

64. List and briefly describe the three general areas of responsibility for a financial manager.

The three basic areas are:

1. capital budgeting: the identification of investment opportunities that have a positive net value
2. capital structure: the mix of long-term debt and equity used to finance a firm's operations
3. working capital management: the daily control of a firm's short-term assets and short-term liabilities

65. Describe the key advantages associated with the corporate form of organization.

The advantages of the corporate form of organization are the ease of transferring ownership, the owners' limited liability for business debts, the ability to raise large amounts of capital, and the potential for an unlimited life for the organization.

66. Why are so many businesses structured as sole proprietorships when the corporate form of business offers more advantages?

A significant advantage of the sole proprietorship is that it is inexpensive and easy to form. If the sole proprietor has limited capital to start with, it may not be desirable to spend part of that capital forming a corporation. Also, limited liability for business debts may not be a significant advantage if the proprietor has most of his or her personal assets tied up in the business already. Finally, for a typical small firm, having an unlimited life for the business has no real advantage since the heart and soul of the business is the person who founded it, thereby effectively limiting the life of the business to that of its founder.

67. What concerns might a loan officer have when loaning funds to a sole proprietorship that he or she might not have when loaning funds to a corporation?

The existence and viability of a sole proprietor is dependent upon one individual. Should that individual die, the entity would cease to exist. Likewise, should the owner lose interest in the business or become ill, the business might also cease to exist. With a corporation, the company ownership could be sold in any one of those situations such that the business entity would continue to exist.

68. From a liability point of view, what is the difference between investing in a sole proprietorship and a general partnership?

Both a sole proprietor and a general partner have unlimited liability for the firm's debts. However, as a sole proprietor you should be totally aware of all the business dealings of the firm. In a general partnership, you may or may not handle the financial transactions and thus are accepting the responsibility for actions taken not only by yourself, but those of your partners.

69. Give some examples of ways in which manager's goals can differ from those of shareholders.

The primary goal of a financial manager should be to maximize the current value of the outstanding stock. This goal focuses on enhancing the returns to stockholders who are the owners of the firm. However, managers frequently are more concerned with their personal benefits from employment, the prestige of their position, and the perks to which they feel entitled. There are numerous examples, some of which are excessive compensation packages, large corporate offices, excessive staffing, and first-class travel and conference locations, to name a few.

70. How do the actual effects of the Sarbanes-Oxley Act of 2002 compare to the initial intent of that Act?

Some of the key requirements of Sarbanes-Oxley are: the prohibition of personal loans from the company to its officers, an annual report by management of the internal control and financial reporting within the firm along with an independent auditor's assessment of that report, a review and sign off by the corporate officers of the annual financial statements, and the responsibility for the accuracy of the financial reports placed directly on senior management of the firm. While firms that have opted to remain publicly-owned are complying with these requirements, they are paying a cost to do so. This cost has caused other firms to "go dark" or to opt for listing on a foreign exchange rather than a U.S. exchange. While some of the results do match the intent of the Act, the costs, "going dark", and foreign listings were most likely not intended by the supporters of the Act.

71. How might agency problems arise in partnerships?

Agency conflicts typically arise when there is a separation between the ownership and the management of a business. In a general partnership, especially if the partnership is small, there is less of a chance of an agency conflict if all the partners are involved with the business on a regular basis. However, in a limited partnership, the opportunity exists for an agency problem to arise between the general and the limited partners.

72. Compare and contrast the NYSE with NSADAQ.

The NYSE is an auction market where sell orders are matched with buy orders. The NYSE has a physical trading floor located on Wall Street in New York City. NASDAQ is a dealer market which is solely electronic and therefore has no physical trading floor. Dealers buy and sell for their own inventory. The listing requirements of the NYSE are more stringent than those of NASDAQ and thus the NYSE tends to list larger firms with smaller firms being listed on NASDAQ. Note however, that larger firms can, and do, opt to remain on NASDAQ even though they qualify for NYSE listing.

CH2

85. Assume you are the financial officer of a major firm. The president of the firm has just stated that she wishes to reduce the firm's investment in current assets since those assets provide little, if any, return to the firm. How would you respond to this statement?

While it is true that current assets provide a low rate of return, those assets are essential to the firm's liquidity. Should the liquid assets be reduced too low, the firm could face a much greater problem than a low rate of return. That problem would be the inability to meet the firm's financial obligations which could even result in a bankruptcy due to a lack of cash flow.

86. As long as a firm maintains a positive cash balance, why is it essential to review the firm's cash flows?

Firms can have positive cash balances because they are using borrowed funds or equity investments. For a firm to be financially healthy over the long-term, it must be able to generate cash internally. Cash flow analysis enables you to determine the sources, and uses, of a firm's cash to evaluate the financial health of the firm and ensure that the firm is generating positive cash flows from its operations.

87. The managers of a firm wish to expand the firm's operations and are trying to determine the amount of debt financing the firm should obtain versus the amount of equity financing that should be raised. The managers have asked you to explain the effects that both of these forms of financing would have on the cash flows of the firm. Write a short response to this request.

Debt financing will require cash outflows for both interest and principal payments. The interest outflow will be partially offset by a decrease in the cash outflow for taxes. Should the firm accept additional debt, the liquidity of the firm might have to be increased to ensure the debt obligations can be met in a timely manner. On the other hand, equity financing does not create any requirement for future cash outflows as equity does not need to be repaid nor are dividends required. However, if dividends are paid, they would not lower the firm's cash outflow for taxes.

88. Discuss the difference between book values and market values and explain which one is more important to the financial manager and why.

The accounts on the balance sheet are generally carried at historical cost, not market values. Although the book value of the current assets and the liabilities may closely approximate market values, the same cannot be said for the rest of the balance sheet accounts. Market values are more relevant as they reflect today's values whereas the balance sheet reflects historical costs as adjusted by various accounting methods. To determine the current value of a firm, and its worth to the shareholders, financial managers must monitor market values.

89. Assume you are a credit manager in charge of approving commercial loans to business firms. Identify three aspects of a firm's cash flows you would review and explain the type of information you hope to gain from reviewing each of those five aspects.

Student answers will vary but here are some examples:

- 1) operating cash flow - Is the firm generating positive cash flow from its current operations?
- 2) cash flow to creditors - Is the firm currently repaying debt or is it assuming additional debt?
- 3) net working capital - Is the firm increasing or decreasing its net working capital and what effect, if any, is this having on the firm's liquidity?
- 4) cash flow to stockholders - Is the firm currently paying any dividends to its shareholders and are those shareholders investing additional capital into the firm?
- 5) net capital spending - Is the firm currently investing in additional fixed assets?

Ch3

95. Assume a firm has a positive cash balance which is increasing annually. Why then is it important to analyze a statement of cash flows?

It is possible that the increase in the cash balance is a result of issuing more equity or assuming more debt and not the result of generating cash from operations. If a firm cannot generate positive cash flows internally, the firm will eventually encounter difficulties in raising external funds and could possibly face bankruptcy.

96. You need to analyze a firm's performance in relation to its peers. You can do this either by comparing the firms' balance sheets and income statements or by comparing the firms' ratios. If you only had time to use one means of comparison which method would you use and why?

Firms generally are sized differently making it difficult to do comparisons on a dollar basis. By using ratios, the relationships between variables can be seen without being influenced by firm size. In addition, ratios allow you to analyze performance and see relationships that are difficult to see when looking only at dollar amounts. Thus, the logical choice would be to compare the firms using ratio analysis.

97. In general, what does a high Tobin's Q value indicate and how reliable does that value tend to be?

A high Tobin's Q indicates that the current market value of a firm's assets represents a high percentage of the firm's replacement cost. Higher Q values tend to indicate that a firm has a significant competitive advantage and/or has attractive investment opportunities. The problem with Tobin's Q is that the information used in the computation of the Q value is often questionable.

