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ANNUAL STATEMENT STUDIES

FINANCIAL RATIO BENCHMARKS

2016 2017

RMA
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Supplemental Information:

*General Industries Format means that a valid construction NAICS was assigned to the subject companies contained in the sample; however, the financial statements were prepared using a general or traditional manufacturing or service industries presentation of results versus using a percentage-of-completion method of accounting. Industries found in the percentage-of-completion presentation follow the presentation used by RMA in the past.

About RMA

Founded in 1914, The Risk Management Association is a not-for-profit, member-driven professional association whose sole purpose is to advance the use of sound risk principles in the financial services industry. RMA promotes an enterprise approach to risk management that focuses on credit risk, market risk, and operational risk.

Headquartered in Philadelphia, Pennsylvania, RMA has 2,500 institutional members that include banks of all sizes as well as nonbank financial institutions. They are represented in the association by 18,000 risk management professionals who are chapter members in financial centers throughout North America, Europe, and Asia/Pacific. Visit RMA on the Web at www.rmahq.org.

RMA ACKNOWLEDGES AND THANKS THE FOLLOWING
INSTITUTIONS, CONTRIBUTORS TO THE 2016 STATEMENT STUDIES
DATA SUBMISSION PROGRAM.

Alabama
BBVA Compass
Regions Bank

California
Bank of Napa, N.A.
Central Valley Community Bank
Pacific Enterprise Bank
Presidio Bank
Wells Fargo Bank, N.A.

Colorado
Alpine Bank
Centennial Bank & Trust
CoBank, ACB
First National Bank of Omaha
Wells Fargo

Connecticut
The Milford Bank
Windsor Federal Savings

Florida
CenterState Bank
Gateway Bank of Southwest Florida
MidWestOne Bank
Seacoast Bank
The Bank of Tampa

Georgia
SunTrust Banks

Hawaii
Central Pacific Bank
Finance Factors Ltd.
First Hawaiian Bank

Idaho
Columbia State Bank
Idaho First Bank
Washington Trust Bank

Illinois
First National Bank of Omaha
Northern Trust Corporation

Iowa
American Trust & Savings Bank
Dubuque Bank & Trust
Farmers State Bank - Marion
MidWestOne Bank

Kansas
Alliance Bank
Carson
Emprise Bank
First National Bank of Omaha
INTRUST Bank, NA
Midland National Bank

Kentucky
Community Trust Bank, Inc.

Louisiana
Iberia Bank
South Louisiana Bank
Whitney Bank

Maine
First National Bank
Gorham Savings Bank
Kennebunk Savings

Maryland
First United Bank & Trust
Sandy Spring Bank
The Columbia Bank

Massachusetts
BankFive
Pittsfield Cooperative Bank

Michigan
Commercial Bank
First National Bank of Michigan
First State Bank
Huron Community Bank
Mercantile Bank of Michigan
Talmer Bank & Trust

Minnesota
AgriBank, FCB
AgStar Financial Services
Anchor Bank, N.A.
BankCherokee
Citizens Independent Bank
Community Resource Bank
Fidelity Bank
First Minnetonka City Bank
KleinBank
MidWestOne Bank
North Star Bank
Roundbank
Stearns Bank N.A.

Mississippi
BancorpSouth
Hancock Bank
The Peoples Bank

Missouri
Cass Commercial Bank
Central Bancompany
Enterprise Bank & Trust
Hawthorn Bank
Royal Banks of Missouri

Nebraska
First National Bank of Omaha
Union Bank & Trust Company

New Jersey
Fulton Bank of NJ
TD Bank, N.A.

New Mexico
Los Alamos National Bank
New Mexico Bank & Trust

New York
Adirondack Bank
Canandaigua National Bank & Trust
CIT Group
Community Bank, N.A.
Lake Shore Savings Bank
NBT Bank, N.A.
Steuben Trust Company

North Carolina
Bank of America
BB&T
HomeTrust Bank
North Dakota
Bell Bank

Ohio
First Financial Bank
The Huntington National Bank

Oklahoma
First Fidelity Bank

Oregon
Columbia State Bank
Pacific Continental Bank
Umpqua Bank
Washington Trust Bank

Pennsylvania
AmeriServ Bank
CNB Bank
COMMUNITY BANK
Community Bank, N.A.
Dollar Bank, FSB
First Columbia Bank & Trust Co.
First Commonwealth Bank
First National Bank
FNB Bank
Fulton Bank
Gemino Healthcare Finance LLC
Lafayette Ambassador Bank
Northwest Bank
Orrstown Bank
PeoplesBank, a Codorus Valley
    Company
QNB Bank
Republic Bank
S&T Bank
Swineford Bank
Univest Corporation of
    Pennsylvania
Washington Financial Bank
York Traditions Bank

Rhode Island
Citizens Financial Group Inc
Coastway Community Bank

South Dakota
First PREMIER Bank
The First National Bank in
    Sioux Falls

Tennessee
First Farmers and Merchants Bank
First Tennessee Bank, N.A.
Pinnacle Bank
Tennessee State Bank

Texas
American Bank of Texas
Comerica Bank
Frost Bank
Independent Bank
Southwest Bank
Weststar Bank

Utah
First Utah Bank
Zions Bancorporation

Vermont
Community National Bank
Mascoma Savings Bank
Union Bank

Virginia
Access National Bank
EVB
First Community Bank
United Bank
Virginia National Bank

Washington
Columbia State Bank
Riverview Community Bank
Washington Federal
Washington Trust Bank

West Virginia
United Bank, Inc.
WesBanco

Wisconsin
Associated Bank N.A.
Bank of Sun Prairie
First National Bank and Trust
    Company
Horicon Bank
Johnson Bank
MidWestOne Bank
State Bank Financial
Wisconsin Bank & Trust

Introduction to Annual Statement Studies: Financial Ratio Benchmarks, 2016-2017 and General Organization of Content

The notes below will explain the presentation of *Annual Statement Studies: Financial Ratio Benchmarks*, describe how the book is organized, and answer most of your questions.

