Solutions for Corporate Finance 9th Edition by Ross

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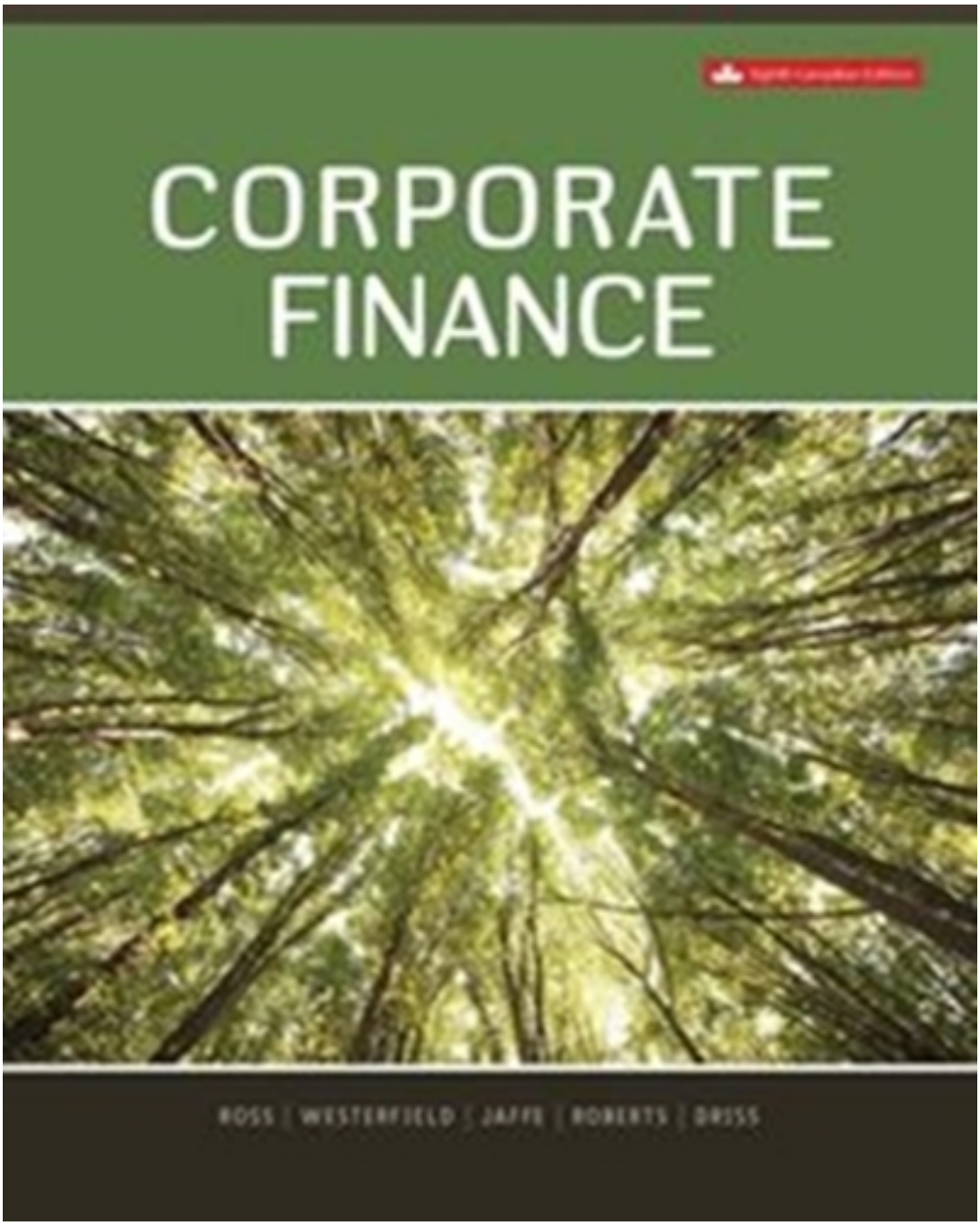

Solutions

Chapter 2: Accounting Statements and Cash Flow

Questions and Problems:

2.1. To find shareholders' equity, we must construct a balance sheet as follows:

	Balance Sheet		
Current assets	$5,300	Current liabilities	$3,900
Net fixed assets	26,000	Long-term debt	14,200
		Shareholders' equity	..??....
Total assets	$31,300	Total liabilities & equity	$31,300

We know that total liabilities and shareholders' equity must equal total assets of $31,300. We also know that total liabilities & shareholders' equity is equal to current liabilities plus long-term debt plus shareholders' equity, so shareholders' equity is:

