

A Cash Manager's Perspective on Company Financials

Chapter Goals

This chapter covers the following topics, and includes illustrations and worked examples of all the key metrics:

- Interrelation of the operating, cash, and accounting cycles
- Important metrics
 - Liquidity
 - Leverage
 - Capital structure
 - Performance
 - Efficiency
 - Risk-adjusted performance measures
 - Risk management

Introduction

Financial managers and cash managers frequently work from the same information, such as a company's financial statements, but view the statements from different perspectives and interpret them differently. A company's balance sheet allows the cash manager to compare his company's performance with that of the industry, it provides key indicators as to how efficiently cash is being managed, and it is most importantly a measure of the company's liquidity. The balance sheet is a very important metric for cash managers.

Even if the accounting and cash positions are combined, as in smaller companies, each function will nevertheless require a very different analysis of the information. Accountants analyze ratios and make comparisons with industry averages over the long term, whereas cash managers, and the bankers who serve them, look for indications that in the short term a company can pay its bills and stay in business. This chapter examines how cash managers analyze financial statements and how they use many important accounting concepts to measure performance and manage cash.

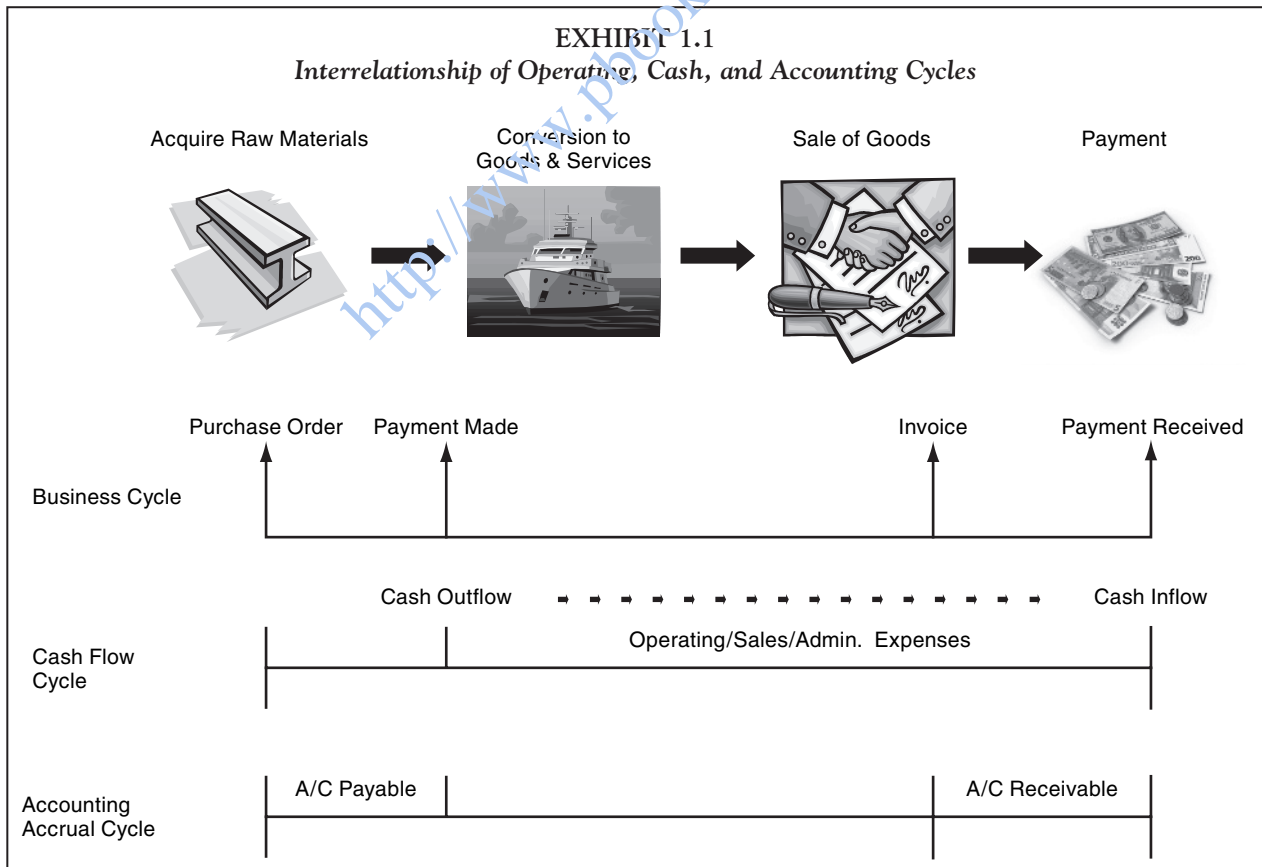
Interrelationship of the Operating, Cash, and Accounting Cycles

