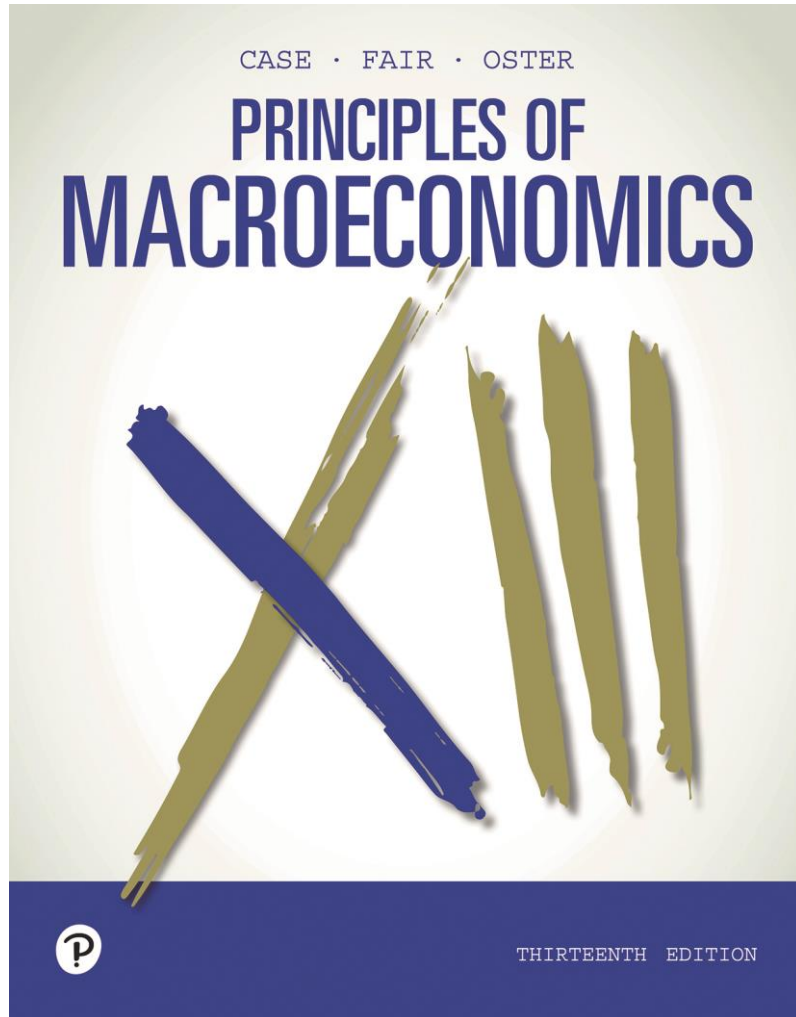


Principles of Macroeconomics

Thirteenth Edition



Chapter 12

Policy Effects and Cost
Shocks in the AS/AD Model

Chapter Outline and Learning Objectives (1 of 2)

12.1 Fiscal Policy Effects

- Use the *AS/AD* model to analyze the short-run and long-run effects of fiscal policy.

12.2 Monetary Policy Effects

- Use the *AS/AD* model to analyze the short-run and long-run effects of monetary policy.

12.3 Shocks to the System

- Explain how economic shocks affect the *AS/AD* model.

Chapter Outline and Learning Objectives (2 of 2)

12.4 Monetary Policy since 1970

- Discuss monetary policy since 1970.

Looking Ahead

Policy Effects and Cost Shocks in the *AS/AD* Model

- Whatever the motivations for particular macroeconomic policies, decisions made in the political process about taxes and spending have important macroeconomic consequences.
- The *AS/AD* model developed in the last chapter allows us to explore these consequences.

Fiscal Policy Effects (1 of 2)

- The level of net taxes (T) (i.e., taxes minus transfer payments) is an important fiscal policy variable, along with government spending (G).
- Earlier, we learned that the tax multiplier is smaller in absolute value than is the government spending multiplier.
- This chapter shows that both a decrease in net taxes and an increase in government spending increase output (Y). Both result in a shift of the AD curve to the right.

Figure 12.1 A Shift of the AD Curve When the Economy Is on the Nearly Flat Part of the AS Curve

- This figure shows what happens when an expansionary fiscal policy works well: There is an increase in output with little increase in the price level.
- When the economy is producing on the nearly flat portion of the AS curve, firms are producing well below capacity, and they will respond to an increase in demand by increasing output much more than they increase prices.

