

The first exam covers Chapters 17, 24, and 25. The exam is 75 minutes and is scheduled for September 24.

Previously I have given the following problems as suggested homework problems.

From Chapter 17, questions 1 and 2 and Problems 1 and 2. From Chapter 25, Questions 1, 2, 4 and 6 and Problems 1, 2, 4 and 6. From Chapter 24, Questions 1, 3 and 6 and Problems 1, 2 and 6.

The first part of the exam is closed book and closed notes and tests concepts is worth $\frac{1}{2}$ the points. The concepts will be a mixture of true-false, multiple choice, and short answer questions. The second part of the exam is open book and open notes and tests quantitative skills and is worth the remaining points. The quantitative problems will be multi-step calculations, with roughly one major problem per chapter. Points will be split roughly equally between the three chapters.

Here are some sample concept questions.

Going public

- i. Which of the following advantages of going public simultaneously implies a potential disadvantage of going public?
 - a. Facilitates in stockholder diversification.
 - b. Changes liquidity of the firm's stock.
 - c. Alters the difficulty associated with obtaining capital.
 - d. Establishes a market value for the firm.
 - e. Changes name recognition of the company.

Investment banking process

- ii. Which of the following statements concerning common stock and the investment banking process is false?
 - a. The preemptive right gives each existing common stockholder the right to purchase his or her proportionate share of a new stock issue.
 - b. If a firm sells 1,000,000 new shares of Class B stock, the transaction occurs in the primary market.
 - c. Listing a large firm's stock is often considered to be beneficial to stockholders because the increases in liquidity and status probably outweigh the additional costs to the firm.
 - d. Stockholders have the right to elect the firm's directors, who in turn select the officers who manage the business. If stockholders are dissatisfied with management's performance, an outside group may ask the stockholders to vote for it in an effort to take control of the business. This action is called a tender offer.
 - e. A large issue of new stock could cause the stock price to fall. This loss is called "market pressure," and it is treated as a flotation cost because it is a cost associated with the new issue.

Holding companies

- iii. The two principal advantages of holding companies are (1) that the holding company can control a great deal of assets with limited equity and (2) that the dividends received by the parent from the subsidiary are not taxed if the parent holds at least 50 percent of the subsidiary's stock.
- a. True
 - b. False

Leveraged buyout

- iv. Leveraged buyouts (LBOs), popularized in the 1980s, occur when a firm's managers decide to try and gain control of their publicly owned company by buying out existing shareholders using large amounts of borrowed money.
- a. True
 - b. False

Merger motivation

- v. Which of the following statements is most correct?
- a. Tax considerations often play a part in mergers. If one firm has excess cash, purchasing another firm exposes the purchasing firm to additional taxes. Thus, firms with excess cash rarely undertake mergers.
 - b. The smaller the synergistic benefits of a particular merger, the greater the incentive to bargain in negotiations, and the higher the probability that the merger will be completed.
 - c. Since mergers are frequently financed by debt more than equity, financial economies which imply a lower cost of debt or greater debt capacity are rarely a relevant rationale for mergers.
 - d. Managers who purchase other firms often assert that the new combined firm will enjoy benefits from diversification such as more stable earnings. However, since shareholders are free to diversify their own holdings at lower cost, such a rationale is generally not a valid motive for publicly held firms.

Bankruptcy claimants

- vi. In the event of bankruptcy, debtholders have a prior or first claim to a firm's income and assets over the claims of both common and preferred stockholders. However, in bankruptcy all debtholders are treated equally as a single class of claimants.
- a. True
 - b. False

Bankruptcy issues

- vii. A central question that must be addressed in bankruptcy proceedings is whether the firm's inability to meet scheduled interest payments results from a temporary cash flow problem or from a potentially permanent problem caused by falling asset values.
- a. True
 - b. False

Priority of claims

- viii. What would be the priority of the claims as to the distribution of assets in a liquidation under Chapter 7 of the Bankruptcy Act?

