

Bangladesh Open University
MBA Program
Semester: 192 (4th Level)

Course: Business Research Methods

Due on: May 27, 2022

Instructions

- Answer the all questions in your own handwriting on A4 size white paper.
- The assignment must be submitted on the assigned date to the Coordinator of the study center you are attached with.
- Spiral binding is strictly prohibited. Instead, transparent folder or file cover or any other soft binding may be used.

Questions

1. (a) “Basic Research often provides the Foundation for Applied Research.” Do you agree? Explain.
 - (b) Discuss the factors that influence whether or not business research is needed.
 - (c) Name and describe the four characteristics that help determine how valuable data may be to researchers and managers.
 - (d) Compare and contrast pull technology and push technology.

2. (a) What is a theory, what are its goals, and why is it useful to business researchers?
 - (b) Compare and contrast the terms *concept* and *variable* and give an example of each.
 - (c) How does a hypothesis differ from a proposition?
 - (d) Discuss how theories are developed.

3. (a) Identify the following type of data (qualitative/quantitative) and the level of measurement. Explain the reasons for your choices:
 - (i) The ages of the respondents in a survey
 - (ii) The genders of the respondents in a survey
 - (iii) The years in which the respondents to a survey were born
 - (iv) The voting intentions of the respondents in a survey classified as republican, Democrat or undecided
 - (v) The race of the respondents in a survey classified as White, African American, Asian or Other
 - (vi) The performance rating of employees classified as Above Expectations, Meets Expectations, or Below Expectations
 - (vii) The uniform number of each member on a sports team
 - (viii) A list of the graduating high school seniors by class rank
 - (ix) Final exam scores for your statistics class on a scale of 0 to 100
 - (x) The state in which the respondents in a survey reside

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- (b) Identify each of the following as either descriptive or inferential statistics.
- (i) The average salary of a random sample of 50 high school teachers in 2013 was \$52,400.
 - (ii) Based on a random sample of hotels in Chicago and a random sample of hotels in Atlanta, it was concluded that the average cost of a hotel room in Chicago was greater than one in Atlanta.
 - (iii) A study has concluded that the average credit card debt of college graduates has increased from 2012 to 2013.
 - (iv) The average Amazon.com rating of the book *The Complete Idiot's Guide to Statistics* by reviewers in 4.6 on a scale of 1 to 5.
 - (v) Seventy-eight percent of customers at the Holiday Inn hotel in Dover, Delaware, arrived before 6 pm last week.
4. (a) Compare and contrast exploratory, descriptive, and causal research. Which approach is the best?
- (b) Explain how a researcher makes causal inferences.
- (c) A walk-in clinic for emergency room services maintains records of the number of patients it treats per day. The following table shows the frequency of the patient arrivals over the course of a 150-day period:

Number of Patients per Day	Frequency
20 to under 40	10
40 to under 60	16
60 to under 80	25
80 to under 100	65
100 to under 120	34

- (i) Calculate the approximate average number of patients per day.
- (ii) Calculate the approximate variance and standard deviation of the number of patients per day.

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Bangladesh Open University MBA Program Semester: 192 (4th Level)

Course: MBA: Business Research Methods

Due on: July 29, 2022

(Answer all the questions in your own handwriting on A4 size white pages)

1. (a) Compare and contrast random sampling and systematic (nonsampling) errors.
 (b) The following table shows the total points scored in the 16 National Football League games played during Week of the 2021 season.

41	62	64	50	47	33	49	72
76	40	52	36	26	50	57	36

- (i) Calculate the mean for this population.
 (ii) Calculate the sampling error using the first four games in the first row as your sample.
 (iii) Calculate the sampling error using the eight games in the first row as your sample.
 (iv) How does increasing the sample size affect the sampling error?
 (v) Using a sample size of 4, what is the largest sampling error that can be observed from this population?
- (c) According to the National Association of Theater Owners, the average price for a movie in the United States in 2020 was \$7.96. Assume the population standard deviation is \$0.50 and that a sample of 30 theaters was randomly selected.
- (i) Calculate the standard error of the mean.
 (ii) What is the probability that the sample mean will be less than \$7.75?
 (iii) What is the probability that the sample mean will be less than \$8.10?
 (iv) What is the probability that the sample mean will be more than \$8.20?
2. (a) The University of Delaware would like to describe the linear relationship between the grade point average (GPA) and the starting monthly salary of a graduate who earned a business degree from the university. The following table shows the monthly starting salaries for eight graduates of the business school along with their corresponding GPAs:

Starting Salary (\$)	GPA	Starting Salary (\$)	GPA
2,600	3.2	3,000	3.7
2,900	3.4	2,900	4.0
2,500	2.6	2,200	2.5
2,600	3.5	2,400	3.3

- (i) Determine the sample correlation coefficient between the starting salary and the GPA of a University of Delaware business graduate.
 (ii) Using $\alpha = 0.05$ and the data from the above table, test if the population correlation coefficient between the starting salary and the GPA of a University of Delaware business graduate is greater than zero. What conclusions can you draw?

