201. Applied Real Estate Investment and Lease Analysis

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Objectives

This Video assumes that those attending understand the basics of commercial real estate or have viewed the Investit Academy video "102. Real estate investment analysis" which cover the fundamentals of real estate investment analysis real or have a good understanding of discounted cash flow analysis and the Internal Rate of Return (IRR) and Net Present Value (NPV)

The objective of the Video is to provide an understanding of how to carry out in-depth real estate analysis investment and lease analysis and how to apply investment analysis techniques to different types or real estate decisions to help you list, sell or lease real estate.

The overall objective is to help you put together real estate deals by using investment analysis.

Topics

- 1. Investment analysis. Getting started. Questions to ask.
- 2. Applying the Internal Rate of Return (IRR), Net Present Value (NPV) and Modified Internal Rate of Return (MIRR) to real estate investment decisions
- 3. Issues related to calculating the Internal Rate of Return (IRR)
- 4. Exploring potential financing now and in the future
- 5. Risk analysis and management
- 6. Real estate analysis. Tips and tricks

Case Studies

- 1. Sale Leaseback analysis
- 2. Creative financing
- 3. Lease Comparison Analysis
- 4. Lease negotiations
- 5. Buy versus Lease analysis
- 6. Hold versus Sell analysis
- 7. Replacement Reserve Planning

NOTE: USA versus Canadian calculations

The examples provided in the manual are for the USA where the default mortgage setting for the "Compounding Period" is monthly.

For Canada the entries are the same except for mortgages where the "Compounding Period" is semiannually and the tax inputs and calculations are different

The differences between the USA & Canadian tax calculations will be briefly explained.

Assumption

The Investit Academy video No. 201 assumes that you that you have a basic understanding of real estate investment and discounted cash flow analysis and understand the:

Internal Rate of Return (IRR) Net Present Value (NPV)

If you want to learn more about long term real estate investment and discounted cash flow analysis watch the Investit Academy video No. 102. Real Estate Investment Analysis.

Investment Analysis - Questions to answer

When carrying out real estate investment analysis it helps to start with a list of questions you want to answer. The basic questions and financial measures used to answer the questions are:

Value

Is this a good deal? How much should I pay for the property?

Financial measures: Internal Rate of Return (IRR), Net Present Value (NPV) and Modified Internal Rate of Return (MIRR)

Financing

Is there potential to increase the financing now or in the future? How does financing impact the return?

Financial measures: Loan to Value Ratio & Debt Service or Coverage Ratio

Risk assessment

How risky is this investment?

Financial measures: Debt Service or Coverage Ratio & Default Ratio (Breakeven)

Value

Is this a good deal?

How much should I pay for the property?

To decide if the investment is a good deal or to establish the value we use the:

Internal Rate of Return (IRR) Net Present Value (NPV)

Applying the Internal Rate of Return

You have analyzed and investment and the Internal Rate of Return (IRR) is 13.50% and wonder if this is a good deal or not from a financial perspective.

Think "Compound Interest".

A good bench mark for comparison purposes is the second mortgage rate for the property.

As an investor I would want a return (IRR) higher than the second mortgage rate because of the additional risks associated with ownership compared to being a second mortgage lender.

Examples

Internal Rate of Return (IRR): 6.00% Second mortgage rate 8.00%. Would be better off being a second mortgage lender.

Internal Rate of Return (IRR): 13.00% Second mortgage rate 8.00%. Would be better off being an investor rather than a second mortgage lender.

Internal Rate of Return (IRR) and the second mortgage rate for different levels of risk

For very risky investments the Internal Rate of Return (IRR) should be much higher than the second mortgage rate for the property.

This table provides an example of the desired return (IRR) that an investor might consider for different levels of risk relative to the second mortgage rate for the property.

The key is to find the second mortgage rate for the property and then use it as a guide to establish the minimum desired return (IRR) based on the level of investment risk.

Risk	Second mortgage rate	Desired Internal Rate of Return
Low	8.00%	10%
Medium	8.5%	13% to 14%
High	9.5%	15%+

Cap Rate and the Internal Rate of Return (IRR). Case Study

Following is an analysis carried out to show the relationship between the Cap Rate on purchase and the Internal Rate of Return for a specific property using the following assumptions:

The analysis looked at holding the property for ten years then selling.

The sale price in ten years' time was calculated using the Net Operating Income (NOI) in the 11th year using the Cap Rate on purchase.

As an example, if the Cap Rate on purchase was 5.00%, the Cap Rate used to determine the sale price at the end of ten years was 5.00%.

