Income Approach to Value

2025 Level II Tutorials

Income Approach

- The income approach is based on the principal that the value of an investment property reflects the quality and quantity of the income it is expected to generate over its life.

Income Approach

- Estimating the value of an income-producing property is done by a method called capitalization.
- In simple terms, capitalization is the division of a present income by an appropriate rate of return to estimate the value of an income stream.

Income Approach

- The model used to estimate the value today of income expected in the future is known as the IRV formula.

$$\text{Value} = \text{Income}/\text{Rate}$$
$$V = I/R$$

Income Approach

- The income approach is a means of converting future benefits to present value.
- Essential to the approach is the idea that income to be received in the future is less valuable than income received today.

Income Approach

- Let's look at several principles that are related to this idea.

- Supply and Demand – supply is the quantity of goods available at a given price schedule; demand is the quantity of goods desired at that price schedule.

Income Approach

- Supply and demand interact to establish prices in the marketplace.
- In general, markets that are more competitive generate sales prices that reflect true market value.
- Less competitive markets may produce prices that reflect investment value or value in use.

Income Approach

- Anticipation – the idea that present value is determined by future benefits.
- Because a dollar to be received in the future has less value than a dollar held now, the value of future dollars anticipated from the ownership of real estate should be adjusted to present value according to the time they are expected to be received.

Income Approach

- <u>Principle of Substitution</u> – A property's maximum value is set by the lowest cost or price at which another property of equivalent utility can be acquired.
- The price of substitutes also determines demand.

Income Approach

- Principle of Competition – The attempt by two or more buyers or sellers to buy or sell similar commodities, influences the rate of return on invested capital.
- The rate of return, reciprocally, influences both supply and demand in a particular market.

Income Approach

- Capitalization is the conversion of a single income stream or a series of income streams into a lump-sum value.
- A capitalization rate converts net operating income into an estimate of value.
- The capitalization rate is made up of three principle components – <u>discount rate, recapture rate and an effective tax rate.</u>

Income Approach

- **The discount rate = required rate of return <u>on</u> investment.**
  - Interest rate = required rate of return on borrowed funds.
  - Yield = required rate of return on equity.

  - The discount rate is made up of an interest rate and a yield rate.

  - *<u>This is a good definition to understand!</u>*

Income Approach

- **Recapture rate = rate of return <u>of</u> investment.**
- Provides for the recovery of capital on an annual basis.
- Applies only to that part of the investment that will waste away during the investment period.

- *<u>This is a good definition to understand!</u>*

Income Approach

- **Effective tax rate - the property tax rate expressed as a percentage of the market value.**
- It is the proportion of tax dollars to market value, and the only way to compare the effect of property taxes across jurisdictions.

Income Approach

- For example, a property with a market value of $1,000,000 and a total property tax of $27,000. The effective tax rate would be 0.027 or 2.7 percent. Formula: Amount of property tax divided by the market value.

- ($27,000 / $1,000,000 = 0.027)

- *Know how to calculate the effective tax rate!*

Income Approach

- Let's take a look now at how buyers see the risks and benefits of real estate investment.
- Why do investors choose income-producing real estate from a wide array of investment opportunities? Because they plan to receive a larger sum in the future than the amount invested now.

Income Approach

- Investors also try to choose the highest yield with the lowest risk.

- In determining where to invest dollars, the investor analyzes the opportunities available and asks, "Should I make this investment?"

Income Approach

- To answer that question, the investor asks more questions:
  - How much will it cost?
  - How much will I get back?
  - When will I get it back?
  - What are the risks?
  - What is the return on investments of similar risk?

Income Approach

- Overall objectives that an investor wants:
  - A return on the investment = discount rate.
    - Periodic Income (dividends, interest, rent).
    - Growth income (capital gain upon the sale of an investment).
    - A combination of both periodic and growth income.

    - A return of the investment = recapture rate.

Income Approach

- The income approach looks at factors that influence the behavior of investors
  - Safety/Risk
  - Liquidity
  - Size of the investment
  - Use as collateral
  - Leverage
  - Holding period

Income Approach

- Amount of management required.
- Potential for appreciation.
- Income tax advantages.

Income Approach

- Safety/Risk
  - Risk is relative and no investment is risk free.
  - The more safe an investment is, the less return (discount rate) an investor expects.
  - Conversely, the more risk involved in an investment, the higher the return (discount rate) an investor expects.

