We have also seen how Excel can be programmed to do a rudimentary ratio analysis automatically, using only a few of the built-in logical functions. Table 4-1 provides a summary of the ratio formulas that were presented in this chapter. Finally, we looked at the concept of economic profit and saw how it can give a much clearer picture of a firm's financial health than traditional accounting profit measures.

use "Sales" for "Credit Sales"

TABLE 4-1
SUMMARY OF FINANCIAL RATIOS

Name of Ratio	Formula	Page
Liquidity Ratios		
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	103
Quick Ratio	$\frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$	104
Efficiency Ratios		
Inventory Turnover	$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$	105
Accounts Receivable Turnover	$\frac{\text{Credit Sales}}{\text{Accounts Receivable}}$	106
Average Collection Period	$\frac{\text{Accounts Receivable}}{\text{Annual Credit Sales}/360}$	107
Fixed Asset Turnover	$\frac{\text{Sales}}{\text{Net Fixed Assets}}$	108
Total Asset Turnover	$\frac{\text{Sales}}{\text{Total Assets}}$	108
Leverage Ratios		
Total Debt Ratio	$\frac{\text{Total Debt}}{\text{Total Assets}}$	110
Long-Term Debt Ratio	$\frac{\text{Long-Term Debt}}{\text{Total Assets}}$	110

TABLE 4-1 (CONTINUED)
SUMMARY OF FINANCIAL RATIOS

Name of Ratio	Formula	Page
LTD to Total Capitalization	$\frac{\text{LTD}}{\text{LTD + Preferred Equity + Common Equity}}$	111
Debt to Equity	$\frac{\text{Total Debt}}{\text{Total Equity}}$	111
LTD to Equity	$\frac{\text{LTD}}{\text{Preferred Equity + Common Equity}}$	112
Coverage Ratios		
Times Interest Earned	$\frac{\text{EBIT}}{\text{Interest Expense}}$	113
Cash Coverage Ratio	$\frac{\text{EBIT + Non-Cash Expenses}}{\text{Interest Expense}}$	114
Profitability Ratios		
Gross Profit Margin	$\frac{\text{Gross Profit}}{\text{Sales}}$	115
Operating Profit Margin	$\frac{\text{Net Operating Income}}{\text{Sales}}$ (EBIT)	116
Net Profit Margin	$\frac{\text{Net Income}}{\text{Sales}}$	116
Return on Total Assets	$\frac{\text{Net Income}}{\text{Total Assets}}$	117
Return on Equity	$\frac{\text{Net Income}}{\text{Total Equity}}$	117
Return on Common Equity	$\frac{\text{Net Income Available to Common}}{\text{Common Equity}}$	118
Du Pont Analysis of ROE	$\frac{\text{Net Profit Margin} \times \text{Total Asset Turnover}}{1 - \text{Total Debt Ratio}}$	119

Non-Cash Expenses = Depreciation

Net Working Capital = (Total Current Assets − Total Current Liabilities)

Du Pont RoE = $\frac{\text{Net Profit Margin} \times \text{Total Asset Turnover}}{1 - \text{Total Debt Ratio}}$

Z-Score for Public Companies : $Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + X_5$

where X_1 = net working capital / total assets

X_2 = retained earnings / total assets

X_3 = EBIT / total assets

X_4 = Market value of all equity / total liabilities

X_5 = Sales / total assets