***CHAPTER 2***

**FINANCIAL STATEMENTS AND CASH FLOW**

# Answers to Concepts Review and Critical Thinking Questions

**1.** True. Every asset can be converted to cash at some price. However, when we are referring to a liquid asset, the added assumption that the asset can be quickly converted to cash at or near market value is important.

**2.** The recognition and matching principles in financial accounting call for revenues, and the costs associated with producing those revenues, to be “booked” when the revenue process is essentially complete, not necessarily when the cash is collected or bills are paid. Note that this way is not necessarily correct; it’s the way accountants have chosen to do it.

**3.** The bottom line number shows the change in the cash balance on the balance sheet. As such, it is not a useful number for analyzing a company.

**4.** The major difference is the treatment of interest expense. The accounting statement of cash flows treats interest as an operating cash flow, while the financial cash flows treat interest as a financing cash flow. The logic of the accounting statement of cash flows is that since interest appears on the income statement, which shows the operations for the period, it is an operating cash flow. In reality, interest is a financing expense, which results from the company’s choice of debt and equity. We will have more to say about this in a later chapter. When comparing the two cash flow statements, the financial statement of cash flows is a more appropriate measure of the company’s performance because of its treatment of interest.

**5.** Market values can never be negative. Imagine a share of stock selling for –$20. This would mean that if you placed an order for 100 shares, you would get the stock along with a check for $2,000. How many shares do you want to buy? More generally, because of corporate and individual bankruptcy laws, net worth for a person or a corporation cannot be negative, implying that liabilities cannot exceed assets in market value.

**6.** For a successful company that is rapidly expanding, for example, capital outlays will be large, possibly leading to negative cash flow from assets. In general, what matters is whether the money is spent wisely, not whether cash flow from assets is positive or negative.

**7.** It’s probably not a good sign for an established company to have negative cash flow from operations, but it would be fairly ordinary for a start-up, so it depends.

**8.** For example, if a company were to become more efficient in inventory management, the amount of inventory needed would decline. The same might be true if the company becomes better at collecting its receivables. In general, anything that leads to a decline in ending NWC relative to beginning would have this effect. Negative net capital spending would mean more long-lived assets were liquidated than purchased.

**9.** If a company raises more money from selling stock than it pays in dividends in a particular period, its cash flow to stockholders will be negative. If a company borrows more than it pays in interest and principal, its cash flow to creditors will be negative.

**10.** The adjustments discussed were purely accounting changes; they had no cash flow or market value consequences unless the new accounting information caused stockholders to revalue the derivatives.

**Solutions to Questions and Problems**

*NOTE: All end-of-chapter problems were solved using a spreadsheet. Many problems require multiple steps. Due to space and readability constraints, when these intermediate steps are included in this solutions manual, rounding may appear to have occurred. However, the final answer for each problem is found without rounding during any step in the problem.*

 *Basic*

**1.** To find owners’ equity, we must construct a balance sheet as follows:

 Balance Sheet

 CA $ 5,700 CL $ 4,400

 NFA 27,000 LTD 12,900

 OE ??

 TA $32,700 TL & OE $32,700

 We know that total liabilities and owners’ equity (TL & OE) must equal total assets of $32,700. We also know that TL & OE is equal to current liabilities plus long-term debt plus owner’s equity, so owner’s equity is:

 OE = $32,700 –12,900 – 4,400 = $15,400

 NWC = CA – CL = $5,700 – 4,400 = $1,300

**2.** The income statement for the company is:

 Income Statement

 Sales $387,000

 Costs 175,000

 Depreciation 40,000

 EBIT $172,000

 Interest 21,000

 EBT $151,000

 Taxes 52,850

 Net income $ 98,150

 One equation for net income is:

 Net income = Dividends + Addition to retained earnings

 Rearranging, we get:

 Addition to retained earnings = Net income – Dividends

 Addition to retained earnings = $98,150 – 30,000

 Addition to retained earnings = $68,150

**3.** To find the book value of current assets, we use: NWC = CA – CL. Rearranging to solve for current assets, we get:

 CA = NWC + CL = $800,000 + 2,400,000 = $3,200,000

 The market value of current assets and net fixed assets is given, so:

