TABLE 1.4 Common Ratios to Measure a Firm's Accounting Performance

Ratio	Calculation	Interpretation
Profitability Ratios		
1. ROA	$\frac{\text{profit after taxes}}{\text{total assets}}$	A measure of return on total investment in a firm. Larger is usually better.
2. ROE	$\frac{\text{profit after taxes}}{\text{total stockholder's equity}}$	A measure of return on total equity investment in a firm. Larger is usually better.
3. Gross profit margin	$\frac{\text{sales} - \text{cost of goods sold}}{\text{sales}}$	A measure of sales available to cover operating expenses and still generate a profit. Larger is usually better.
4. Earnings per share (EPS)	$\frac{\text{profits (after taxes)} - \text{preferred stock dividends}}{\text{number of shares of common stock outstanding}}$	A measure of profit available to owners of common stock. Larger is usually better.
5. Price earnings ratio (p/e)	$\frac{\text{current market price/share}}{\text{after-tax earnings/share}}$	A measure of anticipated firm performance—a high p/e ratio tends to indicate that the stock market anticipates strong future performance. Larger is usually better.
6. Cash flow per share	$\frac{\text{after-tax profit} + \text{depreciation}}{\text{number of common shares stock outstanding}}$	A measure of funds available to fund activities above current level of costs. Larger is usually better.
Liquidity Ratios		
1. Current ratio	$\frac{\text{current assets}}{\text{current liabilities}}$	A measure of the ability of a firm to cover its current liabilities with assets that can be converted into cash in the short term. Recommended in the range of 2 to 3.
2. Quick ratio	$\frac{\text{current assets} - \text{inventory}}{\text{current liabilities}}$	A measure of the ability of a firm to meet its short-term obligations without selling off its current inventory. A ratio of 1 is thought to be acceptable in many industries.
Leverage Ratios		
1. Debt to assets	$\frac{\text{total debt}}{\text{total assets}}$	A measure of the extent to which debt has financed a firm's business activities. The higher, the greater the risk of bankruptcy.
2. Debt to equity	$\frac{\text{total debt}}{\text{total equity}}$	A measure of the use of debt versus equity to finance a firm's business activities. Generally recommended less than 1.
3. Times interest earned	$\frac{\text{profit before interest and taxes}}{\text{total interest charges}}$	A measure of how much a firm's profits can decline and still meet its interest obligations. Should be well above 1.

Activity Ratios		
1. Inventory turnover	$\frac{\text{sales}}{\text{inventory}}$	A measure of the speed with which a firm's inventory is turning over.
2. Accounts receivable turnover	$\frac{\text{annual credit sales}}{\text{accounts receivable}}$	A measure of the average time it takes a firm to collect on credit sales.
3. Average collection period	$\frac{\text{accounts receivable}}{\text{average daily sales}}$	A measure of the time it takes a firm to receive payment after a sale has been made.

standards and principles are not applied in generating a firm's accounting statements, or to the extent that different firms use different accounting standards and principles in generating their statements, it can be difficult to compare the accounting performance of firms. As described in the Global Perspectives feature, these issues can be particularly challenging when comparing the performance of firms in different countries around the world.

One way to use a firm's accounting statements to measure its competitive advantage is through the use of accounting ratios. **Accounting ratios** are simply numbers taken from a firm's financial statements that are manipulated in ways that describe various aspects of a firm's performance. Some of the most common accounting ratios that can be used to characterize a firm's performance are presented in Table 1.4. These measures of firm accounting performance can be grouped into four categories: (1) **profitability ratios**, or ratios with some measure of profit in the numerator and some measure of firm size or assets in the denominator; (2) **liquidity ratios**, or ratios that focus on the ability of a firm to meet its short-term financial obligations; (3) **leverage ratios**, or ratios that focus on the level of a firm's financial flexibility, including its ability to obtain more debt; and (4) **activity ratios**, or ratios that focus on the level of activity in a firm's business.

Of course, these ratios, by themselves, say very little about a firm. To determine how a firm is performing, its accounting ratios must be compared with some standard. In general, that standard is the average of accounting ratios of other firms in the same industry. Using ratio analysis, a firm earns **above average accounting performance** when its performance is greater than the industry average. Such firms typically have competitive advantages, sustained or otherwise. A firm earns **average accounting performance** when its performance is equal to the industry average. These firms generally enjoy only competitive parity. A firm earns **below average accounting performance** when its performance is less than the industry average. These firms generally experience competitive disadvantages.

Consider, for example, the performance of Apple Computer. Apple's financial statements for 2007 and 2008 are presented in Table 1.5. Losses in this table would be presented in parentheses. Several ratio measures of accounting performance are calculated for Apple in these two years in Table 1.6.

Apple's sales increased dramatically from 2007 to 2008, from just over \$24 billion to just under \$32.5 billion. However, some profitability accounting ratios suggest that its profitability dropped somewhat during this same time period, from a return on total assets (ROA) of 0.138 to 0.122, and from a return on equity (ROE) of 0.241 to 0.230. On the other hand, Apple's gross profit margin increased from 0.340 to 0.343. So its sales went up, its overall profitability went