Income Approach

- Liquidity
  - Refers to the ease of converting the investment into cash.
  - Highly liquid investments convert into cash easily, and, therefore, the investors expect a lower return (discount rate) than he/she would for an investment that takes longer, or is harder, to convert to cash.

Income Approach

- Size of investment
  - Some investments require a large sum of money to get into; others do not.
  - Usually, the greater the amount of cash required to be invested, the greater the return (discount rate) expected by the investor.

Income Approach

- Use as collateral
  - Collateral refers to pledging the investment as security for a loan; in the case of real estate investments, this is done through the use of mortgages.
  - This is one way to make the investment more liquid and to minimize the cash required to purchase the investment.

Income Approach

- Leverage
  - Refers to the borrowing of funds to purchase an investment in the hope of earning a greater return on the investment than the cost of borrowing the funds.
  - The lender takes on part of the risk in return for the interest they charge the borrower.

Income Approach

- Holding Period
  - The holding period is the amount of time the investor must keep the investment in order to attain his/her investment objective.
  - Usually, the longer the holding period, the higher the return (discount rate) the investor expects.

Income Approach

- Amount of management required
  - Investments require time on the part of the investor, or a professional manager they hire, to keep track of the investment.
  - The more time required to manage the investment, the higher the return (discount rate) expected by the investor.

Income Approach

- Potential for appreciation
  - Some investments have the potential to increase in value (provide a capital gain) over the holding period, others do not.
  - An investor who expects the property to appreciate over time may accept a lower return (discount rate) during the holding period because they are willing to wait until the end of the holding period and get it in a lump sum (capital gain).

Income Approach

- Income tax advantages
  - Some investments offer income tax advantages, others do not.
  - May be in the form of a lower effective rate of taxation on capital gains, depreciation allowance to offset income, and/or the investor is allowed to subtract interest on a loan taken out to purchase the investment.

Income Approach

- It is important to understand the terminology used in the Income Approach.

- On the following slides are common terms and their definitions.

- Some of these terms many of you are familiar with.

Income Approach

- Amortize – process of repaying a loan by means of a series of scheduled payments; typically the scheduled payments include interest charges and principal repayment.
- Annuity – right to receive money in (usually) fixed amounts and at regular intervals for a definite or indefinite period of time.

Income Approach

- Capital Gain – profit realized upon sale of a property if the sale price exceeds the cost of acquisition and the cost of any improvements the seller has added.

Income Approach

- Capitalization – mathematical process used to convert income into value.
  - Direct Capitalization – a method which uses one year's income.
  - Yield Capitalization – a method which uses a series of future incomes.

Income Approach

- Cash Flow – amount of income remaining after subtracting debt service and/or income taxes from net operating income.

  - <u>Before-tax Cash Flow</u> – Amount of income remaining after subtracting debt service from net operating income.
  - <u>After-tax Cash Flow</u> – Amount of income remaining after subtracting income taxes from before-tax cash flow.

  - *<u>Know the difference between before & after tax cash flow!</u>*

Income Approach

- Contract Rent – actual amount of rent that a tenant pays a landlord as specified in the lease.
- Debt Service – payments of principal and interest on a mortgage.
- Discounting – process of estimating the present worth (value) of an anticipated future income stream.

Income Approach

- Discount Rate – rate of return on an investment; expressed as a percentage.
- Effective Gross Income (EGI) – potential gross rent, less vacancy and collection loss, plus miscellaneous income.
- Effective Tax Rate – annual property tax burden expressed as a percent of the property's market value.

Income Approach

- Equity – net value of property after liens, mortgages, and other charges are deducted; amount of capital (dollars) the titleholder has invested in a property. At the date of purchase, equity is equal to the cash down payment required.
- Equity Yield Rate – required rate of return on equity capital.

Income Approach

- Expense – a cost which is chargeable against income (rent).
- Expense Ratio – ratio of expenses to gross income: Formula: expenses divided by effective gross income. Later on in this class you will calculate an expense ratio.
- Factor – reciprocal of a rate; one (1) divided by a rate.

Income Approach

- Fixed Expenses – expenses that do not vary with occupancy and have to be paid whether the property is occupied or not (property taxes, mortgage payments, etc.)

Income Approach

- Gross Income Multiplier (GIM) – a simple capitalization technique that uses the relationship between a property's effective gross income and its market value. GIM is calculated by dividing a property's market value by its annual effective gross income.