 Book value CA = $3,200,000 Market value CA = $2,600,000

 Book value NFA = $5,200,000 Market value NFA = $6,500,000

 Book value assets = $8,400,000 Market value assets = $9,100,000

**4.** Taxes = 0.15($50,000) + 0.25($25,000) + 0.34($25,000) + 0.39($273,000 – 100,000)

 Taxes = $89,720

 The average tax rate is the total tax paid divided by net income, so:

 Average tax rate = $89,720 / $273,000

 Average tax rate = 32.86%

 The marginal tax rate is the tax rate on the next $1 of earnings, so the marginal tax rate = 39%.

**5.** To calculate OCF, we first need the income statement:

Income Statement

 Sales $18,700

 Costs 10,300

 Depreciation 1,900

 EBIT $6,500

 Interest 1,250

 Taxable income $5,250

 Taxes 2,100

 Net income $3,150

 OCF = EBIT + Depreciation – Taxes

 OCF = $6,500 + 1,900 – 2,100

 OCF = $6,300

**6.** Net capital spending = NFAend – NFAbeg + Depreciation

 Net capital spending = $1,690,000 – 1,420,000 + 145,000

 Net capital spending = $415,000

**7.** The long-term debt account will increase by $35 million, the amount of the new long-term debt issue. Since the company sold 10 million new shares of stock with a $1 par value, the common stock account will increase by $10 million. The capital surplus account will increase by $48 million, the value of the new stock sold above its par value. Since the company had a net income of $9 million, and paid $2 million in dividends, the addition to retained earnings was $7 million, which will increase the accumulated retained earnings account. So, the new long-term debt and stockholders’ equity portion of the balance sheet will be:

|  |  |  |
| --- | --- | --- |
|   | Long-term debt |  $ 100,000,000  |
|   |  Total long-term debt |  $ 100,000,000  |
|   |   |   |
|   | Shareholders equity |   |
|   | Preferred stock |  $ 4,000,000  |
|   | Common stock ($1 par value) |  25,000,000  |
|   | Accumulated retained earnings |  142,000,000  |
|   | Capital surplus |  93,000,000  |
|   |  Total equity |  $ 264,000,000  |
|   |  |  |
|   | Total Liabilities & Equity |  $ 364,000,000  |

**8.** Cash flow to creditors = Interest paid – Net new borrowing

 Cash flow to creditors = $127,000 – (LTDend – LTDbeg)

 Cash flow to creditors = $127,000 – ($1,520,000 – 1,450,000)

 Cash flow to creditors = $127,000 – 70,000

 Cash flow to creditors = $57,000

**9.** Cash flow to stockholders = Dividends paid – Net new equity

 Cash flow to stockholders = $275,000 – [(Commonend + APISend) – (Commonbeg + APISbeg)]

 Cash flow to stockholders = $275,000 – [($525,000 + 3,700,000) – ($490,000 + 3,400,000)]

 Cash flow to stockholders = $275,000 – ($4,225,000 – 3,890,000)

 Cash flow to stockholders = –$60,000

 Note, APIS is the additional paid-in surplus.

**10.** Cash flow from assets = Cash flow to creditors + Cash flow to stockholders = $57,000 – 60,000

 = –$3,000

 Cash flow from assets = OCF – Change in NWC – Net capital spending

 –$3,000 = OCF – (–$87,000) – 945,000

 OCF = $855,000

 Operating cash flow = –$3,000 – 87,000 + 945,000

 Operating cash flow = $855,000

 *Intermediate*

**11.** *a.* The accounting statement of cash flows explains the change in cash during the year. The accounting statement of cash flows will be:

|  |  |
| --- | --- |
|   | Statement of cash flows |
|   | *Operations* |   |
|   |  Net income | $95 |
|   |  Depreciation | 90 |
|   |  Changes in other current assets |  (5) |
|  |  Accounts payable |  10 |
|   | Total cash flow from operations | $190 |
|   |   |  |
|   | *Investing activities* |  |
|   |  Acquisition of fixed assets | $(110) |
|   | Total cash flow from investing activities | $(110) |
|   |   |  |
|   | *Financing activities* |  |
|   |  Proceeds of long-term debt | $5 |
|   |  Dividends | (75) |
|   | Total cash flow from financing activities | ($70) |
|   |   |  |
|   | Change in cash (on balance sheet) |  $10 |