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- (b) The following table lists the SAT scores for 27 college students:

845	1,040	815	1,345	1,554	668	1,165	919	1,175
629	490	1,074	387	894	1,419	941	454	673
696	974	564	1,245	1,535	665	471	1,188	680

- (i) Identify the first, second, and third quartiles.
 (ii) Determine the interquartile range.
- (c) A company operates two retail outlets at different locations. The following table lists the customer satisfaction rating on a scale of 1 to 10 for each locations:

Store 1	Store 2
7	8
4	7
6	10
3	8
9	8

Which location provides a more consistent level of customer satisfaction?

3. (a) Compare and contrast Type I errors and Type II errors and explain which one is of more concern to researchers.
 (b) Compare and contrast parametric statistics and nonparametric statistics.
 (c) A particular university includes a capstone course in its MBA program which all graduating students take and covers an overview of topics for their degree. The following contingency table shows the number of students from three different concentrations along with the grade they received in the capstone course.

Concentration	Grade		
	A	B	C
Management	10	20	10
Marketing	30	40	30
Finance	20	40	0

- (i) What are the appropriate null and alternative hypothesis to be tested?
 (ii) Perform a hypothesis test to determine if the concentration of the students and the grade they received in the capstone course are independent variables using $\alpha = 0.01$.
4. (a) Pretzel Guys is a retail establishment that bakes hand-rolled pretzels on site for its customers. A key step in the pretzel-baking process is to ensure that a consistent size pretzel is hand-rolled by each employee. To test for consistency, a random sample of four pretzels made by each employee is given below.

Jane (1)	Tom (2)	Jason (3)
2.5	2.1	3.3
2.7	2.9	2.8
2.2	2.2	3.7
2.6	2.4	3.0

- (i) State the null and alternative hypotheses.
 (ii) Calculate the sample means and grand mean.
 (iii) Calculate the total sum of squares (SST).
 (iv) Calculate the mean square total (MST).

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- (b) Answer the following using your results from the Pretzel Guys problem described in (a).
- (i) Calculate the sum of squares between (SSB) and the mean square between (MSB).
 - (ii) Calculate the sum of squares within (SSM) and the mean square within (MSW).
 - (iii) Calculate the appropriate test statistic for the ANOVA procedure.
 - (iv) Using $\alpha=0.05$, can you conclude that there is a difference in the average weight of the pretzels made by the three employees?
 - (v) Verify your results with excel.
5. (a) List the seven major elements of a formal research report.
- (b) Discuss what is included in the body of a research report.
 - (c) Discuss the various types of graphic aids researchers can include in a research report.
 - (d) Describe the purpose of the oral presentation and list suggestions for effective presentations.

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Bangladesh Open University
MBA Program
Semester 192 (4th Level- Major in Finance)

Course: Corporate Finance

Due on: May 27, 2022

Instructions

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Questions

1. (a) Define corporate finance. The most important job of a financial manager is to create value. How do financial managers create value? Explain.
(b) Corporate finance has three main areas of concern. what are they? Discuss.
(c) Who owns a corporation? What is the main reason that an agency relationship exists in the corporate form of organization? In this context, what kind of problems can arise? How it can be solved?
2. (a) Define cash budget. “Financial Planning is an iterative process. Plans are created, examined, and modified over and over” –do you agree with this statement? Explain.
(b) What is Sustainable Growth Rate (SGR)? A firm’s ability to sustain growth depends explicitly on what factors? Discuss.
(c) If Mahmud company has a 13 percent ROE and a 20 percent payout ratio, what is its sustainable growth rate? What does the rate mean?
3. (a) Define operating lease. Which characteristics of financial lease differentiates operating lease? Discuss.
(b) According to Financial Accounting Standard (FAS) 13, under which criteria a lease must be classified as a capital one? Discuss.
(c) Why might a firm choose to engage in a sale and leaseback transaction?
(d) Discuss the reasons for leasing.