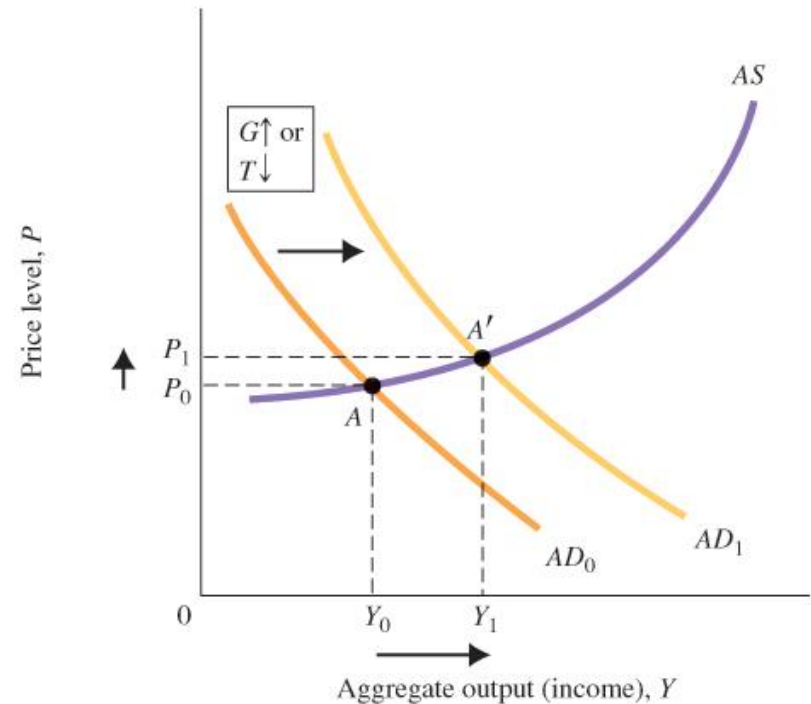
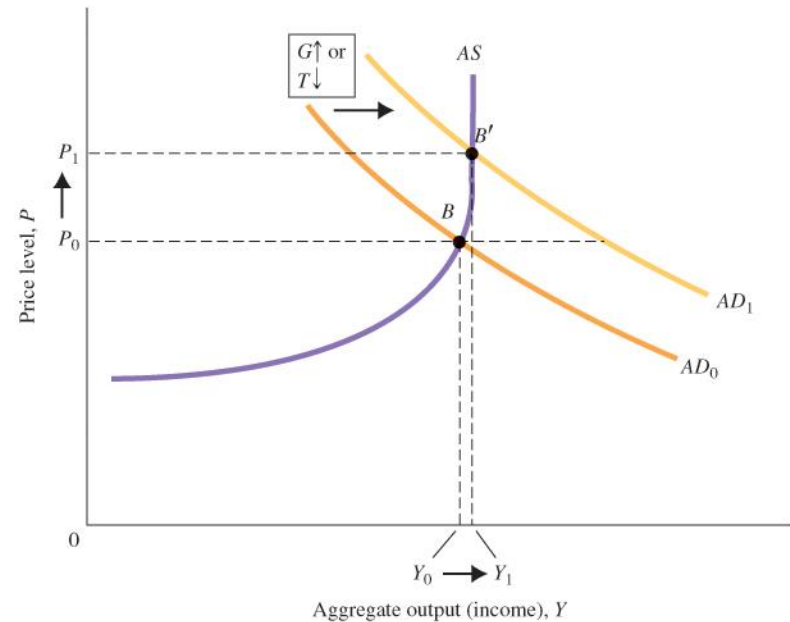


Figure 12.2 A Shift of the AD Curve When the Economy Is Operating at or Near Capacity

- Here, an expansionary fiscal policy does not work well. The output multiplier is close to zero. Output is initially close to capacity, and attempts to increase it further mostly lead to a higher price level.
- With a higher price level, the Fed increases the interest rate (r), and in this case, there is almost complete crowding out of planned investment.



Fiscal Policy Effects (2 of 2)

- If the shift in the *AD* curve is caused by a decrease in net taxes, it is consumption, not government spending, that causes the crowding out of investment.
- When the economy is on the flat part of the *AS* curve, there is very little crowding out of planned investment. Output expands to meet the increased demand.
- Because the price level increases very little, the Fed does not raise the interest rate much, and so there is little change in planned investment.

