

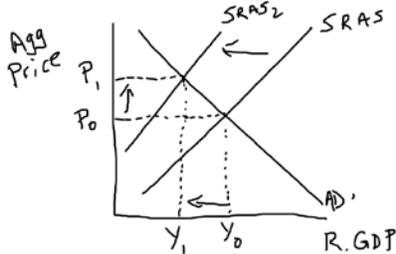
Equilibrium in AD-AS Model

Problem Set

1. Describe the short-run effects of each of the following shocks on the aggregate price level and on aggregate output. Illustrate using a properly-labeled graph.

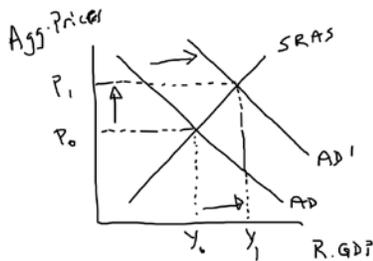
a. The government sharply increases the minimum wage, raising the wages of many workers.

An increase in the minimum wage raises the short-run aggregate supply curve to the left. As a result of this negative supply shock, the aggregate price level rises and aggregate output falls.



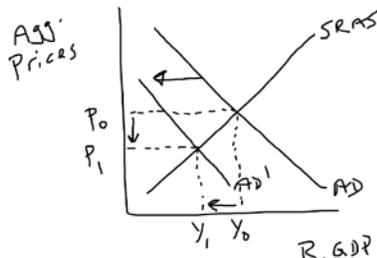
b. Solar energy firms launch a major program of investment spending.

Increased investment spending shifts the aggregate demand curve to the right. As a result of this positive demand shock, both the aggregate price level and aggregate output rise.



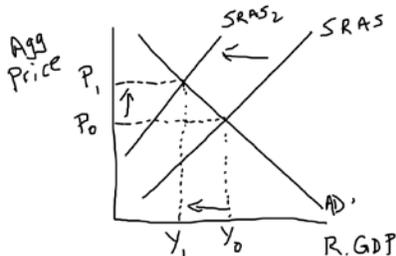
c. Congress raises taxes and cuts spending.

An increase in taxes and a reduction in government spending both result in negative demand shocks, shifting the aggregate demand curve to the left. As a result, both the aggregate price level and aggregate output fall.



d. Severe weather destroys crops around the world.

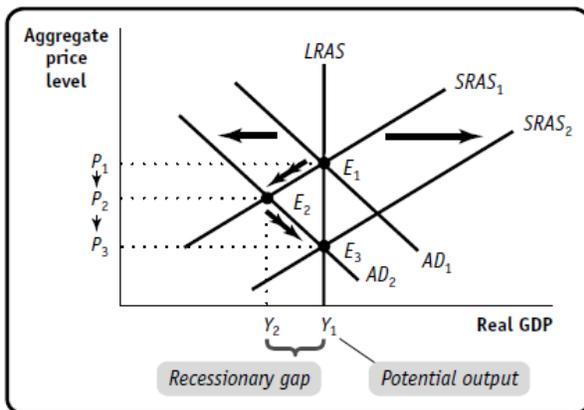
This is a negative supply shock, shifting the short-run aggregate supply curve to the left. As a result, the aggregate price level rises and aggregate output falls.



2. Using aggregate demand, short-run aggregate supply and long-run aggregate supply curves, explain the process by which each of the following economic events will move the economy from one long-run macroeconomic equilibrium to another. Illustrate with diagrams. In each case, what are the short-run and long-run effects on the aggregate price level and aggregate output?

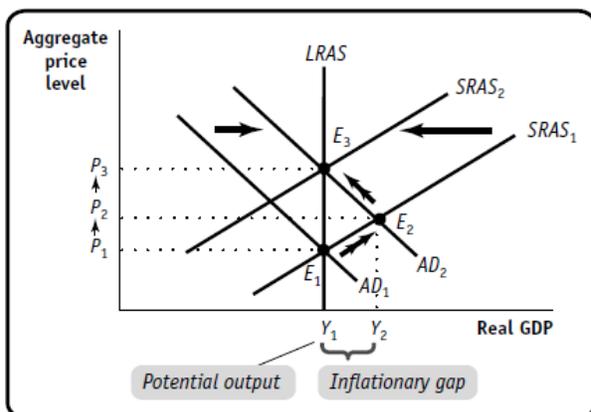
a. There is a decrease in households' wealth due to a decline in the stock market.