Shareholders' equity = $31,300 –$14,200 – $3,900 = $13,200

Net Working Capital = Current Assets – Current Liabilities = $5,300 – $3,900 = $1,400

2.2 The income statement for the company is:

Income Statement	
Sales	$493,000
Costs	210,000
Depreciation	35,000
EBIT	$248,000
Interest	19,000
EBT	$229,000
Taxes	80,150
Net income	$148,850

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 = $148,850 – $50,000
Addition to retained earnings = $98,850

2.3 To find the book value of current assets, we use:
Net Working Capital = Current Assets – Current Liabilities.

Rearranging to solve for current assets, we get:
Current Assets = Net Working Capital + Current Liabilities
Current Assets = $800,000 + $2,100,000 = $2,900,000

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

Book value Current Assets	= $2,900,000	Market value Current Assets	= $2,800,000
Book value Net Fixed Assets	= $5,000,000	Market value Net Fixed Assets	= $6,300,000
Book value assets	= $7,900,000	Market value assets	= $9,100,000

2.4 To calculate Operating cash flow, 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

Operating cash flow = EBIT + Depreciation – Taxes
Operating cash flow = $6,500 + $1,900 – $2,100
Operating cash flow = $6,300

2.5 Net capital spending = Net Fixed Assets$_{end}$ – Net Fixed Assets$_{beg}$ + Depreciation
Net capital spending = $1,730,000 – $1,650,000 + $284,000
Net capital spending = $364,000

2.6 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 common shares 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 shares	$ 4,000,000
Common shares ($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

2.7 Cash flow to creditors = Interest paid – Net new borrowing
Cash flow to creditors = $127,000 – (Long-term debt$_{end}$ – Long-term debt$_{beg}$)
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

2.8 Cash flow to stockholders = Dividends paid – Net new equity
Cash flow to stockholders = $275,000 – [(Common$_{end}$ + APIS$_{end}$) – (Common$_{beg}$ + APIS$_{beg}$)]
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.

2.9 Cash flow from assets = Cash flow to creditors + Cash flow to stockholders
= $57,000 – $60,000
= – $3,000

Cash flow from assets = Operating cash flow – Change in Net Working Capital – Net capital spending
–$3,000 = Operating cash flow – (–$87,000) – $945,000

Operating cash flow = –$3,000 – $87,000 + $945,000
Operating cash flow = $855,000

2.10 *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= $NWC_{end} - NWC_{beg}$
$= (CA_{end} - CL_{end}) - (CA_{beg} - CL_{beg})$
$= [(\$65 + \$170) - \$125] - [(\$55 + \$165) - \$115)$
$= \$110 - \$105$
$= \$5$

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 operating cash flow 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

2.11 Operating cash flow = EBIT + Depreciation – Current Taxes

Operating cash flow = $40,000 + $10,000 – $6,000
Operating cash flow = $44,000

Capital spending = $21,000

Change in NWC = $1,900

Cash flow from assets = Operating cash flow - Capital spending - Change in NWC
= $44,000 - $21,000 - $1,900 = $21,100

Cash flow to creditors = Interest expense + debt repayment = $2,000 + $8,600 = $10,600

Cash flow to shareholders = Dividends – shares sold = $14,500 - $4,000 = $10,500

Check whether the cash flow identity holds:

Cash flow to creditors + Cash flow to shareholders = $10,600 + $10,500 = $21,100, which is equal to Cash flow from assets

2.12 *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	$1,200,000
Cost of goods sold	450,000
Selling costs	225,000
Depreciation	110,000
EBIT	$415,000
Interest	81,000
Taxable income	$334,000
Taxes	116,900
Net income	$217,100

b. And the operating cash flow is:

Operating cash flow = EBIT + Depreciation – Taxes
Operating cash flow = $415,000 + $110,000 – $116,900
Operating cash flow = $408,100

2.13 To find the operating cash flow, we first calculate net income.

Income Statement	
Sales	$167,000
Costs	91,000
Depreciation	8,000
Other expenses	5,400
EBIT	$62,600
Interest	11,000
Taxable income	$51,600
Taxes	18,060
Net income	$33,540
Dividends	$9,500

Additions to RE	$24,040

a. Operating cash flow = EBIT + Depreciation – Taxes
Operating cash flow = $62,600 + $8,000 – $18,060
Operating cash flow = $52,540

b. Cash flow to Creditors = Interest – Net new long-term debt
Cash flow to Creditors = $11,000 – (–$7,100)
Cash flow to Creditors = $18,100

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

c. Cash flow to stockholders = Dividends – Net new equity
Cash flow to stockholders = $9,500 – $7,250
Cash flow to stockholders = $2,250

d. We know that Cash flow from assets = Cash flow to creditors + Cash flow to stockholders, so:

Cash flow from assets = $18,100 + $2,250 = $20,350

Cash flow from assets is also equal to Operating cash flow – Net capital spending – Change in NWC.

