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Lecture 4: Financial Statement Analysis – Part 1

Ratio, Trend, Common-Size, and Industry Comparison Analyses

Presentation to Cox Business Students

FINA 3320: Financial Management

Purpose of This Lecture

- **Develop tools to analyze financial statements using**
  - (1) Ratio and Trend Analyses
    - Become familiar with constructing and interpreting ratios
    - Learn to interpret and analyze trends in ratios
  - (2) Comparative Analyses
    - **Common-Size Analysis**: comparison of one company to another
    - **Industry Comparison Analysis**: comparison of one company to the industry average

The Example: Cox Oil Company, Inc.

- We will employ the Cox Oil Company, Inc. example throughout
- Cox example will illustrate basic financial analysis techniques and procedures
  - True test of understanding is ability to apply concepts
  - Cox example provides application of each financial analysis
    - Makes is easier to 'reverse engineer'

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Ratio and Trend Analysis

Ratio Analysis
Trend Analysis
Du Pont Analysis

Ratio and Trend Analysis

- **For each ratio, we will discuss four items**
  - (1) How the ratio is calculated
  - (2) An interpretation of the ratio
  - (3) Calculation of ratios for Cox Oil Company, Inc.
    - Calculate Cox's ratios for 2007 and 2006
  - (4) Discussion of Cox's ratio trends
    - Interpret trend in ratios from 2006 to 2007

What is a Ratio?

- **(1) Calculation**
  - Some number divided by some other number
  - Once you divide denominator into numerator, you get a single number (e.g., 3/2 = 1.5)

- **(2) Interpretation**
  - How much of something you have (the numerator) per one unit of something else (the denominator)
  - Usually expressed as 1.5:1
  - Indicates you have 1.5 of something per every 1 unit of something else

Categories of Financial Ratios

- **Liquidity Ratios**
  - Measures how easily a company can convert assets to cash
- **Asset Management Ratios**
  - Also known as ***efficiency ratios*** or ***turnover ratios***
  - Measures how productive a firm is at utilizing its assets
- **Debt Management Ratios**
  - Also known as ***leverage ratios***
  - Measures how heavily the company uses debt financing
- **Profitability Ratios**
  - Measures the firm's return on its investments
- **Cash Flow Ratios**
  - Measures coverage and quality of firm's cash flows

Liquidity Ratios

- Liquidity measures the quality and adequacy of a firm's current assets to meet its current obligations
- Three ratios in this category include
  - **(1) Current Ratio**
  - **(2) Quick Ratio**
  - **(3) Net Working Capital Turnover**

Current Ratio

- **(1) Calculation**
  - Total current assets divided by total current liabilities

$$\frac{TotalCurrentAssets}{TotalCurrentLiabilities}$$

- **(2) Interpretation**
  - Rough indication of firm's ability to service its current obligations
  - The higher the current ratio, the greater the 'cushion' between current obligations and firm's ability to pay them
- **(3) Cox's current ratios**

$$\frac{TotalCurrentAssets_{2007}}{TotalCurrentLiabilities_{2007}} = \frac{\$405{,}800}{\$176{,}000} = 2.31 \qquad \frac{TotalCurrentAssets_{2006}}{TotalCurrentLiabilities_{2006}} = \frac{\$380{,}000}{\$181{,}000} = 2.10$$

- **(4) Trend Analysis**
  - Increasing trend from 2006 to 2007 indicates Cox's 'cushion' increased

Quick Ratio

- **(1) Calculation**
  - Current assets minus inventory divided by total current liabilities

$$\frac{Current Assets - Inventory}{Total Current Liabilities}$$

- **(2) Interpretation**
  - Expresses degree to which company covers current liabilities with its most liquid current assets

- **(3) Cox's quick ratios**

$$\frac{Current Assets_{2007} - Inventory_{2007}}{Total Current Liabilities_{2007}} = \frac{\$405{,}800 - \$180{,}000}{\$176{,}000} = 1.28$$

$$\frac{Current Assets_{2006} - Inventory_{2006}}{Total Current Liabilities_{2006}} = \frac{\$380{,}000 - \$185{,}000}{\$181{,}000} = 1.08$$

- **(4) Trend Analysis**
  - Both years' ratios greater than one
  - Increase from 2006 to 2007 is positive trend

Net Working Capital Ratio

- **(1) Calculation**
  - Net sales divided by net working capital

$$\frac{NetSales}{NetWorkingCapital}$$

- **(2) Interpretation**
  - Net working capital is current assets minus current liabilities
  - Measures how efficiently net working capital is employed

- **(3) Cox's net working capital ratios**

$$\frac{NetSales_{2007}}{NetWorkingCapital_{2007}} = \frac{\$765{,}050}{\$405{,}800 - \$176{,}000} = 3.33$$

$$\frac{NetSales_{2006}}{NetWorkingCapital_{2006}} = \frac{\$725{,}000}{\$380{,}000 - \$181{,}000} = 3.64$$

- **(4) Trend Analysis**
  - Indicates $3.33 of net sales generated by each $1 in net working capital
  - Decreasing trend from 2006 to 2007 indicates decline in efficiency

Asset Management Ratios

- Asset management ratios measure how productive the management of a firm is at utilizing the firm's assets
- Four basic ratios in this category
  - **(1) Accounts Receivable (A/R) Turnover**
  - **(2) Inventory Turnover**
  - **(3) Fixed Asset Turnover**
  - **(4) Total Asset Turnover**

Asset Management Ratios continued…

- A/R and Inventory utilization measured in two ways
  - **(1) Turnover Ratio**: measures the number of times A/R or inventory is turned over each year
  - **(2) Days' On Hand (DOH)**: measures the average number of days A/R or inventory are on hand
    - Both ratios provide the same information, but in different forms
    - For Example, if A/R turnover is 4.055X, then A/R DOH is 90 days

- Different industry benchmarks measure inventory turnover differently
  - **RMA Annual Statement Studies**: Cost of goods sold divided by inventory
  - **S&P Industry Surveys**: Net sales divided by inventory
    - RMA is theoretically correct!

