Week 3

3.2 Ratio Analysis

- Ratios also allow for better comparison through time or between companies.
- As we look at each ratio, ask yourself:
  - How is the ratio computed?
  - What is the ratio trying to measure and why?
  - What is the unit of measurement?
  - What does the value indicate?
  - How can we improve the company's ratio?

Categories of Financial Ratios

- Short-term solvency or liquidity ratios
- Long-term solvency or financial leverage ratios
- Asset management or turnover ratios
- Profitability ratios
- Market value ratios

Computing Liquidity Ratios

- Current Ratio = CA / CL.
- Quick Ratio = (CA – Inventory) / CL
- Cash Ratio = Cash / CL
- What does having high short-term solvency ratios imply? Good or bad?

Computing Leverage Ratios

- Total Debt Ratio = (A – E) / A
- Debt/Equity = D / E
- Equity Multiplier = A / E = 1 + D/E
- What does having high long-term solvency ratios imply? Good or bad?

Computing Coverage Ratios

- Times Interest Earned = EBIT / Interest

- Cash Coverage = (EBIT + Depreciation + Amortization) / Interest

Computing Inventory Ratios

- Inventory Turnover = Cost of Goods Sold / Inventory
  - 1344 / 422 = 3.2 times
- Days' Sales in Inventory = 365 / Inventory Turnover
  - 365 / 3.2 = 114 days
- What would make you under or overestimate these values?
  - Remedy?

Computing Receivables Ratios

- Receivables Turnover = Sales / Accounts Receivable
  - 2311 / 188 = 12.3 times
- Days' Sales in Receivables = 365 / Receivables Turnover
  - 365 / 12.3 = 30 days
- What would make you under or overestimate these values?
  - Remedy?

Computing Total Asset Turnover

- Total Asset Turnover = Sales / Total Assets
  - 2311 / 3588 = .64 times
  - It is not unusual for TAT < 1, especially if a firm has a large amount of fixed assets.
  - What can be good and bad about a high TAT?

Computing Profitability Measures

- Profit Margin = Net Income / Sales
- Return on Assets (ROA) = Net Income / Total Assets
- Return on Equity (ROE) = Net Income / Total Equity
- Why invest in low profit margin companies?
- (Future Poll)

Computing Market Value Measures

- Earning Per Share = NI / Shares Outstanding
- PE Ratio = Price per share / Earnings per share
- Market Capitalization = $88 per share x 33 million shares = 2904 million
- Valuation: Balance Sheet or Market Capitalization?
- (Future Poll)

Using Financial Statements

- Ratios are not very helpful by themselves: they need to be compared to something
- Time-Trend Analysis
  - Used to see how the firm's performance is changing through time
- Peer Group Analysis
  - Compare to similar companies or within industries
  - SIC and NAICS codes

Du-Pont Identity

- ROE = NI / E
- = (NI/ E) x (Assets / Assets) x (Sales / Sales)
- = (NI/Sales) x (Sales / Assets) x (Assets / Equity)
- ROE = PM x TAT x EM

Financial Planning

- Determine your objective growth
- Mostly market conditions along with your operational and financial capabilities will be instrumental
- Determine what increase you need in your assets to achieve your objective
- Figure out the funding

Income Statement			Balance Sheet		
Sales	$1,000	Assets	$500	Debt	$250
Costs	800			Equity	250
Net income	$ 200	Total	$500	Total	$500

Pro Forma Income Statement	
Sales	$1,200
Costs	960
Net income	$ 240

Pro Forma Balance Sheet					
Assets	$600	(+100)	Debt	$300	(+50)
			Equity	300	(+50)
Total	$600	(+100)	Total	$600	(+100)

Income Statement			Balance Sheet		
Sales	$1,000	Assets	$500	Debt	$250
Costs	800			Equity	250
Net income	$ 200	Total	$500	Total	$500

Pro Forma Income Statement	
Sales	$1,200
Costs	960
Net income	$ 240

Pro Forma Balance Sheet					
Assets	$600	(+100)	Debt	$110	(−140)
			Equity	490	(+240)
Total	$600	(+100)	Total	$600	(+100)

Income Statement		
Sales		$1,000
Costs		800
Taxable income		$ 200
Taxes (34%)		68
Net income		$ 132
Dividends	$44	
Addition to retained earnings	88	

Pro Forma Income Statement	
Sales (projected)	$1,250
Costs (80% of sales)	1,000
Taxable income	$ 250
Taxes (34%)	85
Net income	$ 165

Balance Sheet

Assets			Liabilities and Owners' Equity		
	$	Percentage of Sales		$	Percentage of Sales
Current assets			Current liabilities		
Cash	$ 160	16%	Accounts payable	$ 300	30%
Accounts receivable	440	44	Notes payable	100	n/a
Inventory	600	60	Total	$ 400	n/a
Total	$1,200	120	Long-term debt	$ 800	n/a
Fixed assets			Owners' equity		
Net plant and equipment	$1,800	180	Common stock and paid-in surplus	$ 800	n/a
			Retained earnings	1,000	n/a
			Total	$1,800	n/a
Total assets	$3,000	300%	Total liabilities and owners' equity	$3,000	n/a

Partial Pro Forma Balance Sheet

Assets	Next Year	Change from Current Year	Liabilities and Owners' Equity	Next Year	Change from Current Year
Current assets			Current liabilities		
Cash	$ 200	$ 40	Accounts payable	$ 375	$ 75
Accounts receivable	550	110	Notes payable	100	0
Inventory	750	150	Total	$ 475	$ 75
Total	$1,500	$300	Long-term debt	$ 800	$ 0
Fixed assets			Owners' equity		
Net plant and equipment	$2,250	$450	Common stock and paid-in surplus	$ 800	$ 0
			Retained earnings	1,110	110
			Total	$1,910	$110
Total assets	$3,750	$750	Total liabilities and owners' equity	$3,185	$185
			External financing needed	$ 565	$565

Pro Forma Balance Sheet

Assets	Next Year	Change from Current Year	Liabilities and Owners' Equity	Next Year	Change from Current Year
Current assets			Current liabilities		
Cash	$ 200	$ 40	Accounts payable	$ 375	$ 75
Accounts receivable	550	110	Notes payable	325	225
Inventory	750	150	Total	$ 700	$300
Total	$1,500	$300	Long-term debt	$1,140	$340
Fixed assets			Owners' equity		
Net plant and equipment	$2,250	$450	Common stock and paid-in surplus	$ 800	$ 0
			Retained earnings	1,110	110
			Total	$1,910	$110
Total assets	$3,750	$750	Total liabilities and owners' equity	$3,750	$750