Corporate Finance: Assets and Liabilities

Balance Sheet of P&G, as of 6/30/1999, in $Millions

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td>11,358</td>
</tr>
<tr>
<td>Net fixed assets</td>
<td>12,626</td>
</tr>
<tr>
<td>Other long-term assets</td>
<td>8,129</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>32,113</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liab.</td>
<td>10,761</td>
</tr>
<tr>
<td>Long-term liab.</td>
<td>9,294</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td><strong>12,058</strong></td>
</tr>
</tbody>
</table>

Balance Sheet of Manufacturing Sector as of 1998Q4, in $Billions

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td>1,700</td>
</tr>
<tr>
<td>Net fixed assets</td>
<td>1,572</td>
</tr>
<tr>
<td>Other long-term assets</td>
<td>1,132</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>4,404</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liab.</td>
<td>1,246</td>
</tr>
<tr>
<td>Long-term liab.</td>
<td>1,515</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td><strong>1,643</strong></td>
</tr>
</tbody>
</table>

**Total liabilities** 4,404
The Liability Side (RHS): Financing

- **“Financing”**: First, focus on liability side of Balance Sheet taking the firm’s assets as a given: How to finance the firm’s assets? Can we create value on the RHS?

- How can we forecast how much funding we need?

- Should we finance those funding needs with:
  - Debt?
  - Equity?
  - Other sources?

- If we have enough internally generated funds, what do we do with the excess?

- When should we raise funds from the capital markets?

The Asset Side (LHS): Valuation

- **“Valuation”**: Then focus on how to maximize the value of the assets, taking into account their financing. How to create value on the LHS.

- How do we evaluate a corporate investment project, e.g.,
  - new plant and equipment
  - market entry

- How should we compare:
  - payoffs today vs. down the road?
  - projects with different risks?

- How do we value
  - an established company? a start-up?
  - a merger?
Our Approach

What we will do

- Acquire a set of general tools that are crucial to sound business decisions by:
  - Financial managers
  - General managers
- Apply and confront them to a number of real business cases.
  - Usefulness
  - Limitations

What we won’t do

- Pretend to be experts in any industry, financial or other.
- Discuss many institutional aspects in detail.
- Discuss in detail stuff you could learn just as well reading a book or an article (see “readings”).

Corporate Finance – Section A

- Lectures twice per week
- Texts:
  - Brealey & Myers, *Principles of Corporate Finance, 7th edition*,
  - Case and Readings Packet
- Professor: Dirk Jenter
Corporate Finance – Section B

- Lectures twice per week
- Texts:
  - Brealey & Myers, *Principles of Corporate Finance, 7th edition*,
  - Case and Readings Packet
- Professor: Katharina Lewellen

Course Requirements

- Class Participation (10%)
  - Come prepared to discuss cases
  - Quality more important than quantity (!)
  - Willingness to participate as important as participation
  - Introduce background readings into the discussion
- Case Memoranda (30%)
  - A professional memo to the decision maker
  - Teams of three or four people
  - Hand in all write-ups, except two of your choice
  - Careful: Some cases are required!
  - Two pages (plus exhibits)
- Midterm (30%)
- Final (30%)
Case Memoranda

• Memoranda should be
  → Clearly written and professional
  → Handed in for all of the cases except two of your choice
  → Two pages (not counting charts and tables), Double spaced
    – Font of 11 or 12
  → Teams of three or four students
    → Hand in one copy per team
    → You may not work with students not on your team
    → One & two person teams are discouraged
  → Wilson (I & II) count as one case
  → Wilson, MCI, Dixon, and Ameritrade are required
  → Make sure you turn in 10 memoranda!