Rental Apartment Building Analysis Period: 10 years Value in 10 years' time is based on the NOI in the 11th year using the purchase Cap Rate Vacancy allowances vary. The higher the Cap Rate the higher the vacancy allowance Rents. Increase at 2.5% per Yr. compounding Expenses. 45% Operating Expense Ratio Financing 20 year amortization, Debt Service Ratio maintained at 1.25 to remove the impact of financial leverage. Interest Rate varies depending on the Cap Rate. The higher the Cap Rate the higher the interest rate

Results. Cap Rate versus the Internal Rate of Return

Cap Rate	3.00%	5.00%	6.00%	7.00%	8.00%
Value	\$7,000,000	\$3,744,000	2,448,000	1,708,000	1,248,000
Rental Income	\$400,000	\$360,000	\$288,000	\$244,800	\$208,000
% of \$400,000		90%	72%	61%	52%
Vacancy Allowance	1.50%	3.00%	4.00%	6.00%	7.00%
Interest Rate	4.50%	5.00%	5.25%	5.50%	5.75%
Debt Service Ratio	1.25	1.25	1.25	1.25	1.25
Loan to Value Ratio	30%	50%	59%	66%	74%
Equity required	70 %	50%	41%	34%	26%
Sale Price in 10 years	\$8,960,595	\$4,792,632	\$3,133,644	\$2,186,387	\$1,597,548
Internal Rate of Return	5.24%	8.54%	10.85%	13.81%	19.91%
Investment Risk	Low	Low	Medium	Medium	Higher

Example. If the Cap Rate on Purchase was 6.00% the Internal Rate of Return (IRR) is 10.85%

Conclusions and Rules of Thumb

The Internal Rate of Return is generally higher than the Cap Rate.

Cap Rate	3.00%	5.00%	6.00%	7.00%	8.00%
Internal Rate of Return	5.24%	8.54%	10.85%	13.81%	19.91%

Use this table as a guide to decide if the Internal Rate of Return (IRR) before tax indicates a good deal.

Remember that these results are based on a 1.25 Debt Service or Debt Coverage Ratio. If the ratio is lowered and the financing increased the Internal Rate of Return (IRR) will likely be higher than shown in the table

Using the Net Present Value (NPV)

The Net Present Value helps us decide how much to pay for the property to get our desired return (IRR).

Examples

Net Present Value (NPV) at 13.00% (before tax) is \$230,000 If we paid \$230,000 more for the property we would get exactly a 13.00% Internal Rate of Return (IRR) before tax.

Net Present Value (NPV) at 13.00% (before tax) is <\$350,000> If we paid \$350,000 less for the property we would get exactly a 13.00% Internal Rate of Return (IRR) before tax.

In the following analysis the Net Present Value (NPV) before tax is minus \$257,969, which means that we have to drop the purchase price by \$257,969 if we want to get a desired return (IRR) of 13% before tax.

			Finan	icing	Oper <i>a</i> ting Cash Flow	Sale Proceeds	c	Net Cash Flow
Year	Investment		Borrow	Paid Back	(Before Tax)	(Before Tax)	(B	efore Tax)
Year 1 Jan-Year 1 Dec	\$ (2,000,000)	\$	1,159,200	-	\$ 23,872	-	\$	(816,928)
Year 2 Jan-Year 2 Dec			-	-	26,861			26,861
Year 3 Jan-Year 3 Dec			-		29,925			29,925
Year 4 Jan-Year 4 Dec			-	-	33,065			33,065
Year 5 Jan-Year 5 Dec			-	-	36,284			36,284
Year 6 Jan-Year 6 Dec			-		39,583			39,583
Year7 Jan-Year7 Dec			-	-	42,965			42,965
Year 8 Jan-Year 8 Dec			-		46,431	-		46,431
Year9Jan-Year9Dec			-		49,984			49,984
Year 10 Jan-Year 10 Dec			-	(734,752)	53,626	2,068,068		1,386,942
						Total	\$	875,113
Financial Returns(Before	: Tax) with Financ	cing						
Internal Rate of Return (IRR	8)	8.2	8%	The pu	rchase price	needs to be	dr	onned by
Net Present Value (NPV) at	i 13.00 %	(\$ 2	257,969) 🧲	\$257.060	a to got the d	ceired return	1	DD) of 130
Modified Internal Rate of Re	eturn (MIRR)	7.6	8%	\$251,503	o lo gel lie u	estred return	1 (11	KK) OF 15

Modified Internal Rate of Return (MIRR)

Also called the Financial Management Rate of Return (FMRR).