The Quality You Expect from RMA: RMA is the most respected source of objective, unbiased information on issues of importance to credit risk professionals. For over 97 years, RMA's *Annual Statement Studies*® has been the industry standard for comparison financial data. Material contained in today's *Annual Statement Studies* was first published in the March 1919 issue of the Federal Reserve Bulletin. In the days before computers, the *Annual Statement Studies* data was recorded in pencil on yellow ledger paper! Today, it features data for over 790 industries derived directly from more than 260,000 statements of financial institutions' borrowers and prospects.

- **Data That Comes Straight from Original Sources:** The more than 260,000 statements used to produce the composites presented here come directly from RMA member institutions and represent the financials from their commercial customers and prospects. RMA does not know the names of the individual entities. In fact, to ensure confidentiality, company names are removed before the data is even delivered to RMA. The raw data making up each composite is not available to any third party.

- **Data Presented in Common Size:** *Annual Statement Studies: Financial Ratio Benchmarks* contains composite financial data. Balance sheet and income statement information is shown in common size format, with each item a percentage of total assets and sales. RMA computes common size statements for each individual statement in an industry group, then aggregates and averages all the figures. In some cases, because of computer rounding, the figures to the right of the decimal point do not balance exactly with the totals shown. A minus sign beside the value indicates credits and losses.

- **Includes the Most Widely Used Ratios:** Nineteen of the most widely used ratios in the financial services industry accompany the balance sheet information, including various types of liquidity, coverage, leverage, and operating ratios.

- **Organized by the NAICS for Ease of Use:** This edition is organized according to the 2012 North American Industry Classification System (NAICS), a product of the U.S. Office of Management and Budget. At the top of each page of data, you will find the NAICS. Please note, in the revised 2012 catalog some industries were merged to create its new 2012 NAICS. In these instances, RMA recalculated aggregate historical reporting. For detailed 2012 and 2007 NAICS mapping, please visit the RMA site or: http://www.census.gov/eos/www/naics/

- **Twenty Sections Outline Major Types of Businesses:** To provide further delineation, the book is divided into 20 sections outlining major lines of businesses. If you know the NAICS number you are looking for, use the NAICS-page guide provided in the front of this book. In general, the book is arranged in ascending NAICS numerical order. For your convenience, full descriptions of each NAICS are presented in this book. In addition, you will find a text-based index near the end of the book.

- **If You Do Not Know the NAICS Code You Are Looking for**… If you do not know the precise industry NAICS you are looking for, contact the Census Bureau at 1-888-75NAICS or naics@census.gov. Describe the activity of the establishment for which you need an industry code and you will receive a reply. Another source to help you assign the correct NAICS industry name and number can be found at www.census.gov/epcd/www/naics.html.

- **Can't Find the Industry You Want?** There are a number of reasons you may not find the industry you are looking for (i.e., you know you need industry xxxxxx but it is not in the product). Many times we have information on an industry, but it is not published because the sample size was too small or there were significant questions concerning the data. (For an industry to be displayed in the *Annual Statement Studies: Financial Ratio Benchmarks*, there must be at least 30 valid statements submitted to RMA.) In other instances, we simply do not have the data. Generally, most of what we receive is published.

- **Composite Data Not Shown?** When there are fewer than 10 financial statements in a particular asset or sales size category, the composite data is not shown because a sample this small is not considered representative and could be misleading. However, all the data for that industry is shown in the All Sizes column. The total number of statements for each size category is shown in bold print at the top of each column. In addition, the number of statements used in a ratio array will differ from the number of statements in a sample because certain elements of data may not be present in all financial statements. In these cases, the number of statements used is shown in parentheses to the left of the array.

- **Presentation of the Data on Each Page-Spread:** For all non-contracting spread statements, the data for a particular industry appears on both the left and right pages. The heading Current Data Sorted by Assets is in the five columns on the left side. The center section of the double-page presentation contains the Comparative Historical Data, with the All Sizes column for the current year shown under the heading 4/1/15-3/31/16. Comparable data from past editions of the *Annual Statement Studies: Financial Ratio Benchmarks* also appears in this section. Current Data Sorted by Sales is displayed in the five columns to the far right.

- **Companies with Less than $250 Million in Total Assets:** In our presentation, we used companies having less than $250 million in total assets—except in the case of contractors who use the percentage-of-completion method of accounting. *The section for contractors using the percentage-of-completion method of accounting contains data only sorted by revenue.* There is no upper limit placed on revenue size for any industry. Its information is found on only one page.

- **Page Headers:** The information shown at the top of each page includes the following: 1) the identity of the industry group; 2) its North American Industry Classification System (NAICS); 3) a breakdown by size categories of the types of financial statements reported; 4) the number of statements in each category; 5) the dates of the statements used; and 6) the size categories. For instance, 16 (4/1-9/30/15) means that 16 statements with fiscal dates between April 1 and September 30, 2015, make up part of the sample.

- **Page Footers:** At the bottom of each page, we have included the sum of the sales (or revenues) and total assets for all the financial statements in each size category. This data allows recasting of the common size statements into dollar amounts. To do this, divide the number at the bottom of the page by the number of statements in that size category. Then multiply the result by the percentages in the common size statement. Please note: The dollar amounts will be an approximation because RMA computes the balance sheet and income statement percentages for each individual statement in an industry group, then aggregates and averages all the figures.

