

## Measuring Shareholder Value

© David T. Lupia, CMC

Shareholder value is created when profitability exceeds investor expectations as measured by the cost of capital. Unfortunately, companies often do not measure profitability the same way investors do, and this makes it hard for managers to identify under-performing operations and take corrective action. This article describes a rate of return metric that measures profitability the same way investors do.

A commonly used measure of profitability is the Return On Capital Employed (ROCE), defined as Operating Profit After Tax (the sum of net income plus operating (gains)/losses after tax and interest expense after tax) divided by Net Capital Employed (the sum of debt and equity reported on the balance sheet). The problem with this and most other profitability measures is they do not measure operating profits and capital employed the way investors do.

Investors are concerned about economic profits and the amount of debt and equity actually invested in the business. These amounts may differ materially from those reported in company financial statements because of various accounting practices that were designed for other purposes. Accounting reserves, for example, tend to understate economic profits and the amount of equity capital actually invested in the business. Off-balance sheet liabilities, such as operating leases and receivable factoring programs, understate the true amount of debt outstanding.

Because of these shortcomings, ROCE provides little guidance about a company's profitability relative to its cost of capital, which is the blended return that equity and debt investors expect to earn on their combined investment in the company. By adjusting ROCE to measure profitability the same way investors do, it is possible to relate current operating performance directly to shareholder value. The major adjustments are summarized below.

- Permanent accounting reserves, such as deferred income tax reserves and site restoration reserves, are added back to equity because they are unlikely to be paid by companies that remain going concerns. The corollary adjustment to operating profit is to add back increases in these reserves and subtract decreases.
- Operating profit is adjusted for changes in other accounting reserves, like bad debt reserves, because these accruals distort the timing of when these costs are actually incurred. Corollary adjustments are also made to net capital employed.
- LIFO inventory reserves represent real economic value to investors and therefore are added back to equity. The corollary adjustment to operating profit is to add increases in LIFO reserves and subtract decreases.
- Step-up the cost of acquisitions to prices actually paid and add back related goodwill amortization to operating profit.
- Add the present value of future operating lease commitments to debt and the after-tax interest component of the annual lease payments to operating profit.
- Because non-operating losses and gains are not reflected in operating profit, consistency requires that accumulated non-operating losses be added back to equity and non-operating gains be deducted.

To illustrate the effect of these adjustments, Table 1 shows returns for the U.S. refining and marketing operations of a major integrated oil company over five years.

<b>RETURNS ON NET CAPITAL EMPLOYED (ROCE) and ADJUSTED CAPITAL EMPLOYED (RACE)</b>						
(\$ Millions)	<u>2000</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>Average</u>
Average Net Capital Employed (NCE)	1,623	1,690	819	770	724	1,125
Capital Adjustments	1,507	1,579	267	277	264	779
Adjusted Net Capital Employed (ANCE)	3,129	3,269	1,086	1,046	989	1,904
Operating Profit AT (OPAT)	308	114	121	119	33	139
Profit Adjustments	(3)	80	(28)	(14)	37	15
Net Operating Profit After Tax (NOPAT)	305	194	93	106	70	154
ROCE (OPAT/NCE)	19.0%	6.8%	14.8%	15.5%	4.5%	12.1%
RACE (NOPAT/ANCE)	9.8%	5.9%	8.6%	10.1%	7.1%	8.1%

Net capital employed (NCE) attributable the company's U.S. downstream operations increased from \$724 million in 1996 to \$1,623 million in 2000, largely as a result of an acquisition in 1999. Operating profit after-tax (OPAT) fluctuated widely over the five-year period and averaged \$139 million per year. Conventional ROCE ranged from 4.5% in 1996 to 19.0% in 2000 and averaged 12.1% over the five-year period.

The cost of capital for the company's U.S. refining and marketing operations was estimated using the average asset beta of pure refining and marketing companies and the company's marginal after-tax cost of long-term debt and capital structure. The resulting cost of capital was found to average approximately 10.5% over the period under review.

Comparing the 10.5% cost of capital to 12.1% ROCE would suggest that the company has created significant shareholder value:  $(12.1\% - 10.5\%) \times \$1,125 \text{ million} = \$18 \text{ million per year} \times 5 \text{ years} = \$90 \text{ million}$ . However, a far different picture emerges after ROCE is adjusted to reflect the capital and profit adjustments described above.

As shown in the table, capital adjustments averaged \$779 million over the five-year period and profit adjustments averaged \$15 million per year, resulting in an 8.1% Return on Adjusted Capital Employed (RACE). This return is well *below* the cost of capital and indicates a \$228 million *diminution* in shareholder value over 5 years:  $(8.1\% - 10.5\%) \times \$1,904 \text{ million} = -\$45.7 \text{ million per year} \times 5 \text{ years} = -\$228 \text{ million}$ . (The increase in capital adjustments in 1999 and 2000 is largely the result of stepping-up the cost of a large acquisition to its actual purchase price.)

2000 was one of the best years ever for the industry as a whole in terms of the spreads between wholesale and retail product prices and refinery feedstock costs, yet the company was still shy of earning its cost of capital in that year. It thus seems unlikely that margin improvements alone will be sufficient to create shareholder value in the future.

Under these circumstances, the immediate objective should be to: (i) identify individual business units that are destroying shareholder value because their RACEs are below the cost of capital and then; (ii) implement plans to create shareholder value through a combination of efficiency improvements and asset sales.

RACE is an essential tool for measuring shareholder value and for identifying under-performing assets.