

Chapter 21 The multiplier and the accelerator

Answers to Knowledge checks

- 21.1** An increase in the marginal propensity to consume implies a decrease in the marginal propensity to save, and therefore a decrease in the marginal propensity to withdraw. This means that the multiplier will be higher than before.
- 21.2** A fall in injections reduces aggregate demand, and the multiplier will cause additional reductions in aggregate demand.
- 21.3** If there is a fall in demand for firms' products, firms will reduce investment expenditure, causing a decrease in aggregate demand, which will then trigger multiplier effects. The change will also mean that the potential capacity of the economy will be lower than it otherwise would have been.
- 21.4** A positive output gap means that the economy is (temporarily) operating outside of its *PPC*. However, this will not be sustainable in the long term.

Answers to Exercises and Case studies

Exercise 21.1

If households save 20% of additional income and spend 10% on imports, with a marginal tax rate of 10%, the marginal propensity to withdraw is $0.2 + 0.1 + 0.1 = 0.4$, so the multiplier is $1/mpw = 1/0.4 = 2.5$.

If the marginal tax rate increases to 20%, the *mpw* is now 0.5, and the multiplier is 2.

Therefore, an increase in the marginal tax rate reduces the size of the multiplier.

Exercise 21.2

- a** Saving by households is a leakage — an increase in saving triggers a **negative** multiplier effect.
- b** Expenditure by central government is an **injection** — an increase triggers a **positive** multiplier effect.
- c** Spending by a country's residents on imported goods and services is a **leakage** — an increase triggers a **negative** multiplier effect.
- d** Expenditure by firms on investment is an **injection** — an increase triggers a **positive** multiplier effect.
- e** Spending by overseas residents on home-produced goods and services is an **injection** — an increase triggers a **positive** multiplier effect.
- f** Income tax payments are a **leakage** — an increase triggers a **negative** multiplier effect.

Exercise 21.3

- a** Figure A21.1 illustrates the situation.

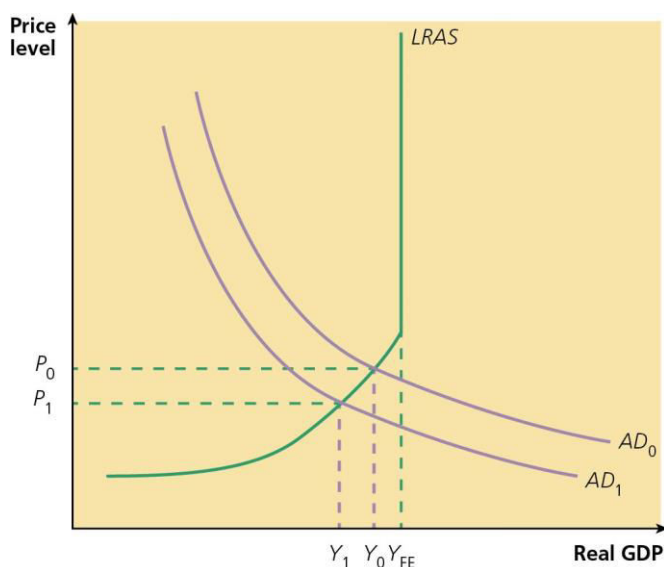


Figure A21.1 A negative output gap

The economy starts in equilibrium with aggregate demand at AD_0 . Real GDP in this equilibrium is below full employment, and the output gap is $Y_0 - Y_{FE}$. A further decrease in aggregate demand to AD_1 takes the economy further from full employment GDP, and the output gap widens to $Y_1 - Y_{FE}$. Under Keynesian assumptions, the economy can remain in this position.

- b** Under neoclassical assumptions, the story would be different, because the $LRAS$ curve would be vertical at the full employment level of real GDP, and the economy would be expected to adjust back to Y_{FE} .

