Solutions Manual

to accompany

Fundamentals of Corporate Finance 2nd edition

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CHAPTER 3

Financial statements, cash flows and tax

WILEY

Chapter 3
Financial Statements, Cash Flows and Tax

Learning Objectives

1. **Discuss financial reporting standards and their importance to the economy.**
2. **Describe the balance sheet identity, and the differences between book-value and market-value balance sheets.**
3. **Identify the basic equation for the income statement and the information it provides.**
4. **Explain the nature and purpose of the statement of changes in equity.**
5. **Explain the difference between cash flows and accounting income.**
6. **Explain how the four major financial statements discussed in this chapter are related.**
7. **Discuss the difference between accounting income and taxable income.**

Suggested and Alternative Approaches to the Material

This chapter focuses on the four important financial statements that every company uses to provide information about the financial condition of the company to both management and investors. In addition, there are discussions on financial reporting standards and IFRSs. The chapter also overviews market value accounting.

Many instructors may choose to cover this chapter in detail. This allows the students to better understand the reporting of accounting information before moving on to the analysis of financial statements in Chapter 4. This material becomes even more critical when the majority of students taking the required first course in finance are not finance or accounting majors.

Other instructors may choose to skim through the topics in this chapter if they feel that their students are adequately prepared to tackle the topics in the next couple of chapters. Or they can choose to skip this chapter altogether if their students have a strong enough accounting background. This alternative will be especially helpful if this is a second finance course, and it will allow the instructor to cover other material.

Summary of Learning Objectives

1. Discuss financial reporting standards and their importance to the economy.
Financial reporting standards are a set of authoritative guidelines that define accounting practices at a particular point in time. The standards determine the rules for how a company maintains its accounting system and how it prepares financial statements. Accounting standards are important because without them, each company could develop its own unique accounting practices, which would make it difficult for anyone to monitor the company's true performance or compare the performance of different companies. The result would be a loss of confidence in the accounting system and the financial reports it produces. Fundamental accounting principles include transactions are arm's length, the cost principle, the revenue recognition principle and the going concern assumption.

2. Describe the balance sheet identity, and the differences between book-value and market-value balance sheets.
A balance sheet provides a summary of a company's financial position at a particular point in time. The balance sheet identifies the productive resources (assets) that a company uses to generate income, as well as the sources of funding from creditors (liabilities) and owners (shareholders' equity) that were used to buy the assets. The balance sheet identity is: Total assets = Total liabilities + Total shareholders' equity. Shareholders' equity represents ownership in the company and is the residual claim of the owners after all other obligations to creditors, employees, and vendors have been paid.
Book value is the amount a company paid for its assets at the time of purchase. The current market value of an asset is the amount that a company would receive for the asset if it were sold on the open market (not in a forced liquidation). Of course, the problem with marked-to-market balance sheets is that it is difficult to estimate market values for some assets and liabilities.

3. Identify the basic equation for the income statement and the information it provides.
An income statement is like a video clip of the company's profit or loss for a period of time, usually a month, quarter, or year. The income statement identifies the major sources of revenues generated by the company and the corresponding expenses that were needed to generate those revenues. The equation for the income statement is: Profit = Revenues - Expenses. If revenues exceed expenses, the company generates a net profit for the period. If expenses exceed revenues, the company generates a net loss. Profit or income is the most comprehensive accounting measure of a company's performance.

4. Explain the nature and purpose of the statement of changes in equity.
The main item changing shareholders' equity is profit, which is accounting profit after interest payments and tax. It also includes changes in assets or liabilities which were recognised directly in the balance sheet, but not the income statement. Transactions with owners are the final item; these record transfer of resources between the company and its owners such as dividends, share buybacks or the sale of new shares.

5. Explain the difference between cash flows and accounting income.

Cash flows represent the movement of cash within the company. Cash flows are important in finance because the value of any asset—shares, bonds, or a business—is determined by the future cash flows generated by the asset. Accounting profits, in contrast, are calculated according to financial reporting standards to determine tax and to report to stakeholders in a consistent manner. Accounting profits include non-cash revenues (such as revenue booked by a manufacturer when products are shipped on credit) and non-cash expenses (such depreciation), whereas cash flows do not include these items.

6. Explain how the four major financial statements discussed in this chapter are related.

The four financial statements discussed in the chapter are the balance sheet, the income statement, the statement of cash flows, and the statement of changes in equity. The key financial statement that ties the other three statements together is the statement of changes in equity, which summarises changes in the balance sheet from the beginning of the year to the end. These changes reflect information in the income statement and in the statement of retained earnings.

7. Discuss the difference between accounting income and taxable income.

Accounting income is calculated using rules, such as the revenue recognition principle, while calculating taxable income pays more attention to when cash flows occurred.

