**CHAPTER 11—EXPANDED ANALYSIS**

**MULTIPLE CHOICE**

 1. Which of the following ratios is given the highest significance rating by commercial loan officers?

|  |  |
| --- | --- |
| a. | Inventory Turnover In Days |
| b. | Degree of Financial Leverage |
| c. | Times Interest Earned |
| d. | Fixed Charge Coverage |
| e. | Debt/Equity |

ANS: E

 2. Which financial ratio appears most frequently in loan agreements according to commercial loan officers?

|  |  |
| --- | --- |
| a. | Quick Ratio |
| b. | Cash Flow/Total Debt |
| c. | Debt/Equity |
| d. | Times Interest Earned |
| e. | Cash ratio |

ANS: C

 3. Which of the following ratios is given the highest significance rating by controllers?

|  |  |
| --- | --- |
| a. | Current Ratio |
| b. | Earnings Per Share |
| c. | Return on Equity - After Tax |
| d. | Return on Assets - After Tax |
| e. | Price/Earnings Ratio |

ANS: B

 4. Which of the following ratios appears most frequently in annual reports?

|  |  |
| --- | --- |
| a. | Earnings per Share |
| b. | Return on Equity |
| c. | Profit Margin |
| d. | Effective Tax Rate |
| e. | Debt/Equity |

ANS: A

 5. Which of the following ratios is given the highest significance rating by Certified Public Accountants?

|  |  |
| --- | --- |
| a. | Quick Ratio |
| b. | Debt/Equity |
| c. | Net Profit Margin |
| d. | Current Ratio |
| e. | Times Interest Earned |

ANS: D

 6. Which of the following ratios is rated to be a primary measure of liquidity and the highest significance rating of the liquidity ratios according to commercial loan departments?

|  |  |
| --- | --- |
| a. | Debt/Equity |
| b. | Current Ratio |
| c. | Degree of Financial Leverage |
| d. | Inventory Turnover in Days |
| e. | Accounts Receivable Turnover in Days |

ANS: B

 7. Which of the following ratios is a primary measure of liquidity according to the corporate controller survey?

|  |  |
| --- | --- |
| a. | Earnings per Share |
| b. | Debt/Equity Ratio |
| c. | Return on Equity after Tax |
| d. | Current Ratio |
| e. | None of the answers are correct |

ANS: D

 8. Which of the following depreciation methods is considered to be the least conservative?

|  |  |
| --- | --- |
| a. | Sum-of-the-Years' Digits |
| b. | Declining-Balance Method |
| c. | Straight-Line |
| d. | each method is equally conservative |
| e. | Sum-of-the-Years’ Digits and Declining-Balance Method are equally conservative |

ANS: C

 9. There are many definitions or descriptions given to financial failure. Which of the following does not appear to be a reasonable definition or description.

|  |  |
| --- | --- |
| a. | refinancing of bonds payable |
| b. | liquidation |
| c. | deferment of payments to short-term creditors |
| d. | deferment of payments of interest on bonds |
| e. | deferment of payments of principal on bonds |

ANS: A

 10. Edward I. Altman developed a multivariate model to predict bankruptcy. The model produces an overall discriminant score called a Z value. Which of the following statements is probably an unreasonable statement relating to the Z value?

|  |  |
| --- | --- |
| a. | The sales generating ability of the firm's assets is one of the important considerations in the Z value. |
| b. | The lack of a market value for a company's stock will reduce the significance of the Z value approach. |
| c. | Total assets is an important consideration in the Z value computation. |
| d. | Cumulative profitability over time is considered in the Z value computation. |
| e. | A Z score of 2.00 or below indicates a very healthy company. |

ANS: E

 11. Which of the following statements is not true?

|  |  |
| --- | --- |
| a. | The depreciation method and the period of time selected to depreciate an asset can have a significant influence on income. |
| b. | There are many depreciation methods. |
| c. | The depreciation methods that recognize a large amount of depreciation in the later years of an asset's life are conservative. |
| d. | The straight-line depreciation method recognizes depreciation in equal amounts over each year of the life of the asset. |
| e. | There is sometimes a material difference in the lives used for depreciation between firms. |

