Analyzing Financial Statements

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Sources and Uses of Cash

- Activities that bring cash to the firm are called sources of cash.
- Activities that involve spending cash are called uses of cash.
- An increase (decrease) in accounts payable is a source (use) of cash.
- An increase (decrease) in accounts receivable is a use (source) of cash.

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Sources of Cash (Moraldo)

- Decrease in inventory 30
- Increase in accounts payable 25
- Increase in long-term debt 42
- Increase in common stock 21
- Increase in retained earnings 140
- Total sources of cash $258

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Uses of cash

- Increase in accounts receivable 30
- Increase in net fixed assets 170
- Decrease in notes payable 10
- Total uses of cash $210

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Net change in cash

- Total sources lessTotal uses = Net addition to cash
- 258 - 210 = 48:
- We can verify that
- Cash in 2002 - Cash in 2001 = Net addition to cash
- 153 ¡ 105 = 48:

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- From an economic perspective, there is a risk return tradeoff
- Following this theory, high risk firms should have high ROAs

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Data Issues in FSA

- Data issues when comparing the performance of a firm to its historical performance or other similar firms.
  - Specifically:
    1. Non-recurring Income
    2. Restated financial statements
    3. Reporting Periods
    4. Account Classification
    5. Accounting Principles

Ratio Analysis

- A financial ratio helps investors analyze financial health and managerial performance of the company

Financial Health Ratios: Current Ratio

- Current ratio tells us the current financial strength of the company, primarily in terms of the cash and credit standing of the company.
- Questions:
  - Is the company spending too much or is it holding too much cash back?

Current Ratio = Current Assets / Current Liabilities

Financial Health Ratios: Debt to Equity Ratio

- Debt to Equity ratio tells us the amount of debt of the company against the shareholders equity

Debt to Equity Ratio = Total Liabilities / Total Shareholders Equity

Financial Health Ratios: Asset Turnover Ratio

- The ratio tells us the kind of revenue that is generated using the total assets of the company It is an indicator on performance of the assets, whether they under performing or over performing.

Asset Turnover Ratio = Sales / Average Total Assets

Financial Health Ratios: Interest Coverage Ratio

- The ratio tells us the amount of earnings that company holds to make interest payments of its debt.

Interest Coverage ratio = Income Before Interest and Income Tax Expenses / Interest Expense

Financial Health Ratios: Inventory Turn Ratio

- The ratio tells us how many times a business turns its inventory over a period of time. It indicates if the company has most of its assets tied up in inventory and if they are under performing.

Inventory Turnover Ratio = Cost of Goods Sold / Average Inventories

Financial Health Ratios: Operating Profit Margin Ratio

- The ratio tells us the operating efficiency of the company. The percentage of profit it makes after deduction of its operating expenses.

Operating Profit Margin Ratio = Net Income + Operating Expenses / Total Sales

Financial Health Ratios: Quick Test Ratio

- Investors widely use the Quick Test Ratio to arrive at the liquidity strength of the company and its overall financial standing

Quick ratio = Quick Assets / Current Liabilities

Sources of Comparative Information for Public Companies

- Company website
- Other Websites:
  - Securities and Exchange Commission (SEC) - The information posted in the "EDGAR" database includes the annual report (known as the 10-K), quarterly report (10-Q), and a myriad of other forms that contain every type of financial data.
  - MarketGuide.com
  - Hoovers.com

Profit Margin/Asset Turnover & Business Strategy

- Firms can choose to follow one of two alternative strategies for a product:
  1. Product differentiation or
  2. Low Cost Leadership

Look at differences in profit margins and assets turnovers between firms in the same industry…

Profit Margin/Asset Turnover & Business Strategy

- Result from choice of:
  1. Product differentiation (Brand Loyalty)
  2. Low Cost Leadership (economies of scale or production efficiencies)

Profit Margin/Asset Turnover & Business Strategy

- For example, see this in the retailing industry:

	Profit Margin	Asset Turnover
Specialty Retailers	5.25%	1.9
Department Stores	3.58%	2.3
Grocery Stores	1.50%	5.0

(exception is gourmet, specialty groceries)

Steps in an ROA analysis (1 of 2)

- When comparing two or more similar firms:

1. Compare each firm's ROA to the other firms and to the industry average

Steps in an ROA analysis (2 of 2)

2. Then look at the profit margins vs. the industry
   A. Examine internal strategic reasons for this:
      - Higher profit margin (brand loyalty)
      - Higher assert turnover (low cost leadership)
   B. External factors which would affect the profit margin/ asset turnover mix, such as:
      - Degree of competition
      - Regulation
      - Entry barriers

Breaking ROA Down

$$= \textbf{Profit Margin} \quad \times \quad \textbf{Asset Turnover}$$

$$= \frac{\textbf{Net income + interest expense (1-t)}}{\textbf{Sales}} \times \frac{\textbf{Sales}}{\textbf{Avg. Total Assets}}$$

- When you look at ROA this way, you can then begin to determine whether the difference in ROA between two firms stems from a higher (lower) profit margin or is a result of a higher (lower) Asset Turnover Rate.

Trend Percentages

Year	2000	1999	1998
Revenues	$27,611	$24,215	$21,718
Cost of sales	15,318	14,709	13,049
Gross profit	$12,293	$ 9,506	$ 8,669

1998 is the base year.

What are the trend percentages?

Trend Percentages

Year	2000	1999	1998
Revenues	127%	111%	100%
Cost of sales	117%	113%	100%
Gross profit	142%	110%	100%

These percentages were calculated by dividing each item by the base year.

Horizontal Analysis

	2002	2001	Increase/(Decrease) Amount	Percent
Sales	$41,500	$37,850	$3,650	9.6%
Expenses	40,000	36,900	3,100	8.4%
Net income	1,500	950	550	57.9%

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Trend Analysis

Exhibit 1: Trend analysis (Profit Margin)

	Company	Industry Average
1984	13.7	7.9
1985	14.3	7.4
1986	13.1	7.3
1987	9.3	8.1
1988	9.7	9.7
1989	9.8	10.4
1990	8.4	8.9
1991	8.7	9.8
1992	3.2	6.1
1993	2.2	5.7
1994	0.5	3.8
1995	4.6	5.4
1996	8.8	6.4
1997	9	5.8
1998	10.8	7.5
1999	12	7.8
2000	14	8.6
2001	16.7	10.4

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