

Principles of Business Finance

Lecture 2: Financial Statements, Cash Flow and Taxes

Sunset Boards, Inc.

	2016 RM	2015 RM
Cost of goods sold	159,143	126,038
Cash	27,478	18,187
Depreciation	40,217	35,581
Interest expense	8,866	7,735
Selling and administrative	32,352	24,787
Accounts payable	36,404	32,143
Net fixed assets	191,250	156,975
Sales	301,392	247,259
Accounts receivable	16,717	12,887
Notes payable	15,997	14,651
Long-term debt	91,195	79,235
Inventory	37,216	27,119
New equity	15,600	0

Sunset Boards pays 50% of net income as dividends and has a 20% tax rate.

You are required to prepare the following:-

1. An income statement for 2015 and 2016.
2. A balance sheet for 2015 and 2016.

Learning Outcomes

By the end of this lecture, you should be able to:-

- know the balance sheet identity, and explain why a balance sheet must balance.
- describe how market-value balance sheets differ from book-value balance sheets.
- identify the basic equation for the income statement and the information it provides.
- explain the difference between cash flows and accounting income.
- discuss the difference between average and marginal tax rates.
- calculate a firm's cash flow from its financial statements.

Exhibit 3.1: Diaz Mfg. Balance Sheets

Exhibit 3.1

Diaz Manufacturing Balance Sheets as of December 31 (\$ millions)

Assets	2008	2007	Liabilities and Stockholders' Equity	2008	2007
Cash ^a	\$ 288.5	\$ 16.6	Accounts payable and accruals	\$ 349.3	\$ 325.0
Accounts receivable	306.2	268.8	Notes payable	10.5	4.2
Inventories	423.8	372.7	Accrued taxes	18.0	16.8
Other current assets	21.3	29.9	Total current liabilities	\$ 377.8	\$ 346.0
Total current assets	\$1,039.8	\$ 688.0	Long-term debt	574.0	305.6
Plant and equipment	911.6	823.3	Total liabilities	\$ 951.8	\$ 651.6
Less: Accumulated depreciation	512.2	429.1	Preferred stock ^b	—	—
Net plant and equipment	\$ 399.4	\$ 394.2	Common stock (54,566,054 shares) ^c	50.0	50.0
Goodwill and other assets	450.0	411.6	Additional paid-in capital	842.9	842.9
			Retained earnings	67.8	(50.7)
			Treasury stock (571,320 shares)	(23.3)	—
			Total stockholders' equity	\$ 937.4	\$ 842.2
Total assets	<u>\$1,889.2</u>	<u>\$1,493.8</u>	Total liabilities and equity	<u>\$1,889.2</u>	<u>\$1,493.8</u>

^aCash includes marketable securities.

^b10,000,000 preferred stock shares authorized.

^c150,000,000 common stock shares authorized.

The left-hand side of the balance sheet lists the assets that the firm has at a particular point in time, while the right-hand side shows how the firm has financed those assets.

The Balance Sheet

- Reports the firm's financial position at a particular point in time.
- Assets:
- Liabilities: obligations of the firm that represent claims against its assets
- Stockholders' equity: the residual claim of the owners on the remaining assets of the firm after all liabilities have been paid.
- Total assets =

The Balance Sheet

- Current assets and liabilities
- Net working capital
- Accounting for inventory
- Long term assets and liabilities
- Equity
 - common stock accounts
 - retained earnings
 - treasury stock
 - preferred stock

Market Value Vs. Book Value

- Values shown on the b/s for the firm's assets are book values and generally are not what the assets are actually worth.
- GAAP and IFRS, audited financial statements show assets at historical cost.
- Market value of an asset depends on things like its riskiness and cash flows.
- Managers and investors will frequently be interested in knowing the value of the firm.
- These info (e.g. good management, good reputation, talented employees, shareholders' equity figure vs. true value of the stock) is not on the balance sheet.

