

Aggregate Supply and Demand: Summary

The Aggregate Demand Curve

The *aggregate demand curve (AD)* shows the relationship between the aggregate price level and the quantity of aggregate output demanded by households, businesses, the government, and the rest of the world

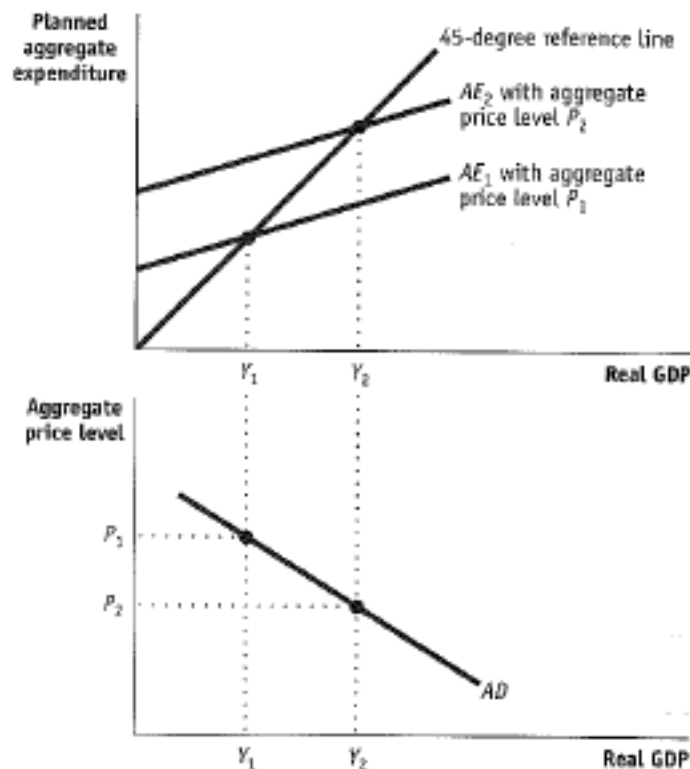
Why is the aggregate demand curve downward sloping?

Wealth effect: \uparrow Prices \Rightarrow \downarrow value of wealth \Rightarrow \downarrow Consumption

Interest rate effect: \uparrow Prices \Rightarrow \uparrow money demand \Rightarrow \uparrow Interest rates \Rightarrow \downarrow C, \downarrow I

International Trade Effect: \uparrow Prices \Rightarrow \uparrow relative prices of domestic goods \Rightarrow \downarrow NX

The Aggregate Demand Curve and the Income-Expenditure Model



Because of the wealth effect and the interest rate effect, a drop in the price level leads to an increase planned aggregate expenditures, relating the *income-expenditure model* to the downward slope in aggregate demand.

Shifts of the Aggregate Demand Curve

- Changes in expectations: \uparrow Optimism of consumers and firms \Rightarrow \uparrow Aggregate demand
- Changes in wealth: \uparrow Real value of household assets \Rightarrow \uparrow Aggregate demand
- Size of the existing capital stock: \uparrow size of capital stock \Rightarrow \downarrow Aggregate demand
- Fiscal policy: \uparrow Government purchases or \downarrow Taxes \Rightarrow \uparrow Aggregate demand
- Monetary policy: \uparrow Quantity of assets from central bank \Rightarrow \uparrow Aggregate demand

The Aggregate Supply Curve

The *aggregate supply curve* shows the relationship between the aggregate price level and the quantity of aggregate output supplied in the economy

The *short-run aggregate supply curve (SRAS)* shows the relationship between the aggregate price level and the quantity of aggregate output supplied that exists in the short run, the time period when many production costs can be taken as fixed

Why is the short-run aggregate supply curve upward sloping?

Sticky wages: \uparrow Prices $\Rightarrow \uparrow$ Revenue but unchanged labor cost \downarrow
 $\Rightarrow \uparrow$ Profit per unit of output $\Rightarrow \uparrow$ Output

Shifts of the Short-run Aggregate Supply Curve

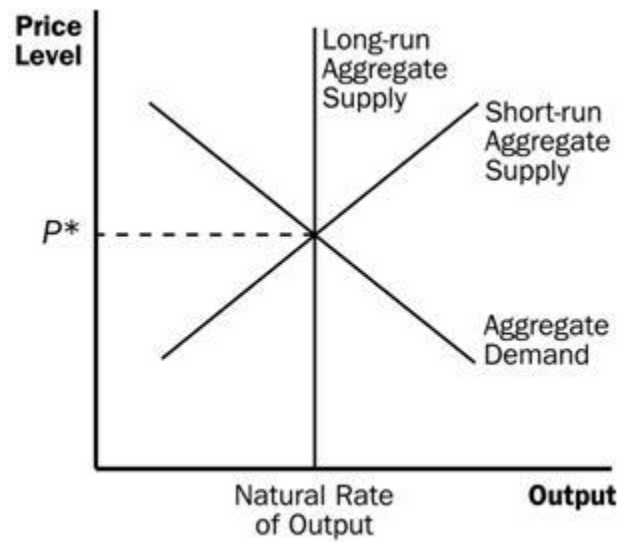
- Changes in commodity prices: \uparrow Commodity prices $\Rightarrow \downarrow$ Aggregate supply
- Changes in nominal wages: \uparrow Nominal wages $\Rightarrow \downarrow$ Aggregate supply
- Changes in productivity: \uparrow Productivity of workers $\Rightarrow \uparrow$ Aggregate supply

The *long-run aggregate supply curve (LRAS)* shows the relationship between the aggregate price level and the quantity of aggregate output supplied that would exist if all prices, including nominal wages, were fully flexible

- **Potential Output:** the level of real GDP the economy would produce if all prices, including nominal wages, were fully flexible, and we were at full employment

AD-AS Equilibrium

A *short-run equilibrium* occurs at the point where the AD curve intersects with the SRAS curve. A *long-run equilibrium* occurs when the AD, SRAS, and LRAS curve all intersect.



