

What's It Worth \$\$\$

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

- $\text{annual net operating income} / \text{cost (or value)} = \text{Capitalization Rate}$

For example, if a building is purchased for \$1,000,000 sale price and it produces \$100,000 in positive net operating income (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.

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.

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 above:

- $\text{Capital Cost (asset price)} = \text{Cash flow} / \text{Capitalization Rate}$

For example, in valuing the projected sale price of an apartment building that produces an annual net cash flow 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.

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 challenge 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:

- $\text{Cash flow} = \text{Net income} + \text{depreciation} + \text{interest expense} + \text{profit tax} - \text{reserves for repairs} = \text{Gross income} - \text{non-interest expenses}$

Interest expenses are excluded so that the valuation of the property does not depend on the amount of debt used to purchase the property; in financial terms, the cap rate is a capital structure-neutral valuation measure. Similarly, profit taxes (or other similar taxes) are usually excluded, as they will depend on the interest and depreciation expenses charged; most other taxes, and specifically property taxes, are treated as part of non-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.

Use for comparison

Capitalization rates, or cap rates, provide a tool for investors to use for roughly valuing a property based on its income. For example, if a real estate investment provides \$160,000 a year in cash flow 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.