

Final Review

Rules

- A) Nothing New
- B) If yes then yes, if not then not
- C) High Speed – You've been there done that. Open your RAM

1st Half of Semester

- Be sure and review your Midterm Test or Midterm review notes

Cash Flow Analysis

- **Cash Flow Analysis for Real Estate requires using the principles of the dynamics for dollars calculations along with an understanding of Tax Implications from the operations of a Real Estate Investment**
- **Net operating Income (NOI) is the most Important number for a particular investment property!**
- **Cash Flow After Taxes (CFAT) is the most important number for a particular Investor!**

Real Estate Taxation

Real Estate Investment operations is a taxable business

Some Real Estate Investments create a tax shelter while others create a taxable event

The IRS considers income from three categories in order to calculate total taxes payable

A) Active Income (Wages, W-2 etc..., tips and so on

B) Passive Income (Real Estate Investments...)

C) Portfolio Income (stocks, bonds, dividends, capital gains)

Passive Income rules relate to real estate and define losses allowed annually, suspended losses, cost recovery allowance etc.

Real Estate Tax Terms

- Interest
- Cost Recovery/
Depreciation
- Real Estate Taxable
Income
- Cash Flow After Taxes
(CFAT)
- Recapture Tax
- Basis
- Adjusted Basis
- Capital Improvements
- Capital Gain Tax
- Suspended Loss

Cash Flow Analysis of Real estate

Real Estate Cash Flows

There are two sources of cash flow in Real Estate ownership

- 1) Cash Flow After Tax (CFAT) from operations**
- 2) Cash Flow After Tax (CFAT) from sale proceeds**

Tax Liability/Savings: Operations

Net Operating Income

Less

Interest on loan payments

Less

Cost Recovery

Equals

Taxable Income/(Loss) from Operations

(X) Tax Rate =

Tax Liability/(Savings) from Operations

Cash Flow After Taxes (CFAT)

Net Operating Income

Less

Annual debt Service

Equals

Cash Flow Before Taxes

Less

Tax Liability/Savings

Equals

Cash Flow After Taxes

Cost Recovery (AKA Depreciation)

This is the true tax shelter provided by investment real estate ownership it costs nothing yet reduces your annual tax liability

Cost recovery is taken on the value of the improvements only (land is not wearing out supposedly)

Cost Recovery is the governments way of saying that buildings don't last forever

Residential Investment property cost recovery allows the value of the improvements to be written off over a **27.5 year** period (regardless of the age of the building)

Industrial/Office/Retail Investment property cost recovery allows the value of the improvements to be written of over **39 years**

Calculating Cost Recovery

Residential Investment Property

Residential Investment Property 27.5 Years Straight Line Method

Original Basis

Less

Land Value

Equals

Improvement Value

Divide by

27.5

Equals

Annual Cost Recovery

Calculating Cost Recovery

Industrial/Office/Retail

Investment Property other than Residential 39 Years Straight Line Method

Original Basis

Less

Land Value

Equals

Improvement Value

Divide by

39

Equals

Annual Cost Recovery

Cash Flow Analysis Example

Review Form

Calculating Adjusted basis

Basis at Acquisition

Plus

Capital Improvements/Additions

Less

Cost Recovery Taken

Equals

Adjusted Basis

Calculating Gain on Sale

Sale Price

Less

Cost of Sale

Less

Adjusted Basis

Equals

Total Gain / (Loss)

Capital Gain Tax

Total Gain

Less

Cost Recovery Taken

Less

Suspended Losses

Equals

Capital Gain From Appreciation

(X) Capital Gain Tax Rate (10%-20%) =

Capital Gain Tax

Tax Shelter Limits

Tax shelter of Active Income from Passive Activities is limited to \$25,000 maximum with the following caveats

- A) Active participation in Investment
- B) 10% or greater ownership
- C) Adjusted Gross Income (line 30 of form 1040) less than \$100,000

In the event Adjusted Gross Income (AGI) exceeds \$100,000 but is less than \$150,000, tax shelter limit is reduced \$0.50 for every \$1.00 (1/2) of income greater than \$100,000 AGI

e.g. AGI = \$120,000 - \$100,000 = \$20,000 / 2 = \$10,000 Tax Shelter Limit reduction

Tax shelter limit = \$25,000 - \$10,000 = \$15,000

Suspended Losses

Suspended Losses are losses created in the operation of a real estate investment that exceed the government imposed limits for tax shelters.

e.g. From Previous Slide

AGI = \$120,000 - \$100,000 = \$20,000 / 2 = \$10,000 Tax Shelter Limit reduction

Tax shelter limit = \$25,000 - \$10,000 = \$15,000

Suspended Loss = \$10,000

Suspended Losses are carried forward and used when possible

Suspended Losses reduce capital gain taxes owed at sale

Recapture Tax

Cost Recovery Taken

(X) 25%

Recapture Tax Payable

Taxes on Sale of Real Estate

Capital Gain Tax

Plus

Recapture Tax

Plus

Ordinary Income Tax Payable/(Savings)

Equals

Total Taxes on Sale of Real Estate

CFAT from Sale of Real Estate

Sale Price

Less

Cost of Sale

Less

Mortgage Balance

Equals

CFBT from Sale

Less

Tax Liability on Sale

Equals

CFAT from Sale of Real Estate

CFAT from Sale Analysis

Internal Rate of Return (IRR)

