Financial Integration and Crises

April 26th, 2023

Instructions: no calculators are allowed

Short Questions: Answer 2 out of 4
Long Questions: Answer 1 out of 1

You have 1 hour and 30 minutes to complete the exam. The maximum number of points is 50.

Short questions (12 marks for each question)

1 What are the differences and similarities between first and second generations approaches to currency crises?

2 Explain the channels through which a depreciation of the US dollar exchange rate is beneficial from the external sustainability perspective of the United States

3 In the intertemporal approach to the current account, the current account is procyclical. So, following a positive productivity shock, the economy runs a current account surplus. Discuss the previous claim.

4 To keep external debt to GDP constant it is necessary to run trade surpluses until if interest rates on debt is lower than the growth rate of the economy. Discuss the previous claim.

Long Question (26 points total)

INTERTEMPORAL MODEL

Consider a small open endowment economy, which consumes a single tradable good and lasts two periods 1 and 2. The representative consumer maximises $U = u(C_1) + \beta u(C_2)$ where C_1 and C_2 are the consumption level in periods 1 and 2 respectively, and β is the subjective discount factor. The endowments of periods 1 and 2 are Y_1 and Y_2 respectively, and $u(C_i) = \ln C_i$, where i denotes the index that refers to periods 1 and 2. The real interest rate for borrowing or lending in the world capital market is r.

a The country can borrow and lend at the world interest rate r. Write down the intertemporal budget constraint and the maximisation problem of the representative consumer. Derive the Euler equation. (2 marks)

b Let B_{t+1} be the value of the economy's net foreign assets at the end of period t. Assume that the economy starts off with zero foreign assets ($B_1 = 0$). Define the current account. What is the current account in period 1 (call it CA_1)? What is the current account in period 2 (call it CA_2)? Show that $CA_1 = -CA_2$. (2 marks)

c From now on assume that $Y_1 = \bar{Y}$ and $Y_2 = 2\bar{Y}$. Derive the consumption levels C_1 and C_2 as a function of r, β and $\bar{Y}$. (2 marks)

d Consider now a two-country world. Foreign consumer maximises $U = u(C_1^*) + \beta u(C_2^*)$ where C_1^* and C_2^* are the foreign consumption levels in periods 1 and 2 respectively, and β is the subjective discount factor. The endowments of periods 1 and 2 are $Y_1^* = 2\bar{Y}$ and $Y_2^* = \bar{Y}$ respectively, and $u(C_i^*) = \ln C_i^*$. Derive the consumption levels C_1^* and C_2^* as a function of r, β and $\bar{Y}$. (3 marks)

e Define and compute the autarky interest rates for the Home and Foreign economy. Compute the equilibrium world interest rate and determine which country is running a current account surplus in the first period. (4 marks)

f Suppose now that the Foreign government consumes $G_1^* = \bar{Y}$ in the first period and taxes domestic residents by an amount T. The government runs a balanced budget every period ($G_t = T_t$). Compute the equilibrium value for the world interest rate. (5 marks)

g For which level of G_1^* the Foreign country runs a current account deficit? (4 marks)

h. How would your answers change if the Home economy is subject to a borrowing constraint as $B_2 \geq -1/2(\beta Y/(1+\beta))$. (4 points)