 *b.* Change in NWC = NWCend – NWCbeg

 = (CAend – CLend) – (CAbeg – CLbeg)

 = [($65 + 170) – 125] – [($55 + 165) – 115)

 = $110 – 105

 = $5

 *c.* To find the cash flow generated by the firm’s assets, we need the operating cash flow, and the capital spending. So, calculating each of these, we find:

|  |  |  |
| --- | --- | --- |
|   | *Operating cash flow* |  |
|   | Net income | $95 |
|   | Depreciation |  90 |
|   |  Operating cash flow | $185 |

 Note that we can calculate OCF in this manner since there are no taxes.

|  |  |  |
| --- | --- | --- |
|   | *Capital spending* |  |
|   | Ending fixed assets | $390 |
|   | Beginning fixed assets | (370) |
|   | Depreciation |  90 |
|   |  Capital spending | $110 |

 Now we can calculate the cash flow generated by the firm’s assets, which is:

|  |  |  |
| --- | --- | --- |
|   |   |  |
|   | *Cash flow from assets* |  |
|   | Operating cash flow | $185 |
|   | Capital spending | (110) |
|   | Change in NWC |  (5) |
|   |  Cash flow from assets | $ 70 |

**12.** With the information provided, the cash flows from the firm are the capital spending and the change in net working capital, so:

|  |  |  |
| --- | --- | --- |
|   | *Cash flows from the firm* |   |
|   | Capital spending | $(21,000) |
|   | Additions to NWC |  (1,900) |
|   |  Cash flows from the firm | $(22,900) |

 And the cash flows to the investors of the firm are:

|  |  |  |
| --- | --- | --- |
|   | *Cash flows to investors of the firm* |  |
|   | Sale of long-term debt | (17,000) |
|   | Sale of common stock | (4,000) |
|   | Dividends paid |  14,500 |
|   |  Cash flows to investors of the firm | $(6,500) |

**13.** *a.* The interest expense for the company is the amount of debt times the interest rate on the debt. So, the income statement for the company is:

Income Statement

 Sales $1,060,000

 Cost of goods sold 525,000

 Selling costs 215,000

 Depreciation 130,000

 EBIT $190,000

 Interest 56,000

 Taxable income $134,000

 Taxes 46,900

 Net income $ 87,100

 *b.* And the operating cash flow is:

OCF = EBIT + Depreciation – Taxes

 OCF = $190,000 + 130,000 – 46,900

 OCF = $273,100

**14.** To find the OCF, we first calculate net income.

 Income Statement

 Sales $185,000

 Costs 98,000

 Depreciation 16,500

 Other expenses 6,700

 EBIT $63,800

 Interest 9,000

 Taxable income $54,800

 Taxes 19,180

 Net income $35,620

 Dividends $9,500

 Additions to RE $26,120

*a.* OCF = EBIT + Depreciation – Taxes

 OCF = $63,800 + 16,500 – 19,180

 OCF = $61,120

 *b.* CFC = Interest – Net new LTD

 CFC = $9,000 – (–$7,100)

 CFC = $16,100

 Note that the net new long-term debt is negative because the company repaid part of its long-

 term debt.

*c.* CFS = Dividends – Net new equity

 CFS = $9,500 – 7,550

 CFS = $1,950

 *d.* We know that CFA = CFC + CFS, so:

 CFA = $16,100 + 1,950 = $18,050

 CFA is also equal to OCF – Net capital spending – Change in NWC. We already know OCF. Net capital spending is equal to:

 Net capital spending = Increase in NFA + Depreciation

 Net capital spending = $26,100 + 16,500

 Net capital spending = $42,600

 Now we can use:

 CFA = OCF – Net capital spending – Change in NWC

 $18,050 = $61,120 – 42,600 – Change in NWC.

