Department of Economics   Spring 2005
University of California, Berkeley   Economics 182

INTERNATIONAL MONETARY ECONOMICS
Problem Set I

Due *in class* on Thursday, February 17.
To be handed directly to your GSI.

1. Suppose that the U.S. *net* foreign debt (liabilities less assets) is equal to 25 percent of the country's GNP, and that foreign assets and liabilities alike pay an interest rate of 5 percent per year. What would be the drain on U.S. GNP (as a percentage) from paying interest on the net foreign debt? Do you think this is a large number? What if the net foreign debt were 100 percent of GNP? At what point do you think a country's government should become worried about the size of its foreign debt?

2. If you go to the BEA website (http://www.bea.gov) and look at the *Survey of Current Business* for July 2004, Table 1 on "U.S. International Transactions," you will find that in 2003, U.S. income receipts on its foreign assets were $291.3 billion (line 13), while its payments on liabilities to foreigners were $252.6 billion (line 30). Yet the U.S. is a substantial net debtor to foreigners -- its debts to them exceed its claims on them by around a quarter of U.S. GNP! How, then, is it possible that the U.S. received more foreign asset income than it paid out?

3. The one-year interest rate on Swiss francs is 5%, and the dollar interest rate is 8%.

   a. If the current $/sf spot rate is $0.60, what would you expect the spot rate to be in one year, assuming no risk premium?
   b. Suppose US policy changes and leads to an expected future spot rate of $0.63. What would you expect the dollar interest rate to be now? (Assume no change in the Swiss interest rate.)

4. Assume i, the nominal interest rate, is determined in the money market. If the money supply goes down permanently, explain what happens to E, E^e, i, and P first in the short run and then in the long run. Draw the 2-sided diagram depicting the foreign exchange market and the domestic money market (as on p. 368, Krugman-Obstfeld). Sketch the each of the paths of M, E, E^e, i, and P as a function of time.

5. (*thought question*)

   a. Suppose the Federal Reserve wants to fix the US exchange rate with the yen at 1/150 $ per yen. If the equilibrium market rate were significantly higher at 1/120 $ per yen, what would the Fed need to do to maintain the fixed rate of 1/150 $ per yen? What would be the effect of these actions on the money supply in the US? Explain.

b. Upon reading in the newspaper that the dollar exchange rate with the euro has depreciated 12% in the last month, after a 15% appreciation the previous month, one of your friends tells you, "I don't understand a thing about these currency fluctuations. Surely the market must be irrational. Nothing justifies such large movements up and down." What is your response?

6. Petroleum is sold in a world market and tends to be priced in U.S. dollars. The Nippon Steel Chemical Group of Japan must import petroleum to use in manufacturing plastics and other products. How are its profits affected when the yen depreciates against the dollar?

7. Multinational firms generally have production plants in a number of countries. This enables them to move production from expensive locations to cheaper ones in response to various economic developments -- a phenomenon called *outsourcing* when a domestically-based firm moves part of its production abroad. If the dollar depreciates, what would you expect to happen to outsourcing by American companies? Explain and provide an example.

8. Consider the following chart of dollar and yen interest rates:

Interest Rate on Dollar and Yen Deposits, 1978-2004
(Percent per Year)
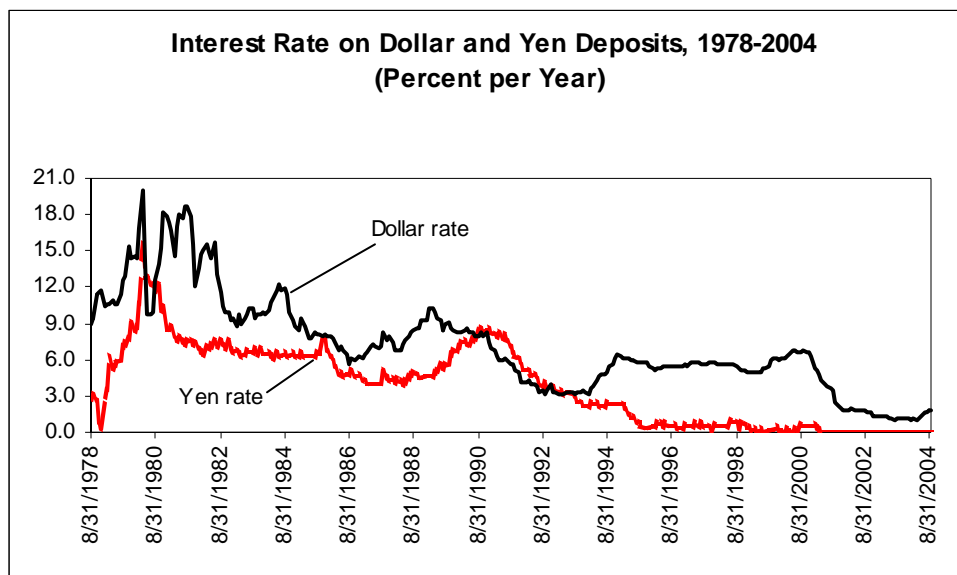
In the past decade or so, Japan's short-term interest rates clearly have had periods during which they were near or equal to zero. Is the fact that the yen interest rates shown never drop below zero a coincidence, or can you think of some reason why nominal interest rates might be prevented by market forces from going below zero?