A/R Turnover

- **(1) Calculation**
  - Net sales divided by net A/R

$$\frac{NetSales}{NetAccounts\,Receivables}$$

- **(2) Interpretation**
  - Measures the number of times A/R is turned over each year
  - Greater the turnover, the shorter the time between sales and cash collection

- **(3) Cox's A/R turnover ratios**

$$\frac{NetSales_{2007}}{NetAccounts\,Receivables_{2007}} = \frac{\$765{,}050}{\$156{,}000} = 4.90$$

$$\frac{NetSales_{2006}}{NetAccounts\,Receivables_{2006}} = \frac{\$725{,}000}{\$145{,}000} = 5.00$$

- **(4) Trend Analysis**
  - Decline from 5X in 2006 to 4.9X in 2007 indicates Cox is taking longer to collect it's A/R, which should be investigated!

A/R Days-on-Hand

- **(1) Calculation**
  - A/R turnover ratio divided ***into*** 365 (number of days in one year)

$$\frac{365}{NetSales \Big/ NetAccounts\,\text{Re}ceivables}$$

- **(2) Interpretation**
  - Measures the number of days it take to collect A/R
  - Greater the number of days, the greater the probability of delinquencies

- **(3) Cox's A/R DOH ratios**

$$\frac{365}{NetSales_{2007} \Big/ NetAccounts\,\text{Re}ceivables_{2007}} = \frac{365}{\$765{,}050 \Big/ \$156{,}000} = 74.4$$

$$\frac{365}{NetSales_{2006} \Big/ NetAccounts\,\text{Re}ceivables_{2006}} = \frac{365}{\$725{,}000 \Big/ \$145{,}000} = 73.0$$

- **(4) Trend Analysis**
  - Increase from 73 days in 2006 to 74.4 days in 2007 indicates Cox is taking longer to collect it's A/R, which, again, should be investigated!

Inventory Turnover

- **(1) Calculation**
  - Cost of goods sold (or net sales) divided by inventory

$$\frac{CostOfGoodsSold}{Inventory} \qquad \frac{NetSales}{Inventory}$$

- **(2) Interpretation**
  - Measures the number of times inventory is turned over each year
  - Greater the number turns, the shorter the time that inventory sits on the shelf

- **(3) Cox's Inventory turnover ratios**

$$\frac{CostOfGoodsSold_{2007}}{Inventory_{2007}} = \frac{\$535{,}000}{\$180{,}000} = 2.97 \qquad \frac{NetSales_{2007}}{Inventory_{2007}} = \frac{\$765{,}050}{\$180{,}000} = 4.25$$

$$\frac{CostOfGoodsSold_{2006}}{Inventory_{2006}} = \frac{\$517{,}000}{\$185{,}000} = 2.79 \qquad \frac{NetSales_{2006}}{Inventory_{2006}} = \frac{\$725{,}000}{\$185{,}000} = 3.92$$

- **(4) Trend Analysis**
  - Increase from 2.79X in 2006 to 2.97X in 2007 indicates inventory is spending less time on the shelf, a positive trend!

Inventory Days-on-Hand

- **(1) Calculation**
  - Inventory turnover ratio divided ***into*** 365 (number of days in one year)

$$\frac{365}{CostOfSales \,/\, Inventory}$$

- **(2) Interpretation**
  - Measures the number of days inventory sits on the shelf before being sold
  - Provides the average length of time units are in inventory

- **(3) Cox's Inventory DOH ratios**

$$\frac{365}{CostOfSales_{2007} \,/\, Inventory_{2007}} = \frac{365}{\$535{,}000 \,/\, \$180{,}000} = 122.80$$

$$\frac{365}{CostOfSales_{2006} \,/\, Inventory_{2006}} = \frac{365}{\$517{,}000 \,/\, \$185{,}000} = 130.61$$

- **(4) Trend Analysis**
  - Decrease from 130.61 days in 2006 to 122.8 days in 2007 represents an improvement and indicates Cox's inventory spends less time on the shelf!

Fixed Asset Turnover

- **(1) Calculation**
  - Net sales divided by net fixed assets (net of accumulated depreciation)
  - Dependent on definition of ***fixed assets*** (PP&E or Total Long Term Assets)

$$\frac{NetSales}{NetFixedAssets}$$

- **(2) Interpretation**
  - Measures the productive use of a firm's fixed assets

- **(3) Cox's Fixed asset turnover ratios**

$$\frac{NetSales_{2007}}{NetFixedAssets_{2007}} = \frac{\$765{,}050}{\$150{,}000} = 5.10 \qquad \frac{NetSales_{2007}}{NetLongTermAssets_{2007}} = \frac{\$765{,}050}{\$260{,}000} = 2.94$$

$$\frac{NetSales_{2006}}{NetFixedAssets_{2006}} = \frac{\$725{,}000}{\$119{,}600} = 6.06 \qquad \frac{NetSales_{2006}}{NetLongTermAssets_{2006}} = \frac{\$725{,}000}{\$249{,}600} = 2.90$$

- **(4) Trend Analysis**
  - **PP&E**: Decrease from 6.06X in 2006 to 5.1X in 2007 is a negative trend
  - **TLTA**: Increase from 2.9X in 2006 to 2.94X in 2007 is a positive trend!

