Chapter 17

Financial Statement Analysis

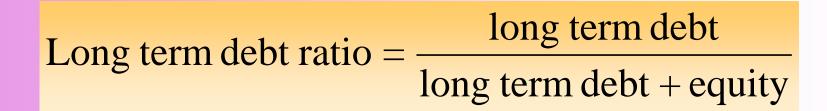
Topics Covered

- **Prinancial Ratios**
- DuPont System
- **OUsing Financial ratios**
- Measuring Company Performance
- **Che Role of Financial Ratios**

Financial Ratios

- **•** Five types of financial ratios:
 - 1. Leverage ratios show how heavily the company is in debt
 - 2. Liquidity ratios measure how easily the firm can lay its hands on cash
 - 3. Efficiency or turnover ratios measure how productively the firm is using its assets
 - 4. **Profitability ratios** are used to measure the firm's return on its investment
 - 5. Market value ratios are ratios with respect to stock market price

Leverage Ratios



Debt equity ratio =
$$\frac{\text{long term debt}}{\text{equity}}$$

Leverage Ratios

Total debt ratio	 total liabilities	
Total debt fallo	 total assets	

Times interest earned	 EBIT	
Times interest earned	 interest payments	

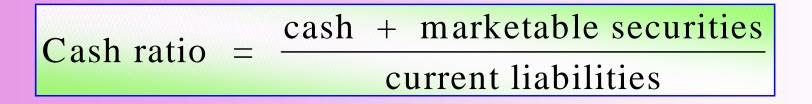
Cash coverage ratio		EBIT + depreciation
	—	interest payments

Liquidity Ratios

Net working capital	Net working capital
to total assets ratio	Total assets

Current ratio	_	current assets		
	_	current liabilities		

Quick ratio =	cash + marketable securities + receivables
Quick latio –	current liabilities



Efficiency Ratios

Asset Turnover Ratio = $\frac{\text{Sales}}{\text{Average total assets}}$

Average Collection Period = $\frac{\text{average receivables}}{\text{average daily sales}}$

Inventory Turnover Ratio = $\frac{\text{cost of goods sold}}{\text{average inventory}}$

Days' sales in inventories = $\frac{\text{average inventory}}{\text{cost of goods sold/365}}$

Profitability Ratios

Net profit margin
$$=$$
 $\frac{\text{net income}}{\text{sales}}$

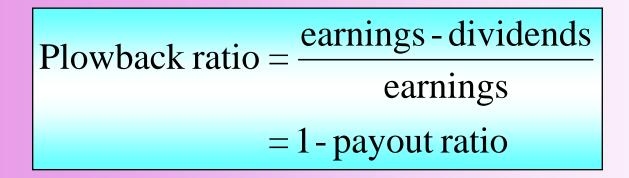
Operating profit margin = $\frac{\text{net income} + \text{interest}}{\text{sales}}$

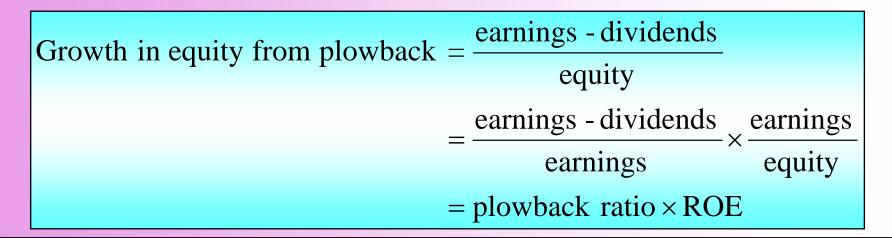
Return on assets	_	Net Income + Interest		
	_	average total assets		

Return on equity = $\frac{\text{net income}}{\text{average equity}}$

Profitability Ratios

Payout ratio =
$$\frac{\text{dividends}}{\text{earnings}}$$





Market Value Ratios

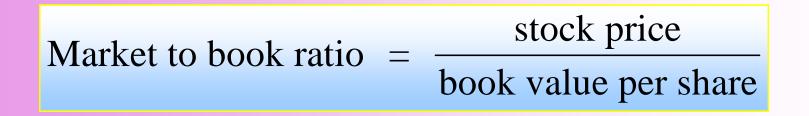
$$PE Ratio = \frac{stock price}{earnings per share}$$

Forecasted PE ratio =
$$\frac{P_0}{avg EPS_1} = \frac{Div_1}{EPS_1} \times \frac{1}{r-g}$$