Fiscal Policy Effects in the Long Run

- If wages adjust fully to match higher prices, then the long-run AS curve is vertical, and so fiscal policy will have no effect on output.
- The key question is how fast wages adjust to changes in prices:
 - New classical economists believe that wage rate changes do not lag behind price changes, thus a vertical AS curve even in the short run.
 - The simple “Keynesian” view is a kink in the AS curve at capacity output.

Monetary Policy Effects

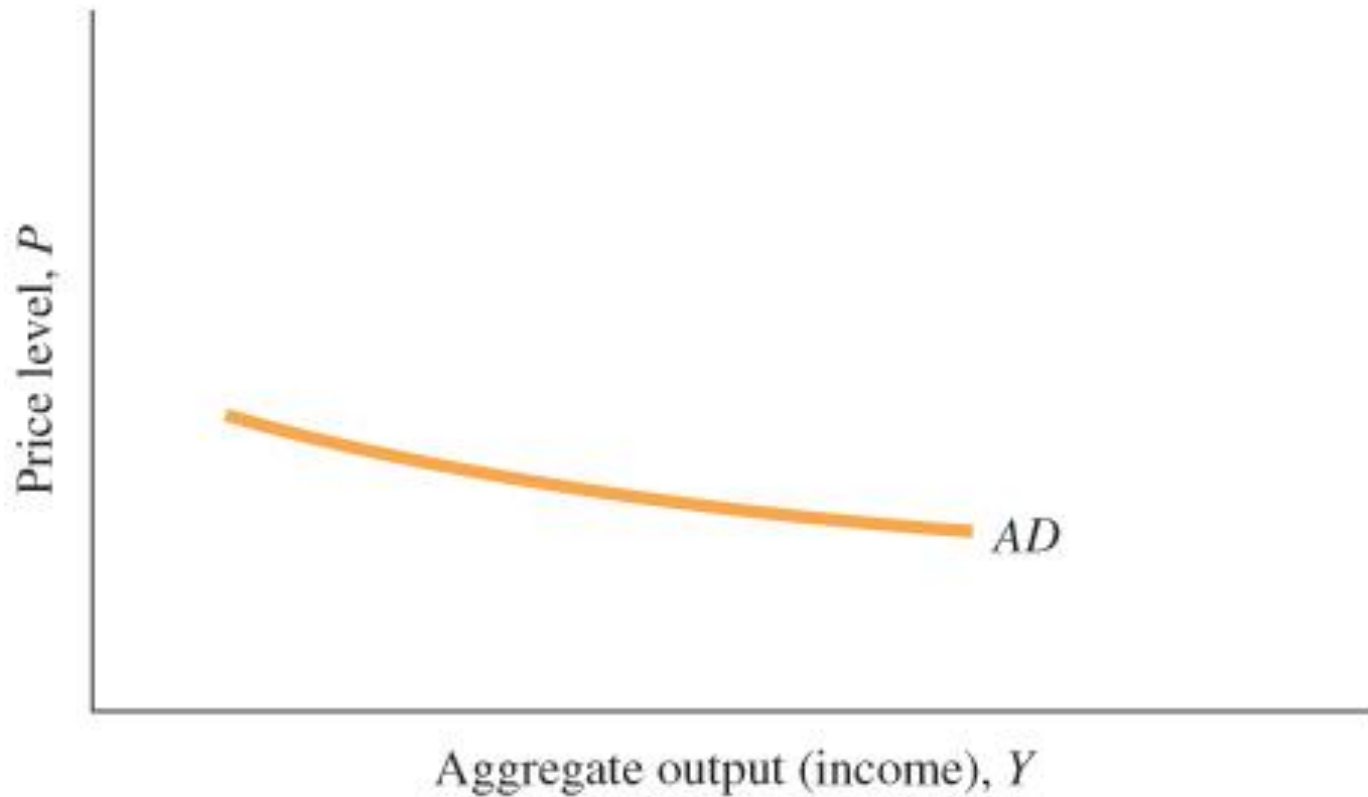
The Fed's Response to the Z Factors

- An increase in Z , such as an increase in consumer confidence, shifts the AD curve to the left due to a tightening of monetary policy.
- Monetary policy in the form of changes in Z has the same issues as does fiscal policy in the form of changes in G and T .

