Chapter 15
Accounting & Financial Analysis

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MGG 150: Introduction to Business
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Chapter Outline

• How Firms Use Accounting
• Responsible Financial Reporting
• Interpreting Financial Statements
• Ratio Analysis

How Firms Use Accounting

Marketing decisions such as pricing and the amount of promotion necessary

Finance decisions such as the amount of debt financing versus equity financing that is appropriate

Management decisions such as how much to produce and how many employees to hire

Accounting

Earnings of Firm

Value of Firm

Summary and Analysis of a Firm’s Financial Condition
How Firms Use Accounting

Information for **External** Users:

- Investors (Shareholders) & Potential Investors
- Creditors—Banks
- Government Regulatory Agencies—SEC
- Taxing Authorities—IRS

How Firms Use Accounting

Information for **Internal** Users (management):

- Prepare Budgets & Projections
- Evaluate Efficiency of Departments/Divisions
- Expansion Decisions
- Product-line Decisions
- Bonus Decisions

Responsible Financial Reporting

Audit: a formal evaluation of the records used to prepare a firm’s financial statements

- **Internal Auditors** employees who analyze and evaluate the company
- **External Auditors** public accountants who work for an independent accounting firm
**Responsible Financial Reporting**

- The Role of the Board of Directors
- The Role of the Sarbanes-Oxley Act
  - The CFO and other managers of the firm must file an internal control report along with each annual report
  - The CEO and CFO must certify that the audited statements fairly represent the operations and financial conditions of the firm
  - Major fines or prison terms are imposed on employees who mislead investors or hide evidence

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**Interpreting Financial Statements**

- **Income Statement**
  - Indicates the revenue, costs, and earnings of a firm over a period of time

- **Balance Sheet**
  - Reports the book value of assets, liabilities, and owner’s equity of a firm at a given point in time

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**Interpreting Financial Statements**

- **Income Statement**
  - Net sales: total sales adjusted for any discounts or refunds
  - Cost of goods sold: the cost of materials used to produce the goods that were sold (or cost of goods purchased in a finished state)
  - Gross profit (or gross margin): net sales minus the cost of goods sold
  - Operating expenses: composed of selling expenses and general and administrative expenses
Interpreting Financial Statements

- Income Statement cont’d
  
  - Earnings before interest and taxes (EBIT): gross profit minus operating expenses
  - Earnings before taxes: earnings before interest and taxes minus interest expenses
  - Net income (earnings after taxes): earnings before taxes minus taxes

### Tootsie Roll Industries, Inc. Financial Statements 2012

#### Tootsie Roll Industries, Inc. Income Statements (in 000's)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales revenue</td>
<td>$549,870</td>
<td>$532,505</td>
</tr>
<tr>
<td>Costs of goods sold</td>
<td>366,549</td>
<td>366,263</td>
</tr>
<tr>
<td>Gross profit</td>
<td>$183,321</td>
<td>$166,242</td>
</tr>
<tr>
<td>Selling, gen’l &amp; admin expenses</td>
<td>113,842</td>
<td>108,155</td>
</tr>
<tr>
<td>Other operating (income)/expenses</td>
<td>(4,822)</td>
<td>(2,946)</td>
</tr>
<tr>
<td>Total operating expenses</td>
<td>$109,020</td>
<td>$105,209</td>
</tr>
<tr>
<td>Earnings before interest &amp; income taxes</td>
<td>$74,301</td>
<td>$61,033</td>
</tr>
<tr>
<td>Interest expense</td>
<td>137</td>
<td>121</td>
</tr>
<tr>
<td>Earnings before income taxes</td>
<td>$74,164</td>
<td>$60,912</td>
</tr>
<tr>
<td>Income taxes (&lt;30%)</td>
<td>22,160</td>
<td>16,974</td>
</tr>
<tr>
<td>Net income</td>
<td>$52,004</td>
<td>$43,938</td>
</tr>
</tbody>
</table>
### Interpreting Financial Statements

- **Balance Sheet**
  
  **Basic accounting equation:**
  \[
  \text{Assets} = \text{Liabilities} + \text{Owners' Equity (ALOE)}
  \]

  - **Asset:** anything owned by a firm.
  - **Liability:** anything owed by a firm.
  - **Owners’ Equity:** what’s left for the owners

### Interpreting Financial Statements

- **Balance Sheet cont’d**

  - **Current assets:** assets that will be converted into cash within one year
  - **Fixed assets:** assets that will be used by a firm for more than one year
  - **Depreciation:** a reduction in the value of fixed assets to reflect deterioration in the assets over time

