Macroeconomics Analysis II, EC3102

Tutorial 5

<u>Question 1.</u> *The hazards of fixed exchange rates.*

In this question, you will use the fiscal theory of exchange rates to analyze the collapse of Argentina's fixed exchange rate in early 2002. The model is just as we have studied in class – in particular, consumption is constant at $\bar{c}$ in every period, real money demand is described by the function, $\frac{M_t}{P_t} = \phi(\bar{c}, i_t)$, PPP holds, and the foreign price level is equal to one in every period (i.e., $P_t^{\star} = 1$ in every period t). Argentina runs a fiscal deficit of $DEF = 5.5$ every period, and there is no political will to ever reduce this deficit. The real money demand function is given by $\phi(\bar{c}, i_t) = \bar{c} - 10 \cdot i_t$, with $\bar{c} = 11$, and the exchange rate that Argentina is pegging (for as long as it can) is $E = 1$ peso per U.S. dollar. Finally, the foreign real interest rate is $r^* = 0.10$, the government starts period 1 with foreign reserves of $B_0^G = 22$, and foreign reserves can never go below zero.

a. As long as the fixed exchange rate is in place and is expected to remain in place, what is the numerical value of Argentina's nominal interest rate? Briefly justify your answer.

b. As long as the fixed exchange rate is in place and is expected to remain in place, what is the numerical value of seignorage revenue for Argentina? Briefly justify your answer.

c. As long as the fixed exchange rate is in place and is expected to remain in place, what is the numerical value of Argentina's BOP surplus or BOP deficit? Briefly justify your answer.

d. If Argentine residents for some reason never expect a devaluation of the peso, how many periods will the fixed exchange rate last? Briefly justify your answer.

e. If Argentine residents expect a 50 percent devaluation of the peso (that is, in terms of our notation from class $\mu = 0.50$) **in the very next period**, what is the numerical value of the nominal interest rate in Argentina **in the current period**? Briefly justify your answer, and provide economic intuition for what you find.

f. If Argentine residents do eventually come to expect a devaluation of the peso of 50 percent (as in part e), how many periods will the fixed exchange rate last? Carefully justify your answer, and also discuss the economic reason why there is (or is not) any difference between what you find here and what you found in part d.