Shape of the *AD* Curve When the Fed Cares More about the Price Level than Output

- In the Fed rule equation, we used a weight of α for output and a weight of β for the price level.
- If α is small relative to β , the Fed has a strong preference for stable prices relative to output.
- In this case, when the Fed sees a price increase, it responds with a large increase in the interest rate.
- The *AD* curve is relatively flat, as the Fed is willing to accept large changes in Y to keep P stable.

Figure 12.3 The Shape of the *AD* Curve When the Fed Has a Strong Preference for Price Stability Relative to Output



What Happens When There Is a Zero Interest Rate Bound?

- Suppose the conditions of the economy are such that the Fed wants a negative interest rate. In this case, the best that the Fed can do is to choose zero for the value of r .
- **zero interest rate bound** The interest rate cannot go below zero.
- **binding situation** State of the economy in which the Fed rule calls for a negative interest rate.
- In a binding situation, the interest rate does not change, thus the AD curve is vertical.

Figure 12.4 Equilibrium in the Goods Market When the Interest Rate Is Zero

- In a binding situation, changes in P and Z do not shift the $r = 0$ line.

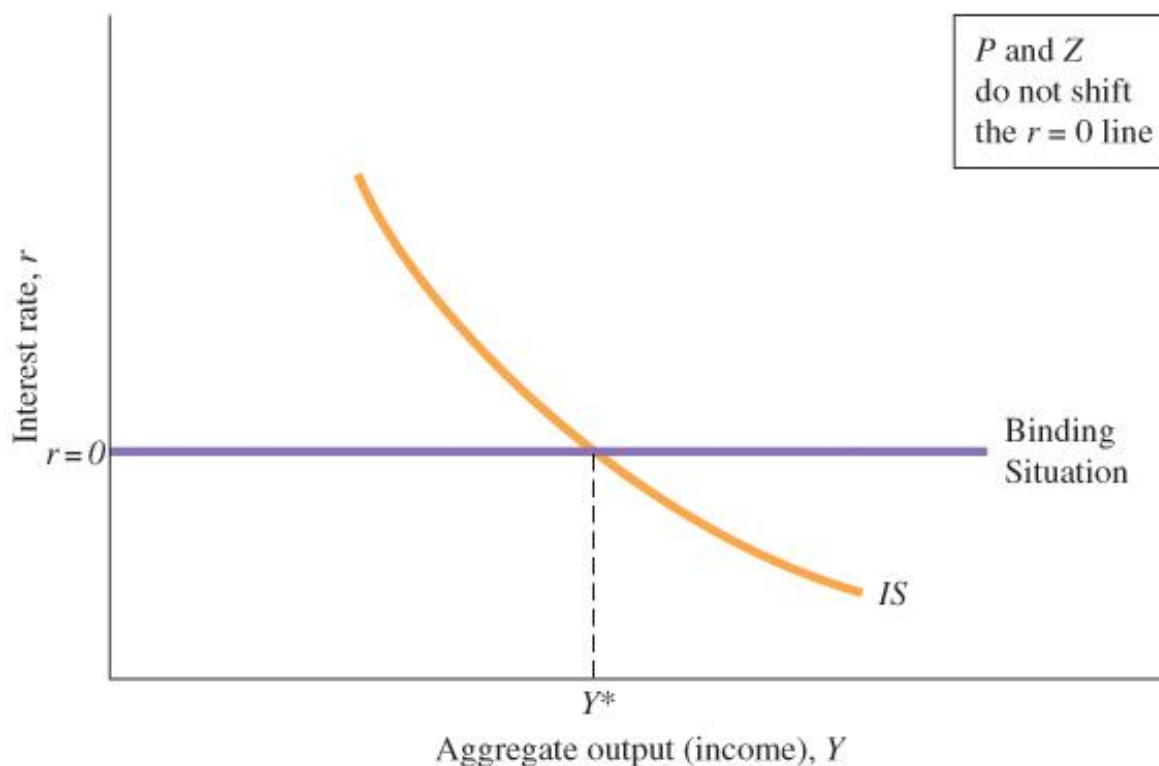
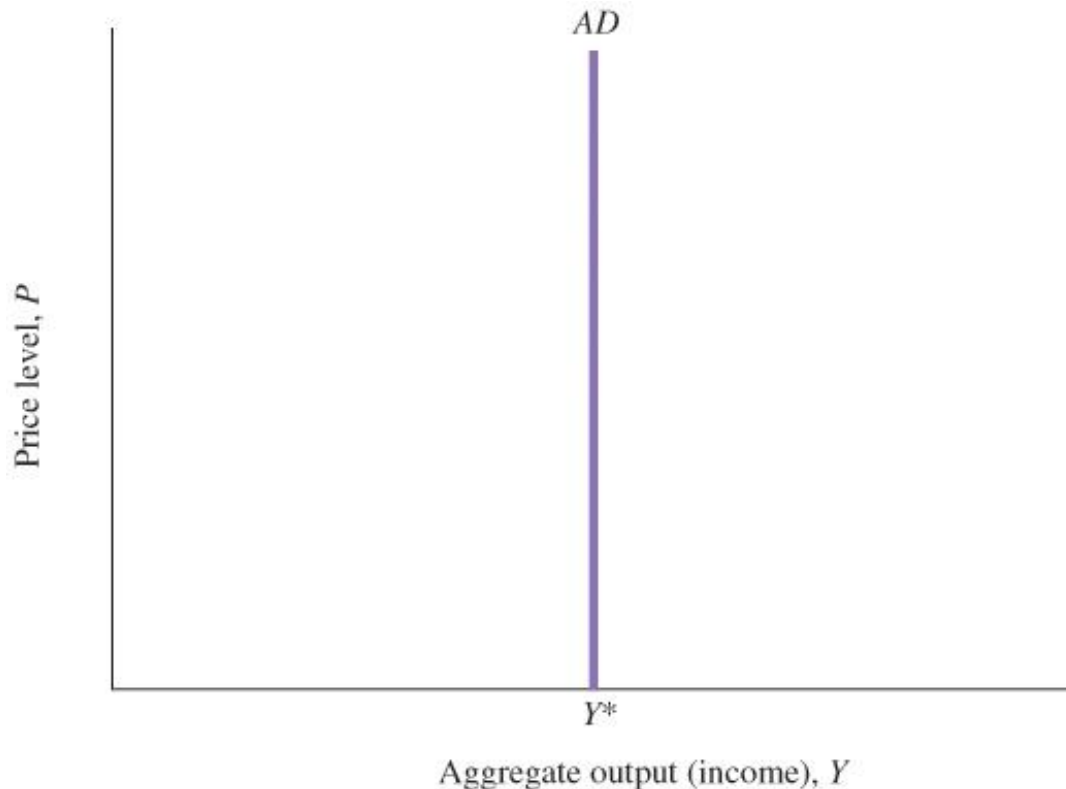