Income Approach

- Gross Rent Multiplier – same as GIM except the GRM is calculated by dividing a property's market value by its effective monthly gross income.

- Gross Lease – a lease which calls for the landlord to pay all the expenses of operating the property.

Income Approach

- Ground Rent – amount of money paid by a tenant to a landlord to use vacant land.
- Holding Period – length of time an investor must keep an investment in order to achieve his/her investment objectives.

Income Approach

- Improper Expenses – expenses incurred in the ownership of income-producing property that are not used to calculate value in the income approach. Later in this class, examples will be discussed.
- Income – payments to its owner (landlord) that a property is able to produce from charging rent to a tenant.

Income Approach

- Income Stream – series of payments received from an investment during the holding period of the investment.
- Interest (Interest Rate) – cost of borrowing money; percentage charged to borrow money.
- Investment Value – value of an investment property to a particular investor; may not equal market value.

Income Approach

- IRV – notation for the basic capitalization formula used in the income approach where: Income divided by Rate equals Value.

  - $V = I \div R$

  - _Know this income approach formula!_

Income Approach

- Lease – a written contract by which the landlord (lessor) transfers the rights to occupy and use property to a tenant (lessee) for a specified period of time in return for a specified payment (rent).

Income Approach

- <u>Gross Lease</u> – a lease which calls for the <u>landlord</u> to pay all the expenses of operating the property.

- <u>Net Lease</u> – a lease which calls for the <u>tenant</u> to pay all the expenses of operating the property.

- *These are two types leases you need to understand!*

Income Approach

- Leased Fee Estate – landlord's (lessor's) interest/rights in a property.
- Leasehold Estate – tenant's (lessee's) interest/rights in a property.
- Lessee (Tenant) – person receiving a possessory interest in property under the terms of a lease.

Income Approach

- Lessor (Landlord) – person who holds title to a property but has granted the use of the property to another (tenant/lessee).
- Leverage – process of borrowing funds to purchase an investment in the hope of earning a greater return on the investment than the cost of borrowing the funds.

Income Approach

- Liquidity – ease by which an investment can be converted into cash.
- Loan-to-Value Ratio – percentage of a property's market value a lender (mortgagee) will loan a borrower (mortgagor).

Income Approach

- Market Rent – the rent prevailing in the market on the date of appraisal; the rent a prospective tenant would pay to occupy the property if it were vacant.
- Mortgage – contract in which a borrower (mortgagor) pledges title to a property as security for a loan from a lender (mortgagee).

Income Approach

- Mortgagee – lender.
- Mortgagor – borrower.
- Net Income – rent expected from a property after deduction of allowable expenses.
- Net Lease – lease which provides for the tenant (lessee) to pay all the expenses of operating the property.

Income Approach

- **<u>Net Leasable Area (NLA)</u>** – area within a building which is actually occupied by a tenant or tenants; does not include any common areas. <u>In the income approach you use net leasable area</u>.

- Net Operating Income (NOI) – annual income remaining after deduction of allowable expenses.

Income Approach

- Nominal Tax Rate – actual tax rate shown on a tax bill; expressed as millage, dollars per hundred or dollars per thousand.

- Occupancy Ratio – formula is occupied units/space expressed as a percentage of total units/space. Example: Apartment complex has 100 units with 95 rented. Occupancy ratio would be 95%.

Income Approach

- Operating Expenses – costs necessary to maintain the flow of rent for a property.
- Operating Statement – written summary of annual income and expenses on a property.
- Overall Rate (OAR) – a capitalization rate that includes all requirements of discount, recapture, and effective tax rates that is used in direct capitalization.

Income Approach

- Potential Gross Income (PGI) – total market rent that a property could annually generate if it were 100% occupied.
- Present Worth – value of an investment produced by discounting future income.
- Rate – a number expressed as a % or its decimal equivalent.

Income Approach

- Recapture – act of getting back the dollars put into an investment.
- Recapture Rate – rate of return of dollars put into an investment; expressed as a percentage.
- Reciprocal – result obtained when one (1) is divided by a given number.

Income Approach

- Rent – dollars paid by a tenant (lessee) to a landlord (lessor) in return for occupying and using the landlord's property.

  - Contract Rent – actual amount of rent that a tenant pays a landlord as specified in the lease.

