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
• Know the 4 FASB Statements

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

The Balance Sheet

Figure 2.1
Net Working Capital and Liquidity

- Net Working Capital
  - = Current Assets – Current Liabilities
  - Positive when the cash that will be received over the next 12 months exceeds the cash that will be paid out
  - Usually positive in a healthy firm

- Liquidity
  - Ability to convert to cash quickly without a significant loss in value
  - Liquid firms are less likely to experience financial distress
  - But liquid assets typically earn a lower return
  - Trade-off to find balance between liquid and illiquid assets

Table 2.1 - US Corporation Balance Sheet

- Look for Buzzwords
  - Current Assets
    - Cash, Inventory, ______ Receivables, Prepaid ______, Short-term something owned
  - Long Term Assets
    - Property, Plant, Equipment, Fixed Assets, Intangibles, Long Term something owned
More Buzzwords

• Current Liabilities
  – _____ Payables, Current Portion _____, Accrued _________

• Long-Term Liabilities
  – Bonds, Bank Loans, Capital Leases, Debt

Equity is Special

• Preferred Stock (rarely)

• Common Equity
  – Common Stock
  – Retained Earnings
  – Additional Paid-In CAPITAL Surplus
    • Only if stock has par value
  – Treasury Stock
    • Only in some locations

Market Value 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?

• Equity and Long-Term Assets
  – Market Value has big difference from Book Value

• Which is more important to the decision-making process?
Example 2.2
Klingon Corporation

KLINGON CORPORATION
Balance Sheets
Market Value versus Book Value

<table>
<thead>
<tr>
<th>Assets</th>
<th>Book</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWC</td>
<td>$400</td>
<td>$600</td>
</tr>
<tr>
<td>NFA</td>
<td>700</td>
<td>1,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities and Shareholders’ Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTD</td>
</tr>
<tr>
<td>SE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities and Shareholders’ Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWC</td>
<td>$1,100</td>
</tr>
<tr>
<td>NFA</td>
<td>1,000</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 show revenue when it accrues and match the expenses required to generate the revenue

US Corporation Income Statement – Table 2.2

<table>
<thead>
<tr>
<th>Table 2.2 Income Statement</th>
<th>US CORPORATION</th>
<th>(in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>$1,500</td>
<td></td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Gross profit</td>
<td>1,350</td>
<td></td>
</tr>
<tr>
<td>Operating expenses</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Earnings before interest and taxes</td>
<td>$ 40</td>
<td></td>
</tr>
<tr>
<td>Interest paid</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Earnings before taxes</td>
<td>390</td>
<td></td>
</tr>
<tr>
<td>Taxes (34%)</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>368</td>
<td></td>
</tr>
<tr>
<td>Dividends</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Additions to retained earnings</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>
Variations are many
Revenue
- Cost of Goods Sold = Gross Profit
- Operating Expenses (e.g. Labor, SGA, Rent, etc.) = EBITDA
- Depreciation and Amortization = EBIT (a.k.a Operating Profit/Earning/Income)
- Net Interest Expense (or Income) = EBT (aka Profit/Income/Earnings before Taxes)
- Taxes = Net Income
- Dividends (could be multiple lines) = Additions to Retained Earnings

Work the Web Example
- 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!

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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
  • Average tax rates vary widely across different companies and industries
• 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 – Part I

- 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

Example: US Corporation – Part II

- 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
Example: Balance Sheet and Income Statement Info

- **Current Accounts**
  - 2012: CA = 3625; CL = 1787
  - 2011: CA = 3596; CL = 2140

- **Fixed Assets and Depreciation**
  - 2012: NFA = 2194; 2011: NFA = 2261
  - Depreciation Expense = 500

- **Long-term Debt and Equity**
  - 2012: LTD = 538; Common stock & APIC = 462
  - 2011: LTD = 581; Common stock & APIC = 372

- **Income Statement**
  - EBIT = 1014; Taxes = 368
  - Interest Expense = 93; Dividends = 285

Example: Cash Flows

- OCF = 1,014 + 500 – 368 = 1,146
- NCS = 2,194 – 2,261 + 500 = 433
- Changes in NWC = (3,625 – 1,787) – (3,596 – 2,140) = 382
- CFFA = 1,146 – 433 – 382 = 331
- CF to Creditors = 93 – (538 – 581) = 136
- CF to Stockholders = 285 – (462 – 372) = 195
- CFFA = 136 + 195 = 331
- 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?

Ethics Issues

• Why is manipulation of financial statements not only unethical and illegal, but also bad for stockholders?

Comprehensive Problem

• Current Accounts
  • 2012: CA = 4,400; CL = 1,500
  • 2011: CA = 3,500; CL = 1,200
• Fixed Assets and Depreciation
  • 2012: NFA = 3,400; 2011: NFA = 3,100
  • Depreciation Expense = 400
• Long-term Debt and Equity (R.E. not given)
  • 2012: LTD = 4,000; Common stock & APIC = 400
  • 2011: LTD = 3,950; Common stock & APIC = 400
• Income Statement
  • EBIT = 2,000; Taxes = 300
  • Interest Expense = 350; Dividends = 500
• Compute the Cash Flow From Activities
### Solution

- **OCF** = $2,000 + $400 – $300 = $2,100
- **NCS** = $3,400 – $3,100 + $400 = $700
- Changes in NWC = ($4,400 – $1,500) – ($3,500 – $1,200) = $600
- **CFFA** = $2,100 – $700 - $600 = $800
- **CF to Creditors** = $350 – ($4,000 – $3,950) = $300
- **CF to Stockholders** = $500
- **CFFA** = $300 + $500 = $800

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