

THE R-SCORE FORMULA

THERE IS A DIFFERENCE BETWEEN PROFIT AND AVAILABLE PROFIT. KNOWING THE DIFFERENCE BETWEEN THE TWO COULD KEEP YOUR COMPANY FROM GOING UNDER.

Year	Sales	Profit	TAssets	TLiability	Equity	RScore
1989	60000	2700	20000	10000	9000	2.69
1990	60000	500	20000	12000	8000	4.32
1991	60000	1000	20000	13000	7000	5.11
1992	60000	-500	18000	14000	6000	8.13
1993	60000	300	22000	18000	5000	9.55
1994	100000	2000	30000	25000	6000	12.35

Having spent 12 years assisting financially distressed construction companies, I am a strong advocate of recognizing and avoiding the causes of business failure. The construction industry has the second-highest failure rate in the country after the restaurant business. Many contractors who thought they had a cash flow problem were shocked to discover the depth and seriousness of their financial difficulty when it finally came to light.

The industry needs warning signs! During research for the book, *Construction Contractors' Survival Guide*, which describes the 10 common causes of business failure, I became convinced that the warning signs (indicators of potential financial distress) must exist in the financial records of closely held construction companies.

I questioned why standard financial ratios did not provide a warning of deteriorating financial condition or increasing financial risk early enough to prevent most failures. During my re-

The R-Score (see far right column, above) is a unique measure of a company's risk of failure.

search to discover the warning flags of potential failure, I discovered that profit is not the appropriate measure of success in the construction business.

Profit is a necessary ingredient for success, but it is not its measure. For example, a company with sales of \$10 million annually that grows to \$20 million in a year, without a cor-

responding increase in equity, may dramatically increase financial risk without realizing it, even if it maintains profitability.

To understand financial risk warning signs, we first need to differentiate between performance measures and financial measures.

THE PROBLEM WITH PERFORMANCE MEASURES

Performance in the field—what your organization and crews accomplish—is gross profit. There is no standard for measuring gross profit because there is no agreement in the construction industry regarding which costs are to be charged directly to projects and which are general and administrative overhead

The capital structures of construction companies differ significantly by type of work performed. Heavy and highway contractors who own their equipment have different capital structures than a building contractor who brokers a great deal of work.

UNDERSTANDING THE R-SCORE FORMULA

Thus, measuring financial performance and risk requires the use of indicators that cross these barriers and also allow for differences in record-keeping.

That is why I developed the R-Score formula, which measures:

- Financial performance and whether the company is getting better or getting worse,

margin is a measure of operating efficiency after all costs and expenses have been taken into account. While both the sales-to-assets and net profit margin are affected by the external marketplace, they largely capture internal management efficiency.

Total Liabilities-to-Equity. This debt ratio tests long-term liquidity. This ratio is similar to debt-to-equity, but total liabilities (all debt) is used instead of long-term bank debt, because the latter can too easily be reduced temporarily at year-end by extending accounts payable or substituting short-term borrowing. The ratio is applied here as a measure of the firm's ability to sustain itself over the long term. This is a broad ratio that ignores most internal manipulations or differences in bookkeeping methods, because it captures all liabilities, and equity is not easily manipulated.

WHAT YOUR R-SCORE MEANS

Test data suggest that R-Scores below 5 indicate low financial risk; above 7, they indicate that financial resources are stretched. Scores between 5 and 7 are moderate. Scores above 9 indicate high financial risk. If the R-Score is very high, the company is highly leveraged. An over-leveraged company cannot deal with a slow year or disruptions in receivables. The company may be profitable, but its financial condition is precarious. Operating profitably "on the edge" makes little sense for the closely held company for many reasons, not the least of which is that the principals are personally liable. There is too much at stake to allow high financial risk to continue once discovered.

Your R-Score trend is more important than the raw score. Determine what your R-Score was five years ago, four, three, two, and one. Or better yet, figure it for a year when you were happy with your performance.

If it was 6 in a good year and is now 8, there is a shift in risk in the wrong direction. If your R-Score was 9 or 10 in a year you were satisfied with results and it's now 8 or 7, the trend is in the proper direction.

THE BOTTOM LINE

The R-Score formula provides an easy-to-use, accurate tool for measuring financial risk and financial strength for the closely held construction company.