 Solving for the change in NWC gives $470, meaning the company increased its NWC by $470.

**15.** The solution to this question works the income statement backwards. Starting at the bottom:

 Net income = Dividends + Addition to ret. earnings

 Net income = $1,570 + 4,900

 Net income = $6,470

 Now, looking at the income statement:

 EBT – (EBT × Tax rate) = Net income

 Recognize that EBT × tax rate is simply the calculation for taxes. Solving this for EBT yields:

 EBT = NI / (1– Tax rate)

 EBT = $6,470 / (1 – .35)

 EBT = $9,953.85

 Now we can calculate:

 EBIT = EBT + Interest

 EBIT = $9,953.85 + 1,840

 EBIT = $11,793.85

 The last step is to use:

 EBIT = Sales – Costs – Depreciation

 $11,793.85 = $41,000 – 26,400 – Depreciation

 Depreciation = $2,806.15

**16.** The market value of shareholders’ equity cannot be negative. A negative market value in this case would imply that the company would pay you to own the stock. The market value of shareholders’ equity can be stated as: Shareholders’ equity = Max [(TA – TL), 0]. So, if TA is $12,400, equity is equal to $1,500, and if TA is $9,600, equity is equal to $0. We should note here that while the market value of equity cannot be negative, the book value of shareholders’ equity can be negative.

**17.** *a.* Taxes Growth = 0.15($50,000) + 0.25($25,000) + 0.34($86,000 – 75,000) = $17,490

 Taxes Income = 0.15($50,000) + 0.25($25,000) + 0.34($25,000) + 0.39($235,000)

 + 0.34($8,600,000 – 335,000)

 = $2,924,000

 *b.* Each firm has a marginal tax rate of 34% on the next $10,000 of taxable income, despite their different average tax rates, so both firms will pay an additional $3,400 in taxes.

**18.** Income Statement

 Sales $630,000

 COGS 470,000

 A&S expenses 95,000

 Depreciation 140,000

 EBIT ($75,000)

 Interest 70,000

 Taxable income ($145,000)

 Taxes (35%) 0

 *a.* Net income ($145,000)

 *b.* OCF = EBIT + Depreciation – Taxes

 OCF = ($75,000) + 140,000 – 0

 OCF = $65,000

 *c.* Net income was negative because of the tax deductibility of depreciation and interest expense. However, the actual cash flow from operations was positive because depreciation is a non-cash expense and interest is a financing expense, not an operating expense.

**19.** A firm can still pay out dividends if net income is negative; it just has to be sure there is sufficient cash flow to make the dividend payments.

 Change in NWC = Net capital spending = Net new equity = 0. (Given)

 Cash flow from assets = OCF – Change in NWC – Net capital spending

 Cash flow from assets = $65,000 – 0 – 0 = $65,000

 Cash flow to stockholders = Dividends – Net new equity

 Cash flow to stockholders = $34,000 – 0 = $34,000

 Cash flow to creditors = Cash flow from assets – Cash flow to stockholders

 Cash flow to creditors = $65,000 – 34,000

 Cash flow to creditors = $31,000

 Cash flow to creditors is also:

 Cash flow to creditors = Interest – Net new LTD

 So:

 Net new LTD = Interest – Cash flow to creditors

 Net new LTD = $70,000 – 31,000

 Net new LTD = $39,000

**20.** *a.* The income statement is:

|  |  |  |
| --- | --- | --- |
|   |  | Income Statement |
|  |  | Sales  | $19,900 |
|  |  | Cost of good sold | 14,200 |
|  |  | Depreciation |  2,700 |
|  |  | EBIT | $ 3,000 |
|  |  | Interest |  670 |
|  |  | Taxable income | $ 2,330 |
|  |  | Taxes  |  932 |
|  |  | Net income |  $1,398 |