Income Approach

- <u>Market Rent</u> – the rent prevailing in the market on the day of the appraisal; the rent a prospective tenant would pay to occupy the property if it were vacant.

- *<u>Know the difference between contract and market rent!</u>*

Income Approach

- <u>**Reserve for Replacements**</u> – an operating expense for replacement of capital items such as roofs or HVAC equipment. These are expenses that do not occur every year but do need periodic replacement. It is assumed a prudent owner will take an amount from rent collections each year, deposit it in a reserve account, and pay for these types of expenses from the reserve account and not out of current year's collections.

Income Approach

- Reversion – right of possession returning to the landlord on the termination of a lease; value of the investment at the end of the holding period.
- Sale-Leaseback – a sale and subsequent lease given by the buyer back to the seller as a part of the same transaction.

Income Approach

- Tenant – a person who occupies/uses a property but does not hold title.
- Time Value of Money – the amount of money anticipated as future income is always worth less than an equal amount in hand at the present time.

Income Approach

- Vacancy and Collection Loss – a loss from potential gross income (PGI) caused by vacant space and failure to collect rents.
- Yield Capitalization – a capitalization method that uses a series of future incomes.

Income Approach

- There are two formulas which are used in the income approach to value:

- <u>IRV formula</u> – most of the class will focus on this formula.
  - Used in direct capitalization
  - Uses a rate to convert one year's income into value
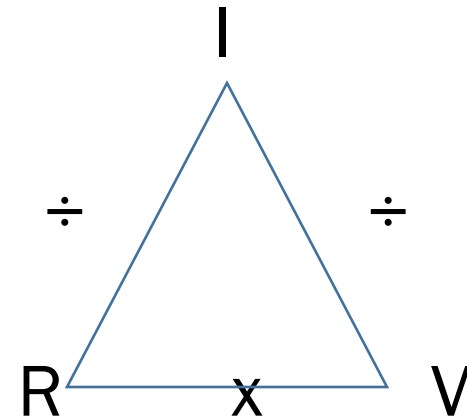
Income Approach

- <u>VIF formula</u>
  - Used in yield capitalization
  - Uses a factor to convert all future years' income into value
  - <u>This formula is used for calculating a GIM or GRM</u>.

Income Approach

- IRV Formula
  - I = Income
  - R = Rate
  - V = Value

- In appraising income property, you use:
  - I = annual net operating income (NOI)
  - R = capitalization rate (OAR), this is always a %.
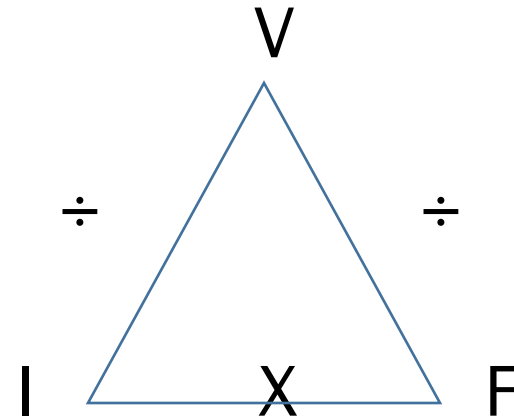 - V = market value

$$\frac{I}{R \times V}$$

Income Approach

- IRV Formula

- I (Income) = R x V

- R (Rate) = I ÷ V

- V (Value) = I ÷ R

Income Approach

- VIF Formula
  - V = Value
  - I = Income
  - F = Factor

- In appraising income property, you use:
  - V = market value
  - I = annual Effective Gross Income (EGI)
  - F = compound interest factor

$$\begin{array}{c} V \\ \div \quad \div \\ I \quad X \quad F \end{array}$$

Income Approach

- VIF Formula

- V (Value) = I x F

- I (Income) = V ÷ F

- F (Factor) = V ÷ I

Income Approach

- All you need to process the income approach to value are two things:
  - Net operating income (I)
  - Capitalization rate (R)

  - Once you have these two items, you simply plug them into the IRV Formula to get the value of the property.
  - $V = I \div R$

Income Approach

- The Income (I) you will plug into the IRV formula is the annual net operating income (NOI).
- It is developed by reconstructing an annual operating statement for the subject property.

Income Approach

- It is called a "reconstructed" operating statement because there are certain items the owner may report in the actual statement that are not considered by appraisers.
- In addition, the "reconstructed" statement shows what the property can expect to net based on market information.

