OPEN ECONOMY MACROECONOMICS

EXERCISES

You may want to work through the exercises below, as well as those at the end of chapters 18, 19, and 20 of the textbook.

1.

a. A country's degree of openness is 90%. What does this mean?
b. Define the nominal bilateral exchange rate and the nominal effective exchange rate (E)
c. What are the factors which influence the behavior of the exchange rate E?
d. Define the real effective exchange rate, ε.
e. *If domestic inflation is higher than foreign inflation, the real exchange rate will appreciate, even if the nominal exchange rate is constant*. Do you agree or disagree? Motivate your answer.
f. Assume that the real exchange rate ε depreciates: what will be the effect on exports, imports, and the trade balance (net exports)?

2.

a. Derive the macroeconomic identity for an open economy which relates national income, national expenditure and the current account balance. What does the identity imply?
b. Explain why a negative current account balance signals that a country needs foreign borrowing.
c. *If financial markets are not open (i.e. international buying and selling of financial assets is not allowed) the current account balance should be zero*. Do you agree or disagree? Motivate your answer.
d. Is a negative current account balance a bad thing for an economy? How about a positive current account balance?

3.

a. Which factors affect a country's imports (M)? How about exports (X)? How about the trade balance (NX)?.
b. Consider the goods market model in an open economy. Suppose that a recession hits a country's trading partners, so that foreign demand (Y*) drops. Describe the effects of this shock on output (Y), Consumption (C), investment (I) and the trade balance (NX). Illustrate with appropriate graphs.
c. *A drop of domestic demand (like a reduction in G) or a drop of foreign demand (Y*) have the same effects both on the level of output (Y) and on the trade balance (NX)*. True, false or ambiguous? Explain your answer.

4.

A typical recipe proposed by the International Monetary Funds to developing countries is the following: devalue (depreciate) the exchange rate and cut public spending.
Under what set of macroeconomic circumstances would this recipe be appropriate, and why?

5.

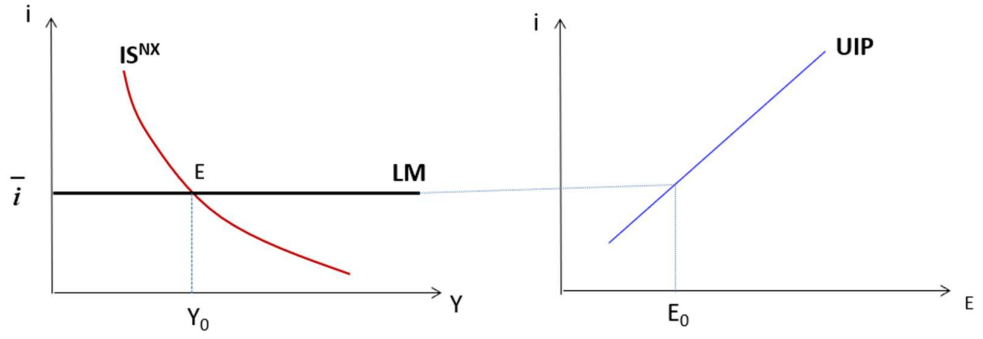
a. *The uncovered interest rate parity condition requires that nominal interest rates are the same in all countries*. True, false of ambiguous? Explain your answer.
b. If the interest rate is 3% in the US and 1,5% in Japan, then buying US bonds is more profitable than buying Japanise bond. True, false of ambiguous? Explain your answer.
c. Assume that the markets expect a future appreciation of the exchange rate. What will happen to the current value of the exchange rate, and why?
d. *If the foreign interest rate (i*) increases, the current exchange rate appreciates.* True, false of ambiguous? Explain your answer.
e. *An increase of the domestic interest rate (holding constant other factors), will tend to reduce exports, increase imports and worsen the trade balance*. True, false of ambiguous? Explain your answer.

6.

Consider the IS-LM model for an open economy (relevant equations below).
a. Starting from an equilibrium position like the one depicted in the graph below, analyze the effects on the exchange rate (E), the output level (Y), Consumption (C) Investment (I) and the trade balance (NX) of the following shocks:
- An increase in the foreign interest rate (i*)
- A reduction of foreign output (Y*).
- An increase in the future expected exchange rate E^e_{t+1}

b. In each of the above cases, how would you use economic policy tools in order to avoid changes in real output?

$$Y = C(Y - \overline{T}^N) + I(Y, \bar{i}) + \overline{G} + NX(Y^*, Y, E)$$
$$i = \bar{i}$$
$$E_t = \frac{1+i}{1+i^*} E^e_{t+1}$$



7.

An economy operates under floating exchange rates and perfect capital mobility. Foreign output (Y*) and the foreign interest rate (i*) increase simultaneously.

a. What will be the effects on the level of domestic output and on the exchange rate if the central bank keeps the policy rate unchanged?

b. What will be the effects on the level of domestic output and the exchange rate if the central bank responds by increasing the domestic interest rate by the same amount as the international rate?

c. What actions should the central bank take to ensure that the level of domestic output remains unchanged?

8.

Consider an open economy under a flexible exchange rate regime. The level of output is at full employment, but there is a large trade deficit. The objective of economic policy is to reduce the trade deficit without changing the level of output. What mix of fiscal and monetary policy is most appropriate? Explain.

9.

Consider an economy operating under a fixed but adjustable exchange rate regime (soft peg).

a. How should the central bank respond if the foreign interest rate (i*) increases? What are the effects on the domestic interest rate (i) and domestic output (Y)? What are the effects on Consumption (C), Investment (I) and the trade balance (NX)? What are the differences compared to a flexible exchange rate regime?
b. What are the effects of a reduction in foreign output (Y*) on the level of Y and on C, I, and NX? What are the differences compared to a flexible exchange rate regime?
c. Under a fixed but adjustable exchange rate regime, is it possible to avoid the negative effects of international financial or real shocks using monetary policy?
d. What policy tools are available in this case, and how can they be used to counteract shocks such as those described in points a. and b.?