A company has many different cycles:

- The business, or operating, cycle looks at the production flow from the purchase of raw materials to the sale of finished goods.
- The cash flow cycle concerns actual cash inflows and outflows, paying for materials, paying for ongoing expenses, and the eventual receipt of proceeds from the sale.
- The accounting cycle records the events in the operating cycle and anticipates the events of the cash flow cycle.

How these three cycles interrelate in an ongoing operation is illustrated in Exhibit 1.1.

Depending on your position in the company, you will have more interest in one cycle than another. Senior management is interested in the details of the business cycle. At what price are the goods being manufactured and at what price are they being sold, within what time frame? The perspective of the senior manager is the long-term viability of the business. The cash manager is watching when payments need to be made and when payments can be expected to be received. Timing is also important for the cash manager because the outflows must be financed until the inflows begin. The cash flow cycle does not end until available funds are in the bank. A cash management perspective is short-term. The accountant, on the other hand, needs to record the events. Most companies produce their financial statements on the accrual



method, that is, expenses and income are recognized as soon as they are contracted, and thus their accountants follow an accounting accrual cycle. What is important to the accountant is the date on which a purchase has been made and the date at which a sale has been recorded. An accountant's perspective is the length of the accounting cycle—usually one year.

It is possible for these three different perspectives of a company to produce widely varying impressions of the company's financial position. The senior manager may believe that because the raw materials are being purchased at a low price and being sold at a high price, the business has long-term viability. The accountant, seeing that raw materials are being purchased at a low price and that a sale of the goods has been recorded, judges the company to be profitable. The cash manager, on the other hand, sees that raw materials have been paid for but the proceeds for the sale are slow in coming. In the meantime, operating and ongoing expenses continue to drain the cash reserves. The cash manager is concerned that the company could become insolvent if the cash doesn't start flowing in soon. It is important not to confuse solvency with liquidity. Solvency is an accounting term that refers to the net position of a company's assets minus liabilities. Liquidity, however, is a cash management term for being able to pay obligations when due. It is possible for a solvent company to go bankrupt. It is equally possible for an insolvent company, once protected by bankruptcy laws, to remain liquid through ongoing operations and disposition of assets.

Treasury Tip: Reconciling the Balance Sheet to the Statement of Cash Flows

Although the balance sheet and income statement provide an indication of a company's financial health and performance, the company's cash position is what is important in indicating whether debt, bills, and investors can be paid. The accountant or financial manager concentrates on the balance sheet, and the cash manager concentrates on the statement of cash flows. The statement of cash flows shows the sources and uses of cash using the profit and loss statement and the balance sheet, and explains the net increase or decrease in a company's cash position between the two periods.

Important Metrics

The stakeholders in a company (the creditors, the investors, the customers, and the employees) analyze financial statements to determine past performance (as a predictor of future performance) and to assess current liquidity and leverage. The statements can also be used as the basis for cash flow and financial forecasting. Finance professionals can make the greatest impact on shareholder value by understanding the impact of strategic decisions on the company's financial statements. We next describe and illustrate some of the key metrics that allow stakeholders to analyze a company's financial health. Ratio analysis is one of the basic tools that allows managers and investors to state meaningful relationships between the components of a company's financial statements. Ratios are useful in evaluating a company's financial position and operations and in making comparisons not only with results in previous years to identify trends but also with other companies in the industry to analyze competitive position.

Liquidity Ratios

Liquidity ratios (Exhibit 1.2) measure a company's ability to meet current obligations. Note that they are only meaningful to the extent that they are viewed in the context of what is usual for an industry. The ratios, therefore, are not an absolute benchmark but are indicative of performance vis-à-vis the industry as a whole.

