Financials

Lecture 7
Financial statements

Balance sheet
Beginning

Income statement (P/L)

Cash Flow statement

Changes in Shareholder Equities

Balance sheet
Ending
Income Statement: Accrual Method

• Store up expenses until sold
• “Match” revenues w/expenses
• Expenses (Timing of)

Past
• Accrued
  - Wages
• Inventory

Current

Future
• Prepaid Ins.
• Property
• Inventory
Expenditures in 1/1/03 – 31/12/03

Assets as of 1/1/03

Direct Association

Yes → Expense of 03 (COGS)

No → Association w/ period

Yes → Expense of 03 (Insurance)

No → Benefit for future

No → Expense of 03 (Obsolete)

Yes → Expenses as of 31/12/03

“Matching”
# King's Shoe Store, Inc.
## Income Statement for the Year Ending December 31, 2000

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
</tr>
<tr>
<td>Sales Revenue</td>
<td>625,000</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>625,000</td>
</tr>
<tr>
<td><strong>Expenses:</strong></td>
<td></td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>90,000</td>
</tr>
<tr>
<td>Salary Expense</td>
<td>110,000</td>
</tr>
<tr>
<td>Insurance Expense</td>
<td>500</td>
</tr>
<tr>
<td>Depreciation Expense</td>
<td>30,000</td>
</tr>
<tr>
<td><strong>Total Expense</strong></td>
<td>230,500</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>394,500</td>
</tr>
<tr>
<td>Less Income taxes (35%)</td>
<td>(138,075)</td>
</tr>
<tr>
<td><strong>Net Income</strong></td>
<td>256,425</td>
</tr>
</tbody>
</table>
Relationship of Financial Statements

\[
B/S \quad t = t_1 \\
\quad \text{RE}_1
\]

\[
P/L \quad \Delta t = t_2 - t_1 \\
\quad \text{P}^* \quad \text{RE}_2
\]

\[
\text{RE}_1 \ ($143K) + \text{P}^* \ ($256K) = \text{RE}_2 \ ($399K)
\]
# Balance Sheet

King's Shoe Store, Inc.

**Comparative Balance Sheet**

As of December 31, 1999 and 2000

<table>
<thead>
<tr>
<th>Assets</th>
<th>December 31, 2000</th>
<th>December 31, 1999</th>
<th>Liabilities and Shareholders' Equity</th>
<th>December 31, 2000</th>
<th>December 31, 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets:</strong></td>
<td></td>
<td></td>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>438,500</td>
<td>30,000</td>
<td>Account Payable</td>
<td>90,000</td>
<td>135,000</td>
</tr>
<tr>
<td>Account Receivable</td>
<td>138,000</td>
<td>63,000</td>
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<td>138,075</td>
<td>-</td>
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<tr>
<td>Raw Materials Inventory</td>
<td>15,000</td>
<td>10,000</td>
<td>Total Current Liabilities</td>
<td>228,075</td>
<td>135,000</td>
</tr>
<tr>
<td>Work-in-Process Inventory</td>
<td>20,000</td>
<td>10,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merchandise Inventory</td>
<td>95,000</td>
<td>175,000</td>
<td>Bonds Payable</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Prepaid Insurance</td>
<td>1,000</td>
<td>-</td>
<td>Total Liabilities</td>
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<td>235,000</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>707,500</td>
<td>288,000</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Property, Plant, and Equipment</strong></td>
<td></td>
<td></td>
<td><strong>Shareholders' Equity</strong></td>
<td></td>
<td></td>
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<td>Land</td>
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<td></td>
<td>1,227,500</td>
<td>828,000</td>
</tr>
</tbody>
</table>
Cash Flow

- Market value is equal to the present value of expected future cash flows
- More difficult to manipulate than earnings
- Cash needs
  - Investors
  - Suppliers, employees, etc.
  - Debtholders
Relationship of Financial Statements

\[ \text{Cash}_1 + \Delta \text{Cash} = \text{Cash}_2 \]

B/S \( t = t_1 \)

Cash Flow \( \Delta t = t_2 - t_1 \)

B/S \( t = t_2 \)
Sources and Uses of Cash

- Operating activities
- Investment activities
- Financing activities
Operating Cash Flow

• Excludes all cash flows related to capital structures
• Excludes one-time events
• Indicative of strategic value
Investing Cash Flow

- Acquisition or disposition of non-current assets
- Investing cash flows related to ongoing operations are used as a measure of the strategic value
Financing Cash Flow

- Debt-related transactions
- Equity-related transactions
- Acquisition or sale of a business unit
Cash Flow Statement