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Bangladesh Open University
MBA Program
Semester: 192 (4th Level- Major in Finance)

Course: Corporate Finance

Due on: July 29, 2022

(Answer all the questions in own handwriting on A4 size white pages)

1. (a) Differentiate between an American option and a European option?
- (b) Mahdi Corporation recently issued Tk. 3 million worth of 8% convertible debentures. Each convertible bond has a face value of Tk. 1000. Each convertible bond can be converted into 22 shares of common stock anytime before maturity. The stock price is Tk. 38, and the market value of each bond is Tk. 1086.
 - i. What is the conversion ratio?
 - ii. What is the conversion price?
 - iii. What is the conversion premium?
 - iv. What is the conversion value?
- (c) Hossain Pen Company has an outstanding issue of convertible bonds with a Tk 1,000 par value. These are convertible into 51 shares of common stock. They have a 9 per cent coupon and a 13-year maturity. The interest rate on a straight bond of similar risk is eight per cent.
 - i. Calculate the straight value of the bond.
 - ii. Calculate the conversion value of the bond when the market price of the stock is Tk. 32 per share.
2. (a) What are the three forms of acquisitions? Explain with example.
- (b) Adiv corp. is analyzing the possible acquisition of teller company. Both firms have no debt. Adiv believes the acquisition will increase its total after tax annual cash flow by Tk.1.2 million indefinitely. The current market value of teller is Tk.45 million, and that of Adiv is Tk.62 million. The appropriate discount rate for the incremental cash flows is 11%. Adiv is trying to decide whether it should offer 40% of its stock or Tk.48 million in cash to teller's shareholders.
 - a. What is the cost of each alternative?
 - b. What is the NPV of each alternative?
 - c. Which alternative should Adiv chose?
3. (a) Define financial distress using the stock-based and flow-based approaches.
- (b) What is prepackaged bankruptcy? What is the main benefit of prepackaged bankruptcy?
- (c) Why do so many firms file for legal bankruptcy when private workouts are so much less expensive? Discuss.

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Bangladesh Open University
MBA Program
Semester: 192 (4th Level- Major in Finance)

Course: Investment Analysis and Portfolio Management

Due on: May 27, 2022

Instructions

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Questions

1. (a) Define investment. Discuss the three components of an investor's required rate of return on an investment.
- (b) Assume that the consensus required rate of return on common stocks is 14 percent. In addition, you read our country's statical report that guesses the expected rate of inflation is 5 percent and the estimated long-term real growth rate of the economy is 7 percent. What interest rate would you expect on our government T-bills? What is the approximate risk premium for common stocks implied by these data?
2. (a) Why do most investors hold diversified portfolios? Explain.
- (b) Stocks K, L, and M each has the same expected return and standard deviation. The correlation coefficients between each pair of these stocks are:
 K and L correlation coefficient = +0.8
 K and M correlation coefficient = +0.2
 L and M correlation coefficient = -0.4
 Given these correlations, a portfolio constructed of which pair of stocks will have the lowest standard deviation? Explain.
- (c) Given:
 $E(R_1) = 0.12$; $E(R_2) = 0.16$; $E(\sigma_1) = 0.04$; $E(\sigma_2) = 0.06$
 Calculate the expected returns and expected standard deviations of a two-stock portfolio having a correlation coefficient of 0.70 under the following conditions.
 - i. $w_1 = 0.75$
 - ii. $w_1 = 0.50$
3. (a) Both the capital asset pricing model and the arbitrage pricing theory rely on the proposition that a no-risk, no-wealth investment should earn, on average, no return. Explain why this should be the case, being sure to describe briefly the similarities and differences between the CAPM and the APT. Also, using either of these theories, explain how superior investment performance can be established.
- (b) What are the stages in the industrial life cycle, and how does the stage in an industry's life cycle affect the sales estimate for an industry?

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MBA Program
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Course: Investment Analysis and Portfolio Management

Due on: July 29, 2022

(Answer all the questions in own handwriting on A4 size white pages)

1. (a) The Mills Company bond, which currently sells for \$1,080, has a 10% coupon interest rate and \$1,000 par value, pays interest annually, and has 10 years to maturity. What is the bond's YTM?
- (b) Four years ago, your firm issued \$1,000 par, 25-year bonds, with a 7 percent coupon rate and a 10 percent call premium.
 - i. If these bonds are now called, what is the approximate yield to call for the investors who originally purchased them?
 - ii. If the current interest rate on the bond is 5 percent and the bonds were not callable, at what price would each bond sell?