- **Our Thanks to CFMA:** RMA appreciates the cooperation of the Construction Financial Management Association in permitting us to reproduce excerpts from its Construction Industry Annual Financial Survey. This data complements the RMA contractor industry data. For more details on this data, please visit www.cfma.org.

- **Recommended for Use as General Guidelines:** RMA recommends you use *Annual Statement Studies: Financial Ratio Benchmarks* data only as general guidelines and not as absolute industry norms. There are several reasons why the data may not be fully representative of a given industry:

  1. **Data Not Random —** The financial statements used in the *Annual Statement Studies: Financial Ratio Benchmarks* are not selected by any random or statistically reliable method. RMA member banks voluntarily submit the raw data they have available each year with no limitation on company size.

  2. **Categorized by Primary Product Only —** Many companies have varied product lines; however, the *Annual Statement Studies: Financial Ratio Benchmarks* categorizes them by their primary product NAICS number only.

  3. **Small Samples —** Some of the industry samples are small in relation to the total number of firms for a given industry. A relatively small sample can increase the chances that some composites do not fully represent an industry.

  4. **Extreme Statements —** An extreme or outlier statement can occasionally be present in a sample, causing a disproportionate influence on the industry composite. This is particularly true in a relatively small sample.

  5. **Operational Differences —** Companies within the same industry may differ in their method of operations, which in turn can directly influence their financial statements. Since they are included in the sample, these statements can significantly affect the composite calculations.

  6. **Additional Considerations —** There are other considerations that can result in variations among different companies engaged in the same general line of business. These include different labor markets, geographical location, different accounting methods, quality of products handled, sources and methods of financing, and terms of sale.

  For these reasons, RMA does not recommend using the *Annual Statement Studies: Financial Ratio Benchmarks* figures as absolute norms for a given industry. Rather, you should use the figures only as general guidelines and as a supplement to the other methods of financial analysis. RMA makes no claim regarding how representative the figures printed in this book are.

DEFINITION OF RATIOS

Introduction

On each data page, below the common size balance sheet and income statement information, you will find a series of ratios computed from the financial statement data.

Here is how these figures are calculated for any given ratio:

1. The ratio is computed for each financial statement in the sample.

2. These values are arrayed (listed) in an order from the strongest to the weakest. In interpreting ratios, the "strongest" or "best" value is not always the largest numerical value, nor is the "weakest" always the lowest numerical value. (For certain ratios, there may be differing opinions as to what constitutes a strong or a weak value. RMA follows general banking guidelines consistent with sound credit practice to resolve this problem.)

3. The array of values is divided into four groups of equal size. The description of each ratio appearing in the *Statement Studies* provides details regarding the arraying of the values.

What Are Quartiles?

Each ratio has three points, or "cutoff values," that divide an array of values into four equal-sized groups called quartiles, as shown below. The quartiles include the upper quartile, upper-middle quartile, lower-middle quartile, and the lower quartile. The upper quartile is the cutoff value where one-quarter of the array of ratios falls between it and the strongest ratio. The median is the midpoint—that is, the middle cutoff value where half of the array falls above it and half below it. The lower quartile is the point where one-quarter of the array falls between it and the weakest ratio. In many cases, the average of two values is used to arrive at the quartile value. You will find the median and quartile values on all *Statement Studies* data pages in the order indicated in the chart below.

		Example of Current Ratio		
Strong Ratios			3.1	Median—Upper
25% of ratios	Upper Quartile		1.5	Median
Median—Upper ★			1.3	Median—Lower
25% of ratios	Upper Middle Quartile			
Median— ★				
25% of ratios	Lower Middle Quartile			
Median—Lower ★				
25% of ratios	Lower Quartile			
Weak Ratios				
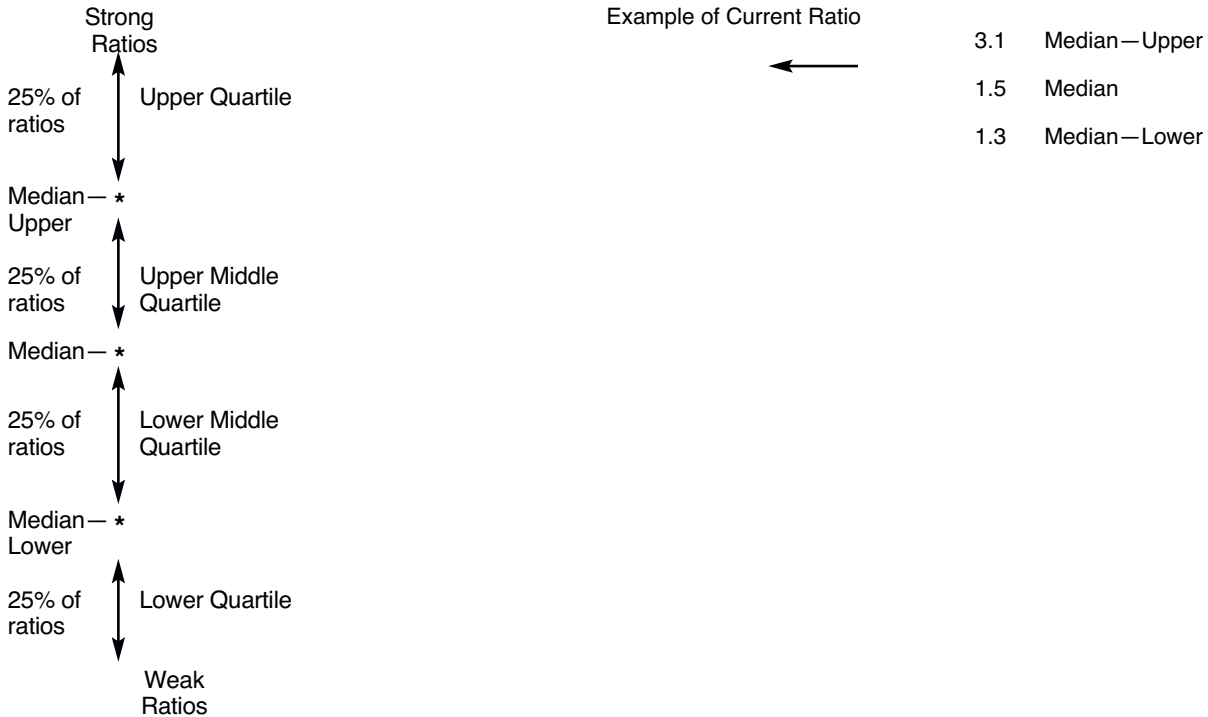
Why Use Medians/Quartiles Instead of the Average?

