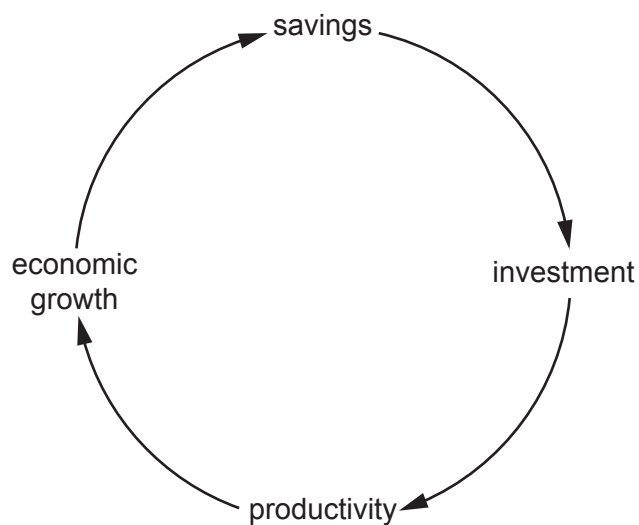
Read the following stimulus material and answer **all** parts of Question 1 which follow in this section.

Does rising national debt matter?

At the start of 2020, there were reasons to think there was both a greater need for government borrowing and a reduced concern about rising national debt. There had been a slowdown on the growth of aggregate demand. Although interest rates were low, private sector investment was not making full use of available savings. Fig. 1 shows a virtuous circle between savings and economic growth.

