Aggregate Supply and Aggregate Demand
Learning Objectives

- Explain what determines aggregate supply
- Explain what determines aggregate demand
- Explain what determines real GDP and the price level and how economic growth, inflation, and the business cycle arise
- Describe the main schools of thought in macroeconomics today
Aggregate Supply

Quantity Supplied and Supply

The quantity of real GDP supplied is the total quantity that firms plan to produce during a given period.

Aggregate supply is the relationship between the quantity of real GDP supplied and the price level.

We distinguish two time frames associated with different states of the labour market:

- Long-run aggregate supply
- Short-run aggregate supply
Long-Run Aggregate Supply

Long-run aggregate supply is the relationship between the quantity of real GDP supplied and the price level when real GDP equals potential GDP.

Potential GDP is independent of the price level.

So the long-run aggregate supply curve (LAS) is vertical at potential GDP.
Aggregate Supply

Short-Run Aggregate Supply

Short-run aggregate supply is the relationship between the quantity of real GDP supplied and the price level when the money wage rate, the prices of other resources, and potential GDP remain constant.

A rise in the price level with no change in the money wage rate and other factor prices increases the quantity of real GDP supplied.

The short-run aggregate supply curve (SAS) is upward sloping.
Aggregate Supply

In the long run, the quantity of real GDP supplied is potential GDP.

As the price level rises and the money wage rate change by the same percentage, the quantity of real GDP supplied remains at potential GDP.
Aggregate Supply

In the short run, the quantity of real GDP supplied increases if the price level rises.

The SAS curve slopes upward.

A rise in the price level with no change in the money wage rate induces firms to increase production.
Aggregate Supply

Changes in Aggregate Supply

Aggregate supply changes if an influence on production plans other than the price level changes.

These influences include

- Changes in potential GDP
- Changes in money wage rate (and other factor prices)
Aggregate Supply

Changes in Potential GDP

When potential GDP increases, both the LAS and SAS curves shift rightward.

Potential GDP increases if:

- The full-employment quantity of labour increases
- The quantity of capital (physical or human) increases
- An advance in technology occurs
Aggregate Supply

Figure 26.2 shows the effect of an increase in potential GDP.

The LAS curve shifts rightward and the SAS curve shifts along with the LAS curve.
Aggregate Supply

Changes in the Money Wage Rate

Figure 26.3 shows the effect of a rise in the money wage rate.

- Short-run AS decreases and shifts leftward.
- Long-run aggregate supply does not change.
Aggregate Demand

The quantity of real GDP demanded, $Y$, is the total amount of final goods and services produced in Canada that people, businesses, governments, and foreigners plan to buy.

This quantity is the sum of consumption expenditures, $C$, investment, $I$, government expenditure, $G$, and net exports, $X - M$.

That is,

$$Y = C + I + G + X - M$$
Aggregate Demand

Buying plans depend on many factors and some of the main ones are

a) The price level
b) Expectations
c) Fiscal policy and monetary policy
d) The world economy
Aggregate Demand

The Aggregate Demand Curve

Aggregate demand is the relationship between the quantity of real GDP demanded and the price level.

The $AD$ curve slopes downward for two reasons:

- Wealth effect
- Substitution effects
Aggregate Demand

Wealth Effect

A rise in the price level, other things remaining the same, decreases the quantity of real wealth (money, stocks, etc.). The quantity of real GDP demanded decreases.

Similarly, a fall in the price level, other things remaining the same, increases the quantity of real wealth and increases the quantity of real GDP demanded increases.
Aggregate Demand

Substitution Effects

*Intertemporal substitution effect*: A rise in the price level, other things remaining the same, decreases the real value of money and raises the interest rate.

When the interest rate rises, people borrow and spend less, so the quantity of real GDP demanded decreases.

Similarly, a fall in the price level increases the real value of money and lowers the interest rate.

When the interest rate falls, people borrow and spend more, so the quantity of real GDP demanded increases.
Aggregate Demand

Changes in Aggregate Demand

A change in any influence on buying plans other than the price level changes aggregate demand.

The main influences on aggregate demand are

- Expectations
- Fiscal policy and monetary policy
- The world economy
Aggregate Demand

Figure 26.5 illustrates changes in aggregate demand.

When aggregate demand increases, the $AD$ curve shifts rightward …

… and when aggregate demand decreases, the $AD$ curve shifts leftward.
Explaining Macroeconomic Trends and Fluctuations

Short-Run Macroeconomic Equilibrium

Short-run macroeconomic equilibrium occurs when the quantity of real GDP demanded equals the quantity of real GDP supplied at the point of intersection of the $AD$ curve and the $SAS$ curve.
Explaining Macroeconomic Fluctuations

If real GDP is above equilibrium GDP, firms decrease production and lower prices...