Figure 12.5 The *AD* Curve in a Binding Situation

- In a binding situation, the interest rate is always zero.

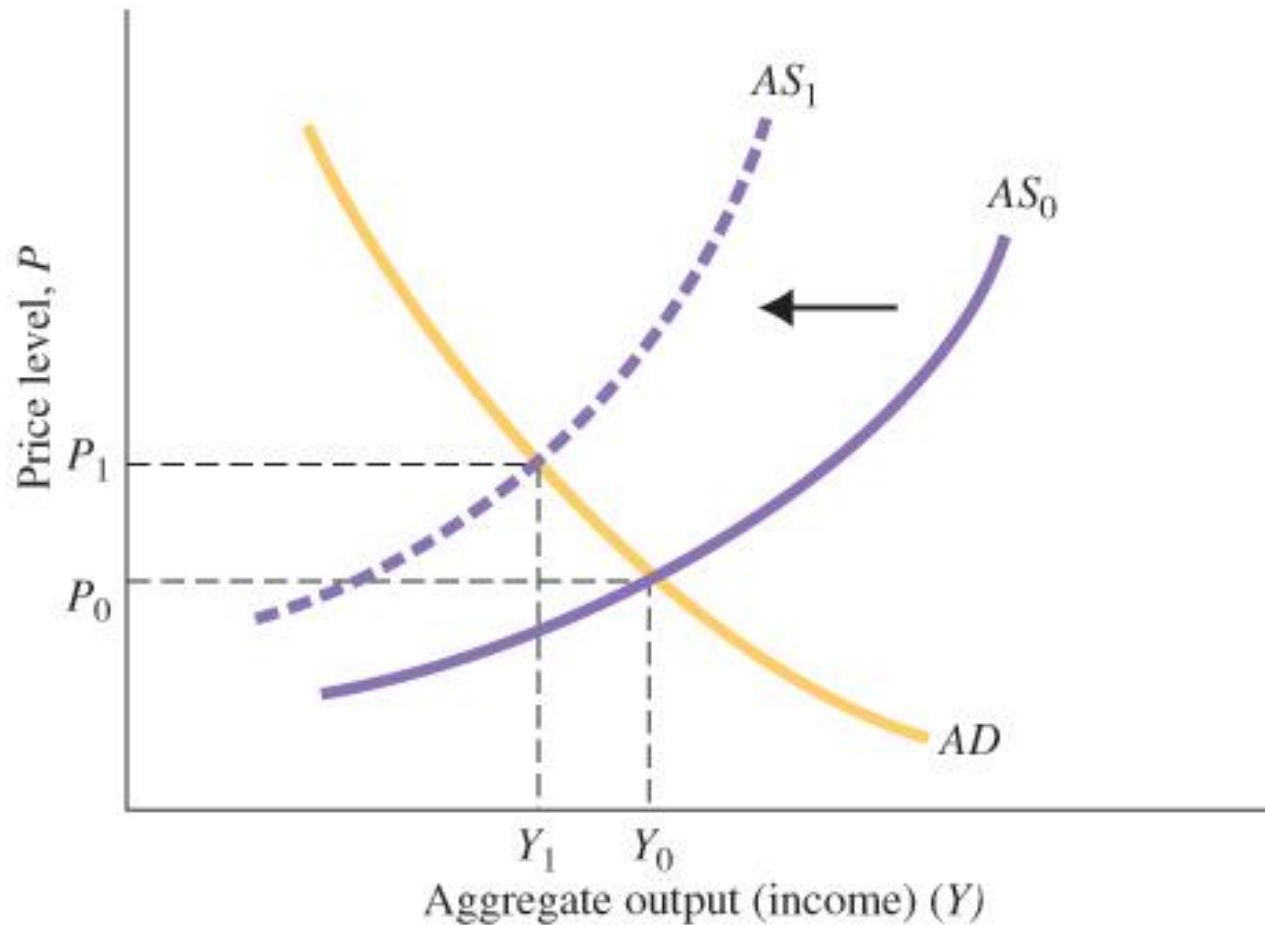


Shocks to the System

Cost Shocks

- **stagflation** The simultaneous increase in unemployment and inflation.
- The shift of the AS curve to the left leads to lower output and a higher price level.
- The increase in P leads the Fed to raise r , which lowers I and thus Y .
- **cost-push, or supply-side, inflation** Inflation caused by an increase in costs.

Figure 12.6 An Adverse Cost Shock



Economics In Practice

A Bad Monsoon Season Fuels Indian Inflation

In 2012, the Indian monsoons came with less rain than normal. For the rice crop, this was a large and adverse shock, which led to a substantial increase in the price of rice.

Unlike the United States, there are few substitutes for rice in India and rice plays a large role in the average household budget.

The weather shock on rice prices threatened to increase India's overall inflation rate, which at 10% was already high by U.S. standards.

CRITICAL THINKING

1. What two features of the Indian economy meant that an increase in rice prices was likely to spread through the economy and influence the overall inflation rate?



Demand-Side Shocks

- **demand-pull inflation** Inflation that is initiated by an increase in aggregate demand.
- One example of demand-side shock is an improvement in Keynes's animal spirits, such as a rise in consumer confidence.
- Any price increase that results from a demand-side shock is also considered demand-pull inflation.

