

Questions for Review

1. The price of a magazine is an example of a price that is sticky in the short run and flexible in the long run. Economists do not have a definitive answer as to why magazine prices are sticky in the short run. Perhaps customers would find it inconvenient if the price of a magazine they purchase changed every month.
2. Aggregate demand is the relation between the quantity of output demanded and the aggregate price level. To understand why the aggregate demand curve slopes downward, we need to develop a theory of aggregate demand. One simple theory of aggregate demand is based on the quantity theory of money. Write the quantity equation in terms of the supply and demand for real money balances as

$$M/P = (M/P)^d = kY,$$

where $k = 1/V$. This equation tells us that for any fixed money supply M , a negative relationship exists between the price level P and output Y , assuming that velocity V is fixed: the higher the price level, the lower the level of real balances and, therefore, the lower the quantity of goods and services demanded Y . In other words, the aggregate demand curve slopes downward, as in Figure 9–1.

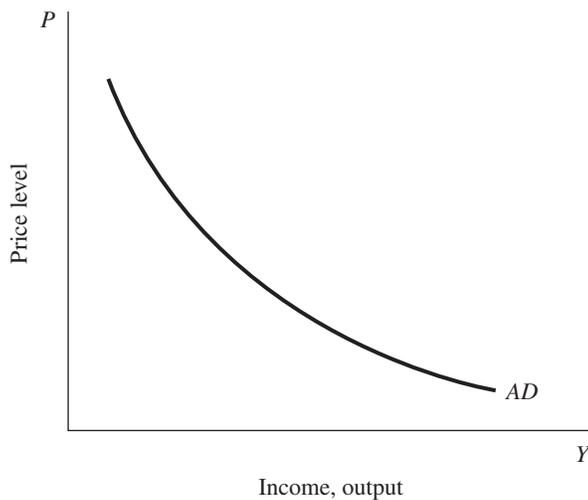


Figure 9–1

One way to understand this negative relationship between the price level and output is to note the link between money and transactions. If we assume that V is constant, then the money supply determines the dollar value of all transactions:

$$MV = PY.$$

An increase in the price level implies that each transaction requires more dollars. For the above identity to hold with constant velocity, the quantity of transactions and thus the quantity of goods and services purchased Y must fall.

3. If the Fed increases the money supply, then the aggregate demand curve shifts outward, as in Figure 9–2. In the short run, prices are sticky, so the economy moves along

the short-run aggregate supply curve from point A to point B. Output rises above its natural rate level \bar{Y} : the economy is in a boom. The high demand, however, eventually causes wages and prices to increase. This gradual increase in prices moves the economy along the new aggregate demand curve AD_2 to point C. At the new long-run equilibrium, output is at its natural-rate level, but prices are higher than they were in the initial equilibrium at point A.

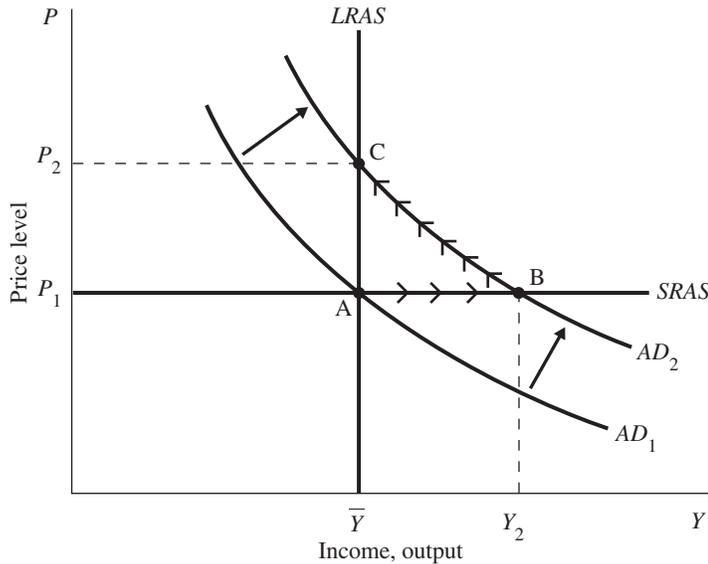


Figure 9-2

- It is easier for the Fed to deal with demand shocks than with supply shocks because the Fed can reduce or even eliminate the impact of demand shocks on output by controlling the money supply. In the case of a supply shock, however, there is no way for the Fed to adjust aggregate demand to maintain both full employment and a stable price level.