Fig. 1

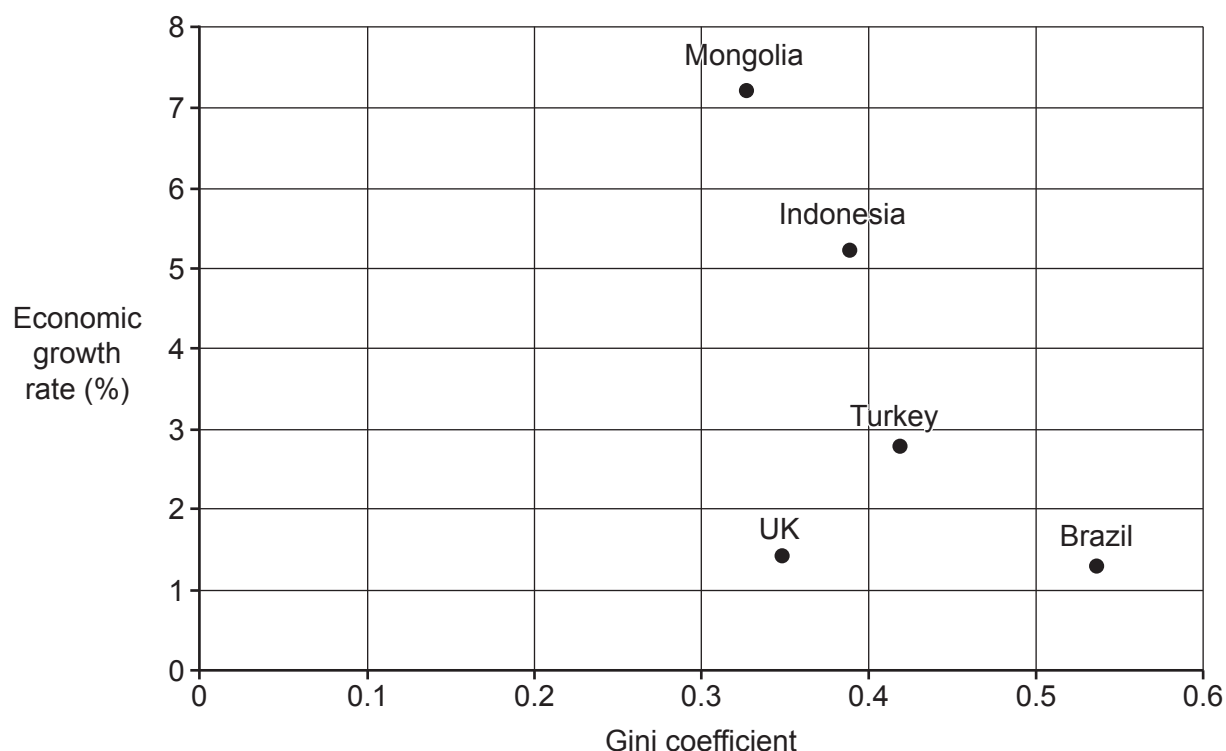
A virtuous circle



However, more savings, if not used for investment, can slow down economic growth. One cause of an increase in savings can be greater income inequality. Fig. 2 shows the Gini coefficient and economic growth rates for selected countries.

Fig. 2

The Gini coefficient and economic growth rate for selected countries 2018

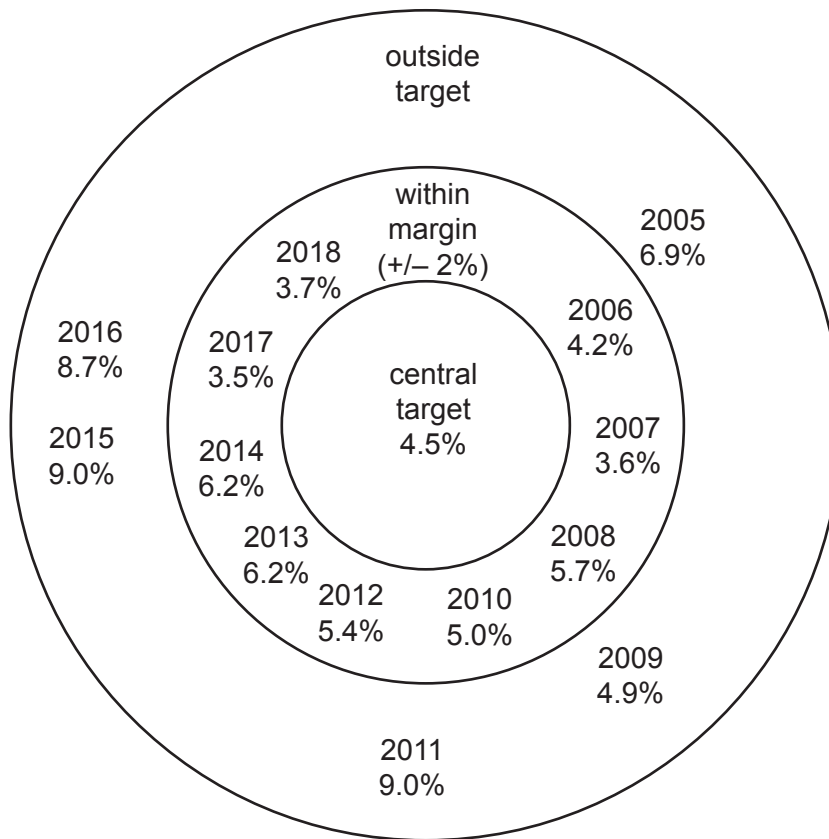


- The slowdown in aggregate demand in the UK kept the country's inflation rate low. Between
- 10 January 2019 and January 2020, the Consumer Prices Index increased from 106.3 to 108.2. If a central bank can convince households, workers and firms that inflation will be at a low and stable rate, it can affect expectations and investment in a beneficial way. One way of doing this is by setting an inflation rate target. Of course, trying to achieve an inflation rate target can be affected by adverse demand-side and supply-side shocks. If the target is not met, it can also cause
- 15 households, workers, and firms to question the central bank's ability to control inflation.

Some governments change their inflation rate target. For example, the Brazilian government between 2005 and 2018 had kept the inflation rate target fixed at 4.5% with a margin of plus or minus 2%. In 2019 however, the target was changed to 4.25% and in 2021 it was set at 3.75%. In both years the margins were set at plus or minus 1.5%. Fig. 3 shows Brazil's inflation rate performance in terms of its target rate over the period 2005–2018.

