

N A C M Education

Understanding and Interpreting Operating Results  
NACM Midwest  
Credit Conference 2009

By  
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“Old Proverb”

*Tell me, I'll forget.  
Show me, I may remember.  
Involve me, I'll understand.*

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Where are we going?

<ul style="list-style-type: none"> <li>• <b>Operating Statement</b> <ul style="list-style-type: none"> <li>- Return on Equity</li> <li>- Return on Assets</li> <li>- Revenues</li> <li>- Margins</li> <li>- Costs</li> </ul> </li> <li>• <b>Tools</b> <ul style="list-style-type: none"> <li>- Ratios</li> <li>- Common Size</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Balance Sheet</b> <ul style="list-style-type: none"> <li>- Investments (assets) <ul style="list-style-type: none"> <li>• Short-term</li> <li>• Long-term</li> </ul> </li> <li>- Financing <ul style="list-style-type: none"> <li>• Debt: short and long-term</li> <li>• Equity</li> </ul> </li> </ul> </li> <li>• <b>Tools</b> <ul style="list-style-type: none"> <li>- Ratios</li> <li>- Common Size</li> </ul> </li> </ul>
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## Income (Operating) Statement Interpretation

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## Understanding the Operating Statement

- Show how net income is derived
- Calculate earnings per share
- Reconcile changes in retained earnings
- Discuss the statement of shareholders' equity
- Examine income differences between the cost and equity methods for investments.

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## Operating Statement

- Represents *estimates* for revenues and costs using accrual accounting
  - Accrual and cash accounting differ
  - Net income not equal to cash profits
- Income statement usually presented for a month, a quarter, or a year
- No common format is required for presentation purposes
  - Multiple step versus. single step.

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**Disclosure of Items**

	<i>Yr. 1</i>	<i>Yr. 2</i>	<i>Yr. 3</i>
Net sales			
- <u>Cost of goods sold</u>			
<b>Gross profit</b>			
- Selling & administrative			
- Depreciation & amortization			
- <u>Other operating expenses</u>			
<b>Operating profit</b>			
- <u>Income taxes</u>			
<b>Net earnings</b>			

*This is an example of a multiple-step income statement.*

*The SEC requires three years of data to be shown.*

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**Items Requiring Separate Disclosure**

- **Discontinued operations**
  - Gains/losses resulting from sale of a major portion of the business
- **Extraordinary transactions**
  - Gains/losses from items meeting two criteria:
    - Unusual in nature
    - Not expected to recur in the foreseeable future
- **Cumulative effect of accounting changes**
  - Gains/losses from adopting a different accounting principle
- Each item is shown after operating income.

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**Net Sales**

**Net sales = Gross sales - sales returns and allowances**

- **Gross sales**
  - Invoice amount: *Price x quantity*
- **Sales returns**
  - Cancellation of sale or portion thereof
- **Sales allowances**
  - Deduction from invoice amount
    - Cash discount; quantity discount.

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**Cost of Goods Sold**

**CGS = Beginning inventory + purchases - ending inventory**

- Represents the cost of the item
  - Prior to the sale, the item was called *inventory*
  - Once sold, it is called an *expense*
- Cost consists of material, labor, and overhead
- Cost affected by the flow assumption
  - LIFO versus FIFO versus Average cost
  - LIFO: Higher costs in inflationary periods
- Cost of goods sold-to-sales ratio varies by industry.

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**Gross Profit**

**Gross profit = Net sales - cost of goods sold**

- Represents *profit available to cover expenses after deducting the cost of the product*

**Gross profit / sales = Gross profit margin**

- Management watches this figure closely
- As it declines, management may:
  - Increase selling prices
  - Substitute materials (e.g., plastics for steel)
  - Use more equipment and fewer employees.

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**Operating Expenses**

- Management has much discretion in what it discloses as operating expenses
- Many expenses simply aggregated into *General, Selling, and Administrative* expenses:
  - Salaries
  - Depreciation
  - Advertising
  - Property taxes
  - Operating lease expenses...

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**Operating Leases  
Versus Capital Leases**

- **Operating lease**
  - Conventional rental agreement
  - No transfer of ownership
  - Rental expense appears on income statement
- **Capital lease**
  - Like a purchase of the asset with borrowed funds
  - Must treat as capital lease if at the time of signing the lease:
    - Transfer of ownership is to occur
    - Bargain purchase price exists
    - Lease term  $\geq 75\%$  of economic life of asset
    - Present value of payments  $\geq 90\%$  of initial cost of asset.