EXHIBIT 1.2
Liquidity Ratios

<i>Ratio</i>	<i>Formula</i>	<i>Definition</i>	<i>Comments</i>
<i>Current ratio</i>	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Indicates current ability to pay current obligations.	<ul style="list-style-type: none"> • The current ratio includes current assets that are not very liquid, such as inventory and prepaid expenses. • Does not take asset quality into account. • Assumes all current assets can be converted into cash. • Snapshot at one point in time.
<i>Quick ratio</i> <i>(acid test)</i>	$\frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}}$	A more conservative measure of liquidity than the current ratio, the quick ratio indicates the extent to which current liabilities are covered by the <i>most liquid</i> current assets.	<ul style="list-style-type: none"> • The quick ratio provides a more stringent test of liquidity by measuring only those items that can be quickly converted into cash. • The ratio does not take collectibility or timing of accounts receivable into account.
<i>Cash flow to total debt ratio</i>	$\frac{\text{Net Income} + \text{Depreciation}}{\text{Short-Term Debt} + \text{Long-Term Debt}}$	Measures the extent to which <i>cash flows</i> cover total debt.	<ul style="list-style-type: none"> • The most conservative view of liquidity. • Depreciation is added back into net income because it is not a cash outflow but an accounting convention. • A low ratio signals an inability to repay debt and has proven to be a good predictor of companies experiencing financial difficulties.

Leverage Ratios

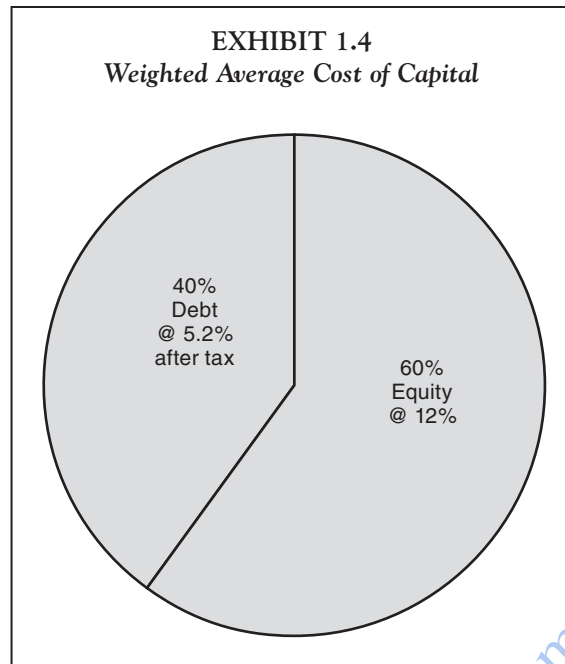
Leverage ratios (Exhibit 1.3) compare the funds supplied by the business owners with financing supplied from other sources. These ratios are often employed in debt management, and they measure a company's creditworthiness. They are also used as covenants in loan agreements to prevent a company from becoming overleveraged.

Capital Structure—Weighted Average Cost of Capital

One of the key tools in assessing capital and capital structure is the weighted average cost of capital (WACC). The WACC (Exhibit 1.4) is the tool most often used to calculate a company's overall cost of debt. Although the objective is to minimize the cost of capital, using too much debt (which is typically less expensive than the rate of return expected or demanded on equity) can cause a company to become highly leveraged and less attractive to a lender or investor. Very often a bank's loan documents stipulate restrictions on the amount of debt a company can raise, to ensure that its ability to repay the debt is not impaired by a heavy burden of interest payments. The WACC averages the cost of equity and debt in relation to their proportionate weighting in the overall capital structure.

Debt is typically lower in cost because the interest paid is usually tax deductible (preferential) and it is repaid before equity should the company be liquidated. The WACC tells the company how much each dollar it uses to support its business assets will cost, and is often used as the discount rate for evaluating investing in internal projects.

EXHIBIT 1.3 Leverage Ratios			
<i>Ratio</i>	<i>Formula</i>	<i>Definition</i>	<i>Comments</i>
<i>Times interest earned ratio (TIE)</i>	$\frac{\text{Operating Profit}}{\text{Interest Expense}}$	Determines a company's ability to repay debt from earnings.	<ul style="list-style-type: none"> • The higher the TIE ratio, the better the company's ability to pay off debt. • This does not consider leased assets or other obligations under lease contracts.
<i>Long-term debt to capital ratio</i>	$\frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Equity}}$	Measures the degree to which a company is leveraged and what percentage of its capital is provided by long-term debt.	<ul style="list-style-type: none"> • A high ratio indicates a highly leveraged company and greater risk.
<i>Debt to assets ratio</i>	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$	Indicates what percentage of the assets are funded by external sources.	<ul style="list-style-type: none"> • The lower the ratio, the more creditors are protected against losses in the event of liquidation. • Higher-risk activities should have a larger equity cushion.