Therefore revenues and expenses may be recognised at different times in tax and financial accounting. Usually tax rules will be designed to prevent companies delaying recording taxable income, but sometimes companies are allowed to accelerate depreciation as reducing profits and tax may help companies grow.

Summary of Key Equations

Equation	Description	Formula
3.1	Balance sheet identity	Total assets = Total liabilities + Total sshareholders’ equity
3.2	Net working capital	Net working capital = Total current assets – Total current liabilities
3.3	Income statement identity	Proift = Revenues - Expenses
3.4	Net cash flow from operating activities	NCFOA = Profit – Non-cash revenues + Non-cash expenses
3.5	Net cash flow from operating activities	NCFOA = Profit + Depreciation and amortisation

Before You Go On Questions and Answers

Section 3.1

1. *What types of information does a company's annual report contain?*

   A company's annual report is typically divided into three sections: financial tables with an accompanying verbal explanation of the company's performance over the past year; a corporate public relations section discussing the company's operations, and the audited financial statements (balance sheet, income statement, statement of cash flows, and statement of changes in equity).

2. *What is the revenue recognition principle, and why may it lead to a difference between the time at which revenues are recognised on the books and the time at which cash is collected?*

   According to the revenue recognition principle, revenue should only be recognised when the earning process is completed and the exchange of goods or services can be determined by an arm's length transaction. Although this principle works in theory, it still does not specify whether this is the point when the goods are ordered, when they are shipped, or when the payment is actually received from the customer. Also, not many purchases are paid for in cash any more. Therefore, even if the transaction is recognised at the point at which the customer receives the goods, the actual cash flow might not occur until days later (depending what the terms are).

Section 3.2

1. *What is net working capital? Why might a low value for this number be considered undesirable?*

   Net working capital is the difference between total current assets and total current liabilities. A low value for this number is undesirable, for it indicates that the company may not have enough cash on hand to cover its immediate expenses.

2. *Explain the accounting concept behind depreciation.*

   Depreciation in accounting is a non-cash expense that helps to allocate the cost of an item over its expected life. It reflects the estimated decrease in the value of an asset due to wear and tear and obsolescence.

3. *What is the difference between book value and market value?*

Book value is the price you paid for a particular asset. This price does not change as long as you own the asset. On the other hand, market value is the price at which you can sell an asset today, as it takes into account how much it can earn in the future.

4. *What are some objections to the preparation of marked-to-market balance sheets?*

Marked-to-market balance sheets list the company's assets and liabilities at their current market prices. Even though a balance sheet constructed with actual market values might paint a more accurate picture of the company's financial situation, current values are difficult to estimate, and a lot of the complicated models are potentially open to abuse. Therefore, as of the present, the norm is to use book values.

Section 3.4

1. *How do you calculate profit?*

Profit is calculated as revenues minus expenses. It is the most comprehensive accounting measure of a company's performance because it reflects the company's accomplishments (revenues) relative to its efforts (expenses) during a time period.

2. *What is EBITDA, and what does it measure?*

EBITDA stands for earnings before interest, tax, depreciation, and amortisation. EBIT is defined as earnings before tax and interest. The main difference between these two figures is that EBITDA shows the income earned purely from operations and reflects how efficiently a company can manufacture and sell its products without taking into account the cost of the productive asset base.

3. *What accounting events trigger changes to the equity account?*

Three events will trigger changes to the equity account: (1) changes in asset or liability values not reflected in the income statement, (2) a company's report of a profit or loss and (3) the board of directors' declaration of a cash dividend, share buy-backs and sales of new shares.

Section 3.5

1. *What is the difference between accounting profits and net cash flows?*

Accounting profits and net cash flows are not the same because as accountants prepare the financial statements, they do not simply count the cash coming in and cash going out. The accounting profits are calculated based on the matching principle and other accounting rules, but are not necessarily based on cash transactions and are not necessarily recorded when cash flows occur.

2. *Should a company only consider depreciation and amortisation expenses when calculating the net cash flow? Explain.*

   Depreciation and amortisation are taken into account when calculating both the net cash flows and profit. Both depreciation and amortisation get treated as expenses on the income statement, and they are subtracted from revenues to derive profit. When calculating net cash flows, depreciation and amortisation are added to profit, as both of these are non-cash expenses.

3. *Explain the difference between financing and investing activities.*

   Investing activities refer to the buying and selling of long-term assets, whereas financing activities refer to those activities where cash is obtained from, or repaid to, creditors or owners (shareholders).