Is another measure used to evaluate long term real estate investments and is a refinement of the Internal Rate of Return (IRR)

The reinvestment assumption.

How the Infernal Rate of Return (IRR) is calculated.

Example. The Internal Rate of Return (IRR) is 15%.

The reinvestment assumption is used when calculating the Internal Rate of Return (IRR)

Positive cash flows are reinvested at 15% Negative cash flows or losses are funded at 15%

This is why it's called the "Internal Rate of Return" because the cash flows are reinvested internally.

The reinvestment assumption used in calculating the Internal Rate of Return (IRR) can cause the return to be overstated.

In practice it's very unlikely that positive cash flows can be reinvested on a short term basis at 15%.

Losses would be funded from cash or from an operating line or line of credit. The interest rate for short term funds would be much less than 15%. Perhaps 5% to 6%.

To the Modified Internal Rate of Return (MIRR) we use A:

Short Term Financing Rate E.g., 6.00% Short Term Reinvestment Rate E.g., 1.00%

which modifies the Internal Rate of Return (IRR) calculation.

Using the Modified Internal Rate of Return (MIRR). Case study

The Investor's Desired Return (IRR) before tax is 13.00% Short term financing Rate: 6.00% Short term reinvestment Rate" 1.50%

✓ Turn off Tax Calculations Discount Rate or Desired Return on Investment	Short Term Rates Before Tax				
Before Tax 13.00%	Financing Rate 6.000%				
	Reinvestment Rate				

Net Cash Flow report

Short Term Financing Rate (Before Tax)

Short Term Reinvestment Rate (Before Tax) 1.500%

							x)			
				Finan	cing		Operating Cash Flow	Sale Proceeds	c	Net ash Flow
Year	Inv	estment		Borrow	Paid Back	(Before Tax)	(Before Tax)	(B	efore Tax)
Year 1 Jan-Year 1 Dec	\$ (2	2,730,000)	\$	1,700,000	-	\$	34,891		\$	(995,109)
Year 2 Jan-Year 2 Deo							66,844			66,844
Year 3 Jan-Year 3 Dec				-	-		71,631			71,631
Year 4 Jan-Year 4 Dec				-	-		71,982			71,982
Year 5 Jan-Year 5 Dec							72,420			72,420
Year6Jan-Year6Dec				-			72,793			72,793
Year 7 Jan-Year 7 Dec				-	-		99,268			99,268
Year 8 Jan-Year 8 Dec					-		119,547			119,547
Year 9 Jan-Year 9 Dec							120,390			120,390
Year 10 Jan-Year 10 Dec					(1,354,178)		121,331	3,519,347		2,286,500
								Total	\$	1,986,267
Financial Returns (Before	rTax) v	with Financ	ing		The Modif	ied	l Internal F	Rate of Retu	rn ((MIRR)
Internal Rate of Return (IRF	R)		13.2	<mark>9%</mark> —	using a sh	ort	t term fina	ncing rate o	f 6.	00% and a
Net Present Value (NPV) a	t 13.00°	%	\$22	2,105	short term	re	investmen	t rate of 1.5	0%	reduces th
Modified Internal Rate of R	eturn (N	/IRR)	11.5	2%	Internal R	ate	of Return	of 13.29% to) a	modified

Internal Rate of Return (MIRR) of 11.52%

6.000%

Internal Rate of Return (IRR) versus Modified Internal Rate of Return (MIRR)

Most analysts use the Internal Rate of Return (IRR) not the Modified Internal Rate of Return (MIRR).

The Internal Rate of Return has been used for over 60 years and is widely accepted and is more wellknown than the Modified Internal Rate of Return (MIRR).

Informative article on the IRR, NPV and MIRR Value

In this very informative article Hebert Kierulff explores the use of the Internal Rate of Return (IRR), Net Present Value (NPV) and the Modified Internal Rate of Return (MIRR), discusses their use in investment analysis and the advantages and disadvantage of each method for evaluating investments.

Despite its weakness and potential for overstating the true return because of the reinvestment assumption, the Internal Rate of Return (IRR) is the most common measure used by executives today and is favored over the Net Present Value (NPV) probably because executives are more comfortable with percentages (the IRR) than Net Present Value.

As an example, which is easier to understand?

Internal Rate of Return (IRR): 15% Net Present Value (NPV) at 11%: \$350,000

The author prefers the Modified Internal Rate of Return (MIRR) because it overcomes the issue related to the reinvestment assumption used in the calculation of the Internal Rate of Return (IRR).

