Chapter 2
Financial Statements, Taxes and Cash Flow
Balance Sheet

• The balance sheet is a snapshot of the firm’s assets and liabilities at a given point in time

• Assets are listed in order of liquidity
  – Ease of conversion to cash
  – Without significant loss of value

• Balance Sheet Identity
  – Assets = Liabilities + Stockholders’ Equity
The Balance Sheet
Figure 2.1

- **Current Assets**
  - Fixed assets
    1. Tangible fixed assets
    2. Intangible fixed assets

- **Total Value of Assets**

- **Long-term debt**

- **Shareholders’ equity**

- **Current liabilities**

- **Net Working Capital**

- **Total Value of Liabilities and Shareholders’ Equity**

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Total Value of Assets: Total Value of Liabilities and Shareholders’ Equity

Net Working Capital: Current liabilities

Fixed assets: Current assets
# US Corporation Balance Sheet

## Table 2.1

<table>
<thead>
<tr>
<th>Assets</th>
<th>1999</th>
<th>2000</th>
<th>Liabilities and Owners' Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
<td><strong>1999</strong></td>
</tr>
<tr>
<td>Cash</td>
<td>$104</td>
<td>$160</td>
<td>Accounts Payable</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>456</td>
<td>688</td>
<td>Notes payable</td>
</tr>
<tr>
<td>Inventory</td>
<td>553</td>
<td>555</td>
<td>Total</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1,112</td>
<td>$1,403</td>
<td></td>
</tr>
<tr>
<td><strong>Fixed assets</strong></td>
<td></td>
<td></td>
<td><strong>Long-term debt</strong></td>
</tr>
<tr>
<td>Net fixed assets</td>
<td>$1,644</td>
<td>$1,709</td>
<td>Owners' equity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Common stock and paid-in surplus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Retained earnings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>$2,756</td>
<td>$3,112</td>
<td>Total liabilities and owners' equity</td>
</tr>
</tbody>
</table>
Market Vs. Book Value

• The balance sheet provides the book value of the assets, liabilities and equity.
• Market value is the price at which the assets, liabilities or equity can actually be bought or sold.
• Market value and book value are often very different. Why?
• Which is more important to the decision-making process?
Example 2.2 Klingon Corporation

<table>
<thead>
<tr>
<th>Assets</th>
<th>Book</th>
<th>Market</th>
<th>Liabilities and Shareholders’ Equity</th>
<th>Book</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWC</td>
<td>$ 400</td>
<td>$ 600</td>
<td>LTD</td>
<td>$ 500</td>
<td>$ 500</td>
</tr>
<tr>
<td>NFA</td>
<td>700</td>
<td>1,000</td>
<td>SE</td>
<td>600</td>
<td>1,100</td>
</tr>
<tr>
<td></td>
<td>1,100</td>
<td>1,600</td>
<td></td>
<td>1,100</td>
<td>1,600</td>
</tr>
</tbody>
</table>
Income Statement

• The income statement is more like a video of the firm’s operations for a specified period of time.

• You generally report revenues first and then deduct any expenses for the period.

• Matching principle – GAAP say to show revenue when it accrues and match the expenses required to generate the revenue.
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>$ 1,509</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>750</td>
</tr>
<tr>
<td>Depreciation</td>
<td>65</td>
</tr>
<tr>
<td>Earnings before interest and taxes</td>
<td>$ 694</td>
</tr>
<tr>
<td>Interest paid</td>
<td>70</td>
</tr>
<tr>
<td>Taxable income</td>
<td>$ 624</td>
</tr>
<tr>
<td>Taxes</td>
<td>212</td>
</tr>
<tr>
<td>Net income</td>
<td>$ 412</td>
</tr>
<tr>
<td>Dividends</td>
<td>$ 103</td>
</tr>
<tr>
<td>Addition to retained earnings</td>
<td>309</td>
</tr>
</tbody>
</table>
Taxes

• The one thing we can rely on with taxes is that they are always changing

• Marginal vs. average tax rates
  – Marginal – the percentage paid on the next dollar earned
  – Average – the tax bill / taxable income

• Other taxes
Example: Marginal Vs. Average Rates

• Suppose your firm earns $4 million in taxable income.
  – What is the firm’s tax liability?
  – What is the average tax rate?
  – What is the marginal tax rate?

• If you are considering a project that will increase the firm’s taxable income by $1 million, what tax rate should you use in your analysis?
The Concept of Cash Flow

• Cash flow is one of the most important pieces of information that a financial manager can derive from financial statements.

• The statement of cash flows does not provide us with the same information that we are looking at here.

• We will look at how cash is generated from utilizing assets and how it is paid to those that finance the purchase of the assets.
Cash Flow From Assets

• 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
Example: US Corporation

- OCF (I/S) = EBIT + depreciation – taxes = $547
- NCS (B/S and I/S) = ending net fixed assets – beginning net fixed assets + depreciation = $130
- Changes in NWC (B/S) = ending NWC – beginning NWC = $330
- CFFA = 547 – 130 – 330 = $87
- CF to Creditors (B/S and I/S) = interest paid – net new borrowing = $24
- CF to Stockholders (B/S and I/S) = dividends paid – net new equity raised = $63
- CFFA = 24 + 63 = $87
Cash Flow Summary
Table 2.5

I. The cash flow identity
   Cash flow from assets = Cash flow to creditors (bondholders)
   + Cash flow to stockholders (owners)

II. Cash flow from assets
   Cash flow from assets = Operating cash flow
   - Net capital spending
   - Change in net working capital (NWC)

   where
   Operating cash flow = Earnings before interest and taxes (EBIT)
   + Depreciation - Taxes

   Net capital spending = Ending net fixed assets - Beginning net fixed assets
   + Depreciation

   Change in NWC = Ending NWC - Beginning NWC

III. Cash flow to creditors (bondholders)
   Cash flow to creditors = Interest paid - Net new borrowing

IV. Cash flow to stockholders (owners)
   Cash flow to stockholders = Dividends paid - Net new equity raised
Example: Balance Sheet and Income Statement Information

• Current Accounts
  – 1998: CA = 4500; CL = 1300
  – 1999: CA = 2000; CL = 1700

• Fixed Assets and Depreciation
  – 1998: NFA = 3000; 1999: NFA = 4000
  – Depreciation expense = 300

• LT Liabilities and Equity
  – 1998: LTD = 2200; Common Equity = 500; RE = 500
  – 1999: LTD = 2800; Common Equity = 750; RE = 750

• Income Statement Information
  – EBIT = 2700; Interest Expense = 200; Taxes = 1000; Dividends = 1250
Example: Cash Flows

• OCF = 2700 + 300 – 1000 = 2000
• NCS = 4000 – 3000 + 300 = 1300
• Changes in NWC = (2000 – 1700) – (1500 – 1300) = 100
• CFFA = 2000 – 1300 – 100 = 600
• CF to Creditors = 200 – (2800 – 2200) = -400
• CF to Stockholders = 1250 – (750 – 500) = 1000
• CFFA = -400 + 1000 = 600
• The CF identity holds.
Quick Quiz

• What is the difference between book value and market value? Which should we use for decision making purposes?

• What is the difference between accounting income and cash flow? Which do we need to use when making decisions?

• What is the difference between average and marginal tax rates? Which should we use when making financial decisions?

• How do we determine a firm’s cash flows? What are the equations and where do we find the information?