Fig. 3

Brazil's performance in meeting its inflation rate target



The UK's low inflation rate at the start of 2020 was combined with a low economic growth rate. The economy was experiencing a negative output gap. There was the possibility that higher government spending, financed by borrowing, could increase economic growth. Higher government borrowing, however, increases the national debt, at least in the short run. In January 2020, the UK's national debt was 72% of GDP. An increase in government debt also runs the risk of increasing the inflation rate. This is influenced by, among other factors, who the government borrows from. There is the possibility that higher government debt may make it more difficult to attract lenders who are willing to buy the debt. Japan, however, which had a much higher national debt of 230% of GDP at this date, was not having any difficulty selling its debt.

- 1 (a) Using information from the stimulus material, identify **two** reasons why crowding out may **not** occur.

1 ..Interest rates were low, so extra government borrowing need not raise borrowing costs.....
 for private firms.....
 2 ..There were excess savings; private sector investment was not making full use of.....
 available savings (AD growth had also slowed).....

[2]

- (b) Using **Fig. 1**, explain how savings can promote economic growth.

..Savings provide the funds that banks lend to firms to finance investment. More and.....
 better capital equipment increases output per worker, and this higher productivity.....
 increases productive capacity and raises national output, i.e. economic growth.....

[2]

- (c) Using **Fig. 2**, explain the relationship between the Gini coefficient and economic growth rate.

..The Gini coefficient measures income inequality; the higher it is, the greater the.....
 inequality. Fig. 2 mostly shows an inverse relationship; the higher the Gini coefficient,.....
 the lower the economic growth rate. Mongolia (Gini about 0.33) grew by about 7.2%,.....
 whereas Brazil (about 0.54) grew by only about 1.3%. The UK is an exception (outlier),.....
 with low inequality (about 0.35) but low growth (about 1.4%). High inequality may keep.....
 AD low because of low consumer expenditure, as richer households save more of their.....
 income.....

[4]

- (d) Using information from the stimulus material, calculate the UK's 12 month inflation rate in January 2020.

..Inflation rate = $(108.2 - 106.3) / 106.3 \times 100$
 = $1.9 / 106.3 \times 100 = 1.79\%$ (1.8%).....

[2]

- (e) Using information from the stimulus material, evaluate whether setting an inflation rate target is likely to result in low and stable inflation.

An inflation rate target is a stated rate (Brazil used $4.5\% \pm 2\%$) that the central bank, usually given independence to set interest rates, must achieve through monetary policy. It can result in low and stable inflation mainly through expectations. If households, workers and firms are convinced that inflation will stay at the target, workers will not press for high wage rises to protect their real incomes, firms will not raise prices significantly as they will not expect their costs to rise, and households will not buy extra products now in anticipation of higher prices. This reduces both cost-push and demand-pull pressure, so inflation stays close to the target. Low, stable inflation also makes it easier for firms to plan ahead, so they may invest more. A target also puts pressure on the central bank: the Bank of England must write to the Chancellor explaining why it has missed its target and what it will do to bring inflation back to it. However, a target does not guarantee success. An adverse supply-side shock, such as a rise in global oil prices, causes cost-push inflation above the target, while an adverse demand-side shock, such as a global recession, can push inflation below it. Brazil never achieved its central target of 4.5% between 2005 and 2018, and inflation was outside

[8]

- (f) Using information from the stimulus material, evaluate whether an increase in national debt will harm an economy. [12]

National debt is the total amount of money a government owes, built up from accumulated past budget deficits and surpluses. In January 2020 the UK's national debt was 72% of GDP.

An increase in national debt may harm an economy. Higher government borrowing could crowd out private sector investment: the government uses up available savings and, by competing for funds, drives up the rate of interest, so firms invest less and long-run growth falls. A rise in interest rates would also increase the burden of the debt, as more interest has to be paid. Paying interest involves an opportunity cost: tax revenue spent on interest could have been spent on healthcare, and other areas of government spending.