Income Approach

- Potential Annual Gross Income (PGI)
- Less Annual Vacancy & Collection Loss (V&C)
- Plus Miscellaneous Income (Misc. I)
- Equals Effective Gross Income (EGI)
- Less Operating Expenses (EXP)
- Less Reserve for Replacements (RR)
- Equals Net Operating Income (NOI)

- *Tab this slide for reference! In the next several slides you will work through each step!*

Income Approach

- **<u>Potential Gross Income (PGI)</u>** – total market rent that a property could annually generate if it were 100% occupied. <u>Remember: PGI uses market rent, not contract rent</u>.

- This is developed by looking to see what the market (comparable properties) are collecting for rent for the same type of space as the subject. It may, or may not, be equal to the subject's current rent (contract rent).

Income Approach

	Efficiency	1 BR	2 BR	3 BR
Subject	$250	$400	$550	$650
Comp 1	$250	$450	$600	$700
Comp 2	$250	$450	$600	$725
Comp 3	$225	$450	$600	$725
Comp 4	$250	$450	$600	$725
Mkt. Rent	$250	$450	$600	$725

Income Approach

- The market rent on the previous slide is based upon the "median" of each of the rents for apartment types. Do not calculate using the mean average, but always use the "Median". Median is the middle number of ranked series of numbers. In this case there are four comps so you need to average the two in the middle.

Income Approach

- You would then apply the market rent to the number of units in the subject property to get its potential gross income (PGI).

Income Approach

- Efficiency   10 apts. @ $250 = $ 2,500
- 1 BR   40 apts. @ $450 = $18,000
- 2 BR   40 apts. @ $600 = $24,000
- 3 BR   10 apts. @ $725 = $ 7,250
- Totals   100 apts. $51,750

- $51,750 x 12 months = $621,000 PGI

Class Problem #1

- Please go to your Income Approach problem and answer module with audio and work Class Problem #1, Development of Potential Gross Income.

Income Approach

- **<u>Vacancy and Collection Loss</u>** – a loss from potential gross income (PGI) caused by vacant space and failure to collect rents.

- Most properties suffer some vacancy loss if for no other reason than tenant turnover. Therefore, in reconstructing the operating statement, you give an allowance for vacancy and for the inability to collect rents that are due.

Income Approach

- This is developed by looking to see what the market (comparable properties) are incurring as a vacancy and a collection loss rate. It may, or may not, be equal to the subject's current collection loss (contract rent).

Income Approach

- To calculate a vacancy rate, you divide the number of vacant units by the total number of units for each property, subject and comparables, to get a vacancy rate (percentage) for each property.

- Example, if you have 6 vacant units in a 120 unit building, your vacancy rate is 5% (6 ÷ 120 = .05 x 100)

Income Approach

- Determine a vacancy rate for each comparable property. Once you have calculated a vacancy rate for each of the comparables, you will then calculate the median vacancy rate by using each of the comparables.

- Example: Building has 95,000 sq ft of net leasable area, 8,000 sq. ft is vacant. Vacancy factor is 8%.

Income Approach

- The Collection Loss Rate works the same way.

- Divide the Uncollected Rents by the Rents Receivable. The percentage is the Collection Loss Rate for that property. You will then calculate the median collection loss by using the collection loss from each of the comparables.

- Example: Rents Receivable is $120,000 with rents collected of $115,000. Uncollected rents would be $5,000. Collection loss rate would be $5,000 / $120,000 = 4%.

Class Problem #2

- Please go to your Income Approach problem and answer module with audio and work Class Problem 2 – Development of Vacancy and Collection Loss Rate.

Income Approach

- <u>Miscellaneous Income</u> – income received by the property from sources other than the primary rent. For example, rental of the clubhouse for parties, income from vending machines or forfeited rent deposits.
- Estimated by looked at the historical operating statements for the property.

Income Approach

- **<u>Effective Gross Income (EGI)</u>** – potential gross income, less vacancy and collection loss, plus miscellaneous income.

- Following is an example of how to compute the EGI: Assume the Potential Gross Income is $621,000, Vacancy and Collection Loss is 6% and no Miscellaneous Income. What is the EGI?

  - PGI $621,000
  - - V&C @ 6%   (37,260)
  - <u>+ Misc. Income   -0-</u>
  - = EGI $583,740

Class Problem #3

- Please go to your Income Approach problem and answer module with audio and work Class Problem #3, Development of Effective Gross Income.