- 1) Trustees' costs to administer and operate the firm.
 - 2) Common stockholders.
 - 3) General, or unsecured, creditors.
 - 4) Secured creditors who have claim to the proceeds from the sale of a specific property pledged for a mortgage.
 - 5) Taxes due to federal and state governments.
- a. 1, 4, 3, 5, 2
 - b. 5, 4, 1, 3, 2
 - c. 4, 1, 5, 3, 2
 - d. 5, 1, 4, 2, 3
 - e. 1, 5, 4, 3, 2

6. BRIEFLY DESCRIBE THE DIFFERENCES BETWEEN A HOSTILE MERGER AND A FRIENDLY MERGER.

IN A FRIENDLY MERGER, THE MANAGEMENT OF ONE FIRM (THE ACQUIRER) AGREES TO BUY ANOTHER FIRM (THE TARGET). IN MOST CASES, THE ACTION IS INITIATED BY THE ACQUIRING FIRM, BUT IN SOME SITUATIONS THE TARGET MAY INITIATE THE MERGER. IF A TARGET FIRM'S MANAGEMENT RESISTS THE MERGER, THEN THE ACQUIRING FIRM'S ADVANCES ARE SAID TO BE HOSTILE RATHER THAN FRIENDLY. IN THIS CASE, THE ACQUIRER, IF IT CHOOSES TO, MUST MAKE A DIRECT APPEAL TO THE TARGET FIRM'S SHAREHOLDERS.

Here are some sample calculation problems.

Maximum price per share

- ix. American Hardware, a national hardware chain, is considering purchasing a smaller chain, Eastern Hardware. American's analysts project that the merger will result in incremental net cash flows with a present value of \$72.52 million, and they have determined that the appropriate discount rate for valuing Eastern is 16 percent. Eastern has 4 million shares outstanding. Eastern's current price is \$16.25. What is the maximum price per share that American should offer?
- a. \$16.25
 - b. \$16.97
 - c. \$17.42
 - d. \$18.13
 - e. \$19.00

Value of acquisition

- x. Pit Row Auto, a national autoparts chain, is considering purchasing a smaller chain, Southern Auto. Pit Row's analysts project that the merger will result in incremental net cash flows of \$2

million in Year 1, \$4 million in Year 2, \$5 million in Year 3, and \$117 million in Year 4. The Year 4 cash flow *includes* a terminal value of \$107 million. Assume all cash flows occur at the end of the year. The acquisition would be made immediately, if it is undertaken. Southern's post-merger beta is estimated to be 2.0, and its post-merger tax rate would be 34 percent. The risk-free rate is 8 percent, and the market risk premium is 4 percent. What is the value of Southern Auto to Pit Row Auto's shareholders?

- a. \$60.35 million
- b. \$67.00 million
- c. \$72.52 million
- d. \$81.93 million
- e. \$88.23 million

Merger NPV

xi. Blazer Breaks, Inc. is considering an acquisition of Laker Showtime Company. Blazer expects to receive net cash flows from Laker of \$9 million the first year. For the second year, Laker is expected to have EBIT of \$25 million and interest expense of \$5 million. Also, in the second year only, Laker will require reinvestment of an additional 40 percent of its net income to finance future growth. Laker's applicable marginal tax rate is 34 percent. After the second year, the net cash flows from Laker to Blazer will grow at a constant rate of 4 percent. The firm has determined that 17.5 percent is the appropriate equity discount rate to apply to this merger. Assume that all cash flows are end-of-year and that the Laker acquisition will cost Blazer \$45 million. Calculate the net cash flow to Blazer for the second year, use that to determine future cash flows, and determine the NPV of the proposed acquisition to Blazer.

- a. \$ 0.2 million
- b. \$ 6.1 million
- c. \$ 8.4 million
- d. \$12.6 million
- e. \$34.9 million

Discounting merger cash flows

xii. Karol Kar, Inc. is considering the acquisition of North Star, Inc. North Star is expected to provide Karol Kar with operating cash flows of \$14, \$19, \$20, and \$10 million over the next four years. In addition, the terminal value of all remaining cash flows at the end of year four is estimated at \$18 million. The merger will cost Karol Kar \$41 million which is due now in cash in a single lump sum. If the value of the merger is estimated at \$6.00 per share and Karol Kar has 2,000,000 shares outstanding, what equity discount rate must the firm be using to value this acquisition?

