

Problem Set #4: Due end of class November 6, 2018

You may discuss this problem set with your classmates, but everything you turn in must be your own work.

1. Suppose that Home is initially at an equilibrium when it is hit by a consumer confidence crisis (the $C(\cdot)$ function shifts down). Use the IS-LM-FX model to answer the following questions. Assume that home has a floating exchange rate. Use diagrams to support your answer.
 - (a) Show how the consumption shock affects the interest rate, the exchange rate, and output.
 - (b) Explain how the consumption shock affects the country's trade balance.

2. Suppose that Home is initially at an equilibrium when the Foreign country increases its interest rate. Use the IS-LM-FX model to answer the following questions. Assume that home has a floating exchange rate. Use diagrams to support your answer.
 - (a) Show how the change in i^* affects the interest rate, the exchange rate, and output.
 - (b) Explain how the change in i^* affects the country's trade balance.

3. Suppose that the home country has a fixed exchange rate. The economy is initially in an equilibrium in which the exchange rate is at its desired level. Suppose the foreign country raises its interest rate. Use the IS-LM-FX model and use diagrams to support your answer.
 - (a) How should the home central bank respond to the change in i^* ?
 - (b) How does the interest rate, the exchange rate, and output change?
 - (c) Explain how the trade balance changes.

4. Consider a country with no initial wealth that exists for two periods. The country can produce 100 units of output in the first period and 120 units of output in the second period. The country can borrow or lend on world markets at a world real interest rate of 5 percent. The household has the utility function $u = \min\{c_0, c_1\}$.
 - (a) Solve for the level of gross national expenditure in both periods.
 - (b) What is the current account balance (and all of its components), and what is the financial account balance in each of the two periods?

5. Germany has the production function $q_G = 30k_G^{1/3}$, where q is output per worker and k is capital per worker. Brazil has the production function $q_B = 15k_B^{1/3}$.
 - (a) If $k_G = 1000$ and $k_B = 900$, which country has a higher output per capita?
 - (b) Would you expect to see Germany investing in Brazil or Brazil investing in Germany? Explain your answer.
 - (c) Suppose Germany country imposed a tax on foreign interest payments of 5 percent. Would this change your answer to part (b)? Explain your answer.