Total Asset Turnover

- **(1) Calculation**
  - Net sales divided by total assets

$$\frac{NetSales}{TotalAssets}$$

- **(2) Interpretation**
  - Measures the firm's ability to generate sales in relation to total assets
  - Indicates the number of dollars in net sales generated by each dollar of assets

- **(3) Cox's Fixed asset turnover ratios**

$$\frac{NetSales_{2007}}{TotalAssets_{2007}} = \frac{\$765{,}050}{\$668{,}050} = 1.145$$

$$\frac{NetSales_{2006}}{TotalAssets_{2006}} = \frac{\$725{,}000}{\$631{,}600} = 1.148$$

- **(4) Trend Analysis**
  - Slight decrease from 1.148X in 2006 to 1.145X in 2007 is a negative trend
  - Management needs to focus on underlying reason for this decline!

Debt Management (Leverage) Ratios

- This set of ratios measure the amount of debt used to finance assets
- Three basic ratios in this category include
  - **(1) Accounts Payable (A/P) Turnover**
  - **(2) Debt to Total Assets** (also known as *Debt Ratio*)
  - **(3) Times Interest Earned (TIE Ratio)**

Debt Management (Leverage) Ratios continued

- A/P utilization can be measured in two ways
  - **(1) Turnover Ratio**: measures number of times A/P is turned over each year
  - **(2) Days' On Hand (DOH)**: measures average number of days A/P on hand
    - Both ratios provide the same information, just in different forms
    - For Example: if A/P turnover is 4.055X, then A/P DOH is 90 days
- Different industry benchmarks measure A/P turnover differently
  - RMA Annual Statement Studies: Cost of goods sold divided by A/P
  - S&P Industry Surveys: Net sales divided by A/P
    - RMA is theoretically correct!

Accounts Payable (A/P) Turnover

- **(1) Calculation**
  - Cost of goods sold (or net sales) divided by accounts payable

$$\frac{CostOfGoodsSold}{AccountsPayables} \qquad \frac{NetSales}{AccountsPayables}$$

- **(2) Interpretation**
  - Measures the number of times A/P turns over per year
  - Higher number indicates firm is paying it's vendors more quickly

- **(3) Cox's Accounts payable turnover ratios**

$$\frac{CostOfGoodsSold_{2007}}{AccountsPayables_{2007}} = \frac{\$535{,}000}{\$60{,}000} = 8.92 \qquad \frac{NetSales_{2007}}{AccountsPayables_{2007}} = \frac{\$765{,}050}{\$60{,}000} = 12.75$$

$$\frac{CostOfGoodsSold_{2006}}{AccountsPayables_{2006}} = \frac{\$517{,}000}{\$57{,}000} = 9.07 \qquad \frac{NetSales_{2006}}{AccountsPayables_{2006}} = \frac{\$725{,}000}{\$57{,}000} = 12.72$$

- **(4) Trend Analysis**
  - **COGS**: Decreased from 9.07X in 2006 to 8.92X in 2007 indicating Cox enjoyed increased trade terms on it's A/P
  - **Net Sales**: Slight increase from 12.72X in 2006 to 12.5X in 2007

Accounts Payable (A/P) DOH

- **(1) Calculation**
  - A/P turnover ratio divided ***into*** 365 (the number of days on one year)

$$\frac{365}{CostOfGoodsSold \Big/ AccountsPayables}$$

- **(2) Interpretation**
  - Measures the number of days before a firm makes payment to vendors
  - Indicates the average length of time a firm's trade debt is outstanding
- **(3) Cox's Accounts payable DOH ratios**

$$\frac{365}{CostOfGoodsSold_{2007} \Big/ AccountsPayables_{2007}} = \frac{365}{\$535{,}000 \Big/ \$60{,}000} = 40.93$$

$$\frac{365}{CostOfGoodsSold_{2006} \Big/ AccountsPayables_{2006}} = \frac{365}{\$517{,}000 \Big/ \$57{,}000} = 40.24$$

- **(4) Trend Analysis**
  - Slight increased from 40.24 days in 2006 to 40.93 days in 2007 indicating Cox enjoyed increased trade terms on it's A/P

Debt to Total Assets (Debt Ratio)

- **(1) Calculation**
  - Total debt divided by total assets

$$\frac{TotalDebt}{TotalAssets}$$

- **(2) Interpretation**
  - Measures relationship between capital contributed by creditors and total assets, which are financed by both creditors and shareholders
  - Amount of debt to each dollar of total assets

- **(3) Cox's Debt to total assets ratios**

$$\frac{TotalDebt_{2007}}{TotalAssets_{2007}} = \frac{\$322,000}{\$668,050} = 0.48 \qquad \frac{TotalDebt_{2006}}{TotalAssets_{2006}} = \frac{\$326,000}{\$631,600} = 0.52$$

