Financial Management

FINA 2010, Semester II, 2020-2021

Assignment 2 (Solution)

18 January, 2021

1. Questions from the text book (Page 43, Questions and Problems)

Q19:

a. Total $assets_{2017}$ = \$1,206 + 4,973 = \$6,179
Total $liabilities_{2017}$ = \$482 + 2,628 = \$3,110
Owners' $equity_{2017}$ = \$6,179 – 3,110 = \$3,069
Total $assets_{2018}$ = \$1,307 + 5,988 = \$7,295
Total $liabilities_{2018}$ = \$541 + 2,795 = \$3,336
Owners' $equity_{2018}$ = \$7,295 – 3,336 = \$3,959

b. NWC_{2017} = CA_{2017} – CL_{2017} = \$1,206 – 482 = \$724
NWC_{2018} = CA_{2018} – CL_{2018} = \$1,307 – 541 = \$766
Change in NWC = NWC_{2018} – NWC_{2017} = \$766 – 724 = \$42

c. We can calculate net capital spending as:
Net capital spending = Net fixed $assets_{2018}$ – Net fixed $assets_{2017}$ + Depreciation
Net capital spending = \$5,988 – 4,973 + 1,363 = \$2,378
So, the company had a net capital spending cash flow of \$2,378. We also know that net capital spending is:
Net capital spending = Fixed assets bought – Fixed assets sold
\$2,378 = \$2,496 – Fixed assets sold
Fixed assets sold = \$2,496 – 2,378 = \$118
To calculate the cash flow from assets, we must first calculate the operating cash flow. The income statement is:

Income Statement

Sales	\$15,301
Costs	7,135
Depreciation expense	1,363
EBIT	\$ 6,803
Interest expense	388
EBT	\$ 6,415
Taxes (21%)	1,347
Net income	\$ 5,068

So, the operating cash flow is:
OCF = EBIT + Depreciation – Taxes = \$6,803 + 1,363 – 1,347 = \$6,819

And the cash flow from assets is:

Cash flow from assets	= OCF – Change in NWC – Net capital spending.
	= \$6,819 – 42 – 2,378 = \$4,399

d.

Net new borrowing	= LTD18 – LTD17 = \$2,795 – 2,628 = \$167
Cash flow to creditors	= Interest – Net new LTD = \$388 – 167 = \$221
Net new borrowing	= \$167 = Debt issued – Debt retired
Debt retired	= \$504 – 167 = \$337

2. Questions from the text book (Page 85, Questions and Problems)

Q26:

Short-term solvency ratios:

Current ratio	= Current assets/Current liabilities
Current ratio 2017	= \$88,496/\$75,594 = 1.17 times
Current ratio 2018	= \$108,235/\$83,416 = 1.30 times
Quick ratio	= (Current assets – Inventory)/Current liabilities
Quick ratio 2017	= (\$88,496 – 36,310)/\$75,594 = .69 times
Quick ratio 2018	= (\$108,235 – 42,632)/\$83,416 = .79 times
Cash ratio	= Cash/Current liabilities
Cash ratio 2017	= \$34,385/\$75,594 = .45 times
Cash ratio 2018	= \$37,837/\$83,416 = .45 times

Asset utilization ratios:

Total asset turnover	= Sales/Total assets
Total asset turnover	= \$506,454/\$627,868 = .81 times
Inventory turnover	= Cost of goods sold/Inventory
Inventory turnover	= \$359,328/\$42,632 = 8.43 times
Receivables turnover	= Sales/Accounts receivable
Receivables turnover	= \$506,454/\$27,766 = 18.24 times

Long-term solvency ratios:

Total debt ratio	= (Total assets – Total equity)/Total assets
Total debt ratio 2017	= (\$552,811 – 362,217)/\$552,811 = .34 times
Total debt ratio 2018	= (\$627,868 – 399,452)/\$627,868 = .36 times
Debt-equity ratio	= Total debt/Total equity
Debt-equity ratio 2017	= (\$75,594 + 115,000)/\$362,217 = .53 times
Debt-equity ratio 2018	= (\$83,416 + 145,000)/\$399,452 = .57 times
Equity multiplier	= 1 + D/E
Equity multiplier 2017	= 1 + .53 = 1.53 times
Equity multiplier 2018	= 1 + .57 = 1.57 times
Times interest earned	= EBIT/Interest
Times interest earned	= \$102,663/\$19,683 = 5.22 times
Cash coverage ratio	= (EBIT + Depreciation)/Interest
Cash coverage ratio	= (\$102,663 + 44,463)/\$19,683 = 7.47 times

