

Course in Macroeconomics and Global Economics
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Practice 4*

Exercise 1

Consider an economy in which the real exchange rate is fixed and equal to one. The economy is described by the following equations:

$$C = 10 + 0.8(Y - T)$$

$$I = 10$$

$$G = 10$$

$$T = 10$$

$$IM = 0.3Y$$

$$X = 0.3Y^*$$

where Y^* denotes foreign output.

1. Solve for domestic output, Y , given Y^* . What is the multiplier in this economy? If we were in closed economy - so exports and imports were identically equal to zero - what would the multiplier be? Why would the multiplier be different in a closed economy?
2. Assume that the foreign economy is characterized by the same equations as the domestic economy (with asterisks reversed). Use the two sets of equations to solve for the equilibrium output in each country.
3. Assume that the domestic government has a target level of output of 125. Assuming that the foreign government does not change G^* , what is the increase in G necessary to achieve the target output in the domestic economy?
4. Using the results obtained in point 3), solve for net exports and the budget deficit in each country. How are they related?

Exercise 2

Assume a world with only two countries: A and B. Their interest rates are 12% and 8% respectively. How would an investor choose between holding A and B bonds? Determine the expected change in the exchange rate.

Exercise 3

Consider a world with two countries: Duckburg and Mouseton. Bonds issued by both countries have the same characteristics in terms of maturity and risk but the return from Duckburg's bonds is 8% while that from Mouseton's bonds is 4%. What should be the expected change in the exchange rate for an investor to be indifferent between the two bonds?

Motivate your answer.

Exercise 4

Assume there are two countries Italy and England that trade only with each other. Assume also that in Italy the expenditure in domestic goods is equal to residents' expenditure.

1. Provide the equations for the domestic demand for goods and the total demand for domestic goods. Provide a graph to discuss the situation of England's trade balance.
2. Suppose England's trade balance is given by:

$$NX = -0.2Y_E + 0.4Y_I - 10\varepsilon$$

where

England's income: $Y_E = 2,250$

Italy's income: $Y_I = 1,150$

Real exchange rate: ε

England's price level: $P_E = 80$

Italy's price level: $P_I = 100$

Which is the nominal exchange rate E which ensures that trade is balanced ($NX = 0$)?

Exercise 5

Consider an economy characterized by the following equations:

$$C = 100 + 0.8(1 - 0.25)Y$$

$$I = 340$$

$$IM = 110 + 0.3Y$$

$$G = 120$$

$$X = 250$$

$$\varepsilon = 1$$

1. Find the equilibrium level of output.
2. Compute the current account level corresponding to the equilibrium level of output you found in 1. Provide a graphical representation for your results.

*We define the nominal exchange rate as the price of the domestic currency in terms of foreign currency. Given this definition of the exchange rate, an appreciation corresponds to an increase in the exchange rate.