There are several reasons why medians and quartiles are used instead of an average. Medians and quartiles eliminate the influence of an "outlier" (an extremely high or low value compared to the rest of the values). They also more accurately reflect the ranges of ratio values than a straight averaging method would.

It is important to understand that the spread (range) between the upper and lower quartiles represents the middle 50% of all the companies in a sample. Therefore, ratio values greater than the upper quartile or less than the lower quartile may begin to approach "unusual" values.

Nonconventional Values:

For some ratio values, you will occasionally see an entry that is other than a conventional number. These entries are defined as follows:

(1) UND — This stands for "undefined," the result of the denominator in a ratio calculation approaching zero.

(2) NM — This may occasionally appear as a quartile or median for the ratios sales/working capital, debt/worth, and fixed/worth. It stands for "no meaning" in cases where the dispersion is so small that any interpretation is meaningless.

(3) 999.8 — When a ratio value equals 1,000 or more, it also becomes an "unusual" value and is given the "999.8" designation. This is considered to be a close enough approximation to the actual unusually large value.

Linear versus Nonlinear Ratios:

An array that is ordered in ascending sequence or in descending sequence is linear. An array that deviates from true ascending or true descending when its values change from positive to negative (low to high positive, followed by high to low negative) is non-linear.

A specific example of a nonlinear ratio would be the Sales/Working Capital ratio. In other words, when the Sales/Working Capital ratio is positive, then the top quartile would be represented by the lowest positive ratio. However, if the ratio is negative, the top quartile will be represented by the highest negative ratio! In a nonlinear array such as this, the median could be either positive or negative because it is whatever the middle value is in the particular array of numbers.

Nonlinear Ratios
Sales/Working Capital
Fixed/Worth
Debt/Worth

Linear Ratios
Current Ratio
Quick Ratio
Sales Receivables
Days' Receivables
Cost of Sales/Inventory
Days' Inventory
Cost of Sales/Payables
Days' Payables
EBIT/Interest
Net Profit + Deprec, Depletion, Amort/Current Maturities Long-Term Debt
% Profits Before Taxes/Tangible Net Worth
% Profits Before Taxes/Total Assets
Sales/Net Fixed Assets
Sales/Total Assets
% Depreciation, Depletion, Amortization/Sales
% Officers', Directors', Owners' Compensation/Sales

Important Notes on Ratios:

Turnover Ratios — For certain ratios (sales/receivables, cost of sales/inventory, cost of sales/payables) you will see two numbers, one in **BOLD** and one in regular type. These ratios are generally called turnover ratios. The number in **BOLD** represents the **number of days** and the number in regular type is the **number of times**. Please see the definition of sales/receivables on the following pages for a more complete description of the two types of calculations and what each means.

Inventory Presentations — **Inventory presentations** are based on fiscal year-end point-in-time balances, not averages. In addition, our data capture does not permit us to know what method of inventory accounting (LIFO or FIFO, for instance) was used.

The following ratios contained in the *Statement Studies* are grouped into five principal categories: liquidity, coverage, leverage, operating, and specific expense items.

LIQUIDITY RATIOS

Liquidity is a measure of the quality and adequacy of current assets to meet current obligations as they come due. In other words, can a firm quickly convert its assets to cash — without a loss in value — in order to meet its immediate and short-term obligations? For firms such as utilities that can readily and accurately predict their cash inflows, liquidity is not nearly as critical as it is for firms like airlines or manufacturing businesses that can have wide fluctuations in demand and revenue streams. These ratios provide a level of comfort to lenders in case of liquidation.

1. Current Ratio

How to Calculate: Divide total current assets by total current liabilities.

$$\frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

How to Interpret: This ratio is a rough indication of a firm's ability to service its current obligations. Generally, the higher the current ratio, the greater the "cushion" between current obligations and a firm's ability to pay them. While a stronger ratio shows that the numbers for current assets exceed those for current liabilities, the composition and quality of current assets are critical factors in the analysis of an individual firm's liquidity.

The ratio values are arrayed from the highest positive to the lowest positive.

2. Quick Ratio

How to Calculate: Add cash and equivalents to trade receivables. Then, divide by total current liabilities.

$$\frac{\text{Cash \& Equivalents + Trade Receivables (net)}}{\text{Total Current Liabilities}}$$

How to Interpret: Also known as the "acid test" ratio, this is a stricter, more conservative measure of liquidity than the current ratio. This ratio reflects the degree to which a company's current liabilities are covered by its most liquid current assets, the kind of assets that can be converted quickly to cash and at amounts close to book value. Inventory and other less liquid current assets are removed from the calculation. Generally, if the ratio produces a value that's less than 1 to 1, it implies a "dependency" on inventory or other "less" current assets to liquidate short-term debt.

The ratio values are arrayed from the highest positive to the lowest positive.

