

Suggested Answers to Homework #6

Analytical Problems Chapter 11

1. In Figures 11.15 and 11.16, point *A* is the starting point, point *B* shows the short-run equilibrium after the change, and point *C* shows the long-run equilibrium after the change.

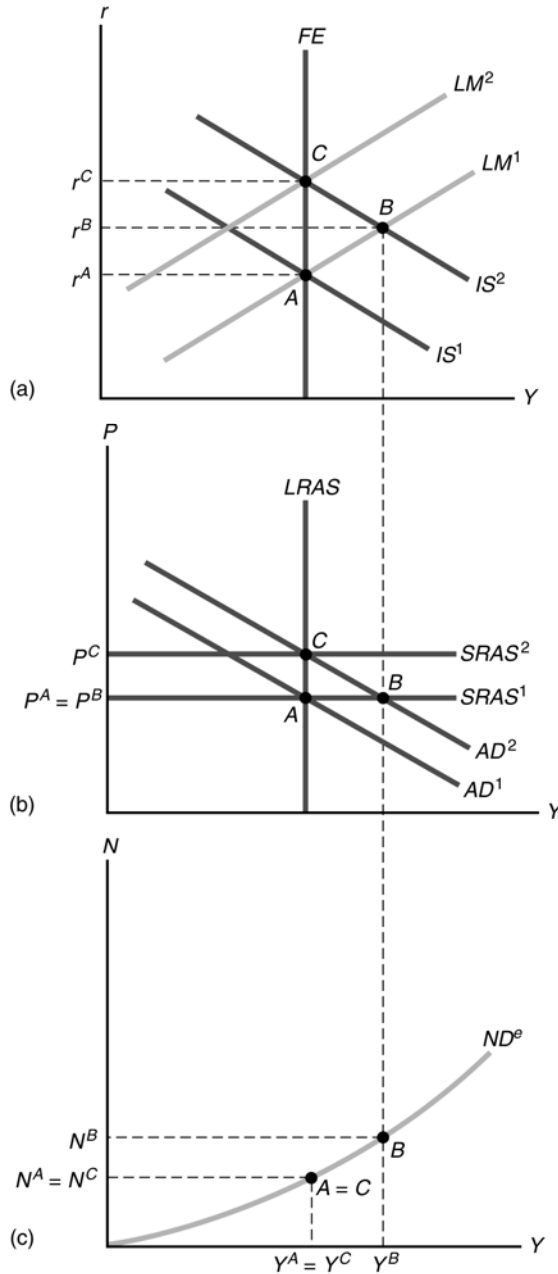


Figure 11.15

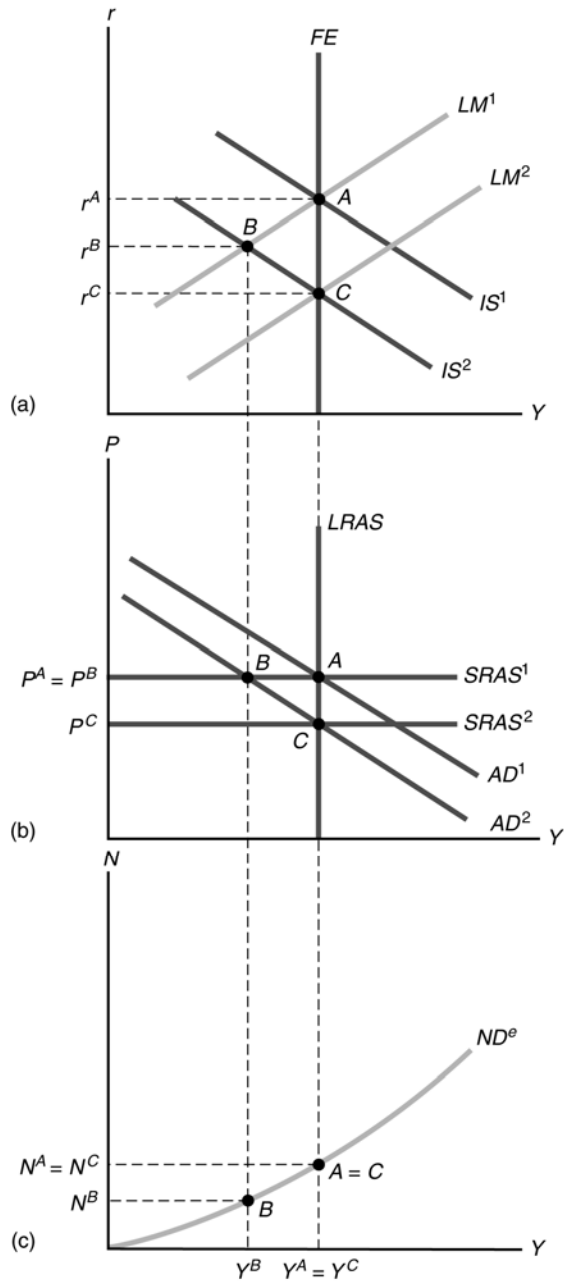


Figure 11.16

- (a) In Figure 11.15, the increase in tax incentives increases investment, shifting the *IS* curve up and to the right from IS^1 to IS^2 in Figure 11.15(a), and shifting the *AD* curve from AD^1 to AD^2 in Figure 11.15(b). The short-run equilibrium is at point *B*. Output increases, the real interest rate increases, employment increases, and the price level is unchanged. To restore long-run equilibrium, the price level rises, shifting the *LM* curve from LM^1 to LM^2 in Figure 11.15(a) and the short-run aggregate supply curve from $SRAS^1$ to $SRAS^2$ in Figure 11.15(b). The long-run equilibrium is at point *C*. Compared to the starting point, output is the same, the real interest rate is higher, employment is the same, and the price level is higher.
- (b) In Figure 11.16, the increase in tax incentives increases saving—shifting the *IS* curve from IS^1 to IS^2 in Figure 11.16(a), and shifting the *AD* curve from AD^1 to AD^2 in Figure 11.16(b). The short-run equilibrium is at point *B*. Output decreases, the real interest rate decreases, employment decreases, and the price level is unchanged. To restore long-run equilibrium, the price level declines, shifting the *LM* curve from LM^1 to LM^2 in Figure 11.16(a) and the short-run aggregate supply curve from $SRAS^1$ to $SRAS^2$ in Figure 11.16(b). The long-run equilibrium is at point *C*. Compared to the starting point, output is the same, the real interest rate is lower, employment is the same, and the price level is lower.
