



**BACHELOR OF COMMERCE**  
**END OF SEMESTER EXAMINATION**  
**BCF 3201: INTERNATIONAL FINANCE**

**Date:** Friday, 22<sup>nd</sup> January 2020

**Time:** 2 hours

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*Answer question one (Compulsory) and any other two questions.*

**QUESTION ONE**

a) Read the **Case Study** below and answer the questions that follow:

**Case Study: Richard May's Options (Extracted from International Financial Management Core Text for the Unit – adapted)**

It is Tuesday afternoon, February 14, 2012. Richard May, Assistant Treasurer at American Digital Graphics (ADG), sits in his office on the thirty-fourth floor of the building that dominates Rockefeller Plaza's west perimeter. It's Valentine's Day, and Richard and his wife have dinner reservations with another couple at Balthazar at 7:30. "I must get this hedging memo done", thinks Richard May, "and get out of here. Foreign exchange options? I had better get the story straight before someone in the Finance Committee starts asking questions. Let's see, there are two ways in which I can envision us using options now. One is to hedge a dividend due on September 15th from ADG Germany. The other is to hedge our upcoming payment to Matsumerda for their spring RAM chip statement. With the yen at 78 and increasing I'm glad we haven't covered the payment so far, but now I'm getting nervous and I would like to protect my posterior. An option to buy yen on June 10th might be just the thing".

Richard May prints spot, forward, currency options and futures quotations from the company's Bloomberg terminal. The option prices are quoted in U.S. cents per euro. Yen are quoted in hundredths of a cent. Looking at these prices, Richard realizes that he can work out how much the euro or yen would have to change to make the option worthwhile. Richard makes a mental note

that ADG can typically borrow in the Eurocurrency market at LIBOR + 1% and lend at LIBID. “I’ll attach these numbers to my memo,” mutters Richard May, but the truth is he has yet to come to grips with the real question, which is when, if ever, are currency options a better means of hedging exchange risk for an international firm than traditional forward exchange contracts or future’s contracts. Please assist Mr. May in his analysis of currency hedging for his report to ADG’s Finance Committee. In doing so, you may consult the following highlighted market quotes

**Required:**

- i. Briefly distinguish between the derivatives mentioned in the Case above **(6 marks)**
  - ii. Write a report to ADG’s Finance Committee, on behalf Mr. Richard May, assisting him with his analysis of currency hedging using the various derivatives mentioned **(10 marks)**
- b) CHUMA Ltd is a Kenyan company that is looking to set up a plant in Germany and its borrowing costs are higher in Europe than at home. Assuming a EUR/KES 134.61 exchange rate, the Kenyan Company needs 3 million euros to complete the plant, a three year project in Germany. CHUMA Ltd can borrow 3 million euros at 8% in Europe, or Kshs. 400 million at 7% in Kenya. CHUMA Ltd meets Brevia Inc., a German company, which requires Kshs. 400 million in Kenyan funds and is able to attain a cheaper borrowing rate domestically (Germany) at 6%.

**Required**

Explain how CHUMA Ltd can use currency swaps for the expansion project

**(6 marks)**

- c) BCOM 3<sup>rd</sup> year students have been engaging in Twitter quizzes and Forex Hero app quizzes, applying their international finance knowledge into practice. The statements below were sampled from the quizzes given. State whether the statements are TRUE/FALSE **(Each 1 mark)**
- i. In the twitter post by Forex Sentiment Board, TOP 10 – The Weakest World Currencies in 2020, the cheapest currency in the world is Iranian Rial **(True/False)**
  - ii. The opening of the Sydney (Australia) market signals the closing of the Forex trading hours after the weekend. **(True/False)**
  - iii. If you are a scalper, you should trade in the major pairs **(True/False)**

- iv. Technical analysis looks at earnings, social and political forces that affect the scope and demand of an asset (**True/False**)
- v. In the post by Sammy from Business Daily "The US has warned Kenya against manipulation of the shilling against the dollar during the ongoing talks for a bilateral trade pact" (**True/False**)
- vi. Ethereum is the cryptocurrency known as Bitcoin 2.0 (**True/False**)
- vii. In the Twitter post by Mercury Group, "Green finance is making tracks into the foreign-exchange markets, highlighting the lengths Wall Street will go to broadcast an environmental angle on investments" (**True/False**)
- viii. Fundamental analysis looks at historical price movements to determine the current trading conditions and potential price movements (**True/False**)

**Total: 30 marks**

## **QUESTION TWO**

It is January 2021 and the Chief Financial Officer (CFO) of Emera Inc, a Multinational corporation based in Canada (CAD), presented to the board of directors an investment opportunity project (illustrated below) of making their products in New Zealand (NZD).