may have to be cut. If debt keeps rising, it may become more difficult to sell
 government securities, especially if other countries are also borrowing more, and the UK's
 credit rating could be downgraded, raising borrowing costs further; in an extreme case a
 government may be unable to meet its repayments and default. Higher debt may also
 raise inflation, depending on who the government borrows from (e.g. borrowing financed
 by money creation). If households and firms are pessimistic and expect future tax rises,
 consumer expenditure could fall, so AD and real GDP may not rise at all.
 However, in early 2020 the UK had a negative output gap, low inflation, low interest
 rates and a surplus of savings that private investment was not using. Crowding out is
 then unlikely and the cost of servicing the debt is low. Borrowing to spend on, for
 example, infrastructure would cause a multiple increase in GDP through the multiplier, and
 could crowd in private investment, as better infrastructure and education lower firms'
 costs of production and encourage them to expand output. Higher GDP increases
 employment and living standards, raises tax revenue, making the debt easier to service
 and repay, and reduces debt as a percentage of GDP. Japan shows that a far higher debt
 of 230% of GDP need not cause harm, as it had no difficulty selling its debt.
 Overall, a rise in national debt is unlikely to harm the UK much in the short run, given
 its spare capacity and low interest rates. Whether it harms an economy depends on what
 the borrowing is spent on (productive investment rather than current spending), its effect
 on GDP, private investment and interest rates, and whether institutions and people remain
 willing to buy the debt. The risk is greater if interest rates rise or lenders lose
 confidence.

SECTION B

Answer **EITHER** Question 2 **OR** Question 3.

EITHER

- 2* Poland's unemployment rate fell from 10.3% in 2013 to 3.3% in 2019 while its inflation rate rose from 0.9% to 2.3% over this period.

Evaluate, with the use of an appropriate diagram(s), whether the Phillips curve is useful for economic policy makers.

[25]

OR

- 3* In 2020, several governments were considering cutting taxes to get their countries out of recession.

Evaluate, with the use of an appropriate diagram(s), whether a cut in tax rates will end a recession.

[25]

Question No. ...2.....

The Phillips curve shows an empirical relationship between unemployment and inflation. The original, short-run Phillips curve suggests a trade-off: lower unemployment is associated with higher inflation. Poland appears to fit this: between 2013 and 2019 its unemployment rate fell from 10.3% to 3.3% while its inflation rate rose from 0.9% to 2.3%. Keynesian economists think the short-run Phillips curve (SRPC) is useful because it gives policy makers a choice. If a government raises aggregate demand by increasing its spending, cutting taxes or cutting interest rates, firms are encouraged to increase output and take on more workers, which reduces cyclical unemployment. But the higher AD, and wage rises as labour becomes scarce, cause demand-pull inflation. In Fig. A, reducing unemployment from 5% to 3% along SRPC₁ raises inflation from 4% to 9%. Fig. B shows this with AD/AS: AD shifts from AD₁ to AD₂, real GDP rises from Y₁ to Y₂ so unemployment falls, and the price level rises from P₁ to P₂. A government prepared to accept higher inflation can therefore reduce unemployment, and to cut inflation it knows it must accept higher unemployment. Poland's trade-off was favourable: a 7 percentage point fall in unemployment cost only a 1.4 point rise in inflation, which stayed low. Neo-classical economists, however, argue that the trade-off only occurs in the short run because it ignores expectations. In Fig. A the natural rate of unemployment is 7%, shown by

the vertical long-run Phillips curve (LRPC). If the economy moves from A to B (5% unemployment, 4% inflation), firms soon realise that their costs have risen as well as their revenue, and workers understand that their real wages have not risen. They build 4% inflation into their expectations, so the SRPC shifts up to SRPC₂. The number of jobs on offer and the number of workers willing to work decline, and unemployment returns to the natural rate of 7% at C, but with a higher inflation rate of 4%. Any further attempt to lower unemployment by raising AD will only increase inflation to a higher level. On this view the Phillips curve is useful mainly as a warning: demand-side policy cannot permanently reduce unemployment below the natural rate, and supply-side policies, such as training, are needed to shift the LRPC left. The UK's stagflation in the 1970s, with high inflation and high unemployment together after oil price shocks, shows the SRPC relationship can break down. The relationship is also unstable over time. Globalisation and inflation targeting have flattened the curve in many countries, so falls in unemployment produce little inflation, as in Poland. Poland's natural rate may itself have fallen, so the data may show a shift of the curve rather than a movement along it. Policy makers cannot know exactly where the natural rate is, and there are time lags.