The Big Picture:

Lectures (12)
• Text: Brealey and Myers + Higgins
• Notes on the web before class (+ in class)

Cases (12)
• 10 Case write ups: 1-2 page write-ups
• Notes on the web after class (+ in class)
• Class participation is critical

Grades, etc.
• Case write-ups 30%
• Midterm (in class) 30%
• Final (TBA) 30%
• Class participation 10%

Part I: FINANCING
• Feb 6/11 Case: Wilson Lumber
• Feb 13 Lecture: Capital Structure 1
• Feb 20 Lecture: Capital Structure 2
• Feb 25 Case: UST Inc.
• Feb 27 Case: Massey Ferguson
• Mar 4 Lecture: Capital Structure 3
• Mar 6 Case: MCI Communications
• Mar 11 Financing Review
• Mar 13 Case: Intel Corp., 1992

Part II: VALUATION
• Apr 1 Lecture: Free Cash Flows
• Apr 3 Case: Ameritrade
• Apr 8 Lecture: WACC and APV
• Apr 10 Case: Dixon
• Apr 15 Case: Diamond Chemicals
• Apr 17 Lecture: Real Options
• Apr 24 Case: MW Petroleum
• Apr 29 Lecture: Valuing a Company
• May 1 Case: Cooper Industries
• May 6 Case: Southland

Topics
• May 8 Hedging & Risk Management
• May 13 Corporate Governance
• May 15 Course Wrap-up
The Big Picture: Part I Financing

A. Identifying Funding Needs
   • Feb 6  Case: Wilson Lumber 1
   • Feb 11  Case: Wilson Lumber 2

B. Optimal Capital Structure: The Basics
   • Feb 13  Lecture: Capital Structure 1
   • Feb 20  Lecture: Capital Structure 2
   • Feb 25  Case: UST Inc.
   • Feb 27  Case: Massey Ferguson

C. Optimal Capital Structure: Information and Agency
   • Mar 4  Lecture: Capital Structure 3
   • Mar 6  Case: MCI Communications
   • Mar 11  Financing Review
   • Mar 13  Case: Intel Corporation

The Case of the Unidentified Industries
Industry Groups

- **Group 1:**
  - Advertising agency
  - Airline
  - Commercial bank
  - HMO
  - Electric and Gas Utility

- **Group 2:**
  - Department Store Chain
  - Retail Drug Chain
  - Retail Grocery Chain
  - Airline?
  - Meat Packer?

- **Group 3:**
  - Pharmaceutical Manufacturer
  - Software Developer?
### Group 1

#### Identified Industries in Group 1

- A Commercial Bank  
- B Advertising Agency  
- C Electric & Gas Utility  
- F Airline  
- H Health Maintenance Organization (H.M.O.)

#### Selected Financial Data

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
<th>Industry A</th>
<th>Industry B</th>
<th>Industry C</th>
<th>Industry F</th>
<th>Industry H</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Current assets/current liabilities</td>
<td>1.11</td>
<td>1.03</td>
<td>1.31</td>
<td>0.63</td>
<td>2.35</td>
</tr>
<tr>
<td>19</td>
<td>Inventory turnover</td>
<td>NA</td>
<td>NA</td>
<td>16.7</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>20</td>
<td>Receivables collection period</td>
<td>3.276</td>
<td>3.81</td>
<td>3.27</td>
<td>27</td>
<td>13</td>
</tr>
<tr>
<td>21</td>
<td>Long-term debt/current liabilities</td>
<td>0.69</td>
<td>0.1</td>
<td>0.29</td>
<td>0.44</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>Net sales/net profit</td>
<td>0.095</td>
<td>0.523</td>
<td>0.484</td>
<td>0.028</td>
<td>2.032</td>
</tr>
<tr>
<td>23</td>
<td>Total assets/net worth</td>
<td>14.1</td>
<td>3.84</td>
<td>2.31</td>
<td>0.77</td>
<td>1.02</td>
</tr>
<tr>
<td>24</td>
<td>Net profit/net worth</td>
<td>0.185</td>
<td>0.144</td>
<td>0.123</td>
<td>0.067</td>
<td>0.432</td>
</tr>
</tbody>
</table>

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Group 2

<table>
<thead>
<tr>
<th>Identified Industries in Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>D  Department Store</td>
</tr>
<tr>
<td>E  Retail Drug Chain</td>
</tr>
<tr>
<td>F  Airline</td>
</tr>
<tr>
<td>G  Retail Grocery Chain</td>
</tr>
<tr>
<td>I  Meat Packer</td>
</tr>
</tbody>
</table>