### **Investment opportunity project**

The estimated initial project cost will be 15 million New Zealand dollars. It is expected to generate the following relevant cash flows (net cash flows after tax) in New Zealand dollars for the next ten years:

<b>Year</b>	<b>Cash flows (NZD)</b>
1	1,800,000
2	1,960,000
3	2,970,000
4	2,240,000
5	3,530,000
6	3,850,000
7	4,190,000
8	4,570,000
9	5,200,000
10	5,800,000

The following are key assumptions about the project:

	<b>Canada (CAD)</b>	<b>New Zealand (NZD)</b>
Inflation rate	8%	5%
Interest rate	16%	13%
Discount rate/cost of capital	20%	17%
Current CAD/NZD Spot exchange rate = 0.9200		

### **Required**

The CFO was requested by the board of directors to present an investment analysis report, evaluating the viability of the opportunity. Using the Net Present Value (NPV) approach, show the analysis the CFO would present to the board using the following two alternative ways to state cash flows and discount rate

- i. First alternative, use the Canadian cost of capital to discount cash flows in Canadian dollars. (Show the steps in your workings) **(12 marks)**
- ii. Second alternative, use the New Zealand cost of capital to discount cash flows in New Zealand dollars. (Show the steps in your workings) **(6marks)**
- iii. Advise the Board of Directors of Emera Inc. on whether to accept or reject the project (Give reasons) **(2 marks)**

**Total: 20 marks**

### **QUESTION THREE**

- a) The break out room sessions facilitated students' discussions in smaller groups and they gained from the experiences of their classmates. In one such breakout room session, students watched a video on "Factors influencing exchange rates".

#### **Required**

Using examples from the discussions in the breakout room session, discuss the six factors that influence exchange rates **(12 marks)**

- b) **Multiple choice questions: Each 2 marks (Show your workings for the computations and examples/brief explanations for the non-computation questions)**

- i. Suppose three countries produce rulers and pencils with output per worker per day in each country as follows:

Country	Rulers	Pencils
Mexico	20	40
Brazil	30	90
China	40	160

Which country has the greatest comparative advantage in the production of rulers?

- a. China.
  - b. Brazil.
  - c. Mexico.
- ii. The US dollar is selling for Kshs.103.88 and the buying rate for the Euro is USD 1.10, what is the EUR/KES cross rate?
- a. 0.00876
  - b. 114.1538
  - c. 94.4436
- iii. Country X has its own currency, \$X, which is pegged to a basket of major currencies. The central bank of Country X holds foreign currency reserves to cover the entire monetary base of the country and it provides short-term liquidity to the monetary system when necessary. However, it cannot act as a lender of last resort. Country X has most likely adopted which kind of currency regime?
- a. Fixed parity system
  - b. Managed float system
  - c. Currency board system
- iv. In order to minimize the foreign exchange exposure on a euro-denominated receivable due from a German company in 100 days, a British company would most likely initiate a:
- a. Spot transaction.
  - b. Forward contract.
  - c. Real exchange rate contract.

**Total: 20 marks**

## **QUESTION FOUR**

- a) The following case study was posted on e-learning for discussion in the group forum. Read it and answer the questions that follow:

### **Case study: Grexit or not?**

When the euro was introduced in 1999, Greece was conspicuously absent from the list of the EU member countries adopting the common currency. The country was not ready. In a few short years, however, European leaders, probably motivated by their political agenda, allowed Greece to join the euro club in 2001 although it was not entirely clear if the country satisfied the entry conditions. In any case, joining the euro club allowed the Greek government, households, and firms to gain easy access to plentiful funds at historically low interest rates, ushering in a period of robust credit growth. For a while, Greeks enjoyed what seemed to be the fruits of becoming a full-fledged member of Europe.

In December 2009, however, the new Greek government revealed that the government budget deficit would be 12.7 percent for 2009, not 3.7 percent as previously announced by the outgoing government, far exceeding the EU's convergence guideline of keeping the budget deficit below 3.0 percent of the GDP. As the true picture of the government finance became known, the prices of Greek government bonds began to fall sharply, prompting panic selling among international investors, threatening the sovereign defaults.

Several years into the crisis, the Greek government debt stood at around 180 percent of GDP and the jobless rate among youth was above 50 percent. The country's GDP declined by about 25 percent. Severe austerity measures, such as sharply raised taxes and much reduced pension benefits, were imposed on Greece as conditions for the bail-outs arranged by the EU, IMF, and the European Central Bank. In addition, people were allowed to have only restricted access to their bank deposits, to prevent bank runs.

Opinion polls indicate that the majority of people in Germany, the main creditor nation for Greece, prefer the Greek exit from the euro zone, popularly called Grexit, while some people in Greece are demanding Grexit themselves and restoration of the national currency, the drachma.