98. What value does the PEG ratio provide to financial analysts?

The PEG ratio divides the PE ratio by the expected future earnings growth rate (The growth rate is multiplied by 100). A high PEG value tends to indicate that the firm's PE ratio, and thus the stock price, is too high relative to the expected growth rate of the firm's earnings. This is particularly true when a firm's PEG and PE ratios are noticeably greater than those of its peers.

99. What value can the price-sales ratio provide to financial managers that the price-earnings ratio cannot?

The price-earnings ratio loses its value when a firm has either zero or negative earnings. This problem is avoided by using the price-sales ratio as sales should always be a positive value. In addition, the price-sales ratio is not affected by a firm's expenses or taxes whereas the price-earnings ratio is. If earnings are positive, both ratios can be used to ascertain if there is any major change in the relationship between a firm's costs and its sales from one time period to another.

100. It is commonly recommended that the managers of a firm compare the performance of their firm to that of its peers. Increasingly, this is becoming a more difficult task. Explain some of the reasons why comparisons of this type can frequently be either difficult to perform or produce misleading results.

Many firms are involved in multiple areas of business over diverse geographical locations thereby making it difficult, if not impossible to identify a peer that has truly similar operations. Firms operating in different areas may be subjected to various regulations which might affect also their operations. In addition, many firms are cyclical in nature and have varying fiscal years which complicates the comparison of financial statements. The financial results for a firm are also affected by various accounting practices and one-time events, such as a merger, acquisition, or divestiture. If each of these differences between firms is not handled properly, any resulting comparisons or conclusions can be faulty. So, while it is recommended that peer analysis be conducted, doing so in a meaningful manner can present quite a challenge.

Ch4

81. Why do financial managers need to understand the implications of both the internal and the sustainable rates of growth?

Working capital, fixed assets, and external financing must coordinate with and be able to support a firm's sales growth. If, for example, a projected increase in sales requires external financing when no such financing is available, then the firm cannot grow at the desired rate. Understanding the implications of both the internal and the sustainable growth rates helps managers understand the need to limit growth so that the firm does not attempt to outgrow its resources.

82. Identify the four primary determinants of a firm's growth and explain how each factor could either add to or limit the growth potential of a firm.

The four factors are:

- | | |
|-------------------------|--|
| 1) Profit margin | Profits are internally generated and provide funding for growth. An increase in the profit margin increases a firm's ability to grow and vice versa. |
| 2) Dividend policy | Dividends are cash outflows that utilize cash that otherwise could fund company growth. A decrease in dividends increases a firm's ability to grow and vice versa. |
| 3) Financial policy | A firm's capital structure policy affects the amount of external debt and equity financing a firm is willing to accept. An increase in external financing increases a firm's ability to grow. A restriction on external financing effectively limits the growth potential. |
| 4) Total asset turnover | The ability of a firm to acquire appropriate assets and efficiently manage those assets determines the amount of sales that can be generated for each dollar of assets obtained. Increasing the turnover rate increases a firm's ability to grow and vice versa. |

83. A) What are the assumptions that underlie the internal growth rate and B) what are the implications of this rate?

The basic assumptions are: Costs and net working capital increase proportionately with sales. Fixed assets also increase proportionately with sales once production reaches full capacity. The dividend payout ratio is constant. No additional external financing of any kind is permissible.

The implication is that firms are limited to a rate of growth equal to the internal growth rate so long as external financing remains limited at its current level. In other words, the internal growth rate is the maximum rate of growth a firm can achieve based on internally generated funds.

84. Nelson's Landscaping Services just completed a pro forma statement using the percentage of sales approach. The pro forma has a projected external financing need of -\$5,500. What are the firm's options in this case?

With a negative external financing need, the firm has a surplus of funds that it can use to reduce current liabilities, reduce long-term debt, buy back common stock, or increase dividends. If acceptable opportunities exist, the firm might also use the extra funds to purchase fixed assets thereby increasing its maximum capacity level, should that need be anticipated.

85. Smith & Daughters is getting ready to compile pro forma statements for the next few years. How can the managers establish a reasonable range of growth rates that they should consider during this planning process?

The internal growth rate establishes the minimum desired rate of growth while the sustainable growth rate identifies the maximum supportable level of growth. These growth rates effectively determine the range of rates that managers should consider.

Ch5

51. You want to deposit sufficient money today into a savings account so that you will have \$1,000 in the account three years from today. Explain why you could deposit less money today if you could earn 3.5 percent interest rather than 3 percent interest.

Student answers will vary but should present the idea that when you can earn more interest, you need less of your own money to reach the same future dollar amount. They can also base their answer on the present value formula.

52. You are considering two separate investments. Both investments pay 7 percent interest. Investment A pays simple interest and Investment B pays compound interest. Which investment should you choose, and why, if you plan on investing for a period of 5 years?

Simple interest is interest earned on the initial principal amount only. Compound interest is interest earned on both the initial principal and all prior interest earnings that have been reinvested. You should choose Investment B which pays compound interest as you will earn more interest income over the 5 years by doing so.

53. What lesson does the future value formula provide for young workers who are looking ahead to retiring some day?

The future value formula is: $FV = PV(1 + r)^t$. Time is the exponent. While the rate of return is important and has a direct effect on the growth of an investment account, time is critical. To maximize retirement income, workers need to commence saving when they are young so that reinvested earnings have time to compound.

54. You are considering two lottery payment options: Option A pays \$10,000 today and Option B pays \$20,000 at the end of ten years. Assume you can earn 6 percent on your savings. Which option will you choose if you base your decision on present values? Which option will you choose if you base your decision on future values? Explain why your answers are either the same or different.

PV of A = \$10,000; PV of B = \$11,167.90; FV of A = \$17,908.48; FV of B = \$20,000. Based on both present values and future values, B is the better choice. Students should explain that computing present values and computing future values are simply inverse processes of one another, and that choosing between two lump sums based on present values will always give the same result as choosing between the same two lump sums based on future values.

55. At an interest rate of 10 percent and using the Rule of 72, how long will it take to double the value of a lump sum invested today? How long will it take after that until the account grows to four times the initial investment? Given the power of compounding, shouldn't it take less time for the money to double the second time?

It will take 7.2 years to double the initial investment, then another 7.2 years to double it again. That is, it takes 14.4 years for the value to reach four times the initial investment. Compounding doesn't affect the amount of time it takes for an investment to double in value. However, you should note that during the first 7.2 years, the interest earned is equal to 100 percent of the initial investment. During the second 7.2 years, the interest earned is equal to 200 percent of the initial investment. That is the power of compounding.

Ch6

109. Explain the difference between the effective annual rate (EAR) and the annual percentage rate (APR). Of the two, which one has the greater importance and why?

The APR is a stated rate and is computed as $(r \times n)$, where r is the rate per period and n is the number of periods per year. The EAR considers compounding and is computed as $(1 + r)^n - 1$, where r is the rate per period and n is the number of periods per year. The effective annual rate will always be higher than the annual percentage rate as long as the account is compounded more than once a year and the interest rate is greater than zero. The EAR is the equivalent rate based on annual compounding. The EAR has greater importance because it is the actual cost of a loan.

110. You are considering two annuities, both of which pay a total of \$20,000 over the life of the annuity. Annuity A pays \$2,000 at the end of each year for the next 10 years. Annuity B pays \$1,000 at the end of each year for the next 20 years. Which annuity has the greater value today? Is there any circumstance where the two annuities would have equal values as of today? Explain.

As long as the discount rate is positive, Annuity A will have the greater value. If the discount rate is zero, then both annuities have equal values as both would have a current value of \$20,000.

