

## QUIZ I

1. The professional investors stated in *Wall Street Journal* that “we won’t take on additional risk unless we expect to be compensated with additional return.” Do you agree with this statement? Explain your opinion with example.
2. You consider investing in the investment that provides the return \$10,000 at the end of 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, and 7<sup>th</sup> year and \$20,000 at the end of 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> year. What is the maximum price you would like to pay for this investment if your required rate of return is 6%?
3. If you want to borrow \$150,000, which of the following banks should you select? Explain clearly with necessary calculation.
  - Bank A requires quarterly repayments of \$12,872.96 end of each quarter over 4 years.
  - Bank B requires a total repayment of \$276,360 at the end of 5 years.
4. You plan to buy a 15-year bond issued by Anorax Co., which has a par value of \$1,000 with a 12% annual coupon rate. However, this bond has only 10 years remaining until maturity.
  - 4.1 If you require 14% rate of return, what is the value of this bond?
  - 4.2 Everything else held constant, how will the value of this bond change over time? Explain.
5. ProMax Co.’s common stock is currently selling for \$36 per share. The firm is expected to pay \$4 per share dividend next year and its earnings are expected to grow at 9% per year in the future. If investors require 19% rate of return on this stock, which of the following statements is correct? Explain in detail with necessary calculation.
  - 5.1 The value of the stock is more than its market price, hence it is overvalued. The stock should not be purchased.
  - 5.2 The value of the stock is more than its market price, hence it is undervalued. The stock should be purchased.
6. HiLow Company has a perpetual preferred stock issue that pays a 15% dividend. The par value of each share is \$80. The stocks are currently trading for \$85. The going rate of interest in the market is 12%. Which of the following statements is true for this stock? Explain in detail with necessary calculation.
  - 6.1 The market rate is less than the stock’s expected rate of return and it should be purchased.
  - 6.2 The market rate is less than the stock’s expected rate of return and it should not be purchased.
7. Aspen Co., has issued a callable preferred stock (i.e. preferred stock with a call option). After two years, the company decides to exercise the call option by buying the stocks back from its investors. In your opinion, what might be the possible reason(s) in doing so? Also explain why the company decides to call back the stocks.
8. You intend to buy Berrymore Inc.’s common stock at \$100 per share, hold it one year and sell after that. The firm paid a \$5 per share dividend last year and its dividends are expected to grow at an annual rate of 7% for indefinite number of years. If you can sell the stock at \$110, what is your expected rate of return?

**QUIZ II**

1. Following are the financial statements of Union Inc.

**Balance Sheet**

Cash	2,540	Account payable	9,721
Marketable securities	1,800	Note payable	8,500
Account receivable	18,320	Accrued taxes	3,200
Inventories	<u>27,530</u>	Other current liabilities	<u>4,102</u>
Total current assets	50,190	Total current liabilities	25,523
Plant & equipment	43,100	Long-term debt	<u>22,000</u>
Accumulated depreciation	11,400	Total liabilities	47,523
Net plant & equipment	<u>31,700</u>	Common stock	13,000
Total assets	81,890	Paid-in capital	10,000
		Retained earnings	<u>11,367</u>
		Total equity	<u>34,367</u>
		Total liability and equity	81,890

**Income Statement**

Sales	112,760
Cost of goods sold	<u>85,300</u>
Gross profit	27,460
Operating expenses	<u>15,940</u>
Earnings before interest and taxes	11,520
Interest	<u>3,160</u>
Earnings before taxes	8360
Taxes (40%)	<u>3,344</u>
Net income	5,016

**Industry Average**

Current ratio	2.4 times	Total asset turnover	1.82 times
Acid test ratio	0.92 time	Debt ratio	47%
Average collection period	47 days	Times interest earned	6.7 times
Inventory turnover	3.9 times	Operating profit margin	12%
Fixed asset turnover	4.6 times	Return on equity	17.54%

Answer the following questions with clear explanation and supporting ratios:

- 1.1 Is the firm's liquidity better or worse than the industry? Explain.
- 1.2 Regarding the firm's account receivable and inventory management, is it more efficient than industry? Explain.
- 1.3 Is the firm's overall asset utilization more efficient than the industry? Explain.

- 1.4 Is the firm's interest paying ability higher than that of the industry? Explain.
- 1.5 Analyze the firm's return to owners by using the DuPont System ratio. Explain why the firm's ratio is higher or lower than that of the industry.

