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## VALUATION OF INCOME-GENERATING PROPERTY (L&B) BY UNDERSTANDING CAP RATE, INTEREST RATE, YIELD AND YEAR PURCHASE.

### INTRODUCTION

During the valuation of fixed assets, the Valuer may find difficulties in understanding the concept of capitalization rate, yield, and interest rate and its proper application in income-generating Asset Valuation. There is a very thin line between capitalization rate, yield, and interest rate. At the same time, these are very important tools for the Valuation of an asset, especially income-generating assets or for deciding on investments for real estate. These terms/rates are useful to determine investment in real estate. or, in other words, it tells us the potential rate of return on the proposed investment in real estate. We also call it the **Cap Rate**. So, the higher the cap rate, the better it is for the investors.

In this article, we will discuss the Valuation of income-generating assets by understanding the capitalization rate, yield, interest rate and Future Value and Present Value and their application in valuing the asset.

## Income Generating Property

An income-generating property produces regular income through rental payments or other forms of revenue. These properties are typically purchased to generate rental income or operating income. It is the annual income that can be legitimately expected to be derived by a person interested in putting the property to the highest and best use. In the case of freehold interest, the net income would be gross income at the market rent less all types of outgoings like annual taxes, annual repairs, etc. In the case of the lessor, net income will be rent reserved under the lease for the unexpired period of the lease and after such period, reversion to net annual income of market rent with deduction of all annual outgoings. In the case of lessee/ sub-lessee, net income would be annual profit rent i.e. market rent (or rent reserved under lease) less rent reserved under lease or sublease.

### Important term related to Income generating property

Following are the important terms to be understood before the Valuation of the Income generating Property

1. Interest rate,
2. Yield,
3. Capitalization rate
4. Year Purchase
5. Future Value
6. Present Value
7. Perpetuity
8. Annuity or Non-perpetuity

#### 1 Interest Rate

In simple words, the Interest rate is a return on investment or borrowing above the principal amount calculated on an annual basis and expressed in percentage

#### 2 Yield

Yield is nothing but the total return on investment over a certain period expressed in percentage.

$$\text{Yield} = \frac{\text{Net Operating Income} \times 100}{\text{Value}}$$

### 3 Capitalization rate

The cap rate is the rate of return of a property that it is expected to generate or in other words expected rate of return on the investment by an investor. This is an indicator of security on investment.

$$\text{Cap Rate} = \frac{\text{Net Operating Income (NOI)}}{\text{Investment or Market value}}$$

### 4 Year purchase

Years purchase is defined as the capitalised value required to be paid once and for all, to receive an annual income of Re.1/- for a specified period at a specified rate of return.

$$\text{Year Purchase (YP)} = 1 / \text{Yield}$$

### 5 Future Value

The Future Value (FV) represents the value of an asset or investment at a specified date in the future, based on the assumption of a certain rate of return or interest rate. It is a financial concept used to calculate the worth of an investment or savings over time, taking into account compound interest or other factors that affect its growth. The future value helps investors and individuals understand how much an investment or savings account will be worth in the future, which is crucial for financial planning and decision-making.

$$\text{FV} = \text{PV or Investment Amount} \times (1+r)^n$$

R = rate of interest  
n = No of Years

### 6 Present Value

Present Value (PV) is a financial concept that represents the current worth of a future sum of money or cash flow, discounted at a specific rate of return. It is based on the principle that a dollar today is worth more than a dollar in the future due to the potential earning capacity of money over time. Present value calculations are essential in various financial contexts, such as investment analysis, capital budgeting, and determining the fair value of assets or liabilities. The formula for present value involves discounting future cash flows using an appropriate discount rate to reflect the time value of money.

Perpetuity refers to an income from a property or asset that provides a constant stream of cash flows that continue indefinitely into the future at least more than 60 years. Unlike other investments with a finite lifespan, perpetuities promise payments without a specified end date.

## 8 Annuity or Non-perpetuity

An annuity refers to an income over a specified period. Unlike perpetuities, annuities have a defined end date, after which the payments cease

### Valuation of Income generating Property

#### If income generation is more than 60 years i.e. for perpetuity

Example – If a commercial property generates income of Rs 1cr annually with an outgoing of Rs 20 lac/annum including head rent, electricity charges, CAM charges, property tax if any and cap rate or is 5%.

Value of the Property = Net Operating Income/ Cap rate  
Net Operating Income = Rs 1 cr– Rs 0.20 cr = Rs 0.80 cr  
 $r = 5 \% = 0.05$

### Valuation of Income generating Property

#### If income is terminated after a certain year (less than 60 years) i.e for Annuity or Non-perpetuity

Example – If a commercial property is taken on lease by Mr X for 10 years and generates an income of Rs 1cr annually. After 10 years property will be returned back to the lessor. Mr X has to pay the outgoing of Rs 20 lac/annum including head rent, electricity charges, CAM charges, and property tax if any and the cap rate is 5%.

What is the Present Value of the asset for Mr X (lessee)?

Since the income is terminated after 10 years hence it is non-perpetual income and it will be valued based on annuity-based income for 10 years.

$$\text{Annuity based Future Value} = \text{Net operating Income} \times \frac{(1+r)^n - 1}{r}$$

$$\text{Net Operating Income} = \text{Rs } 1 \text{ cr} - \text{Rs } 0.20 \text{ cr} = \text{Rs } 0.80 \text{ cr} \quad r = 0.05$$

$n = 10 \text{ yrs.}$

$$\begin{aligned} \text{Annuity based Future Value} &= \text{Rs } 0,80 \text{ cr} \times \frac{(1+0.05)^{10} - 1}{0.05} \\ &= \text{Rs } 0.80 \text{ cr} \times 12.57 = 10.06 \text{ crs} \end{aligned}$$

This is the Future Value of the asset in the 10th year. Now this value shall be discounted to present value at the same rate of interest.

$$\text{Hence, Present Value} = \text{FV} \times \frac{1}{(1+r)^n}$$

$$n = 10 \text{ yrs}$$

$$r = 0.05$$

$$\text{FV} = \text{Rs } 10.06 \text{ crs.}$$

$$\text{Present Value or Value of the Property (for Lessee)}$$

$$= \text{Rs } 12.57 \times \frac{1}{(1+0.05)^{10}} = \text{Rs } 10.06 \times 0.613$$

$$\text{Present Value or Value of the Property (for Lessee)} = 6.16 \text{ say } 6.2 \text{ cr}$$

