National University of Science and Technology

Think in Other Terms

**FACULTY OF COMMERCE**

**DEPARTMENT OF FINANCE**

**MSc FINANCE AND INVESTMENT**

**FINAL EXAMINATIONS 2014**

**MULTINATIONAL BUSINESS FINANCE AND TRADE [CFI 5214]**

**TIME: 3 HOURS**

## Instructions to Candidates

1. Answer any **FOUR (4)** questions.
2. Show **ALL** calculations.

## Information for Candidates

1. The paper consists of six printed pages including the cover page.
2. Questions may be attempted in any order.
3. All questions carry equal marks **(25 marks each)**.

**QUESTION ONE**

(a) SDF Inc, a Zimbabwean company, has just concluded a deal to export goods worth US$4 million to Guandou, a company based in Afghanistan. Payment will be made after 60 days and Guandou is proposing to give SDF a letter of credit in payment but SDF is concerned about the credit standing of the buyer. Advise SDF on what it can do to protect itself in this transaction. **(6 marks)**

(b) Besides choosing an appropriate financial structure for foreign subsidiaries, financial managers of multinational companies also have to choose the appropriate sources of funds to finance foreign subsidiaries. Examine the factors that the financial managers have to consider in making those two decisions. **(6; 4 marks)**

(c) Where a multinational company decides to borrow funds to finance its operations, it has to decide the borrowing subsidiary as well as the currency to be borrowed. Evaluate the factors that have to be considered in making such decisions. **(6 marks)**

(d) Briefly explain why the marginal cost of capital for most multinational companies is constant for a considerable range of their capital structure. **(3 marks)**

**Total = 25 marks**

**QUESTION TWO**

(a) In response to a balance of payments deficit, governments sometimes devalue their currencies to fix the problem. According to the J-curve theory, the trade balance worsens immediately after the devaluation but then improves with time. During the ESAP era Zimbabwe did this but the trade balance never improved. Discuss 3 likely reasons for this. **(6 marks)**

(b) Metdew, a US company, has purchased an Indian company which produces a line of running shoes for children. The purchase price is 12 million rupees, payable in full after six months. The following data is available:

| | |
|---|---|
| Current spot rate | R6.00/$ |
| Six-month forward rate | R6.20/$ |
| Six-month Indian interest rate | 11.00% p.a. |
| Six-month US interest rate | 8.00% p.a. |
| Six-month call option on rupee at R6.00/$ | 3.00% p.a. |
| Six-month put option on rupee at R6.00/$ | 2.50% p.a. |

Assume that Metdew can borrow or invest at the given interest rates in the US and India. Metdew's cost of capital is 14%. Illustrate and evaluate four

alternative ways that Metdew can adopt to manage its foreign exchange exposure and recommend the best alternative. **(16 marks)**

(c) Explain the main reason why some multinational companies do not hedge against translation exposure. **(3 marks)**

**Total = 25 marks**

## QUESTION THREE

(a) FGH is a Swiss subsidiary of a US multinational company. The subsidiary currently has annual sales of $1 million with 90-day credit terms. It is believed that sales will increase by 6% if terms are extended to 120 days. Of these additional sales, the cost of goods sold is $35 000. Monthly credit expenses are 1% in financing charges. Furthermore, the Swiss franc is expected to depreciate, on average, by 0.5% every 30 days. With relevant calculations, determine whether or not FGH should extend the credit period. **(6 marks)**

(b) Twenty different divisions of Aerosoll sell to millions of customers in more than 50 countries throughout the world. The proceeds are received in the form of drafts, cheques, and letters of credit. Controlling the flow of funds from each transaction is an extremely complex task for the company. Aerosoll wants to reduce the collection float to improve its cash flow. Advise the company on 4 techniques that might help it to achieve this objective. **(9 marks)**

(c) 'Adopting the gold standard to replace the current international monetary system (IMS) will help solve the problems bedevilling the IMS today'. Examine this statement. **(10 marks)**