3. Sales/Receivables

How to Calculate: Divide net sales by trade receivables.

$$\frac{\text{Net Sales}}{\text{Trade Receivables (net)}}$$

Please note — In the contractor section, both accounts receivable-progress billings and accounts receivable-current retention are included in the receivables figure used in calculating the revenues/receivables and receivables/payables ratios.

How to Interpret: This ratio measures the number of times trade receivables turn over during the year. The higher the turnover of receivables, the shorter the time between sale and cash collection.

> *For example,* a company with sales of $720,000 and receivables of $120,000 would have a sales/receivables ratio of 6.0. This means receivables turn over six times a year. If a company's receivables appear to be turning more slowly than the rest of the industry, further research is needed and the quality of the receivables should be examined closely.

Cautions — A problem with this ratio is that it compares one day's receivables, shown at statement date, to total annual sales and does not take into consideration seasonal fluctuations. An additional problem in interpretation may arise when there is a large proportion of cash sales to total sales.

When the receivables figure is zero, the quotient will be undefined (UND) and represents the best possible ratio. The ratio values are therefore arrayed starting with undefined (UND) and then from the numerically highest value to the numerically lowest value. The only time a zero will appear in the array is when the sales figure is low and the quotient rounds off to zero. By definition, this ratio cannot be negative.

4. Days' Receivables

The sales/receivables ratio will have a figure printed in bold type directly to the left of the array. This figure is the days' receivables.

How to Calculate the Days' Receivables: Divide the sales/receivables ratio into 365 (the number of days in one year).

$$\frac{365}{\text{Sales/Receivable ratio}}$$

How to Interpret the Days' Receivables: This figure expresses the average number of days that receivables are outstanding. Generally, the greater the number of days outstanding, the greater the probability of delinquencies in accounts receivable. A comparison of a company's daily receivables may indicate the extent of a company's control over credit and collections.

Please note — You should take into consideration the terms offered by a company to its customers because these may differ from terms within the industry.

> *For example*, using the sales/receivable ratio calculated above, $365 \div 6 = 61$ (i.e., the average receivable is collected in 61 days).

5. Cost of Sales/Inventory

How to Calculate: Divide cost of sales by inventory.

$$\frac{\text{Cost of Sales}}{\text{Inventory}}$$

How to Interpret: This ratio measures the number of times inventory is turned over during the year.

High Inventory Turnover — On the positive side, high inventory turnover can indicate greater liquidity or superior merchandising. Conversely, it can indicate a shortage of needed inventory for sales.

Low Inventory Turnover — Low inventory turnover can indicate poor liquidity, possible overstocking, or obsolescence. On the positive side, it could indicate a planned inventory buildup in the case of material shortages.

Cautions — A problem with this ratio is that it compares one day's inventory to cost of goods sold and does not take seasonal fluctuations into account. When the inventory figure is zero, the quotient will be undefined (UND) and represents the best possible ratio. The ratio values are arrayed starting with undefined (UND) and then from the numerically highest value to the numerically lowest value. The only time a zero will appear in the array is when the figure for cost of sales is very low and the quotient rounds off to zero.

Please note — For service industries, the cost of sales is included in operating expenses. In addition, please note that the data collection process does not differentiate the method of inventory valuation.

6. Days' Inventory

The days' inventory is the figure printed in bold directly to the left of the cost of sales/inventory ratio.

How to Calculate the Days' Inventory: Divide the cost of sales/inventory ratio into 365 (the number of days in one year).

$$\frac{365}{\text{Cost of Sales/Inventory ratio}}$$

How to Interpret: Dividing the inventory turnover ratio into 365 days yields the average length of time units are in inventory.

7. Cost of Sales/Payables

How to Calculate: Divide cost of sales by trade payables.

$$\frac{\text{Cost of Sales}}{\text{Trade Payables}}$$

Please note — In the contractor section, both accounts payable-trade and accounts payable-retention are included in the payables figure used in calculating the cost of revenues/payables and receivables/payables ratios.

How to Interpret: This ratio measures the number of times trade payables turn over during the year. The higher the turnover of payables, the shorter the time between purchase and payment. If a company's payables appear to be turning more slowly than the industry, then the company may be experiencing cash shortages, disputing invoices with suppliers, enjoying extended terms, or deliberately expanding its trade credit. The ratio comparison of company to industry suggests the existence of these or other possible causes. If a firm buys on 30-day terms, it is reasonable to expect this ratio to turn over in approximately 30 days.

Cautions — A problem with this ratio is that it compares one day's payables to cost of goods sold and does not take seasonal fluctuations into account. When the payables figure is zero, the quotient will be undefined (UND) and represents the best possible ratio. The ratio values are arrayed starting with undefined (UND) and then from the numerically highest to the numerically lowest value. The only time a zero will appear in the array is when the figure for cost of sales is very low and the quotient rounds off to zero.

8. Days' Payables

The days' payables is the figure printed in bold type directly to the left of the cost of sales/payables ratio.

How to Calculate the Days' Payables: Divide the cost of sales/payables ratio into 365 (the number of days in one year).

$$\frac{365}{\text{Cost of Sales/Payables ratio}}$$

How to Interpret: Division of the payables turnover ratio into 365 days yields the average length of time trade debt is outstanding.

9. Sales/Working Capital

How to Calculate: Divide net sales by net working capital (current assets less current liabilities equals net working capital).

$$\frac{\text{Net Sales}}{\text{Net Working Capital}}$$

How to Interpret: Because it reflects the ability to finance current operations, working capital is a measure of the margin of protection for current creditors. When you relate the level of sales resulting from operations to the underlying working capital, you can measure how efficiently working capital is being used.