Section 3.6

1. *Explain how the four financial statements are related.*

   The four financial statements are linked together as follows: net increase in cash from the statement of cash flows matches the change in cash balance on the balance sheet from one year to the next, and the profit reported in the income statement is added to other changes in equity to match the change in total equity on the balance sheet. So as you can see, the balance sheet is the one financial statement that ties all four statements together.

Section 3.7

1. *Why is it important to consider the consequences of tax when financing a new project?*

   When financing a new project, it is important to consider the consequences of tax because ultimately they have a significant impact on company’s income. Funds used to pay tax cannot be distributed to shareholders, however imputation tax credits can benefit resident shareholders.

Self-Study Problems

3.1 The *going -concern assumption* of financial reporting standards implies that the company:

a. is going under and needs to be liquidated at historical cost.
b. will continue to operate and its assets should be recorded at historical cost.
c. will continue to operate and that all assets should be recorded at their cost rather than at their liquidation value.
d. is going under and needs to be liquidated at liquidation value.

Solution: **c.** One of the key assumptions under financial reporting standards is the *going concern assumption,* which states that the company (c) will continue to operate and that all assets should be recorded at their cost rather than at their liquidation value. A business which is a going concern is expected to remain in business and has no reason to sell it assets, making their liquidation value irrelevant.

3.2 Ellicott City Ice Cream Ltd management has just completed an assessment of its assets and liabilities and has come up with the following information. It has total current assets worth $625,000 at book value and $519,000 at market value. In addition, its non-current assets include property, plant and equipment valued at market for $695,000, while their book value was $940,000. The company's total current liabilities are valued at market for $543,000, while their book value is $495,000. Both the book value and the market value of its long-term debt is $350,000. If the company's total assets are equal to a market value of $1,214,000 (book value of $1,565,000), what are the book value and market value of its shareholders' equity?

Solution: The book value and market value are as follow (in thousands of dollars):

Assets	**Book Value**	**Market Value**	**Liabilities and Equity**	**Book Value**	**Market Value**
Total current assets	$ 625	$ 519	Total current liabilities	$ 495	$ 543
Property, plant and equipment	940	695	Long-term debt	350	350
			Stockholders' equity	720	321
Total assets	$1,565	$1,214	Total liabilities and equity	$1,565	$1,214

3.3 Depreciation and amortisation expenses are:

a. part of current assets on the balance sheet.
b. after-tax expenses that reduce a company's cash flows.
c. non-current liabilities that reduce a company's net worth.
d. non-cash expenses that cause a company's after-tax cash flows to exceed its profit.

Solution: **d.** Depreciation and amortisation expenses are (d) non-cash expenses that cause a company's after-tax cash flows to exceed its profit. As expenses they reduce profit, but as they are non-cash they only have an indirect effect on cash flows by reducing the amount of tax paid.

3.4 You are given the following information about Clarkesville Plumbing Ltd. The company's annual report on 30 June 2014, showed that during the year its revenues (all figures in thousands of dollars) totaled $896, current assets $121, current liabilities $107, depreciation expenses $75, costs of sales $365, and interest expenses $54. The company tax rate is 30 percent. Calculate its profit by preparing an income statement.

Solution: Clarkesville's income statement and profit are as follows:

Clarkesville Plumbing Ltd
Income Statement
as of 30 June 2014

	Amount
Revenues	$896.00
Costs	365.00
EBITDA	$531.00
Depreciation	75.00
EBIT	$456.00
Interest	54.00
EBT	$402.00
Tax (30%)	120.60
Profit	$281.40

3.5 A fellow student tells you she does not need to worry about tax because her part-time job pays less than $18,200 per year. You know from past conversations that she also owns shares and probably receives dividends. Advise her.

Solution: There are two main things to consider. Firstly, does her dividend income make her total income more than $18,200, as this would put her in the 19 per cent marginal tax rate. Secondly, if she receives franked dividends she can claim a tax refund even if her tax rate is 0 per cent.

Critical Thinking Questions

3.1 *Why is it important for companies to revalue their assets? Why is this more important when the economic environment changes?*

The value of an asset is normally recorded at its historical cost or book value, representing the value the company paid to acquire the asset. However, it is likely that the asset's value would change over time due to changes in the market value, i.e. the value that they are worth today. Depreciation expense is used to adjust historical costs and can be seen as reflecting the estimated change in value, but will not accurately reflect market value changes.
Market value is more important when the economic environment changes so that the financial statements more closely reflect the company's true financial conditions, hence a better chance of making the correct economic decision.

3.2 *Why are taxes important for managerial decision making?*

Understanding the tax code is critical to finance managers, since most decisions are made on an after-tax basis. Furthermore, tax affects any valuation analysis and also determines the bottom-line figure that is of concern to shareholders and managers.