Rational expectations economists go further, arguing that if agents anticipate the effect of higher AD there is no trade-off even in the short run. Even so, the curve remains useful to central banks: estimates of how far unemployment is below the natural rate (NAIRU) and of the output gap are used to forecast inflation and set interest rates. For Poland, with unemployment at 3.3% and inflation rising, the curve warns that further increases in AD may push inflation above target, so supply-side policies may be more appropriate.

Overall, both views of the Phillips curve provide some guidance. The SRPC is useful when there is a negative output gap: expansionary fiscal or monetary policy can reduce unemployment at the cost of only slightly higher inflation, as in Poland. The LRPC shows that near full capacity, raising AD only increases inflation. Its usefulness therefore depends on the position of the AD/AS curves, whether there is an output gap and how quickly.

expectations adjust, so it is a guide rather than a precise menu of choices.

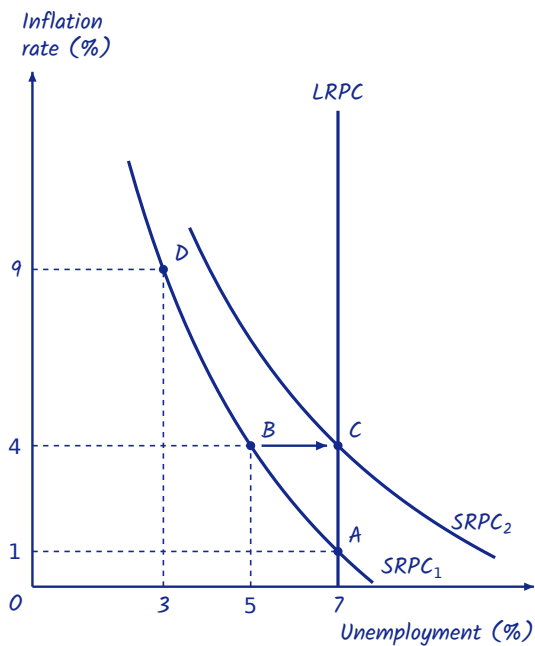


Fig. A

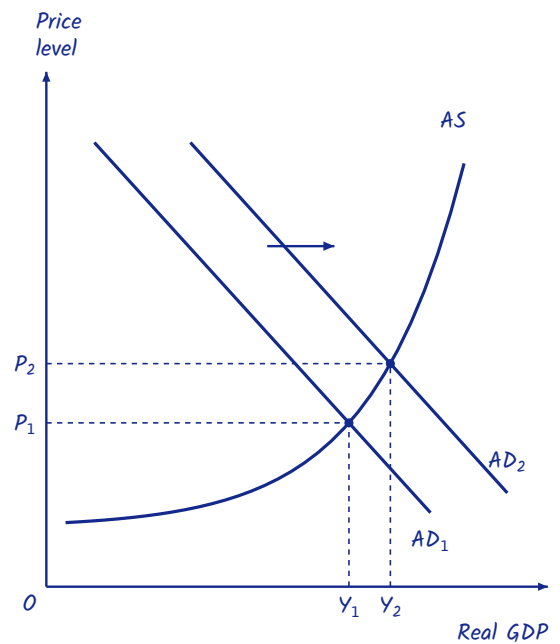


Fig. B

SECTION C

Answer **EITHER** Question 4 **OR** Question 5.

EITHER

- 4* In some recent years, Mongolia has experienced high rates of economic growth. In 2019, its government adopted a long term development strategy known as Mongolia's Sustainable Development Vision 2030.

Evaluate whether a country with a high economic growth rate can achieve sustainable development.

[25]

OR

- 5* In recent years there has been a rise in protectionism. For example, the US Trump administration argued that higher tariffs on Chinese imports would reduce US unemployment.

Evaluate whether protectionism always reduces unemployment.

[25]

Question No. ...4.....