Low ratio (close to zero) — A low ratio may indicate an inefficient use of working capital.

High ratio (high positive or high negative) — A very high ratio often signifies overtrading, which is a vulnerable position for creditors.

Please note — The sales/working capital ratio is a nonlinear array. In other words, it is an array that is NOT ordered from highest positive to highest negative as is the case for linear arrays. The ratio values are arrayed from the lowest positive to the highest positive, to undefined (UND), and then from the highest negative to the lowest negative. If working capital is zero, the quotient is undefined (UND).

If the sales/working capital ratio is positive, then the top quartile would be represented by the lowest positive ratio. However, if the ratio is negative, the top quartile will be represented by the highest negative ratio! In a nonlinear array such as the sales/working capital ratio, the median could be either positive or negative because it is whatever the middle value is in the particular array of numbers.

Cautions — When analyzing this ratio, you need to focus on working capital, not on the sales figure. Although sales cannot be negative, working capital can be. If you have a large, positive working capital number, the ratio will be small and positive — which is good. Because negative working capital is bad, if you have a large, negative working capital number, the sales/working capital ratio will be small and negative — which is NOT good. Therefore, the lowest positive ratio is the best and the lowest negative ratio is the worst. If working capital is a small negative number, the ratio will be large, which is the best of the negatives.

COVERAGE RATIOS

Coverage ratios measure a firm's ability to service its debt. In other words, how well does the flow of a company's funds cover its short-term financial obligations? In contrast to liquidity ratios that focus on the possibility of liquidation, coverage ratios seek to provide lenders a comfort level based on the belief the firm will remain a viable enterprise.

1. Earnings Before Interest and Taxes (EBIT)/Interest

How to Calculate: Divide earnings (profit) before annual interest expense and taxes by annual interest expense.

$$\frac{\text{Earnings Before Interest \& Taxes}}{\text{Annual Interest Expense}}$$

How to Interpret: This ratio measures a firm's ability to meet interest payments. A high ratio may indicate that a borrower can easily meet the interest obligations of a loan. This ratio also indicates a firm's capacity to take on additional debt.

Please note — Only statements reporting annual interest expense were used in the calculation of this ratio. The ratio values are arrayed from the highest positive to the lowest positive and then from the lowest negative to the highest negative.

2. Net Profit + Depreciation, Depletion, Amortization/Current Maturities Long-Term Debt

How to Calculate: Add net profit to depreciation, depletion, and amortization expenses. Then, divide by the current portion of long-term debt.

$$\frac{\text{Net Profit + Depreciation, Depletion, Amortization Expenses}}{\text{Current Portion of Long-Term Debt}}$$

How to Interpret: This ratio reflects how well cash flow from operations covers current maturities. Because cash flow is the primary source of debt retirement, the ratio measures a firm's ability to service principal repayment and take on additional debt. Even though it is a mistake to believe all cash flow is available for debt service, this ratio is still a valid measure of the ability to service long-term debt.

Please note — Only data for corporations with the following items was used:

(1) Profit or loss after taxes (positive, negative, or zero).

(2) A positive figure for depreciation/depletion/amortization expenses.

(3) A positive figure for current maturities of long-term debt.

Ratio values are arrayed from the highest to the lowest positive and then from the lowest to the highest negative.

LEVERAGE RATIOS

How much protection do a company's assets provide for the debt held by its creditors? Highly leveraged firms are companies with heavy debt in relation to their net worth. These firms are more vulnerable to business downturns than those with lower debt-to-worth positions. While leverage ratios help measure this vulnerability, keep in mind that these ratios vary greatly depending on the requirements of particular industry groups.

1. Fixed/Worth

How to Calculate: Divide fixed assets (net of accumulated depreciation) by tangible net worth (net worth minus intangibles).

$$\frac{\text{Net Fixed Assets}}{\text{Tangible Net Worth}}$$

How to Interpret: This ratio measures the extent to which owner's equity (capital) has been invested in plant and equipment (fixed assets). A lower ratio indicates a proportionately smaller investment in fixed assets in relation to net worth and a better "cushion" for creditors in case of liquidation. Similarly, a higher ratio would indicate the opposite situation. The presence of a substantial number of fixed assets that are leased — and not appearing on the balance sheet — may result in a deceptively lower ratio.

Fixed assets may be zero, in which case the quotient is zero. If tangible net worth is zero, the quotient is undefined (UND). If tangible net worth is negative, the quotient is negative.

Please note — Like the sales/working capital ratio discussed above, this fixed/worth ratio is a nonlinear array. In other words, it is an array that is NOT ordered from highest positive to highest negative as a linear array would be. The ratio values are arrayed from the lowest positive to the highest positive, to undefined (UND), and then from the highest negative to the lowest negative.

If the Fixed/Worth ratio is positive, then the top quartile would be represented by the lowest positive ratio. However, if the ratio is negative, the top quartile will be represented by the highest negative ratio! In a nonlinear array such as this, the median could be either positive or negative because it is whatever the middle value is in the particular array of numbers.

2. Debt/Worth

How to Calculate: Divide total liabilities by tangible net worth.

$$\frac{\text{Total Liabilities}}{\text{Tangible Net Worth}}$$

How to Interpret: This ratio expresses the relationship between capital contributed by creditors and that contributed by owners. Basically, it shows how much protection the owners are providing creditors. The higher the ratio, the greater the risk being assumed by creditors. A lower ratio generally indicates greater long-term financial safety. Unlike a highly leveraged firm, a firm with a low debt/worth ratio usually has greater flexibility to borrow in the future.

Tangible net worth may be zero, in which case the ratio is undefined (UND). Tangible net worth may also be negative, which results in the quotient being negative. The ratio values are arrayed from the lowest to highest positive, to undefined, and then from the highest to lowest negative.

