1. Consider the data on exchange and interest rates from packet 5 and answer the following questions:

a. Looking at the interbank interest rates on yen and dollar deposits of one year maturity, do you think that markets expect the yen to appreciate or depreciate against the dollar?

Answer: The interest rate on yen deposits is 1.26% while interest rates on dollar deposits is 4.02%. If uncovered interest rate parity holds:

\[
R_{S} - R_{Y} = \frac{E_{t}^{c} - E_{t+1}^{c}}{E_{t}^{c}}
\]

This means that the expected rate of depreciation is equal to the interest rate differential. The markets are expecting the dollar to depreciate against the yen 2.76%, equivalently they expect the yen to appreciate against the dollar.

b. Does covered interest rate parity between yen and dollar hold at one year horizon?

Answer:

\[
R_{S} - R_{Y} = \frac{F_{Day}^{One year} - E_{t}^{c}/Y}{E_{t}^{c}/Y}
\]

\[
4.02 - 1.26 = \frac{1/102.2 - 1/105.3}{1/105.3}
\]

2.76% = 3.03%

The interest rate differential is 2.76% per year. The forward premium on the yen (forward discount on the dollar) is 3.03% per year. The difference is less than 0.5 of a percent, hence covered interest rate parity holds.

c. Does covered interest rate parity between yen and dollar hold at one month horizon?

Answer: We need to compare interest rates per month with the rate of depreciation per month implied by the one month forward exchange rate. Since the one month maturity interest rates are quoted on per annum basis we need to divide then by twelve to get the interest rate per one month.

\[
R_{S} - R_{Y} = \frac{F_{Day}^{One month} - E_{t}^{c}/Y}{E_{t}^{c}/Y}
\]

The interest rate differential for deposits with one month maturity is 4.05-0.98=2.073 % per year or 0.17% per month. The one month forward discount on the dollar (premium on yen) is \((\frac{1/104.872 - 1/105.285}{1/105.285}) = 0.39\%\). Again, the difference is less than half a percent. We find that CIRP holds.
d. Given the risks of recession the Fed may cut interest rates in the near future. What do you think will happen to the dollar yen exchange rate?

**Answer:** If the expected future exchange rate $E_{t+1}$ stays constant a fall in U.S. interest rates will lead to immediate depreciation of the dollar. This is because investors be willing to hold dollar assets only if dollar is expected to appreciate. In order for the dollar to be expected to appreciate over the course of a year it has to depreciate as soon as the reduction in interest rates happens.

2. Read pages 179 to 182 and 189 to 190 of the attached article entitled Anomalies: Foreign Exchange and briefly answer the following questions:

a. Taking into account both the theory and the empirical evidence on the interest rate parity condition as outlined in class and the article, and the fact that the interest rates are higher in Europe than in the U.S., would you put your money into dollars or Euros?

**Answer:** I would put my money in Euros. Although the theory says that it should not matter, in practice it does. Historically, the currencies that have high interest rates on average tend to appreciate over the next year rather than depreciate as the theory predicts. Of course, I will be taking a very high risk since the data also shows that exchange rates are very volatile. So, while on average I should make money, it is a very risky way of making money.