

UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4330 – International Macroeconomics**

Date of exam: Monday, May 23, 2011

Grades are given: Friday, June 10, 2011

Time for exam: 2:30 p.m. – 5:30 p.m

The problem set covers 3 pages (incl. cover sheet)

Resources allowed:

- No resources allowed

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

Question A has weight 30 percent, question B 20 per cent and question C 50 per cent. In questions A and B you are not required to write down formal models or carry out formal derivations.

A

Consider a hypothetical world that exists for two periods. There are two countries, A and B. Both produce the same commodity. They have given endowments of labor in each period and given initial endowments of real capital. Individuals are free to borrow and lend internationally. There is no default risk.

1. Discuss briefly how the current account surplus of a country in the first period depends on the world real interest rate. (Remember that no formal derivations are required).
2. Draw a graph that illustrates how the world real interest rate is determined in equilibrium. Explain!
3. Use the graph to discuss how the the world real interest rate depends on the size of country A's initial endowment of capital. What effect will a higher endowment have on country A's current account surplus in the first period.

B

After the earthquake and tsunami the Japanese yen appreciated sharply. Then on March 18 central banks from G7-countries (among them the European Central Bank, the US Federal Reserve and the Bank of Japan) intervened in the foreign exchange market by selling yen. According to one report market participants estimated that the central banks sold yen worth more than 25 billion United States Dollars. None of the central banks changed their interest rates.

1. Explain what is meant by a sterilized intervention and why the massive intervention on March 18 can be seen as a kind of sterilized intervention.
2. What are the conditions for an intervention like the one on March 18 to be effective in moving the exchange rate in the desired direction?

C

Consider the following model of an open economy with a floating exchange rate:

$$Y = C(Y, i - p_e) + I(i - p_e) + X(EP_*/P, Y, Y_*) \quad (1)$$

$$\frac{EF_p}{P} = f(i - i_* - e_e(E), W_p) \quad (2)$$

$$W_p = \frac{B_0 + EF_{p0}}{P} \quad (3)$$

$$F_p + F_g + F_{*0} = 0 \quad (4)$$

Equation (1) represents an IS-curve. Y is home country output, Y_* foreign output, P the price level of home goods, P_* the price of foreign goods, E the exchange rate, i the interest rate and p_e the expected rate of inflation. C , I and X are respectively the consumption function, the investment function and the trade balance function. Their properties are given as

$$0 < C'_1 < 1, \quad C'_2 < 0, \quad I'_1 < 0, \quad X'_1 > 0, \quad X'_2 < 0, \quad X'_3 > 0$$

Equation (2) is the private sector's demand for foreign currency, equation (3) defines private financial wealth, W_p , and equation (4) is the equilibrium condition for the foreign exchange market. F_p , F_g and F_{*0} are the net holdings of foreign currency assets of respectively the private, the government and the foreign sector. B is the net holding of domestic currency assets by the private sector. The subscript 0 refers to the initial, predetermined holdings of the assets. i_* is the foreign interest rate and e_e is a function which describes how the expected rate of depreciation depends on the the present level of the exchange rate. The properties of the demand function for foreign currency and the expectations function are given as

$$f'_1 < 0, \quad 0 < f'_2 < 1, \quad e'_e < 0$$

Initially the economy is in a state where output Y is equal to its long-run equilibrium value \bar{Y} . Expected inflation p_e is equal to zero (which you may also take to be the country's inflation target).

1. Suppose the rest of the world is hit by a negative demand shock. Foreign central banks try to counter the shock by reducing their interest rates to zero, but this is not sufficient to prevent a reduction in Y_* . Discuss the impact the events abroad will have on a) the exchange rate, b) the level of output and c) the trade surplus. Assume that domestic fiscal and monetary policy is completely passive.
2. Suppose the central bank wants to to keep $Y = \bar{Y}$. Discuss briefly the possibility for reaching this target by lowering i .
3. Suppose that in order to keep Y as close to \bar{Y} as possible, the interest rate is reduced to zero. How does this change the effects of the events abroad on a) the exchange rate, b) the level of output and c) the trade surplus.
4. Policies that induce a depreciation of the domestic currency are sometimes called "beggar-thy-neighbor policies" because of the harm they are supposed to inflict on other countries. Comment on this in the light of your answers to the previous question. What is best for the rest of the world, a passive policy or that i is reduced to zero?