ZCAS University

BAC 3312 FINANCIAL RISK MANAGEMENT

MID SEMESTER TEST

FRIDAY 20TH OCTOBER 2023

TIME – 16:30 TO 19:30 HOURS

TIME ALLOWED: WRITING – THREE HOURS

READING THROUGH– FIVE MINUTES

INSTRUCTIONS:

1. **Section A: This question is compulsory and must be attempted.**
2. **Sections B: Answer THREE (3) questions from this section.**
3. **This examination paper carries a total of 100 marks.**
4. **Candidates must not turn this page until the invigilator tells them to do so.**

Section A. Question 1 is compulsory and must be attempted.

Question 1

Boom Boom Ltd. is a private company based in a home country whose currency is the dollar ($). It trades with its customers suppliers mostly based in the European union (EU). The local currency in the EU is the Euro (€). Boom Boom Ltd. has the following transactions due within the next six months:

	Receipts	Payments
3 months	1,000,000 euros	400,000 euros
6 months	500,000 dollars	300,000 ~~euros~~ dollars.

The Chief Financial Officer (CFO) at Boom Boom Ltd. is concerned about the exchange rate due to uncertainty in the economy. He would like to hedge the exchange rate risk and has gathered the following information:

Spot Rate (euro per $1) 1.7694-1.8306

Three-month forward rate (euro per $1) 1.7891-1.8510

Boom Boom Ltd. has also a 12 million loan in dollars. There is increased uncertainty in the economy regarding future interest rates owing to polical and economic headwinds affecting the local economy. The CFO has never previously considered a hedging strategy but is considering using the various hedging instruments available to him to manage the exposures to interest rate risk such as Forward Rate Agreement and a Money Market hedge.

Further information available to the CFO for use in his hedging strategies is:

	Deposit rate	Borrowing rate
Euros	4%	8%
Dollars	2%	3.5%

Required:

(a) Explain what is meant by a Forward Rate Agreement. **(5 marks)**

(b) Describe what Money Market Hedging is. **(8 marks)**

(c) Calculate the three-month dollar receipt of a forward market hedge using the information provided. **(8 marks)**

(d) Calculate the cost in six months' time of a money market hedge using the information provided. **(12 marks)**

(e) Outline the measures you would propose to be adopted by Boom Boom Ltd. to avoid costly mistakes as it tries to engage in using hedging instruments in future. **(7 marks).**

Total marks (40 marks)

SECTION B: Attempt any THREE questions in this section.

Question 2

It is March 1. A US company expects to receive 50 million Japanese yen at the end of July. Yen futures contracts on the Chicago Mercantile Exchange (CME) Group have delivery months of March, June, September, and December. One contract is for the delivery of 12.5 million yen. The company therefore shorts four September yen futures contracts on March 1. When the yen are received at the end of July, the company closes out its position. We suppose that the futures price on March 1 in cents per yen is 0.9800 and that the spot and futures prices when the contract is closed out are 0.9200 and 0.9250, respectively. The company decides to use futures contracts to hedge the foreign exchange risk associated with its anticipated receipt.

Required:

(a) Explain what is meant by Foreign Exchange Risk. **(2 marks)**

(b) Describe how a futures contract is utilized in hedging foreign exchange risk. **(4 marks)**

(c) Calculate the amount of receipt in US dollars when the company closes out its futures contract in the given scenario. **(8 marks)**

(d) Outline the three main disadvantages of using futures contracts as a hedging strategy to the company. **(6 marks).**

Total:(20 marks).

Question 3

Assume today is May 8,2013 and you are given information about Call Options on the Google stock as shown below.

Prices of call options on Google from quotes provided by CBOE; stock price: bid \$871.23, offer \$871.37.

Strike price ($)	*June 2013*		*September 2013*		*December 2013*	
	Bid	*Offer*	*Bid*	*Offer*	*Bid*	*Offer*
820	56.00	57.50	76.00	77.80	88.00	90.30
840	39.50	40.70	62.90	63.90	75.70	78.00
860	25.70	26.50	51.20	52.30	65.10	66.40
880	15.00	15.60	41.00	41.60	55.00	56.30
900	7.90	8.40	32.10	32.80	45.90	47.20
920	n.a.	n.a.	24.80	25.60	37.90	39.40

Suppose an investor instructs a broker to buy one December call option contract on Google with a strike price of $880. The broker will relay these instructions to a trader at the CBOE and the deal will be done. An option contract is a contract to buy or sell 100 shares. Therefore, the investor must arrange for $5,630 to be remitted to the exchange through the broker. The exchange will then arrange for this amount to be passed on to the party on the other side of the transaction.

The investor has obtained at a cost of $5,630 the right to buy 100 Google shares for $880 each.

Required:

(a) Describe Four (4) types of options available in the options market. **(4 marks)**

(b) Describe Four (4) factors that affect the value of an option contract. **(4 marks)**

(c) Using the information in the table above and assuming the price of the Google shares rises above $880 by December 21, 2013 to $1,000, Calculate the gain or loss if the option is exercised. **(8 marks)**

(d) Calculate the effective gain or effective loss on the option contract should be the option be exercised. **(4 marks)**

Total (20 marks)

Question 4.

The use of derivatives has led to several huge losses by both financial and non-financial corporates in the past few decades. Some of these losses led to the closure of the corporates involved. Examples of these losses and mishaps include those experienced at *Allied Irish Bank, Barrings Bank, Enron, Long Term Capital Management* and *The Subprime Mortgage Crisis and Losses* of 2006-2008 in the United States of America.

There are a lot of lessons that we can learn from these mishaps in the use of derivative instruments.

Required:

As a financial risk manager, write a brief on the lessons learnt and **Five (5)** ways you would employ to prevent the occurrence of such huge losses in your organization.

Total (20 marks)

Question 5

You are the Chief Finance Officer of your organization. In the recent past, your organization has suffered losses from its exposure to interest rate risk and foreign exchange risk. You have been requested by your organization to prepare a write up for presentation to the board of directors on the various strategies available to manage exposures to foreign exchange risk and interest rate risk. You are particularly interested in explaining to the board chair who wants to know the difference between options and futures contracts.

Required:

Write a brief contrasting Options Contracts and Futures Contracts highlighting the keys features of each type of hedging instrument and its advantages and disadvantages.

Total marks (20 marks)

End of Test Paper.