## Required

- i. What were the root causes of the Greek predicaments (any two)? (2 marks)
  - ii. What were the costs and benefits of staying in the euro zone for Greece (any two each)? (2 marks)
  - iii. What were the measures that needed to be taken to keep Greece in the euro zone in the long run if that was desirable (any two)? (2 marks)
  - iv. If you were a disinterested outside advisor for the Greek government, would you advise Grexit or not? Why or why not? (4 marks)
- b) **Multiple choice questions: Each 2 marks (Show your workings for the computations and examples/brief explanations for the non-computation questions)**
- i. Miss Kate, the CFO of an Indian company has INR 10 million that she can invest for one year. She is considering the possibility of either investing in India where 1 year investment yields an interest rate of 9% or in France where a 1 year investment produces an interest rate of 12%. The current EUR/INR spot exchange rate is 3.35? Calculate the 1 year forward exchange rate that will make the CFO indifferent between investing in France or India.
    - a. 3.4422
    - b. 0.2905
    - c. 3.2603
  - ii. The USD/KSHS spot exchange rate is 103.88. You plan to purchase USD at this exchange rate for immediate delivery. Instead of buying the dollars immediately, you enter into an agreement with a bank to deliver USD to you after 6 months. The bank has quoted the USD/KSHS forward rate at 106.44. Is the 6 months forward trading at a premium or at a discount? Calculate the premium or discount.
    - a. Discount; 4.75%
    - b. Premium; 4.81%
    - c. Premium; 4.93%
  - iii. Kajal is a potential investor for the FOREX market. Her friend Sonia advised her to trade in two currency pairs: Aussie and Kiwi. She explained how the two currency pairs are often

traded and are heavily influenced by commodity price. Which choice represent the currency pairs her friend Sonia suggested?

- a. NZD/CHF; GBP/USD
  - b. AUD/USD; NZD/USD
  - c. AUD/EUR, EUR/CHF
- iv. The buying rate for the Bahraini Dinar (BHD) is \$2.6316 and the USD is selling for Ksh.103.88. What is the BHD/KES cross rate?
- a. 273.3684
  - b. 39.4741
  - c. 0.02533

**Total: 20 marks**

#### **QUESTION FIVE**

- a) Video presentations were a new challenge to the international finance students. They took up the challenge and presented creative videos that had positive impact on their learning. The final video presentation was on cross border listing and international banking (Eurocurrency markets, Offshore banking centers) by their Multinational Corporations. Using examples from the video presentations, answer the questions below:
- i. Explain the terms cross border listing, Eurocurrency markets and offshore banking center **(6 marks)**
  - ii. Briefly discuss two benefits and two challenges of cross border listing **(4 marks)**
- b) **Multiple choice questions: Each 2 marks (Show your workings for the computations and examples/brief explanations for the non-computation questions)**
- i. Faith and Kevin had a debate on the Countries with the best offshore banking centers for asset protection and tax benefits as discussed in class. Which of the choices below represents the correct answer for the best offshore banking centers for asset protection and tax benefits respectively?

- a. Singapore and Nevis Island
  - b. Belize and Germany
  - c. Cayman Islands and Switzerland
- ii. Mr. Jonathan, a Swedish resident was researching on interest rates and inflation rates. He found out that the one-year interest rate was 5% on Swedish krona (SEK) and the expected inflation rate was 2%. The expected inflation rate on Australian dollar (AUD) was 6%. The current AUD/SEK spot exchange rate is 0.9407. How much is the AUD/SEK spot exchange rate at the end of one year and what will be the one-year AUD/SEK forward rate?
  - a. 1.1494 (Expected Spot rate); 1.1494 (Forward rate)
  - b. 0.9052 (Expected Spot rate); 0.9052 (Forward rate)
  - c. 1.1047 (Expected Spot rate); 0.9407 (Forward rate)
- iii. Which of the following international trade bodies was the only multilateral body governing international trade from 1948 to 1995?
  - a. World Trade Organization (WTO).
  - b. International Trade Organization (ITO).
  - c. General Agreement on Tariffs and Trade (GATT).
- iv. Which of the following trade restrictions is likely to result in the greatest welfare loss for the importing country?
  - a. Tariff.
  - b. Import quota.
  - c. Voluntary export restraint.
- v. Suppose the spot rate of the CAD is equivalent to USD 1.48. The investor is bullish on the CAD and believes it will increase against the U.S. dollar. The investor purchases a currency call option on the CAD with a strike price (exchange rate +premium) of USD 1.25. Assume the CAD's spot price at the expiration date is USD 1.32. What would be the profit or loss? How much?
  - a. Profit, 0.07
  - b. Loss, 0.07
  - c. Profit, 0.16

**Total: 20 marks**

## FORMULAE'S

### Premium/Discount

$[(\text{Forward rate} - \text{spot rate})/\text{spot rate}] * 360/\text{days}$

### Combined Parity Relationship

$$\frac{(1+r_F)}{(1+r_D)} = \frac{(1+i_F)}{(1+i_D)} = \frac{E^s(D/F)}{E^s(D/F)} = \frac{E^f(D/F)}{E^s(D/F)}$$

- ✓ Use above formula when it's an indirect quote of the exchange rate

$$\frac{(1+r_D)}{(1+r_F)} = \frac{(1+i_D)}{(1+i_F)} = \frac{E^s(F/D)}{E^s(F/D)} = \frac{E^f(F/D)}{E^s(F/D)}$$

- ✓ Use above formula when it's a direct quote of the exchange rate

### International Fishers Effect

$$\frac{1+r_F}{1+r_D} = \frac{E(1+i_F)}{E(1+i_D)}$$

Where

$r_F$  = interest rate of the country F (foreign country)

$r_D$  = interest rate of the country D (domestic country)

$i_F$  = Expected future inflation rate of the country F (foreign country)

$i_D$  = Expected future inflation rate of the country D (domestic country)