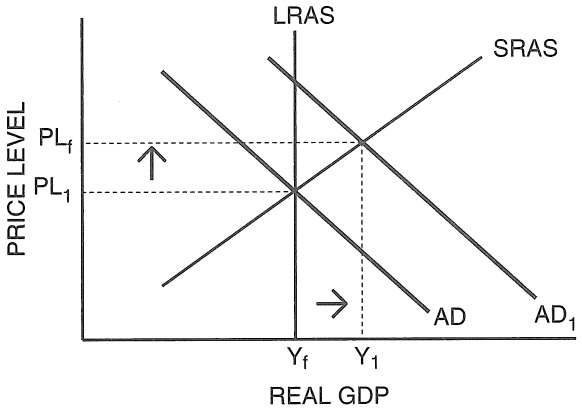
The Types of Inflation

The aggregate supply (AS) and aggregate demand (AD) model is used to determine changes in the price level and real gross domestic product (GDP). Changes in AS and AD lead to changes in the price level (inflation and deflation). Whether changes in the price level are due to changes in AS or AD determines the type of inflation experienced in the economy. Demand-pull inflation is caused by a shift in the AD curve. Cost-push inflation is caused by a shift in the AS curve.

Demand-pull inflation occurs because the demand for goods and services increases at a time when the production of goods and services is already high. The increase in AD causes real GDP to expand and the price level to increase. Demand-pull inflation is often described by the saying "too much money chasing too few goods."

Figure 3-7.1 illustrates demand-pull inflation. An increase in AD causes the AD curve to shift to the right. AD will increase as a result of a change in the determinants of AD: consumption (C), investment (I), government spending (G), and net exports (Xn). Notice that, in addition to the increase in the price level, the increase in AD leads to an increase in real GDP.

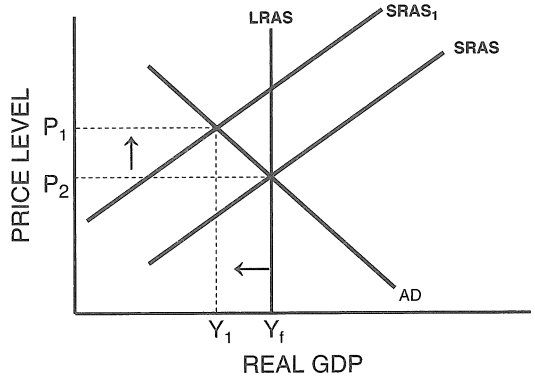
Figure 3-7.1
Changes in the Price Level Due to Aggregate Demand



Cost-push inflation is caused by an increase in the cost of an input with economy-wide importance. An increase in production costs throughout the economy will cause AS to decrease. For example, an increase in wages or the price of oil will increase input costs economy-wide.

Figure 3-7.2 illustrates cost-push inflation. A decrease in AS causes the AS curve to shift to the left. AS will decrease as a result of an increase in production costs throughout the economy. Notice that, in addition to the increase in the price level, the decrease in AS leads to a decrease in real GDP. *Stagflation* occurs when the economy experiences high inflation and high unemployment at the same time.

Figure 3-7.2
Changes in the Price Level Due to Aggregate Supply



For each situation described below, circle either demand-pull or cost-push inflation and explain.

1. In his 2020 State of the Union address, President Dodge calls for an increase in the U.S. military presence across the globe to combat what he deemed a "threat to the sovereignty of the U.S. economy and trade routes."

   Demand-Pull Inflation *Cost-Push Inflation*

   Explain:

2. The Arab Spring of 2010 disrupts oil production and supplies worldwide. This causes OPEC and commodities speculators to raise crude oil prices to record levels.

   Demand-Pull Inflation *Cost-Push Inflation*

   Explain:

3. During the election of 2100, Democratic presidential candidates all advocate the expansion of the Social Security and Medicare and Medicaid programs to include a greater number of American citizens. These campaign promises cause the United States to run a budget deficit in the year after the election, which in turn leads to increased government borrowing.

   Demand-Pull Inflation *Cost-Push Inflation*

   Explain:

4. The federal government raises the minimum wage to $12 an hour.

   Demand-Pull Inflation *Cost-Push Inflation*

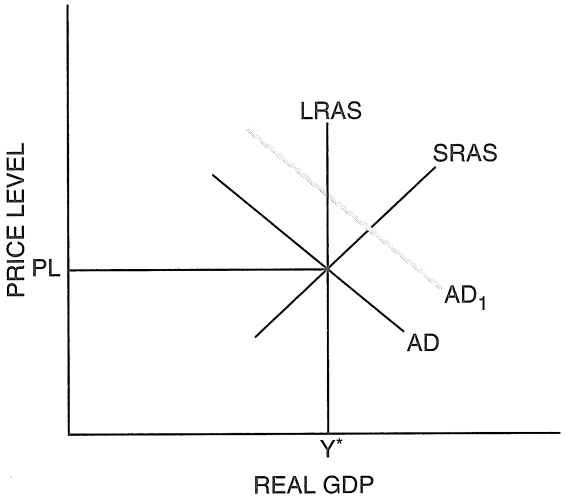
   Explain:

