Alternative Investments
Investment Analysis

- Review the Risk and Return on various real estate investments
- Type of Investor for each category
- Calculate after tax cash flows from a real estate project
- Understand and apply NPV methodology
Real Estate Investments: Types of Real Property Investments

• Raw Land

• Main Value Determinant
  – Main return is from appreciation
  – Supply of raw land is limited (function of demand and supply determine the appreciation)
  – The proximity to roads and travel patterns

• Investment features
  – Passive and illiquid investment
  – Provides no depreciation for tax purpose
  – Generates no income so expenses are capitalized and returns are subject to only capital gains

• Key risks
  – Cost of carrying from other income
  – Non constant rate of appreciation

• Interested Investors
  – Speculators for short term
  – Developers for operating needs
  – Portfolio with long term investment horizon
Real Estate Investments: Types of Real Property Investments

- Office Buildings

- Main Value Determinant
  - Economic health of business in general
  - Perceived status
  - Location

- Investment features
  - More liquid investment than raw land
  - Provides current income and value appreciation
  - May require active management if there are multiple tenants

- Key risks
  - Startup risk associated with new property
  - Development of competing properties
  - Management fees
  - Shift in business activities: Far away malls becoming obsolete

- Interested Investors
  - Wealthy, high income individuals
  - Public and private entities allow moderate investors to invest in office buildings
Real Estate Investments: Types of Real Property Investments

• Residential Rentals (Apartments)

• Main Value Determinant
  – No. of rental units
  – Population growth
  – Location & Prestige
  – Convenience

• Investment features
  – Quite liquid as lot of investors
  – Periodic income and appreciation
  – Highly leverage as loan/value ratio is quite high

• Key risks
  – Has as startup risk and demand is not known
  – Quality of Builder
  – Easy and affordable homes availability reduces rental income

• Interested Investors
  – Investors who can afford large equity outlay
  – Investors looking for tax shelters from depreciation and interest
Real Estate Investments: Types of Real Property Investments

• Warehouses

• Main Value Determinant
  – Level of industrial activity
  – Transportation convenience and location

• Investment features
  – Passive and moderately liquid investment
  – Modest degree of leverage
  – Mainly from periodic income than appreciation

• Key risks
  – Easy to construct hence oversupply
  – May become obsolete with changing industry material requirements

• Interested Investors
  – Have high cash flows
  – Minimum management
  – Tax shelter
Real Estate Investments: Types of Real Property Investments

- Community Shopping Centers

- Main Value Determinant
  - Population and income level of shoppers
  - Location and Parking
  - Favorable lease terms

- Investment features
  - Highly active management but illiquid investment
  - Moderate leverage
  - Depreciation for tax purpose
  - Periodic income and capital appreciation

- Key risks
  - Sustaining good tenant mix
  - Good management
  - Difficult lease negotiations and vacancies
  - Competition

- Interested Investors
  - With large initial equity
  - And looking for tax shelters
Real Estate Investments : Types of Real Property Investments

• Hotels and Motels

• Main Value Determinant
  – Level of tourist and business travel
  – Ability to host conventions and meetings

• Investment features
  – Active management and average liquidity
  – Offer tax depreciation
  – Income and capital appreciation

• Key risks
  – Active management
  – Economies of Scale
  – Competition

• Interested Investors
  – Wealthy investors
  – Real estate investment trusts
  – Small investors who are willing to manage their property themselves
A building might be attractive to an investor if it is attractively priced. One widely used criteria is whether the project will earn a profit above the normal rate of return required for the project.

Net Present Value = Present worth of Cash Flows – Equity Investments

\[
NPV = \frac{ATCF_1}{(1 + r_a)} + \frac{ATCF_2}{(1 + r_a)^2} + \ldots + \frac{ATCF_n}{(1 + r_a)^n} + \frac{ATER}{(1 + r_a)^n} - I
\]

- \(r_a\) required after tax return on the property
- ATCF: after tax cash flow
- ATER: after tax equity reversion due on sale
- I: equity cost of the investment

If NPV > 0 or NPV = 0 then make the investment.

A negative NPV means that the investment is worth less than the cost.
Valuing Real Estate Investments

- Recapture of Depreciation
  - A depreciation which was taken in the anticipation in decline of value which did not occur when the asset was sold
    = net selling price – book value
  - It’s needed for computation of tax when an asset is sold and net gains to equity investor is determined

- Recaptured Depreciation < accumulated depreciation, When NSP < original cost
- Recaptured Depreciation = Accumulated Depreciation, when NSP > original cost
Recapture of Depreciation : Example

• Example

Let us assume the sale of an apartment

Where purchase price = 50 lacs
Accumulated Depreciation : 15 lacs
Selling Price after 4 years 45 lacs
Selling expense : 10%
Tax rate on recaptured depreciation = 30%
Short Term ( < 1 yr) Tax rate on capital gains : 30 %
Long Term ( > 1 yr) Tax rate on capital gains : 20 %