	Annual Average Rate of Return	Standard Deviation of Return	Beta
Portfolio X	10%	18%	0.60
S&P 500	12	13	1.00
T-bills	6	n/a	n/a

2.
 - i. Calculate both the Treynor measure and the Sharpe measure for both Portfolio X and the S&P 500. Briefly explain whether Portfolio X underperformed, equaled, or outperformed the S&P 500 on a risk-adjusted basis using both the Treynor measure and the Sharpe measure.
 - ii. Based on the performance of Portfolio X relative to the S&P 500 calculated in Part a, briefly explain the reason for the conflicting results when using the Treynor measure versus the Sharpe measure.

3. **Go through the case and answer the question below the case.**

Market Efficiency: Implications

Economist Dick Thaler in an August, FT opinion said quite nice things about "The Myth of the Rational Market." In it, he makes the case that the efficient market hypothesis consists of two main ideas, "No Free Lunch" and "The Price is Right," that have met very different fates over the past decade or so. After running through the history, he concludes: Listed:

What lessons should we draw from this? On the free lunch component there are two. The first is that many investments have risks that are more correlated than they appear. The second is that high returns based on high leverage may be a mirage. ... On the price is right, if we include the earlier bubble in Japanese real estate, we have now had three enormous price distortions in recent memory. They led to misallocations of resources measured in the trillions and, in the latest bubble, a global credit meltdown. If asset prices could be relied upon to always be "right", then these bubbles would not occur. But they have, so what are we to do?

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While imperfect, financial markets are still the best way to allocate capital. Even so, knowing that prices can be wrong suggests that governments could usefully adopt automatic stabilizing activity, such as linking the down-payment for mortgages to a measure of real estate frothiness or ensuring that bank reserve requirements are set dynamically according to market conditions. After all, the market price is not always right.

Questions

1. Do you agree with Thaler's Ideas? Why/why not?
2. Do you think that financial markets are still the best way to allocate capital? Why/ why not?

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Bangladesh Open University
MBA Program
Semester: 192 (4th Level- Major in Finance)

Course: Bank Management and Financial Services

Due on: May 27, 2022

Instructions

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Questions

1. (a) Discuss the importance of customer relationship management (CRM). Deliberate briefly the success factors of CRM.
 - (b) How have banking and the financial services market changed in recent years? What powerful forces are shaping financial markets and institutions today in Bangladesh? Which of these forces do you think will continue into the future in the context of Bangladesh?
 - (c) What techniques can be used to cover the operational efficiency of banks? You recently graduated from college with a business degree and accepted a position at a major corporation earning more than you could have ever dreamed. You want to (1) open a checking account for transaction purposes, (2) open a savings account for emergencies, (3) invest in an equity mutual fund for that far-off future called retirement, (4) see if you can find more affordable auto insurance, and (5) borrow funds to buy a condo given your uncle said he was so proud of your grades that he wanted to give you \$20,000 for a down payment. (Is life good or what?) Make five lists of the financial service firms that could provide you each of these services.
2. (a) To what different kinds of risk are banks and their financial-service competitors subjected today? What is the best use for the cash on the Company's Balance Sheet? How does the company plan to raise capital in order to fund future growth?

- (b) The following information is for Blue Sky National Bank:

Interest income	\$2,200
Interest expense	\$1,400
Total assets	\$45,000
Securities losses or gains	\$21
Earning assets	\$40,000
Total liabilities	\$38,000
Taxes paid	\$16
Shares of Common Stock outstanding	5,000
Noninterest income	\$800
Noninterest expense	\$900
Provision for loan losses	\$100

Calculate:

ROE (ii) ROA (iii) Net interest margin (iv) Earning per share (v) Net noninterest margin and (vi) Net operating margin

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- (c) Paintbrush Hills State Bank has just submitted its report of condition and report of income to its principal supervisory agency. The bank reported net income before taxes and securities transactions of \$29 million and taxes \$8 million. If its total operating revenues were \$650 million, its total assets \$1.75 billion, and its equity capital \$170 million, determine the following for Paintbrush Hills:
- (i) Tax management efficiency ratio.
 - (ii) Expense control efficiency ratio.
 - (iii) Asset management efficiency ratio.
 - (iv) Funds management efficiency ratio.
 - (v) ROE.