A More Informative Balance Sheet

- Assets
- Liabilities
- Stockholders' equity

The Income Statement & The Statement of Retained Earnings

- I/S shows how profitable a firm is between two points in time.
- $\text{Net Income} = \text{Revenues} - \text{Expenses}$
- Net Income is often reported on a per share basis and is then called earnings per share (EPS)
- $\text{EPS} = \text{net income} / \text{number of common shares outstanding}$

Exhibit 3.2: Diaz Mfg. Income Statements

Exhibit 3.2

Diaz Manufacturing Income Statements for Year Ending December 31 (\$ millions)

	2008	2007
Net sales ^a	\$1,563.7	\$1,386.7
Cost of goods sold	1,081.1	974.8
Selling and administrative expenses	231.1	197.4
Earnings before Interest, taxes, depreciation, and amortization (EBITDA)	\$ 251.5	\$ 214.5
Depreciation and amortization	83.1	75.3
Earnings before interest and taxes (EBIT)	\$ 168.4	\$ 139.2
Interest expense	5.6	18.0
Earnings before taxes (EBT)	\$ 162.8	\$ 121.2
Taxes	44.3	16.1
Net income	\$ 118.5	\$ 105.1
Common stock dividend	—	—
Addition to retained earnings	\$ 118.5	\$ 105.1
Per-share data:		
Common stock price		
Earnings per share (EPS)	\$ 2.17	\$ 1.93
Dividends per share (DPS)	—	—
Book value per share (BVPS)	—	—
Cash flow per share (CFPS)	\$ 3.69	\$ 3.31

^aNet sales is defined as total sales less all sales discounts and sales returns and allowances.

The income statement shows the sales, expenses, and profits earned by the firm over a specific period of time.

Expense Categories

- Depreciation expense
- Amortization expense
- Extraordinary items

The Statement of Retained Earnings

Two events that affect the retained earnings account balance:-

1. Firm reports net income or loss
2. Board of directors declares and pays a cash dividend

Cash Flows

- Goal of financial management is to maximize the value of stockholders' shares which means making decisions that will maximize the value of the firm's future cash flows.
- A firm's income statement do not necessarily reflect cash flows.

The Statement of Cash Flows

- The detail of all the cash flows that have taken place during the year and reconcile the beginning of year and end of year cash balance.
- Business firms can post significant earnings (net income) but still have inadequate cash to pay wages, suppliers and other creditors.

Sources and Uses of Cash

- Shows the firm's cash inflows and cash outflows for a period of time.
- Changes in the balance sheet account reflects cash flows
 - increases in assets or decreases in liabilities and equity are uses of cash
 - decreases in assets or increases in liabilities and equity are sources of cash

Let's try this...

- Increase of CA
- Increase of CL
- Increase of FA
- Decrease of FA
- Increase of LTD/Equity
- Retirement of debt/Purchase of treasury stock
- Cash dividend payment

Sources and Uses of Cash

- Working capital
- Fixed assets
- Long term liabilities and equity
- Dividends

Organization of the Statement of Cash Flows

The statement of cash flows is organized around

3 business activities:-

- Operating activities
- Investing activities
- Financing activities

And the reconciliation of the cash account.

Exhibit 3.4: Diaz Mfg Statement of Cash Flows

Exhibit 3.4

Diaz Manufacturing Statement of Cash Flows for the Year Ending December 31, 2008 (\$ millions)

Operating Activities	
Net income	\$118.5
Additions (sources of cash)	
Depreciation and amortization	83.1
Increase in accounts payable	24.3
Decrease in other current assets	8.6
Increase in accrued income taxes	1.2
Subtractions (uses of cash)	
Increase in accounts receivable	(37.4)
Increase in inventories	(51.1)
Net cash provided by operating activities	<u>\$147.2</u>
Long-Term Investing Activities	
Property, equipment, and other assets	\$ (88.3)
Increase in goodwill and other assets	(38.4)
Net cash used in investing activities	<u>(\$126.7)</u>
Financing Activities	
Increase in long-term debt	\$268.4
Purchase of treasury stock	(23.3)
Increase in notes payable	6.3
Net cash provided by financing activities	<u>\$251.4</u>
Cash Reconciliation ^a	
Net increase in cash and marketable securities	\$271.9
Cash and securities at beginning of year	16.6
Cash and securities at end of year	<u><u>\$288.5</u></u>

^aCash includes marketable securities.

The statement of cash flows shows the sources of the cash that has come into the firm during a period of time and the ways in which this cash has been used.