In this example, the weighted average cost of capital is 9.28%. The calculation is shown on page 11.

Performance Measures

Performance measures are ratios that measure management's ongoing performance and its ability to control expenses and generate a return on investment. Performance ratios look at a company's income-generating capability in relation to other important company financials. Because managers are usually given performance objectives, defined in terms of performance ratios, it is important that these measures be framed in such a way as to motivate managers to take actions that are in the best interest of the owners of the business (see Exhibit 1.5).

Efficiency Ratios

Efficiency ratios look at management's ability to effectively manage and control the use of cash and assets (see Exhibit 1.6). In the following chapter, we discuss how cash managers use the cash conversion cycle to determine working capital needs and how the cycle can be made more efficient.

Risk-Adjusted Performance Measures

Risk-adjusted performance measures take performance ratios one step further by adjusting the returns for risk. These ratios are based on the principle that shareholder value is created when earnings on invested capital exceed the cost of capital when adjusted for the risks of the business and the time frame within which results are expected. Some businesses are riskier than others, and the degree of risk is an important factor to consider. Associated with the risk of the business is the aspect of timing. Results must be achieved within an acceptable time frame. Sophisticated proprietary models, such as risk-adjusted return on risk-adjusted capital (RARORAC), have had a limited appeal until now due to their complexity. The combined impact of improved technology, increased market volatility, and new regulations, however, may result in growing popularity of these techniques.

EXHIBIT 1.5
Performance Measures

Ratio	Formula	Definition	Comments
Return on equity (ROE)	$\frac{\text{Net Income}}{\text{Equity}}$	Measures the return as a percentage of owners' equity.	<ul style="list-style-type: none"> Provides a good indication of management's ability to run a profitable business. A good ROE improves a company's ability to generate additional capital. Reflects the return that is <i>potentially</i> available to shareholders. Dividends are what is <i>actually</i> paid out to shareholders. Any excess profit is retained as part of equity.
Return on sales (ROS) (Net profit margin)	$\frac{\text{Net Income}}{\text{Revenues}}$	Measures the profit margin.	<ul style="list-style-type: none"> Indicates the percentage net return to shareholders on every dollar of sales. Often used as the hurdle rate when assessing new products.
Return on assets (ROA)	$\frac{\text{Net Income}}{\text{Total Assets}}$	Compares the net income as a percentage of the asset base.	<ul style="list-style-type: none"> Measures a company's productivity <i>after taxes</i>. Some industry averages use operating profit rather than net profit.
Economic value added (EVA)	$(\text{Operating Profit} \times (1 - \text{Tax Rate})) - (\text{WACC} \times \text{Total Capital})$	Compares the aftertax operating profit after making a charge for the cost of capital.	<ul style="list-style-type: none"> Measures whether the return from the investment in the business is greater than the cost of capital. Tied directly to the market value of the company and measures the incremental value of being in business. A positive EVA means that ongoing operations are adding to the value of the company and the stock price. If the EVA increases, it can mean that the rate of return on capital has improved, that investments have been made in new projects yielding a higher return than the cost of new capital, or that capital has been withdrawn from projects and operations whose return is not greater than the cost of capital.

EXHIBIT 1.6
Efficiency Ratios

Ratio	Formula	Definition	Comments
<i>Net working capital</i>	Current Assets – Current Liabilities	Indicates the net assets available for working capital.	<ul style="list-style-type: none"> • A company's net working capital is crucial to short-term liquidity and long-term viability as a business. • Because current assets typically have a low rate of return, there is an opportunity cost to having too much liquidity.
<i>Days sales outstanding (DSO)</i>	$\frac{\text{Accounts Receivable}}{\text{Annual Sales}} \times 365$	Indicates the health of the collection process and credit screening abilities.	<ul style="list-style-type: none"> • A high DSO could indicate problems in converting sales into cash. • Decreasing DSO means greater operating efficiency. • DSO may reflect a company's payment terms or a high level of international sales for which payment is typically slower.
<i>Days payables outstanding (DPO)</i>	$\frac{\text{Accounts Payable}}{\text{Cost of Goods Sold}} \times 365$	Measures trade creditor financing of inventory.	<ul style="list-style-type: none"> • Provides an indication of payment policy. • Low or declining DPO may mean bills are being paid too quickly. • High or increasing DPO may indicate cash flow problems.
<i>Days inventory outstanding (DIO)</i>	$\frac{\text{Inventory}}{\text{Cost of Goods Sold}} \times 365$	Measures efficiency in managing inventory.	<ul style="list-style-type: none"> • Low or declining DIO means greater operating efficiency. • High or increasing DIO means decreasing efficiency.
<i>Cash conversion cycle (CCC)</i>	Days Inventory + Days sales – Days Payables	Indicates how long it takes to convert cash outflows into cash inflows.	<ul style="list-style-type: none"> • Depending on what is normal for the industry, the CCC provides an indicator of whether the company is using its cash efficiently or whether it might need to take steps to reduce inventory, speed up collections, or slow down payables.