Please note — Like the sales/working capital ratio discussed above, this debt/worth ratio is a nonlinear array. In other words, it is an array that is NOT ordered from highest positive to highest negative as a linear array would be. The ratio values are arrayed from the lowest positive to the highest positive, to undefined (UND), and then from the highest negative to the lowest negative.

If the debt/worth ratio is positive, then the top quartile would be represented by the lowest positive ratio. However, if the ratio is negative, the top quartile will be represented by the highest negative ratio! In a nonlinear array such as this, the median could be either positive or negative because it is whatever the middle value is in the particular array of numbers.

OPERATING RATIOS

Operating ratios are designed to assist in the evaluation of management performance.

1. % Profits Before Taxes/Tangible Net Worth

How to Calculate: Divide profit before taxes by tangible net worth. Then, multiply by 100.

$$\frac{\text{Profit Before Taxes}}{\text{Total Assets}} \times 100$$

How to Interpret: This ratio expresses the rate of return on tangible capital employed. While it can serve as an indicator of management performance, you should always use it in conjunction with other ratios. Normally associated with effective management, a high return could actually point to an undercapitalized firm. Conversely, a low return that's usually viewed as an indicator of inefficient management performance could actually reflect a highly capitalized, conservatively operated business.

This ratio has been multiplied by 100 because it is shown as a percentage.

Profit before taxes may be zero, in which case the ratio is zero. Profits before taxes may be negative, resulting in negative quotients. Firms with negative tangible net worth have been omitted from the ratio arrays. Negative ratios will therefore only result in the case of negative profit before taxes. If the tangible net worth is zero, the quotient is undefined (UND). If there are fewer than 10 ratios for a particular size class, the result is not shown. The ratio values are arrayed starting with undefined (UND), then from the highest to the lowest positive values, and finally from the lowest to the highest negative values.

2. % Profits Before Taxes/Total Assets

How to Calculate: Divide profit before taxes by total assets and multiply by 100.

$$\frac{\text{Profit Before Taxes}}{\text{Total Assets}} \text{ x } 100$$

How to Interpret: This ratio expresses the pre-tax return on total assets and measures the effectiveness of management in employing the resources available to it. If a specific ratio varies considerably from the ranges found in this book, the analyst will need to examine the makeup of the assets and take a closer look at the earnings figure. A heavily depreciated plant and a large amount of intangible assets or unusual income or expense items will cause distortions of this ratio.

This ratio has been multiplied by 100 since it is shown as a percentage. If profit before taxes is zero, the quotient is zero. If profit before taxes is negative, the quotient is negative. These ratio values are arrayed from the highest to the lowest positive and then from the lowest to the highest negative.

3. Sales/Net Fixed Assets

How to Calculate: Divide net sales by net fixed assets (net of accumulated depreciation).

$$\frac{\text{Net Sales}}{\text{Net Fixed Assets}}$$

How to Interpret: This ratio is a measure of the productive use of a firm's fixed assets. Largely depreciated fixed assets or a labor-intensive operation may cause a distortion of this ratio.

If the net fixed figure is zero, the quotient is undefined (UND). The only time a zero will appear in the array will be when the net sales figure is low and the quotient rounds off to zero. These ratio values cannot be negative.

They are arrayed from undefined (UND) and then from the highest to the lowest positive values.

4. Sales/Total Assets

How to Calculate: Divide net sales by total assets.

$$\frac{\text{Net Sales}}{\text{Total Assets}}$$

How to Interpret: This ratio is a general measure of a firm's ability to generate sales in relation to total assets. It should be used only to compare firms within specific industry groups and in conjunction with other operating ratios to determine the effective employment of assets.

The only time a zero will appear in the array will be when the net sales figure is low and the quotient rounds off to zero. The ratio values cannot be negative. They are arrayed from the highest to the lowest positive values.

EXPENSE TO SALES RATIOS

The following two ratios relate specific expense items to net sales and express this relationship as a percentage. Comparisons are convenient because the item, net sales, is used as a constant. Variations in these ratios are most pronounced between capital- and labor-intensive industries.

1. % Depreciation, Depletion, Amortization/Sales

How to Calculate: Divide annual depreciation, amortization, and depletion expenses by net sales and multiply by 100.

$$\frac{\text{Depreciation, Amortization, Depletion Expenses}}{\text{Net Sales}} \times 100$$

2. % Officers', Directors', Owners' Compensation/Sales

How to Calculate: Divide annual officers', directors', owners' compensation by net sales and multiply by 100. Include total salaries, bonuses, commissions, and other monetary remuneration to all officers, directors, and/or owners of the firm during the year covered by the statement. This includes drawings of partners and proprietors.

$$\frac{\text{Officers', Directors', Owners' Compensation}}{\text{Net Sales}} \times 100$$

Only statements showing a positive figure for each of the expense categories shown above were used. The ratios are arrayed from the lowest to highest positive values.

Explanation of Noncontractor Balance Sheet and Income Data

Cash & Equivalents
All cash, marketplace, securities, and other near-cash items. Excludes sinking funds.

Trade Receivables (net)
All accounts from trade, net of allowance for doubtful accounts.

Inventory
Anything constituting inventory for the firm.

All Other Current
Any other current assets. Does not include prepaid items.

Total Current
Total of all current assets listed above.

Fixed Assets (net)
All property, plant, leasehold improvements and equipment, net of accumulated depreciation or depletion.

Intangibles (net)
Intangible assets, including goodwill, trademarks, patents, catalogs, brands, copyrights, formulas, franchises, and mailing lists, net of accumulated amortization.

All Other Non-Current
Prepaid items and any other non-current assets.