- (c) A wave of investor pessimism reduces investment. This shifts the *IS* curve down and to the left and the *AD* curve down and to the left, having the same result as in problem part (b).
- (d) An increase in consumer confidence increases consumption spending, shifting the *IS* curve up and to the right and the *AD* curve up and to the right, with the same result as in problem part (a).

3. A lag in the impact of policy of six months, which is about the time it takes firms to adjust prices, could cause policy to be destabilizing. That is, monetary policy may be pushing the economy away from equilibrium.

To see this, suppose the economy is in a recession at point *A* in Figure 11.21. The short-run aggregate supply curve $SRAS^1$ intersects the aggregate demand curve AD^1 at point *A*, to the left of the long-run aggregate supply curve $LRAS$. Suppose the Fed engages in expansionary monetary policy to try to shift the aggregate demand curve from AD^1 to AD^2 in six months, to push the economy to point *B*. But the recession leads firms to reduce their prices, dropping the $SRAS$ curve from $SRAS^1$ to $SRAS^2$. In the absence of monetary policy action, the economy would get back to full employment because of the fall in the price level to point *C*. But the Fed action leads to a new equilibrium at point *D*. So the Fed causes the economy to overshoot the equilibrium point. The result may be to exaggerate the business cycle, pushing output too high in expansions. Then if the Fed responds to an expansion by using contractionary monetary policy, it may overshoot on the other side, causing a new recession.