3.3 *Identify the five fundamental principles of GAAP and explain briefly their importance.*

The assumption of arm's length transaction assumes that all business transactions between two parties are made rationally from an economic perspective and both parties will make the deal that provides them the best value. **The cost principle** calls for the recognition of all accounting transactions at historic cost, or the amount paid or received when the transaction was concluded at arm's length. **The revenue recognition principle** implies that revenue should be recognised only at the time of the sale. **The matching principle** dictates that revenue is first recognised and then is matched with the costs incurred in producing the revenue. Finally, **the going concern assumption** implies that the company will continue to operate and that all assets should be recorded at their cost rather than at their liquidation value.

3.4 *Explain why companies prefer to use accelerated depreciation methods over the straight-line method for tax purposes.*

When a company uses accelerated depreciation, the depreciation expense is higher than with the straight-line method. This reduces the taxable income and the amount of tax paid by the company. As a result of this higher non-cash expense, the company's cash flow is higher.

3.5 *What is revaluation surplus? How does it differ from depreciating?*

A revaluation account is used to record increases or decreases in asset market value in the balance sheet. Depreciation, on the other hand, is the accounting method to account for the loss in value of the company's assets over time as an expense. Such an expense is then matched up with revenues generated by the asset in the income statement.

3.6 *Define book-value accounting and market-value accounting.*

Book-value accounting implies that all assets and liabilities are recorded and reported at the historical cost when they were acquired. Market-value accounting requires that all assets and liabilities are reported at their current market value.

3.7 *Compare and contrast depreciation expense and amortisation expense.*

Depreciation expense is the amount by which a company’s fixed assets are written down in a period during which the assets are utilised for generating cash flows. Amortisation is the amount by which intangible assets like goodwill, patents, license, copyrights, and trademarks are written down in any period that they are utilised by the company to generate benefits. Both depreciation and amortisation are non-cash expenses that will serve to boost the company’s after-tax cash flows.

3.8 *Why are retained earnings not considered an asset of the company?*

Assets, like cash, can be used by the company while retained earnings are an accounting construct merely representing previous years’ profits that have not been distributed to shareholders. Like other items on the liability and equity side of the balance sheet retained earnings indicate an obligation for the company to its investors.

3.9 *How does net cash flow differ from profit and why?*

Profit after tax is an accounting figure that includes both cash and non-cash expenses. In addition, revenues are recognised before they are collected and expenses are recognised before they are paid. Net cash flow, on the other hand, only recognises cash inflows and cash outflows that have occurred. Accrual-based accounting causes a time lag between the point when revenues and expenses are recorded and the point when the cash flows actually occur.

3.10 *What is the statement of cash flows, and what is its role?*

This financial statement records both the cash inflows and cash outflows for a period of time. Thus, it reports the changes in the cash position of a company between successive accounting periods.

Questions and Problems

BASIC

3.1 **Balance sheet:** Given the following information about the Elkridge Sporting Goods Ltd, construct a balance sheet for the period ending 30 June 2014. The company had cash and marketable securities of $25,135, accounts receivables of $43,758, inventory of $167,112, property, plant and equipment of $325,422, and other assets of $13,125. It had accounts payable of $67,855, notes payables of $36,454, long-term debt of $223,125, and ordinary shares of $150,000. How much retained earnings does the company have?

Solution:

Assets	Book Value	Liabilities	Book Value
Cash	$ 25,135	Accounts payable	$ 67,855
Accounts receivable	43,758	Notes payables	36,454
Inventories	167,112		
Total current assets	$236,005	Total current liabilities	$104,309
Property, plant and equipment	325,422	Long-term debt	223,125
Other assets	13,125	Ordinary shares	150,000
		Retained earnings	97,118
Total assets	$574,552	Total liabilities and equity	$574,552

3.2 **Inventory accounting:** Differentiate between FIFO and weighted average cost.

With the FIFO (first-in, first-out) inventory method, when the company makes a sale, it assumes that the sale is from the oldest, lowest cost of inventory. With the weighted average cost method, when the company makes a sale, the cost of inventory is estimated using a mid-range value between the oldest, lowest cost and the newest, highest cost of inventory.

3.3 **Inventory accounting:** Explain how the choice of FIFO versus weighted average cost can affect a company's balance sheet and income statement.

During rising prices, companies using FIFO will have the lower cost of sales, the higher profit and the higher inventory value. On the other hand, companies using weighted average cost will have the higher cost of sales, the lower profit and the lower inventory value.

3.4 **Market-value accounting**: How does the use of market-value accounting help managers?

Market-value accounting of both assets and liabilities allows managers to have a truer picture of their company's financial condition and to do a better job of estimating cash flows that the assets would generate. However, marking-to-market is not as easy as it sounds because of the difficulties involved in coming up with the correct market value of current assets and liabilities.