ANS: C

 12. In financial accounting, which of the following assets is not considered to be an intangible asset?

|  |  |
| --- | --- |
| a. | goodwill |
| b. | patents |
| c. | copyrights |
| d. | trademarks |
| e. | accounts receivable |

ANS: E

 13. Which of the following statements is not true?

|  |  |
| --- | --- |
| a. | A review of financial statements, including the notes, will indicate how conservative the statements are in regard to accounting policies. |
| b. | Accounting policies that result in the slowest reporting of income are the most conservative. |
| c. | When a firm has conservative accounting policies, it is said that its earnings are of high quality. |
| d. | Under inflationary conditions, the least conservative inventory method is fifo. |
| e. | Conservative accounting policies always result in the lowest reported income for any given period of time. |

ANS: E

 14. The Beaver Study indicated the following ratio (ratios) to be the best for forecasting financial failure.

|  |  |
| --- | --- |
| a. | cash flow/total debt |
| b. | net income/total assets |
| c. | total debt/total assets |
| d. | cash flow/total debt and net income/total assets |
| e. | all of the answers are correct |

ANS: E

 15. Which of the following is not a reasonable matching?

|  |  |
| --- | --- |
| Item | Related Conservative Policy |

|  |  |
| --- | --- |
| a. | inventory LIFO |
| b. | fixed assets accelerated depreciation |
| c. | intangible assets short period of time for amortization |
| d. | pensions short period of time to amortize prior service cost |
| e. | receivables direct write-off method |

ANS: E

 16. Which of the following variables indicates a measure of cumulative profitability over time?

|  |  |
| --- | --- |
| a. | retained earnings (balance sheet)/total assets |
| b. | earnings before interest and taxes/total assets |
| c. | working capital/total assets |
| d. | market value of equity/book value of total debt |
| e. | sales/total assets |

ANS: A

 17. Which of the following is not a multiple approach to valuation?

|  |  |
| --- | --- |
| a. | discounted cash flow |
| b. | price-to-earnings (PE) |
| c. | price-to-book |
| d. | price-to-operating cash flow |
| e. | price-to-sales |

ANS: A

 18. Which of the following is not a discounted cash flow model for valuation?

|  |  |
| --- | --- |
| a. | free cash flow |
| b. | dividend discount model |
| c. | discounted cash flow |
| d. | discounted abnormal earnings |
| e. | all of the answers are discounted cash flow models |

ANS: D

 19. Tom Copeland, Tim Keller, and Jack Morrin, on their book *Valuation, Measuring and* *Managing the Value of Companies*, observed that acquirers paid too much for companies because of all but one of the following reasons:

|  |  |
| --- | --- |
| a. | market potential greater than estimated |
| b. | overoptimistic appraisal of market potential |
| c. | overestimation of synergies |
| d. | poor due diligence |
| e. | overbidding |

ANS: A

**TRUE/FALSE**

 1. Most of the ratios given a high significance rating by commercial loan officers have a primary measure of liquidity or debt.

ANS: T

 2. Ratios with a primary measure of profitability appear frequently in loan agreements.

ANS: F

 3. In general, controllers rate profitability ratios to have a higher significance than debt ratios.

ANS: T

 4. It is logical that there would be a high correlation between ratios that are rated to be highly significant and ratios that are included in corporate objectives.

ANS: T

 5. A review of the computational methodology used to compute the ratios for annual reports indicated that there were wide differences of opinion on how many of the ratios should have been computed.

ANS: T 1

 6. There is a major effort to explain financial results by the disclosure of financial ratios in annual reports.

ANS: F

 7. Presently, no regulatory agency, such as the Securities and Exchange Commission or the Financial Accounting Standards Board, accepts responsibility for determining either the content of financial ratios or the format of presentation in annual reports.

ANS: T

 8. There are many practical and theoretical issues related to the computation of financial ratios.

ANS: T

 9. Accounting policies that result in the fastest reporting of income are the most conservative.

ANS: F

 10. Under inflationary conditions, the least conservative inventory method is lifo.

ANS: F

 11. The completed-contract method recognizes all income when the contract is completed, while the percentage-of- completion method recognizes income as work progresses on the contract. The completed-contract method is the conservative method.

