

EC2102 Macroeconomic Analysis I
Tutorial 10, Week 13, April 12-16, 2010

Question 1:

(This question is Question 1 of EC2102 Final Exam, AY2007/2008, Semester 2)

Consider an economy with an infinitely-lived representative consumer, an infinitely-lived representative firm, and a government. The representative consumer has h units of time each period, values consumption and leisure, and has a per period utility function of $u(C_t, l_t)$, $t = 1, 2, \dots$; he has a discount factor of β . The representative firm is entirely owned by the representative consumer, and it has a production technology of $Y_t = z_t F(K_t, N_t)$, $t = 1, 2, \dots$, where z_t , K_t , and N_t are period t 's productivity (*TFP*), capital stock and employment respectively. Let w_t and r_t be the real wage rate and real interest rate in time period t respectively. The government spends and taxes G_t and T_t in time period t respectively.

(i) Write down the representative consumer's maximization problem in time period 1, and write down the First Order Conditions to his maximization problem.

(ii) Write down the representative firm's maximization problem in time period 1, and write down the First Order Conditions to its maximization problem.

(iii) Define a competitive equilibrium for this economy.

Question 2:

(This question is adapted from your textbook: question 6, p. 483.)

Suppose that the nominal interest rate could be zero in the Keynesian sticky wage model.

(i) Derive today's liquidity money, the LM_1 , curve, paying particular attention to that part of the LM_1 curve when nominal interest rate is zero.

(ii) If the central bank tries to increase current money supply when the current nominal interest rate is zero, what are the equilibrium effects of this today? Explain carefully using graphs.

(iii) Recently, nominal interest rates have been at, or close to, zero in Japan. What implications does this have for the Japanese monetary policy.

Question 3:

Use the central bank learning story to explain why a central bank allows inflation to be high before taming inflation subsequently. (NOTE: You can start your analysis by assuming that the economy is at point A of "Figure 17.14" of the lecture/textbook where the indifference curve that passes through point A is steeper than the Phillips curve.)