



Department of Local Government Finance

Income Approach to Value

Part B

2020 Level I Tutorials



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

- **Net Leasable Area (NLA)** – area within a building which is actually occupied by a tenant or tenants; does not include any common areas. (Used to determine PGI)
- **Net Operating Income (NOI)** – annual income remaining after deduction of allowable expenses and reserves for replacements, from effective gross income.





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** – occupied units/space expressed as a percentage of total units/space; reciprocal of the vacancy ratio.





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.
 - **Market Rent** – 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.





Income Approach

- **Reserve for Replacements** – 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:

1. IRV formula

- Used in direct capitalization
- Uses a rate to convert one year's income into value





Income Approach

2. VIF formula

- Used in yield capitalization
- Uses a factor to convert all future years' income into value
- We will look at both formulas





Income Approach

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

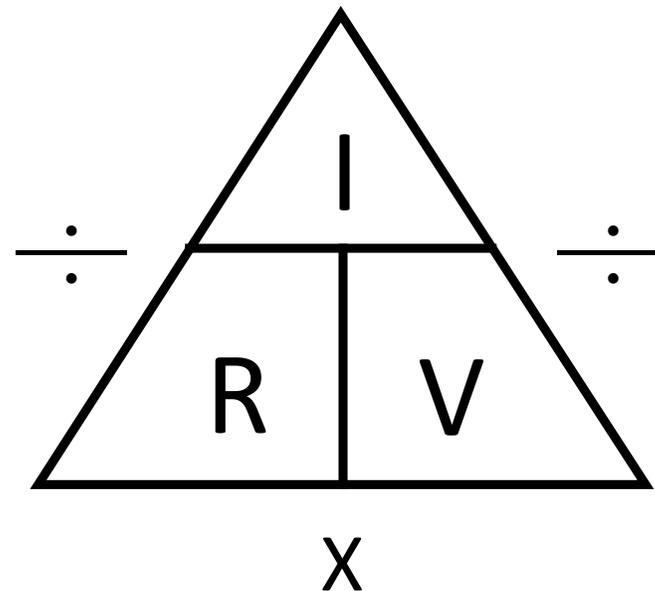
- In appraising income property, we use:
 - I = annual net operating income (NOI)
 - R = overall capitalization rate
 - V = market value





Income Approach

- IRV Formula
- I (Income) = $R \times V$
- R (Rate) = $I \div V$
- V (Value) = $I \div R$



- I – Net Operating Income (NOI) = Rate (Cap) \times Value
- R – Rate (Cap) = Income (NOI) \div Value
- V – Value = Income (NOI) \div Rate (Cap)





Income Approach

VIF Formula

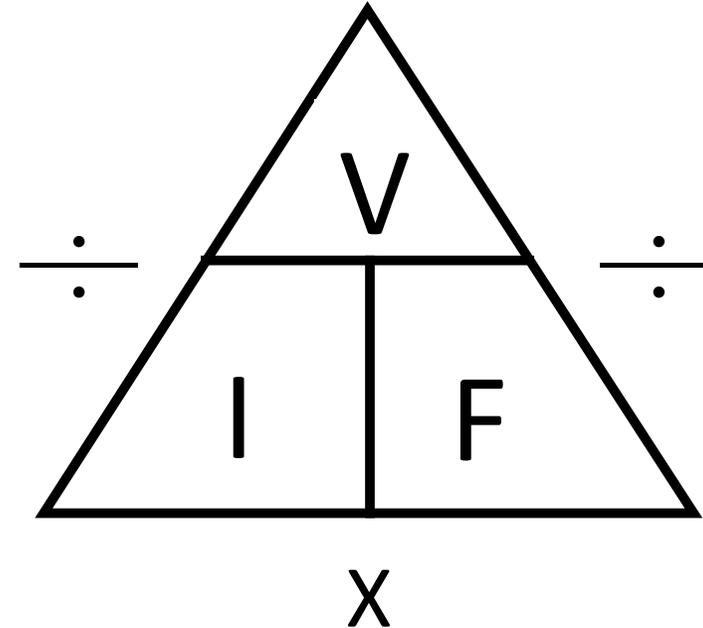
- $V = \text{Value}$
- $I = \text{Income}$
- $F = \text{Factor}$
- In appraising income property, we use:
- $V = \text{market value}$
- $I = \text{annual effective gross income (EGI)}$
- $F = \text{compound interest factor}$





Income Approach

- VIF Formula
- V (Value) = $I \times F$
- I (Income) = $V \div F$
- F (Factor) = $V \div I$



- V – Value = Income (EGI) x Factor
- I – Effective Gross Income (EGI) = Value \div Factor
- F – Factor = Value \div Income (EGI)





Income Approach

- All we need to process the income approach to value are two things:
 - Net operating income (I)
 - Capitalization rate (R)
- Once we have these two items, we simply plug them into the IRV Formula to get the value of the property.
- $V = I \div R$





Income Approach

- The **Income (I)** we will plug into the IRV formula is 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)





Income Approach

- Potential Gross Income (PGI) – total market rent that a property could annually generate if it were 100% occupied.
- 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

- We 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





Income Approach

- Another way of determining the PGI is by multiplying the total net leasable area of the property by the market rent for similar types of properties.
- Example: The subject property has 10,000 sq. ft. of net leasable area. After examining market data, you have determined the annual market rent for similar properties to be \$13 per sq. ft. What is the PGI for the subject property?
- $10,000 \times \$13 = \$130,000$