111. Why might a borrower select an interest-only loan instead of an amortized loan, which would be cheaper?

The borrower might need the entire principal amount for the length of the loan period. With an amortized loan, the principal amount is repaid over the loan term and thus the borrower does not have all of the loan proceeds available for his or her use during the loan term.

112. Kristie owns a perpetuity which pays \$12,000 at the end of each year. She comes to you and offers to sell you all of the payments to be received after the 10th year. Explain how you can determine the value of this offer.

You should determine the present value of the perpetuity and also the present value of the first 10 payments at your discount rate. The difference between the two values is the maximum amount you should pay for this offer. (Assuming a normal rate of interest, the offer will most likely be worth less than 50 percent of the perpetuity's total value.)

Here's an example that can be used to explain this answer using an assumed 8 percent rate of interest.

$$PV = \frac{\$12,000}{0.08} = \$150,000$$

$$PVA = \$12,000 \times \left\{ \frac{1 - [1 / (1 + 0.08)^{10}]}{.08} \right\} = \$80,520.98$$

Enter	10	8		12,000	
	N	I/Y	PV	PMT	FV
Solve for			80,520.98		

Value of offer at 8 percent = \$150,000 - \$80,520.98 = \$69,479.02

Ch7

112. Define liquidity risk, default risk, and taxability risk and explain how these risks relate to bonds and bond yields.

Liquidity risk is the inability to quickly sell a bond for its full value. This risk exists primarily in thinly traded issues. Default risk is the likelihood the issuer will default on its bond obligations and is the basis for bond ratings. Taxability risk reflects the fact that bond interest can be taxed differently at the federal, state, and local levels and that these tax rates can change. Each of these risks increase bond yields as investors require compensation in exchange for risk acceptance.

113. Inflation has remained low for the past three years but you have come to the conclusion that trend is ending and inflation will increase significantly over the next 18 months. Assume you have reached this conclusion prior to other investors reaching the same conclusion. What adjustments should you make to your bond portfolio in light of your conclusions?

Increases in inflation will increase interest rates according to the term structure of interest rates. Therefore, you should sell any long-term bonds you own and replace them with short-term bonds. You should also replace lower coupon bonds with higher coupon bonds. These changes should be done promptly before other investors commence taking the same actions.

114. Explain the conditions that would need to exist for the Treasury yield curve to be downward sloping.

A downward sloping Treasury yield curve exists when current inflation rates are high but are expected to decline in the future. The decline in the inflation premium must be significant enough to overcome the rising interest rate risk premium as the time to maturity increases.

115. Describe the relationships that exist between the coupon rate, the yield to maturity, and the current yield for both a discount bond and a premium bond.

Discount bond: Yield to maturity > Current yield > Coupon rate

Premium bond: Yield to maturity < Current yield < Coupon rate

Ch8

98. What are the primary differences and similarities between NASDAQ and the NYSE?

The NYSE has a physical trading floor in New York City, is primarily a broker market, relies on specialists for liquidity under a single market maker system, utilizes the SuperDOT system, and has stricter listing requirements. NASDAQ is an electronic network of dealers and utilizes a multiple market maker system. NASDAQ is open to ECNs but the NYSE is not. NASDAQ has no physical trading floor.

99. Using the dividend growth model, explain why a firm would be hesitant to reduce the growth rate of its dividends.

The dividend growth model states that $P_t = D_{t+1}/(R - g)$. A reduction in the growth rate will reduce both D_{t+1} and g . Lowering the value of these variables will effectively lower the value of the firm's stock, which is something firms are hesitant to do.

100. Kelley wants to purchase shares in Classic Kars, Inc., but is torn between buying shares of common stock or shares of preferred stock. What should he consider before determining the type of share he should purchase?

Kelley needs to identify the reasons he wishes to purchase this stock. If he is looking for a steady stream of income and preferential treatment should the company go bankrupt, then he should purchase preferred stock. On the other hand, if he believes the company has a bright financial future and wishes to share in that success, then he should buy common stock and enjoy the benefits of residual ownership associated with high profitability. In addition, if he wishes to have a voice in company matters, he should purchase common stock to ensure that he will have voting rights.

101. Explain why small shareholders should prefer cumulative voting over straight voting.

With straight voting, a shareholder must control a majority (50 percent plus one) of the outstanding shares of stock to gain access to a seat on the board of directors. With cumulative voting, a shareholder can control one seat on the board by controlling a lesser number of shares. The number of shares needed to obtain one seat under cumulative voting is computed as $\lceil \frac{1}{N+1} \rceil$ percent + 1 of the outstanding shares, where N is the number of open seats. If for example, three seats are open, a shareholder only needs to control 25 percent, or $\frac{1}{4}^{\text{th}}$, of the outstanding shares plus one additional share to guarantee election to the board. Having a seat on the board allows a shareholder to have some control over the direction and management of a firm.

102. Ted, a wealthy individual, plans to purchase 30 percent of a firm's Class A shares of outstanding stock. He believes that such a purchase will allow him to control the firm by electing his candidates to the board over time as current board member's terms expire. The firm has a cumulative voting process. What factors should Ted be considering and why to ensure he can gain the control he desires?

Since the stock Ted plans to purchase is denoted as Class A, Ted should determine if the firm has other classes of stock outstanding and if so, how that will affect the outcome of any election. Generally speaking, different classes of stock are assigned different voting rights. It could be that shareholders of another class of stock effectively control the firm. He should also be concerned about the number of positions that are elected at one time as he needs to ensure that his 30 percent ownership is sufficient to control at least one seat at each election.

103. Explain the primary change that occurred in the structure of the NYSE in 2006 and how that change affected the exchange members.

In 2006, the NYSE became a publicly owned corporation called NYSE Group, Inc. Exchange members no longer purchase, or own, seats on the exchange nor do they own the firm based solely on their membership. Members now purchase trading licenses which grant their owners the right to transact trades on the floor of the exchange. Ownership of the NYSE now lies in the hands of the NYSE Group, Inc.'s, shareholders.

Ch9

100. The profitability index (PI) of a project is 1.0. What do you know about the project's net present value (NPV) and its internal rate of return (IRR)?

If the PI is equal to 1.0, then the NPV = 0 and the IRR = Required return.

101. Explain how the internal rate of return (IRR) decision rule is applied to projects with financing type cash flows.

For financing type projects, the decision rule is reversed so that projects are accepted when the project's IRR is less than the required rate of return and rejected when the project's IRR is greater than the required return.

102. Explain the differences and similarities between net present value (NPV) and the profitability index.

The NPV and PI both consider the time value of money and result in the same accept or reject decision when considering an independent project. The main difference between the two is that the PI may be useful in determining which projects to accept if funds are limited; however, the PI may lead to incorrect decisions when considering mutually exclusive investments.

103. How does the net present value (NPV) decision rule relate to the primary goal of financial management, which is creating wealth for shareholders?

The NPV rule states that a project should be accepted if the NPV is positive and rejected if the NPV is negative. This aligns with the goal of creating wealth for a firm's shareholders as only projects which create wealth are approved for acceptance. Managers are indifferent to projects with zero NPVs, which is okay because such projects neither create nor destroy shareholder wealth.

Ch10

90. In a single sentence, explain how you can determine which cash flows should be included in the analysis of a project.

Any changes in cash flows that will result from accepting a new project should be included in the analysis of that project.

91. What is the formula for the tax-shield approach to OCF? Explain the two key points the formula illustrates.

$$OCF = (\text{Sales} - \text{Costs}) \times (1 - T) + \text{Depreciation} \times T$$

The formula illustrates that cash income and expenses affect OCF on an aftertax basis. The formula also illustrates that even though depreciation is a non-cash expense it does affect OCF because of the tax savings realized from the depreciation expense.