Dividend yield =
$$\frac{\text{dividend per share}}{\text{stock price}}$$

Market Value Ratios

Price per share =
$$P_0 = \frac{\text{Div}_1}{\text{r} - \text{g}}$$



Tobins Q =	market value of assets
	estimated replcement cost

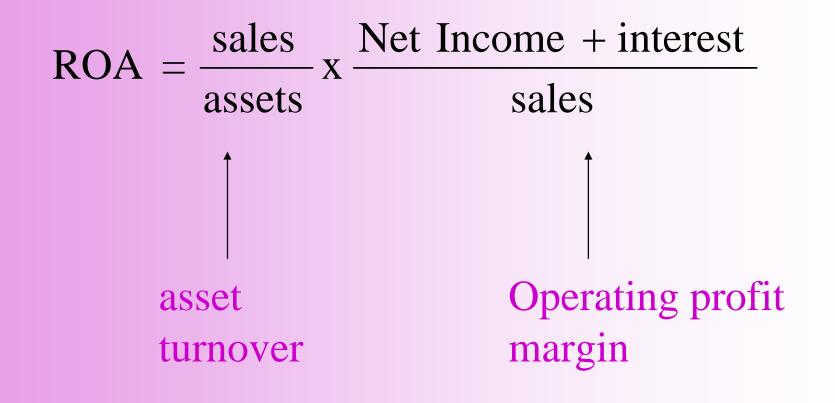
The DuPont System

A breakdown of ROE and ROA into component ratios

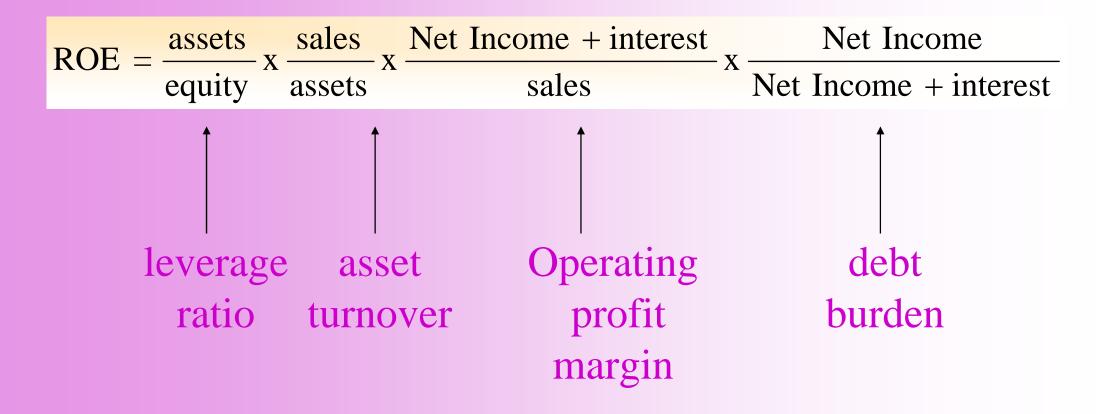
 $ROA = \frac{Net Income + interest}{assets}$

ROE = $\frac{\text{earnings available for common stock}}{\text{equity}}$

The DuPont System



The DuPont System



Using Financial Ratios

Financial ratios for selected				
	All Manufacturing	Food	Retail Trade	Pharma
LT Debt ratio	0.48	0.55	0.46	0.46
Total debt ratio	0.61	0.67	0.62	0.63
NWC/Assets	0.06	0.08	0.15	0.02
Current ratio	1.22	1.3	1.48	1.06
Cash ratio	0.24	0.19	0.18	0.29
Asset turnover	0.88	1.44	2.29	0.72
Net profit margin	3.0%	1.9%	4.2%	22.7%
ROA	0.7%	0.7%	2.4%	4.1%
ROE	0.2%	0.2%	3.7%	7.6%

Using Financial Ratios

Financial ratios for selected industry groups, 4th quarter, 2001						
		All Manufacturing	Petroleum	Aerospace		
LT Debt ratio		0.48	0.41	0.52		
Total debt ratio		0.61	0.51	0.69		
NWC/Assets		0.06	0.01	0.05		
Current ratio		1.22	1.04	1.14		
Cash ratio		0.24	0.21	0.05		
Asset turnover		0.88	0.9	0.98		
Net profit margin		3.0%	1.5%	2.5%		
ROA		0.7%	0.3%	0.6%		
ROE		0.2%	0.5%	1.5%		

MVA & Economic Profit

Market Value Added = The difference between the market value of common stock and its book value

Economic Profit = capital invested multiplied by the spread between return on investment and the cost of capital.

EP = Economic Profit $= (ROI - r) \times \text{Capital Invested}$

Residual Income & EVA

Residual Income or EVA = Net Dollar return after deducting the cost of capital

EVA = Residual Income

= Income Earned - income required

= Income Earned - [Cost of Capital × Investment]

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Measuring Performance

Measures of Company Performance (ranked by MVA)						
	Market to	MVA	Return on	EVA		
	book ratio	(\$bil)	assets (%)	(\$bil)		
GE	6.6	426.6	20.4	5.9		
Microsoft	8.8	217.2	39.1	5.9		
Wal-Mart Stores	4.4	206.2	12.8	1.6		
Merck & Co.	7.1	203.7	24.0	4.8		
Phillip Morris	2.1	72.0	17.4	6.1		
ExonMobil	1.9	155.9	10.5	5.4		
Viacom	1.3	22.6	2.0	-4.4		
General Motors	0.7	-29.2	5.7	-1.1		
WorldCom	0.7	-31.8	6.3	-5.4		
AT&T	0.6	-87.2	4.5	-10.0		