ANS: T

 12. The straight-line depreciation method recognizes depreciation in equal amounts over each year of the life of the asset. Therefore, the straight-line depreciation method is a conservative depreciation method.

ANS: F

 13. Most of the ratios given a high significance rating by chartered financial analysts have a primary measure of profitability.

ANS: T

 14. Substantial research and development will result in more conservative earnings.

ANS: T

 15. The straight-line depreciation method is a conservative depreciation method.

ANS: F

 16. The interest rate that is assumed to be earned on pension funds can have a material influence on the pension expense and the pension liability. The higher the rate of interest assumed to be earned on pension funds, the higher the pension expense and the higher the pension liability.

ANS: F

 17. A univariate model to predict financial failure uses a single variable in a prediction model.

ANS: T

 18. Beaver did a study that indicated that failed firms have less cash but more inventory one year before failure than do similar firms that do not fail.

ANS: F

 19. It is likely that particular attention should be paid to cash, accounts receivable, and inventory when forecasting financial failure.

ANS: T

 20. With the Altman model, the higher the Z score, the more likely the firm will go bankrupt.

ANS: F

 21. An auditor can use financial ratios in analytical review procedures.

ANS: T

 22. Ideally, a proposed comprehensive budget should be compared with financial ratios that have been agreed upon as part of the firm's corporate objectives.

ANS: T

 23. The information on a firm's lifo reserve can be used to improve the analysis of inventory, liquidity in general, and the debt position.

ANS: T

 24. Profitability ratios are the most likely ratios to be selected for corporate objectives.

ANS: T

 25. A column graph has columns in horizontal form.

ANS: F

 26. Visually, a pie graph can mislead because of an illusion.

ANS: T

 27. Analytical review procedures may be performed at various times within the audit.

ANS: T

 28. A decline in the acid-test ratio indicates a reduced ability to pay current liabilities with funds from the sale of inventory.

ANS: F

 29. Usually, a company must make estimates in the preparation of financial statements as of a given date.

ANS: T

 30. The financial literature and valuation books strongly support the use of multiperiod discounted valuation model either in terms of earnings or cash flow.

ANS: T

 31. The studies cited [(Barker, 1999), (Demirakos et al, 2003), and (Asquith et al, 2004)], all agree on the fact that multi-period discounted valuation models seem to play a significant role in analysts’ normal valuation activity.

ANS: F

 32. The authors (Tom Copeland, Tim Keller, and Jack Morrin) maintain that the correct way to value dot.coms is by using the classic discounted-cash-flow (DCF) approach to valuating, reinforcing the continued importance of basic economics and finance.

ANS: T

**PROBLEMS**

 1.

|  |  |  |
| --- | --- | --- |
| Firm Using LIFO Inventory |  2010 |  2009 |
|  |  |  |
| Selected Balance Sheet Data: |  |  |
| Merchandise inventories | $ 24,000  | $ 22,000  |
| Total current assets | 41,000  | 39,000  |
| Total assets | 85,000  | 75,000  |
| Total current liabilities | 25,000  | 24,000  |
| Total long-term debt | 30,000  | 30,000  |
|  |  |  |
| Selected Income Statement Data: |  |  |
| Net sales | $360,000  | $320,000  |
| Cost of merchandise sold | 295,000  | 260,000  |
| Net income | 4,200  | 4,500  |
| Net income per common share | $2.60  | $2.80  |
| Effective tax rate | 40% | 40% |

Selected partial note with 2010 financial statements: Inventories have been reduced by $10,000 and $7,000 at December 31, 2010, and December 31, 2009 respectively, from amounts which would have been reported under the fifo method (which approximated current cost). Had the company valued all of its inventories under the fifo method, net income would have been approximately $5,600 in 2010 and $5,601 in 2009.