Exhibit 3.5: Interrelations among the Financial Statements

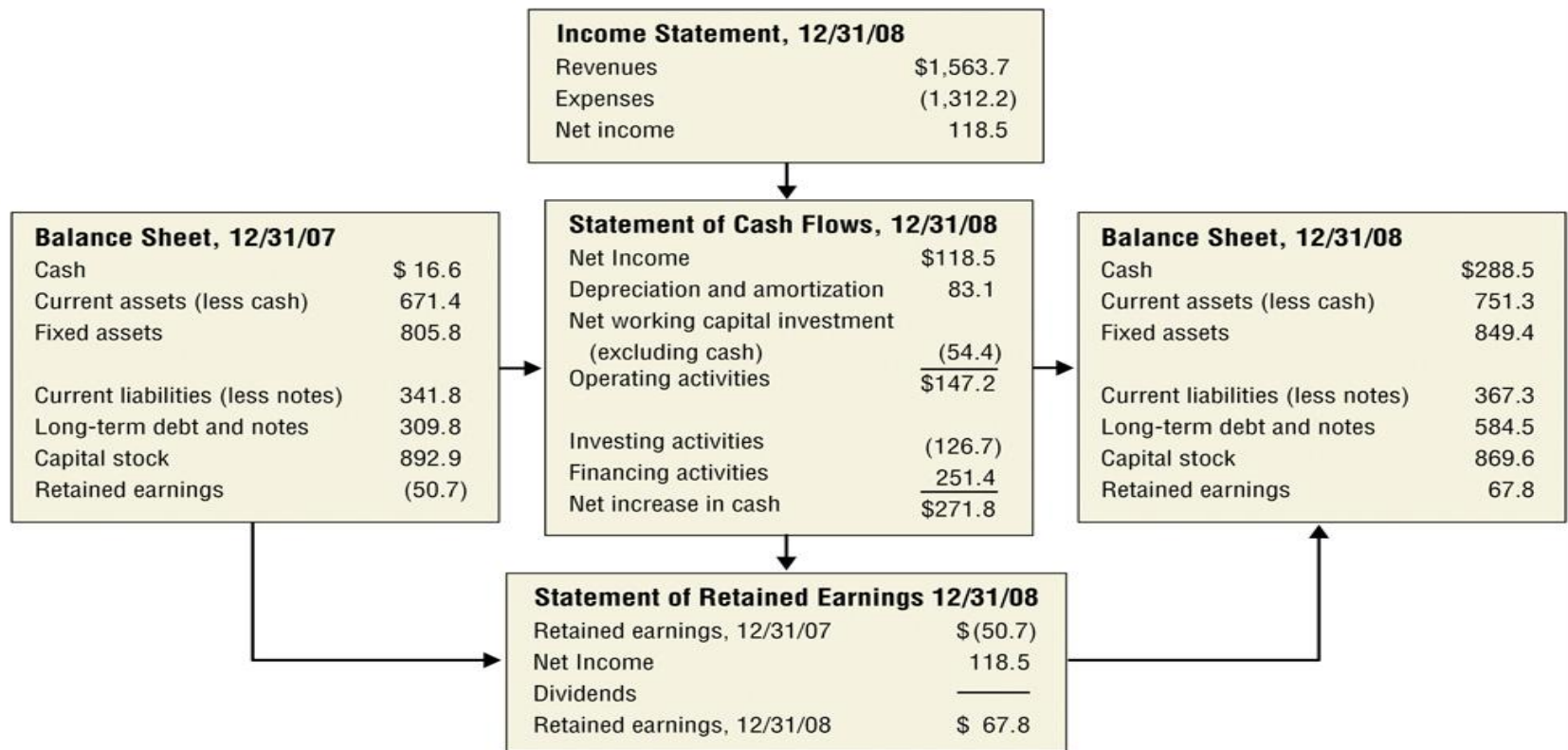


Exhibit 3.5

The Interrelations among the Financial Statements: Illustrated Using Diaz Manufacturing Financial Results

The statement of cash flows ties together the income statement with the balance sheets from the beginning and the end of the period. The statement of retained earnings shows how the retained earnings account has changed from the beginning to the end of the period.

Taxes

- The one thing we can rely on with taxes is that they are always changing
- Marginal vs. average tax rates
 - Marginal tax rate - the percentage paid on the next dollar earned
 - Average tax rate - the tax bill / taxable income
- The marginal tax rate is relevant for financial decision making.
- Reason:- any new cash flows will be taxed at that marginal rate.
- Financial decisions usually involve cash flows or changes in existing one.