3.5 **Working capital**: Laurel Electronics reported the following information at its annual meetings. The company had cash and marketable securities worth \$1,235,455, accounts payable worth \$4,159,357, inventory of \$7,121,599, accounts receivables of \$3,488,121, short-term notes payable worth \$1,151,663, and other current assets of \$121,455. What is the company's net working capital?

Solution:

Total current assets	=	\$1,235,455 + \$3,488,121 + \$7,121, 599 + 121,455
	=	\$11,966,630
Total current liabilities	=	\$4,159,357 + \$1,151,663
	=	\$5,311,020
Net working capital	=	\$11,966,630 - \$5,311,020 = \$6,655,610

3.6 **Working capital**: The financial information for Laurel Electronics referred to in Problem 3.5 is all book value. Suppose marking-to-market reveals that the market value of the company's inventory is 20 percent below its book value and its receivables are 25 percent below its book value. The market value of its current liabilities is identical to the book value. What is the company's net working capital using market values? What is the percent change in net working capital?

Solution:

Market value of inventory = \$7,121,599 × 0.80 = \$5,697,279

Market value of receivables = \$3,488,121 × 0.75 = \$2,616,091

Total current assets = \$1,235,455 + \$2,616,091 + \$5,697,279 + 121,455

= \$9,670,280

Total current liabilities = \$4,159,357 + \$1,151,663 = \$5,311,020

Net working capital = \$9,670,280 - \$5,311,020 = \$4,359,260

$$\textit{Percent}\ \text{Change} = \frac{\$4,359,260 - \$6,655,610}{\$6,655,610}$$

$$= -34.5\%$$

3.7 **Income statement:** Oakland Mills Ltd has disclosed the following financial information in its annual reports for the period ending 31 March 2014; sales of $1.45 million, cost of sales $812,500, depreciation expenses of $175,000, and interest expenses of $89,575. Assume that the company has a tax rate of 30 percent. What is the company's profit? Set up an income statement to answer the question.

Solution:

	Amount
Revenues	$1,450.000.00
Costs	812,500.00
EBITDA	$ 637,500.00
Depreciation	175,000.00
EBIT	$ 462,500.00
Interest	89,575.00
EBT	$ 372,925.00
Tax (30%)	111,877.50
Profit	$ 261,047.50

3.8 **Cash flow**: Describe the organisation of the statement of cash flows.

The statement of cash flows identifies the cash inflows and cash outflows of the companies for a specified period. This allows one to estimate the net cash flows from operations. This financial statement is organised to report the cash flows resulting from the three basic activities in any company—operating, investing, and financing. See Figure 3.4, on page 75 for an example. The ***cash flows from operating activities*** are the results of netting all revenues and expenses that result from the operating activities of the company. Buying and selling a company's assets lead to ***cash flows from investing activities***. ***Cash flows from financing activities*** arise from the company borrowing from its investors and/or making payments to its lenders and shareholders.

3.9 **Cash flows**: During 2014, Towson Recording Ltd increased its investment in marketable securities by $36,845, funded property, plant and equipment acquisitions of $109,455, and had marketable securities of $14,215 mature. What is the net cash used in investing activities?

Solution:

Long-Term Investing Activities	
Property, plant and equipment, and other assets	$(109,455.00)
Net acquisitions and dispositions	0.00
Investments in marketable securities	(22,630.00)
Net cash used in investing activities	$(132,085.00)

3.10 **Cash flows**: Caustic Chemicals identified the following cash flows as significant in its meeting with analysts: during the year it had repaid existing debt of $312,080 and raised additional debt capital of $650,000. It also repurchased shares in the open market for a total of $45,250. What is the net cash provided by financing activities?

Solution:

Financing Activities	
Loan repayment	$(312,080)
Increase in long-term debt	650,000
Purchase of shares	(45,250)
Net cash provided by financing activities	$ 292,670

3.11 **Cash flow**: Identify and explain the noncash expenses that a company may incur.

A company may have several items on its income statement that did not result in any cash outflow to the company. The two largest are depreciation expenses and amortisation expenses. Other non-cash expenses include deferred taxes, wages, and depletion charges, which is similar to depreciation and used for natural resource assets. Prepaid expenses also fit into this category as they represent expenses to the company that are yet to be paid out.

3.12 **Tax:** What must companies do to transfer franking credits to shareholders?

Companies pay tax on their taxable income at the company tax rate of 30% and distribute the amount as franking credits to shareholders together with a dividend payment. A franking credit is a credit provided to show that tax has already been paid on that profit. Shareholders can use the franking credit to reduce the personal tax they have to pay.

3.13 **Tax**: What is the relevant tax rate to use when making financial decisions? Explain why.

