

## FIN4802 ASSIGNMENTS

### ASSIGNMENT 01

Due date: 13 May 2016

Unique number: 839176

Answer the following questions and submit your assignment through myUnisa (<https://myunisa.ac.za>)

#### Question 1

[25]

1.1 Grace Moogzt is a foreign exchange dealer with Standard Bank. She notices the following quotes.

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Spot exchange rate	R12.5123/US\$
One year forward exchange rate	R12.3214/US\$
One year USD interest rate	8.5% p.a.
One year Rand interest rate	11.5% p.a.

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- a. Is the interest rate parity holding? You may ignore transaction costs. [5]
- b. Show that an arbitrage opportunity exists. [3]
- c. Calculate the arbitrage profit that can be made assuming that Grace Moogzt is authorised to work with US\$2 000 000 or the Rand equivalent. Show all the steps that need to be taken to make arbitrage profit. [9]

1.2 A call option allows the holder to buy US\$200 000 at an exercise exchange rate of 1.6000 (AUD/USD). If the premium paid is 5 Australian cents for each USD, calculate the net payoff at the following spot exchange rates:

- (i) 1.7240 [2]
- (ii) 1.8150 [2]
- (iii) 1.5365 [2]
- (iv) At what exchange rate will the holder break even? [2]

#### Question 2

[25]

2.1 The time from acceptance to maturity on a US\$1 000 000 banker's acceptance (BA) is 120 days. The importer's bank's acceptance commission is 1.75% and the market rate for 120-day BAs is 5.75%. Assume that there are 360 days in a year. You are required to determine the following:

- (a) The proceeds the exporter will receive if he holds the BA until maturity. [2]
- (b) The acceptance commission paid to the importer's bank. [2]
- (c) The proceeds the exporter receives if he discounts the B/A. [3]
- (d) The all-in-rate (interest rate) the bank receives and the bond equivalent yield the importer's bank will earn from discounting the BA with the exporter. [5]
- (e) If the exporter's opportunity cost of capital is 10%, should he discount the BA or hold it to maturity? [6]

2.2 A put option allows the holder to sell NOK400 000 at an exercise exchange rate of 0.2540 (AUD/NOK). If the premium paid is 0.7 Australian cents for each NOK, calculate the net payoff at the following spot exchange rates:

- (i) 0.2410 [2]
- (ii) 0.2786 [2]
- (iii) 0.1856. [2]
- (iv) At what exchange rate will the holder break even? [1]

**TOTAL [50]**

**ASSIGNMENT 02**

**Due date: 23 SEPTEMBER 2016**

**Unique number: 710573**

**Answer the following questions on the answer book and submit your assignment through myUnisa (<https://myunisa.ac.za>)**

**Question 1**

**[20 Marks]**

A U.S. multinational company is considering whether to borrow British Pounds for one year. It finds that the quoted interest rate for the British Pounds is 10 percent and the quoted rate for the U.S. dollar is 16 percent. It then develops a probability distribution for the British Pound's possible percentage change in value over the life of the loan as follows:

Possible rate of change in the British Pound over the life of the loan	Probability of occurrence
-5%	10%
-2%	15%
-1%	5%
+1%	20%
+3%	15%
+5%	10%
+7%	15%
+10%	10%

- (a) Calculate the effective financing rate for every possible rate of change in the British Pound if it does occur. [10]
- (b) Determine the expected financing rate of the British Pounds [5]
- (c) Should the U.S. multinational company borrow U.S. dollars or British Pounds? Substantiate your answer. [5]

**Question 2****[17 Marks]**

ABC LTD, a U.K. multinational enterprise is contemplating making a foreign capital expenditure in South Africa. The initial cost of the project is ZAR50 million. The annual cash flows over the five year economic life of the project are estimated to be ZAR13 million, ZAR18 million, ZAR25 million, ZAR10 million, and ZAR9 million. The parent firm's cost of capital in pounds is 7.5 percent. Long-run inflation is forecasted to be 4 percent per annum in the U.K. and 12 percent in South Africa. The current spot foreign exchange rate is ZAR/£ = 15.56. Determine the NPV for the project in £ by:

- (a) Calculating the NPV in ZAR using the ZAR equivalent cost of capital according to the Fisher Effect and then converting to £ at the current spot rate. [5]
- (b) Converting all cash flows from ZAR to £ at Purchasing Power Parity forecasted exchange rates and then calculating the NPV at the pound cost of capital. [7]
- (c) What is the NPV in pounds if the actual pattern of ZAR/£ exchange rates is:  
 $S(0) = 15.56$ ,  $S(1) = 14.56$ ,  $S(2) = 16.72$ ,  $S(3) = 15.78$ ,  $S(4) = 16.54$ , and  $S(5) = 16.32$ ?  
 Justify the difference in the actual and the forecasted NPV [5]

**Question 3****[13 Marks]**

ABC Ltd would like to assess the country risk of South Africa. ABC Ltd has identified various political and financial risk factors, as shown below.

<b>Political Risk Factor</b>	<b>Assigned Rating</b>	<b>Assigned Weight</b>
Blockage of fund transfers	6	55%
Bureaucracy	2	45%
<b>Financial Risk Factor</b>	<b>Assigned Rating</b>	<b>Assigned Weight</b>
Interest rate	4	20%
Inflation	5	15%
Exchange rate	4	10%
Competition	3	30%
Growth	7	25%

ABC Ltd has assigned an overall rating of 75 percent to political risk factors and of 25 percent to financial risk factors. The investment policy for ABC Ltd mentions that the company can only invest in a country if the country risk is below 4.5. Should ABC Ltd consider South Africa for investment? [13]

**TOTAL [50 Marks]**