Chapter 2

Financial Statements, Taxes, and Cash Flow

Key Concepts and Skills

• Know the difference between book value and market value
• Know the difference between accounting income and cash flow
• Know the difference between average and marginal tax rates
• Know how to determine a firm’s cash flow from its financial statements

Chapter Outline

• The Balance Sheet
• The Income Statement
• Taxes
• Cash Flow

The 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 decreasing liquidity
  ▪ Ease of conversion to cash without significant loss of value
• Balance Sheet Identity
  ▪ Assets = Liabilities + Stockholders’ Equity

Figure 2.1

U.S. Corporation Balance Sheet – Table 2.1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td>$1,230</td>
<td>$1,120</td>
<td>Current liabilities</td>
<td>$230</td>
<td>$250</td>
</tr>
<tr>
<td>Cash</td>
<td>$1,230</td>
<td>$1,120</td>
<td>Accounts payable</td>
<td>$230</td>
<td>$250</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>450</td>
<td>440</td>
<td>Rent expense</td>
<td>150</td>
<td>130</td>
</tr>
<tr>
<td>Inventory</td>
<td>350</td>
<td>350</td>
<td>Total</td>
<td>$420</td>
<td>$380</td>
</tr>
<tr>
<td>Total</td>
<td>$2,030</td>
<td>$2,040</td>
<td></td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>$1,000</td>
<td>$1,000</td>
<td>Long-term debt</td>
<td>$400</td>
<td>$454</td>
</tr>
<tr>
<td>Net fixed assets</td>
<td>$1,000</td>
<td>$1,000</td>
<td>Owners’ equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Tangible fixed assets</td>
<td>$1,000</td>
<td>$1,000</td>
<td>Common stock and paid-in capital</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. Intangible fixed assets</td>
<td></td>
<td></td>
<td>Paid-in capital</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>$1,000</td>
<td>$1,000</td>
<td>Total liabilities</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>1. Total liabilities</td>
<td>$2,030</td>
<td>$2,040</td>
<td>Total</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>2. Stockholders’ equity</td>
<td>$2,030</td>
<td>$2,040</td>
<td>Total</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
</tbody>
</table>

Total assets $2,030 $2,040 Total liabilities and owners’ equity $2,000 $2,000
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?

Klingon Corporation

<table>
<thead>
<tr>
<th>Assets</th>
<th>Market</th>
<th>Book</th>
<th>Liabilities and Shareholders’ Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWC</td>
<td>$ 400</td>
<td>$ 600</td>
<td>LTD $ 500</td>
</tr>
<tr>
<td>NFA</td>
<td>700</td>
<td>1,000</td>
<td>Equity $ 600</td>
</tr>
<tr>
<td></td>
<td>1,100</td>
<td>1,600</td>
<td>NFA $ 1,100</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 says to recognize revenue when it is fully earned and match expenses required to generate revenue to the period of recognition.

U.S. Corporation Income Statement - Table 2.2

- Net sales $1,500
- Cost of goods sold 750
- Depreciation 65
- Earnings before interest and taxes $ 694
- Interest paid 70
- Taxes 212
- Net income $ 412
- Dividends $103
- Addition to retained earnings 309

Example: Work the Web

- Publicly traded companies must file regular reports with the Securities and Exchange Commission.
- These reports are usually filed electronically and can be searched at the SEC public site called EDGAR.
- Click on the web surfer, pick a company, and see what you can find!

Taxes

- The one thing about taxes we can rely on is that they will always be 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 who 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: U.S. 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

Table 2.5

<table>
<thead>
<tr>
<th>I. The cash flow identify</th>
<th>Cash flow from assets = Cash Flow to creditors (bondholders) - Cash Flow to stockholders (owners)</th>
</tr>
</thead>
<tbody>
<tr>
<td>II. Cash flow from assets</td>
<td>Operating cash flow: Cash flow from assets – Operating cash flow – Net capital spending (NWC)</td>
</tr>
<tr>
<td></td>
<td>Earnings before interest and taxes (EBIT) – Depreciation – Tax (T)</td>
</tr>
<tr>
<td></td>
<td>Net capital spending = Ending net fixed assets – Beginning net fixed assets – Depreciation</td>
</tr>
<tr>
<td></td>
<td>Change in NWC = Ending NWC – Beginning NWC</td>
</tr>
<tr>
<td>III. Cash flow to creditors (bondholders)</td>
<td>Interest paid – Net new borrowing</td>
</tr>
<tr>
<td>IV. Cash flow to stockholders (owners)</td>
<td>Dividends paid – Net new equity raised</td>
</tr>
</tbody>
</table>

Example: Balance Sheet and Income Statement Information

- Current Accounts
  - 2007: CA = $1,500; CL = $1,300
  - 2008: CA = $2,000; CL = $1,700
- Fixed Assets and Depreciation
  - 2007: NFA = $3,000; 2008: NFA = $4,000
  - Depreciation expense = $300
- LT Liabilities and Equity
  - 2007: LTD = $2,200; Common Stock = $500; RE = $500
  - 2008: LTD = $2,800; Common Stock = $750; RE = $750
- Income Statement Information
  - EBIT = $2,700; Interest Expense = $200; Taxes = $1,000; Dividends = $1,250
Example: Cash Flows

- OCF = $2,700 + $300 – $1,000 = $2,000
- NCS = $4,000 – $3,000 + $300 = $1,300
- Changes in NWC = ($2,000 – $1,700) – ($1,500 – $1,300) = $100
- CFFA = $2,000 – $1,300 – $100 = $600
- CF to Creditors = $200 – ($2,800 – $2,200) = -$400
- CF to Stockholders = $1,250 – ($750 – $500) = $1,000
- CFFA = - $400 + $1,000 = $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?

Comprehensive Problem

- Current Accounts
  - 2007: CA = $4,400; CL = $1,500
  - 2006: CA = $3,500; CL = $1,200
- Fixed Assets and Depreciation
  - 2007: NFA = $3,400; 2006: NFA = $3,100
  - Depreciation Expense = $400
- Long-term Debt and Equity (R.E. not given)
  - 2007: LTD = $4,000; Common stock & APIC = $400
  - 2006: LTD = $3,950; Common stock & APIC = $400
- Income Statement
  - EBIT = $2,000; Taxes = $300
  - Interest Expense = $350; Dividends = $500
- Compute the CFFA