The relevant tax rate to use when companies are making financial decisions is the company tax rate. This is because it is not possible for companies to account for the different personal tax rates of all the company's shareholders. The adjustment to the personal tax payable is made by individual investors taking into account the franking credits received from their investments.

3.14 **Tax**: Joe earned $95 000 during the 2012-2013 tax year. Use figure 3.7 to calculate how much Australian tax he pays.

Solution:

Joe's marginal tax rate is 37%. Therefore, his estimated tax payable (assuming no deduction claimed) will be:

Income	**Tax Rate**	**Tax Payable**
First $18,200	0%	0
$18,201 - 37,000	19%	(37000-18200) × 0.19 = 3572
$37,001 - 80,000	32.5%	(80000-37000) × 0.325 = 13975
$80,001 - 180,000	37%	(95000-80000) × 0.37 = 5500
	Total	**$23,097**

MODERATE

3.15 **Balance sheet**: Tim Dye, the CFO of Blackwell Automotive Ltd, is putting together this year's financial statements. He has gathered the following information: the company had a cash balance of $23,015, accounts payable of $163,257, ordinary shares of $313,299, retained earnings of $512,159, inventory of $212,444, goodwill and other assets equal to $78,656, property, plant and equipment of $711,256, and short-term notes payable of $21,115. It also has accounts receivables of $141,228 and other current assets of $11,223. What amount of long-term debt does Blackwell Automotive have?

Solution:

Assets		**Liabilities and Equity**	
Cash and marketable securities	$ 23,015	Accounts payable and accruals	$ 163,257
Accounts receivable	141,258	Notes payable	21,115
Inventories	212,444		
Other current assets	11,223		
Total current assets	$ 387,940	Total current liabilities	$ 184,372
Property, plant and equipment	711,256	Long-term debt	**168,022**
Goodwill and other assets	78,656	Total liabilities	$ 352,394
		Ordinary shares	313,299
		Retained earnings	512,159
		Total equity	$ 825,458
Total assets	$1,177,852	Total liabilities and equity	$1,177,852

3.16 **Balance sheet**: Refer to the information for Blackwell Automotive in Problem 3.15. What level of working capital does Blackwell Automotive have?

Solution:

Net working capital = Total current assets – Total current liabilities
= $387,940 – $184,372 = $203,568

3.17 Working capital: Medhi Network Associates has a current ratio of 1.60. The company's current assets are equal to $1,233,265**,** its accounts payables are $419,357, and its notes payables are $351,663. Its inventory is currently at $721,599. The company plans to raise funds in the short-term debt market and invest the entire amount in additional inventory. How much can their notes payable increase without lowering their ratio of current assets to current liabilities to below 1.50?

Solution:

Let x be the amount raised through notes payables.
New current liabilities = $184,372 + x
New current assets = $387,940 + x

$$\frac{\textit{Current}\text{ assets}}{\textit{Current}\text{ liabilities}} = 1.5 = \frac{\$387,940 + x}{\$184,372 + x}$$

$$1.5 * (\$184,372 + x) = \$387,940 + x$$

$$1.5x - x = \$387,940 - \$276,558$$

$$0.5x = \$111,382$$

$$x = \$111,382/0.5$$

$$= \$222,764$$

Thus the company can add up to $222,764 in inventory by raising money through notes payable without changing the ratio of current assets to current liabilities to more than 1.50. (This ratio of current assets to current liabilities is known as the **current ratio** and will be discussed in the next chapter.)

3.18 Market value: Reservoir Bottling Ltd reported to shareholders the following information: total current assets worth $237,513 at book value and $219,344 at market value. In addition, its non-current assets include plant and equipment valued at market for $343,222, while their book value is $362,145. The company's total current liabilities are valued at market for $134,889, while their book value is $129,175. Both the book value and the market value of its long-term debt is $144,000. If the company's total assets are equal to a market value of $562,566 (book value of $599,658), what is the difference in the book value and market value of its shareholders' equity?

Solution:

Assets	**Book Value**	**Market Value**	**Liabilities**	**Book Value**	**Market Value**
Total current assets	$237,513	$219,344	Total current liabilities	$129,175	$134,889
Net plant and equipment assets	362,145	343,222	Long-term debt	144,000	144,000
Other assets	0	0	Ordinary shares	326,483	283,677
Total assets	$599,658	$562,566	Total liabilities and equity	$599,658	$562,566

Change in value of equity = $283,677 – $326,483 = $(42,806)

3.19 **Income statement**: Nimitz Rental Ltd provided the following information to its auditors: for the year ended 31 March 31 2014, the company had revenues of $878,412, general and administrative expenses of $352,666, depreciation expenses of $131,455, leasing expenses of $108,195, and interest expenses equal to $78,122. If the company's tax rate is 30 percent, what is its profit after tax?