Profitability ratios:

Profit margin	= Net income/Sales
Profit margin	= $62,235/$506,454 = .1229, or 12.29%
Return on assets	= Net income/Total assets
Return on assets	= $62,235/$627,868 = .0991, or 9.91%
Return on equity	= Net income/Total equity
Return on equity	= $62,235/$399,452 = .1558, or 15.58%

Q27:

The DuPont identity is: ROE = (PM)(TAT)(EM) = (.1229)(.81)(1.57) = .1558, or 15.58%

Q29:

Earnings per share	= Net income/Shares
Earnings per share	= $62,235/20,000 = $3.11 per share
PE ratio	= Share price/Earnings per share
PE ratio	= $58/$3.11 = 18.64 times
Dividends per share	= Dividends/Shares
Dividends per share	= $25,000/20,000 = $1.25 per share
Book value per share	= Total equity/Shares
Book value per share	= $399,452/20,000 shares = $19.97 per share
Market-to-book ratio	= Share price/Book value per share
Market-to-book ratio	= $58/$19.97 = 2.90 times
PEG ratio	= PE ratio/Growth rate
PEG ratio	= 18.64/9 = 2.07 times

3. The percentage of the next dollar you earn that must be paid in taxes is referred to as the _____ tax rate.
A. mean
B. residual
C. total
D. average
E. marginal

4. Which one of the following is classified as an intangible fixed asset?
A. accounts receivable
B. production equipment
C. building
D. trademark
E. inventory

5. Which one of the following is included in a firm's market value but yet is excluded from the firm's accounting value?
A. real estate investment
B. good reputation of the company
C. equipment owned by the firm
D. money due from a customer
E. an item held by the firm for future sale

6. Which one of the following will increase the value of a firm's net working capital?
A. using cash to pay a supplier
B. depreciating an asset
C. collecting an accounts receivable
D. purchasing inventory on credit
E. selling inventory at a profit

7. Which one of the following accounts is the most liquid?
A. inventory
B. building
C. accounts receivable
D. equipment
E. land

8. Which of the following are expenses for accounting purposes but are not operating cash flows for financial purposes?
I. interest expense
II. taxes
III. costs of goods sold
IV. depreciation
A. IV only
B. II and IV only
C. I and III only

D. I and IV only
E. I, II, and IV only

9. Which one of the following statements related to an income statement is correct? Assume accrual accounting is used.
A. The addition to retained earnings is equal to net income plus dividends paid.
B. Credit sales are recorded on the income statement when the cash from the sale is collected.
C. The labor costs for producing a product are expensed when the product is sold.
D. Interest is a non-cash expense.
E. Depreciation increases the marginal tax rate.

10. For a tax-paying firm, an increase in _____ will cause the cash flow from assets to increase.
A. depreciation
B. net capital spending
C. change in net working capital
D. taxes
E. production costs

12. A firm has $520 in inventory, $1,860 in fixed assets, $190 in accounts receivables, $210 in accounts payable, and $70 in cash. What is the amount of the current assets?
A. $710
B. $780
C. $990
D. $2,430
E. $2,640

Current assets = $520 + $190 + $70 = $780

13. A firm has net working capital of $640. Long-term debt is $4,180, total assets are $6,230, and fixed assets are $3,910. What is the amount of the total liabilities?
A. $2,050
B. $2,690
C. $4,130
D. $5,590
E. $5,860

Current assets = $6,230 - $3,910 = $2,320
Current liabilities = $2,320 - $640 = $1,680
Total liabilities = $1,680 + $4,180 = $5,860

14. Four years ago, Velvet Purses purchased a mailing machine at a cost of $176,000. This equipment is currently valued at $64,500 on today's balance sheet but could actually be sold for $58,900. This is the only fixed asset the firm owns. Net working capital is $57,200 and long-term debt is $111,300. What is the book value of shareholders' equity?
A. $4,800
B. $7,700
C. $10,400
D. $222,600
E. $233,000

Book value of shareholders' equity = $64,500 + $57,200 - $111,300 = $10,400

15. The tax rates are as shown. Nevada Mining currently has taxable income of $97,800. How much additional tax will the firm owe if taxable income increases by $21,000?