 *b.* OCF = EBIT + Depreciation – Taxes

 OCF = $3,000 + 2,700 – 932

 OCF = $4,768

 *c.* Change in NWC = NWCend – NWCbeg

 = (CAend – CLend) – (CAbeg – CLbeg)

 = ($5,135 – 2,535) – ($4,420 – 2,470)

 = $2,600 – 1,950 = $650

 Net capital spending = NFAend – NFAbeg + Depreciation

 = $16,770 – 15,340 + 2,700

 = $4,130

 CFA = OCF – Change in NWC – Net capital spending

 = $4,768 – 650 – 4,130

 = –$12

 The cash flow from assets can be positive or negative, since it represents whether the firm raised funds or distributed funds on a net basis. In this problem, even though net income and OCF are positive, the firm invested heavily in both fixed assets and net working capital; it had to raise a net $12 in funds from its stockholders and creditors to make these investments.

 *d.* Cash flow to creditors = Interest – Net new LTD

 = $670 – 0

 = $670

 Cash flow to stockholders = Cash flow from assets – Cash flow to creditors

 = –$12 – 670

 = –$682

 We can also calculate the cash flow to stockholders as:

 Cash flow to stockholders = Dividends – Net new equity

 Solving for net new equity, we get:

 Net new equity = $650 – (–682)

 = $1,332

 The firm had positive earnings in an accounting sense (NI > 0) and had positive cash flow from operations. The firm invested $650 in new net working capital and $4,130 in new fixed assets. The firm had to raise $12 from its stakeholders to support this new investment. It accomplished this by raising $1,332 in the form of new equity. After paying out $650 of this in the form of dividends to shareholders and $670 in the form of interest to creditors, $12 was left to meet the firm’s cash flow needs for investment.

**21.** *a.* Total assets 2011 = $936 + 4,176 = $5,112

 Total liabilities 2011 = $382 + 2,160 = $2,542

 Owners’ equity 2011 = $5,112 – 2,542 = $2,570

 Total assets 2012 = $1,015 + 4,896 = $5,911

 Total liabilities 2012 = $416 + 2,477 = $2,893

 Owners’ equity 2012 = $5,911 – 2,893 = $3,018

 *b.* NWC 2011 = CA11 – CL11 = $936 – 382 = $554

 NWC 2012 = CA12 – CL12 = $1,015 – 416 = $599

 Change in NWC = NWC12 – NWC11 = $599 – 554 = $45

 *c.* We can calculate net capital spending as:

 Net capital spending = Net fixed assets 2012 – Net fixed assets 2011 + Depreciation

 Net capital spending = $4,896 – 4,176 + 1,150

 Net capital spending = $1,870

 So, the company had a net capital spending cash flow of $1,870. We also know that net capital spending is:

 Net capital spending = Fixed assets bought – Fixed assets sold

 $1,870 = $2,160 – Fixed assets sold

 Fixed assets sold = $2,160 – 1,870 = $290

 To calculate the cash flow from assets, we must first calculate the operating cash flow. The operating cash flow is calculated as follows (you can also prepare a traditional income statement):

 EBIT = Sales – Costs – Depreciation

 EBIT = $12,380 – 5,776 – 1,150

 EBIT = $5,454

 EBT = EBIT – Interest

 EBT = $5,454 – 314

 EBT = $5,140

 Taxes = EBT × .40

 Taxes = $5,140 × .40

 Taxes = $2,056

 OCF = EBIT + Depreciation – Taxes

 OCF = $5,454 + 1,150 – 2,056

 OCF = $4,548

 Cash flow from assets = OCF – Change in NWC – Net capital spending.