Income Approach

- Operating Expenses – costs of operating the property

- Expenses are divided into two categories:

  - **<u>Allowable Expenses</u>** – expenses that are ordinary and typical and are necessary to keep the property functional and rented competitively.

Income Approach

- **Improper Expenses** – expenses incurred in the ownership of income-producing property that are <u>not</u> used to calculate value in the income approach. These are not entered into the reconstructed operating statement.

Income Approach

- **<u>Allowable Expenses (EXP) Examples:</u>**
  - Management
  - Wages, Salaries and Benefits
  - Utilities
  - Materials & Supplies
  - Repairs and Maintenance
  - Insurance
  - Miscellaneous Expenses

Income Approach

- **Improper Expense Examples:**
  - Depreciation
  - Debt Service
  - Income Taxes
  - Capital Improvements
  - Owner's Business Expenses
  - Property Taxes (NOTE: These are a proper expense, but in appraising for property tax purposes, they are accounted for in the capitalization rate)

Income Approach

- Calculating Allowable Expenses
- In calculating the proper expenses to put into the reconstructed operating statement for a property, you must compare the current expenses with past years' expenses, compare current expenses with those of comparable properties, and contact the owner/manager regarding expense items in question. Expenses, like other items in the income approach must be supported by market comparables.

Class Problem #4

- Please go to your Income Approach problem and answer module with audio and work Class Problem #4, Development of Allowable Expenses.

Income Approach

- <u>**Reserve for Replacements**</u> – an operating expense for replacement of capital items such as roofs or HVAC equipment. These are expenses that do not occur every year, but do need periodic replacement. It is assumed that a prudent owner will take an amount from rent collections each year, deposit it in a reserve account, and pay for these types of expenses from the reserve and not out of current year's collections.

Income Approach

- The reserves are actually allowable expenses that are pro-rated over the life of the capital item that has to be replaced periodically.

Income Approach

- They are calculated as follows:
  - Estimate the economic life of the item.
  - Estimate its replacement cost new (RCN)
  - Calculate the percentage of reserve per year by dividing 100% by the economic life.
  - Multiply the RCN by the % per year to get the amount of annual reserve.

Income Approach

- Example – Roof on an apartment bldg.
  - Estimate the economic life – 20 years
  - Estimate the RCN - $20,000
  - Calculate the percentage of reserve per year by dividing 100% by the econ. life –
  - 100% ÷ 20 = 5%
  - Multiply the RCN by the % per year to get the amount of annual reserve
    - $20,000 x 5% = $1,000.

    - Alternative method: Take the RCN divided by the economic life.
    - $20,000 / 20 years = $1,000.

Class Problem #5

- Please go to your Income Approach problem and answer module and work Class Problem #5, Development of Reserve for Replacements.

Income Approach

- <u>**Expense Ratio**</u> – ratio of expenses to gross income; expenses plus reserve for replacement divided by effective gross income.

- An expense ratio is a simplified way of determining total expenses and reserves without having to account for each expense item separately.

Income Approach

- An expense ratio is calculated as follows:

- (Expenses + Reserves) ÷ EGI = Expense Ratio

- <u>Example: Allowable Expenses are $42,000 and reserves for replacements are $2,000. The EGI is $110,000. $42,000 + $2,000 = $44,000 / $110,000 = 40%.</u>

Class Problem #6

- Please go to your Income Approach problem and answer module with audio and work Class Problem #6 – Development of Expense Ratio.

Income Approach

- Reconstructed Operating Statement
PGI
- V&C
+ Misc. I
= EGI
- Exp
- RR
= NOI

Class Problem #7

- Please go to your Income Approach problem and answer module with audio and work Class Problem #7, Reconstructed Operating Statement.

Income Approach

- Capitalization Rates express the relationship between income and value.
- Proper selection of a capitalization rate is necessary in order to produce a valid value estimate.
- A small difference in the capitalization rate will result in estimates of value differing by thousands of dollars.

Income Approach

- Capitalization Rate can be composed of various rate components. These components are:

  - <u>Discount Rate</u> – allows for return <u>on</u> the investment
  - <u>Recapture Rate</u> – allows for return <u>of</u> the investment
  - <u>Effective Tax Rate</u> – allows for payment of the property taxes on the investment

Income Approach

- <u>**Discount Rate**</u> – percentage that allows for return on the investment

- The discount rate reflects the compensation necessary to attract investors to give up liquidity, defer consumption, and assume the risks of investing. It is the rate of return on total property investment to meet investment requirements.