..Short-run economic growth is an increase in actual real GDP; long-run growth is an expansion.....
 ..of an economy's productive capacity. Sustainable development is development that meets the.....
 ..needs of the present without compromising the ability of future generations to meet their.....
 ..own needs, raising living standards (e.g. HDI) while protecting the environment and resources.....
 ..Mongolia, with high growth rates, adopted its Sustainable Development Vision 2030 in 2019,.....
 ..suggesting it sees the two as compatible.....
 ..A high growth rate can be accompanied by sustainable development. Higher output raises.....
 ..incomes and tax revenue, enabling more government spending on education and healthcare,.....
 ..which raises the present standard of living, literacy and life expectancy. A better educated.....
 ..labour force may be more innovative and develop new techniques, cleaner sources of energy.....
 ..and cleaner forms of transport: electric cars both reduce pollution and raise living standards,.....
 ..and some firms are working on electric planes. A more educated public may recycle more,.....
 ..create less waste and be more concerned about the depletion of non-renewable resources.....
 ..Higher incomes also let a government fund renewable energy and enforce environmental taxes.....
 ..and regulation. Some fast-growing countries have taken measures to reduce pollution: China.....
 ..has imposed a nationwide cap on coal use and banned new coal-burning plants.....

However, there is a risk that high growth is achieved in the short run by increasing pollution and depleting non-renewable resources. A country might raise real GDP by increasing oil production or depleting fishing stocks; Mongolia's growth depends heavily on mining coal and copper, which are finite. Higher manufacturing output may increase carbon dioxide emissions. More primary production can also damage the environment: keeping more cows for beef uses large quantities of water, may cause deforestation and increases methane emissions. Deforestation of the Amazon through logging and clearance for farming threatens not only Brazil's but other countries' ability to achieve sustainable development. With more income, people consume more products and create more waste, own more cars per head and use them more, and travel abroad more; growth in tourism is destroying wildlife habitats, using large quantities of water and generating waste. Pollution can cause climate change, which in turn causes soil erosion, flooding and hurricanes that reduce productive capacity, so the growth itself is not sustainable. High growth may also be achieved by people working long hours under stressful conditions, and its gains may be unequally shared. As these negative externalities are not included in market prices, GDP overstates welfare. Measurement also matters: GDP does not capture the depletion of natural capital, so a country may appear to grow rapidly while running down resources needed by future generations; the HDI or green GDP is a better guide. Growth can, however, be made more sustainable by government intervention, such as pollution taxes, tradable permits and subsidies for renewable energy, which internalise externalities so that growth continues with less environmental damage. Overall, a country with a high growth rate can achieve sustainable development, but it is not automatic. It depends on production methods (renewable or fossil fuel energy), advances in technology, whether growth comes from depleting resources or from higher productivity, how the extra tax revenue is used, and what action is taken to reduce climate change, such as carbon taxes. For Mongolia, sustainable development is achievable only if mining revenues are invested in education, health and diversification. In the short run there is often a conflict,

but in the long run growth provides the resources that make sustainable development more
achievable.

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

1(e) the margin in four years, reaching 9.0% in 2011 and 2015. If the target is regularly missed, households, workers and firms may question the central bank's ability to control inflation, and act in a way that makes inflation higher (or causes deflation). The target must also be realistic: Brazil's cuts to 4.25% and then 3.75%, with narrower margins of $\pm 1.5\%$, will be harder to meet. Overall, a target is likely to keep inflation reasonably low and stable, as Brazil stayed within its margin in ten of the fourteen years. How successful it is depends crucially on whether the target is realistic, the central bank's credibility and record, the confidence of economic agents and the stability of the global economy.

Copyright Information

OCR is part of Cambridge University Press & Assessment, which is itself a department of the University of Cambridge.

