## Financials

## Lecture 7

## Financial statements



## Business Financial Flow



## Income Statement: Accrual Method

- Store up expenses until sold
- "Match" revenues w/expenses
- Expenses (Timing of)



## Expenditures in 1/1/03-31/12/03



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


## Relationship of Financial Statements

$B / S$
$t=t_{1}$

$P / L$
$\Delta t=t_{2}-t_{1}$

$R E_{1}(\$ 143 K)+P^{*}(\$ 256 K)=R E_{2}(\$ 399 K)$

## Balance Sheet

King's Shoe Store, Inc.

## Comparative Balance Sheet

As of December 31, 1999 and 2000

| Assets |  |  | Liabilities and Shareholders' Equity |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { December 31, } \\ 2000 \end{gathered}$ | $\begin{gathered} \text { December 31, } \\ 1999 \end{gathered}$ |  | $\begin{gathered} \text { December 31, } \\ 2000 \end{gathered}$ | $\begin{gathered} \text { December 31, } \\ 1999 \end{gathered}$ |
| Current Assets: |  |  | Current Liabilities |  |  |
| Cash | 438,500 | 30,000 | Account Payable | 90,000 | 135,000 |
| Account Receivable | 138,000 | 63,000 | Income Tax Pay able | 138,075 | - |
| Raw Materials Inv entory | 15,000 | 10,000 | Total Current Liabilities | 228,075 | 135,000 |
| Work-in-Process Inv entory | 20,000 | 10,000 | Long-Term Debt |  |  |
| Merchandise Inv entory | 95,000 | 175,000 | Bonds Payable | 100,000 | 100,000 |
| Prepaid Insurance | 1,000 | - | Total Liabilities | 328,075 | 235,000 |
| Total Current Assets | 707,500 | 288,000 |  |  |  |
| Property, Plant, and Equipment |  |  |  |  |  |
| Land | 100,000 | 100,000 | Shareholders' Equity |  |  |
| Building and Equipment (at acquisition cost) | 535,000 | 525,000 | Common Stock (at par value) | 300,000 | 250,000 |
| Less: Accumulated Depreciation | $(115,000)$ | $(85,000)$ | Additional Paid-in Capital | 200,000 | 200,000 |
| Building and Equipment (net) | 420,000 | 440,000 | Retained Earnings | 399,425 | 143,000 |
| Total Property, Plant, and Equipment | 520,000 | 540,000 | Total Shareholders' Equity | 899,425 | 593,000 |
| Total Assets | 1,227,500 | 828,000 | Total Liabilities and Shareholders' Equity | 1,227,500 | 828,000 |

## 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

$B / S$
$t=t_{1}$


B/S
$t=t_{2}$
$\mathrm{Cash}_{2}$

Cash $_{1}+\Delta$ Cash $=$ Cash $_{2}$

# 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 noncurrent 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 <br> A/P


if increase, ' - '
if decrease, ‘+’
if increase, ' + '
if decrease, '-’

## Cash Flow Calculation



## 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 case 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

B/S
$t=t_{1}$


B/S

$$
t=t_{2}
$$

$\mathrm{Cash}_{2}$

$$
\begin{array}{cc}
\text { Cash }_{1}+\Delta \text { Cash } & =\text { Cash }_{2} \\
\$ 30,000+\$ 408,500 & =\$ 438,500
\end{array}
$$

## Balance Sheet

King's Shoe Store, Inc.

## Comparative Balance Sheet

As of December 31, 1999 and 2000

| Assets |  |  | Liabilities and Shareholders' Equity |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { December 31, } \\ 2000 \end{gathered}$ | $\begin{gathered} \text { December 31, } \\ 1999 \end{gathered}$ |  | $\begin{gathered} \text { December 31, } \\ 2000 \end{gathered}$ | $\begin{gathered} \text { December 31, } \\ 1999 \end{gathered}$ |
| Current Assets: |  |  | Current Liabilities |  |  |
| Cash | 438,500 | 30,000 | Account Pay able | 90,000 | 135,000 |
| Account Receivable | 138,000 | 63,000 | Income Tax Pay able | 138,075 | - |
| Raw Materials Inv entory | 15,000 | 10,000 | Total Current Liabilities | 228,075 | 135,000 |
| Work-in-Process Inv entory | 20,000 | 10,000 | Long-Term Debt |  |  |
| Merchandise Inventory | 95,000 | 175,000 | Bonds Pay able | 100,000 | 100,000 |
| Prepaid Insurance | 1,000 | - | Total Liabilities | 328,075 | 235,000 |
| Total Current Assets | 707,500 | 288,000 |  |  |  |
| Property, Plant, and Equipment |  |  |  |  |  |
| Land | 100,000 | 100,000 | Shareholders' Equity |  |  |
| Building and Equipment (at acquisition cost) | 535,000 | 525,000 | Common Stock (at par value) | 300,000 | 250,000 |
| Less: Accumulated Depreciation | $(115,000)$ | $(85,000)$ | Additional Paid-in Capital | 200,000 | 200,000 |
| Building and Equipment (net) | 420,000 | 440,000 | Retained Earnings | 399,425 | 143,000 |
| Total Property, Plant, and Equipment | 520,000 | 540,000 | Total Shareholders' Equity | 899,425 | 593,000 |
| Total Assets | 1,227,500 | 828,000 | Total Liabilities and Shareholders' Equity | 1,227,500 | 828,000 |

## Financial Ratios

1. Profitability
2. Activity
3. Leverage

- ROA
- ROE
- Profit Margin
- Asset Turnover
- Days Receivable
- Inventory Turnover
- 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

Activity Ratios
Asset Turnover
Days of Receivables
Inventory Turnover

Leverage Ratios
Current Ratio
Debt-to-Equity Ratio


## The Long Views



MIT OpenCourseWare
http://ocw.mit.edu
2.96 / 2.961 / 6.930 / 10.806 / 16.653 Management in Engineering

Fall 2012

For information about citing these materials or our Terms of Use, visit: http://ocw.mit.edu/terms.