Figure A21.2 shows how this would work. If the economy were operating with a negative output gap at the beginning of the process, it would have to be temporarily showing real GDP below full employment. In the figure this could have been at Y_0 , at the intersection of AD_0 and the short-run aggregate supply curve $SRAS_0$. The decrease in aggregate demand from AD_0 to AD_1 would move the economy to a new temporary equilibrium along $SRAS_0$ with real GDP at Y_1 and price level P_1 . However, firms would react to the lower price level, which would reduce their costs, and the $SRAS$ curve would shift to the right to $SRAS_1$, where full employment real GDP (Y_{FE}) is restored with a price level P_2 .

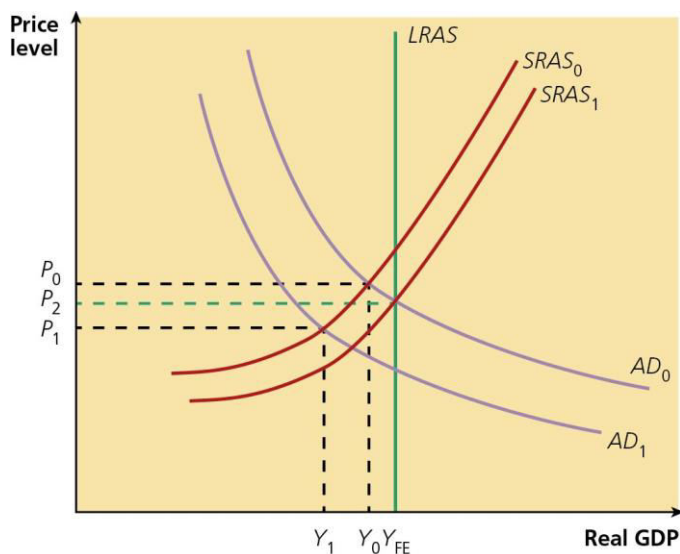


Figure A21.2 A negative output gap with a neoclassical $LRAS$ curve

Answers to end-of-chapter questions

A Multiple-choice questions

- 1 b. 0.7
- 2 d. Investment
- 3 a. Negative output gap

B Knowledge and understanding questions

- 4 The national income multiplier is the ratio of a change in equilibrium real income to the autonomous change that brought it about.

A full explanation of the national income multiplier	2 marks
A vague or partial explanation of the national income multiplier	1 mark

- 5 Effect could be positive or negative:

- A positive effect will show an increase in *AD*
- A negative effect will show a decrease in *AD*

An explanation of the effect of the accelerator on aggregate demand	up to 2 marks
A diagram showing the effect of the accelerator on aggregate demand	up to 2 marks

- 6 Diagram could show:

- A macroeconomic equilibrium diagram including *AD*, *SRAS* and *LRAS*, with a point of *SRAS* above *LRAS*
- A macroeconomic equilibrium diagram including *AD* and Keynesian *AS*, with an equilibrium point above full employment
- An economic cycle with a point above the trend level of growth

A positive output gap may occur if there is an increase in aggregate demand when the economy is already at full employment.

An explanation of a positive output gap	up to 2 marks
A diagram showing a positive output gap	up to 2 marks

C Stimulus response question

- 7 a Reasons may include:

- A fall in *AD*, e.g. reduced consumption, increased savings, lack of confidence, etc.
- A negative external shock to aggregate demand, e.g. a recession in a trading economy

A full explanation of one reason	2 marks
A vague or partial explanation of one reason	1 mark

b

AO1 Knowledge	1 mark
AO2 Application	1 mark
AO3 Analysis	3 marks
AO4 Evaluation	3 marks

Knowledge (1 mark) is likely to include:

- Negative output gap

Application (1 mark) is likely to include:

- Application to the UK economy

Analysis (3 marks) is likely to include:

Analysis of the possible negative consequences, for example:

- A decrease in *AD*, leading to a decrease in real GDP and possibly a reduction in the price level

Evaluation (3 marks) is likely to include:

Evaluation that a negative output gap may not have negative consequences, for example:

- The ability for *AD* to increase without inflationary pressure:
 - Depends upon the size of the gap
 - Depends on the state of other economies
 - Depends upon future expectations of macroeconomic performance

A judgement of positive and negative consequences on the UK economy of a negative output gap.