Risk Management

Value-at-Risk

There are a number of techniques available to assess how the value of a company can be affected by financial risks, such as interest rate, foreign exchange, and commodity price risk. One of the more common current techniques is value-at-risk (VaR), which calculates the risk exposure in a portfolio of financial assets using historical data. Proprietary models, such as Monte Carlo simulations, measure risk covariance to a selected degree of statistical confidence. The result is a single measure that summarizes over a wide range of factors the risk as a function of the probability, and monetary impact, of adverse events over a period of time.

Enterprise Risk Management

Enterprise risk management (ERM) reaches further than VaR by attempting to evaluate potential business risks across all business lines and political situations. ERM considers risk as all encompassing and thus analyzes, for example, the impact of a significant product defect, and assigns probabilities to specific situations that could adversely affect a company.

Following the enactment of the Sarbanes-Oxley Act in 2002 (see Chapter 4 for more details), which requires companies to make full and complete disclosure of known risks, in 2004, the Committee of Sponsoring Organizations of the Treadway Commission, known as COSO, released the publication "Enterprise Risk Management—Integrated Framework," which was authored by PricewaterhouseCoopers. This principles-based framework provides direction and criteria for improving an organization's ability to manage risk. More information can be obtained at the following Web site: www.coso.org.

Treasury Tip: Comparative Industry Ratios

The Risk Management Association's (RMA) *eCompare2* product provides comparative industry ratios available online. Web site: www.rmahq.org.

Worked Examples of Company Metrics

For the purposes of illustration, the examples that follow are based on the abbreviated financial statements shown in Exhibit 1.7.

EXHIBIT 1.7 Sample Financial Statements

A. Income Statement (000s)

Revenues	\$53,786
Cost of Goods Sold	<u>33,245</u>
Gross Profit	20,541
General Operating Expenses	8,972
Depreciation	<u>2,554</u>
Operating Profit	9,015
Interest Expense	<u>4,228</u>
Net Profit before Taxes	4,787
Income Tax (35%)	<u>1,675</u>
Net Income	3,112
Dividends	<u>120</u>
Retained Earnings	<u>\$ 2,992</u>

EXHIBIT 1.7 (continued)			
B. Balance Sheet (000s)			
Assets		Liabilities and Equity	
Cash and Equivalents	\$ 75	Accounts Payable	\$ 2,333
Accounts Receivable	5,873	Notes Payable	2,541
Inventory	7,889	Deferred Taxes	1,220
Prepaid Expenses	<u>1,253</u>	Current Liabilities	6,094
Total Current Assets	15,090	Long-term Debt	<u>28,000</u>
		Total Liabilities	34,094
Fixed Assets	<u>46,996</u>	Common Stock	25,000
		Retained Earnings	2,992
		Total Equity	<u>\$27,992</u>
Total Assets	<u>\$62,086</u>	Total Liabilities and Equity	<u>\$62,086</u>

Worked Examples: Liquidity Ratios

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{15,090}{6,094} = 2.48$$

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}} = \frac{75 + 5,873}{6,094} = \frac{5,948}{6,094} = .98$$

$$\text{Cash flow to total debt ratio} = \frac{\text{Net Income} + \text{Depreciation}}{\text{Short-Term Debt} + \text{Long-Term Debt}} = \frac{3,112 + 2,554}{2,541 + 28,000} = \frac{5,666}{30,541} = .19$$

