SGPE Summer School
Macro Problem Set 5

Introduction to Economic Fluctuations
Mankiw, Chapter 9

5^{th}August 2013

Multiple Choice Questions

1. Which of the following statements about economic fluctuations is **false**:

   (a) real GDP in the US has generally increased over time, but it fluctuates around its average rate of growth.

   (b) economists sometimes call the fluctuations in output and employment the *business cycle*.

   (c) the fluctuations in output and employment are regular and predictable.

   (d) during the recession of 1982, real GDP fell and the unemployment rate rose.

2. A recession occurs whenever:

   (a) the Business Cycles Dating Committee declares a recession.

   (b) the unemployment rate increases.

   (c) real GDP falls for two successive quarters.

   (d) read GDP falls from one year to the next.

3. Which of the GDP components is most volatile over the business cycles?

   (a) consumption

   (b) investment

   (c) government spending

   (d) net exports.

4. Suppose the unemployment rate at the beginning of the year is 5 percent. Which of the following statements is **false**:

(a) if the unemployment rate is unchanged during the year, real GDP tends to rise by 3 percent

(b) if the average unemployment rate for the year rises to 7 percent, real GDP tends to fall by 1 percent in that year.

(c) if the average unemployment rate for the year falls to 3 percent, real GDP tends to rise by 7 percent in that year.

(d) if the average unemployment rate for the year stays at 5 percent, real GDP remains constant.

5. The **false** statement about the aggregate demand curve is:

(a) for a fixed money supply, the quantity equation yields a negative relationship between the price level P and output Y.

(b) the aggregate demand curve has a negative slope.

(c) when the central bank increases the money supply, the economy moves along a stationary aggregate demand curve, real output increases, and the price level decreases.

(d) the money supply is held constant as the economy moves along a stationary aggregate demand curve.

Problems

Question 1

(a) Totally differentiate the quantity equation and derive the slope of the aggregate demand curve.

(b) Why are aggregate output and price negatively related?

Question 2

(1) To what extent can a central bank mitigate the effects of a demand shock, such as the introduction of ATMs? Illustrate your answer graphically.

(2) How does your answer differ for a supply shock? Explain the central bank's options in the face of an adverse supply shock, such as a rise in the price of oil. Can full employment and a stable price level be maintained?

Question 3

Suppose the central bank reduces the money supply by 10 percent.

(a) How does this affect the aggregate demand curve?

(b) What happens to the level of output and the price level in the short run and in the long run?

(c) According to Okun's law, what happens to unemployment in the short run and in the long run?

(d) What happens to the real interest rate in the short run and in the long run? (Hint: Use the model of the real interest rate in Chapter 3 to see what happens when output changes.)