We already know operating cash flow. Net capital spending is equal to:

Net capital spending = Increase in Net fixed assets + Depreciation
Net capital spending = $22,400 + $8,000
Net capital spending = $30,400

Now we can use:

Cash flow from assets = Operating cash flow – Net capital spending – Change in NWC
$20,350 = $52,540 – $30,400 – Change in NWC.

Solving for the change in NWC gives $1,790, meaning the company increased its NWC by $1,790.

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

Net income = Dividends + Addition to retained 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 – 0.35)
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

2.15 The balance sheet for the company looks like this:

Balance Sheet			
Cash	$274,500	Accounts payable	$697,500
Accounts receivable	207,000	Notes payable	217,500
Inventory	445,500	Current liabilities	$915,000
Current assets	$927,000	Long-term debt	2,325,000
		Total liabilities	$3,240,000
Tangible net fixed assets	4,393,000		
Intangible net fixed assets	860,000	Common shares	??
		Accumulated ret. earnings	2,940,000
Total assets	$6,180,000	Total liabilities. & equity	$6,180,000

Total liabilities and equity is:

Total liabilities & equity = Total debt + Common shares + Accumulated retained earnings

Solving for this equation for equity gives us:

Common shares = $6,180,000 – $3,240,000 – $2,940,000
Common shares= $0

2.16 *a.* The market value of shareholders' equity can be stated as: Shareholders' equity = Max [(Total assets – Total liabilities), 0]. So, if Total assets are $12,400 and Total liabilities are $10,900, equity is equal to $1,500

b. 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. Therefore, if Total assets are $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.

2.17 *a.*

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
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.

2.18 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

2.19 *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 $= NWC_{end} - NWC_{beg}$
$= (CA_{end} - CL_{end}) - (CA_{beg} - CL_{beg})$
= ($5,135 – $2,535) – ($4,420 – $2,470)
= $2,600 – 1,950
= $650

Net capital spending $= NFA_{end} - NFA_{beg}$ + 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.

2.20 *a.* Total assets 2017 = $936 + $4,176 = $5,112
Total liabilities 2017 = $382 + $2,160 = $2,542
Owners' equity 2017 = $5,112 – $2,542 = $2,570

Total assets 2018 = $1,015 + $4,896 = $5,911
Total liabilities 2018 = $416 + $2,477 = $2,893
Owners' equity 2018 = $5,911 – $2,893 = $3,018

b. NWC 2017 = CA17 – CL17 = $936 – $382 = $554
NWC 2018 = CA18 – CL18 = $1,015 – $416 = $599
Change in NWC = NWC18 – NWC17 = $599 – $554 = $45

c. We can calculate net capital spending as:

Net capital spending = Net fixed assets 2018 – Net fixed assets 2017 + 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
Fixed assets sold = $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 × 0.40
Taxes = $5,140 × 0.40
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 = LTD18 – LTD17
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
Debt retired = $115

2.21

Statement of Financial Position as of Dec. 31, 2017

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

Statement of Financial Position as of Dec. 31, 2018

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

2017 Income Statement

Sales	$7,835.00
COGS	2,696.00
Other expenses	639.00
Depreciation	1,125.00
EBIT	$3,375.00
Interest	525.00
EBT	$2,850.00
Taxes	969.00
Net income	$1,881.00
Dividends	$956.00
Additions to RE	$925.00

2018 Income Statement

Sales	$8,409.00
COGS	3,060.00
Other expenses	534.00
Depreciation	1,126.00
EBIT	$3,689.00
Interest	603.00
EBT	$3,086.00
Taxes	1,049.24
Net income	$2,036.76
Dividends	$1,051.00
Additions to RE	$985.76

2.22 OCF = EBIT + Depreciation – Taxes
OCF = $3,689 + $1,126 – $1,049.24
OCF = $3,765.76

Change in NWC = $NWC_{end} - NWC_{beg} = (CA - CL)_{end} - (CA - CL)_{beg}$
Change in NWC = ($21,268 – $4,931) – ($19,218 – $5,110)
Change in NWC = $2,229

