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## REIT Basics

# Understanding NAV

By Barry Vinocur

Net asset value analysis is central to many investors' thinking when it comes to investing in REITs and non-REIT real estate operating companies, or REOCs. However, NAV is but one of a number of valuation metrics. Like any metric, it has its pluses and minuses. For instance, the calculation of NAV is admittedly more art than science. It's also important to keep in mind that NAV is a levered number. The more highly levered a company, for instance, the more pronounced the impact changes in NOI will have on the resulting NAV.

Another issue, highlighted in 2002 by Steve Sakwa and his colleagues on the Merrill Lynch REIT team, is the "drag" on NAV arising from unleased space. The Merrill analysts wrote: "In calculating our 1Q02 NAV figures, we've made one major structural change to our previous methodology, which is a positive adjustment in all cases in which it is applicable. The change involves applying a value to the unleased space within many companies' portfolios, especially those REITs whose occupancy rates are substantially depressed and well below a normalized occupancy figure. Although coming up with a 'normalization factor' is difficult, we applied adjustments principally to the apartment and office/industrial REITs as both subsectors are currently experiencing abnormally high vacancy levels."

No firm is more closely associated with NAV than Newport Beach, California-based Green Street Advisors. Though Green Street added a discounted cash flow analysis-pricing model to its quiver in 2001, the firm has been using an NAV-based pricing model as its primary valuation tool for over a decade.

According to Green Street's Mike Kirby, Warner Griswold, and Jon Fosheim: "The beauty of an NAV-based approach is that it compartmentalizes the valuation analysis, and, via the information contained in real estate prices, specifically addresses the riskiness and long-term growth prospects of a given real estate portfolio. By first answering the question 'What is the value of what the REIT now owns?' an NAV-based approach allows investors to address separately the question 'How much value will be created or destroyed by the REIT's growth strategy?' By addressing one question at a time, an NAV-based model does a good job of separating the two biggest determinants of value for a REIT."

Another plus, cited by the Green Street team, is that an NAV-based model relies on real estate prices in the private market to provide guidance on appropriate pricing in the public market. "For the most part, this is a positive, as private market prices contain the collective opinions of thousands of buyers and sellers about the growth prospects and riskiness of a given type of real estate in a given locale. More often than not, these private markets work efficiently, and public market investors who choose to ignore the information conveyed by thousands of willing buyers and sellers seem to us to be foolhardy."

A final argument for focusing on NAV, Kirby, Griswold, and Fosheim stress, is that pricing in the REIT sector has a long-term tendency to revert back to NAV parity. "The average discount/premium to NAV for our coverage universe for more than a decade has been roughly 0%." Their sobering conclusion based on that data: "The historical evidence suggests that investors believe REITs neither create nor destroy value, in aggregate."

As the Green Street team underscored in its 2002 REIT pricing model update, there's no reason to suggest that a discounted cash flow pricing model, properly constructed and applied, would come up short vs. an NAV-based pricing model. "While the relevant valuation inputs are addressed in a different order and, in some cases, in a different format, the same parameters serve to determine value no matter which model one uses," Kirby, Griswold, and Fosheim noted.

There are nevertheless a number of factors to keep in mind when utilizing NAVs in constructing a valuation matrix. For instance, because cap rates are central to the calculation of NAV (see sidebar), during periods when few transactions are taking place, the calculation of NAV can be problematic. At the same time, during periods when companies are rapidly expanding or contracting their portfolios, getting a fix on NAV is a lot tougher, if not impossible. That said, we are steadfast in our view that investors ignore NAV at their peril.

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**Calculating NAV**

The general framework for calculating NAV is reasonably straightforward. The variance in NAV estimates, in almost all cases, is the result of differing inputs, not different methodologies.

Steve Sakwa and his colleagues on the Merrill Lynch REIT team summarized the six-step framework they utilize in their *First Quarter 2002 NAV Handbook*.

**Step 1:** Determine a company's forward 12-month cash net operating income (i.e., preleveraged cash flow minus straightline rents). The reason for choosing this period, rather than the prior 12 months or the latest quarter annualized, is that purchasers of real estate generally focus on the earnings potential of a property, not its past performance, and cap rates are generally defined as a consequence of the next-12-months' income.

**Step 2:** Apply an appropriate cap rate to the company's cash NOI figure.

**Step 3:** Determine the value of third-party income. After determining the actual cash flow derived from a company's ancillary businesses, we apply a cap rate to the income stream. Since management contracts are typically cancelable on short notice—often 30 to 60 days' notice—we ascribe a substantially lower valuation to fee income than to rental income. With few exceptions, we use a 20% cap rate—equal to a multiple of five times cash flow—for fee income vs. property-level cap rates that range from 8.0% to 12.5%, depending on the asset class.

**Step 4:** Determine the gross market value of assets. After adding the results from steps 2 & 3, we add cash and cash equivalents, other assets, land held for development, value of unleased space, and existing development projects, which are valued at historical cost, to derive the gross market value of assets.

**Step 5:** Determine the net market value of assets. Subtract total liabilities from the gross market value of assets to arrive at a net market value of assets.

**Step 6:** Determine the NAV per share. Divide the net market value of assets by the total number of shares outstanding to derive the net asset value per share.