- **(4) Trend Analysis**
  - Percentage of assets financed by debt decreased from 52% in 2006 to 48% in 2007 indicating Cox de-levered its capital structure

Times Interest Earned (TIE Ratio)

- **(1) Calculation**
  - EBIT divided by annual interest expense

$$\frac{Earnings Before Interest \& Taxes}{Annual Interest Expense}$$

- **(2) Interpretation**
  - Measures firm's ability to meet interest payments
  - Ratio also serves as an indicator of firm's capacity to take on additional debt

- **(3) Cox's TIE ratios**

$$\frac{Earnings Before Interest \& Taxes_{2007}}{Annual Interest Expense_{2007}} = \frac{\$105{,}196}{\$16{,}250} = 6.47$$

$$\frac{Earnings Before Interest \& Taxes_{2006}}{Annual Interest Expense_{2006}} = \frac{\$73{,}500}{\$16{,}750} = 4.39$$

- **(4) Trend Analysis**
  - Significant improvement from 4.39X in 2006 to 6.47X in 2007
  - EBIT increased substantially, and interest expense decreased, from 2006 to 2007

Profitability Ratios

- Profitability ratios are used to measure the firm's return on its investments
- Three basic ratios in this category
  - **(1) Net Profit Margin (NPM)**
  - **(2) Return on Assets (ROA)**
  - **(3) Return on Equity (ROE)**
- However, additional analysis of NPM is possible with the following two ratios:
  - (1) Gross Profit Margin (GPM)
  - (2) Net Operating Profit Margin (NOPM)

Net Profit Margin

- **(1) Calculation**
  - Net income divided by net sales

$$\frac{NetIncome}{NetSales}$$

- **(2) Interpretation**
  - Measures the amount of profit per dollar of net sales
  - Indicates how well management has controlled total expenses

- **(3) Cox's Net profit margin ratios**

$$\frac{NetIncome_{2007}}{NetSales_{2007}} = \frac{\$47{,}750}{\$765{,}050} = 0.0624 \qquad \frac{NetIncome_{2006}}{NetSales_{2006}} = \frac{\$40{,}500}{\$725{,}000} = 0.0559$$

- **(4) Trend Analysis**
  - Increased from 5.59% in 2006 to 6.24% in 2007, indicating management did a better job at controlling expenses in 2007 than in 2006!

Gross Profit Margin

- **(1) Calculation**
  - Gross profit (net sales minus cost of goods sold) divided by net sales

$$\frac{Gross\ Profit}{NetSales}$$

- **(2) Interpretation**
  - Measures the amount of direct profit per dollar of net sales
  - Indicates how well management has controlled COGS expenses

- **(3) Cox's Gross profit margin ratios**

$$\frac{Gross\ Profit_{2007}}{NetSales_{2007}} = \frac{\$230{,}050}{\$765{,}050} = 0.300724 \qquad \frac{Gross\ Profit_{2006}}{NetSales_{2006}} = \frac{\$208{,}000}{\$725{,}000} = 0.2869$$

- **(4) Trend Analysis**
  - Increased from 28.69% in 2006 to 30.07% in 2007, indicating management did a better job at controlling direct expenses in 2007 than in 2006!
    - Better job controlling direct labor, direct material, and factory overhead

Net Operating Profit Margin

- **(1) Calculation**
  - EBIT (net sales minus COGS minus operating expenses) divided by net sales

$$\frac{EBIT}{NetSales}$$

- **(2) Interpretation**
  - Measures amount of profit per dollar of net sales after direct and indirect costs
  - Used in conjunction with GPM to indicates how well management has controlled operating expenses

- **(3) Cox's Net operating profit margin ratios**

$$\frac{EBIT_{2007}}{NetSales_{2007}} = \frac{\$105{,}196}{\$765{,}050} = 0.1375 \qquad \frac{EBIT_{2006}}{NetSales_{2006}} = \frac{\$73{,}500}{\$725{,}000} = 0.1014$$

- **(4) Trend Analysis**
  - Increased from 10.14% in 2006 to 13.75% in 2007 and, taken together with GPM ratios, indicates management did a better job at controlling operating expenses in 2007 than in 2006!

Return on Assets (ROA)

- **(1) Calculation**
  - Net income divided by total assets

$$\frac{NetIncome}{TotalAssets}$$

- **(2) Interpretation**
  - Measures the rate of return on total assets
  - Provides a measure for how well management has controlled expenses ***and/or*** utilized assets

- **(3) Cox's Return on assets ratios**

$$\frac{NetIncome_{2007}}{TotalAssets_{2007}} = \frac{\$47{,}750}{\$668{,}050} = 0.0715 \qquad \frac{NetIncome_{2006}}{TotalAssets_{2006}} = \frac{\$40{,}500}{\$631{,}600} = 0.0641$$

- **(4) Trend Analysis**
  - Increased from 6.41% in 2006 to 7.15% in 2007 indicating management improved either the firm's expense control ratio or the firm's asset utilization ratio (or both) in 2007 over 2006!