Solution:

Nimitz Rental Ltd
Income Statement as at 31 March 2014 (in $ 000s)

	Amount
Net sales	$878,412
General and administrative expenses	352,666
Leasing expenses	108,195
EBITDA	$417,551
Depreciation	131,455
EBIT	$286,096
Interest expense	78,122
EBT	$207,974
Taxes (30%)	63,392.20
Profit	$145,581.80

3.20 **Income statement**: Sosa Ltd recently reported an EBITDA of $31.3 million and profit of $9.7 million. The company has $6.8 million interest expense, and the company tax rate is 30 percent. What was the company's depreciation and amortisation expense?

Solution:

	Amount
EBITDA	$31,300,000.00
Less: Depreciation and amortisation	10,642,857.14
EBIT	$20,657,142.86
Less: Interest	6,800,000.00
EBT	13,857,142.86
Less: Tax (30%)	4,157,142.86
After Tax Profit	$ 9,700,000.00

3.21 **Income statement**: Fraser Ltd has announced that its profit for the year ended 30 June 2014, is $1,353,412. The company had an EBITDA of $ 4,967,855, and its depreciation and amortisation expense was equal to $1,112,685. The company's tax rate is 30 percent. What is the amount of interest expense for Fraser Ltd?

Solution:

	Amount
EBITDA	$4,967,855.00
Depreciation	1,112,685.00
EBIT	$3,855,170.00
Interest	1,921,724.29
EBT	$1,933,445.71
Tax (30%)	580,033.71
Profit	$1,353,412.00

3.22 **Income statement**: Carmichael Hobby Shop has an EBITDA of $512,725.20, an EBIT of $362,450.20, and a cash flow of $348,461.25. What is this company's profit after tax?

Solution:

Solution: First work out the amount of D&A (being the difference between EBITDA and EBIT), then work out the Profit after Tax (being the difference between After Tax Cash flows and D&A)

EBITDA	$512,725.20
Less: Depreciation & Amortisation(D&A)	150,275.00
EBIT	$362,450.20

Profit after Tax + D&A = After Tax Cash Flow
Profit after Tax = After Tax Cash Flow – D&A
= 348,461.25 – 150,275.00
= 198,186.25

3.23 **Retained earnings**: Columbia Construction Ltd earned $451,888 during the year ended 30 June 2014. After paying out $225,794 in dividends, the balance went into retained earnings. If the company's total retained earnings were $846,972, what was the level of retained earnings on its balance sheet on 1 July 2013?

Solution:

Columbia Construction Ltd
Retained Earnings for 2014 (in $000s)

Balance of retained earnings, 1 July 2013	$ 621,178.00
Add: Profit, 2014	451,588.00
Less: Dividends to shareholders	(225,794.00)
Balance of retained earnings, 30 June 2014	$ 846,972.00

3.24 **Cash flow**: Refer to the information given in Problem 3.19. What is the cash flow for Nimitz Rental?

Solution:

Cash flow from operation	=	Net income + Depreciation
	=	\$137,263 + \$131,455
	=	\$268,718

3.25 **Tax:** Mount Herbert Electrical Ltd's financial statements indicated that the company had earnings before interest and tax of \$718,323. Its interest rate on debt of \$850,000 was 8.95 percent. Calculate the amount of tax the company owes. What is the effective tax rate if its only shareholder is a superannuation fund and the company distributes half its profits as a dividend?

Solution:

EBIT	\$718,323.00
Interest	76,075.00
EBT	\$642,248.00

According to Figure 3.7, the company tax rate is 30%,
Tax liability = 642,248 x 0.30 = \$192,674.40

According to Figure 3.7, the effective tax rate for the shareholder is 15%, if the shareholder is a complying superannuation fund.

Profits distributed to the superannuation fund are taxed at an effective tax rate of 15%, while profits retained by the company are taxed at 30%. If the company distributes half its profits then the effective rate = (0.5 x 0.15) + (0.5 x 0.30) = 22.5%

CHALLENGING

3.26 **Income statement:** Centennial Chemical Ltd announced that for the period ending 31 March 2014, it had earned income after tax worth $5,330,275 on revenues of $13,144,680. The company's costs (excluding depreciation and amortisation) amounted to 61 percent of sales, and it had interest expenses of $392,168. What is the company's depreciation and amortisation expense if its tax rate was 30 percent?

