1. (Textbook, 7e, chapter 13, Q1)

In the sticky-price model, describe the aggregate supply curve in the following special cases. How do these cases compare to the short-run aggregate supply curve we discussed in Chapter 9?

a. No firms have flexible prices (s=1).

b. The desired price does not depend on aggregate output (\( \alpha = 0 \)).

2. (Textbook, 7e, chapter 13, Q2)

Suppose that an economy has the Phillips curve \( \pi = \pi_{-1} - 0.5(u - 0.06) \).

a. What is the natural rate of unemployment?

b. Graph the short-run and long-run relationships between inflation and unemployment.

c. How much cyclical unemployment is necessary to reduce inflation by 5 percentage points? Using Okun’s law, compute the sacrifice ratio.

d. Inflation is running at 10 percent. The Fed wants to reduce it to 5 percent. Give two scenarios that will achieve that goal.

3. (Textbook, 7e, chapter 13, Q4)

Suppose that the economy is initially at a long-run equilibrium. Then the Fed increases the money supply.

a. Assuming any resulting inflation to be unexpected, explain any changes in GDP, unemployment, and inflation that caused by the monetary expansion. Explain your conclusions using three diagrams: one for the IS-LM model, one for the AD-AD model and one for the Phillips curve.

b. Assuming instead that any resulting inflation is expected, redo question a.

4. (Textbook, 7e, chapter 13, Q6)
Suppose that an economy has the Phillips curve $\pi = \pi_{-1} - 0.5(u - u^n)$, and that the natural rate of unemployment is given by an average of the past two years’ unemployment: $u^n = 0.5(u_{-1} + (u_{-2})$.

a. Why might the natural rate of unemployment depend on recent unemployment (as is assumed in the preceding equation)?

b. Suppose that the Fed follows a policy to reduce permanently the inflation rate by 1 percentage point. What effect will that policy have on the unemployment rate over time?

c. What is the sacrifice ratio in this economy?

d. What do these equations imply about the short-run and long-run tradeoffs between inflation and unemployment?