Return on Equity (ROE)

- **(1) Calculation**
  - Net income divided by common equity

$$\frac{NetIncome}{CommonEquity}$$

- **(2) Interpretation**
- Measures the rate of return on common shareholders' investment
- Provides a measure for how well management has controlled expenses ***and/or*** utilized assets ***and/or*** utilized financial leverage

- **(3) Cox's Return on equity ratios**

$$\frac{NetIncome_{2007}}{CommonEquity_{2007}} = \frac{\$47{,}750}{\$346{,}050 - \$6{,}000} = .1404 \qquad \frac{NetIncome_{2006}}{CommonEquity_{2006}} = \frac{\$40{,}500}{\$305{,}600 - \$6{,}000} = .1352$$

- **(4) Trend Analysis**
  - Increased from 13.52% in 2006 to 14.04% in 2007 indicating management improved either the firm's expense control ratio and/or the firm's asset utilization ratio and/or increased financial leverage in 2007 over 2006!

Cash Flow Ratios

- Cash flow ratios measure the coverage and quality of a firm's cash flows
- Two ratios in this category
  - **(1) Cash Flow Coverage of Interest Expenses**
  - **(2) Quality of Earnings**

Cash Flow Coverage of Interest Expenses Ratio

- **(1) Calculation**
  - Cash flow from operating activities plus interest expense divided by interest expense

$$\frac{CashFlowFromOperatingActivities + Interest}{Interest}$$

- **(2) Interpretation**
  - Measures firm's ability to meet interest payments from operating cash flow
  - Similar to times interest earned (TIE) ratio
- **(3) Cox' Cash flow coverage of interest expenses ratios**

$$\frac{CashFlowFromOperatingActivities_{2007} + Interest_{2007}}{Interest_{2007}} = \frac{\$74{,}800 + \$16{,}250}{\$16{,}250} = 5.60$$

- **(4) Trend Analysis**
  - Not enough data to determine ratio for 2006
  - Cox can cover its interest expense 5.6X with cash flow from operations

Quality of Earnings Ratio

- **(1) Calculation**
  - Cash flow from operating activities minus preferred dividends divided by earnings available for common shareholders

$$\frac{CashFlowFromOperatingActivites - Preferred Dividends}{EarningAvailableForCommonStockholders}$$

- **(2) Interpretation**
  - Measures the amount of cash flow per dollar of earnings available to common shareholders
  - Higher ratio indicates greater strength of firm in terms of its cash flow

- **(3) Cox' Quality of earnings ratio**

$$\frac{CashFlowFromOperatingActivites_{2007} - Preferred Dividends_{2007}}{EarningAvailableForCommonStockholders_{2007}} = \frac{\$74{,}800 - \$350}{\$47{,}750 - \$350} = 1.57$$

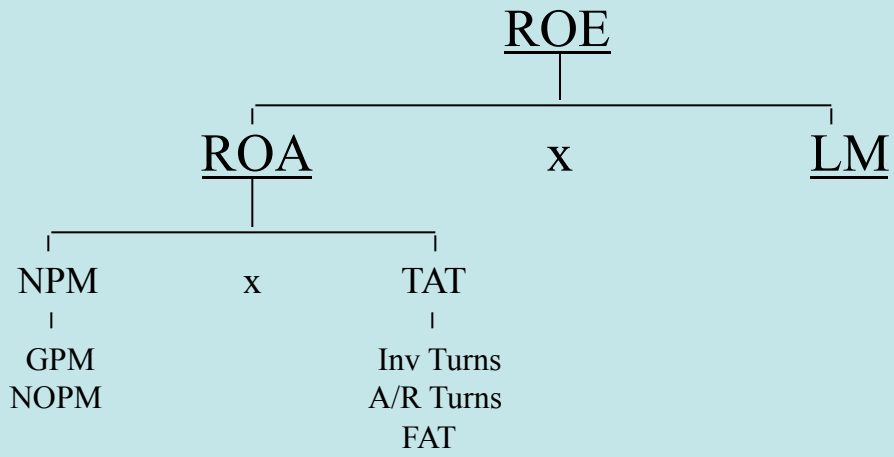
- **(4) Trend Analysis**
  - Not enough data to determine ratio for 2006
  - Cox generates $1.57 in operating cash flow available to common shareholders per each dollar of accounting earnings available to common

Du Pont Analysis

- Provides useful framework to analyze a firm's financial statements using ratio and trend analyses

- Decomposes a firm's ROE into three parts
  - **Expense Control**: Profit margin
  - **Asset Utilization**: Total asset turnover
  - **Financial Leverage**: Leverage Multiplier

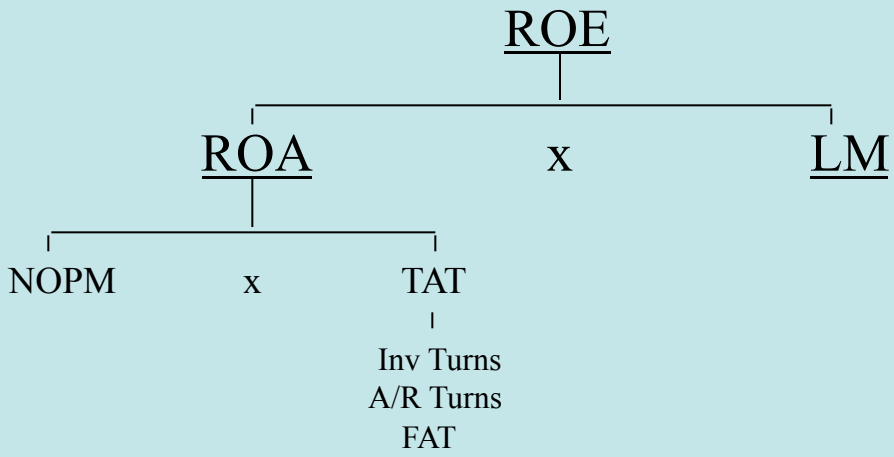
- Illustrates management's abilities to…
  - Control expenditure based on analysis of profit margin
  - Utilize assets efficiently based on analysis of asset turnover