- Movement of cash into and out of a company
- Revenues converted to C/F
- Expenses converted to C/F
- Other sources (investing/financing) of cash
- Other uses (investing/financing) of cash
Cash Flow

A/R

Collect Cash

- if increase, ‘–’
- if decrease, ‘+’

Initial

A/P

Add

- if increase, ‘+’
- if decrease, ‘–’

Pay Cash
Cash Flow Calculation

B/S1

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>100</td>
<td>A/P</td>
</tr>
<tr>
<td>A/R</td>
<td>100</td>
<td>Loan</td>
</tr>
<tr>
<td>Inv.</td>
<td>50</td>
<td>R.E</td>
</tr>
<tr>
<td>Equip.</td>
<td>0</td>
<td></td>
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</tbody>
</table>

Business

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Sold on credit</td>
</tr>
<tr>
<td>20</td>
<td>COGS</td>
</tr>
<tr>
<td>20</td>
<td>Cash expenses</td>
</tr>
<tr>
<td>90</td>
<td>Loan</td>
</tr>
<tr>
<td>40</td>
<td>Equipment purchase</td>
</tr>
</tbody>
</table>

P/L

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Revenue</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>COGS</td>
<td>(20)</td>
<td></td>
</tr>
<tr>
<td>Expenses</td>
<td>(20)</td>
<td></td>
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<td>Profit</td>
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Cash Flow

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30
Statement of Cash Flows

Cash Flow form Operating Activities:

Net Income 256,425

Noncash adjustments

Depreciation 30,000
Increase in accounts receivable (75,000)
Increase in Raw Materials Inventory (5,000)
Increase in Work-in-Process Inventory (10,000)
Decrease in Inventory 80,000
Increase in prepaid expenses (1,000)
Decrease in accounts payable (45,000)
Increase in tax payable 138,075

Net cash increase from operating activities 368,500

Cash Flow from Investing Activities:

Purchase of Building and Equipment (10,000)

Net cash increase from investing activities (10,000)

Cash Flow from Financing Activities:

Issuance of Common Stocks 50,000

Net cash increase from financing activities 50,000

Increase in Cash during 2000 408,500

Beginning Cash Balance 30,000

Ending Cash balance 438,500
Relationship of Financial Statements

\[ \begin{align*}
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\text{B/S} & \quad t = t_2 \\
\text{Cash Flow} & \quad \Delta t = t_2 - t_1 \\
\text{Cash Flow} & \quad \Delta\text{Cash} \\
\text{B/S} & \quad t = t_2
\end{align*} \]

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\[ $30,000 + $408,500 = $438,500 \]
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Financial Ratios

1. Profitability
   - ROA
   - ROE
   - Profit Margin

2. Activity
   - Asset Turnover
   - Days Receivable
   - Inventory Turnover

3. Leverage
   - Current ratio
   - Debt-to-Equity

Example: Compound

\[ \text{ROE} = \frac{\text{Income}}{\text{Equity}} \equiv \frac{\text{Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}} \]
## Financial Ratios

### Profitability Ratios

- **Return on Assets (ROA)**
  \[ \text{ROA} = \left( \frac{\text{Net Income}}{\text{Total Assets}} \right) \times 100 \]
  - Value: 20%

- **Return on Equity (ROE)**
  \[ \text{ROE} = \left( \frac{\text{Net Income}}{\text{Shareholders' Equity}} \right) \times 100 \]
  - Value: 30%

- **Profit Margin**
  \[ \text{Profit Margin} = \left( \frac{\text{Net Income}}{\text{Sales Revenue}} \right) \times 100 \]
  - Value: 40%

### Activity Ratios

- **Asset Turnover**
  \[ \text{Asset Turnover} = \frac{\text{Sales Revenue}}{\left( \frac{\text{Beginning Assets} + \text{Ending Assets}}{2} \right)} \]
  - Value: 0.6

- **Days of Receivables**
  \[ \text{Days of Receivables} = \left( \frac{\text{Receivables}}{\text{Sales Revenue}} \right) \times \text{Days in Period} \]
  - Value: 80

- **Inventory Turnover**
  \[ \text{Inventory Turnover} = \frac{\text{Cost of Good Sold}}{\left( \frac{\text{Beginning Inventory} + \text{Ending Inventory}}{2} \right)} \]
  - Value: 0.7

### Leverage Ratios

- **Current Ratio**
  \[ \text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \]
  - Value: 3

- **Debt-to-Equity Ratio**
  \[ \text{Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders' Equity}} \]
  - Value: 0.4
The Long Views

Performance vs. Time

T