Cash Flow

- Cash Flow From Assets (CFFA) = Cash Flow to Creditors + Cash Flow to Stockholders
- Cash Flow From Assets = Operating Cash Flow - Net Capital Spending - Changes in NWC
- Cash Flow to Creditors = Interest paid - Net new borrowing
- Cash Flow to Stockholders = Dividends paid - Net new equity raised

Asia-Pacific Corporation Balance Sheet

ASIA-PACIFIC CORPORATION 2014 and 2015 Balance Sheets (\$ in millions)					
Assets			Liabilities and Owners' Equity		
	2014	2015		2014	2015
Current assets			Current liabilities		
Cash	\$ 104	\$ 160	Accounts payable	\$ 232	\$ 266
Accounts receivable	455	688	Notes payable	<u>196</u>	<u>123</u>
Inventory	<u>553</u>	<u>555</u>	Total	<u>\$ 428</u>	<u>\$ 389</u>
Total	<u>\$1,112</u>	<u>\$1,403</u>			
Fixed assets					
Net plant and equipment	<u>\$1,644</u>	<u>\$1,709</u>	Long-term debt	\$ 408	\$ 454
			Owners' equity		
			Common stock and paid-in surplus	600	640
			Retained earnings	<u>1,320</u>	<u>1,629</u>
			Total	<u>\$1,920</u>	<u>\$2,269</u>
Total assets	<u>\$2,756</u>	<u>\$3,112</u>	Total liabilities and owners' equity	<u>\$2,756</u>	<u>\$3,112</u>

Asia-Pacific Corporation Income Statement

ASIA-PACIFIC CORPORATION 2015 Income Statement (\$ in millions)

Net sales	\$1,509
Cost of goods sold	750
Depreciation	<u>65</u>
Earnings before interest and taxes	\$ 694
Interest paid	<u>70</u>
Taxable income	\$ 624
Taxes (34%)	<u>212</u>
Net income	<u><u>\$ 412</u></u>
Dividends	\$103
Addition to retained earnings	309

Example: US Corporation - Part I

- OCF (I/S) = EBIT + depreciation - taxes =
- NCS (B/S and I/S) = ending net fixed assets - beginning net fixed assets + depreciation =
- Changes in NWC (B/S) = ending NWC - beginning NWC =
- CFFA =

Example: US Corporation - Part II

- CF to Creditors (B/S and I/S) = interest paid - net new borrowing =
- CF to Stockholders (B/S and I/S) = dividends paid - net new equity raised =
- CFFA =

Cash Flow Summary - Table 2.6

I. The cash flow identity

$$\begin{aligned}\text{Cash flow from assets} &= \text{Cash flow to creditors (bondholders)} \\ &+ \text{Cash flow to stockholders (owners)}\end{aligned}$$

II. Cash flow from assets

$$\begin{aligned}\text{Cash flow from assets} &= \text{Operating cash flow} \\ &- \text{Net capital spending} \\ &- \text{Change in net working capital (NWC)}\end{aligned}$$

where:

$$\begin{aligned}\text{Operating cash flow} &= \text{Earnings before interest and taxes (EBIT)} \\ &+ \text{Depreciation} - \text{Taxes}\end{aligned}$$

$$\begin{aligned}\text{Net capital spending} &= \text{Ending net fixed assets} - \text{Beginning net fixed assets} \\ &+ \text{Depreciation}\end{aligned}$$

$$\text{Change in NWC} = \text{Ending NWC} - \text{Beginning NWC}$$

III. Cash flow to creditors (bondholders)

$$\text{Cash flow to creditors} = \text{Interest paid} - \text{Net new borrowing}$$

IV. Cash flow to stockholders (owners)

$$\text{Cash flow to stockholders} = \text{Dividends paid} - \text{Net new equity raised}$$

References

1. Ross, S.A., et al. 2012. *Fundamentals of Corporate Finance: Financial Statements, Taxes and Cash Flow*. 19 - 37. Singapore: McGraw -Hill Education.
2. Parrino, R. & Kidwell, D., (2009) *Fundamentals of Corporate Finance: Financial Statements, Cash Flow and Taxes*. 53 - 79. US: John Wiley & Sons, Inc.