Financial Analysis and the Statement of Cash Flows

Part 2

Your goals for this “analysis and cash flows” chapter are to learn about:

- Tools for financial statement analysis.
- Evaluating cash flow and the cash flow statement.
- Categories of business activity: operating, investing, and financing.
- Noncash investing/financing activities.
- The direct approach to preparing a statement of cash flows.
- The indirect approach to presenting operating activities.
- Using a worksheet to prepare a statement of cash flows.

8. Financial Statement Analysis

As you know, this text provides a substantial amount of material about accounting principles, and anyone wishing to study it with due diligence can learn valuable insights about accounting. Does the mere fact that this text exists mean that everyone with access now knows about accounting principles? Obviously not. Does it mean that everyone who happens to "read it" will learn about accounting? Again, no. By analogy, the same can be said about financial information. Companies, especially public companies, spend substantial amounts of money preparing and presenting financial statements that are readily available (the reports for U.S. public companies are freely available at www.sec.gov). Does this mean that everyone with internet access now has in-depth knowledge about these companies? For that matter, if you print the annual report of a company that you find interesting, does this really help you? My point is that some degree of study is required to benefit from information.

It is important for you to know that CPAs and the SEC provide safeguards to protect the integrity of reported information, but this is entirely different than suggesting that reporting companies are necessarily good investments. For example, a company could report that its revenue stream is in decline, expenses are on the rise, and significant debt is coming due without a viable plan for making the payments. The financial statements may fully report this predicament with perfect integrity, painting a rather gloomy picture. But, if financial statement users choose to ignore that report, only they are to blame.

The moral of the preceding point is that you must be very thorough in examining the financial statements of companies in which you are considering making an investment. It is not sufficient to merely determine that reports exist and look nice; you must study them, drill down in the detail, and think carefully about what you are observing. Sometimes, the evaluation of complex situations can be assisted by utilization of key metrics or ratios. For example, a doctor will consider your health in conjunction with measurements of your blood pressure, heart rate, cholesterol level, etc. Likewise, you measure a company's health by considering certain important ratios.

The following ratios have been presented throughout this book series and are summarized below.

LIQUIDITY AND DEBT SERVICE RATIOS		
Current Ratio	Current Assets/ Current Liabilities	A measure of liquidity; the ability to meet near-term obligations
Quick Ratio	(Cash + Short-term Investments + Accts. Receivable)/ Current Liabilities	A narrow measure of liquidity; the ability to meet near-term obligations
Debt to Total Assets Ratio	Total Debt/ Total Assets	Percentage of assets financed by long-term and short-term debt
Debt to Total Equity Ratio	Total Debt/ Total Equity	Proportion of financing that is debt-related
Times Interest Earned Ratio	Income Before Income Taxes and Interest/ Interest Charges	Ability to meet interest obligations
TURNOVER RATIOS		
Accounts Receivable Turnover Ratio	Net Credit Sales/ Average Net Accounts Receivable	Frequency of collection cycle; to monitor credit policies
Inventory Turnover Ratio	Cost of Goods Sold/ Average Inventory	Frequency of inventory rotation; to monitor inventory management
PROFITABILITY RATIOS		
Net Profit on Sales Ratio	Net Income/ Net Sales	Profitability on sales; for comparison and trend analysis
Gross Profit Margin Ratio	Gross Profit/ Net Sales	Gross profit rate; for comparison and trend analysis
Return on Assets Ratio	(Net Income + Interest Expense)/ Average Assets	Asset utilization in producing returns
Return on Equity Ratio	(Net Income - Preferred Dividends)/ Average Common Equity	Effectiveness of equity investment in producing returns
OTHER INDICATORS		
EPS	Income Available to Common/ Weighted-Average Number of Common Shares	Amount of earnings attributable to each share of common stock
P/E	Market Price Per Share/ Earnings Per Share	The price of the stock in relation to earnings per share
Dividend Rate/Yield	Annual Cash Dividend/ Market Price Per Share	Direct yield to investors through dividend payments
Dividend Payout Ratio	Annual Cash Dividend/ Earnings Per Share	Proportion of earnings distributed as dividends
Book Value	"Common" Equity/ Common Shares Outstanding	The amount of stockholders' equity per common share outstanding

8.1 Comprehensive Illustration

At this point, it may be helpful to consider these ratios as they relate to a comprehensive illustration. Following are financial statements for Emerson Corporation. Study them carefully. Then, examine the ratio calculations for Emerson Corporation that can be found immediately following the financial statements.