Long-Run Aggregate Supply

In this activity we move from the short run to the long run. In the short run, at least one factor of production is fixed. In the long run, all factors of production are variable. The short-run aggregate supply (SRAS) curve is upward sloping because of slow wage and price adjustments in the economy. But in the long run, wages and prices have time to adjust. That is, wages and prices are fully flexible. This means that any time the price level changes (i.e., there is inflation or deflation), wages and other input costs fully adjust so there is no overall effect. For example, if prices were doubled and wages and other input costs doubled, there would be no effect. Or if prices were cut in half, but so were wages and other input costs, there would be no effect. In the long run, wages and other input costs adjust so the economy always returns to the full-employment level of output. This means that the long-run aggregate supply (LRAS) curve is vertical at the full-employment output level (which is also called potential output).

Using Figure 3-8.1, answer the following questions about how the economy will react over time if the aggregate demand (AD) shifts from AD to AD_1.

Figure 3-8.1
Increase in Aggregate Demand Starting at Full Employment



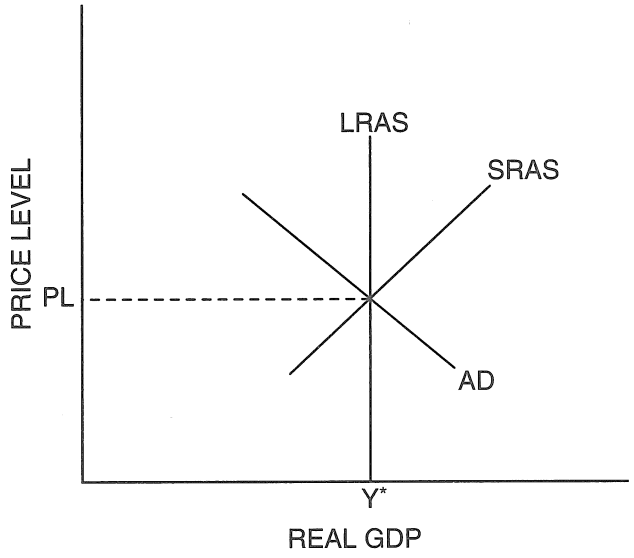
1. What will happen to output, nominal wages and real wages, and the price level in the short run? Explain.

2. What will happen to output and the price level when the economy moves to long-run equilibrium? Explain.

3. On Figure 3-8.1, draw the long-run equilibrium situation (including PL, Y, and AD).

4. Using Figure 3-8.2, answer the following questions about how the economy will react over time if the aggregate supply (AS) shifts from SRAS to $SRAS_1$. Assume that no monetary or fiscal policy is undertaken.

Figure 3-8.2
Change in Short-Run Aggregate Supply

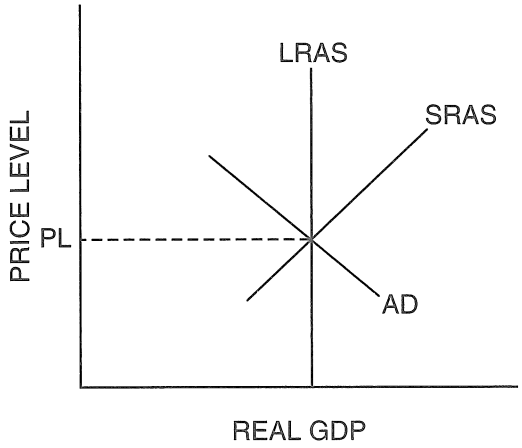


5. After SRAS decreases, what happens to the short-run output, nominal wages, real wages, and the price level?

6. What will happen to output and the price level when the economy moves to long-run equilibrium? Explain.

7. On Figure 3-8.2, draw the long-run equilibrium situation (including PL, Y, and AS).

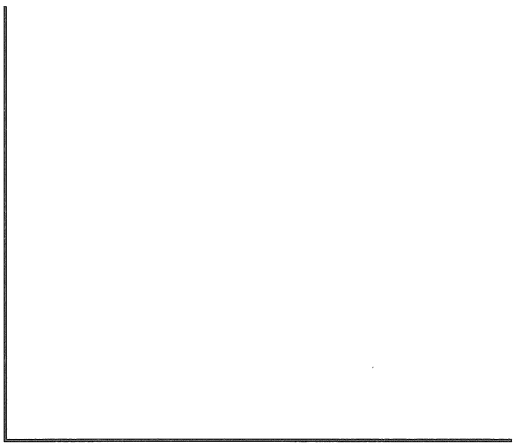
Read the description of each change in AS or AD. Draw your own graph showing the starting point as long-run equilibrium, illustrated in the graph below. Draw a new SRAS or AD curve that represents the change caused by the event described. Explain the reasons for the short-run change in the graph, and then explain what happens in the long run. Identify the final AD curve as AD_f and the final SRAS curve as $SRAS_f$.



