



Rate of Return Analysis: Looking Both Ways

By Brian Madigan

There are three (3) distinct approaches when it comes to the valuation of property:

- 1) cost,
- 2) direct comparison, and
- 3) income.

The cost approach is the best way to value a newly constructed building. The cost of the land, the cost of the building and a profit margin are tallied to provide a figure. The feasibility probably has to be tested through the direct comparison approach. In essence, is it saleable? If so, then a builder will accept the risk and proceed with construction.

The direct comparison approach works best for resales, that is, if there are plenty of accurate and suitable this particular approach becomes.

Sometimes, however, the building is not just a building. It's a business, it makes money, it produces an income or a return for its owners. So, how is that property to be valued? Does it really matter about its cost? And, the proper comparative property suitable for the direct comparison approach will be another income producing property with the same return.

So, that begs the question: how do you figure out the return on the investment?

We really have to look at three separate rates:

- 1) direct capitalization rate,
- 2) yield capitalization rate, and
- 3) discount rate.

This is a rather simplistic approach, but nevertheless, most other and more sophisticated analyses really just involve a greater degree of inputs to minimize the risk of the guesswork inherently involved in the process.

The direct capitalization rate is forward looking. It takes the current facts and assumes that those facts will continue without interruption in the future. All things being equal, it's a best guess of what's to come.

The yield capitalization rate and the discount rate are somewhat different. They look back from the future. It's like looking in a rear-view mirror! They make the assumption that you have experienced the expected returns, and if that were the case, then what was your rate of return? All things being equal, it's the best guess of what happened.

It's important to realize that neither approach is really any better or worse at predicting the future. The only difference between them is the math. That's the only science to it. The art is the guesswork! And, whoever is good at that, will be the better investor.

The Direct Capitalization Method

This is really the common, basic, standard and simple method of tackling the rate of return question.

In order to figure out the cap rate (according to this formula) you need to have a sale price and some income. What is the percentage return? A \$ 100,000.00 property producing \$ 10,000.00 in annual income will yield 10% of its value annually, and will have a 10% cap rate. If the income were \$ 8,000.00, this would yield a percentage return of 8 %, and a cap rate of .08 . Similarly, a \$ 12,000.00 annual income would translate into a 12% annual percentage return and a .12 cap rate. The cap rate can be expressed as either a percentage or a decimal.

The constant here is the value of the property. However, the nature of the building should change somewhat. If you're getting an 8% return, then the building is probably low risk. It's well-built, good construction, fully-tenanted with triple A covenants and in situate in a good location.

If you're getting a 12% return on your \$ 100,000.00 building, then it's higher risk than the first. It's in worse shape, has poorer quality tenants and is sitting in a worse location. That's the theory. If that's not the case, then you should buy it.

There are some general formulas when you are dealing with the direct capitalization method:

$$\frac{\text{Income}}{\text{Rate}} = \text{Value}$$

Rate

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$$\frac{\text{Income}}{\text{Value}} = \text{Rate}$$

Value

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$$\text{Value} \times \text{Rate} = \text{Income}$$

The value proposition in the formula is relatively straightforward. It means the “sale price” or the purchaser’s cost of acquisition. However, it can also include adjustments to reflect the cost of improvements.

Income in the formulas refers to net income. It is not simply the last particular annual financial statement. The statement has to be normalized in some way. So, it really should be based on several years of statements to pick up items that appear periodically (but, not yearly). For example some items have to be replaced every 5 years, some every 10 years. As a result, a normalized operating statement of income (NOI) will include 20% of the first item and 10% of the second.

In addition, a vacancy allowance and bad debts will have to be taken into consideration. You first start with the estimated gross annual income. Deduct the allowances for vacancies and bad debts, to arrive at the effective gross income. Then, you must deduct the annual operating costs to arrive at a net operating income. This is still before depreciation. It is also before the owner’s personal income taxes.

What about TMI (taxes, maintenance and insurance)? Sure, they all have to be factored in and accounted for in the calculations. If there is a vacancy, not only will the owner be losing the income, but will also be obligated to attend to the expense of the TMI personally.

As the cap rate increases (assuming that we knew what it was) the value of the building decreases. The cap rate bears an inverse relationship to the sale price or the value.

Consider, a building producing \$10,000.00 in annual value. What's its value? Look at the application of the rising cap rate!

Cap Rate	Income	Value
.08	\$ 10,000.00	\$ 125,000.00
.10	\$ 10,000.00	\$ 100,000.00
.12	\$ 10,000.00	\$ 83,333.33

In other words, the purchaser who wants a 12% return can only afford to pay \$ 83,333.33 because the income is not changing. Someone content with a 10% return could afford to pay \$100,000.00, and someone who was simply willing to accept an 8% return could pay as much as \$125,000.00 to achieve this result.