A multi-year evaluation will provide a quick and accurate historical trend of financial performance and financial risk.

(continued)

costs. As a result, comparisons of gross profits cannot be used as accurate measurements of a construction company's financial performance.

WHY FINANCIAL MEASURES DON'T TELL THE WHOLE STORY

Net profit—gross profit after general and administrative costs—is not the measure of a company's performance; however, it is included in the measurement of financial performance with other important elements. Equity is a significant measurement factor anchoring the capital structure that underpins the company and supports credit facilities that provide cash flow during peak needs.

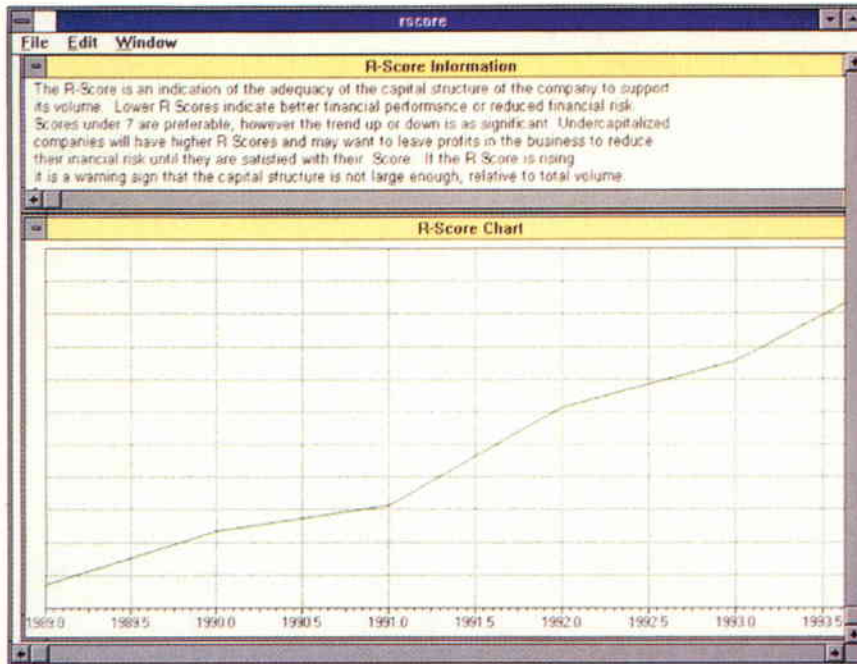
What the current financial risk is, and

How this compares with past performance.

