

EC2102 Macroeconomic Analysis I
Tutorial 7, Week 10, March 22-26, 2010

Question 1:

Consider the following data, which are observations on x and y over several time periods:

Period	x	y
1	100	500
2	200	500
3	200	1000
4	100	1000
5	50	500
6	50	250
7	100	250

(a) Construct a scatter plot of y against x . Are y and x positively correlated, negatively correlated, or uncorrelated? Explain your answer.

(b) Now construct a time series of y and x . Is y a lagging, leading, or coincident variable with respect to x ? Explain your answer.

(c) Do x and y exhibit persistence? Explain your answer assuming that the data are yearly data.

Question 2:

From figure 3.2 (Williamson, page 69), determine how many booms and recessions occurred from 1947-1976, and from 1977-2006, and calculate the average strength of booms and the average severity of recessions from 1947-1976, and from 1977-2006. To do this, count as peaks and troughs only those deviations from trend that exceed $\pm 2\%$. As a measure of the strength of a boom or the severity of a recession, use the percentage deviation from trend of real GDP at the peak or trough, respectively.

(a) When were booms more frequent, from 1947-1976, or from 1977-2006?

(b) When were recessions more frequent, from 1947-1976, or from 1977-2006?

(c) When were booms stronger, from 1947-1976, or from 1977-2006?

(d) When were recessions more severe, from 1947-1976, or from 1977-2006?

Question 3:

In the monetary intertemporal model, suppose that the money supply is fixed for all time.

(a) Determine the effects of a temporary increase in the quantity of government purchases today on current real output, real employment, the real wage, the real interest rate, and the price level. Explain your results carefully.

(b) Now suppose that the increase in government spending is permanent, starting from today. Determine the effects of this on current real output, real employment, the real wage, the real interest rate, and the price level. Explain your results carefully.

(These questions are modified from Williamson's textbook: problem 1, pages 90-91; problem 2, page 91; and problem 3, page 401.)