 Cash flow from assets = $4,548 – 45 – 1,870

 Cash flow from assets = $2,633

 *d.* Net new borrowing = LTD12 – LTD11

 Net new borrowing = $2,477 – 2,160

 Net new borrowing = $317

 Cash flow to creditors = Interest – Net new LTD

 Cash flow to creditors = $314 – 317

 Cash flow to creditors = –$3

 Net new borrowing = $317 = Debt issued – Debt retired

 Debt retired = $432 – 317 = $115

**22.**

|  |  |
| --- | --- |
|   | Balance sheet as of Dec. 31, 2011 |
|   | Cash | $4,109 |   |   |   |  Accounts payable  | $4,316 |
|   | Accounts receivable | 5,439 |   |   |   |  Notes payable  | 794 |
|   | Inventory | 9,670 |   |   |   |  Current liabilities  | $5,110 |
|   | Current assets | $19,218 |   |   |   |   |  |
|   |   |  |   |   |   |  Long-term debt  | $13,460 |
|   | Net fixed assets | $34,455 |   |   |   |  Owners' equity  | 35,103 |
|   | Total assets | $53,673 |   |   |   |  Total liab. & equity  | $53,673 |

|  |  |
| --- | --- |
|   | Balance sheet as of Dec. 31, 2012 |
|   | Cash | $5,203 |   |   |   |  Accounts payable  | $4,185 |
|   | Accounts receivable | 6,127 |   |   |   |  Notes payable  | 746 |
|   | Inventory | 9,938 |   |   |   |  Current liabilities  | $4,931 |
|   | Current assets | $21,268 |   |   |   |   |  |
|   |   |  |   |   |   |  Long-term debt  | $16,050 |
|   | Net fixed assets | $35,277 |   |   |   |  Owners' equity  | 35,564 |
|   | Total assets | $56,545 |   |   |   |  Total liab. & equity  | $56,545 |

 2011 Income Statement 2012 Income Statement

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Sales | $7,835.00 |  | Sales | $8,409.00 |
|  | COGS | 2,696.00 |  | COGS | 3,060.00 |
|  | Other expenses | 639.00 |  | Other expenses | 534.00 |
|  | Depreciation | 1,125.00 |  | Depreciation | 1,126.00 |
|  | EBIT | $3,375.00 |  | EBIT | $3,689.00 |
|  | Interest | 525.00 |  | Interest | 603.00 |
|  | EBT | $2,850.00 |  | EBT | $3,086.00 |
|  | Taxes  | 969.00 |  | Taxes  | 1,049.24 |
|  | Net income | $1,881.00 |  | Net income | $2,036.76 |
|  |  |  |  |  |  |
|  | Dividends | $956.00 |  | Dividends | $1,051.00 |
|  | Additions to RE | 925.00 |  | Additions to RE | 985.76 |

**23.** OCF = EBIT + Depreciation – Taxes

 OCF = $3,689 + 1,126 – 1,049.24

 OCF = $3,765.76

 Change in NWC = NWCend – NWCbeg = (CA – CL) end – (CA – CL) beg

 Change in NWC = ($21,268 – 4,931) – ($19,218 – 5,110)

 Change in NWC = $2,229

 Net capital spending = NFAend – NFAbeg + Depreciation

 Net capital spending = $35,277 – 34,455 + 1,126

 Net capital spending = $1,948

 Cash flow from assets = OCF – Change in NWC – Net capital spending

 Cash flow from assets = $3,765.76 – 2,229 – 1,948

 Cash flow from assets = –$411.24

 Cash flow to creditors = Interest – Net new LTD

 Net new LTD = LTDend – LTDbeg

 Cash flow to creditors = $603 – ($16,050 – 13,460)

 Cash flow to creditors = –$1,987

 Net new equity = Common stockend – Common stockbeg

 Common stock + Retained earnings = Total owners’ equity

 Net new equity = (OE – RE) end – (OE – RE) beg

 Net new equity = OEend – OEbeg + REbeg – REend

 REend= REbeg+ Additions to RE

1. Net new equity = OEend – OEbeg+ REbeg – (REbeg + Additions to RE)

 = OEend – OEbeg – Additions to RE

Net new equity = $35,564 – 35,103 – 985.76 = –$524.76

 Cash flow to stockholders = Dividends – Net new equity

 Cash flow to stockholders = $1,051– (–$524.76)