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**Depreciation**

- Represents a *non-cash* charge to allocate a portion of an asset to the income statement as an expense
- **Depreciation**
  - Allocates cost of tangible assets
  - Land is not depreciated
  - Annual report: Straight-line depreciation
  - Tax return: Accelerated depreciation
- On average, a firm should reinvest in new equipment at least equal to the depreciation charge
  - Helps firm maintain a competitive position.

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**Operating Profit**

**Operating profit = Net sales - operating expenses**

- Frequently called *EBIT*
  - Earnings before interest and taxes
- **Operating profit margin percent = Operating profit/net sales**
  - Measures profitability before financing and taxes.

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**Other Income & Expenses**

- Revenue and costs not considered part of operations
  - Examples:
    - Dividend and interest income
    - Gains/losses from investments
    - Gains/losses from sale of assets
    - Interest expense
- Interest expense often the largest expense in this category
- Must assess the materiality of these items
  - Hopefully, they are minor.

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**Net Earnings (\$): NPM (%)**

Earnings before taxes = Operating profit + other income - other expenses

Net earnings = Earnings before taxes - income taxes

- Income taxes
  - Expense determined from accounting books
  - Amount payable determined from tax books
    - *Deferred taxes* arise because of differences between the accounting and tax books

**Net profit margin = Net earnings / net sales.**

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**Statement of Retained Earnings**

Beginning retained earnings  
 + Net earnings  
 - Cash dividends  
 = Ending retained earnings

- Other items that affect retained earnings:
  - Stock dividends and stock splits can affect retained earnings
  - Prior period adjustments (corrections)
  - Some accounting principle changes.

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Involvement Time



Operating Results Inc.

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Balance Sheet (Financial Condition) Statement Interpretation

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Balance Sheet-Financial Condition	
Investments	Financing
Short-term	Short-term
Long-term	Long-term <b>Debt</b>
	<b>Equity</b>

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## Understanding the Balance Sheet

- Obtain a fundamental understanding of accounts in the balance sheet
- Understand the relationship of each account to the financial statements
- Be able to analyze and interpret balance sheet information.

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## The Balance Sheet: An Overview

- Accounting equation
  - ◆ Assets = Liabilities + stockholders' equity
  - ◆ Measured at a point in time
- Assets:
  - ◆ What the firm owns
- Liabilities:
  - ◆ What the firm owes to creditors
- Equity:
  - ◆ What the firm owes to internal owners (shareholders).

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## Balance Sheet

- |                     |   |
|---------------------|---|
| Company name & date | • Statement is at a point in time       |
| Assets:             |   |
| Current             | • Assets that turnover quickly          |
| Fixed               | • Long-term investments                 |
| Other               | • Usually intangibles                   |
| Liabilities:        |   |
| Current             | • Obligations due within one year       |
| Long-term           | • Obligations due beyond one year       |
| Equity:             |   |
| Common stock        | • Par value of outstanding stock        |
| Paid-in capital     | • Amount in excess of par value         |
| Retained earnings   | • Usually, profits less dividends paid. |

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## Comparative Data

- SEC requires 2 years of audited balance sheets in the annual report
- Why?  
It allows comparisons
- Note:  
Balance sheets fail to disclose what the financial condition was on other than the balance sheet date
  - What did it look like the day before?
  - What did it look like the day after?

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## Better Credit Decisions

- Develop tools and techniques for interpreting financial statements
- Focus is on understanding a firm's:  
Liquidity  
Activity or efficiency  
Financial leverage  
Profitability
- Accomplish using common size statements and financial ratios.

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## Key Financial Ratios: Professional Designation Ratios

- Activity ratios
  - ❖ Measure the liquidity of specific assets and the efficiency of managing assets
- Liquidity ratios
  - ❖ Measure short-term solvency
- Leverage ratios
  - ❖ Measure how the firm is financed and its ability to cover interest and other fixed charges
- Profitability ratios
  - ❖ Measure overall performance.

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### What is the Objective?

- Analysis of short-term liquidity?
- Analysis of profitability?
- Analysis of the extension of a line of credit?
- Analysis of the ability of a company to supply product?
- Analysis of a merger candidate?
- Analysis of a stock to invest in?
- etc...

