

Name _____

Student Number _____

TEST 2

MGF 301 Corporation Finance
Spring 2009

Please sign name in box

Please tear off the answer sheet and answer all of the following questions on the answer sheet.
(Note: Total Points = 100; Multiple Choice = 4 points each unless otherwise indicated)

1. The following arise out of a new project X implemented by YT Inc. Which of the following does not represent a cash flow that should be taken into account for capital budgeting purposes?
 - (a) a decrease in income taxes paid to the government because of expenses of project X
 - (b) allocation of pre-existing overhead expenses to project X**
 - (c) an increase in sales of a related YT Inc. product caused by project X
 - (d) all of the above should be taken into account

2. Jon is conducting a capital budgeting analysis using NPV for a major expansion of his company. He is concerned because there is a lot of uncertainty about what the market conditions will be for his product the next few years. Jon has decided to decrease all of his revenue estimates so that they are worst case scenarios. Is this the correct way to handle uncertainty in an NPV analysis?
 - (a) No, no adjustment should be made to cash flows because uncertainty about outcomes is not important to capital budgeting decisions
 - (b) Yes, NPV analysis requires the use of worst case scenario cash flows.
 - (c) No, because increased uncertainty is accounted for in an NPV analysis through a higher discount rate**
 - (d) It doesn't matter what cash flows Jon uses as he will get the same NPV

3. In which of the following investments is an investor expected to earn the most over a 40 year period?
A: $E(r) = 1\%$ and $\sigma = 100\%$ B: $E(r) = 0\%$ and $\sigma = 25\%$ C: $E(r) = -2\%$ and $\sigma = 10\%$
Explain your answer. (6 points)

The investment with the positive $E(r)$ will have the highest expected return over a 40 year period even though it has high variance. Choice C is like playing repeatedly at a casino where the house edge is against you. Over time, you will end up losing money steadily. Choice B will break even over time. Only choice A will increase (even though it will do so with large + and - swings).

4. Mark each statement about capital budgeting as true or false. (2 points each)

F a. The time value of money is an important consideration in each of the NPV, payback and IRR methods of capital budgeting

- T b. The IRR decision rule will give the same answer as the NPV decision rule for projects where none of the flaws with IRR are present.
- F c. The payback method is not used as often as NPV because it is more difficult to calculate payback

5. AGG Inc.'s earnings are very dependent on the economy. They have high earnings when the economy is booming and large losses in recessions. Which is not true about the company?

(a) the company has a β greater than 1
(b) **the company has no unique risk**
(c) an investor in the company can diversify some of the company's overall risk
(d) the company has high market risk

6. You are analyzing the stock of a Hollywood movie studio. You find that the company has a high standard deviation of stock returns, which means it has high overall risk. But when you calculate beta, you find $\beta = .8$. Is it possible to have high overall risk and low market risk? Explain. (6 points)

Yes, it is possible to have a high overall market risk and a low beta if the company has a lot of unique risk. An example is a movie studio that has a lot of variation in results due to whether its new movies are hits. This gives a high overall variance. But the movie industry has a beta less than 1 because it does not go down too much in recessions and does not boom in expansions. Individual movie stocks have high unique risk that can be cancelled through diversification.

7. If the Neptune Company has $\beta = 1.3$, the $E(R_M) = 13\%$ and $R_f = 4\%$, what is the $E(R)$ of Neptune under CAPM? (6 points)

$$E(R) = .04 + 1.3(.13-.04) = .157 \text{ or } 15.7\%$$

8. An investment project costs 250 in time 0 and has the following payouts: $C_1 = 75$, $C_2 = 125$, $C_3 = 100$, and $C_4 = -100$. The cost of capital for the firm is 13%. Which of the following is the formula for NPV:

- (a) $= -250 + 75/1.13 + 125/1.13^2 + 100/1.13^3 - 100/1.13^4$
(b) $= 250 + 75/1.13 + 125/1.13^2 + 100/1.13^3 + 100/1.13^4$
(c) $0 = 250 + 75/(1+r) + 125/(1+r)^2 + 100/(1+r)^3 + 100/(1+r)^4$ and solve for r
(d) $= 250/1.13 + 75/1.13^2 + 125/1.13^3 + 100/1.13^4 - 100/1.13^5$

9. If $\beta = .5$ for company JKL, and the market was down by 20% last year, which of the following is the most likely actual return earned by investors in JKL last year?

(a) -20%
(b) +10%
(c) **-10%**
(d) 0%

10. The cash flows for a project are as follows: initial cost of \$2,000,000, $C_1 = -200,000$, $C_2 = 800,000$, $C_3 = 1,200,000$, $C_4 = 2,000,000$, $C_5 = 3,000,000$. If the company uses the payback method with a three year payback, should they accept the project? Explain. (6 points)

No. After three years, the total amount received back totals \$1.8M which is \$200,000 short of the required payback of \$2M.

11. A proposed investment will cost \$600,000 in year 0. It will have a life of 4 years and the cost will be depreciated using straight-line to a zero salvage value. The company expects revenues of \$400,000 in time 1 and \$500,000 in time 2. The variable cost is 50% of revenues and the fixed costs will be \$50,000. Working capital is 10% of next year's revenues. If taxes are 35%, what is the incremental cash flow for year 1? Show your calculations. (8 points)

Working Capital: Time 0 = 40,000; Time 1 = 50,000

Cash flow from WC in time 1 = -10,000

Operating Cash Flow time 1 = 400000Rev - 200000VC - 50000FC - 150000Depr = 0 Pre-tax

income

$$= \text{Net Income} + \text{Depr} = 0 + 150000$$

Overall CF = 150,000 - 10,000 = 140,000

12. Assuming you have the per unit data for question 11, if you calculate the accounting breakeven and the economic breakeven, which will require the sale of more units?

- (a) the economic breakeven because the depreciation calculation under the accounting breakeven is too low if the time value of money is considered**
- (b) the accounting breakeven because Generally Accepted Accounting Principles (GAAP) are conservative
- (c) both give the same breakeven
- (d) none of the above is true

13. If investors in the market are expecting that quarterly earnings of BCJ will be 25% above last year's earnings, draw a graph indicating the market reaction to the announcement by the company that its quarterly earnings turned out to be 20% above last year's earnings. Assume semi-strong market efficiency. (6 points)

Your graph should show a quick negative market reaction followed by a straight line. It is negative because, if investors expected 25% and received only a 20% increase, then the company did worse than expected and its stock price will be driven down by traders because of the bad news.

14. If you paid 100 per share for stock two years ago and it is selling for 100 per share today, which of the following is true?

- (a) if any dividends were paid, there is a positive actual return on this stock**
- (b) if any dividends were paid, the percentage capital gain earned is negative
- (c) regardless of any dividends paid, the actual return over the two years is 0%