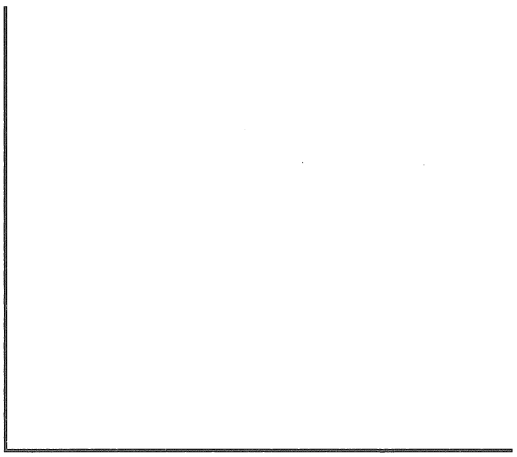
8. The government increases defense spending by 10 percent a year over a five-year period.

9. OPEC cuts oil production by 30 percent, and the world price of oil rises by 40 percent.

10. The government increases spending on education, health care, housing, and basic services for low-income people. No increase in taxes accompanies these programs.



11. Can the government maintain output above the natural level of output with AD policy? If the government attempts to, what will be the result?



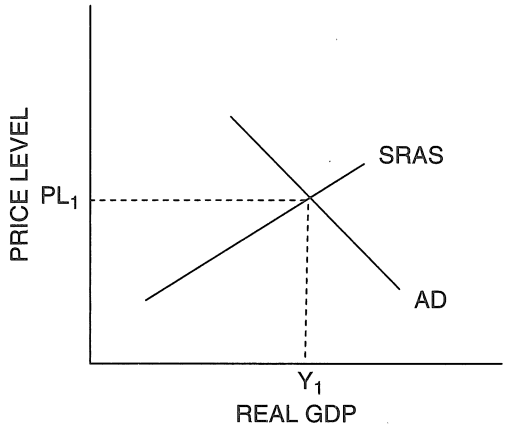
Actual versus Full-Employment Output

The model of aggregate demand (AD) and aggregate supply (AS) predicts that the macroeconomy will come to equilibrium at the intersection of a downward-sloping AD curve and an upward-sloping short-run aggregate supply (SRAS) curve. The short-run equilibrium is described as the only price level where the goods and services purchased by domestic and foreign buyers are equal to the quantity supplied within the economy. It's important to realize that, while the economy might be in equilibrium, this equilibrium level of output can be less than, equal to, or greater than full-employment output.

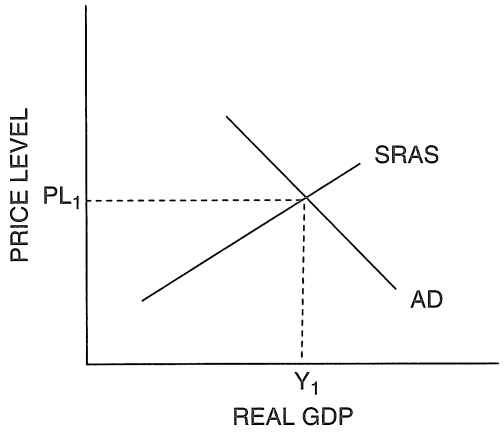
Full-employment output is the level of real gross domestic product (GDP) that exists when the economy's unemployment rate is at its natural rate. This natural rate of unemployment doesn't correspond to an unemployment rate of zero; rather, it is the unemployment rate that exists when there is no cyclical unemployment. When the economy is recessionary, the unemployment rate will exceed this natural rate. When the economy is experiencing an inflationary gap, the unemployment rate will fall below the natural rate.

The distinction between the actual unemployment rate and the natural rate allows us to reconsider the short-run equilibrium in the macroeconomy. If AD and SRAS intersect at a level of output that falls below full-employment output (at the vertical long-run aggregate supply [LRAS] curve), the economy has a recessionary gap. If the AD and SRAS curves intersect at a real output that exceeds full employment, the economy has an inflationary gap.

1. Draw an LRAS curve that illustrates a recessionary gap. Label the full-employment level of output on the graph.

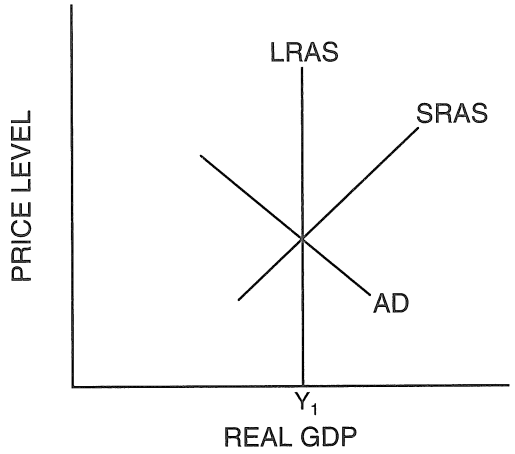


2. Draw an LRAS curve that illustrates an inflationary gap. Label the full-employment level of output on the graph.



3. Suppose households in the United States experience a decrease in wealth. Assume the economy starts at long-run equilibrium as shown in Figure 3-9.1. Use the AS/AD model to show the short-run effect on output, unemployment, and the price level.

Figure 3-9.1
Price Level



(A) Will the unemployment rate increase or decrease? Explain.

(B) What type of gap results from the decrease in wealth?