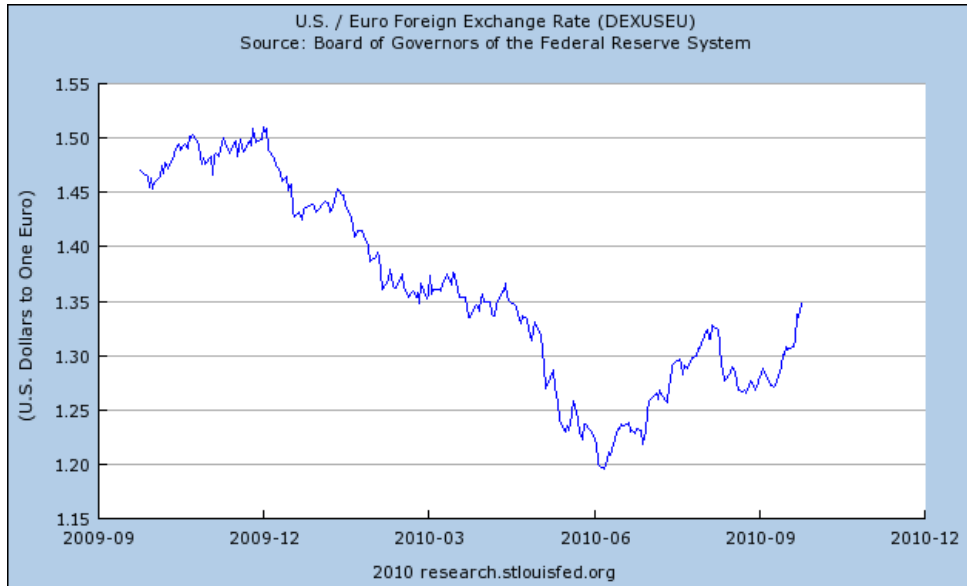


Problem 1

Understand currency risk hedging



The above chart shows you the USD/Euro exchange rate during 2009-2010. As you can see, the currency movement has been very dramatic during this period because of European financial crisis.

Imagine you are the manager of Finance Department of a big German retailer, and your company needs to import \$10-million dollar worth of goods from the US on a quarterly basis. Your task is to help the company control currency risk.

- 1) The time now is March 2010. The dollar/euro is traded at \$1.35 per euro. Now you are convinced that the European financial crisis may not end very soon, and you have to act to prevent any further currency loss. So you bought a 3-month forward contract worth of \$10 million at \$1.3450 per euro, which locks in today's exchange rate at \$1.35. Three months later, the exchange rate drops to \$1.20 per euro. How much money have you saved for your company?
- 2) The time now is June 2010. With the financial crisis deepening, rumor is spreading that the Euro may collapse. You feel quite confident that the Euro is going lower in coming months. So you bought another 3-month forward contract worth of \$10 million from your bank. You paid the bank \$1.19 per euro and you locked in the exchange rate at \$1.20. Compared to three months ago, the contract costs much more now because everyone wants to buy such forward contract to hedge the risk (demand has been rising). Three months later, when the new contract expires, the exchange rate is again traded at \$1.35. In this case, what is the net gain (or loss) of buying the second forward contract?
- 3) What lessons have you learned from the above example? What's the disadvantage of using forward contract to hedge currency risk? Are there better alternatives?

Problem 2

Interest Parity Condition

Uncovered interest parity (UIP) condition is written as $R = R^* + (E^e - E) / E$. (R and R^* are the interest rates of home and foreign country, respectively)

- a) Explain what UIP means, intuitively. Can investors make money if such condition holds?
- b) Rewrite the condition when carry trade is profitable.
- c) If home country is the US, and foreign country is the EU. When the ECB suddenly raises its interest rate, what will happen to the exchange rate between the US dollar and Euro? Draw diagram to illustrate.
- d) If $R_{US}=0.25\%$, $R^*_{EU}=1.5\%$, the current exchange rate $E_{\$/\epsilon}=1.35$. One FX investor wants to use carry trade to make money by moving \$10,000 to invest in Euro-denominated assets.
 - i) The forward contract in 30 days is currently traded at 1.34. According to covered interest parity or CIP, can this investor make money in 30 days?
 - ii) The investor is a savvy FX trader and he thinks the current market is mispriced. According to his own forecast, $E_{\$/\epsilon}$ will move to 1.25 in 30 days. How much money will he make (or lose) if he engages in such carry trade?