Required:

|  |  |
| --- | --- |
| a. | Compute the following ratios for 2010 from the financial statements (using lifo): |
|  | 1. | Days' Sales in Inventory |
|  | 2. | Working Capital |
|  | 3. | Current Ratio |
|  | 4. | Debt Ratio |
| b. | Compute the following ratios for 2010, using fifo disclosure: |  |
|  | 1. | Days' Sales in Inventory |
|  | 2. | Working Capital |
|  | 3. | Current Ratio |
|  | 4. | Debt Ratio |
| c. | Comment on the difference in the indicated liquidity and debt between the ratios computed under lifo and the ratios computed under fifo. |

ANS:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 1. | Days' Sales in Inventory = | Ending Inventory |
|  |  |  | Cost of Goods Sold/365 |
|  |  |  |  |
|  |  | $24,000 |  = 29.69 days |
|  |  | $295,000/365 |  |

|  |  |  |
| --- | --- | --- |
|  | 2. | Working Capital = Current Assets - Current Liabilities |
|  |  |  |
|  |  | $41,000 - $25,000 = $16,000 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 3. | Current Ratio =  | Current Assets |
|  |  |  | Total Assets |
|  |  |  |  |
|  |  | $41,000 |  = 1.64 |
|  |  | $25,000 |  |
|  |  |  |  |
|  | 4. | Debt Ratio = | Total Liabilities |
|  |  |  | Total Assets |
|  |  |  |  |
|  |  | $25,000 + $30,000 |  = 64.71% |
|  |  | $85,000 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| b. | 1. | Days' Sales in Inventory = | Ending Inventory |
|  |  |  | Cost of Goods Sold / 365 |
|  |  |  |  |
|  |  | $24,000 + $10,000 |  = 42.50 days |
|  |  | ($295,000 - $3,000)/365 |  |

|  |  |  |
| --- | --- | --- |
|  | 2. | Working Capital = Current Assets - Current Liabilities |
|  |  |  |
|  |  | ($41,000 + $10,000) - ($25,000 + $4,000) = $22,000 |

|  |  |  |
| --- | --- | --- |
|  |  | Increase in tax liability: |
|  |  | 40%  10,000 = $4,000 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 3. | Current Ratio = | Current Assets |
|  |  |  | Current Liabilities |
|  |  |  |  |
|  |  | $51,000 |  = 1.76 |
|  |  | $29,000 |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 4. | Debt Ratio =  | Total Liabilities |
|  |  |  | Total Assets |
|  |  |  |  |
|  |  | $25,000 + $30,000 + $4,000 |  = 62.11% |
|  |  | $85,000 + $10,000 |  |

|  |  |
| --- | --- |
| c. | Days' Sales in Inventory—The adjusted days' sales in inventory using the fifo data indicates that there is substantially more days' sales in inventory than that indicated using lifo. |
|  |  |
|  | The adjusted ratio is a better indicator because the inventory figure is closer to current cost than under lifo. |
|  |  |
|  | Working Capital—The adjusted working capital is substantially higher than the working capital under lifo. |
|  |  |
|  | The adjusted working capital is a better indicator because of the more realistic inventory amount. |
|  |  |
|  | Current Ratio—The adjusted current ratio is higher than the current ratio computed using the lifo figures. |
|  |  |
|  | The adjusted current ratio is a better indicator because of the more realistic inventory. |
|  |  |
|  | Debt Ratio—The adjusted debt ratio indicates a slightly better debt position than does the unadjusted ratio. |
|  |  |
|  | The adjusted ratio is a better indication of the debt position because of the more realistic inventory and liabilities. |

 2. The following data are presented for Zero Company.

|  |  |
| --- | --- |
| Working capital | $ 60,000 |
| Total assets | 400,000 |
| Retained earnings |  20,000 |
| Earnings before interest and taxes |  40,000 |
| Market value of equity |  80,000 |
| Book value of total debt | 200,000 |
| Sales | 300,000 |

Z score formula:

Z = .012X1 + .014X2 + .033X3 + .006X4 + .010X5

X1 = Working Capital/Total Assets

X2 = Retained Earnings (balance sheet)/Total Assets

X3 = Earnings Before Interest and Taxes/Total Assets

X4 = Market Value of Equity/Book Value of Total Debt

X5 = Sales/Total Assets

Required:

|  |  |
| --- | --- |
| a. | Compute the Z score for Zero Company. |
| b. | Considering the Altman model, comment on the likelihood that this firm will experience financial failure. |