The MIRR is presented in most financial text books but has not gained wide acceptance in the business community. The author predicts that eventually the Modified Internal Rate of Return (MIRR) will become the more popular measure than the Internal Rate of Return (IRR) because it is a better measure of the return on investment.

The link to the article is:

http://www.buildingthepride.com/faculty/blgordon/630%20Documents/Article-MIRR-A_Better_Measure.pdf

Business Horizons (2008) 51, 321-329



Available online at www.sciencedirect.com



MIRR: A better measure

Herbert Kierulff

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Link. http://www.buildingthepride.com/faculty/blgordon/630%20Documents/Article-

Financial calculators

Another reason for the Modified Internal Rate of Return (MIRR) having limited use is because the MIRR calculation is not available on the popular and inexpensive financial calculators such as the HP10B and the Texas Instruments BA-II Plus.

The MIRR calculation is available on the Instruments BA-II Plus. Professional

Excel and the more advanced investment analysis software such as Investit Pro and Express calculate the Modified Internal Rate of Return (MIRR).

Modified Internal Rate of Return (MIRR). Establishing the reinvestment rate

The easiest approach, but not necessarily the best approach, is to use the interest rate for short investments such as:

Saving accounts Term deposits Certificates of Deposit (CID) Guaranteed Investment Certificate (GIC) Treasury Bills 9T – Bills) etc.

The use of a short term interest rate works well for the smaller investor but not be appropriate for large real estate companies and corporations because they often have a lot of options for investing large amounts short term funds which they can pool and earn an interest rate much higher than the typical short term investment vehicles listed above.

In addition they may have a mix of income properties with many having positive cash flows and some experience negative cash flows.

The funds from the buildings with positive cash flows can fund the buildings with losses.

This means that they don't have to borrow to cover the losses saving the interest costs on borrowed funds.

In this case the reinvestment rate would be based on the interest rate if the organization had to borrow funds.

As an example, if the cost for the organization to borrow funds is 6.00% the reinvestment rate would be 6.00%,

Which measures does the investor or organization like to use?

You need to establish the preferred measures:

- Internal Rate of Return (IRR)?
- Modified Internal Rate of Return (MIRR)? What short term financing and reinvestment rate to use?
- Net Present Value (NPV)? What discount rate or desired return do they use?

Issues with the Internal Rate of Return (IRR

There are a number of potential problems that you may encounter when using the Internal Rate of Return (IRR) to evaluate long term real estate investments.

There's no investment or the initial investment is small

If the investment is 100% financed or close to 100% financed and the initial investment is zero or small the Internal Rate of Return (IRR) and the Modified Internal Rate of Return (MIRR) can't be calculated because the answers are is infinite.

In this case use the "Net Present Value (NPV)" which can always be calculated and used to determine the purchase price that delivers the desired return on investment (IRR).

Example. Investment using 100% financing.

Net Cash Flow report with 100% financing

						Capital Plaza Office Building Example				
				Financi	ng	Operating Cash Flow	Sale Proceeds	Net Cash Flow		
Year	In	westment		Borrow	Paid Back	(Before Tax)	(Before Tax)	(Before Tax)		
	\$	(500,000)	\$	500,000			Zero equit			
'ear 1 Jan-Year 1 Dec						152,571		152,571		
'ear 2 Jan-Year 2 Dec						184,524		184,524		
′ear 3 Jan-Year 3 Dec					-	189,310	-	189,310		
′ear 4 Jan-Year 4 Dec					-	189,662		189,662		
′ear5Jan-Year5Dec						190,099		190,099		
′ear6Jan-Year6Dec						190,473		190,473		
'ear 7 Jan-Year 7 Dec					-	216,948		216,948		
′ear 8 Jan-Year 8 Dec						237,227		237,227		
'ear 9 Jan-Year 9 Dec						238,070		238,070		
′ear 10 Jan-Year 10 Dec					(380,098)	239,011	3,519,347	3,378,260		
							Total	\$ 5,167,143		
inancial Returns (Before	Tax)	with Financ	ing							
ntern al Rate of Return (IR i	R)		N/A	A See note below	÷	Internal Rate	of Return (IRF	R) and the		
let Present Value (NPV) a	t 13.0	0%	\$1	,977,615		Modified Internal Rate of Return (MIRR)				
fodified Internal Rate of R Short Term Financing Rat	eturn (e (Bef	(MIRR) fore Tax)	N/# 8.0	N/A See note below 🗲 8.000%		cannot be cal investment	culated beca	use there is		
Short Term Reinvestment	Rate	(Before Tax)	2.5	00%						

Calculating the Internal Rate of Return (IRR). The issues

The Internal Rate of Return (IRR) is the interest rate that makes the Net Present Value (NPV) zero.

