Analyzing Financial Statements:

Analysis Techniques

Liquidity Ratios

Liquidity reflects the ability of a company to meet its short-term obligations using assets that are most readily converted into cash.

Assets that may be converted into cash in a short period of time are referred to as **liquid assets**; they are listed in financial statements as current assets.

Liquidity Ratios

Current assets are often referred to as working capital because these assets represent the resources needed for the day-to-day operations of the company's long-term, capital investments.

Current assets are used to satisfy short-term obligations, or current liabilities. The amount by which current assets exceed current liabilities is referred to as the net working capital

Measures of liquidity

- **Liquidity** is the ability to satisfy the company's short-term obligations using assets that can be most readily converted into cash.
- Liquidity ratios:

	Ability to satisfy current liabilities using current assets.
	Ability to satisfy current liabilities using the most liquid of current assets.
	Ability to satisfy current liabilities using only cash and cash equivalents.

Measures of liquidity

Generally, the larger these liquidity ratios, the better the ability of the company to satisfy its immediate obligations.

Is there a magic number that defines good or bad? Not really.

Consider the current ratio. A large amount of current assets relative to current liabilities provides assurance that the company will be able to satisfy its immediate obligations. However, if there are more current assets than the company needs to provide this assurance, the company may be investing too heavily in these non- or low-earning assets and therefore not putting the assets to the most productive use.

Measures of liquidity

The **net working capital to sales ratio** is the ratio of net working capital (current assets minus current liabilities) to sales;

Indicates a company's liquid assets (after meeting short-term obligations) relative to its need for liquidity (represented by sales)

$$\text{Net working capital to sales ratio} = \frac{\text{Curren tassets - Current l iabilities}}{\text{Sales}}$$

Measures of liquidity

Microsoft Liquidity Ratios -- 2004

Current ratio = $70,566 million / $14,696 million = **4.8017**

Quick ratio = ($70,566-421) / $14,696 = **4.7731**

Net working capital-to-sales = ($70,566-14,969) / $36,835 = **1.5515**

Source of data: Balance Sheet and Income Statement, Microsoft Corporation Annual Report 2005

	Current Ratio	Quick Ratio	Debt to Equity	Sales to Inventory	DSO	Profit Margin %
Agriculture	1.31	0.39	1.33	2.52	19.00	2.58
Mining	1.19	0.77	0.48	0.00	52.00	0.00
Construction	1.44	0.98	1.31	4.74	43.00	1.74
Manufacturing						
Leather/Textile/App	1.50	0.62	1.48	6.05	34.00	1.64
Chem. Petrol. Metal	1.54	0.75	1.33	6.94	48.00	2.23
Wood Related Prod	1.43	0.62	1.41	6.46	33.00	2.16
Mach-trans equipment	1.54	0.74	1.34	5.89	51.00	2.38
Trans-Communic	1.03	0.70	1.64	0.00	34.00	1.84
Wholesale						
Non-Durable	1.53	0.66	1.70	4.63	39.00	1.40
Durable	1.42	0.69	1.60	7.36	31.00	1.11
Retail						
Hardware	1.68	0.43	1.30	4.20	22.00	1.11
Gen. Merchandise	2.14	0.15	0.59	3.81	4.00	0.16
Automobiles	1.23	0.19	2.61	4.75	9.00	0.84
Apparel	1.90	0.14	0.91	2.96	2.00	1.35
Furniture	1.61	0.38	1.33	4.03	16.00	0.92
Restaurants	0.73	0.18	1.24	35.65	1.00	0.43
Financial Services	1.18	0.34	0.72	0.00	1.00	1.29
Business Services	1.36	0.84	1.11	0.00	42.00	1.75
Service Industry	1.29	0.68	0.75	3.04	15.00	0.77

The role of the operating cycle

How much liquidity a company needs depends on its operating cycle. The operating cycle is the duration between the time cash is invested in goods and services to the time that investment produces cash.

For example, a company that produces and sells goods has an operating cycle comprising four phases:

- purchase raw material and produce goods, investing in inventory;
- sell goods, generating sales, which may or may not be for cash;
- extend credit, creating accounts receivables, and
- collect accounts receivables, generating cash.

The role of the operating cycle

A company with a long operating cycle may have more need to liquid assets than a company with a short operating cycle. That's because a long operating cycle indicate that money is tied up in inventory (and then receivables) for a longer length of time.

Solvency Analysis

- A company's business risk is determined, in large part, from the company's line of business.
- **Financial risk** is the risk resulting from a company's choice of how to finance the business using debt or equity.
- We use solvency ratios to assess a company's financial risk.

- **Risk**
  - **Business Risk**
    - **Sales Risk**
    - **Operating Risk**
  - **Financial Risk**

Solvency Analysis

There are two types of solvency ratios: component percentages and coverage ratios.

- Component percentages involve comparing the elements in the capital structure.
- Coverage ratios measure the ability to meet interest and other fixed financing costs.

Solvency ratios

Component-Percentage Solvency Ratios		Proportion of assets financed with debt.
		Proportion of assets financed with long-term debt.
		Debt financing relative to equity financing.
		Reliance on debt financing.
Coverage Ratios		Ability to satisfy interest obligations.
		Ability to satisfy interest and lease obligations.
		Ability to satisfy interest obligations with cash flows.
		Length of time needed to pay off debt with cash flows.