3. (a) What are the dissimilar kinds of risk are banks and their financial-service competitors subjected today? Explain
- (b) What is duration? How can you tell you are fully hedged using duration gap analysis?
- (c) Commerce National Bank holds assets and liabilities whose average duration and dollar amount are shown as below:

Asset and Liability Items	Avg. Duration	Dollar Amount
Dollar Amount Investment-grade bonds	8 years	\$60 million
Commercial loans	3.6 years	\$320 mill.
Consumer loans	4.5 years	\$140 mill.
Deposits	1.1 years	\$490 mill.
Non-deposit borrowings	0.1 years	\$20 mill.

What is the dollar-weighted duration of the bank's asset portfolio and liability portfolio? What is the duration gap?

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MBA Program
Semester: 192 (4th Level- Major in Finance)

Course: Bank Management and Financial Services

Due on: July 29, 2022

(Answer all the questions in own handwriting on A4 size white pages)

1. (a) What is the specific feature of a bank product that require different marketing techniques than physical product? How can you develop the marketing's for bank & financial institution?
 - (b) As fintech in 2022 advances, how will trade automation, trade performance analytics, AI, and machine learning impact trading professionals?
 - (c) What is the CAMELS rating and how is it used? What three major questions or issues must a lender consider in evaluating nearly all loan requests?
 - (d) Suppose a business borrower projects that it will experience net profits of \$2.1 million, compared to \$2.7 million the previous year and will record depreciation and other noncash expenses amount of \$0.7 million this year versus \$0.6 million last year. What is this firm's projected cash flow for this year? Is the firm's cash flow rising or falling? What are the implications for a lending institution thinking of loaning money to this firm? Suppose sales revenue rises by \$0.5 million, costs of goods sold decreases by \$0.3 million, while cash tax payments increase by \$0.1 million and noncash expenses decrease by \$0.2 million. What happens to the firm's cash flow? What would the lender's likely reaction to these events?
 - (e) Crockett Manufacturing and Service Company holds a sizeable inventory of dryers and washing machines, which it hopes to sell retail dealers over the next six months. These appliances have a total estimated market value currently of \$25 million. The firm also reports accounts receivable currently amounting to \$12,650,000. What is the minimum size loan or credit line Crockett is likely to receive from its principal lender? What is the maximum size loan or credit line Crockett is likely to receive?
2. (a) What are the essential differences among working capital loans, open credit lines, asset-based loans, term loans, revolving credit lines, interim financing, project loans, and acquisition loans?
 - (b) Suppose a bank estimates that the marginal cost of raising loanable funds to make a \$10 million loan to one of its corporate customers is 4 percent, its non-funds operating costs to evaluate and offer this loan are 0.5 percent, the default-risk premium on the loan is 0.375 percent, a term-risk premium of 0.625 percent is to be added, and the bank's desired profit margin is 0.25 percent. What loan rate should be quoted this borrower? How much interest will the borrower pay in a year?
3. (a) What are the principal differences among asset liquidity management, liability management, and balanced liquidity management?
 - (b) How does the sources and uses of funds approach help a manager estimate a financial institution's need for liquidity?

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- (c) Suppose that a thrift institution's liquidity division estimates that it holds \$19 million in hot money deposits and other IOUs against which it will hold an 80 percent liquidity reserve, \$54 million in vulnerable funds against which it plans to hold a 25 percent reserve, and \$112 million in stable or core funds against which it will hold a 5 percent liquidity reserve. The thrift expects its loans to grow 8 percent annually; its loans currently stand at \$117 million, but have recently reached \$132 million. If reserve requirements on liabilities currently stand at 3 percent, what is this depository institution's total liquidity requirement?
- 4 (a) Explain the current status and the prospect of E-Banking in Bangladesh.
- (b) What is fin-tech banks and what impact will they have on financial services? Explain.
- (c) What will be the biggest hurdles to the adoption of Artificial intelligence (AI) in financial services in 2020 and beyond?