ANS:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a. |  |  |  |  |
|  | Z  | = .012 ($60,000/$400,000) + .014 ($20,000/$400,000) |  |  |
|  | + .033 ($40,000/$400,000) + .006 ($80,000/$200,000) |  |  |
|  | + .010 ($300,000/$400,000) |  |  |
|  |  |  |  |  |
|  | Z | = .012 (15.00) | = .18 | Z = 1.57 |
|  |  | + .014 ( 5.00) |  .07 |  |
|  |   | + .033 (10.00) |  .33 |  |
|  |   | + .006 (40.00) |  .24 |  |
|  |   | + .010 (75.00) |  .75 |  |

|  |  |
| --- | --- |
| b. | The Z score is 1.57. For a study that covered the period 1970–1973, a Z score of 2.675 was established as a practical cutoff point. Firms that scored below 2.675 are assumed to have similar characteristics of past failures. |

 3. The following data are presented for Rocket Company.

|  |  |
| --- | --- |
| Working capital | $100,000 |
| Total assets |  300,000 |
| Retained earnings |  40,000 |
| Earnings before interest and taxes |  60,000 |
| Market value of equity |  100,000 |
| Book value of total debt |  220,000 |
| Sales |  400,000 |

Z Score Formula:

Z = .012X1 + .014X2 + .033X3 + .006X4 + .010X5

X1 = Working Capital/Total Assets

X2 = Retained Earnings (balance sheet)/Total Assets

X3 = Earnings Before Interest and Taxes/Total Assets

X4 = Market Value of Equity/Book Value of Total Debt

X5 = Sales/Total Assets

Required:

|  |  |
| --- | --- |
| a. | Compute the Z score for Rocket Company. |
| b. | Considering the Altman model, comment on the likelihood that this firm will experience financial failure. |

ANS:

|  |  |  |
| --- | --- | --- |
| a. |  |  |
|  | Z  |  = .012 ($100,000/$300,000) + .014 ($40,000/$300,000) |
|  |  |  + .033 ($60,000/$300,000) + .006 ($100,000/$220,000) |
|  |  |  + .010 ($400,000/$300,000) |
|  |  |  |
|  | Z  | = .012 (33.33) = 0.40 |
|  |  |    .014 (13.33) = 0.19 |
|  |  |    .033 (20.00) = 0.66 |
|  |  |    .006 (45.45) = 0.27 |
|  |  |    .010 (133.33) = 1.33 |
|  |  |                       Z = 2.85 |

|  |  |
| --- | --- |
| b. | The Z score is 2.85. For a study that covered the period 1970–1973, a Z score of 2.675 was established as a practical cutoff point. Firms that score below 2.675 are assumed to have similar characteristics of past failures. |

 4. The following data are presented for Hillsdale Company.

|  |  |  |
| --- | --- | --- |
| 2010 | Net income as reported | $60,000 |
| 2010 | Inventory reserve | $30,000 |
| 2009 | Inventory reserve | $20,000 |
| 2010 | Income taxes | $20,000 |
| 2010 | Income before income taxes | $80,000 |

Required:

Compute the approximate income for 2010 if inventory had been valued at approximate current cost.

ANS:

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | 2010 net income as reported |  | $60,000  |
|  | Net increase in inventory reserve: |  |  |
|  |  2010 Inventory reserve  | $30,000 |  |
|  |  2009 Inventory reserve  |  20,000 |  |
| (b) | Increase in inventory reserve |  | $10,000  |
| (c) | Effective federal tax rate  | $20,000 |   = 25% |
|  |  | $80,000 |  |
| (d) | Change in taxes (b  c) |  | $ 2,500  |
| (e) | Net change in income (b - d) ($10,000 - $2,500) |  | $ 7,500  |
| (f) | 2008 approximate income if inventory had been valued at approximate current cost (a + e) ($60,000 + $7,500) |  | 67,500  |