Net capital spending = $NFA_{end} - NFA_{beg}$ + 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 = $LTD_{end} – LTD_{beg}$
Cash flow to creditors = $603 – ($16,050 – $13,460)
Cash flow to creditors = –$1,987

Net new equity = $Common\ shares_{end} – Common\ shares_{beg}$
Common shares + Retained earnings = Total owners' equity
Net new equity = $(OE – RE)_{end} – (OE – RE)_{beg}$
Net new equity = $OE_{end} – OE_{beg} + RE_{beg} – RE_{end}$
$RE_{end} = RE_{beg}$ + Additions to RE
∴ Net new equity = $OE_{end} – OE_{beg} + RE_{beg} – (RE_{beg}$ + Additions to RE)
= $OE_{end} – OE_{beg}$ – 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

2.23 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, 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 shares	13
Cash to stockholders	$ 99
Proceeds from new shares issue	(44)
Total	$ 55

2.24 Net capital spending $= NFA_{end} - NFA_{beg} + \text{Depreciation}$

$= (NFA_{end} - NFA_{beg}) + (\text{Depreciation} + AD_{beg}) - AD_{beg}$

$= (NFA_{end} - NFA_{beg}) + AD_{end} - AD_{beg}$

$= (NFA_{end} + AD_{end}) - (NFA_{beg} + AD_{beg}) = FA_{end} - FA_{beg}$

MINICASE: Cash Flows at Eshopwise Ltd.

The operating cash flow for the company is: (NOTE: All numbers are in thousands of dollars)

Operating cash flow	
EBIT	$1,568
+Depreciation	221
–Current taxes	535
=Operating cash flow	$1,254

To calculate the cash flow from assets, we need to find the capital spending and change in net working capital. The capital spending for the year was:

Capital spending	
Ending total fixed assets	$1,770
– Beginning total fixed assets	1,151
+ Depreciation	221
=Net capital spending	$840

And the change in net working capital was:

Change in net working capital	
Ending NWC	572
– Beginning NWC	482
=Change in NWC	90

So, the cash flow from assets was:

Cash flow from assets	
Operating cash flow	$1,254
– Net capital spending	840
– Change in NWC	90
=Cash flow from assets	$324

The cash flow to creditors was:

Cash flow to creditors	
Interest paid	$55
– Net New Borrowing	24
=Cash flow to Creditors	$31

The cash flow to stockholders was:

Cash flow to stockholders	
Dividends paid	$251
– Net new equity raised	– 42
=Cash flow to Stockholders	$293

Cash flow parity		
Cash flow to Creditors	$31	
+Cash flow to Stockholders	293	
=Cash flow from assets	$324	As before

The accounting cash flow statement of cash flows for the year was:

Statement of Cash Flows

Operations	
Net income	$908
Depreciation	221
Deferred taxes	70
Changes in assets and liabilities	
Accounts receivable	– 47
Inventories	17
Accounts payable	120
Accrued expenses	– 57
Other	– 5
Total cash flow from operations	$1,227
Investing activities	
Acquisition of fixed assets	– $1,140
Sale of fixed assets	300
Total cash flow from investing activities	– $840

Financing activities		
Retirement of debt	–	$151
Proceeds of long–term debt		175
Notes payable		23
Dividends	–	251
Repurchase of shares	–	54
Proceeds from new shares issues		12
Total cash flow from financing activities	–	$246
Change in cash (on balance sheet)		$141

Answers to questions

1. The firm had positive earnings in an accounting sense (NI > 0) and had positive cash flow from operations and a positive cash flow from assets. The firm invested $90 in new net working capital and $840 in new fixed assets. The firm was able to return $293 to its stockholders and $31 to creditors.

2. The financial cash flows present a more accurate picture of the company since it accurately reflects interest cash flows as a financing decision rather than an operating decision.

3. The expansion plans look like they are probably a good idea. The company was able to return a significant amount of cash to its shareholders during the year, but a better use of these cash flows may have been to retain them for the expansion. This decision will be discussed in more detail later in the book.

Appendix 2A: Financial Statement Analysis

Questions and Problems:

2.A1

a.	No change	Both inventory and cash are current assets.
b.	Increase	Both current assets (cash) and current liabilities (account payable) would be reduced by the same amount but the current ratio increases.
c.	Increase or Decrease	If the bank loan is a current liability then both the current assets and current liabilities will be reduced by the same amount but the current ratio increases . However, if the bank loan is long–term debt then the current ratio would decrease because of the reduction in current assets.
d.	Decrease	Current assets are reduced to pay the long–term debt.
e.	No change	Accounts receivable and cash are current assets.
f.	No change	Inventory, cash and accounts receivable are current assets.