Total
Total of all items listed above.

ASSETS
Cash & Equivalents
Trade Receivables (net)
Inventory
All Other Current
Total Current
Fixed Assets (net)
Intangibles (net)
All Other Non-Current
Total

Notes Payable—Short Term
All short-term note obligations, including bank and commercial paper. Does not include trade notes payable.

Current Maturities—L/T/D
That portion of long-term obligations that is due within the next fiscal year.

Trade Payables
Open accounts due to the trade.

Income Taxes Payable
Income taxes including current portion of deferred taxes.

All Other Current
Any other current liabilities, including bank overdrafts and accrued expenses.

Total Current
Total of all current liabilities listed above.

Long-Term Debt
All senior debt, including bonds, debentures, bank debt, mortgages, deferred portions of long-term debt, and capital lease obligations.

Deferred Taxes
All deferred taxes.

All Other Non-Current
Any other non-current liabilities, including subordinated debt, and liability reserves.

Net Worth
Difference between Total Liabilities and Total Assets. Minority interest is included here.

Total Liabilities & Net Worth
Total of all items listed above.

LIABILITIES
Notes Payable-Short Term
Cur. Mat.-L/T/D
Trade Payables
Income Taxes Payable
All Other Current
Total Current
Long-Term Debt
Deferred Taxes
All Other Non-Current
Net Worth
Total Liabilities & Net Worth

Net Sales
Gross sales, net of returns and discounts allowed, if any.

Gross Profit
Net sales minus cost of sales.

Operating Expenses
All selling and general & administrative expenses. Includes depreciation, but not interest expense.

Operating Profit
Gross profit minus operating expenses.

All Other Expenses (net)
Includes miscellaneous other income and expenses (net), such as interest expense, miscellaneous expenses not included in general & administrative expenses, netted against recoveries, interest income, dividends received and miscellaneous income.

Profit Before Taxes
Operating profit minus all other expenses (net).

INCOME DATA
Net Sales
Gross Profit
Operating Expenses
Operating Profit
All Other Expenses (net)
Profit Before Taxes

Explanation of Contractor Percentage-of-Completion Basis of Accounting Balance Sheet and Income Data

Cash & Equivalents
All cash, marketable securities, and other near-cash items. Excludes sinking funds.

Accts. Rec.-Progress Billings
Amounts billed on current contracts excluding retention.

Accts. Rec.-Current Retention
Amounts held back by customers on current contracts as retention.

All Other Current
Any other current assets. Does not include prepaid items.

Total Current
Total of all current assets listed above.

Fixed Assets (net)
All property, plant, leasehold improvements and equipment, net of accumulated depreciation or depletion.

All Other Non-Current
Prepaid items and other non-current assets.

Inventory
Costs attributable to equipment, small tools, supplies, and other deferred costs related to contracts in progress wherein a portion of the cost applies to work not yet performed.

Costs & Estimated Earnings in Excess of Billings
The difference between the total of costs and recognized estimated earnings to date and the total billings to date.

Joint Ventures & Investments
The total of investments and equity in joint ventures.

Intangibles (net)
Intangible assets, including goodwill, trademarks, patents, catalogs, brands, copyrights, formulas, franchises, and mailing lists, net of accumulated amortization.

Total
Total of all items listed above.

ASSETS
Cash & Equivalents
Accounts Receivable—Progress Billings
Accounts Receivable—Current Retention
Inventory
Costs & Estimated Earnings in Excess of Billings
All Other Current
Total Current
Fixed Assets (net)
Joint Ventures & Investments
Intangibles (net)
All Other Non-Current
Total

Notes Payable—Short Term
All short-term note obligations, including bank and commercial paper. Does not include trade notes payable.

Accounts Payable—Trade
Open accounts and note obligations due to the trade.

Accounts Payable—Retention
Amounts held back as retention in payments to subcontractors on current contracts.

Long-Term Debt
All senior debt, including bonds, debentures, bank debt, mortgages, deferred portions of long-term debt, and capital lease obligations.

Deferred Taxes
Total of all deferred taxes.

All Other Non-Current
Any other non-current liabilities, including subordinated debt, and liability reserves.

Billings in Excess of Costs & Est. Earn.
The difference between the total billings to date and the total of costs and recognized estimated earnings to date.

Income Taxes Payable
Income taxes including current portion of deferred taxes.

Current Maturities—LTD
That portion of long-term obligations that is due within the next fiscal year.

All Other Current
Any other current liabilities, including bank overdrafts and accrued expenses.

Total Current
Total of all current liabilities listed above.

Net Worth
Difference between total assets and total liabilities. Minority interest is included here.

Total Liabilities & Net Worth
Total of all items listed above.

LIABILITIES
Notes Payable—Short Term
Accounts Payable—Trade
Accounts Payable—Retention
Billings in Excess of Costs & Estimated Earnings
Income Taxes Payable
Current Maturities—LTD
All Other Current
Total Current
Long-Term Debt
Deferred Taxes
All Other Non-Current
Net Worth
Total Liabilities & Net Worth

Contract Revenues
Revenues recognized under % of completion method.

Gross Profit
Difference between contract revenues and cost of sales.

Operating Expenses
All selling and general and administrative expenses. Includes depreciation, but not interest expense.

All Other Expenses (net)
Includes miscellaneous other income and expenses (net), such as interest expense, miscellaneous expenses not included in general & administrative expenses, netted against recoveries, interest income, dividends received and miscellaneous income.

Operating Profit
Gross profit minus operating expenses.

Profit Before Taxes
Operating profit minus all other expenses (net).

INCOME DATA
Contract Revenues
Gross Profit
Operating Expenses
Operating Profit
All Other Expenses (net)
Profit Before Taxes