MA 2nd Year 4th Semester 2017

International Finance and Risk Management

Answer any three

Time : 2 Hrs **Full Marks : 30**

1.

a) The inflation rate in the US is projected at 3 % per year for the next several years. The New Zealand inflation rate is projected to be 5 %during that time. The exchange rate is currently NZ$ 1.66. Based on relative PPP what is the expected exchange rate in two years?

b) How would you characterize gains from international portfolio diversification? What assumptions must be made to apply the International Capital Asset Pricing Model (ICAPM) to an explanation of pricing of securities?

5+5

2.

a) Are the following statements true or false? Explain the reason

I. If the general price index in Great Britain rises faster than that in the US, we would expect the pound to appreciate relative to dollar.
II. If you could successfully estimate differences in the relative inflation rates of two countries over a long period, while other market participants are unable to do so, you could successfully speculate in spot currency market.

b) Suppose a US based international company is planning to build a distribution centre in France. The project will cost € 2 million to launch. The cash flows are expected to be €.9 million a year for the next three years. The current spot exchange rate for Euros is € .5. The risk free rate in the US is 5 % and that in Euroland is 7 %. The company's required return on dollar investments is 10 % . Do you think that the project is profitable? Explain your answer.

3+7

3.

a) Why might a firm want to issue shares simultaneously in a number of financial centres? Is a US dollar bond sold by a British firm in the US a foreign bond or a Eurobond? How about a pound bond sold by a British firm in the US?

[Turn over

b) With $r_{\$} = 12.50\%$, $r_{£} = 14\%$, $S(\$/£) = 2.25$ and $S^{*}_{10}(\$/£) = 1.50$, in which currency would you borrow? What is the total gain on each \$1 million borrowed from making a correct choice?

4+6

4.

a) A financial institution owns a portfolio of options on the US dollar-sterling exchange rate . The delta of the portfolio is 56.0. The current exchange rate is 1.5000. Derive an approximate linear relationship between the change in portfolio value and the percentage change in the exchange rate. If the daily volatility of the exchange rate is 0.7%, estimate the 10 day 99 % VaR.

b) Explain the difference between Value-at –Risk and conditional Value-at –Risk. What are stress testing and back testing?

6+4

5.

a) The procedure for creating an option position synthetically is the reverse of the procedure for hedging the option position. Explain this statement.

b) What does it mean to assert that delta of a call option is 0.7? How can a short position in 1000 options be made delta neutral when the delta of each option is 0.7?

c) The vega of a derivatives portfolio dependent on the USD/GBP exchange ratio is 400 (\$ per %)Estimate the effect on the portfolio of an increase in the volatility of the exchange rate from 14 % to 18 %?

3+3+4

6.

a) Explain what does Put-Call Parity mean? What are the factors determining call option values?

b) Consider Private Equipment Company (PEC). On October 4, of year 0, the PEC April 49 call option had a closing value of \$4. The stock itself is selling at \$50. On October 4 the option had 199 days to expiration (maturity date _April 21,Year 1). The annual risk-free interest rate, continually compounded, is 7 percent. Time to be considered in years. The variance of the option price. Privae Equipment Company has been estimated to be 0.09 per year. What should the value of the call be to avoid arbitrage?

3+7