... and if real GDP is below equilibrium GDP, firms increase production and raise prices.
Explaining Macroeconomic Fluctuations

These changes bring a movement along the SAS curve towards equilibrium.

In short-run equilibrium, real GDP can be greater than or less than potential GDP.
Explaining Macroeconomic Trends and Fluctuations

Long-Run Macroeconomic Equilibrium

Long-run macroeconomic equilibrium occurs when real GDP equals potential GDP—when the economy is on its LAS curve.

Long-run equilibrium occurs at the intersection of the $AD$ and $LAS$ curves.
Adjustment to long-run equilibrium.

Initially, the economy is at below-full employment equilibrium.

In the long run, the money wage falls until the SAS curve passes through the long-run equilibrium point.
Initially, the economy is at an above-full employment equilibrium.

In the long run, the money wage rises until the SAS curve passes through the long-run equilibrium point.
Explaining Macroeconomic Trends and Fluctuations

Economic Growth in the AS-AD Model

Because the quantity of labour grows, capital is accumulated, and technology advances, potential GDP increases.

The LAS curve shifts rightward.
Inflation?

If the quantity of money grows faster than potential GDP, aggregate demand increases by more than long-run aggregate supply.

The $AD$ curve shifts rightward faster than the rightward shift of the $LAS$ curve.
Explaining Macroeconomic Trends and Fluctuations

The Business Cycle in the AS–AD Model

The business cycle occurs because aggregate demand and the short-run aggregate supply fluctuate, but the money wage does not change rapidly enough to keep real GDP at potential GDP.

An above full-employment equilibrium is an equilibrium in which real GDP exceeds potential GDP.

A full-employment equilibrium is an equilibrium in which real GDP equals potential GDP.

A below full-employment equilibrium is an equilibrium in which potential GDP exceeds real GDP.
Explaining Macroeconomic Trends and Fluctuations

Figures 26.9(a) and (d) illustrate above full-employment equilibrium.

The amount by which potential GDP exceeds real GDP is called a **inflationary gap**.

Figures 26.9(b) and (d) illustrate full-employment equilibrium.
Explaining Macroeconomic Trends and Fluctuations

Figures 26.9(c) and (d) illustrate below full-employment equilibrium.

When real GDP is less than potential GDP, the gap is called a recessionary gap.

Figure 26.9(d) shows how, as the economy moves from one type of short-run equilibrium to another, real GDP fluctuates around potential GDP in a business cycle.
Explaining Macroeconomic Trends and Fluctuations

Fluctuations in Aggregate Demand

An increase in aggregate demand shifts the $AD$ curve rightward.

Firms increase production and the price level rises in the short run.
Explaining Macroeconomic Trends and Fluctuations

At the short-run equilibrium, there is an inflationary gap.

The money wage rate begins to rise and the SAS curve starts to shift leftward.

The price level continues to rise and real GDP continues to decrease until it equals potential GDP.
Explaining Macroeconomic Trends and Fluctuations

Fluctuations in Aggregate Supply

Effects of a rise in the price of oil.

The SAS curve shifts leftward.

Real GDP decreases and the price level rises.

The economy experiences stagflation.
Macroeconomic Schools of Thought

Macroeconomists can be divided into three broad schools of thought:

- Classical
- Keynesian
- Monetarist
Macroeconomic Schools of Thought

The Classical View

A **classical** macroeconomist believes that the economy is self-regulating and always at full employment.

The term “classical” derives from the name of the founding school of economics that includes Adam Smith, David Ricardo, and John Stuart Mill.

A **new classical** view is that business cycle fluctuations are the efficient responses of a well-functioning market economy that is bombarded by shocks that arise from the uneven pace of technological change.
Macroeconomic Schools of Thought

The Keynesian View

A Keynesian macroeconomist believes that left alone, the economy would rarely operate at full employment and that to achieve and maintain full employment, active help from fiscal policy and monetary policy is required.

The term “Keynesian” derives from the name of one of the twentieth century’s most famous economists, John Maynard Keynes.

A new Keynesian view holds that not only is the money wage rate sticky but also are the prices of goods sticky.
Macroeconomic Schools of Thought

The Monetarist View

A monetarist is a macroeconomist who believes that the economy is self-regulating and that it will normally operate at full employment, provided that monetary policy is not erratic and that the pace of money growth is kept steady.

The term “monetarist” was coined by an outstanding twentieth-century economist, Karl Brunner, to describe his own views and those of Milton Friedman.