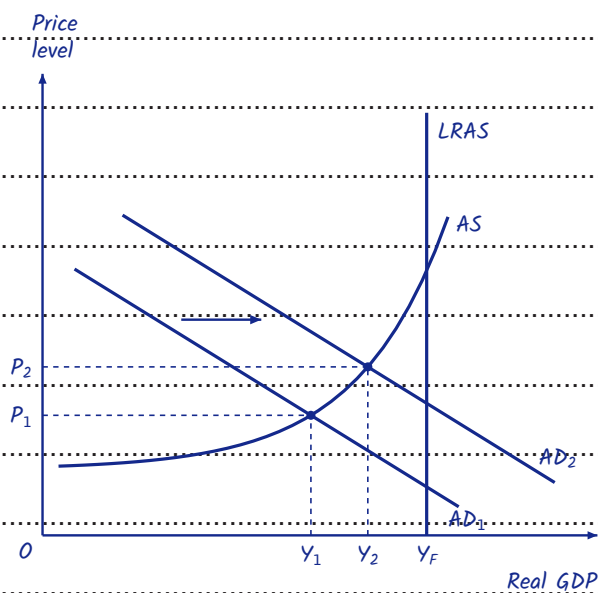
stemup.co.uk

3

A recession is two successive quarters of negative economic growth (falling real GDP).

Taxes can be cut on income (direct taxes, e.g. income tax and corporation tax) or on expenditure (indirect taxes, e.g. VAT). In 2020 several governments considered tax cuts in response to the recession caused by the pandemic.

A cut in tax rates may end a recession by increasing aggregate demand ($AD = C + I + G + X - M$). Lower income tax increases disposable income, which increases households' ability to buy goods and services, so consumer expenditure is likely to rise. Lower indirect taxes reduce prices, raising the willingness and ability of households to spend. A cut in corporation tax increases both the funds available for firms to invest and the incentive to invest, as the rewards from investment increase, and higher consumer expenditure also encourages firms to expand their output. The initial rise in spending becomes income for others, who spend part of it, so through the multiplier the final rise in real GDP is greater than the initial injection.



In the diagram the economy is in recession at Y_1 , well below the full employment

level Y_F . The tax cut shifts AD from AD_1 to AD_2 , so real GDP rises from Y_1 to Y_2 ,

while the price level rises only slightly from P_1 to P_2 because there is spare capacity.

Firms need more workers, cyclical unemployment falls and the recession ends. Lower

income tax may also raise the incentive to work and lower corporation tax may

encourage enterprise, increasing LRAS in the long run.

However, a cut in tax rates may not increase AD. If output and employment are falling significantly because of, for example, a banking collapse or a pandemic, it may be difficult to reverse the decline, as households and firms are pessimistic about the future. Lower prices and higher disposable income may then result in higher savings rather than spending, so the multiplier is small; in 2020 lockdowns also meant people could not spend on many services. A tax cut may even be seen as a panic measure by the government, making households and firms more concerned about the future. Some of the extra disposable income may be spent on imports, increasing AD in other economies rather than the domestic economy. If the recession is accompanied by deflation, households and firms may still not want to spend, even with more disposable income, if they expect prices to be lower in the future. If there is a global recession, a fall in net exports may offset the rise in consumer expenditure and investment, so AD may not increase. Corporation tax cuts will not raise investment if firms already have spare capacity and low confidence.

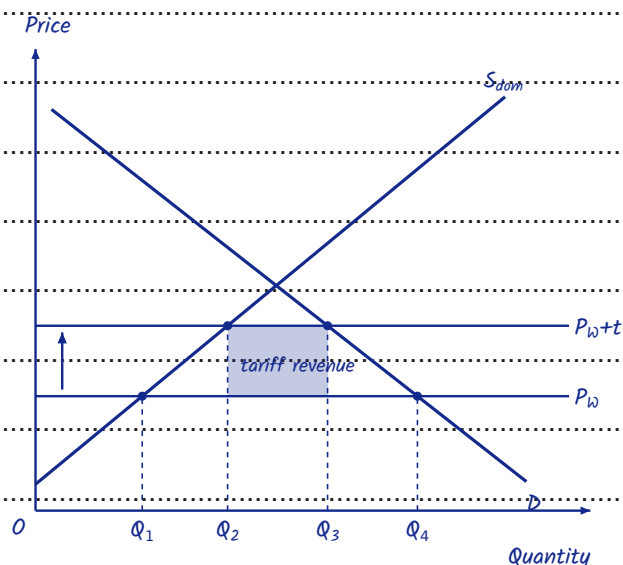
There are also time lags, and lower tax revenue increases the budget deficit and national debt, which may cause fears of future tax rises or higher interest rates that crowd out private investment. Tax cuts may be less effective than higher government spending, as all of an increase in G is an injection whereas part of a tax cut leaks into saving and imports. If the recession is caused by a supply-side shock, such as higher energy prices, raising AD may mainly raise inflation.