Income Approach

- Three methods to determine:
  - Summation Method (build-up method)
  - Band-of-Investment Method
  - Market Comparison Method

Income Approach

- **Recapture Rate** – percentage that allows for return <u>of</u> the investment

- The recapture rate is the annual dollar requirement for returning to the investor a sum equal to the value of the improvements at the end of a given period of time. It is the annual offset against the depreciation on the improvements.

Income Approach

- Two methods to determine:
  - Reciprocal of the remaining economic life method
  - Market comparison method

Income Approach

- **<u>Effective Tax Rate</u>** – percentage that allows for payment of the property taxes on the investment.
- The effective tax rate expresses the ratio between the property value and the current tax bill. Since you do not expense the property taxes in the reconstructed operating statement, they must be accounted for in the capitalization rate.

Income Approach

- Two methods to determine:
  - EAT formula method
  - Market comparison method

Income Approach

- Once you have the three rate components, you can then develop a capitalization rate to use in the IRV formula.
- The capitalization rate you develop must match the income you are capitalizing. In other words, whatever the investor needs to take out of the income, you need to include in the cap rate.

Income Approach

- There are three types of capitalization rates:
  - Land Cap Rate (RL) – used when you are capitalizing land income.
  - Improvement (Bldg.) Cap Rate (RI) – used when you are capitalizing building/improvement income.
  - Overall Capitalization Rate (RO) or (OAR) – used when you are capitalizing the income to the total property.

Income Approach

- <u>Land Cap Rate (RL)</u> – used when capitalizing land income
- Developed by adding together the Discount Rate and the Effective Tax Rate.

  - If the Discount rate is 8% and the Effective Tax Rate is 1.2%, the Land Cap Rate would be 9.2% (8% + 1.2%)

Income Approach

- <u>Improvement (Bldg.) Cap Rate (RI)</u> – used when capitalizing improvement (building) income.

- It is developed by adding together the Discount Rate, the Effective Tax Rate, and the Recapture Rate.

Income Approach

- Example:
  - If the Discount Rate is 8%, the Effective Tax Rate is 1.2% and the Recapture Rate is 2%, the Improvement Cap Rate is 11.2%.

  - (8% + 1.2% + 2% = 11.2%)

Class Problem #8

- Please go to your Income Approach problem and answer module with audio and work Class Problem #8, Land and Building Capitalization Rates.

Income Approach

- <u>Overall Capitalization Rate (RO) or (OAR)</u> – used when you are capitalizing the income to the total property.
- Developed by weighting the land cap rate and the improvement cap rate by the land-to-building ratio.

Income Approach

- Example:
  - Land-to-building ratio is 1:4 (20% land, 80% building)
  - If the land cap rate is 8% and the building cap rate is 12%, the OAR is calculated as follows:
    - Land Cap Rate = 8% x 20% = 1.6%
    - Bldg. Cap Rate – 12% X 80% - 9.6 %
    - OAR is 1.6% + 9.6% or 11.2%

Class Problem #9

- Please go to your Income Approach problem and answer module with audio and work Class Problem #9, Overall Capitalization Rate, Weighted Land and Bldg. Cap Rates.

Income Approach

- A second method of developing an overall cap rate is to determine it directly from the market by analyzing comparable property using the IRV formula.
  - I ÷ V = R
  - NOI ÷ Sale Price = Overall Rate

Income Approach

- For example: Assume that our NOI is $45,100 and our Sale Price was $400,000. Our OAR would be 11.275% or 11.3%.

  - $45,100 ÷ $400,000 = 11.275% or 11.3%

Class Problem #10

- Please go to your Income Approach problem and answer module with audio and work Class Problem #10, Overall Capitalization Rate From the Market.

Income Approach

- Once you have the appropriate capitalization rate, it is merely a matter of plugging it into the IRV formula and capitalizing the NOI for the property into an indication of the property's value using the income approach.

Income Approach

- Let's review the IRV formula, it is shown on slide 67:
  - I ÷ R = V
  - NOI ÷ Cap Rate = Market Value

  - If the NOI is $49,500 and the Cap Rate is 11%, the market value is $450,000.
  - ($49,500 ÷11% = $450,000)

Class Problem #11

- Please go to your Income Approach problem and answer module with audio and work Class Problem #11, Direct Capitalization, Overall Capitalization Rate.