Evaluating Uneven Cash Flows: Use IRR Calculations

Definition of Internal Rate of Return (IRR): That rate of discount wherein the present value of all future cash flows exactly equal the initial investment

IRR Calculations are the same as compounding and discounting equations when solving for “i” (Rate of Return)

IRR is useful in arriving at a rate of return for a projection of cash flows which can then be compared to other similar investments and their cash flows

IRR is useful strictly as a comparison of alternative similar investments and should be a part of the overall decision criteria

Sample Problems: IRR

N	\$
0	(\$50,000.00)
1	\$5,000
2	\$6,500
3	\$8,000
4	\$9,500+\$100,000

N	\$
0	(\$1,000,000)
1	(\$300,000)
2	(\$400,000)
3	\$2,200,000

N	\$
0	(250,000.00)
1	0
2	\$15,000
3	\$25,000
4	\$0
5	\$25,000+\$550,000

N	\$
0	(\$1,000,000)
1	(\$300,000)
2	(\$400,000)+ \$2,200,000

IRR Shortcomings

There are Five Specific Shortcomings to Consider when using the IRR in Investment Selection

- 1) Potential Multiple Yield Scenario (Rare yet when you have positive and negative cash flows that breakeven)**
- 2) Negative Cash Flows may be incorrectly planned for based on IRR expectations versus safe rate preinvesting in order to ensure capital availability (Failure to reach the finish line will negate all returns)**
- 3) Reinvestment of cash flows as they exit the investment are unaccounted for (Internal Rate of Return means while money is internal)**
- 4) Investment Duration differences aren't correctly accounted for**
- 5) Initial Investment differences aren't correctly accounted for**

FMRR - Financial Management Rate of Return (to the rescue)

IRR Shortcoming

1. **Multiple Yields**
2. **Negative Cash Flow Treatment**
3. **Positive Cash Flow Treatment**
4. **Comparing Investments of different Durations**
5. **Comparing Investments with different Initial Investments**

FMRR Solution

1. **Discounting negative cash flows solves this problem**
2. **Discounts negative cash flows at a safe rate and plans in advance**
3. **Reinvests positive cash flows at prevailing rates to maximize wealth**
4. **Investments are maintained at reinvestment rates over comparable time to maximize wealth**
5. **Invests total portfolio over same time in order to maximize wealth**

FMRR Components

Cash Flows After Tax (CFAT)

Safe Rate: That rate, such as a guaranteed rate from a bank, that you can be sure you will not lose principal, yet you will earn a lower return. This rate is used for small sums of available cash and/or any projected negative cash flows which must be funded in advance.

Reinvestment Rate: That rate available to larger sums of capital wherein the investors options are much wider. This rate is used when positive cash flows have accumulated a minimum balance and there are no negative cash flows anticipated in the future.

Wealth Maximization: Considers an Investors entire portfolio wherein the final result isn't about a rate of return. Its about how wealth have you accumulated over a period of time.

Financial Management Rate of Return (FMRR)

This tool looks at a particular Investor's Investments and Available Capital in a portfolio sense

**The goal of any Investor is to receive a return on and a return of their investment!
Making it to the sale date is imperative for most investments, especially Real Estate!**

FMRR is a responsible way to plan an investment, Setting funds aside before needed to fund any expected negative cash flows, and reinvesting positive cash flows at prevailing rates based on available amounts

FMRR requires an Investor to compare and consider Investments in an Apples to Apples comparison. If one Investment is longer than the other FMRR asks, What will you do with the money when you receive it early? or If one Investment costs more than the other FMRR asks What will you do with the money left over?

Sample Problems: FMRR

N	\$
0	(\$50,000.00)
1	\$5,000
2	\$6,500
3	\$8,000
4	\$9,500+\$100,000

N	\$
0	(\$1,000,000)
1	(\$300,000)
2	(\$400,000)
3	\$2,200,000

N	\$
0	(250,000.00)
1	0
2	\$15,000
3	\$25,000
4	\$0
5	\$25,000+\$550,000

N	\$
0	(\$1,000,000)
1	(\$300,000)
2	(\$400,000)+ \$2,200,000

Sample FMRR Calculations

Using the information from the previous slide calculate:

Accumulated Wealth and FMRR

Assumptions:

Safe Rate = 6%

Re-Investment Rate= 12% w/ minimum \$10,000.

Family Retail Plaza FMRR

n	\$		
0	(1,600,000)		
1	44,889	(invest)	n=4, i= 8%, fv= \$50,325
2	49,444	(invest)	n=3, i= 8%, fv= \$54,914
3	54,132	(invest)	n=2, i= 8%, fv= \$58,417
4	58,924	(invest)	n=1, i= 8%, <u>fv= \$61,367</u>
5	63,855 + 2,054,991		\$225,023=

Accumulated Wealth (AW) = \$2,343,869

FMRR = 7.94%

FMRR Calculation Family Retail Plaza

$$N = 5$$

$$I = ?$$

$$PV = (\$1,600,000)$$

$$PMT = NA$$

$$FV = \$2,343,869$$

$$FMRR = 7.94\%$$