$$ROE = \frac{NetIncome}{TotalAssets} \times \frac{TotalAssets}{CommonEquity} = \frac{NetIncome}{CommonEquity}$$

$$ROA = \frac{NetIncome}{NetSales} \times \frac{NetSales}{TotalAssets} = \frac{NetIncome}{TotalAssets}$$

$$ROE = \frac{NetIncome}{Sales} \times \frac{Sales}{TotalAssets} \times \frac{TotalAssets}{CommonEquity} = \frac{NetIncome}{CommonEquity}$$

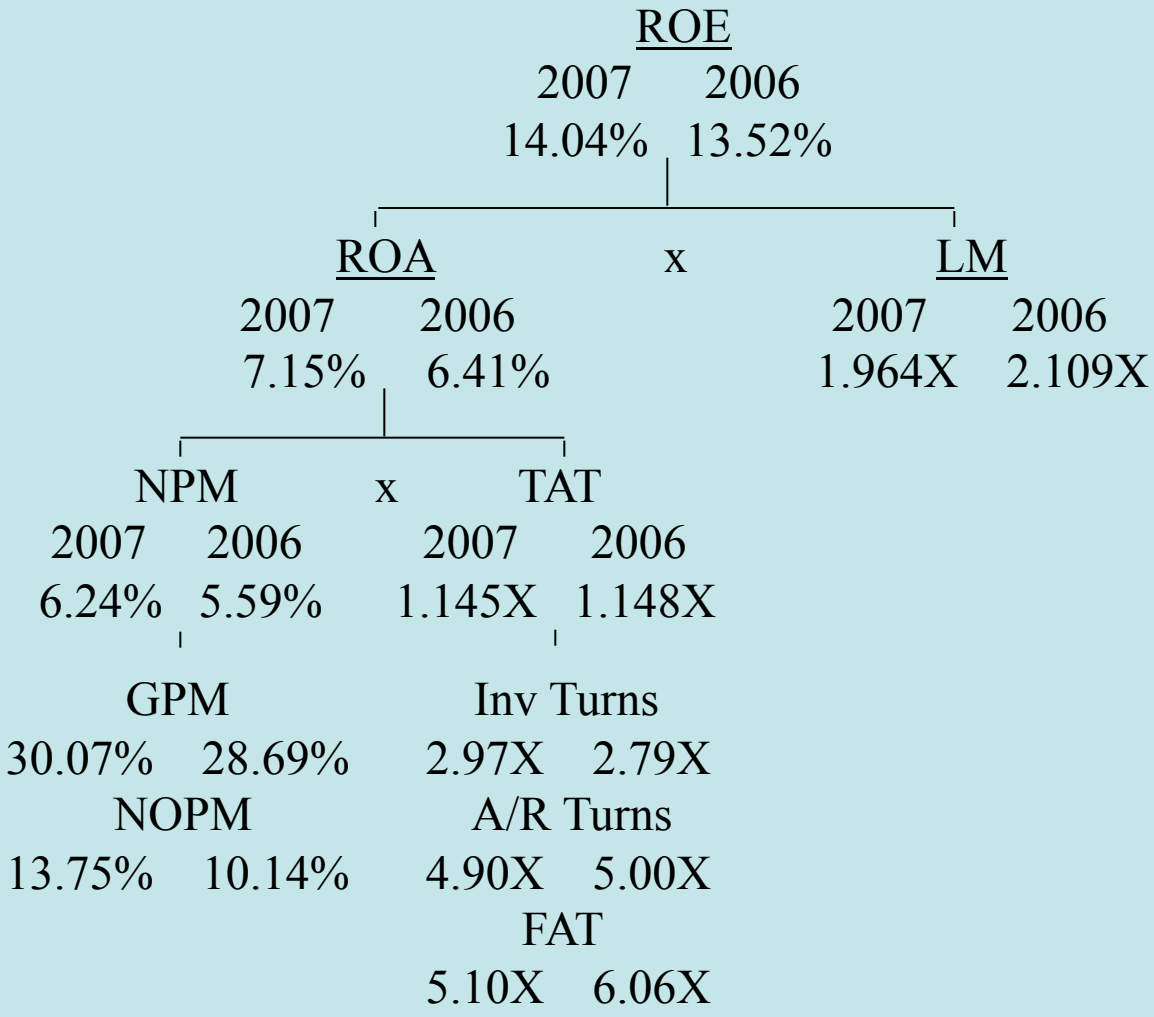


$$ROE = \frac{EBIT}{TotalAssets} \times \frac{TotalAssets}{CommonEquity} = \frac{EBIT}{CommonEquity}$$

$$ROA = \frac{EBIT}{NetSales} \times \frac{NetSales}{TotalAssets} = \frac{EBIT}{TotalAssets}$$

$$ROE = \frac{EBIT}{Sales} \times \frac{Sales}{TotalAssets} \times \frac{TotalAssets}{CommonEquity} = \frac{EBIT}{CommonEquity}$$

Cox Oil Company, Inc.
Du Pont Analysis



What do you think of Cox Oil Company, Inc.?