Overall, a cut in tax rates can help to end a recession, but it is unlikely to do so on its own. Whether it succeeds depends on the cause of the recession, how severe it is, how economic agents respond to the cuts (their confidence and propensity to consume) and what is happening in the global economy. It works best when there is a large negative output gap, confidence is not too low and it is combined with expansionary monetary policy and higher government spending. In a deep, global,

confidence-driven recession such as 2020, tax cuts alone are unlikely to end the recession quickly.

5 Protectionism is measures taken by a country to restrict international trade, such as tariffs, quotas, subsidies to domestic producers and embargoes. Unemployment is the number of people who are economically active (willing and able to work) but not in employment. The Trump administration argued that higher tariffs on Chinese imports would reduce U.S. unemployment.

Protectionism may reduce unemployment in some cases. A tariff raises the price of imports from P_w to P_w+t . As the diagram shows, consumers switch from imports to domestic products, so domestic output rises from Q_1 to Q_2 while imports fall from Q_1Q_4 to Q_2Q_3 . As labour is a derived demand, domestic firms take on more workers, and lower imports raise net exports and AD, with a multiplier effect on output and jobs.



Protecting infant industries with tariffs, quotas or other trade restrictions may create more jobs if those industries succeed in growing, as initially they may not be large enough to experience economies of scale and cannot compete with established foreign firms. Protecting declining industries can prevent unemployment occurring: if an industry is allowed to decline gradually by slowly removing support, jobs can be reduced without unemployment, as workers who retire or move to other industries are not replaced. Protectionism may also increase employment in industries facing unfair

competition, for example where a foreign government subsidises its firms or keeps its exchange rate artificially low. Tariffs on the foreign country's products or subsidies to domestic firms let them compete on more equal terms, and if they have high productivity they may grow and take on more workers.

However, protectionism does not always reduce unemployment. Protecting one industry may reduce employment in another domestic industry. For example, if the US protects its steel industry, the domestic price of steel rises, with more expensive domestic steel replacing cheaper imports. This increases the costs of production of domestic car producers; as their international price competitiveness declines, some car workers may be made redundant. Protectionism may also result in retaliation and a trade war: China responded to US tariffs with tariffs on US agricultural exports, hurting US farmers.

With restrictions on both imports and exports, countries cannot base production on comparative advantage, which may lower global production and global employment.

When protectionism is used to reduce a current account deficit, foreign employment falls as imports fall, and lower foreign incomes reduce demand for the country's exports, so in the long run unemployment may rise in the domestic economy too.

Protection also reduces the pressure on industries to become competitive; in the long run, if there is high inflation or low productivity, costs of production rise, domestic firms lose the competitive advantage protectionism initially provided, and sales and employment fall again. Declining industries may resist the protection being removed, and it can be difficult to establish whether competition is really unfair. Protectionism prevents the efficient allocation of resources, which can reduce global employment, and higher import prices reduce consumers' real incomes and their spending on other products.

Overall, protectionism does not always reduce unemployment. It may save jobs in the protected industry in the short run, but the net effect on total employment is often small or negative once higher input costs, retaliation and lost competitiveness are

included. Whether it reduces unemployment depends on which industries are protected (infant industries with real potential or inefficient declining ones), how businesses respond to the opportunities protection provides (investing to raise productivity or becoming complacent) and how other countries react. Evidence from the US tariffs suggests that jobs gained in steel were outweighed by jobs lost in steel-using industries and agriculture, so protectionism is at best a temporary, targeted tool.