Obviously, the mindset of the prospective purchasers will be an important factor in determining the price.

How much is it worth? Well, what else can people do with their money?

Yield Capitalization Method

This method looks back from the future and places a present value on the stream of income. The direct capitalization method involves assessing a single year's income and projecting it forward to achieve a value. The yield capitalization method will take a stream of income received periodically throughout a certain measurable period of time in order to determine the present value.

This method is somewhat more sophisticated. It can take into account variances in returns over time. Generally, the value will be established before tax. That makes sense because it's the easiest way to compare two buildings. But, that approach alone omits an important factor, and that is, that all purchasers are not created equal. Some pay tax and some don't. Most major developers have to pay income tax. A capital gain is not a capital gain if you are "in the business". It's simply "ordinary income" and must be paid annually at full rates. However, other prospective purchasers may not pay any tax at all, including pension funds, REIT's, and non-profit organizations. Various offshore investment companies may pay limited or no tax in their own legal jurisdictions. So, it's quite difficult to compare two similar buildings based on price when the issue of potential ownership is also relevant.

An Investor Analysis

Not everybody has to buy real estate. So, there needs to be a way to compare a real estate investment to something else in the marketplace.

If you loaned money on a mortgage or a bond, you would have a rate of return and at the end of the term you would get your money back.

So, an investor is looking for two things:

- 1) expected return "*of their investment*" (principal), and
- 2) expected return "*on their investment*" (interest).

Let's consider an example and the various steps in the process. An investor sees an opportunity to buy a property for \$ 150,000.00 and allocates land and building on an 20/80 basis. The land is worth \$ 30,000.00 and the building is worth \$ 120,000.00.

Here are the four (4) steps in the process:

- 1) *Establish a rate of return "on" the investment*

The investor needs to know what a reasonable rate of return would be. For example, the investor might conclude that he needs 10% on his money, because he has other opportunities available. This is the discount rate or a

rate selected from other types of investments for purposes of comparison. More about discount rates later.

2) *Establish a rate of return “of” the investment*

The building has a remaining economic life of 40 years. Funds should therefore be returned over that period of time. The land will still be there, hopefully “as good as new” in 40 years.

3) *Calculate the recapture rate*

Divide the remaining economic life into 100% (just the building)
This will be $100/40 = 2.5\%$

4) *Determine the overall capitalization rate*

Add the discount rate applicable to the land value to the discount rate and recapture rates applicable to the building:

20% of land value at 10%	
.20 x .10	.02
PLUS	
80% of building at 12.5% (10+2.5)	
.80 x .125	.10
	———
	.12

Here, the .12 is a 12% return. This may or may not compare favourably to other alternatives.

This method allows the investor to compare the investment potential of the property with a mortgage or a bond or similar financial instrument. The investor achieved a rate of return on his investment over time (interest) and he got all his money back (principal).

The Discount Rate

The one further issue of some relevance is the discount rate. It has nothing directly to do with the property. It is designed to be used only for purposes of comparison. In some cases, it is also referred to as the “opportunity cost”. At other time sit may be referred to as the “safe rate” or the “hurdle rate”.

The benchmarks used are usually safe, no risk investments like treasury bills or Government of Canada bonds. In other words, if you can get a 7.5 % guaranteed return for the next 20 years from a Canada bond, then you’re going to have to get that amount and MORE, if you’re going to invest in anything more risky than that. An investor will want to add up the risk components including; the risks inherently associated with the property (theft, vandalism, declining property values, competition etc.), the risks associated with illiquidity (loss of other opportunities) and the risks associated with poor management.

In the final analysis, it is a judgment call. The rate of return is 12%, that’s 4.5% more than the bond. Is it worth it?

Another very important question is: What are the discount rates other potential purchasers will apply to this transaction? What if you can get 7.5% as a safe rate, but they can only get 4.5% in their own country? Their safe rate is lower than yours. They will want this property more than you. They will apply a lower discount rate to this transaction than you will. The result, is of course, that they will outbid you for this property since it looks far more attractive to them, than it does to you.

Ok, that was simply for the first deal. They outbid you, got the property and changed the cap rates for that type of property. Now, you can redo your numbers and the newer lower cap rate will apply.

But, don't feel too badly, maybe you already own some similar properties. Remember the inverse relationship between cap rates and sale price. All your properties just went up in value. Maybe you can now put on a new bigger mortgage and spend some time on an island in the south seas?

In summary, to value a building using the income approach, you will want to use two separate methods, direct capitalization (looking forward) and yield capitalization (looking back. Neither are right and neither are wrong, but they are both somewhat factual and objective. That's the science to it. The art comes from the application of the discount rate which as we have seen is entirely subjective.

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