- a. 12.42%
- b. 15.86%
- c. 17.24%
- d. 19.60%
- e. 28.44%

Chapter 17, Problems 1 and 2, are exam styles questions. See the [Chapter 17 Solutions Link](#)

Chapter 24, Problems 1, 2 and 6 are exam style questions. See the Chapter 24 Solutions Link

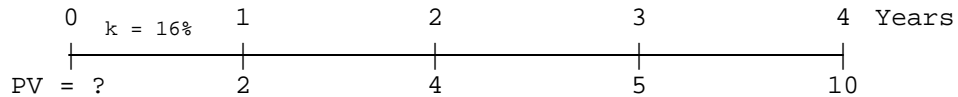
Chapter 25, Problems 1, 2, 4, and 6 are exam style questions. See the Chapter 25 Solutions Link

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- i. **Going public** **Answer: a Diff: M**
 - ii. **Investment banking process** **Answer: d Diff: M**
 - iii. **Holding companies** **Answer: b Diff: E**
 - iv. **Leveraged buyout** **Answer: a Diff: E**
 - v. **Merger motivation** **Answer: d Diff: M**
 - vi. **Bankruptcy claimants** **Answer: b Diff: E**
 - vii. **Bankruptcy issues** **Answer: a Diff: E**
 - viii. **Priority of claims** **Answer: c Diff: T**
 - ix. **Maximum price per share** **Answer: d Diff: E**

$$\text{Price per share} = \frac{\$72.52 \text{ million}}{\$4 \text{ million}} = \$18.13.$$

- x. **Value of acquisition** **Answer: c Diff: M**

Time line: (In millions)



$$\begin{aligned} \text{TV} &= \frac{107}{117} \\ \text{CF}_4 &= 117 \end{aligned}$$

$$k_s = 8\% + 2.0(4\%) = 16\%.$$

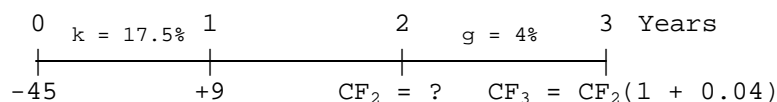
Financial calculator solution: (In millions)

Inputs: $\text{CF}_0 = 0$; $\text{CF}_1 = 2$; $\text{CF}_2 = 4$; $\text{CF}_3 = 5$; $\text{CF}_4 = 117$; $I = 16$.

Output: $\text{NPV} = \$72.518 \approx \72.52 .

- xi. **Merger NPV** **Answer: d Diff: T**

Time line: (In millions)



Calculate cash flows to Blazer in the second year:

EBIT	\$25.00	
Less interest	- 5.00	Year 2 CF = \$7.92.
EBT	\$20.00	Year 3 CF = \$7.92(1.04) =
		\$8.24.
Less taxes @34%	6.80	
NI	\$13.20	
Less reinvestment @ 40%	5.28	
Cash flow to Blazer	<u>\$ 7.92</u>	million

Numerical solution:

Use DCF constant growth model to discount future cash flows:

$$NPV_{\text{Merger}} = -\$45 + \frac{\$9}{(1.175)^1} + \frac{\$7.92}{(1.175)^2} + \frac{\frac{\$8.24}{0.175 - 0.04}}{(1.175)^2}$$

Financial calculator solution:

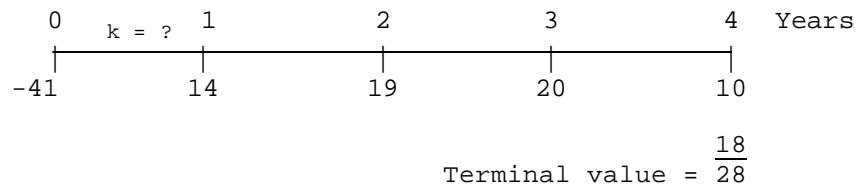
Inputs: $CF_0 = -45$; $CF_1 = 9$; $CF_2 = 7.92 + 61.04 = 68.96$; $I = 17.5\%$.

Output: $NPV = \$12.608 \approx \12.6 million.

xii. Discounting merger cash flows

Answer: c Diff: M

Time line: (In millions)



Calculate NPV of merger and determine PV of all cash inflows:

$NPV_{\text{Merger}} = \$6.00/\text{share} \times 2,000,000 = \12.0 million.

$$\$12.0 = -\$41 + \frac{\$14}{(1 + IRR_M)^1} + \frac{\$19}{(1 + IRR_M)^2} + \frac{\$20}{(1 + IRR_M)^3} + \frac{\$28}{(1 + IRR_M)^4}$$

PV of discounted cash flows = \$41 + \$12 = \$53.

Use the complete cash flows to calculate the IRR or k:

Financial calculator solution:

Inputs: $CF_0 = -53$; $CF_1 = 14$; $CF_2 = 19$; $CF_3 = 20$; $CF_4 = 28$

Output: $IPP = 17.236 \approx 17.24\% = k_{\text{Merger}}$.