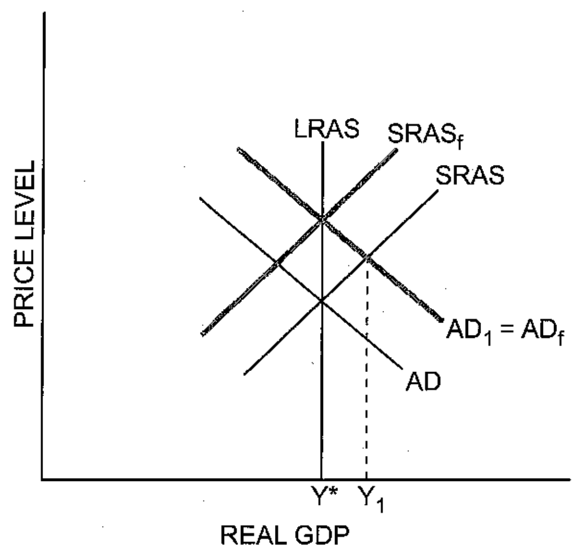
The Macroeconomic Model: Short Run to Long Run

Part A

1. In the following graph, suppose the aggregate demand shifts from AD to AD_1. How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.

Figure 28.1
Increase in Aggregate Demand Starting at Full Employment



(A) What will happen to output in the short run? Explain. ***Output initially increases to Y_1 in response to the increase in aggregate demand.***

(B) What will happen to output as the economy moves to the long-run equilibrium? Explain. ***Over time, labor realizes that the real wage has decreased and demands a higher nominal wage. The increase in the nominal wage causes the short-run aggregate supply curve to decrease, and output returns to Y*.***

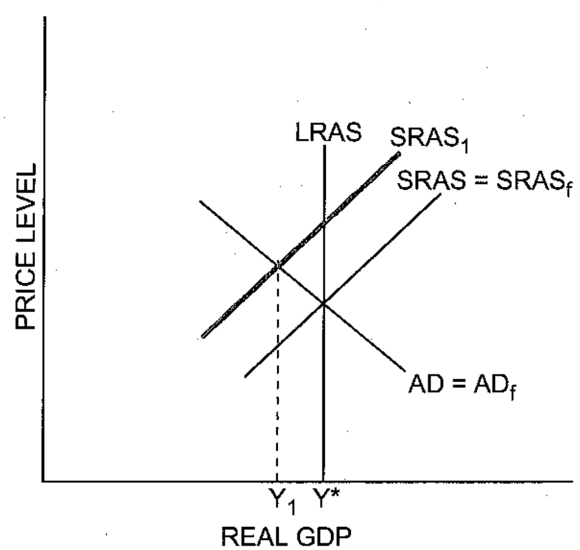
(C) What will happen to the price level? Explain. ***The price level increases initially because firms are paying overtime and are using less-productive resources to produce beyond full-employment output. The price level will continue to rise to cover increased labor costs.***

(D) What will happen to wages? Explain. ***With the increase in AD, the price level rises and the real wage decreases. Once labor realizes that the real wage has decreased, it demands higher nominal wages, forcing the real wage to return to the original level. In response to the increase in nominal wages, firms increase price and the SRAS shifts leftward.***

(E) In the graph, draw the shifts in AD and SRAS that you think will occur. Indicate the final aggregate demand and short-run aggregate supply curves by labeling them as AD_f and $SRAS_f$. ***There are many shifts in the short-run aggregate supply curve between the original and*** $SRAS_f$ ***depending on how long it takes the economy to adjust. The economy will return to full employment.***

2. In the following graph, suppose the aggregate supply shifts from SRAS to $SRAS_1$. How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.