Income Approach

- **Vacancy and Collection Loss** – 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, we 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.
- For example, if you have 6 vacant units in a 120 unit building, your vacancy rate is 5% ($6 \div 120 \times 100$)





Income Approach

- Another way to calculate a vacancy rate is dividing the vacant net leasable area of a property by the total net leasable area of the property.
- Useful when units within a property are an unequal size (e.g. large office complexes, strip malls, etc.)
- Example: An office complex with a total of twenty unequal units has 35,000 sq. ft. of net leasable area. Two units (each containing 3,000 sq. ft.) are currently vacant. What is the vacancy rate for the office complex?
- Unit Method: $2 \text{ vacant units} \div 20 \text{ total units} = 10\%$
- NLA Method: $6,000 \text{ sq. ft.} \div 35,000 \text{ sq. ft.} = 17.1\%$





Income Approach

- Determine a rate for each property and then determine which comparable is closest to the subject. The rate for that comparable is the indicated vacancy rate you will use in the reconstructed operating statement.





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. Compare the subject property to the comparables and select the one that is the most similar to the subject.





Income Approach

- **Miscellaneous Income** – 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 looking at the historical operating statements for the property.





Income Approach

- **Effective Gross Income (EGI)** – potential gross income, less vacancy and collection loss, plus miscellaneous income.
 - PGI (Potential Gross Income) \$621,000
 - - V & C @ 6% (37,260)
 - + Misc. Income -0-
 - = EGI (Effective Gross Income) \$583,740





Income Approach

- Operating Expenses – costs of operating the property
- Expenses are divided into two categories:
 - Allowable Expenses – 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 not used to calculate value in the income approach. These are not entered into the reconstructed operating statement.





Income Approach

- Allowable Expenses (EXP)
 - Management
 - Wages, Salaries and Benefits
 - Utilities
 - Materials & Supplies
 - Repairs and Maintenance
 - Insurance
 - Miscellaneous Expenses





Income Approach

- Allowable Expenses (EXP)
 - Property Taxes (NOTE: In appraising for property tax purposes, these are not expensed, but are taken care of as part of the capitalization rate)





Income Approach

- Improper Expenses

- 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.





Income Approach

- Reserve for Replacements – 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:
 1. Estimate the economic life of the item.
 2. Estimate its replacement cost new (RCN)
 3. Calculate the percentage of reserve per year by dividing 100% by the economic life.
 4. Multiply the RCN by the % per year to get the amount of annual reserve.





Income Approach

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





Income Approach

- Another way of calculating a Reserve for Replacement is by dividing the total cost of the replacement by its estimated economic life.
- Example: a new roof will cost \$40,000 to replace and will last approximately 20 years.
- $\$40,000 \div 20 = \$2,000$ (this is the amount the taxpayer will need to save each year to pay for the new roof in 20 years).



Level I
Income Approach
Development of Allowable Expenses

Given below is the statement of expenses for a business as prepared by the owner's accountant. They are actual bank withdrawals and are assumed to be correct. In your analysis of the statement for appraisal purposes, you have decided that some items can be used as stated, others need to be eliminated, and some need to be pro-rated. Indicate with an "X" which items you would use as stated, pro-rated (over more than one year), or would eliminate from your reconstructed operating statement.

	<u>As Stated</u>	<u>Pro-Rate</u>	<u>Eliminate</u>
A. Management Fees	_____	_____	_____
B. Advertising	_____	_____	_____
C. Maintenance Personnel Salaries	_____	_____	_____
D. Maintenance Personnel Benefits	_____	_____	_____
E. Debt Service on Mortgage	_____	_____	_____
F. Water and Sewage Fees	_____	_____	_____
G. Electricity	_____	_____	_____
H. Gas for Heating	_____	_____	_____
I. New Roof	_____	_____	_____
J. Miscellaneous Repairs	_____	_____	_____
K. Supplies	_____	_____	_____
L. Casualty Insurance--3 year policy	_____	_____	_____
M. Liability Insurance	_____	_____	_____
N. Snow Removal	_____	_____	_____
O. Income Tax	_____	_____	_____
P. Donation, Christmas Gift Expense	_____	_____	_____
Q. Real Estate Taxes	_____	_____	_____



Level I
Income Approach
Development of Allowable Expenses

Indicate with an "X" which items you would use as stated, pro-rated (over more than one year), or would eliminate from your reconstructed operating statement.

	As Stated	Pro-Rate	Eliminate
A. Management Fees	X		
B. Advertising	X		
C. Maintenance Personnel Salaries	X		
D. Maintenance Personnel Benefits	X		
E. Debt Service on Mortgage			X
F. Water and Sewage Fees	X		
G. Electricity	X		
H. Gas for Heating	X		
I. New Roof		X	
J. Miscellaneous Repairs	X		
K. Supplies	X		
L. Casualty Insurance--3 year policy		X	
M. Liability Insurance	X		
N. Snow Removal	X		
O. Income Tax			X
P. Donation, Christmas Gift Expense			X
Q. Real Estate Taxes			X





Income Approach

- **Expense Ratio** – ratio of expenses to effective 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:
- $(\text{Expenses} + \text{Reserves}) \div \text{EGI} = \text{Expense Ratio}$





Income Approach

Reconstructed Operating Statement

$$\begin{aligned} & \text{PGI} \\ & - \text{V\&C} \\ & + \text{Misc. Income} \\ & \hline & = \text{EGI} \\ & - \text{Exp} \\ & - \text{RR} \\ & \hline & = \text{NOI} \end{aligned}$$