92. What is the primary purpose of computing the equivalent annual costs when comparing two machines? What is the assumption that is being made about each machine?

The primary purpose is to compute the annual cost of each machine on a comparable basis so that the least expensive machine can be identified given that the machines generally have differing lives and costs. The assumption is that whichever machine is acquired, it will be replaced at the end of its useful life.

93. Assume a firm sets its bid price for a project at the minimum level as computed using the discounted cash flow method. Given this, what do you know about the net present value and the internal rate of return on the project as bid?

The discounted cash flow approach to setting a bid price assumes the net present value of the project will be zero which means the internal rate of return must equal the required rate.

94. Can the initial cash flow at time zero for a project ever be a positive value? If yes, give an example. If no, explain why not.

The initial cash flow can be a positive value. For example, if a project reduced net working capital by an amount that exceeded the initial cost for fixed assets, the initial cash flow would be a positive amount.

95. How can two firms arrive at two different bid prices when bidding for the same job and given the same bid specifications?

Each bidding firm usually arrives at a different calculated bid price because they use different assumptions in the evaluation process, such as the estimated time to complete the project, the material costs, and the estimated labor costs. In addition, firms often times have differing required rates of return and tax rates.

Ch11

89. What is operating leverage and why is it important in the analysis of capital expenditure projects?

Operating leverage is the degree to which a project relies on its fixed costs. The more capital intensive a project, the higher the project's DOL. The higher the DOL, the greater the percentage change in the project's operating cash flows relative to a one percent change in the project's sales quantity. As long as sales are increasing, leverage works fine. However, when sales decline, leverage magnifies the related percentage decline in OCF. Thus, capital intensive firms are more susceptible to forecasting risk.

90. What is forecasting risk and why is it important to the analysis of capital expenditure projects? What methods can be used to reduce this risk?

Forecasting risk is the possibility that errors in projected cash flows will lead to incorrect decisions. Projects are generally accepted when they have positive NPVs and rejected when they have negative NPVs. If the cash inflows of a project are overestimated, the NPV will be overstated potentially resulting in an incorrect acceptance of the project. On the other hand, if cash inflows are underestimated, a good project might be erroneously rejected. To offset some of this risk, managers should employ sensitivity and scenario analysis as well as break-even analysis to better understand the potential outcomes associated with the project.

91. What are the key features of the accounting, cash, and financial break-even points?

Accounting break-even: Net income = 0; OCF = Depreciation; Payback period = Project life; NPV is negative; IRR = 0
Cash break-even: OCF = 0; Payback period = Never; NPV is negative and = Initial cash outlay; IRR = -100 percent
Financial break-even: NPV = 0, Discounted payback period = Project life; IRR = Required return

92. Assume that a country experiences a financial crisis that causes the nation's financial markets to freeze in a manner that prevents a private firm from raising capital from any source. Explain how project analysis conducted by that firm would work in this situation.

This situation is known as hard rationing. In this situation, the firm cannot obtain financing capital regardless of the rate of return offered. Thus, no externally-financed projects would be acceptable based on the normal methods of project analysis.

93. Mr. Bear, your boss, will only agree to accept a project that, as a minimum, provides a rate of return equal to the requirement he has set for the project. Given this, explain how you can use break-even analysis to ascertain which projects will be acceptable to him as you don't want to risk hearing him growl if you waste his time presenting him with a project that is unacceptable.

The financial break-even quantity is the sales quantity required for a project to produce an IRR that equals the required rate of return. Once this quantity has been established and the values used in the computations justified, you would also need to justify that the required level of sales can be obtained.

Ch12

84. Define and explain the three forms of market efficiency.

The current stock price reflects the following information for each form of efficiency:

Weak form efficiency:	all historical information
Semistrong form efficiency:	all public and historical information
Strong form efficiency:	all private, public, and historical information

85. What are the two primary lessons learned from capital market history? Use historical information to justify that these lessons are correct.

First, there is a reward for bearing risk, and second, the greater the risk, the greater the potential reward. As evidence, students should provide a brief discussion of the historical rates of return and the related standard deviations of the various asset classes discussed in the text.

86. How can an investor lose money on a stock while making money on a bond investment if there is a reward for bearing risk? Aren't stocks riskier than bonds?

There is a reward for bearing risk over the long-term. However, the nature of risk implies the returns on a high risk security will be more volatile than the returns on a low risk security. Thus, stocks can produce lower returns in the short run. It is the acceptance of this risk that justifies the potential long-term reward.

87. Shawn earned an average return of 14.6 percent on his investments over the past 20 years while the S&P 500, a measure of the overall market, only returned an average of 13.9 percent. Explain how this can occur if the stock market is efficient.

An investor can purchase securities that have a higher level of risk than the overall market. In an efficient market, these securities will earn a higher return over the long-term as compensation for the assumption of the increased risk. This is the first lesson of the capital markets: There is a reward for bearing risk.

88. You want to invest in an index fund which directly correlates to the overall U.S. stock market. How can you determine if the market risk premium you are expecting to earn is reasonable for the long-term?

You could compare your expectation to the historical market risk premium for the United States, as well as other industrialized countries, realizing of course, that the future will not be exactly like the past. Nevertheless, this should indicate whether or not your expectation is at least reasonable.

Ch13

93. According to CAPM, the expected return on a risky asset depends on three components. Describe each component and explain its role in determining expected return.

CAPM suggests the expected return is a function of (1) the risk-free rate of return, which is the pure time value of money, (2) the market risk premium, which is the reward for bearing systematic risk, and (3) beta, which is the amount of systematic risk present in a particular asset. Better answers will point out that both the pure time value of money and the reward for bearing systematic risk are exogenously determined and can change on a daily basis, while the amount of systematic risk for a particular asset is determined by the firm's decision-makers.

94. Explain how the slope of the security market line is determined and why every stock that is correctly priced, according to CAPM, will lie on this line.

The market risk premium is the slope of the security market line. Slope is the rise over the run, which in this case is the difference between the market return and the risk-free rate divided by a beta of 1.0 minus a beta of zero. If a stock is correctly priced the reward-to-risk ratio will be constant and equal to the slope of the security market line. Thus, every stock that is correctly priced will lie on the security market line.

95. Explain how the beta of a portfolio can equal the market beta if 50 percent of the portfolio is invested in a security that has twice the amount of systematic risk as an average risky security.

An average risky security has a beta of 1.0, which is the market beta. Risk-free securities, i.e., U.S. Treasury bills, have a beta of zero. A portfolio that is invested 50 percent in a security that has a beta of 2.0 (twice the systematic risk as an average risky security) and 50 percent in risk-free securities (U.S. Treasury bills) will have a beta of 1.0 (which is the market beta).

96. Explain the difference between systematic and unsystematic risk. Also explain why one of these types of risks is rewarded with a risk premium while the other type is not.

Unsystematic, or diversifiable, risk affects a limited number of securities and can be eliminated by investing in securities from various industries and geographic regions. Unsystematic risk is not rewarded since it can be eliminated by investors. Systematic risk is risk which affects most, or all, securities and cannot be diversified away. Since systematic risk must be accepted by investors it is rewarded with a risk premium and is measured by beta.

97. A portfolio beta is a weighted average of the betas of the individual securities which comprise the portfolio. However, the standard deviation is not a weighted average of the standard deviations of the individual securities which comprise the portfolio. Explain why this difference exists.

Standard deviation measures total risk. The unsystematic portion of the total risk can be eliminated by diversification. Therefore, the total risk of a diversified portfolio is less than the total risk of the component parts. Beta, on the other hand, measures systematic risk, which cannot be eliminated by diversification. Thus, the systematic risk of a portfolio is the summation of the systematic risk of the component parts.