- Positives
  - (1) Profit Margin Improvements from 2006 to 2007
    - Trends in NPM, GPM, and NOPM improved
  - (2) Asset Utilization Improvements from 2006 to 2007
    - Trends in inventory and total long-term asset turnovers improved
  - (3) Financial Leverage Improvement from 2006 to 2007
    - Trend in LM improved (i.e., Cox de-levered)
  - (4) ROE trend improved from 2006 to 2007

- Negative
  - (1) Asset Utilization Declines from 2006 to 2007
    - Trends in TAT, A/R turnover, and FAT decreased

So, what do you think of Cox Oil Company, Inc.?

Would you invest in Cox Oil Company, Inc.?

Comparative Analyses

- Comparative analyses enable financial managers to compare a company with either another company or the industry as a whole

- Two types of comparative analyses
  - (1) **Common-Size Analysis**: to compare one company to another
  - (2) **Industry Comparison Analysis**: to compare a company to the industry average

Common-Size Analysis

- Useful way of standardizing financial statements to make one comparable to another
- **Common-Sized Balance Sheet**: Express each item on the balance sheet as a percentage of total assets
  - Divide each item on the balance sheet by the dollar amount of total assets and multiply by 100
- **Common-Sized Income Statement**: Express each item on the income statement as a percentage of net sales
  - Divide each item on the income statement by the dollar amount of net sales and multiply by 100

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Cox Oil Company, Inc.
Common-Sized Consolidated Balance Sheet
December 31

Assets	2007	%	2006	%
Current Assets:				
Cash and cash equivalents	$ 19,500	2.92%	$ 15,000	2.37%
Marketable securities	46,300	6.93%	32,000	5.07%
Accounts receivable (net)	156,000	23.35%	145,000	22.96%
Inventories	180,000	26.94%	185,000	29.29%
Prepaid expenses and other current assets	4,000	0.60%	3,000	0.47%
Total current assets	**405,800**	**60.74%**	**380,000**	**60.16%**
Long-Term Assets:				
Gross property, plant and equipment	185,000	27.69%	146,600	23.21%
Less: accumulated depreciation	35,000	5.24%	27,000	4.27%
Net property, plant and equipment	150,000	22.45%	119,600	18.94%
Gross reserves	200,000	29.94%	200,000	31.66%
Less: accumulated depletion	90,000	13.47%	70,000	11.08%
Net reserves	110,000	16.47%	130,000	20.58%
Total long-term assets (net)	**260,000**	**38.92%**	**249,600**	**39.52%**
Other Assets:				
Gross intangibles (goodwill, patents)	2,250	0.34%	2,250	0.36%
Less: accumulated amortization	300	0.04%	250	0.04%
Net intangibles	1,950	0.30%	2,000	0.32%
Investment securities (at cost)	300	0.04%	-	0.00%
Total other assets (net)	**2,250**	**0.34%**	**2,000**	**0.32%**
Total Assets	**$668,050**	**100.00%**	**$631,600**	**100.00%**

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Liabilities and Shareholders' Equity	2007	%	2006	%
Current Liabilities:				
Accounts payable	$ 60,000	8.98%	$ 57,000	9.03%
Notes payable	51,000	7.63%	61,000	9.66%
Accrued expenses	30,000	4.49%	36,000	5.70%
Income taxes payable	17,000	2.55%	15,000	2.37%
Other current liabilities	12,000	1.80%	12,000	1.90%
Current portion of long-term debt	6,000	0.90%	-	0.00%
Total current liabilities	**176,000**	**26.35%**	**181,000**	**28.66%**
Long-Term Liabilities:				
Deferred income taxes	16,000	2.39%	9,000	1.43%
9.12% debenture payable 2010	130,000	19.46%	130,000	20.58%
Other long-term debt	-	0.00%	6,000	0.95%
Total Liabilities	**322,000**	**48.20%**	**326,000**	**51.62%**
Shareholders' Equity:				
Preferred stock, $5.83 cumulative, $100 par	6,000	0.90%	6,000	0.95%
Common stock, $5.00 par	75,000	11.23%	72,500	11.48%
Additional paid-in capital	20,000	2.99%	13,500	2.14%
Retained earnings	249,000	37.27%	219,600	34.77%
Foreign currency translation adjustment (net)	1,000	0.15%	(1,000)	(0.16%)
Unrealized gain available-for-sale securities (net)	50	0.01%	-	0.00%
Less: Treasury stock at cost	(5,000)	(0.75%)	(5,000)	(0.79%)
Total Shareholders' Equity	**346,050**	**51.80%**	**305,600**	**48.39%**
l Liabilities and Shareholders' Equity	**$668,050**	**100.00%**	**$631,600**	**100.**