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Bangladesh Open University
MBA Program
Semester: 192 (4th Level- Major in Finance)

Course: Development of Financial Markets and Institutions

Due on: May 27, 2022

Instructions

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1. Classify the following financial instruments as money market securities or capital market securities:
 - (a) Banker acceptance
 - (b) Commercial paper
 - (c) common stock
 - (d) corporate bonds
 - (e) Mortgages
 - (f) Negotiable certificates of deposits
 - (g) Repurchase agreements
2. On October 5, 2004, you purchase a \$10,000 T-note that matures on August 15, 2015 (settlement occurs two days after purchase, so you receive actual ownership of the bond of October 7, 2004). The coupon rate on the T-note is 4.375 percent and the current price quoted on the bond is 105.08 (or 105.25% of the face value of the T-one). The last coupon payment, occurred on May 15, 2004 (145 days before settlement), and the next coupon payment will be paid on November 15, 2004 (41 days from settlement).
 - (a) Calculate the accrued interest due to the seller from the buyer at settlement.
 - (b) Calculate the dirty price of this transaction.
 - (c) Calculate the yield to maturity (based on the clean price) on the bond received on October 7, 2004, and maturing on August 15, 2015 (or in 10.8603 years).
3. What is the difference between bearer bonds and registered bonds?
4. What is a convertible bond? Is a convertible bond more or less attractive to a bond holder than a nonconvertible bond?
5. Hilton Hotels Corp. has a convertible bond issue outstanding. Each bond, with a face value of \$ 1,000, can be converted into common shares at a rate of 61.2983 shares of stock per \$1,000 face value bond (the conversion rate), or \$16.316 per share. Hilton's common stock is trading (on the NYSE) at \$15.90 per share and the bonds are trading at \$97.50.
 - (a) Calculate the conversion value of each bond.
 - (b) Determine if it is currently profitable for bond holders to convert their bonds into shares of Hilton Hotel common stock?

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6. Suppose you own 50,000 shares of common stock in a firm with 2.5 million total shares outstanding. The firm announces a plan to sell an additional 1 million shares through a rights offering. The market value of the stock is \$35 before the rights offering and the new shares are being offered to existing shareholders at a \$5 discount.
- (a) If you exercise your preemptive rights, how many of the new shares can you purchase?
 - (b) What is the market value of the stock after the rights offering?
 - (c) What is your total investment in the firm after the right offering? How is your investment split between original shares and new shares?
 - (d) If you decide not to exercise your preemptive rights, what is your investment in the firm after the rights offering? How is this split between old shares and rights?

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Bangladesh Open University MBA Program Semester: 192 (4th Level- Major in Finance)

Course: Development of Financial Markets and Institutions

Due on: July 29, 2022

(Answer all the questions in own handwriting on A4 size white pages)

1. (a) How are interest rates used to determine present and future values?
(b) What factors cause the supply and demand curves for loanable funds to shift?
(c) How can forward rates to interest be derived from the term structure of interest rates?
2. Citibank holds \$23 million in foreign exchange assets and \$18 million in foreign exchange liabilities. Citibank also conducted foreign currency trading activity in which it bought \$5 million in foreign exchange contracts and sold \$12 million in foreign exchange contracts.
(a) What is Citibank's net foreign assets?
(b) What is Citibank's net foreign exchange bought?
(c) What is Citibank's net foreign exposure?
3. The following table lists balance of payment current accounts for country A.
Current Accounts

(i) Exports of goods, services, and income		\$168,953
(ii) Goods, adjusted, excluding military	\$92,543	
(iii) Services	45,689	
(iv) Income receipts on U.S. assets abroad	30,721	
(v) Imports of goods, services, and income		-150,936
(vi) Goods, adjusted excluding military	-84,107	
(vii) Services	-31,689	
(viii) Income payments on foreign assets in the United States	-35,140	
(ix) Unilateral transfers, net		-9,421

 (a) What is country A's total current accounts?
 (b) What is country A's balance on goods?
 (c) What is country A's balance on services?
 (d) What is country A's balance on investment income?
4. (a) What is a derivative security?
(b) What is the difference between a spot contract, a forward contract, and a futures contract?
5. Suppose you purchase a Treasury bond futures contract at a price of 95 percent of the face value, \$100,000.
(a) What is your obligation when you purchase this futures contract?
(b) Assume that the Treasury bond futures price falls to 94 percent. What is your loss or gain?
(c) Assume that the Treasury bond futures price rises to 97. What is your loss or gain?
6. A commercial bank has \$200 million of floating rate loans yielding the T-bill rate plus 2 percent. These loans are financed with \$200 million of fixed rate deposits costing 9 percent. A savings bank has \$200 million of mortgages with a fixed rate of 13 percent. They are financed with \$200 million in CDs with a variable rate of T-bill rate plus 3 percent.
(a) Discuss the type of interest rate risk each institution faces.
(b) Propose a swap that would result in each institution having the same type of asset and liability cash flows.
(c) Show that this swap would be acceptable to both parties.

Note: Submit your assignment to the Coordinator of the Study Center you are attached with.