Worked Examples: Leverage Ratios

$$\text{Times interest earned ratio (TIE)} = \frac{\text{Operating Profit}}{\text{Interest Expense}} = \frac{9,015}{4,228} = 2.13 \text{ times}$$

$$\text{Long-term debt to capital ratio} = \frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Equity}} = \frac{28,000}{28,000 + 27,992} = 50\%$$

$$\text{Debt to assets ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}} = \frac{34,094}{62,086} = 55\%$$

Worked Example: Capital Structure—Weighted Average Cost of Capital

If a company has a capital structure of 40% debt costing 8% before taxes and 60% equity costing 12%, and a marginal tax rate of 35%, the WACC is calculated as follows:

$$\text{WACC} = (\text{Aftertax Cost of Debt} \times \% \text{ Debt}) + (\text{Cost of Equity} \times \% \text{ Equity})$$

$$\text{Aftertax Cost of Debt} = \text{Cost of Debt} \times (1 - \text{Tax Rate}) = .08 \times (1 - .35) = 5.2\%$$

$$\begin{aligned} \text{WACC} &= (.052 \times .40) + (.12 \times .60) \\ &= .0208 + .072 = .0928 = 9.28\% \end{aligned}$$

Worked Examples: Performance Measures

$$\text{Return on equity (ROE)} \quad \frac{\text{Net Income}}{\text{Equity}} = \frac{3,112}{27,992} = 11.12\%$$

$$\text{Return on sales (ROS)} \quad \frac{\text{Net Income}}{\text{Revenues}} = \frac{3,112}{53,786} = 5.79\%$$

$$\text{Return on assets (ROA)} \quad \frac{\text{Net Income}}{\text{Total Assets}} = \frac{3,112}{62,086} = 5.01\%$$

Economic value added (EVA)

Using a WACC of 9.28% and a tax rate of 35%:

$$\begin{aligned} \text{EVA} &= (\text{Operating Profit} \times (1 - \text{Tax Rate})) - (\text{WACC} \times \text{Total Capital}) \\ &= 9,015,000 \times (1 - .35) - (.0928 \times (28,000,000 + 27,992,000)) \\ &= 5,859,750 - 5,196,058 = 663,692 \end{aligned}$$

Worked Examples: Efficiency Ratios

$$\begin{aligned} \text{Net working capital (NWC)} & \quad \text{Current Assets} - \text{Current Liabilities} \\ & \quad = 15,090,000 - 6,094,000 = 8,996,000 \end{aligned}$$

$$\begin{aligned} \text{Days sales outstanding (DSO)} & \quad \text{Accounts Receivable/Annual Sales} \times 365 \\ & \quad = 5,873/53,786 \times 365 = 40 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Days payables outstanding (DPO)} & \quad \text{Accounts Payable/Cost of Goods Sold} \times 365 \\ & \quad = 2,333/33,245 \times 365 = 26 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Days inventory outstanding (DIO)} & \quad \text{Inventory/Cost of Goods Sold} \times 365 \\ & \quad = 7,889/33,245 \times 365 = 87 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Cash conversion cycle (CCC)} & \quad \text{Days Inventory} + \text{Days Sales} - \text{Days Payables} \\ & \quad = 87 + 40 - 26 = 101 \text{ days} \end{aligned}$$

Practical Applications

Using the annual reports for both your company and a couple of your major competitors (for publicly traded companies these are widely available on the Internet), calculate the ratios for each company for the past two years. Comparing the results for your company with those of the competition, what differences do you notice? What do you surmise about the differences, and what are they telling you about the financial health of your company compared with your competitors? Are there areas where you would like to see improvements?

Summary of Key Points

- Although pursuing different routes, the accountant and the cash manager both end up looking at a company's financials, albeit from two different perspectives.
- The business cycle is concerned with the operations of a company, the cash flow cycle looks at the timing of the cash inflows and outflows and the accounting cycle records the events of the business cycle in anticipation of the cash flows occurring.
- Ratios are an important way of evaluating a company's financial position in terms of trends and industry benchmarks.
- The types of ratios a cash manager is interested in analyzing are:
 - Liquidity ratios: Can a company meet its obligations?
 - Leverage ratios: Who is supplying the funds for operations, the business owners or other sources?
 - Capital structure: What is the average cost of capital?
 - Performance measurement: How well is management generating a return on investment?
 - Efficiency ratios: How efficiently are the company's cash and assets being used?
 - Risk-adjusted performance measures: How well is the company doing when the returns are adjusted for risk?

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