Ch14

86. What role does the weighted average cost of capital play when determining a project's cost of capital?

Assuming a project is equally as risky as a firm's current operations, WACC will be used as the discount rate when computing the NPV of the project. Therefore, having an accurate WACC is essential to correctly evaluating the project. If a project has a different risk level than the firm's current operations, then the firm's WACC should be adjusted in accordance with the project's risk or in some instances, a different firm's WACC should be applied as the discount rate for the project.

87. What are some advantages of the subjective approach to determining the cost of capital and why do you think that approach is utilized?

The subjective approach allows management to adjust a firm's overall cost of capital for individual divisions based upon its evaluation of the risks associated with each division as compared to the overall risk level of the firm. This risk adjustment is based on the wisdom, knowledge, and experiences of the managers. To try and determine a more accurate estimate of the appropriate discount rate might encounter costs that would outweigh any potential benefit. Thus, the subjective approach is useful because it adjusts discount rates in a cost effective and efficient manner.

88. Give an example of a situation where a firm should adopt the pure play approach for determining the cost of capital for a project.

Student examples will vary but should illustrate a project that is unrelated to the current operations of Firm A. The example should explain why the WACC of Firm B, which is engaged in the type of operations Firm A is considering, should be used as the basis for setting the discount rate for the proposed project.

89. Suppose your boss comes to you and asks you to re-evaluate a capital budgeting project. The first evaluation was in error, he explains, because it ignored flotation costs. To correct for this, he asks you to evaluate the project using a higher cost of capital which incorporates these costs. Is your boss' approach correct? Why or why not?

Your boss is confused since it is the use of funds, and not the source of funds, that determines the cost of capital. Flotation costs should be included in the initial cash flow of a project and not in the cost of capital.

90. Explain how the use of internal equity rather than external equity affects the analysis of a project.

Internal equity avoids the flotation costs associated with raising external equity. Therefore, by utilizing internal equity rather than external equity, the initial cost of the project is decreased. Decreasing the initial cost increases the NPV of the project.

79. It can be argued that the decision to accept venture capital is one of the most critical decisions an entrepreneur must make. Explain why.

The potential rewards from venture capital can be substantial but the costs to the entrepreneur are equally substantial. The primary advantage of venture capital funding is the access to capital when funds are unavailable from other sources. In addition, a venture capitalist provides industry experience, expertise, and valuable business contacts. However, nothing is free. In exchange for this funding, entrepreneurs have to sacrifice a large percentage of their ownership rights to the venture capitalist. If venture capital is not accepted, the firm may fail for lacking of funding. If venture capital is accepted, there's no guarantee of success; only a guarantee that the entrepreneur will own less of the firm.

80. Explain both a rights offering and the basic characteristics of a right.

A rights offering is an issue of common stock that is initially offered for sale to a firm's current shareholders. Shareholders generally receive one right for each share of stock owned. Each right grants its holder the ability to purchase a stated amount of new shares at a stated price during a stated period of time. If the recipient of a right decides not to participate in the rights offering, then he or she can sell that right to another investor who does want to participate. Selling stock via a rights offering is generally a cheaper method of issuing securities than a general cash offer.

81. Explain why there is a tendency for IPOs to be underpriced.

Several reasons have been given for underpricing an IPO. These include:

1. determining the correct offering price is extremely difficult,
2. underpricing helps ensure the success of the security offering,
3. underpricing is just an indirect cost of a securities issue,
4. underpricing rewards IPO investors for purchasing risky securities,
5. underpricing addresses the issue of the "winner's curse", and
6. underpricing rewards institutional investors for the information they provide to underwriters regarding the potential interest in and value of a security issue.

82. Firms encounter several costs when issuing new securities. Identify and describe at least four of these costs.

Students should provide a partial discussion of the information found at the beginning of SECTION 15.7 where 6 different types of costs are identified and defined. These are:

- | | |
|--------------------------|---|
| 1. Gross spread | Difference between the offer price and the price paid to the issuer, a direct fee to the underwriters |
| 2. Other direct expenses | Filing fees, legal fees, and taxes |
| 3. Indirect expenses | Management time devoted to the underwriting |
| 4. Abnormal returns | Decline in price of existing stock resulting from a new issue |
| 5. Underpricing | Loss incurred by selling shares at less than their true market value |
| 6. Green Shoe provision | Selling additional shares at the offer price to cover oversubscriptions |

83. Steve is the founder of Jefferson & Westover. Recently, the firm decided to issue an IPO with Steve retaining 30 percent ownership of the firm. The IPO agreement contained both a Green Shoe provision and a 6-month lockup agreement. Steve's cost basis per share is \$15. The offering price for the IPO was \$16. On the first day of trading, the market price per share rose to \$28.20 and closed for the day at \$25.60. Now, six months after the IPO release, the stock is valued at \$15.40 a share. Explain who benefited the most during the lockup period, an outside investor or Steve, and why.

As a company insider, the lockup agreement has prevented Steve from selling any of his shares and benefiting from the substantial price increase to \$28.20 a share. Thus, Steve still owns all of his shares and has a current profit of \$0.40 a share. Meanwhile, Outside Investor A could have purchased shares for \$16 and sold them at \$28.20 each. Outside Investor B, could have bought the shares at \$28.20 and suffered a loss since the shares have declined in value since that point. Thus, who is better off depends upon the price at which the outside investor purchased shares.

Ch16

85. Draw the following two graphs, one above the other: In the top graph, plot firm value on the vertical axis and total debt on the horizontal axis. Use this graph to illustrate the value of a firm under M&M without taxes, M&M with taxes, and the static theory of capital structure. On the lower graph, plot the WACC on the vertical axis and the debt-equity ratio on the horizontal axis. Use this second graph to illustrate the value of the firm's WACC under M&M without taxes, M&M with taxes, and the static theory. Briefly explain what the two graphs reveal about firm value and its cost of capital under the three different theories.

The student should replicate and explain Figure 16.8 from the text.

86. Based on the M&M propositions with and without taxes, how much time should a financial manager spend analyzing the capital structure of a firm? What if the analysis is based on the static theory?

Under either M&M scenario, a financial manager should not spend time analyzing the firm's capital structure. With no taxes, capital structure is irrelevant. With taxes, M&M says a firm will maximize its value by using 100 percent debt. In both cases, the manager has nothing to decide. With the static theory, however, the manager must determine the optimal amount of debt and equity by analyzing the tradeoff between the benefits of the interest tax shield versus the financial distress costs. Finding the optimal capital structure is challenging in this case.

87. Pete is the CFO of Dexter International. He would like to increase the debt-equity ratio of the firm but is concerned that the firm's shareholders may not be willing to accept additional financial leverage. Pete has come to you for advice. What is your recommendation?

The capital structure of the firm is irrelevant to the shareholders because they can use homemade leverage to adjust their exposure to financial leverage to whatever level they prefer. Thus, Pete can increase the debt-equity ratio of the firm if he feels it is in the best interest of the firm to do so.

88. In each of the theories of capital structure, the cost of equity increases as the amount of debt increases. So why don't financial managers use as little debt as possible to keep the cost of equity down? After all, aren't financial managers supposed to maximize the value of a firm?

This question requires students to differentiate between the cost of equity and the weighted average cost of capital. In fact, it gets to the essence of capital structure theory: the firm trades off higher equity costs for lower debt costs. The shareholders benefit (to a point, according to the static theory) because their investment in the firm is leveraged, enhancing the return on their investment. Thus, even though the cost of equity rises, the overall cost of capital declines (again, up to a point according to the static theory) and firm value rises.