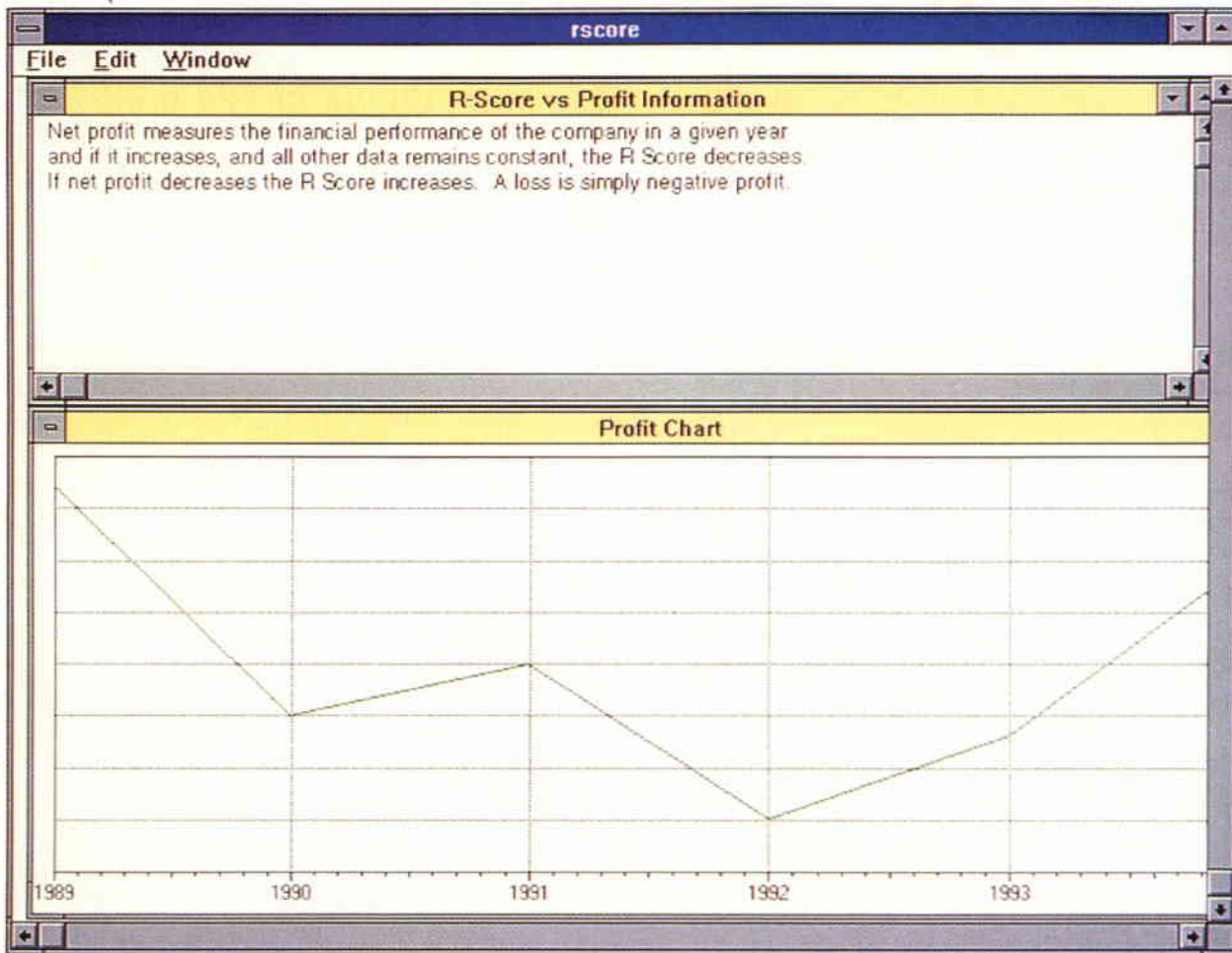
The following text explains the different elements of the R-Score Formula:

Sales-to-Total Assets. The turnover ratio is a measure of operational efficiency. The higher the ratio, the more efficient the utilization of assets. The ratio is a composite of receivables management, inventory management, fixed asset management and liquidity management. The ratio is the relative efficiency with which the firm uses its resources to generate output.

Net Profit-to-Sales. The net profit



THE R-SCORE FORMULA (continued)



R-SCORE SOFTWARE NOW AVAILABLE

This complex formula is now available in easy-to-use software, to enable you to quickly measure your financial risk. Input company data from annual financial statements and the R-Score software will generate multi-year calculations, including graphic presentations and text explanations of meanings and trends. It can display five years of financial information complete with charts and text and store up to 10 years of data for multiple companies. It provides the opportunity to consider "what if" scenarios or project "what might have been" tests to learn from past actions.

THE R-SCORE FORMULA FOR MEASURING FINANCIAL RISK:

$$R = (1 - NP/S - (10 \cdot (TL / (TL + TA)) \cdot (NP/S))) \cdot (S/TA) \cdot (TL/E)$$

Legend:

- R = R-Score—a numeric measurement of Financial Risk
- NP = Net Profit (preferably after taxes, but can be used before taxes if used consistently)
- S = Sales
- TL = Total Liabilities
- TA = Total Assets
- E = Equity

□ The R-Score formula can be used as an internal self-evaluation tool for closely held construction companies or an external analysis tool for credit grantors.

The R-Score will help professionals in the construction industry better evaluate the financial risk of closely held construction companies. Several financial ratios are combined holistically to provide insight into the construction operation's financial activities. This helps contractors better understand the impact of operational changes on the financial health of a company.

Better control of financial risk will lead to reduced failures. A reduction in the extremely high failure rate in the U.S. construction industry will lead to lower construction costs, which will have a positive effect on industrial and social progress.

—**Thomas C. Schleifer, Ph.D.**, the author of *Construction Contractors' Survival Guide*, is a turnaround expert and management consultant to the construction industry, helping distressed construction firms return to profitability. For more information about the formula or R-Score software, contact Tom Schleifer at 5625 N. 75th Place, Scottsdale, AZ 85250.