2. Following is the partial financial information of Candy Company.

Net income	\$120,000
Interest expense	\$100,000
Sales	\$800,000
Price per unit	\$40
Variable cost per unit	\$16
Tax rate	40%
Number of common stock	100,000

Note: the firm has no preferred stock

- 2.1 What is the firm's fixed cost
  - 2.2 Find the firm's degree of operating leverage, financial leverage and combined leverage.
  - 2.3 If the firm's sales are increased by 10%, how much earning per share (in dollar) would the firm produce?
  - 2.4 Find the firm's breakeven point in sales dollar.
  - 2.5 Do you want the firm to use higher or lower leverage when there is a bad economy? Explain with supporting reasons.
3. You are considering choosing between two suppliers. The price and quality of the product from both suppliers are similar, so your main concern is the credit terms provided by each supplier.
- Supplier A: 2/10, n/60
  - Supplier B: 3/10, n/90
- The order size will be B100,000 and you can choose to borrow from Bank A if you want to make early payment to take the discount. The bank agrees to lend you with the following term:
- The loan is discount loan.
  - Interest is 5% per annum.
  - The additional administrative fees will be charged at the borrowing date for 1% of the borrowed amount.
- 3.1 Compute the effective cost of trade discount for both suppliers. Which supplier will you choose?
  - 3.2 Compute the effective cost of borrowing from Bank A.
  - 3.3 What would be your recommendation to the firm? Explain.

**MIDTERM**

1. In 1989, on the day following the death of John Dorrence, chief manager of Campbell's Soup, Campbell's stock price rose about 15%. The reason was shareholders felt that Dorrence was the major problem to a possible reorganization for the advancement the company, hence damaging shareholder's wealth. Which one(s) of the following principles plays important role in the investors' positive reaction to the above scenario? Explain in detail.

Principle 1: Risk-Return Trade-off

Principle 2: Time Value of Money

Principle 5: The Curse of Competitive Markets

Principle 6: The Efficient Capital Markets

Principle 7: The Agency Problem

2.
  - 2.1 If you put \$1,200 in a savings account at the beginning of each year for 10 years and then allow the account to compound for another 8 years, how much will you have in this account at the end of the 18<sup>th</sup> year? Assume that the account earns 10 percent annual compound rate.
  - 2.2 You want to retire 25 years from today and you also want to receive an annuity of \$20,000 a year to support your life after retirement. You expect to live for 20 years after the retirement. You want to receive the first annuity payment at the end of the 26<sup>th</sup> year. If you could save at an annual rate of 10 percent, how much do you have to deposit today?
3. Consider two bonds, A and B. The coupon interest rates are 10 percent and the par values are \$1,000 for both bonds. Both bonds have annual coupons. Bond A has 20 years to maturity while bond B has 10 years to maturity.
  - 3.1 What are the prices of the two bonds if the relevant market interest rate for both bonds is 10 percent?
  - 3.2 If the market interest rate decreases to 8 percent, what will be the prices of the two bonds?
  - 3.3 Following the above questions, what are the implications of the changes in the market price of those two bonds? Explain.
4. Ms. Wealth is considering purchasing Gold Co.'s common stock. Now, the price of common stock is \$100. Gold declared and paid \$10 common dividend last year. The common dividend 10 years ago was \$7.
  - 4.1 What is the maximum price Ms. Wealth is willing to pay for Gold Co.'s common stock given she requires 9% rate of return?
  - 4.2 If Ms. Wealth plans to sell the stock immediately after receiving the second dividend. The stock price at that time is estimated to be \$90. What is the maximum price that Ms. Wealth is willing to pay for Gold Co.'s common stock given she requires 9% rate of return?
  - 4.3 The value of a share of common stock depends on how long you expect to hold it. Do you agree with this statement? Explain.

5. Use information from financial statements of CRI Company to compute free cash flow in both asset perspective and financing perspective. Also interpret the answer you get from each perspective in detail.