89. Explain how a firm loses value during the bankruptcy process from both a creditors and a shareholders perspective.

The bankruptcy process is a legal proceeding that either liquidates or reorganizes a firm. Under either situation, legal, accounting, and other administrative fees are incurred. These fees, which are frequently quite substantial, must be paid out of the assets of the firm, thereby reducing the value remaining for the creditors and shareholders. In addition, the bankruptcy process generally transfers value from the shareholders to the creditors based on the absolute priority rule.

Ch17

90. You are the CFO of a non-dividend paying firm that currently has excess cash reserves. You are preparing for an internal management meeting where dividends are on the agenda. You know that the CEO favors the commencement of a dividend program. You, however, oppose any dividend plan at this time. Write a good argument that you can use in the meeting to support your position.

While it is true that the firm currently has excess cash reserves, those reserves can best be utilized to fund positive NPV projects which will increase the value of the firm and thus, the value of the shares held by our current shareholders. This increase in value does not create any tax liability for those shareholders until or unless they opt to sell their shares. Dividends on the other hand, will create an immediate tax liability for the majority of our shareholders, who don't need or prefer dividend income at this time. If we commence a dividend program, we may find that our clientele changes, which is not one of our current goals. In addition, once we pay a dividend, we need to be prepared to maintain that dividend, as any decrease in the dividend at a later date would send the wrong message to our shareholders and to the market. Lastly, should we deplete our excess cash reserves by implementing a dividend program, we might find ourselves in the uncomfortable position of seeking additional equity financing which would be expensive and possibly also dilutive to our shareholders.

91. Explain the meaning of the dividend clientele effect and why it is important.

There are certain groups that prefer low dividend payouts and certain groups that prefer high dividend payouts; these are dividend clienteles. If clienteles exist, then whenever a firm changes its dividend policy, it just swaps one clientele for another. In the end, the firm cannot affect its value by making changes in its dividend policy unless there are unsatisfied clienteles.

92. Stock repurchase programs appear to becoming more popular with business firms. Explain the appeal of these programs as compared to that of cash dividend programs from the stock issuer's point of view.

Both stock repurchase and cash dividend programs are mechanisms for transferring excess funds from a corporation to its shareholders. Dividend programs, once commenced, require an ongoing cash outflow that is difficult to reduce or terminate. Stock repurchase programs on the other hand, are structured such that a firm can control both the timing and the amount of the cash outflows. While a stock repurchase program is frequently announced, there is no commitment to actually purchase the shares. This provides a lot more flexibility to the firm than a dividend program.

93. Identify some real-world factors which might make it more difficult for an individual to effectively create a homemade dividend policy.

Students should address factors such as taxes, transaction costs, and investment earnings. If selling \$100 of securities is not equal to receiving \$100 of dividend income on an aftertax basis, then investors will have a preference for one over the other. Selling small amounts of securities on a frequent basis tends to result in significant transaction costs making such trading undesirable. Receiving dividend income today and then investing that income for a short period of time, say a year or two, may yield less than desirable results if the interest rate available for such investments is low, which would generally be the case for many shareholders. Thus, effectively creating a homemade dividend policy may not be as simple as it sounds, especially for investors with smaller portfolios.

94. Explain how cash dividends affect individual shareholders differently than an equal amount of funds spent on a repurchase.

Dividends are payable to all shareholders on an equal per share basis with the income taxed as dividend income when received. Shareholders have no control over the timing of this dividend income and thus, no control over the timing of their tax liability. A repurchase affects only those shareholders who opt to sell shares. The shareholders who participate in a repurchase will generally pay taxes at the capital gains rate with the tax liability created at the time of sale, which is controlled by the shareholder. Shareholders who do not participate in the repurchase program receive no cash and incur no taxes. Thus, a repurchase allows shareholders to control the timing of their income and their related tax liability. Also, it should be noted that investor preferences for either dividends or capital gains depends upon the tax laws that are in existence at a particular point in time.

Ch18

97. List and describe the three basic types of secured inventory loans. Compare the advantages and disadvantages of these loans.

The three types are blanket lien, trust receipts, and field warehouse financing. The blanket lien is certainly the easiest for the firm since the lender places a lien on the firm's entire inventory. Generally, the borrower does not have to provide any details on the inventory items. Trust receipt financing requires the borrower and lender to specify the exact inventory item which secures each advance. This can be a time-consuming and cumbersome type of financing for the firm. Field warehouse financing requires that an independent company supervise the collateral for the lender. This, too, can be a cumbersome type of financing.

98. Using two separate graphs, illustrate a flexible and a restrictive short-term financing policy. Place costs on the vertical axis and current assets on the horizontal axis. On each graph, indicate the shortage costs, carrying costs, total costs, and indicate the optimal investment in current assets.

99. Assume that long-term interest rates are substantially higher than short-term interest rates and are expected to remain that way for the foreseeable future. How does this affect a firm's selection of a financing policy for its current assets?

In this situation, firms will tend to prefer short-term debt over long-term debt and thus will tend to opt for a restrictive financing policy.

100. Compensating balances are frequently a part of revolving lending arrangements with banks, yet they add to the cost of financing for the borrower. Why, then, would borrowers agree to such terms? What other types of alternative financing are available?

Revolvers are flexible lending arrangements which make it convenient for firms to borrow funds on short notice for short periods of time. This is particularly applicable to firms that adhere to a restrictive financing policy. Furthermore, since the compensating balance is typically required only if the borrower draws on the line, the cost is incurred only while loans are outstanding. Alternative types of financing include letters of credit, accounts receivable financing, inventory loans, commercial paper, and trade credit.

Ch19

87. Explain how a lockbox system operates and why a firm might consider implementing such a system.

A lockbox system entails opening post office boxes in various geographic locations. These locations are selected such that they are close to the firm's key customers. At each of those sites, a representative from a local bank collects the incoming checks and deposits them into the firm's account. The information on the deposits is forwarded to the firm so customer accounts can be credited for the payments. The firm transfers funds from these remote bank accounts into one or more centralized bank accounts on a routine basis. A lockbox system reduces mailing and processing times, and creates a one-time cash inflow for the firm.

88. Explain how the Check Clearing Act for the 21st Century affects both collection and disbursement float.

Check 21 eliminated the need to present an original check to the check writer's bank to receive payment. Now, the bank receiving the check as a deposit can electronically transmit a copy of the check to the check writer's bank and receive immediate payment. This reduces both collection and disbursement float times.

89. Explain how the unethical use of uncollected funds has been impacted by the growth of on-line retailing and banking.

Whenever cash is moved electronically, both collection and disbursement float disappears. Reducing float limits the ability of a firm to earn income by investing uncollected cash.

90. Float management systems may provide only minimal benefits to a firm. Given that most firms have other projects with higher positive net present values, why should a firm's managers spend time implementing a float management system?

Students should explain that any project with a positive net present value adds value to the overall firm and should be implemented. Generally speaking, the majority of employee or management time required by a float management system is spent on the implementation of the system. Once the system is in place, management and employee time required for float management tends to be rather minimal.

91. Explain what a zero-balance account is, how it is used, and how it affects cash management.

A zero-balance account is a checking account which is frequently used either for payroll or accounts payable purposes. Funds are transferred from a master account into the zero-balance account only as needed to cover checks presented for payment. All excess funds are held in the master account. By concentrating the firm's safety stock of cash in one account, the firm can better utilize its funds.

Ch20

84. Which do you feel is the more appropriate upper limit for the credit period that a seller offers to a buyer: the buyer's operating cycle or the buyer's inventory period?

The operating cycle is the sum of the inventory and accounts receivable periods. The inventory period is probably the better target as an upper limit for the seller's credit period since it is questionable whether or not the seller should be financing the buyer's receivables. The credit period should definitely not exceed the buyer's operating period as the seller would then be financing all of the buyer's inventory and accounts receivables, plus other aspects of the buyer's operations.

