International Financial Management   FINA 4836
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First Midterm Exam

No points will be given by simply writing down formulas, and writing down definitions or irrelevant statements from the book, or saying "yes," will get you zero points. Justify all your answers. If you cannot prove something give some intuition. Good luck. <u>Reminder</u>: this is an open book exam, but <u>no</u> open notes.
<u>Time</u>: 1hr 20 minutes.

I. Problems (10 points each).

1. Assume a USD is worth JPY 81.26, (S_t=81.26 JPY/USD). Also, a JPY is worth CAD .0124 (S_t=.0124 CAD/JPY).
i. What is the cross rate CAD/USD?
ii. Suppose Kwiki Bank quotes S_t=.93 USD/CAD. Is arbitrage possible? (Why?)
iii. If yes, describe a triangular arbitrage strategy and determine an arbitrageur's profits.

2. It is October 2012. Iris Oil Inc., a Houston-based energy company, has a CAD 300 million receivable due in June 2013. Iris Oil decides to use options to reduce FX risk. Available options with June maturity are:

X	Calls	Puts
.94 USD/CAD	2.49	0.29
.98 USD/CAD	1.68	1.77
1.00 USD/CAD	0.17	4.83,

where X represents the strike price and premiums are expressed in USD cents –i.e., 1.77 equals to USD 0.0177.
Today, the exchange rate is .98 USD/CAD.
A. Calculate the premium cost and use a graph to describe the *net cash flows* (in USD) in June for Iris Oil under the following choices:
i) in-the-money option
ii) out-of-the money option
B. Suppose Iris Oil can sell CAD forward at $F_{t,June}$ = .99 USD/CAD. Calculate the cash flows (in USD) in June for Iris Oil under the forward contract. What are the pros and cons of the forward contract relative to the option alternative?

3. The U.S. and Mexico both produce orange juice. A gallon of orange juice sells in the U.S. for USD 5.75. An equivalent gallon of juice sells in Mexico for MXN 70. The spot rate is .09 USD/MXN.

(a) According to purchasing power parity (PPP), what should be the USD/MXN exchange rate?

(b) Take the U.S. as the domestic country. Calculate the real exchange rate, R_t. Which country is more efficient?

(c) The Mexican GDP per capita is MXN 95,000. Translate this amount to (nominal) USD and to PPP USD prices.

(d) Suppose the price of a gallon of juice in Mexico decreases to MXN 63 over the next year, while the price of an equivalent U.S. gallon of orange juice increases to USD 6.05. According to the *linearized* version of *relative PPP*, what should be the USD/MXN exchange rate one-year from now?

(e) Next year, the exchange rate is 12.8 MXN/USD. Generate a trading signal based on PPP.

4. Ms. Sternin is a U.S. arbitrageur. The one-year interest rate offered in the U.S. is 1.0%, while the one-year interest rate offered in Australia is 3.25%. The spot rate is .96 AUD/USD. Kramerika Bank offers Ms. Sternin a one-year forward contract at 1.05 AUD/USD.

(1) Determine the arbitrage-free one-year forward contract exchange rate.

(2) Can Ms. Sternin make a risk-free profit? If yes, describe a covered arbitrage strategy.

(3) Determine Ms. Sternin's profits.

(4) Calculate the forward premium and compare it to the interest rate differential. Based on these numbers, what kind of capital flows will the U.S. economy experience?

II. CASE (20 points)

Read the Bloomberg article (October 1, 2012) and briefly answer the following questions:
Note: No points will be given by simply writing lines from the article.

1) According to the article, the Australian dollar fell because of expectations of lower interest rates. Using a graph, show the effect of lower AUD interest rates on the USD/AUD exchange rate.

2) Suppose the RBA intervenes to stop the depreciation of the AUD against the USD. Using two graphs show the effect of the RBA's intervention on the FX market and on Australian money markets.

3) The article mentions slower growth in China as a reason for the RBA's interest rate move. What would be the effect of slower growth in China on the AUD/USD exchange rate?

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2) According to the article, the kiwi, New Zealand's dollar, rose because of higher export commodity prices. Use a graph to explain the article's statement. Briefly explain.

5) Assume that last month, the benchmark rate set by the U.S. Federal Reserve was 1% (RBA's benchmark interest was 3.5%). Last month, you calculated the exchange rate at the end of September (S_{SEP}) according to linearized IFE. Given the numbers quoted in the article, is the Aussie overvalued?