**NAV Calculation for Summit Properties**  
 Based on 1Q02 Financials

Cap Rate Assumptions	
GAAP NOI Cap Rate <sup>(1)</sup>	8.75%
Cash NOI Cap Rate <sup>(2)</sup>	8.75%
Economic Cap Rate <sup>(3)</sup>	8.27%
Start with...	
GAAP NOI from owned properties	\$113,246
Straight-line rent adjustment	\$0
Cash NOI from owned properties	\$113,246
less: Recurring capital expenditures	(\$6,271)
Adjusted NOI from apartment properties	\$106,975
Divide cash NOI by...	
Assumed cash NOI cap rate	8.75%
Produces...	
Market value of apartment properties	\$1,294,240
Then add benefit of management/third party income by dividing...	
Management/third party income	\$800
Economic cap rate applied to management income	20.0%
To derive...	
Implied benefit of management income	\$4,000
Then add...	
Cash, Cash Equivalents and Securities	\$13,709
Other Assets	\$9,963
Recent Acquisitions at Cost	\$0
Land Held For Future Development	\$48,811
Value of Unleased Space	\$52,237
Benefit of Tax-Exempt Debt <sup>(4)</sup>	\$4,555
We are left with...	
Gross market value of assets	\$1,695,241
Then subtract...	
Total Liabilities...	\$809,020
Preferred Stock	\$140,000
Produces...	
Net market value of assets	\$746,221
Divide by...	
Total shares/o.p. units ('000)	31,007
<b>Net Asset Value Per Share</b>	<b>\$24.07</b>

Notes: (1) GAAP NOI cap rate is defined as rental revenues (including straight-line rents) minus property level expenditures divided by the market value of owned properties.  
 (2) Cash NOI cap rate is defined as cash NOI (GAAP NOI minus straight-line rent adjustment) divided by market value of owned properties.  
 (3) Economic NOI cap rate is defined as adjusted NOI (Cash NOI minus recurring cap ex) divided by market value of owned properties.  
 (4) We multiply the outstanding tax-exempt debt by a 150 basis point subsidy and capitalize at 8.5%.

Source: Merrill Lynch 1Q02 NAV Handbook

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**Other Related Metrics**

In addition to calculating NAV, the Merrill Lynch analysts stressed the “equally important” calculation of a company’s implied economic cap rate. They also addressed computing adjusted EBITDA multiples.

The calculation of implied economic cap rates, Merrill Lynch’s Steve Sakwa and his colleagues noted, “is essentially the inverse of the net asset value analysis. For example, for Summit Properties to be worth \$22.97 per share, at what economic cap rate would its properties have to be valued?” [See table at right.] “We begin by multiplying the number of shares outstanding by the current stock price to find the market value of common equity. Next, we add total liabilities and subtract other assets (such as, cash, cash equivalents, development projects, and land held for future development) to arrive at our implied market value of properties. Then, we divide the current adjusted NOI figure—defined as NOI minus recurring cap ex minus a straightline rent adjustment—by the implied market value of properties to arrive at our implied cap rate.

“This analysis shows that SMT’s 8.49% implied economic cap rate is 65 basis points higher than the peer group average and 22 basis points higher than the economic cap rate derived in our NAV calculation.”

An adjusted EBITDA multiple, the Merrill analysts wrote, is defined as the implied market value of properties divided by adjusted EBITDA. To derive adjusted EBITDA, they subtract a corporation’s G&A expenses from their adjusted NOI figure used in the NAV calculation. “By computing an adjusted EBITDA multiple, we are able to ‘look through’ different accounting policies at the various REITs with respect to the allocation of overhead expenses.”

**Calculation of Implied Cap Rate and Adjusted EBITDA Multiple for Summit Properties**  
Based on 1Q02 Financials

<b>Before multiplying...</b>	
# Shares Outstanding	31,007
Recent Stock Price	\$22.97
Market Value of Common Equity	\$712,238
<b>Then Add...</b>	
Total Liabilities...	\$809,020
Preferred Stock	\$140,000
<b>Subtract other Assets...</b>	
Implied benefit of management income <sup>(1)</sup>	\$4,000
Cash, Cash Equivalents and Securities	13,709
Other Assets	9,963
Recent Acquisitions at Cost	0
Land Held For Future Development	48,811
Value of Unleased Space	52,237
Benefit of Tax-Exempt Debt <sup>(2)</sup>	4,555
Equity Investments in Public Companies	0
Development Projects (at cost)	267,725
<b>We are left with...</b>	
Implied Market Value of Properties	\$1,260,256
<b>Given...</b>	
Net Operating Income - Existing Properties <sup>(3)</sup>	\$113,246
less: Recurring capital expenditures	(\$6,271)
Adjusted NOI - Existing Properties	\$106,975
G&A	(\$5,798)
Adjusted EBITDA	\$101,178
<b>Finally, dividing adjusted NOI by the implied market value of assets gives us an...</b>	
Implied Economic Cap Rate	8.49%
<b>Take the implied market value of properties divided by adjusted EBITDA...</b>	
Adjusted EBITDA Multiple <sup>(4)</sup>	12.5

Notes: (1) This figure is derived by applying an appropriate cap rate to the projected NOI derived from mgmt income.  
 (2) Multiply the outstanding tax-exempt debt by a 150 basis point subsidy and capitalize at 8.5%.  
 (3) These numbers reflect Merrill Lynch’s expectations for income from existing properties over the next 12 months.  
 (4) Adjusted EBITDA multiple is equal to implied market value of properties divided by adjusted EBITDA

Source: Merrill Lynch 1Q02 NAV Handbook

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