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### Summary of Analysis

- Strengths versus weaknesses
- Search through the analysis for clues about:
  - Ability to compete in the industry
  - Efficiency
  - Liquidity
  - Profitability
  - Use of debt

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### Involvement Time



### Operating Results Inc.

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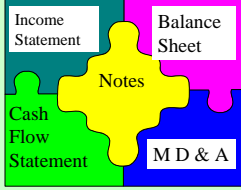
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**Financial Analysis**

**Separating a thing (financial statements) into parts:**



The diagram consists of five interlocking puzzle pieces arranged in a circle. Starting from the top and moving clockwise, the pieces are: a teal piece labeled 'Income Statement', a pink piece labeled 'Balance Sheet', a yellow piece labeled 'Notes', a blue piece labeled 'M D & A', and a green piece labeled 'Cash Flow Statement'.

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**Analysis and Interpretation**

- The common size balance sheet and income statement
- Operating performance and efficiency
- Short-term solvency
- Long-term solvency and capital structure
- The cash flow statement
- The trade cycle and cash conversion cycle
- Key financial ratios
- Strengths and weaknesses

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**The Methodology of Credit Risk Analysis**

- Where do I begin?
- What financial information to write about?
- Is there a writing format preferred?
- Easy-to-use technique
- Convenient decision-making tool
- Promotes efficient, consistent and intelligent credit line recommendations
- Utilizing Return on Equity performance

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## High Impact Analysis

# Return on Equity

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$$\frac{\text{NI}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

One cannot measure something that one doesn't understand and one cannot understand something unless one can measure it!

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## ROE

Net Income  
Equity

Tool

$$\text{NPM} \times \text{TAT} \times \text{Leverage}$$

ROA(ROI)

$$\frac{\text{NI}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

Margins  $\times$  Turnover  $\times$  Leverage

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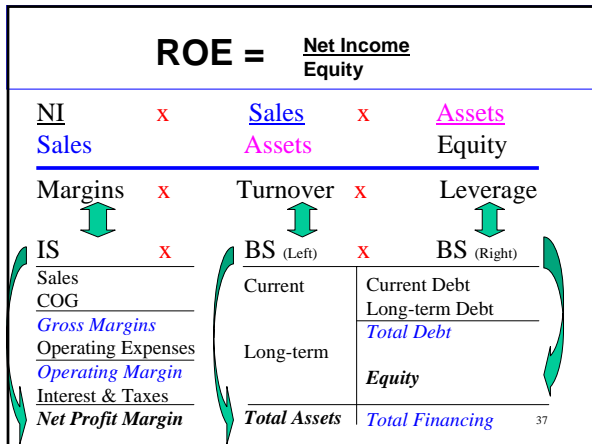
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**ROE / Five Step Process**

- Margins
- Turnover
- Leverage
- Cash
- Recommendation

"Analysis of steps 1 through 4"

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**Margins (Income Statement)**

**Operations**

- Sales growth
- Return on equity (ROE)
- Return on Investment (ROI)
- Gross profit margin
  - Sales and Cost of goods sold
- Operating profit margin
  - Operating expenses
- Net profit margin



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## Profitability (continued)

- Interest and tax expense
- Cash flow margin
- Market value ratios:
  - Earnings per common share
  - Price-to-earnings
  - Dividend pay-out
  - Dividend yield
  - Quarterly stock prices

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## Turnover (Balance Sheet)

### Asset Management

- Accounts receivable in days
- Inventory in days
- Accounts payable in days
- Total asset turnover



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## Asset Management (continued)

- Fixed asset turnover
- Operating cycle AKA net trade cycle

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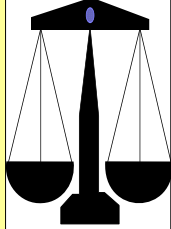
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## Leverage (Balance Sheet)

### Financing

- Debt ratio
- Long-term debt to total capital
- Debt to equity
- Times interest earned
- Fixed charge coverage ratio



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## Leverage (continued)

- Debt to assets
- Short-term debt
- Long-term debt
- Financial leverage indicator
- Bonds:
  - Types
  - Ratings

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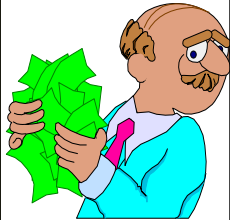
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## Cash

- Current ratio
- Quick or acid test ratio
- Cash flow from operations
- Cash flow liquidity ratio
- Working capital
- Cash conversion cycle



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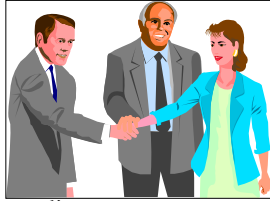
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## Recommendation

- Support the decision with your analysis of:

- Operations
- Asset management
- Leverage
- Cash
- Yes or no and what credit arrangements



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