**Total = 25 marks**

## QUESTION FOUR

(a) Tata is the largest and most successful speciality goods company based in India. It is considering establishing both manufacturing and distribution facilities in the USA through a wholly owned subsidiary. It has approached two different investment banking advisors, Goldman Sachs and Bank of New York, for estimates of what its cost of capital would be, several years into the future when it plans to list its US subsidiary on a US stock exchange. Using the assumptions given by the two different advisors given below, calculate the respective costs of debt, equity and WACC for Tata (i.e. from the perspectives of both Goldman Sachs' and Bank of New York's estimates). **(6 marks)**

| Capital Cost Component | Goldman Sachs | Bank of NY |
|---|---|---|
| Risk free interest rate | 3% | 3% |
| Average equity market return | 9% | 12% |
| Cost of debt | 7.50% | 7.80% |
| Correlation of Tata with the market | 0.9 | 0.85 |
| Standard deviation of Tata's returns | 24% | 30.00% |
| Standard deviation of market's returns | 18% | 22% |
| Recommended debt ratio | 35% | 40% |
| Effective US tax rate | 35% | 35% |

(b) Discuss how transfer pricing is used by multinational companies in their funds repositioning strategies. **(7 marks)**

(c) Cool-it is a Zimbabwean multinational company that manufactures household and industrial refrigeration appliances. It has subsidiaries in South Africa, Switzerland, Egypt, Qatar, and Indonesia. Having analysed the operating environment in all these countries, it has decided to reposition the bulk of its funds into Switzerland using various strategies. Critically analyse any four problems that Cool-it is likely to face in this endeavour. **(12 marks)**

**Total = 25 marks**

## QUESTION FIVE

Broomhill, a UK company, is considering starting a manufacturing plant in Argentina. A suitable local factory has been located which would cost 1 400 million pesos, including all machinery and fittings. Working capital of 400 million pesos is also required, which would be released when the project has ended. The project is expected to last for five years, after which Broomhill would then sell the machinery to a local company for an estimated 600 million pesos. The historic cost of the machinery is 750 million pesos.

Market values of the other assets will increase in line with inflation in Argentina. Broomhill is allowed to deduct tax-allowable depreciation on machinery to the value of 750 million pesos on a straightline basis at the rate of 10% per annum. No tax-allowable depreciation is available on any other fixed assets.

Annual production is 140 000 units and each unit needs a component from the UK parent company plant, which is sold at a fixed price of £2 per unit. This will contribute £0.50 to the parent cash flows. Variable costs are 2 400 pesos per unit in year 1while fixed costs are 70 million pesos in year 1. The price per unit in year 1 is 6000 pesos. Costs and prices (except for the UK component) are expected to increase in line with inflation in Argentina.

Corporation tax in Argentina is 40% while that in the UK is 35%, payable one year in arrears in both cases. A bilateral tax treaty exists between the UK and Argentina which allows tax paid in Argentina to be set against any UK tax liability.

Inflation in Argentina is expected to be 13% per annum for the next 5 years. The peso is expected to fall in value by 8% per annum against the pound. The current spot exchange rate (pesos/£, bid-ask) is 201.57-201.94 and future exchange rates may be estimated using the purchasing power parity theory. Broomhill believes that the appropriate risk-adjusted discount rate for the project is 17%.

Calculate the NPV of the project and decide whether or not Broomhill should invest in the project. **(25 marks)**

**QUESTION SIX**

In January 2012 the Federal Reserve Bank of America quoted the Swiss Franc (SF) vis-a-vis the dollar at a rate of SF3 = $1, and its research department forecasted that by the end of the year the price level in the United States would have risen by 10% while that of Switzerland would rise by 5%. The real rate of interest in both countries is 4%.

**Required**

(a) Estimate the expected spot rate of SFs per $1 in one year using the Purchasing Power Parity Theory. **(3 marks)**

(b) Use the Fischer relationship to estimate the nominal interest rates in each country which would make it possible for investments in each country to earn their real rate of interest. **(6 marks)**

(c) Estimate the current one year forward rate of SF per $1 using the Interest Rate Parity Theory. **(3 marks)**

(d) Prove analytically that the Fischer Effect and the Interest Rate Parity Theorem guarantee consistency with the Purchasing Power Parity Theorem when real interest rates in two different countries are equal. **(5 marks)**

(e) Postulate that the nominal interest rates in Switzerland and the USA are 8% and 15% respectively, and the one year forward rate of the SF is SF2.8725 to the dollar. Show how a Swiss investor who has an overdraft line of SF900 000 can make riskless profits through covered interest arbitrage. Comment on what would happen to both interest and exchange rates in the two countries as more investors move in to take advantage of these profitable opportunities. **(6 marks)**

**(**f) If the bank charges the investor a commission of ¼%, what would happen to the number of SF/dollar in the transaction? **(2 marks)**

**Total = 25 marks**

**END OF EXAMINATION PAPER**