Solution:

	Amount
Revenues	$13,144,680.00
Costs	8,018,254.80
EBITDA	$ 5,126,425.20
Depreciation and Amortisation	-2,880,421.37
EBIT	$ 8,006,846.57
Interest	392,168.00
EBT	$ 7,614,678.57
Tax (30%)	2,284,403.57
Profit	$ 5,330,275.00

3.27 **Retained earnings**: Eau Claire Paper Mill Ltd had, at the beginning of the financial year, 1 April 2013, retained earnings of $323,325. During the year ended 31 March 2014, the company produced a profit after tax of $713,445 and paid out 45 percent of its profit as dividends. Construct a statement of changes in equity and calculate the year-end balance of retained earnings.

Solution:

Balance of retained earnings, 1 April 2013	$ 323,325.00
Add: Profit, 2014	713,445.00
Less: Dividends to shareholders	(321,050.25)
Balance of retained earnings, 31 March 2014	$ 715,719.75

3.28 Lincoln's Hill Pies pays a partially franked dividend of 11 cents per share cash and 3 cents per share franking credit. Calculate the tax payment or refund for a shareholder owning 5000 shares, and on a marginal tax rate of 37 per cent.

Grossed up dividend = 0.11+0.03 = $0.14
If the shareholder own 5000 shares, shareholder tax liability = $0.14 x 5000 x 0.37 = $259.00
Total franking credit received = 0.03 x 5000 = $ 150
Additional tax payment = $259.00-$150.00 = $109.00

3.29 **Cash flows**: Vanderheiden Ltd provided the following financial information for the quarter ending 30 June 2014:

Profit:	$189,425
Depreciation and amortisation:	$63,114
Increase in receivables:	$ 62,154
Increase in inventory:	$57,338
Increase in accounts payable:	$37,655
Decrease in other current assets:	$27,450

What is this company's cash flow from operating activities during this quarter?

Solution:

Operating Activities	
Profit	$189,425
Additions (sources of cash)	
Depreciation and amortisation	63,114
Increase in accounts payable	37,655
Decrease in other current assets	27,450
Increase in accrued income tax	0
Subtractions (uses of cash)	
Increase in accounts receivable	(62,154)
Increase in inventories	(57,338)
Net cash provided by operating activities	$198,152

3.30 **Cash flows**: Analysts following Tomkovick Golf Ltd were given the following information for the year ended 30 June 2014:

	2014	**2013**
Assets		
Cash and marketable securities	$ 33,411	$ 16,566
Accounts receivable	260,205	318,768
Inventory	423,819	352,740
Other current assets	41,251	29,912
Total current assets	$ 758,686	$ 717,986
Property, plant and equipment	1,931,719	1,609,898
Less: Accumulated depreciation	(419,044)	(260,678)
Net property, plant and equipment	$1,512,675	$1,403,220
Goodwill and other assets	382,145	412,565
Total assets	$2,653,506	$2,533,771

Liabilities and Equity	**2014**	**2013**
Accounts payable and accruals	$ 378,236	$ 332,004
Notes payable	14,487	7,862
Accrued income tax	21,125	16,815
Total current liabilities	$ 413,848	$ 356,681
Long-term debt	679,981	793,515
Total liabilities	$1,093,829	$1,150,196
Preference shares	—	—
Ordinary shares	972,131	985,465
Retained earnings	587,546	398,110
Total equity	$1,559,677	$1,383,575
Total liabilities and equity	$2,653,506	$2,533,771

In addition, it was reported that the company had a profit of $ 3,155,848 and that depreciation expenses were equal to $212,366.

a. Construct a statement of cash flows for this company.
b. Calculate the net cash provided by operating activities.
c. What is the net cash used in investing activities?
d. Calculate the net cash provided by financing activities.

Solution:

Tomkovick Golf Company
Year ended June 30, 2014

Operating Activities	
Profit	$ 3,155,848.00
Additions (sources of cash)	
Depreciation and amortisation	212,366.00
Increase in accounts payable	46,232.00
Decrease in accounts receivable	58,563.00
Increase in accrued income tax	4,310.00
Subtractions (uses of cash)	
Increase in other current assets	(11,339.00)
Increase in inventories	(71,079.00)
Net cash provided by operating activities	$ 3,394,901.00
Investing Activities	
Increase in property, plant and equipment	$ (321,821.00)
Decrease in goodwill and other assets	30,420.00
Net cash used in investing activities	$ (291,401.00)
Financing Activities	
Increase in notes payable	$ 6,625.00
Decrease in long-term debt	(113,534.00)
Payment of cash dividends	(2,966,412.00)
Repurchase of shares	(13,334.00)
Net cash provided by financing activities	$(3,086,655.00)
Effect of exchange rates on cash	$ 0.00
Net increase in cash and marketable securities	16,845.00
Cash and securities at beginning of year	16,566.00
Cash and securities at end of year	$ 33,411.00