85. Assume all suppliers to a large retail chain offer credit terms of 2/10, net 30. The retail chain consistently takes the 2 percent discount and pays in 60 days. When pressed on the issue, the retail chain tells the suppliers they can either accept the payments as they currently are or lose the business. Is this ethical? How might this impact a small supplier versus a large supplier? Explain.

This question can lead to a lively discussion about the ethics of abusing the credit period. Some students will argue that it is unethical for the large firm to exercise its will against its suppliers. Most would argue that a supplier that is also a relatively large firm will better be able to negotiate with the retail chain and work out a more favorable arrangement than the current situation. If a supplier is small, this account may be a significant proportion of the supplier's total sales. In that case, the supplier may have no choice other than accepting the terms as dictated by the retail chain or going out of business. Whether or not the actions of the retail chain are ethical is debatable, but this practice occurs fairly frequently.

86. Why might firms forego discounts offered by their suppliers even though it is costly to do so? What steps might a firm pursue to be able to take these discounts?

Firms will forego discounts when there is insufficient cash flow to pay within the discount period. It would be difficult to argue that this type of financing, given the typically high cost of foregoing the discount, would be cheaper than other financing sources available to the firm. However, it might be more desirable than raising cash, say through secured inventory financing or factoring receivables. As far as correcting the problem, the firm's management needs to seriously review the firm's cash and liquidity policies and make the changes required to improve the firm's liquidity and cash flow situation.

87. All else equal, firms with (1) excess capacity, (2) low variable costs, and (3) repeat customers are more apt to offer liberal credit terms to their customers than are other firms. Explain why this tendency exists.

Firms with excess capacity are more apt to offer liberal credit terms as a sales incentive as increased sales will also increase the capacity utilization ratio. Firms with low variable costs extend credit more liberally as the cost to do so is limited to the variable cost of the items sold. Finally, firms with repeat customers gain familiarity with its customers' ability to pay, thereby facilitating more liberal credit terms.

Ch21

84. Using currencies A, B, and C construct an example in which triangle arbitrage exists and then show how to exploit it.

Students should construct an example similar to Example 21.2 in the text.

85. What is the relationship between the value of the dollar and the value of the euro in relation to the rate of inflation in the United States?

The question asks the student to define and discuss the absolute and relative purchasing power parity (PPP) theories as well as some of the market frictions that keep PPP relationships from holding precisely.

86. How well do you think relative purchasing power parity (PPP) and uncovered interest parity (UIP) behave? That is, do you think it's possible to forecast the expected future spot exchange rate accurately? What complications might you run into?

Each of the variables in these equations must be estimated so it is unlikely, even unrealistic, to expect them to hold with any high degree of accuracy especially over long periods of time. In addition, most countries manage the value of their currencies to some extent which adds a significant amount of noise to the exchange rate process.

87. What conditions are necessary for absolute purchasing power parity (PPP) to exist? Is it realistic to believe PPP can exist within a country let alone across national borders?

The requirements for absolute PPP to hold are zero trading costs, lack of trade barriers, and identical goods. Students should discuss the forces that either create or prevent these requirements both within a country and across national borders.

88. Describe the foreign currency and home currency approaches to capital budgeting for a foreign project. Which is better? Which approach would you recommend a U.S. firm use? Justify your answer.

In the home currency approach, you must forecast both the foreign cash flows and the future expected exchange rates, convert the foreign currency cash flows into dollars, and discount those dollar cash flows at the cost of capital for dollar-denominated investments. In the foreign currency approach, you forecast the foreign cash flows, determine the discount rate appropriate for cash flows denominated in the foreign currency and discount those cash flows to the present. You then convert the foreign currency NPV to dollars using the current exchange rate. If done properly, both approaches give identical results. However, the foreign currency approach is computationally somewhat more straightforward.

Ch22

43. Provide an example of a managerial decision that illustrates each one of the following behaviors:

Behavior: Overconfidence

Example:

Behavior: Affect heuristic

Example:

Behavior: Loss aversion

Example:

Student answers will vary but should correctly display the type of behavior indicated.

44. Explain 1) the concept of house money, 2) why the house money concept is such a common behavior for so many individuals and 3) why house money is an irrational behavior.

House money relates to the concept that individuals treat money differently depending upon the source of that money. They are more conservative with dollars they have had to work hard to earn and less so with dollars that have been easy to obtain. The term "house money" relates this concept to gamblers who are willing to lose their prior winnings (the house's money) but who are unwilling to lose their initial investment (personal money). This behavior is irrational because any dollar you possess has equal purchasing power.

45. Explain why a low-priced, low trading volume stock is more apt to present limits to arbitrage than is a high-priced, high trading volume stock.

A low-priced stock may be less known to investors causing those investors to be more noise traders than informed traders. Further, any trading by a rational trader will tend to cause the stock price to move if the trade is of significant size. Rational traders with limited dollars may not trade in the stock due to the potential for trading costs to outweigh any profit from a mispricing.

Ch23

63. What are the primary motives for a hedger and a speculator in the derivatives market? If a wheat farmer sells wheat futures, is that hedging or speculating? Explain.

The key is whether or not the contracting party has an existing position in the underlying asset. The farmer can be both a hedger and a speculator depending upon the quantity of wheat produced versus the quantity of wheat futures sold. Good students will recognize that hedgers contract in order to reduce risk while speculators seek risk with the expectation of earning sizeable returns.

64. Explain how a manufacturer who has an ongoing need for silver as a raw material in the production process might use futures to hedge. What does the manufacturer hope to gain?

The manufacturer needs to acquire silver so will purchase silver futures to offset higher production costs should silver prices rise in the spot commodity market. Since there is an ongoing need, it is likely the manufacturer will maintain a continuous position in the silver futures market. The firm in this case hopes to insulate itself from fluctuations in the price of silver, thereby maintaining a more predictable stream of production cost cash outflows.

65. What is cross-hedging? Why do you suppose firms use this method of risk management? What are some of the drawbacks?

Cross-hedging is hedging an asset with contracts written on a closely related, but not identical, asset. Firms engage in cross-hedging because they cannot find a perfect match for the commodity or financial asset they are seeking to manage. The source of the imperfect match could be grading, timing, or quantity mismatches, or one of several other factors. The primary drawback of a cross-hedge is the fact that not all of the firm's risk will be eliminated since, by definition, a cross-hedge is an imperfect match.

66. Explain why a swap is effectively a series of forward contracts.

In a forward contract, the parties agree at the outset to a specified transaction at some point in the future at a predetermined price. In a swap, the parties agree to several future transactions at predetermined prices. Thus, each transaction specified by the swap contract is essentially a forward contract.

67. Explain both the concept of financial engineering and why it is becoming increasingly popular in today's business environment.

Financial engineering is the creation and use of derivative securities to hedge risk. It is becoming increasingly popular because of the increasing volatility and uncertainty surrounding prices, interest rates, and exchange rates.

Ch24

92. Circle Stores stock is priced at \$28 a share. A \$40 call on this stock has five months until expiration and a call price of \$0.15. Why would an investor purchase a call that is so far out of the money?

Students should discuss the impact of time to maturity on option values. They should point out that with five months left to maturity, there is a chance that the option could finish in the money, especially if the stock price is volatile. A low option price per share such as \$0.15, means that an investment in an option contract will be quite inexpensive. However, investors apparently don't have a strong feeling the stock will reach \$40 by share by the expiration date, or the option price would be much higher.

93. What are the basic similarities and basic differences between warrants and call options?

Both warrants and call options grant their owners the right to purchase shares of stock at a prespecified price. Warrants are issued by corporations while call options are issued by investors. Warrants are usually attached to privately placed loans or bonds. Warrants can be detached from the debt security and traded separately. Call options are traded separately from the underlying stock.