8.2 Balance Sheet

EMERSON CORPORATION
Comparative Balance Sheet
December 31, 20X5 and 20X4

ASSETS	20X5	20X4
Current assets		
Cash	$ 700,000	$ 170,000
Accounts receivable	850,000	600,000
Inventory	180,000	220,000
Total current assets	$ 1,730,000	$ 990,000
Property, plant & equipment		
Land	$ 800,000	$ 1,400,000
Building	1,000,000	700,000
Equipment	1,050,000	900,000
	$ 2,850,000	$ 3,000,000
Less: Accumulated Depreciation	(480,000)	(360,000)
Total property, plant & equipment	$ 2,370,000	$ 2,640,000
Total assets	$ 4,100,000	$ 3,630,000
LIABILITIES		
Current liabilities		
Accounts payable	$ 270,000	$ 200,000
Wages payable	20,000	50,000
Total current liabilities	$ 290,000	$ 250,000
Long-term liabilities		
Long-term loan payable	900,000	1,800,000
Total liabilities	$ 1,190,000	$ 2,050,000
STOCKHOLDERS' EQUITY		
Preferred stock	$ 300,000	$ -
Common stock ($1 par)	910,000	900,000
Paid-in capital in excess of par	370,000	300,000
Retained earnings	1,330,000	380,000
Total stockholders' equity	$ 2,910,000	$ 1,580,000
Total liabilities and equity	$ 4,100,000	$ 3,630,000

8.3 Income Statement

EMERSON CORPORATION
Income Statement
For the Year Ending December 31, 20X5

Revenues		$ 3,250,000
Cost of goods sold		1,160,000
Gross profit		$ 2,090,000
Operating expenses		
Wages	$ 450,000	
Interest	100,000	
Depreciation	120,000	
Other operating expenses	270,000	(940,000)
Gain on sale of land		150,000
Income before income taxes		$ 1,300,000
Income taxes		300,000
Net income		$ 1,000,000

8.4 Statement of Retained Earnings

EMERSON CORPORATION Statement of Retained Earnings For the Year Ending December 31, 20X5	
Beginning retained earnings, Jan. 1	$ 380,000
Net income	1,000,000
	$ 1,380,000
Less: Dividends on common	50,000
Ending retained earnings, Dec. 31	$ 1,330,000

8.5 Ratios for Emerson Corporation as of December 31, 20x5

Additional facts: No dividends were due or paid on the $300,000 of preferred stock which was issued in exchange for a building in late 20X5. Average common equity is assumed to be $2,095,000 ((($2,910,000 - $300,000) + $1,580,000)/2). Assume most other balance sheet items change uniformly throughout the year (e.g., average receivables = ($600,000 + $850,000)/2 = $725,000, etc.). The year end market value of the common stock was $10 per share, and the cash dividend was paid on shares outstanding at the end of the year ($50,000/910,000 shares = $0.055 per share).

Current Ratio	Current Assets/ Current Liabilities	$1,730,000/$290,000 = 5.97
Quick Ratio	(Cash + Short-term Investments + Accts. Receivable)/ Current Liabilities	$1,550,000/$290,000 = 5.34
Debt to Total Assets Ratio	Total Debt/ Total Assets	$1,190,000/$4,100,000 = 0.29
Debt to Total Equity Ratio	Total Debt/ Total Equity	$1,190,000/$2,910,000 = 0.41
Times Interest Earned Ratio	Income Before Income Taxes and Interest/ Interest Charges	$1,400,000/$100,000 = 14
Accounts Receivable Turnover Ratio	Net Credit Sales/ Average Net Accounts Receivable	$3,250,000/$725,000 = 4.48
Inventory Turnover Ratio	Cost of Goods Sold/ Average Inventory	$1,160,000/$200,000 = 5.8
Net Profit on Sales Ratio	Net Income/ Net Sales	$1,000,000/$3,250,000 = 31%
Gross Profit Margin Ratio	Gross Profit/ Net Sales	$2,090,000/$3,250,000 = 64%
Return on Assets Ratio	(Net Income + Interest Expense)/ Average Assets	$1,100,000/$3,865,000 = 28%
Return on Equity Ratio	(Net Income - Preferred Dividends)/ Average Common Equity	$1,000,000/$2,095,000 = 48%
EPS	Income Available to Common/ Weighted-Average Number of Common Shares	$1,000,000/905,000 = $1.11
P/E	Market Price Per Share/ Earnings Per Share	$10/$1.11 = 9
Dividend Rate/Yield	Annual Cash Dividend/ Market Price Per Share	$0.055/$10 = 0.55 %
Dividend Payout Ratio	Annual Cash Dividend/ Earnings Per Share	$0.055/$1.11 = 5.0%
Book Value	“Common” Equity/ Common Shares Outstanding	$2,610,000/910,000 = $2.87

In examining the ratios of Emerson, it would appear that the company is doing fairly well. Its liquidity suggests no problem in meeting obligations, the debt is at a manageable level, receivables and inventory appear to be turning reasonably well, and profits are good.

8.6 Trend Analysis

Financial statement data are often reproduced in percentage terms. For example, Emerson's cash is 17% of total assets ($700,000/$4,100,000). Such percentage data can be monitored closely, year after year. This provides sharp investors and managers with a keen sense of subtle shifts that can foretell changes in the underlying business environment.