• Calculate Recaptured depreciation and tax on this.
Recapture of Depreciation : Example

Net selling price 45 lacs – 10 % of 45 = 41.5 lacs

Book Value = Purchase price – Accumulated Dep. 50 – 15 = 35 lacs

Gain of sale = 41.5 – 35 = 6.5 lacs

Captured Dep = NSP - BV = 6.5

Taxable Sale on Gain = 0

Tax on recaptured depreciation = 6.5*0.3 = 1.95 lacs
Equity Reversion

• Net Equity returned to investor after the sale of an asset after the payment of debt and expenses

• ERAT : Equity reversion after taxes
  = selling price – selling cost – mortgage balance – taxes on sale

• Example:
  Net selling price ( SP – Cost of Sale) of plot of land : 1 crore
  The land was bought on 70% debt and only 20% is outstanding at the selling time
  Tax on property sale is 5 lacs
  Calculate ERAT ?
Equity Reversion : Example

NSP = 1 crore
Outstanding Debt = 14 lacs

Before Tax Sales = 86 lacs
Less taxes = 5 lacs

ERAT = 81 lacs
Valuing Real Estate Investments

• Steps
  • Step 1 : Computing Taxes Payable
    – Taxes = (NOI – depreciation – interest )* taxrate
    – Tax rate = marginal tax rate

• Step 2: Computing cash flow after taxes (CFAT) :
  – Pretax cash flow  = NOI – debit service
  – CFAT = Pretax cash flow – taxes payable

• Step 3:
  – ERAT = selling price – selling costs – mortgage balance – taxes on sale
Case study (Investment Analysis)

Investment in 3c Panache launched at Noida sector 110 requires initial cost of 45 lacs and sold after 5 years at 75 lacs cost associated with sales was 5 lacs and tax depreciation in each year was 2 lacs at the time of sale outstanding mortgage balance is 34 lacs. The tax rate on recaptured depreciation is 28% and long term tax gain is 15%.

Answer following questions based on information above:

Q1: The amount of tax payable on sale attributed to recapture of depreciation
   A. 56000
   B. 150000
   C. 280000
Case study (Investment Analysis)

- **Q2:** The sales proceeds taxed at long term tax rate are
  A. 375000
  B. 1000000
  C. 2500000
  D. 3500000

- **Q3** The equity return after taxes from this investment is
  A. 655000
  B. 2945000
  C. 3155000
  D. 3560000
Case study (Investment Analysis) Solutions

1. Recaptured Dep = 5*200000 = 1000000
   - Tax = 1000000 * 0.28 = 280000

2. Realized gain = Net selling price – adjusted basis
   - Net selling price = 750 – 50 = 700000
   - Adjusted basis: 4500000 – 1000000 = 3500000
   - Realized gain = 7000000 - 3500000 = 3500000
   - Tax on realized gain = tax on recaptured depreciation + tax on long term capital gain
   - The sales proceeds subject to long term capital gains tax = 3500000 – 1000000 = 2500000

3. ERAT = net selling price – mortgage balance – taxes
   - Net selling price = 750 – 50 = 7000000
   - Mortgage balance (given) = 3400000
   - Taxes = tax on recap. Dep. + long term capital tax gains
     = 280000 + 375000
     - ERAT = 7000000 – 3400000 – 655000 = 2945000
Review: IRR

- The most frequently used measurement of projected holding period overall returns
- Delivers in one number an investment return that integrates rental growth rates and property value appreciation
- Should be compared to the required rate of return
- Typical IRRs range from 12% to 15%
- Can reach over 20% for new, speculative investments
Review: IRR

- NPV for real estate investment

\[
NPV = 0 = \frac{CF_1}{1+r} + \frac{CF_2}{(1+r)^2} + \ldots + \frac{CF_r}{(1+r)^r} + \frac{ERAT}{(1+r)^T} - EI
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An IRR can be before or after tax using before or after tax cash flows.

- \( r \leftrightarrow IRR \)
- Decision rule: if IRR > hurdle rate
- Generally the hurdle rate is after tax required return on the property investment based on the risk involved in the cash flows
Potential Problems in using IRR

• Multiple IRRs:
  – When cash flow changes sign during life of a project
  – IRR calculation results in multiple solutions
  – Such cases are quite common if project requires intermediate investments
  – NPV > 0 decision is preferred in such cases

• Ranking Conflicts:
  – If mutually exclusive projects are evaluated
  – If they have large differences in cash flows
  – Differences in time period of returns
  – NPV and IRR may result in conflict
  – Preference is to use NPV and select highest NPV project
Negotiations and few pointers

- An investor must understand his or her personal goals and negotiating styles.
- The investor must understand the property. The investor always buys a set of financial assumptions.
- They should never buy anything under undue pressure.
- Never be too overly optimistic in your projections.
- If the development is very large, then one should always estimate \textit{ex-post market rents} – that is market rents after the new supply has been added.
- \textit{IRR} might not be a good measure of investment returns as it might give a different ranking as compared to the NPV method