1. (1 points) Triangular arbitrage. Let’s say that at some point in time you observe the following rates on the foreign exchange market: 2USD=1GBP, 0.0075 USD = 1 JPY, 0.005 GBP=1 JPY. Are there arbitrage opportunities in this market? If there are, show how you could make a profit. What should happen to these exchange rates?

2. (2 points) Suppose that U.K. annual interest rate is 10%, United States annual interest is 13%. 1-year Forward rate is 1.616 USD = 1 USD. Spot rate is 1.6 USD = 1 GBP. Are there arbitrage opportunities in this market? If there are, show how you could make a profit.

3. (1 points) Given the interest rate and the spot rate in question 2, show what the forward rate is supposed to if there were no profit.

4. (1 point) Why are arbitrage opportunities impossible in the long run?

5. (1 Point) Suppose you have some private knowledge that Ukrainian currency will appreciate relatively to the dollar by 25% in the next few weeks. Explain how you could profit from such knowledge.

6. (2 points) Using S-D Graph, show how the UAH/EUR exchange rate will be affected by the following events:
   a. Ukraine issues EUR500mil worth of bonds (i.e. borrows a huge chunk of Euros). The money is to be used for domestic projects. Assume floating exchange rate.
   b. Ukraine has to pay EUR55mil per year on its loans. Assume floating exchange rate.

7. (2 points) If Ukraine has a fixed exchange rate that is pegged to Euro at 6 UAH = 1 EUR, describe what will happen in case of the following events. Specifically, explain if there will be an excess supply/demand of foreign currency and what will the National Bank of Ukraine will have to do to maintain its fixed exchange rate:
   a. Ukraine issues EUR500mil worth of bonds. The money will be used for domestic projects.
   b. A sudden increase in the oil prices.

GBP = British pound USD = United State dollar
EUR = Euro JPY = Japanese Yen
UAH=Ukrainian Hryvnya