**CRI Company**  
**Income Statements**  
**For the Years Ended December 31, 2007 and 2006**

	2007	2006
Sales	\$150,500	\$138,200
Cost of Goods Sold	108,400	92,600
<b>Gross Profit</b>	<b>42,100</b>	<b>45,600</b>
Selling, G&A Expense	15,500	13,400
Fixed Expenses	7,600	7,000
Depreciation Expense	2,300	2,250
<b>Net Operating Income</b>	<b>16,700</b>	<b>22,950</b>
Interest Expense	3,400	2,900
<b>Earnings Before Taxes</b>	<b>13,300</b>	<b>20,050</b>
Taxes	3,990	6,015
<b>Net Income</b>	<b>\$9,310</b>	<b>\$14,035</b>

**CRI Company**  
**Balance Sheets**  
**For the Years Ended December 31, 2007 and 2006**

	2007	2006
<b>Assets</b>		
Cash & Equivalents	\$10,500	\$9,700
Accounts Receivable	54,400	55,300
Inventory	42,700	37,800
<i>Total Current Assets</i>	107,600	102,800
Plant & Equipment	56,900	53,000
Accumulated Depreciation	30,200	27,900
<i>Net Plant &amp; Equipment</i>	26,700	25,100
<b>Total Assets</b>	<b>\$134,300</b>	<b>\$127,900</b>
<b>Liabilities &amp; Owner's Equity</b>		
Accounts Payable	\$12,000	\$10,700
Short-Term Notes	18,700	20,100
Other Current Liabilities	8,400	8,600
<i>Total Current Liabilities</i>	39,100	39,400
Long-Term Debt	32,000	29,800
<i>Total Liabilities</i>	71,100	69,200
Common Stock	40,500	40,500
Retained Earnings	22,700	18,200
<i>Total Owner's Equity</i>	63,200	58,700
<b>Total Liab. &amp; Owner's Equity</b>	<b>\$134,300</b>	<b>\$127,900</b>

6. As a financial analyst of the Finance Department of Daiwa Manufacturing, your supervisor has asked you to compute the appropriate weighted average cost of capital to evaluate the purchase of new equipment for the plant. The firm's balance sheet for December 31, 2007 is given below: (in U.S. dollars)

Cash	1,000,000	Account payable	1,000,000
Account receivable	1,000,000	Accruals	1,000,000
Inventory	<u>1,000,000</u>	Short-term debt	<u>1,000,000</u>
Current Assets	3,000,000	Total current Liabilities	3,000,000
		Long-term debt	5,000,000
		Preferred Stocks	3,000,000
		Common Equity	
		Common Stocks	1,000,000
Net fixed assets	<u>10,000,000</u>	Retained Earnings	1,000,000
Total Assets	<u>13,000,000</u>	Liability and equity	<u>13,000,000</u>

To finance the purchase, Daiwa manufacturing will issue the following securities:

**Debt:** Daiwa manufacturing will sell 10-year bonds paying 8% per year at the market price of \$1,200. The par value of the bond is \$1,000. Floatation costs for issuing the bonds are 5% of the market price.

**Preferred Stocks:** Preferred stock paying a \$2.00 dividend can be sold for \$25; the cost of issuing these shares is \$1 per share.

**Common Stock:** Common stock for Daiwa Manufacturing is currently selling for \$103 per share. The firm paid a \$4 dividend last year and expects dividends to continue growing at a constant rate. The firm's average annual return on equity is 20 percent and its dividend payout ratio is 25 percent. Floatation costs for issuing new common stock will be \$3 per share and the firm's tax rate is 40%.

- 6.1 What is the after tax cost of debt?
- 6.2 What is the cost of preferred stock?
- 6.3 What is the cost of external equity?
- 6.4 What weighted average cost of capital should you use to evaluate the equipment purchase if the firm's current capital structure is optimal?
- 6.5 Should Daiwa Manufacturing invest in the new equipment if internal rate of return is 8%? Give a short reason to support your recommendation.
- 6.6 Distinguish between internal common equity and external common equity.