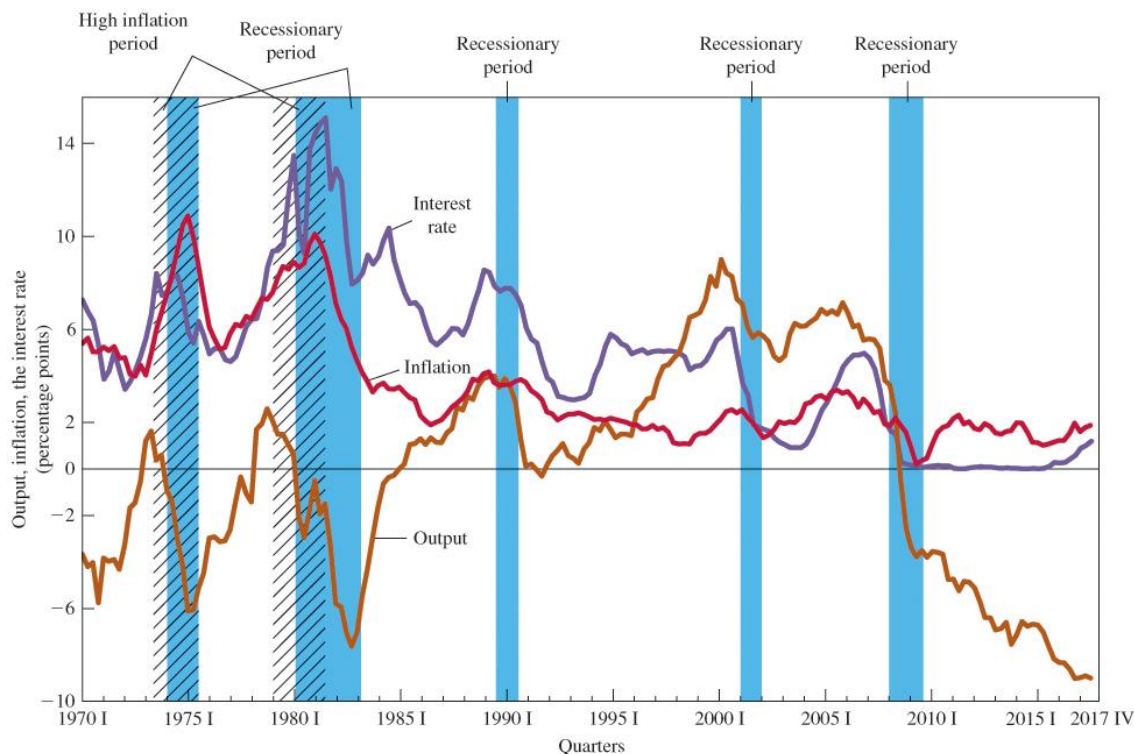
Expectations

- Firms' expectations of future prices may affect their current price decisions.
- An increase in future price expectations may shift the *AS* curve to the left and thus act like a cost shock.
- If prices have been rising and if people's expectations are adaptive (i.e., forming expectations on the basis of past pricing behavior), firms may continue raising prices even if demand is slowing or contracting.

Monetary Policy since 1970

- In the 1979–1983 period, the Fed generally raised the interest rate when inflation was high—even when output was low, resulting in the “Volcker recession,” named after then Fed Chair Paul Volcker.
- The Fed acted aggressively in lowering the interest rate during the 1990–1991 recession and again in the 2001 recession.
- Near the end of 2007, the Fed responded to the anticipated recession by lowering the interest rate to nearly zero beginning in 2008 IV.
- The period 2008 IV–2015 IV is a “binding situation” period with a zero interest rate bound.

Figure 12.7 Output, Inflation, and the Interest Rate 1970 I–2017 IV



- The Fed generally had high interest rates in the two inflationary periods and low interest rates from the mid-1980s on. It aggressively lowered interest rates in the 1990 III–1991 I, 2001 I–2001 III, and 2008 I–2009 II recessions.
- Output is the percentage deviation of real GDP from its trend. Inflation is the 4-quarter average of the percentage change in the GDP deflator.
- The interest rate is the 3-month Treasury bill rate.

Inflation Targeting

- **inflation targeting** When a monetary authority chooses its interest rate values with the aim of keeping the inflation rate within some specified band over some specified horizon.
- There has been much debate about whether inflation targeting is a good idea. It can lower fluctuations in inflation but possibly at a cost of larger fluctuations in output.
- Ben Bernanke had argued in the past in favor of inflation targeting, but there is no evidence that the Fed has done this.

Looking Ahead

- We have so far said little about employment, unemployment, and the functioning of the labor market in the macroeconomy except to note the central role of sticky wages in the *AS* curve.
- The next chapter will link everything we have done so far to this third major market arena—the labor market—and to the problem of unemployment.

Review Terms and Concepts

- binding situation
- cost-push, or supply-side inflation
- demand-pull inflation
- inflation targeting
- stagflation
- zero interest rate bound

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