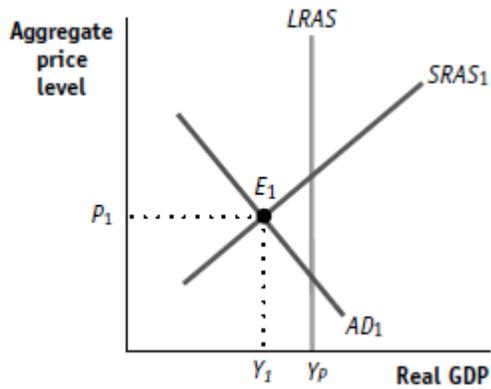
A decrease in households' wealth will reduce consumer spending. Beginning at long-run macroeconomic equilibrium, E_1 in the accompanying diagram, the aggregate demand curve will shift from AD_1 to AD_2 . In the short run, nominal wages are sticky, and the economy will be in short-run macroeconomic equilibrium at point E_2 . The aggregate price level will be lower than at E_1 , and aggregate output will be lower than potential output. The economy faces a recessionary gap. As wage contracts are renegotiated, nominal wages will fall and the short-run aggregate supply curve will shift gradually to the right over time until it reaches $SRAS_2$ and intersects AD_2 at point E_3 . At E_3 , the economy is back at its potential output but at a much lower aggregate price level.



b. The government lowers taxes, leaving households with more disposable income, with no corresponding reduction in government purchases.

An increase in disposable income will increase consumer spending; at any given aggregate price level, the aggregate demand curve will shift to the right. Beginning at long-run macroeconomic equilibrium, E_1 in the accompanying diagram, the aggregate demand curve will shift from AD_1 to AD_2 . In the short run, nominal wages are sticky, and the economy will be in short-run macroeconomic equilibrium at point E_2 . The aggregate price level is higher than at E_1 , and aggregate output will be higher than potential output. The economy faces an inflationary gap. As wage contracts are renegotiated, nominal wages will rise and the short-run aggregate supply curve will shift gradually to the left over time until it reaches $SRAS_2$ and intersects AD_2 at point E_3 . At E_3 , the economy is back at its potential output but at a much higher aggregate price level.





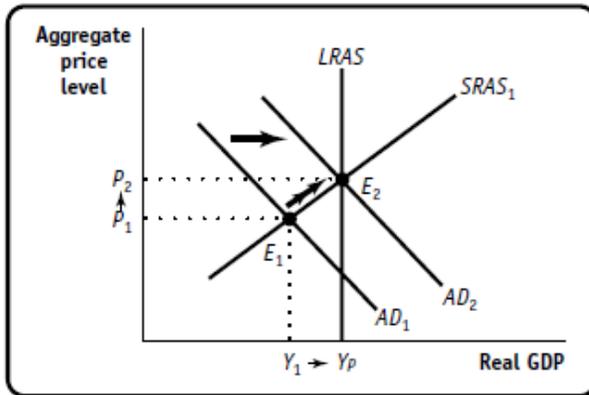
3. The economy is in short-run macroeconomic equilibrium at point E_1 in the accompanying diagram. Based on the diagram, answer the following questions.

a. Is the economy facing an inflationary or a recessionary gap?

The economy is facing a recessionary gap because Y_1 is less than the potential output of the economy, Y_p .

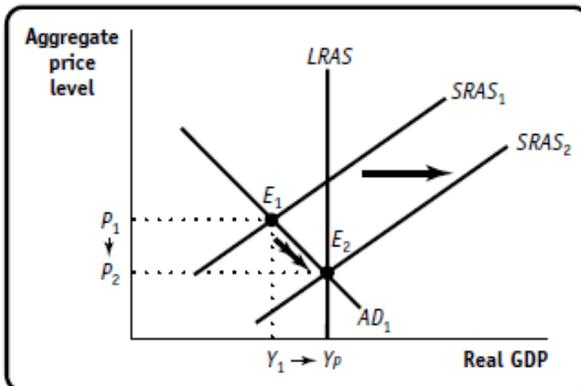
b. What policies can the government implement that might bring the economy back to long-run macroeconomic equilibrium? Illustrate with a diagram.

The government could use either fiscal policy (increases in government spending or reductions in taxes) or monetary policy (increases in the quantity of money in circulation to reduce the interest rate) to move the aggregate demand curve from AD_1 to AD_2 in the accompanying diagram. This will move the economy back to potential output, and the aggregate price level will rise from P_1 to P_2 .



c. [If the government did not intervene to close this gap, would the economy return to a long-run macroeconomic equilibrium? Explain and illustrate with a diagram.](#)

If the government did not intervene to close the recessionary gap, the economy would eventually self-correct and move back to potential output on its own. Due to unemployment, nominal wages will fall in the long run. The short-run aggregate supply curve will shift to the right, and eventually it will shift from $SRAS_1$ to $SRAS_2$ in the accompanying diagram. The economy will be back at potential output but at a lower aggregate price level.



d. What are the advantages and disadvantages of the government implementing policies to close the gap?

If the government implements fiscal or monetary policies to move the economy back to long-run macroeconomic equilibrium, the recessionary gap might be eliminated faster than if the economy were left to adjust on its own. However, because policy makers aren't perfectly informed and policy effects can be unpredictable, policies to close the recessionary gap can lead to greater macroeconomic instability. Furthermore, if the government uses fiscal or monetary policies, the price level will be higher than it will be if the economy is left to return to long-run macroeconomic equilibrium by itself.