GESTÃO FINANCEIRA II Lic. - Undergraduate Degree

MIDTERM TEST – RETAKE (17.01.2019) – 1:00 hour

Name/Nome: ____ Number/Número: _______

PLEASE READ THE FOLLOWING INFORMATION BEFORE SOLVING THE EXAM:

1) The exam has a version in English and a version in Portuguese (at the end);
2) You are allowed to keep your pens, pencils and a calculator with you.
3) The structure of the exam is the following:
   - In group I each question (1 to 8) is multiple choice;
   - Group II requires explaining all the steps in your solutions.
4) Grading:
   - Each correct multiple-choice answer is worth 1.25 points. Each incorrect multiple-choice answer does not penalize the student;
   - Group II is worth 10 points.
5) Multiple choice questions must be answered by drawing a circle around the letter that, in your opinion, corresponds to the correct solution.
6) You are not allowed to un-staple the exam.

GOOD LUCK!

Group I (10 points)

Answer each question by drawing a circle around the letter that, in your opinion, corresponds to the correct solution.

1. A firm has a debt-to-equity ratio of 1. Its cost of equity is 12%, and its cost of debt is 6%. If there are no taxes or other imperfections, what would be its cost of equity if the debt-to-equity ratio were 0?
   a) 6.00%
   b) 9.00%
   c) 12.00%
   d) 18.00%

   D = E => D+E = 1 => D = E = 0,5
   WACC = 0,5(0,12) + 0,5(0,06) = 0,09
   With D/E = 0 => E = 1; D = 0 => re = WACC = 0,09 = 9.00%
   or WACC = 1(re) + 0(0.6) = 0,09 => re = 0.09 = 9.00%

2. Company X has 150 shares outstanding. It earns $1,000 per year and announces that it will use all $1,000 to repurchase its shares in the open market instead of paying dividends. Calculate the number of shares outstanding at the end of year 1, after the first share repurchase, if the required rate of return is 6 percent.
   a) $111.11
   b) $117.78
   c) $135
   d) $141.51

   (1000/0.06) / 150 = 111.11
   111.11*1.06=117.78; 1000/117.78=8.49 150-8.49=141.51

3. Lívia's Music Studio is currently an all equity firm that has 20,000 shares of stock outstanding with a market price of $100 a share. The current cost of equity is 12% and the tax rate is 30%. Lívia is considering adding $2 million of debt with a coupon rate of 10% to her capital structure. The debt will be sold at par value. What is the levered value of the equity?
   a) $0.2 million
   b) $0.6 million
   c) $2 million
   d) $2.6 million

   V_L = (20,000 × $100) + (0.30 × $2m) = $2m + 0.6m = $2.6m; VE = $2.6m - $2m = $0.6m

4. If markets are efficient, which of the following investors should achieve superior returns over time?
   a) Mutual fund managers who manage other people's money for a living.
   b) Analysts who spend considerable time evaluating the best stocks to buy.
   c) Investors who choose stocks by throwing darts at a list of stocks in the financial pages of a newspaper.
   d) None of the options are correct.

5. Your firm has a debt-equity ratio of 0.20. Your cost of equity is 9% and your after-tax cost of debt is 6%. What will your cost of equity be if the target capital structure becomes a 50/50 mix of debt and equity? project? (Use two decimals in your computations)
   a) 6%
   b) 9%
   c) 12%
   d) 15%

   WACC = [(1.0 ÷ 1.2) × 0.09] + [(0.2 ÷ 1.2) × 0.06] = 0.09; 0.09 = 0.5xRE + (0.5 × 0.06);
   RE = 0.12 = 12%

6. A corporation may incur agency costs because
   a) managers may not attempt to maximize the value of the firm to shareholders.
   b) Shareholders incur monitoring costs.
   c) of the separation of ownership and management.
   d) all the previous answers are correct.

7. Given realistic estimates of the probability and cost of bankruptcy, the future costs of a possible bankruptcy are borne by:

   a) all investors in the firm.
   b) shareholders only because debtholders will pay less for the debt providing less cash for the shareholders.
   c) debtholders only because if default occurs interest and principal payments are not made.
   d) management only because if the firm defaults, they will lose their jobs.

8. Suppose that a lawyer works for a firm that advises corporate firms planning to sue other corporations for antitrust damages. He finds that he can "beat the market" by short selling the stock of firms that will be sued. This hypothetical finding would violate
   a) none of the hypothesis of market efficiency.
   b) strong-form hypothesis of market efficiency.
   c) semi-strong form hypothesis of market efficiency.
   d) weak-form hypothesis of market efficiency.

Group II (10 points)

9. (3.0 points) Which of the following observations appear to indicate market inefficiency and contradict the weak, semi-strong or strong form of the efficient market hypothesis?

   a) Treasury Bonds offer higher pretax return than Treasury Bills;
   b) Financial managers make higher returns on their purchases of their company's stock;
   c) We have a positive relationship between the return on the market in one quarter and the change in aggregate profits in the next quarter;
   d) The company X announced in July a quarterly EPS (earnings per share) above expectations. The stock will offer high returns for several months after this announcement;
   e) Past returns guarantee future returns.
   f) A high risky stock on average give higher returns than a safe stock.

   b) Strong Form

   d) Semi-Strong Form

   e) Weak Form

10. (7.0 points) BHYsound Inc is a producer of portable speakers and headphones, headquartered in Chicago, Illinois. The company is fairly profitable with stable net income of $450 million. Currently, it has steady interest-bearing (6.5%) long-term debt of $2,400 million and managers would like to propose a $500 million raise in debt to pay extraordinary dividends to the 100 million shares outstanding with the proceeds from the issuance. This strategy would put some pressure on BHYsound's financial strength. Consequently, it would yield a present value of financial distress costs of $30 million. The company's business risk is 12.0% and it faces a 25% corporate tax rate.

    a) (2.5 points) Determine BHYsound's value of equity before the debt issuance using the Modigliani-Miller framework with corporate taxes.

Interest	156.0	
EBIT	756.0	NI/(1-T) + Interest
EBIT (1-t)	567.0	
V_U	4,725.0	
T x D	600.0	
V_L	5,325.0	
E	**2,925.0**	

$$R_A = \frac{EBIT \times (1 - T_c)}{V_U}$$

$$V_L = V_U + T_c \times D = E + D$$

b) (1.5 points) Determine the new value of equity following the debt issuance and dividend distribution.

T x D (after)	725.0	(2,400 + 500) × 0.25
PV(distress costs)	-30.0	
V_L	5,420.0	
E	**2,520.0**	(V_L – D)

c) (1.5 points) Determine the earnings per share (EPS) before and after the debt issue considering that debtholders require 8% on the company's total debt with the managers proposal.

EPS before	4.50	
NI (after)	393	All debt has a cost of 8%
EPS after	3.93	
Change in EPS	**-0.57**	

d) (1.5 points) Using your answer to part b) and c), discuss whether BHYsound's shareholders are wealthier. Ignore taxes on dividends.

-405.0	Change in Equity
500.0	Dividends
95.0	Change in wealth, ignoring taxes other than at the corporate level

Shareholders are wealthier
The incremental benefit of tax shields surpasses the marginal cost of financing distress costs
EPS is a biased indicator to assess changes in shareholder's wealth