94. What are the upper and lower bounds for an American call option? Explain what would happen in each case if the bound was violated.

The upper bound on a call is the stock price. If the call price exceeded the stock price, you would be paying more for the option to buy an asset than the asset itself costs. The lower bounds are: $C \geq 0$ if $S - E < 0$ and $C \geq (S - E)$ if $(S - E) \geq 0$. In the first case, if the exercise price exceeds the stock price, the call is out of the money and it will either be worthless or have some time value. In the second case, if the call is in the money, the call must be worth at least the difference between the asset's value and the exercise price. If the call was worth less than this value, rational investors would purchase calls, immediately exercise them, and then sell the stock at the current price, completing an arbitrage.

95. Explain the rationale behind the idea that equity is a call option on a firm's assets. When would a shareholder allow this call to expire?

The analogy only works for leveraged firms. At maturity of the firm's debt, the stockholders have the option to either pay the creditors the face value of the debt or turn the firm's assets over to the firm's creditors. If the firm's assets are worth less than the face value of the debt, the stockholders will not exercise the call, that is, they will let the creditors have the assets and the firm will be liquidated.

96. Call options are frequently attached to bonds, making them callable at the option of the issuer. Consider a firm that just issued two sets of bonds: One is callable, has a 7 percent coupon rate, 15 years to maturity, and cannot be called during the first three years; the second is noncallable, has a 7 percent coupon rate, 15 years to maturity, and is identical to the first bond in every way except for the call option. Suppose the noncallable bonds are sold for \$1,000 each. Will the callable bonds sell for more or less than \$1,000? Who "purchases" the option in this case and who "sells" it?

The callable bond will sell for less than par. The bond issuer buys the option and the bondholder writes it. If the callable bonds sell for \$950 each, the call option will be worth the difference between the two bond prices, or \$50 per bond.

97. Explain how the floor and the ceiling prices for a convertible bond are determined.

The floor, or minimum, value of a bond is the bond's straight bond value. The ceiling, or maximum, value is theoretically unlimited since there is no upper limit on a bond's conversion value.

Ch25

71. Explain why the equity ownership of a firm is equivalent to owning a call option on the firm's assets.

Equity is equal to asset minus liabilities. This relationship reflects the residual ownership feature of equity. Because of the limited liability feature of equity ownership in a corporation, the equity must always be non-negative in value, even if the debts of the firm exceed the value of the assets and the firm is in technical (if not outright) bankruptcy. Thus, the equity = $\max(A - D, 0)$, is equal to a call option on the assets of the firm with a strike price equal to the face value of the firm's debt.

72. Explain how option pricing theory can be used to argue that acquisitive firms pursuing conglomerate mergers are not acting in the shareholders' best interest.

Because equity can be viewed as a call option on the assets of the firm, the Black-Scholes option pricing model tells us that equity value will increase if the standard deviation of the firm's assets increases. To the extent that conglomerate mergers create a more diversified business model for the acquiring firm, the standard deviation of the assets will actually decrease, which is counter to the shareholders' interest in maximizing the value of the firm. The shareholders would prefer that managers seek out maximum risk in their business activities.

73. Give an example of a protective put and explain how this strategy reduces investor risk.

Students should give an example that includes the purchase of a stock and also a put. The strike price should be relatively close to the stock price. The protective put provides investors with a guaranteed selling price for their stock. Without the put, the selling value of the stock could go as low as zero.

74. Identify the five variables that affect the value of an American put option and indicate how an increase in each of the variables will affect the value of the put. Also indicate the common name, if any, given to each variable.

Variable	Name	Effect than an increase in the variable has on the put value
Stock price	Delta	Decrease
Exercise price		Increase
Time to expiration	Theta	Increase
Standard deviation of the return on the stock	Vega	Increase
Risk-free rate	Rho	Decrease

75. Explain how an increase in T-bill rates will affect the value of an American call and an American put.

An increase in the risk-free rate will increase the value of an American call option and decrease the value of an American put option. However, any change in the option value will be somewhat limited given a normal range of market interest rates.

76. Explain why financial mergers tend to benefit bondholders more than shareholders.

Financial mergers tend to lower the risk of default by lowering the volatility of the combined firm's return on assets. By lowering default risk, the value of the firm's debt rises, which in turn lowers the value of the firm's equity.

Ch26

78. Empirical evidence indicates that the returns to shareholders of the target firm vary significantly from the returns to the shareholders of the acquiring firm. Identify the shareholders that tend to realize the smaller return and provide some possible explanation for these low returns.

The empirical evidence strongly indicates that the shareholders of the target firm realize large wealth gains as a result of a takeover bid but the shareholders in the acquiring firm gain little, if anything. While a definitive answer is elusive, the following have been offered as possible explanations for these low returns to acquiring shareholders: size differentials, competition in the takeover market, lack of achieving merger gains, management goals other than the best interests of the shareholders, and early announcements of corporate acquisition intent.

79. Identify the three basic legal procedures that one firm can use to acquire another and briefly discuss the advantages and disadvantages of each.

The three forms are merger, acquisition of stock, and acquisition of assets. A merger has the advantage that it is legally simple and therefore low cost but it has the disadvantage that it must be approved by the shareholders of both firms. Acquisition by stock requires no shareholder meetings and management of the target firm can be bypassed. However, it can be a costly form of acquisition and minority shareholders may hold out, thereby raising the cost of the purchase. An acquisition of assets requires the vote of the target firm's shareholders. However, it can become quite costly to transfer title to all of the assets.

80. Defensive merger tactics are designed to thwart unwanted takeovers and mergers. Do such activities work to the advantage of shareholders all of the time? Are these types of activities ethical? Who do you think benefits the most from these activities?

Good students will recognize that defensive tactics "insulate" existing management from the vagaries of the marketplace and may allow ineffective management to remain in charge. Obviously, defensive maneuvers do not always act in the best interest of shareholders. Some students will argue that management benefits most from these activities. The ethics debate about these issues is always an interesting one.

81. Firms can frequently create synergy by merging and sharing complementary resources with another firm. Give two examples of situations where this would most likely occur.

Student examples will vary but should display an understanding of how complementary resources can be shared in a manner that will reduce costs. A common example would be two seasonal firms such as a golf course and a ski resort where assets such as the administrative functions, the hospitality staff, the dining areas, and the resort areas would all be considered complementary resources.

Ch27

59. Explain the differences between purchasing an asset and leasing an asset.

With a purchase, the user buys an asset from the manufacturer with the user both owning and using the asset. With a lease, the lessor buys an asset from the manufacturer and then owns and leases the asset to a lessee. The lessee leases and uses the asset but does not own the asset.

60. What are some "good" reasons for opting to lease rather than purchase an asset?

Students should provide reasons similar to those listed in the textbook, which are:

1. Taxes may be reduced by leasing.
2. The lease contract may reduce uncertainty.
3. Transaction costs may be lower with leasing.
4. Leasing may require fewer restrictive covenants than secured borrowing.
5. Leasing may encumber fewer assets than secured borrowing.

61. Explain the "leasing paradox" and also explain why leasing is or is not a "zero sum game".

The leasing paradox is that, given identical tax and borrowing rates, the lessee's cash flows will be equal in size (but opposite in sign) to those of the lessor. In other words, leasing would be, at best, a break-even proposition for both parties. The existence of tax differentials, differential transaction costs, and different costs of borrowing are a few of the reasons that make leasing worthwhile for both parties, and not just a "zero sum game".

62. Why might a firm opt to sell and leaseback an asset which it currently owns?

The firm might opt to sell the asset to create a current cash inflow from the sale proceeds. The firm might also opt to sell the asset to a lessor if the lessor can realize a greater tax savings from ownership than that realized by the current owner