Factor of production	Increase in quantity	Increase in quality
Labour	An increase in the retirement age, an increase in birth rate	Education and training could cause labour productivity to rise
Capital	Net investment – purchase of extra capital goods	Advances in technology
Land	Discovery of new oil fields	Productivity of land can be improved, e.g. through fertilisers on farmland
Enterprise	Removal of red tape, privatisation, introduction of incentives by the government	Management training and improved education

Keynesian long-run aggregate supply

The shape of the long-run aggregate supply curve is hotly debated by economists. The Keynesian school of thought argues that in reality there is a degree of inflexibility in the macroeconomy, which means it is possible for an equilibrium to be reached where the economy is not operating at maximum output. This results in a Keynesian long-run aggregate supply curve being represented as illustrated in Figure 9. Note that the vertical section of the *AS* curve remains at Y^* – it is impossible to produce beyond the productive capacity of the economy – but this is preceded by an upward sloping section illustrating that it is possible for the economy to operate in the long run with a degree of spare capacity.

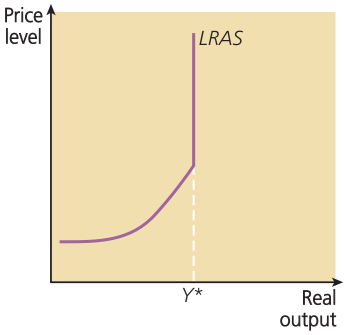

Figure 9

Exam tip

Unless you are told otherwise it is best to use the Keynesian long-run aggregate supply curve for policy analysis in the exam, as it demonstrates demand-side policy can have an impact on output and unemployment. This can be contrasted with the monetarist model in your evaluation.

Macroeconomic equilibrium

Figure 10 illustrates equilibrium in the macroeconomy, where aggregate supply is equal to aggregate demand.

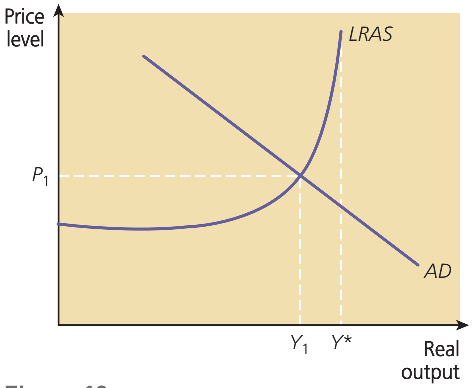

Figure 10

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The equilibrium price level is at P_1, with equilibrium output at Y_1. Because output is below maximum output (Y^*) here, it is likely that there is some unemployment in the economy.

The macroeconomic equilibrium can change as a result of shifts in either the aggregate demand or the aggregate supply curve, which can occur for the reasons previously explained.

For example, suppose there is an increase in real disposable income in the economy. Because consumers can now afford to purchase more goods and services, consumption will increase, causing the aggregate demand curve to shift to the right from AD_1 to AD_2 as illustrated in Figure 11. This will generate inflation, with the price level increasing from P_1 to P_2, and will result in economic growth, with real output increasing from Y_1 to Y_2. Unemployment will fall as the derived demand for labour will increase – more workers will be needed to produce this higher level of output.

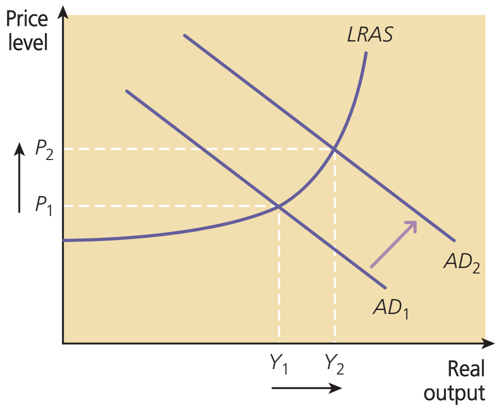

Figure 11

Knowledge check 18

Using an appropriate diagram, explain the impact of population growth on economic growth, unemployment and inflation.

Summary

After studying the topic of *Aggregate demand and aggregate supply* you should be able to:

- Understand the income, output and expenditure methods of measuring national income.
- Draw the circular flow of income, distinguishing between physical and monetary flows.
- Explain what is meant by injections and withdrawals and be able to calculate the average and marginal propensities to consume and save.
- Calculate the marginal propensity to withdraw using the marginal propensity to save, the marginal rate of tax and the marginal propensity to import.
- Explain the role and impact of the multiplier effect.
- Explain what is meant by aggregate demand and aggregate supply.
- Draw the aggregate demand and aggregate supply curves on a diagram and be able to explain their relationship with the price level.
- Explain the determinants of aggregate demand and understand how changes in these determinants cause the aggregate demand curve to shift.
- Understand the difference between short-run and long-run aggregate supply and explain what can cause these curves to shift.
- Illustrate how equilibrium in the macroeconomy can be determined and what can cause the equilibrium to change.
- Evaluate the impact of changes in aggregate demand and aggregate supply on economic growth, inflation and unemployment.