International Economics: A Policy Approach
Econ 340 Fall 2005

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HOMEWORK SOLUTIONS 6-8

HW 6: Answer question 1 on page 198 (Chapter 6). Answer questions 4 & 5 on page 199 (Chapter 6)

1. The merchandise trade balance is $106 – $119 = –$13 (deficit). The balance on goods services and income is $106 – $119 + $34 – $28 = –$7 (deficit). The current account is – $7 + $8 = 1 (surplus).

4. a. The euro depreciated 20 percent.
   b. U.S. inflation was 4.91 percent [113.3 – 108.0) / 108.0] and euro-area inflation was 3.32 percent [(108.8 – 105.3) / 105.3].
5. The real rate for 2003 was (0.90)(108.0 / 105.3) = 0.9231. The real rate for 2004 is (1.08)(113.3 / 108.8) = 1.1247. This represents a real depreciation of 21.84 percent [(1.1247 – 0.9231) / 0.9231].

HW 7:

In your own words, explain the concept of interest parity. What is the difference between covered and uncovered interest parity?

Covered interest parity uses the forward rate, uncovered interest parity uses the expected exchange rate.

Assume you are a U.S. importer buying goods from Britain. You need to deliver a payment of £15,000 in one year and you are wondering how many dollars you will need to make the payment and whether to keep the payment in $ until the payment date comes or to convert them to British pounds immediately.

You are given the following information:
U.S. short-term interest rate 2.06%
U.K. short-term interest rate 3.63%
Spot exchange rate 1.84$/£
Expected exchange rate in one year 1.775$/£
What would you do? Please show all your work.

Solution:

Remember to work backwards with this kind of problem:
Invest in the US:
$X * 1.0206 /1.775$/£ = £15,000
solving for X: X=26087.60$

Invest in Britain:
$X/ 1.84$/£ * 1.0363= £15,000
solving for X: X=26633.21$
You want to keep your money in the US.

HW8:

Question 1: Throughout much of the early 1990s, the Japanese economy was in a recession. During the recession, the yen appreciated against the dollar in foreign exchange markets.

(a) Illustrate the effect of the yen appreciation on the Japanese market for goods and services. Explain. How would the yen appreciation affect the Japanese current account? Why? (Hint: remember the model we discussed in class on the 20^{th}.)

(b) Illustrate the effect of the yen appreciation on the U.S. market for goods and services. Explain. How would the yen appreciation affect the U.S. current account? [You may ignore the effect of any change in GDP^J.]

After much U.S. pressure, the Japanese government announced a fiscal policy package of increased government purchases as a response to the continued recession. Suppose the package caused Japan to raise government purchases by 100. (Parts c-f ask for numerical solutions!)

(c) If the Japanese marginal propensity to consume equals 0.6 and the Japanese marginal propensity to import equals 0.1, what will happen to GDP^J as a result of the fiscal expansion? Show your work.

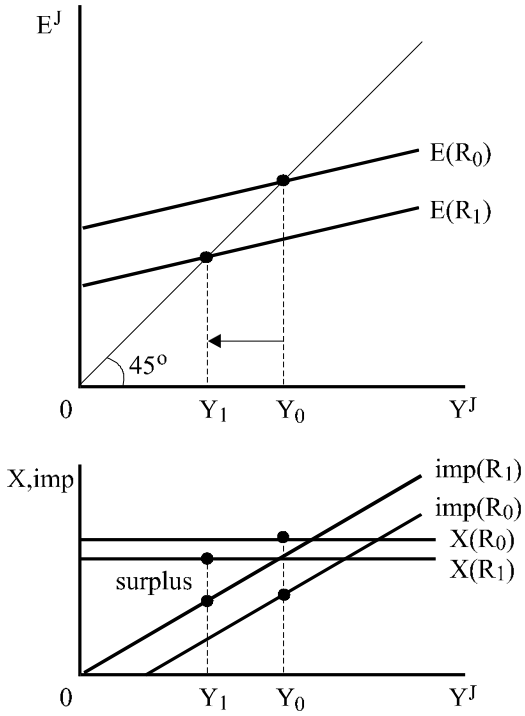
(d) Assume the United States and Japan are the only countries in the world. What will happen to U.S. exports as a result of the Japanese fiscal expansion? Show your work.

(e) Assume that the U.S. marginal propensity to consume equals 0.6 and the marginal propensity to import equals 0.1. What will happen to GDP^{US} as a result of the fiscal expansion? Show your work.

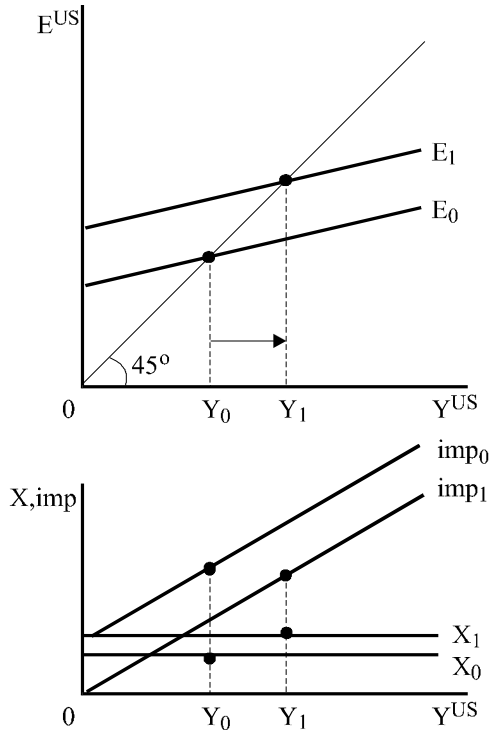
(f) What is the *net* effect on the U.S. current account, based on your answers to parts (d) and (e)?

Solution:

(a) When the yen appreciates, the relative price of Japanese-produced goods and services rises. This causes exports to fall and imports to rise. Total expenditure declines, as does GDP^J. The Japanese current account moves toward a deficit, as imports rise and exports decline.



(b) The yen appreciation implies a dollar depreciation, so the relative price of U.S. produced goods and services falls. U.S. exports rise, and imports fall. Total expenditure rises, as does GDP^{US}. The current account moves toward a surplus with the rise in exports and fall in imports.



(c) The Japanese spending multiplier equals $1/(1 - mpc^J + mpi^J) = 1/0.5 = 2$. Therefore, the expansionary fiscal policy will raise Japanese GDP by $2 \cdot \Delta G = 200$.

(d) Japanese imports rise by $mpi^J \cdot \Delta GDP^J = 0.1 \cdot 200 = 20$. With only two countries, Japanese imports equal U.S. exports, so U.S. exports rise by 20.

(e) The U.S. spending multiplier equals $1/(1 - mpc^{US} + mpi^{US}) = 1/0.5 = 2$. Therefore, the rise in U.S. exports will increase U.S. GDP by $2 \cdot \Delta X = 2 \cdot 20 = 40$.

(f) When U.S. GDP rises by 40, U.S. imports rise by $mpi^{US} \cdot 40 = 0.1 \cdot 40 = 4$. Therefore, U.S. exports rise by 20 and U.S. imports by 4, leaving a net move of 16 toward a surplus on the U.S. current account.

Question 2:

Data Assignment: Pick a developing country that starts with the same letter as your last name. Then answer the following questions.

1) What is your country's GDP for the year 2004? (measured in US $)
2) What is the name of your country's currency? What is the current exchange rate to the dollar?
3) What exchange rate regime is your country on (fixed or flexible)?
4) What is your country's interest differential with the US? (interest rate you country – interest rate US)
5) What can you infer about interest parity from the interest differential?