 Cash flow to stockholders = $1,575.76

 As a check, cash flow from assets is –$411.24

 Cash flow from assets = Cash flow from creditors + Cash flow to stockholders

 Cash flow from assets = –$1,987 + 1,575.76

 Cash flow from assets = –$411.24

 *Challenge*

**24.** We will begin by calculating the operating cash flow. First, we need the EBIT, which can be calculated as:

 EBIT = Net income + Current taxes + Deferred taxes + Interest

 EBIT = $173 + 98 + 19 + 48

 EBIT = $338

 Now we can calculate the operating cash flow as:

|  |  |  |
| --- | --- | --- |
|   | *Operating cash flow* |   |
|   | Earnings before interest and taxes | $338 |
|   | Depreciation | 94 |
|   | Current taxes | (98) |
|   |  Operating cash flow | $334 |

 The cash flow from assets is found in the investing activities portion of the accounting statement of cash flows, so:

|  |  |  |
| --- | --- | --- |
|   | *Cash flow from assets* |  |
|   | Acquisition of fixed assets | $215 |
|   | Sale of fixed assets |  (23) |
|   |  Capital spending | $192 |

 The net working capital cash flows are all found in the operations cash flow section of the accounting statement of cash flows. However, instead of calculating the net working capital cash flows as the change in net working capital, we must calculate each item individually. Doing so, we find:

|  |  |  |
| --- | --- | --- |
|   | *Net working capital cash flow* |  |
|   | Cash | $14 |
|   | Accounts receivable | 18 |
|   | Inventories | (22) |
|   | Accounts payable | (17) |
|   | Accrued expenses | 9 |
|   | Notes payable | (6) |
|   | Other |  (3) |
|   |  NWC cash flow | ($7) |

 Except for the interest expense and notes payable, the cash flow to creditors is found in the financing activities of the accounting statement of cash flows. The interest expense from the income statement is given, so:

|  |  |  |
| --- | --- | --- |
|   | *Cash flow to creditors* |  |
|   | Interest | $48 |
|   | Retirement of debt |  162 |
|   |  Debt service | $210 |
|   | Proceeds from sale of long-term debt |  (116) |
|   |  Total | $94 |

 And we can find the cash flow to stockholders in the financing section of the accounting statement of cash flows. The cash flow to stockholders was:

|  |  |  |
| --- | --- | --- |
|   | *Cash flow to stockholders* |  |
|   | Dividends | $ 86 |
|   | Repurchase of stock |  13 |
|   |  Cash to stockholders | $ 99 |
|   | Proceeds from new stock issue |  (44) |
|   |  Total | $ 55 |

**25.** Net capital spending = NFAend – NFAbeg + Depreciation

 = (NFAend – NFAbeg) + (Depreciation + ADbeg) – ADbeg

 = (NFAend – NFAbeg)+ ADend – ADbeg

 = (NFAend + ADend) – (NFAbeg + ADbeg) = FAend – FAbeg

**26.** *a.* The tax bubble causes average tax rates to catch up to marginal tax rates, thus eliminating the

 tax advantage of low marginal rates for high income corporations.

 *b.* Assuming a taxable income of $335,000, the taxes will be:

 Taxes = 0.15($50K) + 0.25($25K) + 0.34($25K) + 0.39($235K) = $113.9K

 Average tax rate = $113.9K / $335K = 34%

 The marginal tax rate on the next dollar of income is 34 percent.

 For corporate taxable income levels of $335K to $10M, average tax rates are equal to marginal tax rates.

 Taxes = 0.34($10M) + 0.35($5M) + 0.38($3.333M) = $6,416,667

 Average tax rate = $6,416,667 / $18,333,334 = 35%

 The marginal tax rate on the next dollar of income is 35 percent. For corporate taxable income levels over $18,333,334, average tax rates are again equal to marginal tax rates.

 *c.* Taxes = 0.34($200K) = $68K = 0.15($50K) + 0.25($25K) + 0.34($25K) + X($100K);

 X($100K) = $68K – 22.25K = $45.75K

 X = $45.75K / $100K

 X = 45.75%