Business 4079

Assignment 1

Due Thursday February 6, 2003, 7:00pm (beginning of class)

1. Two countries, the United States and England, produce only one good, wheat. Suppose the price of wheat is \$3.25 in the United States and £1.35 in England.

   (a) According to the law of one price, what should the \$/£spot exchange rate be?

   (b) Suppose the price of wheat over the next year is expected to rise to \$3.50 in the United States and to £1.60 in England. What should the one-year \$/£forward rate be?

   (c) If the U.S. government imposes a tariff of \$0.50 per bushel on wheat imported from England, what is the maximum possible change in the spot exchange rate that could occur?

2. In early 1996, the short-term interest rate in France was 3.7%, and forecast French inflation was 1.8%. At the same time, the short-term German interest rate was 2.6% and forecast German inflation was 1.6%

   (a) Based on these figures, what were the real interest rates in France and Germany?

   (b) To what would you attribute any discrepancy in real rates between France and Germany?

3. During 1995, the Mexican peso exchange rate rose from 5.33peso/\$ to 7.64peso/\$. At the same time, U.S. inflation was approximately 3% in contrast to Mexican inflation of about 48.7%.

(a) By how much did the nominal value of the peso change during 1995?

(b) By how much did the real value of the peso change during 1995?

4. Suppose that three-month interest rates (annualized) in Japan and the United States are 7% and 9%, respectively. If the spot rate is ¥142/$ and the 90-day forward rate is ¥139/$,

   (a) where would you invest?

   (b) where would you borrow?

   (c) What arbitrage opportunity do these figures present?

5. Here are some prices in the international money market: Spot rate = \$0.75/DM; forward rate (one year) = \$0.77/DM; interest rate in DM = 7% per year; interest rate in \$ = 9% per year.

   (a) Assuming no transaction costs or taxes exist, do covered arbitrage profits exist in the above situation? Describe the flows.

   (b) Suppose now that transaction costs in the foreign exchange market equal 0.25% per transaction. Do unexploited covered arbitrage profit opportunities still exist?

   (c) Suppose no transaction costs exist. Let the capital gains tax on currency profits equal 25% and the ordinary income tax on interest income equal 30%. In this situation, do covered arbitrage profits exist? How large are they? Describe the transactions required to exploit these profits.