Figure 28.2
Change in Short-Run Aggregate Supply



(A) What will happen to output in the short run? Explain. ***Output will decrease to*** Y_1 ***because of the decrease in short-run aggregate supply.***

(B) What will happen to output as the economy moves to the long-run equilibrium? Explain. ***Output will increase back to Y* because the level of unemployment has driven the nominal wage down, and the short-run aggregate supply curve will shift back to the original SRAS.***

(C) What will happen to the price level? Explain. ***The price level initially increases because of the forces that caused the aggregate supply curve to shift to the left. Then the price level will fall as nominal wages decrease.***

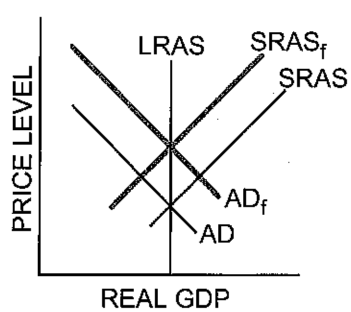
(D) What will happen to wages? Explain. ***Initially, nominal wages do not change and real wages decrease. But as the level of unemployment eventually increases, nominal wages will decrease.***

(E) In the graph, draw the shifts in AD and SRAS that you think will occur. Indicate the final aggregate demand and short-run aggregate supply curves by labeling them as AD_f and $SRAS_f$. ***There are many shifts in the short-run aggregate supply curve between the original and $SRAS_f$ depending on how long it takes the economy to adjust. The economy will return to full employment.***

Part B

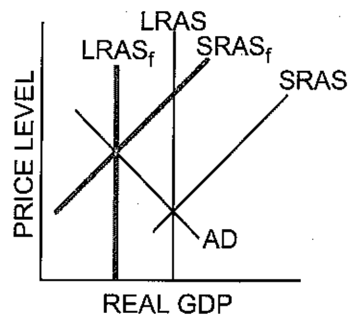
Read the description of each exogenous shock to aggregate supply and aggregate demand. Draw a new SRAS or AD curve that represents the change caused by the shock in the short run. Explain the reasons for the change in the graph, and then explain what happens in the long run if no stabilization policy is implemented. Identify the final AD curve as AD_f and the final SRAS curve as $SRAS_f$. If there is a change in LRAS, show the change and label the new curve $LRAS_f$.

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



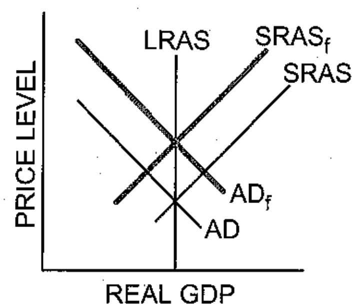
EXPLANATION: ***Higher government spending increases the AD in the short run. Over the medium run, nominal wages increase to maintain real wages, and the SRAS decreases. The final result is on the LRAS at $SRAS_f$ and AD_f.***

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



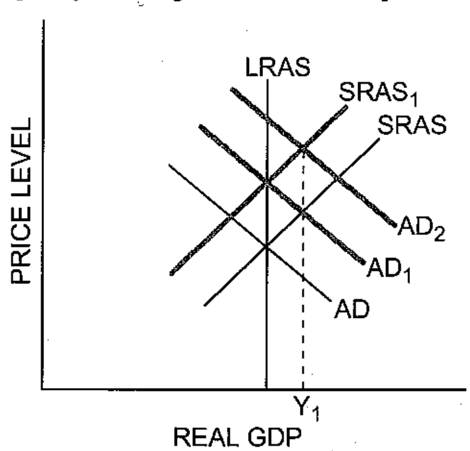
EXPLANATION: *Higher production costs decrease SRAS to SRAS$_f$. If the increase is permanent, the LRAS will also decrease to LRAS$_f$, if the capital stock can't be modified to use an alternative fuel.*

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



EXPLANATION: *Higher government spending increases the AD in the short run. Over the longer run, nominal wages increase to maintain real wages, and the SRAS decreases. The final result is on the LRAS at SRAS$_f$ and AD$_f$.*

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



If the government wants to move the economy to Y_1, a level of output above the natural level of output, then it must increase aggregate demand to AD_1. There will be a tendency for the SRAS to shift to the left as labor demands higher nominal wages. The SRAS will shift to $SRAS_1$. The expansionary policy has resulted in increases in the price level. If the government wants to maintain a level of Y_1, then it must continue to implement additional expansionary policy as shown in AD_2. There will continue to be a tendency for the SRAS to shift left; the government must continue to implement expansionary policy to keep the economy at Y_1. This is shown in the graph.