International Financial Management FINA 4836
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Final 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. Reminder: this is an open book exam, but no open notes.
Time: 2 hrs 30 minutes.

I.- Problems (10 points each).

1. Mexico has a floating exchange rate system. The Mexican peso (MXN) is appreciating against the USD. The Central Bank of Mexico decides to intervene to stop the appreciation of the MXN. The Central Bank of Mexico does not want to affect local interest rates. Using a graph, describe what the Central Bank authorities can do.

2. Mr. Peterson, an Aussie arbitrageur, has the following data. The one-year interest rate offered in the Great Britain is 8%, while the one-year interest rate offered in Australia is 5%. The spot rate is .30 GBP/AUD, that is .30 British pounds per Australian dollar. Mr. Peterson is offered a one-year forward contract at .312 GBP/AUD.

a. Can Mr. Peterson make a risk-free profit? If yes, determine the arbitrage-free one-year forward contract exchange rate.

b. Construct a covered arbitrage strategy for Mr. Peterson.

c. Calculate Mr. Peterson's profits.

3. Carla Corp., a U.S. firm, considers placing 70% of its excess funds in a one-year Swiss francs (CHF) deposit and the remaining 30% in Indian Rupees (INR). The forecasts of the appreciation (against the USD) of the CHF and INR for the next year are as follows:

Currency	Possible e_f	Probability
CHF	2%	.20
CHF	3%	.80
INR	4%	.70
INR	5%	.30

The annual interest rate on the CHF is 3%, the annual interest rate on the INR is 4%, and the annual interest rate in the U.S. is 6%. Calculate the possible effective yields of the overall portfolio. Would you advise Boyd Corp. to place its excess funds abroad or at home? (Justify your answer, considering placing the excess funds in CHF deposit only, INR only, in the above mentioned 70-30 portfolio of currencies, and in USD only.)

4. Assume the Japanese yen-Swiss franc (CHF) spot rate is 115 JPY/CHF. According to a forecasting service, the next semester inflation rate in Japan will be 1.9%, while the next semester inflation rate in Switzerland will be 0.9%.
a. Based on the PPP theory, forecast next semester exchange rate (JPY/CHF).
b. Suppose next semester the spot rate is 122 JPY/CHF. Using your result from (a), generate a trading signal.

5. Chambers Corporation will receive NZD 1,000,000 in 180 days (NZD=New Zealand dollar). It considers using (1) a forward hedge, (2) an option hedge, (3) a money market hedge, or (4) no hedge. Its analysts develop the following information, which can be used to assess the alternative solutions:

- Spot rate is .60 USD/NZD
- 180-day forward rate is .67 USD/NZD
- Interest rates are as follows:

  Deposit rate: 11% in New Zealand , and 13% in the U.S.

  Borrowing rate: 12% in New Zealand , and 14% in the U.S.
- A call option on NZD that expires in 180 days has an exercise price of USD .70 and a premium of USD .05.
- A put option on NZD that expires in 180 days has an exercise price of USD .71 and a premium of USD .03.
- Chambers Corporation forecasted the future spot rate in 180 days as follows:

Possible Outcomes	Probability
.63 USD/NZD	20%
.66 USD/NZD	60%
.74 USD/NZD	20%

Which strategy would you recommend to Chambers Corporation? Why? Be explicit.

6. Assume that the following regression model was applied to historical annual data:

$e_{tf} = \alpha + ß\ INT_t + \tau\ INF_t + \delta\ BOT_t + \varepsilon_t$,

where e_{ft} is the percentage change in exchange rate of the USD/JPY in period t, INT_t is the interest rate differential between Japan and the U.S. in period t, INF_t is the inflation rate differential between Japan and the U.S. in period t, BOT_t is the U.S. balance of trade (in USD billions), and ε_t is an error term. All the dependent variables are independent.

Assume that the regression coefficients were estimated as

$\alpha = .01$

$ß = -.20$

$\tau = .75$

$\delta = -.00015$

In addition, we have the following data:

- $INT_t = 2\%$.
- This year BOT_t is forecasted as follows:

BOT_t	Probability
-150	.60
-180	.40

- This year INF_t is forecasted as follows:

INF_t	Probability
2%	.70
3%	.30

Now, you have to answer the following questions:

i. Using the above information, what will be your forecast for e_f ?

ii. If $S_{t-1} = .012$ USD/JPY, what will be your forecast for S_t?

7. You work for Malone Inc., a small U.S. company. Malone Inc. has subsidiaries in Tunisia and Sweden. You are given the following projections for next year:

Currency	Total inflows	Total outflows	Current Exchange rate
TND	TND 40,000	TND 80,000	.65 USD/TND
SEK	SEK 100,000	SEK 50,000	.14 USD/SEK

a.- What is the net transaction exposure for Malone Inc.(in USD)?

b.- Suppose the Tunisian dinar (TND) and the Swedish crown (SEK) are positively and perfectly correlated ($\rho=1$). A year from now, the USD/SEK rate changes to .175 USD/SEK. What is the new net transaction exposure of Malone Inc. (in USD)?

c.- Now, suppose that the TND and the SEK are negatively and perfectly correlated ($\rho= -1$). A year from now, the USD/SEK rate changes to .182 USD/SEK. What is the new net transaction exposure of Malone Inc. (in USD)?

8. Rogue Corporation presently has an existing business in the U.K. but is considering an additional plant there. The following information has been gathered to assess this project:

- The initial investment required is GBP 6 million. The current spot rate is 1.48 USD/GBP.
- The project will be terminated at the end of Year 2, when the subsidiary will be sold.
- The price, demand, and variable cost of the product in the U.K. are as follows:

Year	Price	Demand	Variable cost
1	GBP 10	550,000	GBP 3
2	GBP 12	500,000	GBP 4

- The exchange rate is forecasted to be 1.66 USD/GBP at the end of Year 1, and 1.72 USD/GBP at the end of year 2.
- The British government will impose an income tax of 20% on income. In addition, the U.S. government will impose a tax of 10% on earnings remitted by the subsidiary.
- All cash flows received by the subsidiary are sent to the parent at the end of each year.
- In two years the subsidiary is to be sold. Rogue expects to receive GBP 1.5 million. Assume that this amount is not subject to any tax.
- Rogue requires a 20% rate of return on this project.

Should Rogue accept this project? Calculate the decision from the perspective of the subsidiary and the parent.

II. WSJ CASE (30 points)

Read the attached WSJ article and briefly answer the following questions:
Note: No points will be given by simply writing lines from the article.

1) Why would a Bundesbank's interest rate cut influence the dollar-deutsche mark parity? Draw a graph and briefly explain.

2) In the article, Mr. Vassan says "there was a long-term trend line in sterling that was breeched today, but short covering propelled sterling back up over $1.5300." If you believe in the IFE, what is the implication of this long-term line?

3) Reconsider Question 2. What does Mr. Vassan mean by "short-covering"?

4) In late afternoon New York trading, the dollar appreciated against the mark, the yen and the British pound. You believe in PPP, which country has the higher inflation rate differential against the U.S.

5) The U.K. 10-year gilt rate fell to 7.63%. A U.S. 10-year government bond has a rate of 5.59%. Suppose the forward rate is used to forecast exchange rates. What is the forecast for the 10-year USD/GBP exchange rate in 10 years?

6) Howe Inc., a U.S. MNC, is considering investing in Brazil. It is worried, however, about the cost of this project. What effects does the mini-devaluation of the real have on the cost-of capital for this project?