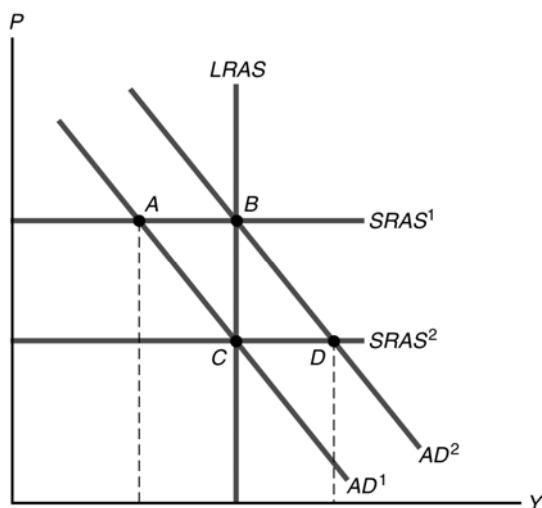


Figure 11.21

Analytical Problems Chapter 12

1. (a) The reduction in structural unemployment would reduce the natural rate of unemployment and thus would shift both the expectations-augmented Phillips curve and the long-run Phillips curve to the left.
 - (b) Despite the expense of the government program to reduce structural unemployment, it would have a permanent effect. Monetary expansion can work only temporarily—in the long run it has no effect.
2. The slope of the short-run aggregate supply curve will be much steeper in economy B, because producers increase their output only a small amount in response to an increase in price. But economy A's short-run aggregate supply curve will be flatter, as people are likely to perceive price changes as changes in relative price rather than the aggregate price level, and thus will respond more strongly to changes in prices.

The short-run Phillips curve will also be steeper in economy B, since unemployment, like output, won't respond much to a change in inflation. But in economy A, unemployment and output will respond more strongly to price changes, and the short-run Phillips curve will be flatter.

3. (a) In Figure 12.7, the *SRAS* curve shifts up 10% each year, as does the *AD* curve. Unanticipated inflation is zero, as both actual and expected inflation are 10%. The economy is at full employment, since firms set their prices to exactly match the increase in the general price level.

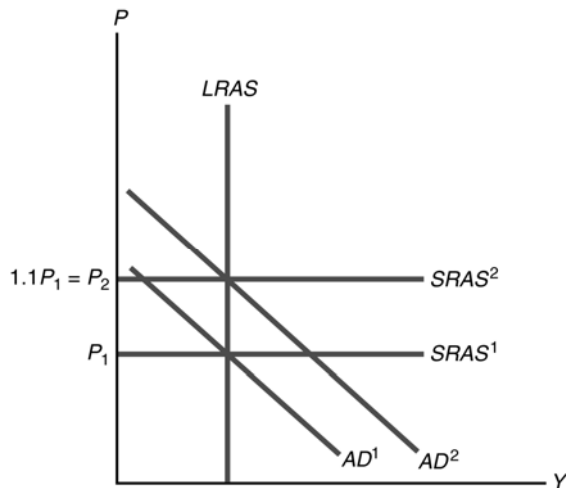


Figure 12.7

- (b) The surprise increase in the money supply at mid-year leads to a rise in output, as shown in Figure 12.8 by the shift of the *AD* curve from AD^1 to AD^2 . Firms don't adjust their prices, so the *SRAS* curve remains fixed at $SRAS^1$. When the money supply rises by its regular 10% at the end of the year, the *AD* curve shifts up to AD^3 and firms raise their prices by 15%, shifting the *SRAS* curve up to $SRAS^3$. Actual inflation is 15%, but expected inflation was only 10%. As a result, there was a temporary increase in output above its full-employment level, and a temporary decline in unemployment below the natural rate. Thus for the year as a whole, cyclical unemployment was negative and unanticipated inflation was positive, just as in the expectations-augmented Phillips curve.

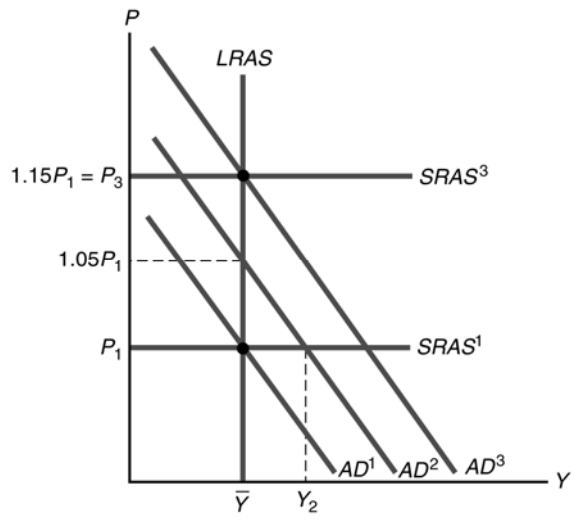


Figure 12.8