NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF SOCIAL SCIENCES
SEMESTER 1 AY23-24

HE1002 MACROECONOMICS I

PROBLEM SET 11

Question 1

Between last year and this year, the CPI in Blueland rose from 100 to 120 and the CPI in Redland rose from 100 to 115. Blueland's currency unit, the blue, was worth 80 U.S. cents (i.e. 1 blue can be exchanged for US$0.80) last year and is worth 60 U.S. cents (i.e. 1 blue can be exchanged for US$0.60) this year. Redland's currency unit, the red, was worth 20 U.S. cents last year and is worth 15 U.S. cents this year.

Find the percentage change from last year to this year in Blueland's nominal exchange rate with Redland and in Blueland's real exchange rate with Redland. (Treat Blueland as the home country.) Relative to Redland, do you expect Blueland's exports to be helped or hurt by these changes in exchange rates?

Question 2

(a) Gold is $350 per ounce in the United States and 2,800 pesos per ounce in Mexico. What nominal exchange rate between U.S. dollars and Mexican pesos is implied by the PPP theory?

(b) Mexico experiences inflation so that the price of gold rises to 4,200 pesos per ounce. Gold remains $350 per ounce in the United States. According to the PPP theory, what happens to the exchange rate? What general principle does this example illustrate?

(c) Gold is $350 per ounce in the United States and 4,200 pesos per ounce in Mexico. Crude oil (excluding taxes and transportation costs) is $30 per barrel in the United States. According to the PPP theory, what should a barrel of crude oil cost in Mexico?

(d) Gold is $350 per ounce in the United States. The exchange rate between the United States and Canada is 0.70 U.S. dollars per Canadian dollar. How much does an ounce of gold cost in Canada?

Question 3
How would each of the following be likely to affect the value of the dollar, all else being equal? Explain.

(a) U.S. stocks are perceived as having become much riskier financial investments.

(b) European computer firms switch from U.S.-produced software to software produced in India, Israel, and other nations.

(c) As East Asian economies recover, international financial investors become aware of many new, high-return investment opportunities in the region.

Question 4
Consider an Apple iPod that costs $240.

(a) If the euro-dollar exchange rate is 1 euro per dollar, so that it costs a European 1 euro to buy a dollar, how much will the iPod cost in France?

(b) If the euro-dollar exchange rate falls to 0.8 euros per dollar, how much will the iPod cost in France?

(c) Consequently, what will happen to French purchases of iPods and the amount of dollars demanded in the foreign exchange market as the euro-dollar exchange rate falls?

Question 5
If the government follows an easy monetary policy and the exchange rate is flexible, which of the following will likely be the result?

(a) A falling real interest rate but higher net exports.

(b) A higher real interest rate but lower net exports.

(c) A strong currency that helps stimulate exports.

(d) Increases in the demand for the currency and decreases in the supply of the currency.

Question 6

The demand for and supply of shekels in the foreign exchange market are

Demand = 30,000 - 8,000*e*,

Supply = 25,000 + 12,000*e*,

where the nominal exchange rate is expressed as U.S. dollars per shekel.

(a) What is the fundamental value of the shekel?

(a) The shekel is fixed at 0.30 U.S. dollars. Is the shekel overvalued, undervalued, or neither? Find the balance-of-payments deficit or surplus in both shekels and dollars. What happens to the country's international reserves over time?

(b) Repeat part (b) for the case in which the shekel is fixed at 0.20 U.S. dollars.

Question 7

The demand for and supply of shekels in the foreign exchange market are

Demand = 30,000 - 8,000*e*,

Supply = 25,000 + 12,000*e*,

where the nominal exchange rate is expressed as U.S. dollars per shekel.

The shekel is fixed at 0.30 dollars per shekel. The country's international reserves are $600. Foreign financial investors hold checking accounts in the country in the amount of 5,000 shekels.

(a) Suppose that foreign financial investors do not fear a devaluation of the shekel and, thus, do not convert their shekel checking accounts into dollars. Can the shekel be maintained at its fixed value of 0.30 U.S. dollars for the next year?

(b) Now suppose that foreign financial investors come to expect a possible devaluation of the shekel to 0.25 U.S. dollars. Why should this possibility worry them?

(c) In response to their concern about devaluation, foreign financial investors withdraw all funds from their checking accounts and attempt to convert those shekels into dollars. What happens?

(d) Discuss why the foreign investors' forecast of devaluation can be considered a "self-fulfilling prophecy."