Fin 5433: CHAPTER 11

Investment Analysis and Taxation of Income Properties

- http://www.youtube.com/watch?v=dduHgo95JaA
- http://www.youtube.com/watch?v=TPkONbN98Pk&NR=1

Investment Analysis

- Equity Investment
  - All assets need to be financed in some way. A balance sheet tells us how. Equity is the ownership portion. The mortgage is the debt portion
- Motivations for CRE Investing
  - Annual Net Income from Operations
  - Price Appreciation
  - Diversification
  - Tax Benefits

Market Characteristics

- Real Estate Cycle
  - Large Market
    - Many types of properties
  - Competitive
  - Fragmented Ownership
  - Overdevelopment Potential – no one knows exactly how much to develop at any point in time.
  - The cycle may differ for different property types.
  - It's hard to know where you are in the cycle

Investment Strategies

- Property Sector Investing – choose a specific property type and stick to that
- Contrarian Investing – go against the flow (Invest in the properties others are avoiding
- Marketing Timing – for those who can forecast the cycle
- Growth Investing -
- Value Investing -
- Core Property Investing – Invest in existing, seasoned, highly leased properties

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Investment Styles

- Size-Based Strategy
- Tenant-Based Strategy
- Arbitrage Investing
- Turnaround Investing
- Opportunistic Investing
- Blue Chip Investing
- Development

Investment Analysis

- Internal Rate of Return (IRR)
  - The discount rate forces the net present value to equal zero.
  - If IRR > r; Accept Project
  - If IRR < r; Reject Project
  - Where r is a required return or hurdle rate

Investment Analysis

- Net Present Value (NPV)
  - Discounted value of the future expected cash flows net of any outlays
  - The discount rate is the capital cost for the investor.
  - If NPV>0, accept project
  - If NPV<0, reject project
  - NPV is the increase in wealth to the equity investor

Debt Financing

- Equity Dividend = NOI - ADS
  - NOI = Net Operating Income
  - ADS = Annual Debt Service; the annual payment on debt
    - This is both principal and interest
    - It is calculated as 12 times the monthly payment
- The equity dividend is also referred to as the before-tax cash flow from operations ($BTCF_0$).
- When no debt is used, the $BTCF_0$ or Equity Dividend is the NOI

Debt Financing

- Equity Dividend Rate =
  Equity Dividend/Initial Equity Investment
- Also called the "cash on cash" rate

- Debt Coverage Ratio (DCR) = NOI/ADS
- The DCR is a vital ratio for lenders.
- What if the DCR<1?
- DCR less than one is common for new developments going through the lease up process

Debt Financing

- Example 11-1:
  - $1,000,000 Property;
  - 95% allocated to building and 5% to land
  - 70% LTV; 7% Interest Rate, 30 Years
  - $700,000 debt; $300,000 equity
  - Monthly Payment = $4657.11
  - ADS = 12 x $4657.11 = $55,885
  - NOI_1 = $85,000

Before-Tax Cash Flow

- Equity Dividend = NOI-ADS
  - $85,000 - $55,885 = $29,115
  - This is also the $BTCF_0$ for this year.
- Equity Dividend Rate = EQDIV/Equity
  - $29,115/$300,000 = 9.71%
- Debt Coverage Ratio =
  - $85,000/$55,885 = 1.521
- These ratios all pertain to the first year of operations

Before-Tax Cash Flow

- Example 11-1 continued….
- Before-Tax Cash Flow from the Property Sale (BTCF$_s$):
  - BTCF$_s$ = Sales Price – Mortgage Balance
  - In Example 11-1, if the property were sold in Year 4 for $1,100,000 then
    - BTCF = $1,100,000 - $668,322 = $421,678
      - The mortgage loan balance ($668,322) is computed as previously. See Chapter 4.

After-Tax Cash Flows

- Calculating the after-tax cash flow from operations
- Step 1: Compute taxable income

  Net Operating Income
  - Depreciation
  -Interest
  Taxable Income

After-Tax Cash Flows

- From Slide 11-10, Depreciation is based on a building value of $950,000 over 27.5 years
  - Depreciation = $950,000/27.5 = $34,545
  - Interest = $48,775 using the "amort" function on the financial calculator.

After Tax Cash Flows

- From Example 11-1, year 1 taxable income would be:

NOI =	$85,000
Depreciation	- $34,545
Interest	- $48,775
Taxable Income	$ 1,680

After Tax Cash Flows

- Step 2: Compute Taxes
- Taxes (at 28%) = .28 x $1680 = $470
- Step 3: Compute after-tax cash flow from operations for year 1
- ATCF$_1$= BTCF$_1$ – Taxes
  = $29,115 - $470
  = $28,645

After Tax Cash Flows

- Taxes on the property sale
  - Gain from property value increase
    - Taxed at capital gains rate for the investor
  - Gain from prior depreciation
    - Taxed at 25%

After Tax Cash Flows

▸ From Example 11-1, Slide 11-12
▸ Before tax cash flow from the property sale = $421,678
▸ <u>Step 1</u>: Compute tax on property value increase:
$1,100,000 - $1,000,000 = $100,000
Taxed at 15% capital gains rate = $15,000

After Tax Cash Flows

▸ <u>Step 2</u>: Compute tax on prior depreciation:
4 Years at $34,545 = $138,180
Taxed at 25% = $34,545

▸ <u>Step 3</u>: Compute total taxes from sale:
$34,545 + $15,000 = $49,545

After Tax Cash Flows

▸ <u>Step 4</u>: Compute after-tax cash flow from the property sale
▸ $ATCF_s = BTCF_s - Taxes$
$ATCF_s = $431,678 - $49,545 = $382,133$
▸ Analysis
  ▸ Compute After-Tax Internal Rate of Return
  ▸ Compute After-Tax Net Present Value