Taxable Income	Tax Rate
$0 - 50,000	15%
50,001 - 75,000	25%
75,001 - 100,000	34%
100,001 - 335,000	39%

A. $8,080
B. $8,130
C. $8,155
D. $8,170
E. $8,190

Additional tax = .34($100,000 - $97,800) + .39($97,800 + $21,000 - $100,000) = $8,080

16. Which one of the following is a source of cash?
A. increase in accounts receivable
B. decrease in notes payable
C. decrease in common stock
D. increase in accounts payable
E. increase in inventory

17. Which one of the following is a use of cash?
A. increase in notes payable
B. decrease in inventory
C. increase in long-term debt
D. decrease in accounts receivables
E. decrease in common stock

18. Which of the following ratios are measures of a firm's liquidity?
I. cash coverage ratio
II. interval measure
III. debt-equity ratio
IV. quick ratio
A. I and III only
B. II and IV only
C. I, III, and IV only
D. I, II, and III only
E. I, II, III, and IV

19. An increase in current liabilities will have which one of the following effects, all else held constant? Assume all ratios have positive values.
A. increase in the cash ratio
B. increase in the net working capital to total assets ratio
C. decrease in the quick ratio
D. decrease in the cash coverage ratio
E. increase in the current ratio

20. If a firm has a debt-equity ratio of 1.0, then its total debt ratio must be which one of the following?
A. 0.0
B. 0.5
C. 1.0
D. 1.5
E. 2.0

21. The cash coverage ratio directly measures the ability of a firm's revenues to meet which one of its following obligations?
A. payment to supplier
B. payment to employee
C. payment of interest to a lender
D. payment of principle to a lender
E. payment of a dividend to a shareholder

22. Dee's has a fixed asset turnover rate of 1.12 and a total asset turnover rate of 0.91. Sam's has a fixed asset turnover rate of 1.15 and a total asset turnover rate of 0.88. Both companies have similar operations. Based on this information, Dee's must be doing which one of the following?
A. utilizing its fixed assets more efficiently than Sam's
B. utilizing its total assets more efficiently than Sam's
C. generating $1 in sales for every $1.12 in net fixed assets
D. generating $1.12 in net income for every $1 in net fixed assets
E. maintaining the same level of current assets as Sam's

23. Which one of the following accurately describes the three parts of the Du Pont identity?
A. operating efficiency, equity multiplier, and profitability ratio
B. financial leverage, operating efficiency, and profitability ratio
C. equity multiplier, profit margin, and total asset turnover
D. debt-equity ratio, capital intensity ratio, and profit margin
E. return on assets, profit margin, and equity multiplier

24. Reliable Cars has sales of $807,200, total assets of $1,105,100, and a profit margin of 9.68 percent. The firm has a total debt ratio of 78 percent. What is the return on equity?
A. 13.09 percent
B. 16.67 percent
C. 17.68 percent
D. 28.56 percent
E. 32.14 percent

Return on equity = (.0968 × $807,200)/[$1,105,100 × (1 - .78)] = 32.14 percent

25. Big Guy Subs has net income of $150,980, a price-earnings ratio of 12.8, and earnings per share of $0.87. How many shares of stock are outstanding?
A. 13,558
B. 14,407

C. 165,523
D. 171,000
E. 173,540

Number of shares = $150,980/$0.87 = 173,540

26. Dixie Supply has total assets with a current book value of $368,900 and a current replacement cost of $486,200. The market value of these assets is $464,800. What is the value of Tobin's Q?
A. .86
B. .92
C. .96
D. 1.01
E. 1.06

Tobin's Q = $464,800/$486,200 = .96

27. Lassiter Industries has annual sales of $220,000 with 10,000 shares of stock outstanding. The firm has a profit margin of 7.5 percent and a price-sales ratio of 1.20. What is the firm's price-earnings ratio?
A. 14
B. 16
C. 18
D. 20
E. 22

Price per share = 1.20 × ($220,000/10,000) = $26.40
Earnings per share = ($220,000 × .075)/10,000 = $1.65
Price-earnings ratio = $26.40/$1.65 = 16