### Interpreting Financial Statements

- **Balance Sheet cont’d**

  - **Accounts payable:** money owed by a firm for the purchase of materials
  - **Notes payable:** short-term loans to a firm made by creditors such as banks
  - **Owners’ equity:** includes the par (or stated) value of all common stock issued, additional paid-in capital, and retained earnings
Tootsie Roll Industries, Inc. Balance Sheets (in 000’s)

<table>
<thead>
<tr>
<th>Assets</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash &amp; cash equivalents</td>
<td>$63,862</td>
<td>$78,612</td>
</tr>
<tr>
<td>Marketable securities (Investments)</td>
<td>18,746</td>
<td>18,895</td>
</tr>
<tr>
<td>Accounts receivable &amp; other receivables</td>
<td>47,646</td>
<td>45,286</td>
</tr>
<tr>
<td>Inventories</td>
<td>61,985</td>
<td>73,760</td>
</tr>
<tr>
<td>Other current assets</td>
<td>4,614</td>
<td>4,648</td>
</tr>
<tr>
<td>Total current assets</td>
<td>$207,242</td>
<td>$212,201</td>
</tr>
<tr>
<td>Fixed assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>$21,687</td>
<td>$21,939</td>
</tr>
<tr>
<td>Buildings, machinery &amp; equipment</td>
<td>442,040</td>
<td>433,158</td>
</tr>
<tr>
<td>Less accumulated depreciation</td>
<td>262,427</td>
<td>242,935</td>
</tr>
<tr>
<td>Net fixed assets</td>
<td>$189,213</td>
<td>$190,223</td>
</tr>
<tr>
<td>Other assets</td>
<td>448,206</td>
<td>433,493</td>
</tr>
<tr>
<td>Total assets</td>
<td>$846,737</td>
<td>$857,856</td>
</tr>
</tbody>
</table>

| Liabilities & Owner's Equity   |       |       |
| Current liabilities            |       |       |
| Accounts payable               | $8,942 | $10,683 |
| Dividends, notes, & taxes payable | 41,822 | 48,246 |
| Total current liabilities      | $50,765 | $59,929 |
| Long-term debts                |       |       |
| Common stockholder’s equity    | 334,117 | 332,982 |
| Retained earnings              | $596,012 | $573,639 |
| Total owner’s equity           | $649,815 | $665,935 |
| Total liabilities and owner’s equity | $846,737 | $857,856 |

Ratio Analysis

An evaluation of the relationships between financial statement variables.

- **Liquidity**
- **Efficiency**
- **Profitability**
- **Leverage**

**Liquidity Ratios**

*Measures a firm’s ability to meet its short-term obligations*

- **Current ratio**
  
  measures the amount of current assets the company has to satisfy each $ of current liability

- **Acid-Test ratio or Quick ratio**

  \[
  \text{Cash + Marketable Securities + Accounts Receivable} \div \text{Current Liabilities}
  \]
Efficiency Ratios

*Measures how well the firm is managing its assets*

- **Inventory Turnover ratio**
  - Measures the speed of converting inventory into sales
  
  \[
  \text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}
  \]

- **Asset Turnover ratio**
  - Measures the amount of sales generated by every $ invested in assets
  
  \[
  \text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}
  \]

Profitability Ratios

*Measures a firm’s ability to generate revenue in excess of expenses*

- **Return on Assets**
  - Measures the amount of net income generated by every $ invested in assets
  
  \[
  \text{Return on Assets} = \frac{\text{Net Income}}{\text{Average Total Assets}}
  \]

- **Return on Sales (Net Profit Margin)**
  - Measures how much profit was earned for each sales $
  
  \[
  \text{Return on Sales} = \frac{\text{Net Income}}{\text{Net Sales}}
  \]

- **Return on Equity**
  - Measures how much profit was earned for each $ invested by owners
  
  \[
  \text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Owners’ Equity}}
  \]
Financial Leverage Ratio

*An important indicator of a firm’s financial strength*

- **Debt-to-Equity**
  
  measures the degree to which a firm relies on borrowed funds vs. from owners

\[
\text{Total Liabilities} \quad \text{Total Owners' Equity}
\]

Ratio Analysis

- Compare ratios with prior periods, competitors, and industry averages
- Limitations of Ratio Analysis
  - Comparing some firms with an industry average can be difficult because the firms operate in more than one industry
  - Accounting practices vary among firms
  - Firms with seasonal swings in sales may show large deviations from the norm at certain times but not at others