**FINAL EXAM**

1. "Higher leverage means higher profit. As the financial manager, we should try to increase leverage as much as possible in order to maximize profit and shareholders' wealth". Do you agree with the above statement? Answer with supporting reasons.
2. You work as a financial analyst at Crisp Company. Currently, the company can sell their product for 100,000 units at \$100 per unit. The contribution margin is 60%. The break-even point of the firm is 50,000 units. If the firm's EBIT increases by 10%, its EPS will be increased by 15%. Using this information,
  - 2.1 Find the degree of operating leverage.
  - 2.2 If the firm expects to increase its sales by 20%, what is the effect on EPS?
  - 2.3 If you are very confident that the economy next year will be very good, should you recommend the firm to increase or decrease leverage? Explain. What should be the company's action to follow your recommendation?
3. Financial manager of Baker Corporation is facing with short-term financing decision making. The supplier of the firm offered a credit term or 3/40, n/80. Short-term financing are available from two sources in order to take cash discount: QuickCash Bank and EasyBuy Bank. Their terms are as follows: (Assume 1 year = 360 days)
  - **QuickCash** will charge 2 percent over its prime rate for the line of credit it offers to the firm on which there is compensating balance requirement of 10 percent and interest is to be paid only at the maturity of the loan. The bank's current prime rate is 8.5 percent annually.
  - **EasyBuy** will charge 12 percent annually without any compensating balance but the interest is to be discounted at the beginning.
  - 3.1 Calculate the cost of trade discount from the supplier.
  - 3.2 Calculate the cost of borrowing from QuickCash.
  - 3.3 Calculate the cost of borrowing from EasyBuy.
  - 3.4 What decision should the firm make? Explain why that decision should be undertaken and how it benefits the firm in detail.
4. Preston Corporation is examining a capital budgeting project with 5-year life. The project is classified as an expansion project. Currently, the after-tax risk-free rate of return is 7 percent. The expected cash flows and certainty equivalent (CE) factors of the project are as follows:

Year	Expected Cash Flow	CE
0	\$ (250,000)	1.00
1	30,000	0.95
2	40,000	0.90
3	50,000	0.85
4	90,000	0.75
5	130,000	0.65

The firm's preassigned rate of return for different projects according to the risk class are as follows:

<b>Project type</b>	<b>Required rate of return</b>
Replacement decision	12%
Expansion	15%
Unrelated operations	18%
Research & Development	20%

- 4.1 If the firm uses certainty equivalent method to evaluate this project, what would be the firm's decision?
  - 4.2 If the firm uses risk-adjusted discount rate, what would be the firm's decision?  
(Decision under both methods must be based on the net present value of the project)
  - 4.3 Compare and contrast the two methods used in analyzing risk for capital budgeting projects.
5. Cadbruy Inc., a firm in the 40 percent marginal tax bracket with a 13 percent required rate of return or cost of capital, is expanding rapidly and hence it is considering buying a new machine to support its expected higher production capacity. The new machine model would cost the firm \$19,900,000. This price is inclusive of freight charges, but the company has to pay for the installation cost of \$100,000 separately.

The new machine would facilitate the firm to achieve the following sales over the expected life of 5 years.

<b>Year</b>	<b>Units Sold</b>
1	80,000
2	90,000
3	100,000
4	70,000
5	60,000

- Sales price per unit: \$400/unit in years 1-4, \$300/unit in year5
- Variable cost per unit: \$150/unit
- Annual fixed costs: \$500,000

**Working-capital requirements:** There will be an initial working-capital requirement of \$200,000 to get production started. For each year, the total investment in net working capital will be equal to 20 percent of sales for the first 2 year and 15% of sales for the last 3 years. Also, all working capital is liquidated at the termination of the project at the end of year 5.

**The depreciation method:** Use the simplified straight-line method over five years. It is assumed that the plant and equipment will have no salvage value after five years.

- 5.1 Determine the free cash flows associated with the project for year 0 to 5.
- 5.2 Determine the project's net present value.
- 5.3 Should the firm invest in this project based on NPV criteria? Explain.
- 5.4 What is the payback period of the project?
- 5.5 What are the advantages and disadvantages of the payback period?

6. ALLA Company financial ratios for the year 2007 and 2008 are as follows;

	<b>2007</b>	<b>2008</b>	<b>Industry average (2008)</b>
Current ratio	2.40	2.42	2.40
Acid test ratio	0.39	0.41	0.40
ACP	32 days	34 days	37 days
Inventory turnover	3.8	4.1	4
Fixed asset turnover	5.3	6.2	7
Total asset turnover	1.5	1.9	2.1
Debt ratio	60%	70%	63%
Times interest earned	3.3	3.0	3.5
Gross profit margin	40.10%	45.30%	40.90%
Operating profit margin	13.90%	15.10%	15.20%
Net profit margin	3.90%	4.10%	5.2%
Return on asset	5.85%	7.79%	10.92%
Return on equity	14.625%	25.97%	29.51%

- 6.1 Do the trend analysis of ALLA Company. Discuss the company's performance in terms of its liquidity, efficiency, profitability and leverage from year 2007 to 2008.
- 6.2 Do the industrial analysis for ALLA Company. Discuss the company's performance in terms of its liquidity, efficiency, profitability and leverage from year 2007 to 2008.
- 6.3 Give recommendations to the management of the company regarding which area(s) needed to be improved in order to enhance its financial performance.

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