2.A2 ROA = Profit margin x Asset turnover.
= 0.07x 1.8
= 0.126 or 12.6%

Total Debt ratio (TDR) = Total Debt / Total Assets = TD / TA = 0.72

Equity multiplier = Total Assets / Total Equity = TA / TE
= TA / (TA–TD) = TA / (TA –TA x TD Ratio)
= 1 / (1–TD Ratio)
= 1 /(1–0.72) = 3.57

ROE = Profit margin x Asset turnover x Equity multiplier
= 0.07 x 1.8 x 3.57
= 0.4498 or 44.98%

2.A3

Receivables turnover	= 17,465/3,210 = 5.44 times
Average Collection Period	= 365/5.44 = 67.09 days
Payables turnover	= 12,216/2,230 = 5.48 times
Average payment period	= 365/5.47 = 66.63 days

It takes PVI an average of 67.08 days to collect on credit sales and an average of 66.63 days to pay its creditors.

2.A4 <u>Short–term Solvency Ratios</u>

Current ratio for 2017	= (800 + 1,950+3,135) / (1,550 + 1,629 + 746) = 1.50
Current ratio for 2018	= (1800 + 2,040 + 2,300) / (1,630 + 1,380 + 625) = 1.69
Quick ratio for 2017	= (800 + 1,950) / (1550+1,629 + 746)= 0.70

Quick ratio for 2018 = (1800 + 2040) / (1,630+ 1,380 + 625)= 1.06
Cash ratio for 2017 = 800 / (1,550 + 1,629 + 746) = 0.20
Cash ratio for 2018 = 1800/ (1,630 + 1,380 + 625) = 0.50

Asset Management Ratios 2018

Total asset turnover = 4,500/ 10,887.5 = 0.41
Inventory turnover (using average) = 2,400 / 2,717.5= 0.88
Receivables turnover (using average) = 4,500 / 1,995= 2.26

Long–term Solvency Ratios

Debt ratio for 2017 = (10,505 – 570 – 2,523)/10,505 = 0.71
Debt ratio for 2018 = (11,270 – 1,146 – 2,709)/11,270 = 0.66
Debt/equity ratio for 2017 = 7,412/3,093 = 2.40
Debt/equity ratio for 2018 = 7,415/3,855 = 1.92
Equity multiplier for 2017 = 2.40 + 1 = 3.40
Equity multiplier for 2018 = 1.92 + 1 = 2.92
Interest Coverage ratio = 1,600/480= 3.33
Cash coverage ratio = (1,600 + 500)/480= 4.38

Profitability Ratios 2018

Profit margin = 740/4,500= 0.1644
ROA (net) = 740/10,887.5 = 0.068
Average equity = (3,093 + 3,855)/2 = $3,474
ROE = 740/ 3,474 = 0.213

2.A5

Stowe Enterprises
Statement of Cash Flows
For Period Ending December 31, 2018

Cash, beginning of the year	$800.00
Operating activities	
Net Income	740
Plus:	
Depreciation	500
Increase in accounts payable	80
Decrease in inventory	835.00
Less:	
Increase in accounts receivable	(90.00)
Decrease in other current liabilities	(121)
Net cash from operating activities	$1,944.00
Investment activities	

Fixed asset acquisition	(1,010.00)
Net cash from investment activities	$(1,010.00)
Financing activities	
Decrease in notes payable	(249)
Dividends paid	(554)
Increase in long–term debt	293
Increase in common stock	576
Net cash from financing activities	66
Net increase in cash	$1,000.00
Cash, end of year	$1,800.00

2.A6 Average daily operating costs = $2400/365 = $6.58

Interval measure = current assets / average daily operating costs = $6140/6.58 = 933.79 days

Stowe could operate for 933.79 days or approximately 2.56 years

2.A7 EPS = $740/80= $9.25
P/E = $45/9.25 = 4.86 times

Book value per share = $3,855/80 = $48.1875

Market–to–book ratio = $45/48.1875 = 0.9339 times

2.A8 Each student answer will be different depending on the industry and firm selected.
The student should look at the financial position of the firm in relation to the industry as well as the trend, over time, in each of the five main categories of ratios. An overall statement on the financial position and recommendations should be encouraged.