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### Group 3

<table>
<thead>
<tr>
<th>Line</th>
<th>Balance Sheet Percentages</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cash and marketable securities</td>
<td>67</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>Accounts receivable</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>Inventories</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Other current assets</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Plant and equipment (net)</td>
<td>17</td>
<td>48</td>
</tr>
<tr>
<td>6</td>
<td>Other assets</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Total assets</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Notes payable</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>Accounts payable</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Accrued taxes</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Other current liabilities</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>12</td>
<td>Long-term debt</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td>Preferred stock</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Other liabilities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>Capital stock and capital surplus</td>
<td>28</td>
<td>16</td>
</tr>
<tr>
<td>16</td>
<td>Total liabilities and stockholder equity</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>17</td>
<td>Total assets</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

#### Selected Financial Data

| 18   | Current assets/current liabilities | 4.72 | 2.31 |
| 19   | Cash, marketable securities and accounts receivable/current liabilities | 4.59 | 2.03 |
| 20   | Inventory turnover (X) | 7.5  | 2   |
| 21   | Receivables collection period | 37   | 74  |
| 22   | Total debt/total assets       | 0.22 | 0    |
| 23   | Long-term debt/capitalization | 0.18 | 0   |
| 24   | Net sales/total assets        | 0.643| 0.643|
| 25   | Net profit/net sales          | 0.247| 0.106|
| 26   | Net profit/total assets       | 0.214| 0.066|
| 27   | Total assets/net worth        | 1.21 | 1.61 |
| 28   | Net profit/net worth          | 0.258| 0.11 |

### The Identified Industries

- **A** Commercial Bank | Citicorp
- **B** Advertising Agency | Interpublic
- **C** Electric & Gas Utility | Consolidated Edison
- **D** Department Store Chain | Dayton-Hudson
- **E** Retail Drug Chain | Walgreen
- **F** Airline | AMR Corp.
- **G** Retail Grocery Chain | American Stores
- **H** H.M.O. | U.S. Healthcare
- **I** Meat Packers | IBP, Inc.
- **J** Software Developer | Microsoft
- **K** Pharmaceutical Manufacturer | Novo Nordisk
Any Comments?

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Leverage

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21

22
Wilson Lumber - Preliminaries

- *Pro Forma* statements are projections of the income statement and balance sheet.
- To project values, assumptions must be made. For example:
  - For Wilson, we make assumptions about Sales Growth and A/P
  - Often assume a historical average percent of sales (e.g., COGS are a fixed percent of sales)
  - Debt levels are sometimes assumed
    - (e.g., debt ratio stays constant or new money raised is from debt)
  - Assumptions are made about dividends and repurchases
  - Balance sheet must balance!
    → If there is extra money, it can go to cash, dividends or repurchases
    → If money is needed, assume the firm raises cash through debt or equity offerings (In Wilson, assume it is from the Bank)

Pro Forma Statements

- Use financial ratios to help inform projections
  → Look at trends through time to see if you should use an historical average or not
  → If something changes dramatically, look for cause.
- The next classes include material on using financial ratios. But the information on the next overhead should help you with Wilson.
**Ratio Analysis**

- Types of ratios (Look at the definition not the name)
  - Operational Ratios
    - Days of Inventory $= 365 \left( \frac{\text{Inv}}{\text{COGS}} \right)$
    - Collection Period $= 365 \left( \frac{\text{AR}}{\text{Sales}} \right)$
    - Payables Period $= 365 \left( \frac{(\text{AP} + \text{Trade Credit})}{\text{Purchases}} \right)$
  - Leverage Ratios
    - Liabilities/(Net Worth), Interest Coverage $= \frac{\text{EBIT}}{\text{Interest}}$
  - Profitability
    - Sales Growth $= \frac{\Delta \text{Sales}}{\text{Sales (Last Period)}}$
    - Gross Profit Margin $= \frac{\text{Sales} - \text{COGS}}{\text{Sales}}$
    - Net Profit Margin $= \frac{\text{EBIT} - \text{Tax}}{\text{Sales}}$
    - ROA, ROE, COGS/Sales

**Next Time**

- Wilson Case is due at the beginning of class
- We will discuss Wilson in the next two classes
- Read
  - BM Chapter 29
  - Optional resource: Chapters 2-3 of Higgins