

Income Property Investment Analysis

Ratio Analysis

- Income Multipliers
 - Potential vs. Effective vs. Net
 - Multiplier = Total Value/Gross(Net) Income
 - Multipliers for valuation and comparison
- Expense Ratios
 - OER = Operating Expense/EGI
 - Used to measure operating efficiency
 - Must be compared to similar properties

Overall Rates vs. Equity Rates

- Overall Capitalization
 - The Rate of Return to Debt and Equity
 - $R_o = \text{NOI} / \text{Total Property Value}$
 - Used as a principal method of valuation
- Equity Capitalization
 - The Rate of Return to Equity Only
 - $R_e = \text{PTCF} / \text{Equity Investment}$
 - Used to measure undiscounted return on equity

Cost of Debt

- Mortgage Constant
 - The Rate of Return on Debt Only
 - $R_m = \text{ADS} / \text{Principal Loan Amount}$
 - Includes both return on an return of principal
 - Calculated directly using \$1 in PV

Financial Leverage

- Positive Leverage
 - Use of debt leads to increase in equity return
 - $R_o < R_e$
- Negative Leverage
 - Use of debt leads to decrease in equity return
 - $R_o > R_e$

Cap Rates vs. Yield Rates

- Cap Rates
 - Simple one period income to value ratio
 - No assumed change in property value or income
- Yield Rates
 - Multi period rate of return (Discount Rate)
 - Assumes changes in income and property value
- The Relationship (Overall Yield)
$$Y_o = R_o + \Delta a$$

Cash Flow Estimation

- Developing a multi year cash flow
 - Forecast periods vary by property type
 - Assume levels of rent and expense change
 - General inflation factors may be applicable
 - Use contract rent increases at proper intervals
 - Include lumpy expenses at the proper interval
 - Tenant Improvements
 - Leasing Commissions
 - For overall measures we estimate to NOI

Reversion

- Estimating Reversion
 - Using Expected Rates of Appreciation
 - Apply appreciation rates to initial investment
 - Use future value calculation to estimate future value
 - Using Terminal Cap Rates
 - Estimate one more year of cash flow beyond HP
 - Using Direct Cap estimate the future value
- Deduct Selling Expense from Value (NSP)
 - Provides consistency b/w NOI and Reversion

Yield Capitalization

- Select the Appropriate Discount Rate
 - Computed from Similar Properties [IRR]
 - Taken from Investor Surveys
 - Modify given the nature of the assumptions
 - Investment Grade vs. Non-investment Grade
- Estimate Value
 - Apply Present Value Discounting
 - The Present Value of Each Cash Flow
 - Include Reversion in the Final Period

Investment Decisions

- Net Present Value

PV inflows – PV outflows

or Value less Cost

– NPV Formula:

$$\sum_{n=1}^t \frac{FV}{(1+i)^n} + CF_0$$

Investment Decisions

- Internal Rate of Return

– Represents the Calculated Discount Rate

– The Discount Rate that Makes NPV Equal to Zero

– Compare IRR to a Target Acceptable Rate or Return

- Target Rates from Similar Projects or Investor Criteria

- $IRR \geq \text{Target Rate}$ {Good Investment}

- $IRR \leq \text{Target Rate}$ {Bad Investment}