Only long-run equilibria are considered “stable”. That is, if we are in a short run equilibrium, the economy will always transition to a long-run equilibrium. This can occur in three ways:

1. **Self-Correcting Mechanism:** absent any action from the Fed or the government nominal wages will adjust in order to shift the SRAS curve back to a long run equilibrium
2. **Fiscal Policy:** *fiscal policy* refers to the use of government spending and taxes to stabilize the economy by shifting the AD curve. An increase in government spending or decrease in taxes (called *expansionary fiscal policy*) shifts the AD curve to the right; a decrease in spending or increase in taxes (*contractionary fiscal policy*) shifts the AD curve left

3. **Monetary Policy:** *monetary policy* refers to changes in the money supply by the Fed to stabilize the economy by shifting the AD curve. An increase in the money supply shifts the AD curve to the right; a decrease in the money supply shifts the curve to the left

Other AD/AS terms to remember:

- **Demand Shock:** an event that shifts the aggregate demand curve
- **Supply Shock:** an event that shifts the short-run aggregate supply curve
- **Stagflation:** the combination of inflation and falling aggregate output
- **Recessionary Gap:** when aggregate output is below potential
- **Inflationary Gap:** when aggregate output is above potential output
- **Output Gap:** the percentage difference between actual aggregate output and potential output

$$\text{Output gap} = \frac{\text{Actual aggregate output} - \text{Potential output}}{\text{Potential output}} \times 100$$

The Keynesian vs. the Classical Model

The biggest difference between the Keynesian and Classical model in the AD-AS model is that classical economists *do not believe in sticky wages*. As a result, there is no SRAS curve/the AS curve is always a vertical line at potential GDP. This implies that we are always in long run equilibrium, and that *fiscal/monetary policy have no impact on output, only on prices and/or private investment/spending*.

Practice Problems

1. Deflation will
 - a) shift up/right the aggregate demand line
 - b) increase the quantity of aggregate output demanded
 - c) shift down/left the aggregate demand line
 - d) decrease the quantity of aggregate output demanded
2. Decreased optimism about the future will
 - a) shift up/right the aggregate demand line
 - b) increase the quantity of aggregate output demanded
 - c) shift down/left the aggregate demand line
 - d) decrease the quantity of aggregate output demanded
3. An increase in oil prices causes a _____ shock, causing a(n) _____ in the short-run aggregate price level and a(n) _____ in short-run aggregate output.
 - a) demand, increase, increase
 - b) demand, decrease, decrease
 - c) supply, increase, decrease
 - d) supply, decrease, increase
4. Suppose that if all prices, including wages, were fully flexible the real GDP would be \$18 trillion. In reality, real GDP is \$16 billion. What is the size of the output gap?
 - a) -12.5%
 - b) -11.1%
 - c) 0%
 - d) 11.1%
 - e) 12.5%

5. An economy begins in its long-run equilibrium and then a negative demand shock causes aggregate GDP to fall below potential. What can the government do to get the economy back to its long-run equilibrium?
 - a) Raise government purchases
 - b) Raise interest rates
 - c) Raise taxes
 - d) Raise the minimum wage
6. An economy begins in its long-run equilibrium and then a negative demand shock causes aggregate GDP to fall below potential. With no government intervention, how will the economy transition back to potential GDP in the long run?
 - a) Households will become wealthier, shifting aggregate demand back to the right.
 - b) Commodity prices will fall, shifting aggregate demand back to the right.
 - c) Productivity will fall, shifting short-run aggregate supply to the right.
 - d) Nominal wages will fall, shifting short-run aggregate supply to the right.
7. Workers expect inflation to rise from 3% to 5% next year. As a result this should
 - a) Shift the short run aggregate supply curve to the left
 - b) Move the economy up along a stationary short run aggregate supply curve
 - c) Move the economy down along a stationary short run aggregate supply curve
 - d) Shift the short run aggregate supply to the right
8. If the economy is in long run equilibrium, an increase in autonomous consumption will:
 - a) Lead to inflation and no change in output in the short run
 - b) Lead to deflation and an increase in output in the short run
 - c) Lead to no change in prices and an increase in output in the long run
 - d) Lead to inflation and no change in output in the long run
9. If the economy is in long run equilibrium, a decrease in government spending will
 - a) Lead to deflation and no change in output in the long run
 - b) Lead to deflation and lower output in the long run
 - c) Lead to no change in prices and lower output in the short run
 - d) Lead to deflation and no change in output in the short run
10. If the economy is in long run equilibrium, a negative supply shock will
 - a) Lead to deflation and no change in output in the long run
 - b) Lead to inflation and lower output in the short run
 - c) Lead to inflation and lower output in the long run
 - d) Lead to deflation and lower output in the short run
11. If current output exceeds potential, if there is no government intervention then:
 - a) Short run aggregate demand will decrease, bringing the economy to long run equilibrium
 - b) Short run aggregate supply will decrease, bringing the economy into long run equilibrium
 - c) Long run aggregate supply will increase, bringing the economy into long run equilibrium
 - d) Not enough information