



RATIO BOOKS

HOW TO USE

Reference Desk	Dun and Bradstreet's <i>Industry Norms & Key Business Ratios</i> . Older volumes at REF HF 5681 .R25 I525.
Reference Desk	Robert Morris Associates. <i>Annual Statement Studies</i> . 1957 -76 incomplete; 1977 to present. Older volumes at REF HF 5681 .B2 R6.
REF HD 2346 .U5 F55	<i>Financial Studies of the Small Business</i> . 1979 to present - incomplete. Contains ratios compiled from businesses with a total capitalization under 1 million dollars.
Reference Desk	<i>Almanac of Business and Industrial Financial Ratios</i> . (Troy's). 1985 to present. Provides two tables for each industry - one for those with or without net income and one for those with a profit. Separate figures by size of company. Older volumes at REF HF 5681 .R25 A44x.
Index Z 7554 .U5 S79	<i>Statistical Reference Index</i> . 1980 to present.

Why Use Them?

Ratios are used to: (1) compare a company to a competitor or competitors; (2) assess its short term performance; and (3) guess at its chances for long term survival. **Your First Step** must be to identify your company or industry's code (SIC) in the *Standard and Poor's Register of Corporations* (Reference Desk), the *Million Dollar Directory* (REF HC 102 .D8), *Ward's Business Directory* (REF HQ 4057 .A575), or the *Standard Industrial Classification Manual* (Reference Desk).

How Do They Work? Look for common features of the ratio books.

- **Instructions:** Each ratio book has at least a short "how to" section. Find it and read it carefully to save time fumbling around and wondering about things. (Robert Morris *Annual Statement Studies* have almost no explanation in early volumes, but instructions from a current one will help you figure out what to do with those old ones.) Most tell how ratios are calculated and also how to interpret the numbers.

Example from Robert Morris Associates, *Annual Statement Studies*

% Profit Before Taxes/Total Assets

Computation: Profit before taxes divided by total assets and multiplied by 100.

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

Interpretation: 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 item 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.

Industry Description: A phrase and/or SIC number will identify each set of industry ratios, e.g. "Retail Office Supplies" or "Office Supplies and Stationary Stores SIC #5943."

Strategy: When the phrase or SIC you want is not included in the ratios presented, you have the option of defining the industry more broadly, e.g., using "Office Supplies and Stationary Stores" instead of "paper clips" or "copiers." Evaluation of your company will not be as precise as you may wish; but here, as in the real world, you sometimes have to use available data rather than the exact piece of information you would like. Acknowledge the imprecision of your data and indicate what factors should be considered in adapting available data to your uses.

Arrangement: Ratios are presented in industry groupings. *Key Business Ratios* lists industries in order by SIC numbers: 2874, 2875, 2891. (Consult the SIC list at the end of the book for an SIC number. Find that SIC at the top of a page in the body of the book,) Robert Morris...., in contrast, mixes up the order of specific SIC groupings within a broad industry category such as "Wholesale" or "Retail." 2321 could go before 2311. (Consult the alphabetical industry index in the back of recent books for a page number. Or check the table of contents of older volumes.) *Financial Studies of the Small Business* gives no SIC numbers. Ratios are listed by industry within three different groupings: comparison by asset size; comparison by sales volume; comparison by profitability. (Look at the table of contents under the appropriate divider tab (e.g. asset size) to find a page number for your industry (e.g. funeral services).

Contents: Ratios are presented in quartiles rather than as averages. (See explanation of quartiles below.) A range of sizes of companies is sometimes given and the number of companies included in each range is indicated.

Quartiles: In an array or list of ratios based on balance sheet and income statement data from individual companies, the figure which falls in the middle between the strongest and the weakest ratios is the median. The figure that falls halfway between the median and the strongest ratio is the upper quartile. The figure that falls halfway between the median and the weakest ratio is the lower quartile. The median and quartile values will always be shown in the following order:

Upper Quartile
Median
Lower Quartile

The primary reason for using medians and quartiles instead of an average is to eliminate the influence which values in an "unusual" statement would have on an average. Using median and quartiles more accurately reflects the ranges of ratio values than would a straight averaging method.

Example from *Industry Norms & Key Business Ratios*

PAGE #	73	SIC 2833			
		MEDICINALS & BOTANICALS			
		(NO BREAKDOWN)			
		1991	(42 ESTAB)		
		\$		%	
CASH		172,626		14.9	
ACCOUNTS RECEIVABLE		308,179		26.6	
NOTES RECEIVABLE		8,110		0.7	
INVENTORY		281,532		24.3	
OTHER CURRENT		23,171		2.0	
TOTAL CURRENT		793,618		68.5	
FIXED ASSETS		202,749		17.5	
OTHER NON-CURRENT		162,199		14.0	
TOTAL ASSETS		1,158,567		100.0	
ACCOUNTS PAYABLE		188,846		16.3	
BANK LOANS		8,110		0.7	
NOTES PAYABLE		57,928		5.0	
OTHER CURRENT		176,102		15.2	
TOTAL CURRENT		430,987		37.2	
OTHER LONG TERM		208,542		18.0	
DEFERRED CREDITS		6,951		0.6	
NET WORTH		512,087		44.2	
TOTAL LIAB & NET WORTH		1,158,567		100.0	
NET SALES		1,774,102		100.0	
GROSS PROFIT		688,352		38.8	
NET PROFIT AFTER TAX		14,193		0.8	
WORKING CAPITAL		362,631		---	

← All companies, large and small, reported in consolidated figures.

← Number of firms in this industrial classification reporting their financial figures.

continued

RATIOS	UQ	MED	LQ
SOLVENCY			
QUICK RATIOS (TIMES)	2.7	1.0	0.7
CURRENT RATIO (TIMES)	4.0	1.8	1.3
CURR LIAB TO NW (%)	23.6	63.3	178.7
CURR LIAB TO INV (%)	76.9	114.3	204.7
TOTAL LIAB TO NW (%)	27.2	89.8	217.2
FIXED ASSETS TO NW (%)	16.8	51.9	76.9
EFFICIENCY			
COLL PERIOD (DAYS)	31.0	41.6	56.9
SALES TO INV (TIMES)	14.9	7.8	5.4
ASSETS TO SALES (%)	34.7	48.9	83.9
SALES TO NWC (TIMES)	9.7	5.5	3.1
ACCT PAY TO SALES (%)	5.0	6.8	12.6
PROFITABILITY			
RETURN ON SALES (%)	6.2	2.2	0.3
RETURN ON ASSETS (%)	11.6	2.6	0.7
RETURN ON NW (%)	45.3	10.7	1.3

← Quartiles.
See above for explanation.

What If?

- If your company is **too small** to compare to firms comprising the ratio group, you have two options: use available data, pointing out its limitations; or change your topic.
- If your company is **diversified** (involved in supplying a number of different products/services), you have several options:

To identify one or two main divisions (from revenues in annual reports or from SIC listings in business directories) and compare those divisions to their respective industries.

To compare all divisions of the company to their respective industries.

To compare your company's performance with that of another conglomerate rather than to any industry standard.

To ask your professor for advice.

To change your topic.

- If industry statistics for the industry representing your company **are not widely** reported (e.g. brokerage houses or financial institutions), check the *Statistical Reference Index* and other business indexes for references to articles covering the industry. Again, be prepared to ask your professor or to change your topic if your search yields poor results.

What Else?

Other sources for ratios are listed in a Research Aid titled "Financial Ratios."