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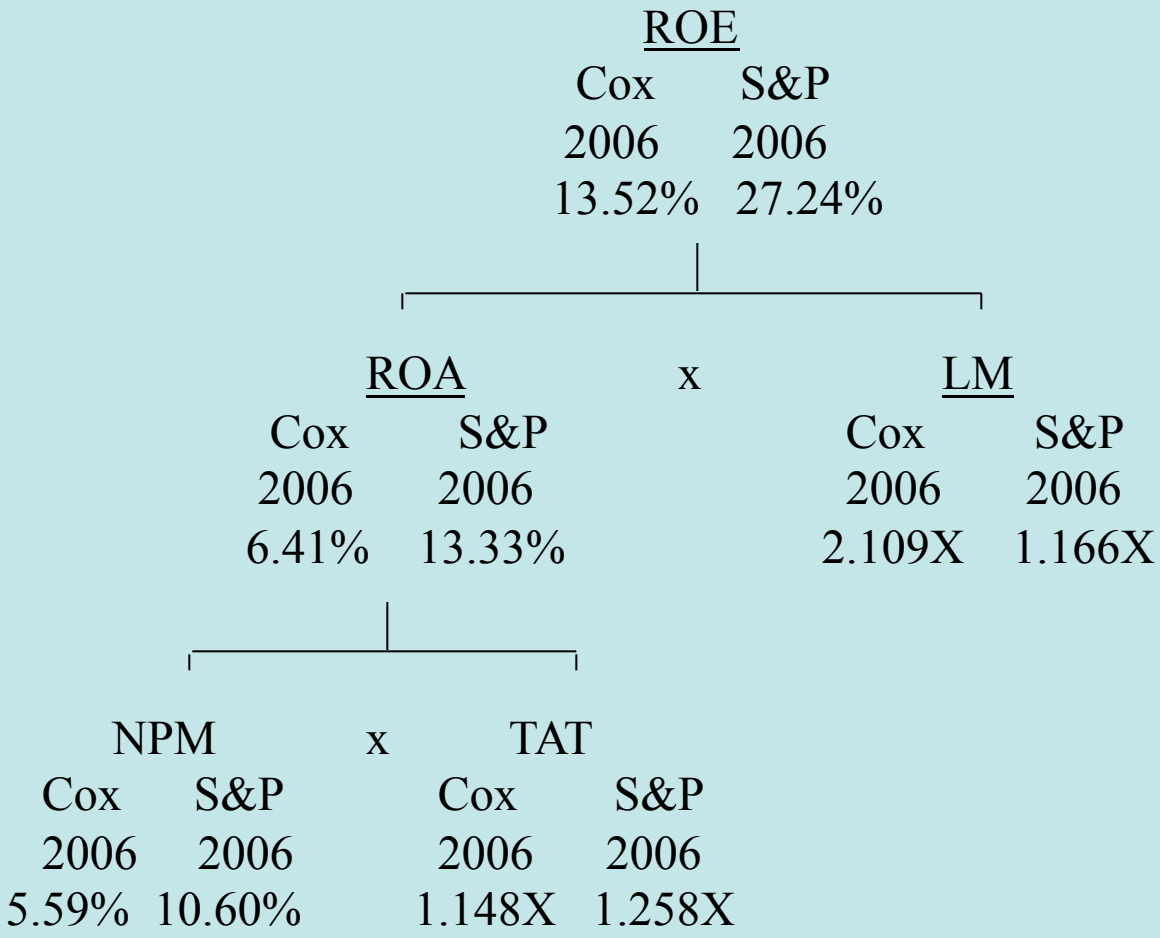
Cox Oil Company, Inc.
Common-Sized Consolidated Income Statement
January 1 through December 31
(Dollars in Thousands, Except Per-Share Amounts)

	2007	%	2006	%
Net sales	$765,050	100.00%	$725,000	100.00%
Cost of goods sold	535,000	69.93%	517,000	71.31%
Gross Profit	230,050	30.07%	208,000	28.69%
Operating expenses:				
Selling, general and administrative expenses	96,804	12.65%	109,500	15.10%
Depreciation, depletion and amortization	28,050	3.67%	25,000	3.45%
Earnings before interest and taxes (EBIT)	105,196	13.75%	73,500	10.14%
Interest Expense	16,250	2.12%	16,750	2.31%
Dividend and interest income	5,250	0.68%	10,000	1.38%
Earnings before taxes and extraordinary items	94,196	12.31%	66,750	9.21%
Income tax	41,446	5.42%	26,250	3.62%
Earnings before extraordinary items	52,750	6.89%	40,500	5.59%
Extraordinary item: Loss on earthquake	(5,000)	(0.65%)	-	0.00%
Net income	$ 47,750	6.24%	$ 40,500	5.59%

EPS before extraordinary item	$ 3.55	$ 2.77
Earnings per share – extraordinary item	(0.34)	-
Net income per common share	$ 3.21	$ 2.77

Industry Comparison Analysis

- RMA Annual Statement Studies
  - Best industry comparison benchmark for small and middle-market companies
  - Unfortunately, not available in an online form through SMU
- Standard & Poor's Industry Surveys
  - Good industry comparison benchmark for large, publicly-traded companies
  - Available online through SMU's Library
- Use Du Pont Analysis for comparison…


ROE
Cox 2006 13.52%
S&P 2006 27.24%
ROA
Cox 2006 6.41%
S&P 2006 13.33%
x
LM
Cox 2006 2.109X
S&P 2006 1.166X
NPM
Cox 2006 5.59%
S&P 2006 10.60%
x
TAT
Cox 2006 1.148X
S&P 2006 1.258X

Done!

Now what do you think of Cox Oil Company Inc.?

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Thank You!

Charles B. (Chip) Ruscher, PhD

Department of Finance and Business Economics