To understand why this is true, consider the policy options available to the Fed in each case. Suppose that a demand shock (such as the introduction of automatic teller machines, which reduce money demand) shifts the aggregate demand curve outward, as in Figure 9-3. Output increases in the short run to Y_2 . In the long run output returns to the natural-rate level, but at a higher price level P_2 . The Fed can offset this increase in velocity, however, by reducing the money supply; this returns the aggregate

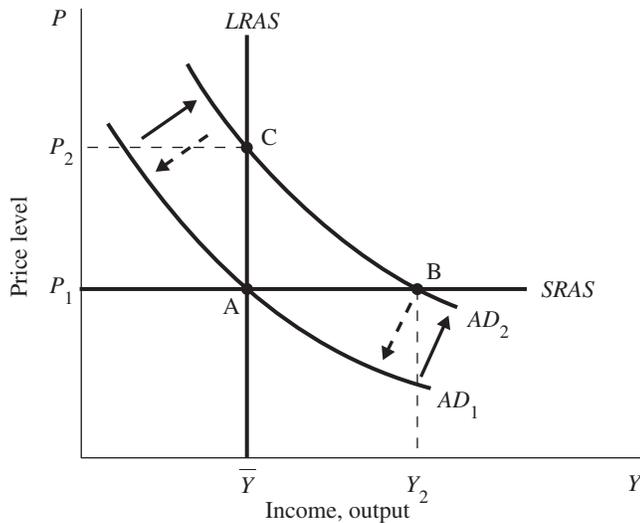


Figure 9-3

demand curve to its initial position, AD_1 . To the extent that the Fed can control the money supply, it can reduce or even eliminate the impact of demand shocks on output.

Now consider how an adverse supply shock (such as a crop failure or an increase in union aggressiveness) affects the economy. As shown in Figure 9–4, the short-run aggregate supply curve shifts up, and the economy moves from point A to point B.

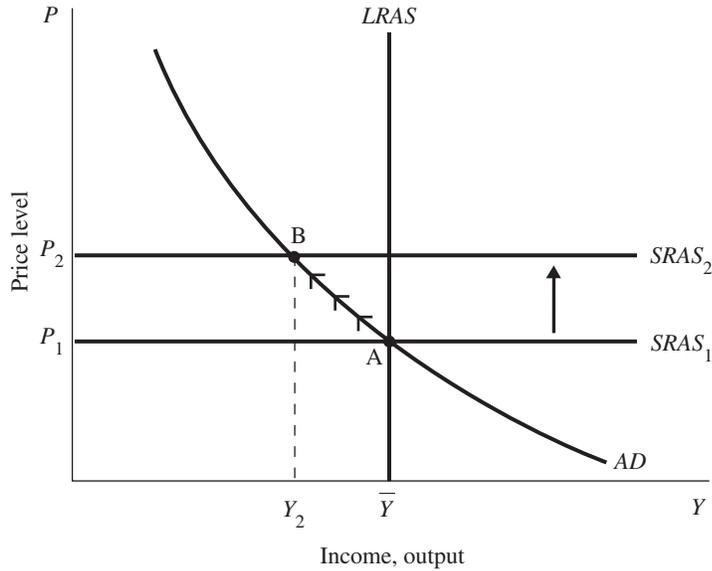


Figure 9–4

Output falls below the natural rate and prices rise. The Fed has two options. Its first option is to hold aggregate demand constant, in which case output falls below its natural rate. Eventually prices fall and restore full employment, but the cost is a painful

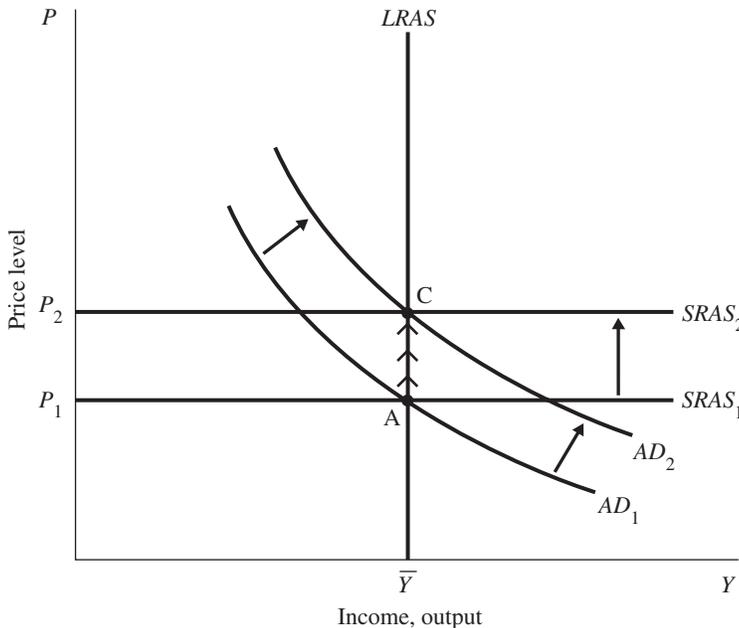


Figure 9–5

recession. Its second option is to increase aggregate demand by increasing the money supply, bringing the economy back toward the natural rate of output, as in Figure 9–5.

This policy leads to a permanently higher price level at the new equilibrium, point C. Thus, in the case of a supply shock, there is no way to adjust aggregate demand to maintain both full employment and a stable price level.