Income Approach

- Capitalization methods are different ways of mathematically combining income streams and capitalization rates to arrive at a conclusion of value by the income approach.
- They can be divided into two categories:
  - Direct Capitalization Methods
  - Yield Capitalization Methods (This will not be discussed.)

Income Approach

- Direct Capitalization Methods
- Direct capitalization methods use an estimate of one year's income and directly converts it into an indicated value.
  - Uses the IRV or VIF formulas
  - The direct methods are: Overall Capitalization Rates and Gross Income or Gross Rent Multipliers.

Income Approach

- You just determined an overall cap rate, so you are going to spend the rest of the time talking about the Gross Income/Gross Rent Multipliers.

Income Approach

- **<u>Gross Income/Gross Rent Multipliers</u>**
  - This is also a simple method of capitalization. It uses the VIF formula and converts one year's (or one month's) effective gross income (EGI) into value by multiplying it by a factor.
  - The factor is called a multiplier and can be either a Gross Income Multiplier (GIM) or a Gross Rent Multiplier (GRM).

Income Approach

- I x F = V
- EGI x GIM = Market Value

- If our EGI = $60,000 and our GIM = 7, the indicated value of our property would be $420,000

Income Approach

- **<u>Gross Income Multipliers (GIM)</u>** are developed for most commercial properties such as office buildings, shopping centers, warehouses, and large apartment complexes.

- **<u>Gross Rent Multipliers (GRM)</u>** are developed for residential properties such as single-family, duplexes, triplexes, etc.

Income Approach

- <u>Gross Income Multipliers (GIM)</u> are developed from comparable properties' **annual effective gross income** and are applied to the subject property's annual effective gross income.

Income Approach

- <u>Gross Rent Multipliers (GRM)</u> are developed from comparable properties' <u>monthly effective gross income</u> and are applied to the subject property's monthly effective gross income.

Income Approach

- Gross Income Multipliers (GIM) Formula:
  - Sale Price ÷ Annual EGI = GIM

  - Example:
    - Comp #1 $420,000 ÷ $70,000 = 6.0
    - Comp #2 $520,000 ÷ $88,100 = 5.9
    - Comp #3 $630,000 ÷ $103,300 = 6.1

Income Approach

- This tells us that investors are paying approximately six (6) times the annual effective gross rent for these properties.

Income Approach

- Gross Income Multiplier Application:
  - I x F = V
  - Annual EGI x GIM = Market Value

- Example:
  - Subject property's annual EGI is $90,000, and the GIM is 6.
  - The indicated market value would be $540,000 ($90,000 x 6 = $540,000)

Income Approach

- Gross Rent Multiplier (GRM) Formula:
- Sale Price ÷ Monthly EGI = GRM

- Example:
  - Comp #1 $48,000 ÷ $450 = 106.7
  - Comp #2 $50,500 ÷ $470 = 107.4
  - Comp #3 $53,000 ÷ $495 = 107.1

Income Approach

- This tells us investors are paying approximately one hundred seven (107) times the monthly effective gross rent for these properties.

Income Approach

- Gross Rent Multiplier (GRM) application:
- I x F = V
- Monthly EGI x GRM = Market Value

- Subject property's monthly EGI is $500 and the GRM is 107.
- The subject property's indicated market value is $53,500 ($500 x 107)

Class Problem #12

- Please go to your Income Approach problem and answer module with audio and work Class Problem #12, Direct Capitalization, Gross Income Multiplier.

Practice Problem #1

- Please go to your Income Approach problem and answer module with audio and work Practice Problem #1.

Practice Problem #2

- Please go to your Income Approach problem and answer module with audio and work Practice Problem #2.

Practice Problem #3

- Please go to your Income Approach problem and answer module with audio and work Practice Problem #3.

Practice Problem #4 (A)

- Please go to your Income Approach problem and answer module with audio and work Practice Problem #4(A).

Practice Problem #4 (B)

- Please go to your Income Approach problem and answer module with audio and work Practice Problem #4(B).

Income Approach

- This concludes the Income Approach tutorial and is a reminder that should you have questions you can email these questions to the Department.

- Please send emails to Level2@dlgf.in.gov.