Capitalization rate

Capitalization rate (or "cap rate") is the ratio between the net operating income produced by an asset and its capital cost (the original price paid to buy the asset) or alternatively its current market value.[1] The rate is calculated in a simple fashion as follows:

Capitalization rate = annual net operating income / cost (Value)

Explanatory Examples

For example, if a building is purchased for $1,000,000 sale price and it produces $100,000 in positive net operating income (the amount left over after fixed costs and variable costs are subtracted from gross lease income) during one year, then:

- $100,000 / $1,000,000 = 0.10 = 10%

The asset's capitalization rate is ten percent.
If the owner bought the building twenty years ago for $200,000, his cap rate is

- $100,000 / $200,000 = 0.50 = 50%.

However, the investor must take into account the opportunity cost of keeping his money tied up in this investment. By keeping this building, he is losing the opportunity of investing $1,000,000 (by selling the building at its market value and investing the proceeds). As shown above, if a building worth a million dollars brings in a net of one hundred thousand dollars a year, then the cap rate is ten percent. His real cap rate is ten percent, not fifty percent, and he has a million dollars invested, not two hundred thousand. Ergo, the current value of the investment, not the actual initial investment, should be used in the cap rate calculation.
As another example of why the current value should be used, consider the case of a building that is given away (as an inheritance or charitable gift). The new owner divides his annual net income by his initial cost, say,

- $100,000 (income)/ 0 (cost) = UNDEFINED

Anybody who invests any amount of money at an undefined rate of return very quickly has an undefined percent return on his investment.
From this, we see that as the value of an asset increases, the amount of income it produces should also increase (at the same rate), in order to maintain the cap rate.
Capitalization rates are an indirect measure of how fast an investment will pay for itself. In the example above, the purchased building will be fully capitalized (pay for itself) after ten years (100% divided by 10%). If the capitalization rate were 5%, the payback period would be twenty years. Note that a real estate appraisal in the U.S. uses net operating income. Cash flow equals net operating income minus debt service. Where sufficiently detailed information is not available, the capitalization rate will be derived or estimated from net operating income to determine cost, value or required annual income. An investor views his money as a "capital asset". As such, he expects his money to produce more money. Taking into account risk and how much interest is available on investments in other assets, an investor arrives at a personal rate of return he expects from his money.

This is the cap rate he expects. If an apartment building is offered to him for $100,000, and he expects to make at least 8 percent on his real estate investments, then he would multiply the $100,000 investment by 8% and determine that if the apartments will generate $8000, or more, a year, after operating expenses, then the apartment building is a viable investment to pursue.

Use for valuation

In real estate investment, real property is often valued according to projected capitalization rates used as investment criteria. This is done by algebraic manipulation of the formula below:

- Capital Cost (asset price) = Net Operating Income/ Capitalization Rate

For example, in valuing the projected sale price of an apartment building that produces a net operating income of $10,000, if we set a projected capitalization rate at 7%, then the asset value (or price we would pay to own it) is $142,857 (142,857 = 10,000 / .07).
This is often referred to as direct capitalization, and is commonly used for valuing income generating property in a real estate appraisal.
One advantage of capitalization rate valuation is that it is separate from a "market-comparables" approach to an appraisal (which compares 3 valuations: what other similar properties have sold for based on a comparison of physical, location and economic characteristics, actual replacement cost to re-build the structure in addition to the cost of the land and capitalization rates). Given the inefficiency of real estate markets, multiple approaches are generally preferred when valuing a real estate asset. Capitalization rates for similar properties, and particularly for "pure" income properties, are usually compared to ensure that estimated revenue is being properly valued.

Cash flow defined

The capitalization rate is calculated using a measure of cash flow called net operating income (NOI), not net income. Generally, NOI is defined as income (earnings) before depreciation and interest expenses:

- Cash flow = Net income + depreciation + interest expenses.

Depreciation in the tax and accounting sense is excluded from the valuation of the asset, because it does not directly affect the cash generated by the asset. To arrive at a more careful and realistic definition, however, estimated annual maintenance expenses or capital expenditures will be included in the non-interest expenses.
Although cash flow is the generally-accepted figure used for calculating cap rates, this is often referred to under various terms, including simply income.
In Australia there are tax incentives for negatively geared properties because the expenses of running an investment property are a tax offset. Under S43 of the income tax assessment act, capital works depreciation can be claimed at 2.5% of the cost of construction. Cash flow is directly effected by the tax payer paying less tax up front or receiving a larger tax return for prepaid tax when the depreciation is processed.

Use for comparison

Capitalization rates, or cap rates, provide a tool for investors to use for roughly valuing a property based on its Net Operating Income. For example, if a real estate investment

provides $160,000 a year in Net Operating Income and similar properties have sold based on 8% cap rates, the subject property can be roughly valued at $2,000,000 because $160,000 divided by 8% (0.08) equals $2,000,000. A comparatively lower cap rate for a property would indicate less risk associated with the investment (increasing demand for the product), and a comparatively higher cap rate for a property might indicate more risk (reduced demand for the product). Some factors considered in assessing risk include creditworthiness of a tenant, term of lease, quality and location of property and general volatility of the market.

Reversionary

Property values based on capitalization rates are calculated on an "in-place" or "passing rent" basis, i.e. given the rental income generated from current tenancy agreements. In addition, a valuer also provides an Estimated Rental Value (ERV). The ERV states the valuer's opinion as to the open market rent which could reasonably be expected to be achieved on the subject property at the time of valuation.

The difference between the in-place rent and the ERV is the reversionary value of the property. For example, with passing rent of $160,000, and an ERV of $200,000, the property is $40,000 reversionary. Holding the valuers cap rate constant at 8%, we could consider the property as having a current value of $2,000,000 based on passing rent, or $2,500,000 based on ERV.

Finally, if the passing rent payable on a property is equivalent to its ERV, it is said to be "Rack Rented".

Change in asset value

The cap rate only recognizes the cash flow a real estate investment produces and not the change in value of the property.

To get the unlevered rate of return on an investment the real estate investor adds (or subtracts) the price change percentage from the cap rate. For example, a property delivering an 8% capitalization, or cap rate, that increases in value by 2% delivers a 10% overall rate of return. The actual realised rate of return will depend on the amount of borrowed funds, or leverage, used to purchase the asset.

In Europe, the term yield is more frequently used in connection with real estate than capitalization rate. Yield is a more general term that refers to income in relation to the price of an asset.

Recent trends

'***The National Council of Real Estate'*** Investment Fiduciaries in a Sept 30, 2007 report reported that for the prior year, for all properties income return was 5.7% and the appreciation return was 11.1%.

A Wall Street Journal report using data from Real Capital Analytics and Federal Reserve [2] showed that from the beginning of 2001 to end of 2007, the cap rate for offices dropped from about 10% to 5.5%, and for apartments from about 8.5% to 6%. At the peak of the real estate bubble in 2006 and 2007, some deals were done at even lower

rates: for instance, New York City's Stuyvesant Town and Peter Cooper Village apartment buildings sold at a cap rate of 3.1% based on highly optimistic assumptions [3]. Most deals at these low rates used a great deal of leverage in an attempt to lift equity returns, generating negative cashflows and refinancing difficulties [4].
As U.S. real estate sale prices have declined faster than rents due to the economic crisis, cap rates have returned to higher levels: as of December 2009, to 8.8% for office buildings in central business districts and 7.36% for apartment buildings [5].