The formula for calculating the Net Present Value (NPV) is:

NPV = CF.0 + $\frac{CF.Yr1}{(1+i)}$ + $\frac{CF.Yr2}{(1+i)^2}$ + $\frac{CF.Yr3}{(1+i)^3}$.. + etc

i = Internal Rate of Return (IRR). Found by guessing "i" until NPV = 0

This is an example of calculating the Internal Rate of Return (IRR) through the trial and error process.

The initial investment at time period zero is \$1,000,000 **and is negative** because it is an outflow from the Investor. In years two and three the investment generates positive cash flows of \$40,000 per year.

In year three the building is sold and the cash flow for the year plus the sale proceeds is \$1,300,000.

We start with a guess, which in this case is 10.00% and the Net Present Value at 10.00% is \$46,134. Since this guess has not resulted in a Net Present Value at 10.00% of zero we try a second guess of 13.00%, which results in a Net Present Value of -\$100,424.

We now know the Net Present Value lies between 10.00% and 13.00%, We try a few more guesses and find that an interest rate of 11.725% generates a Net Present Value at 10.00%? of zero, which means that the Internal Rate of Return (IRR) is 11.725%.

This is the process that computer programs, Excel and financial calculators use to calculate the Internal Rate of Return (IRR).

	CF.0	CF.Yr1	CF.Yr2	CF.Yr3	Net Present Value
	<1,000,000>	40,000	40,000	1,300,000	
Present Value at 10.00%	-1,000,000	36,367	33,058	976,709	46,134
Present Value at 13.00%	-1,000,000	35,398	31,325	832,853	-100,424
Present Value at 11.725%	-1,000,000	35,802	32,044	932,163	9
	Internal Rate o	of Return (IRR): 11.725%		

Finding the Internal Rate of Return (IRR). Multiple answers?

The Internal Rate of Return is the "Discount Rate" that makes the Net Present Value zero.

Multiple IRR Answers

Under certain circumstances there can be multiple IRR answers that make the Net Present Value zero.

This occurs when there is more than one sign change in the cash flow. This is illustrated using the following two cash flow examples:

With Cash Flow No. 1 there is only one sign change and there is one Internal Rate of Return (IRR), which is 44.24%.

In Cash Flow No. 2 there are three sign changes and up to three possible solutions for the one? Internal Rate of Return (IRR).

Time Period	Cash Flow No. 1	Cash Flow No. 2
	One Sign Change	Multiple Sign Changes
0	<\$100,000>	<100,000>
1	<50,000>	390,000 (1)
2	40,000 🖤 (1)	<503,000> L (2)
3	80,000	214,500 (3)
4	95,000	
Internal Rate of Return (IRR)	44.24%	10%, 30%, 50%
Net Present Value at the IRR	Zero	Zero
Number of solutions for the IRR	One	Three

The IRR answer that is generated depends on where the program starts the "IRR guess".

For Cash Flow No. 2 the Internal Rate of Return could be 10%, 30% or 50% depending on the first guess. All generate a Net Present Value (NPV) of zero.

If the cash flow with the three sign changes is entered in the Investit discounted cash flow calculator using an interest rate of 10%, 30% and 50% the Net Present Value is zero for all three interest rates indicating that there are three answers for the Internal Rate of Return (IRR).

Which one will the calculator find? Depends on the first guess. In this case the answer determined by the discounted cash flow calculator is 10.00%, which suggests the first guess was around 10%.

Note: There is only one solution for the Modified Internal Rate of Return (MIRR) which is 4.546% using a short term financing rate of 7.00% and reinvestment rate of 1.50%.

Period 0	Cash Flow -\$ 100,000	Entries Number of Periods	3		
1	\$ 390,000	Investor's Discount Pate	10.000%	20.000%	50.000%
2	-\$ 503,000	Investor's Discount ivate	10.00070	30.00070	50.000%
3	\$ 214,500	Short Term Financing Rate	7.000%	7.000%	7.000%
		Short Term Reinvestment Rate	1.500%	1.500%	1.500%
		Results			
		Net Present Value (NPV)	\$ 0.00	\$ 0.00	\$ 0.00
		Internal Rate of Return (IRR)	10.000%	10.000%	10.000%
		Modified Internal Rate of Return (MIRR)	4.546%	4.546%	4.546%

Net Present Value (NPV) and Interest Rate graph

If the Net Present Value and the interest rate are plotted on a graph we can see the relationship.

In Cash Flow No.1 there is only one Internal Rate of Return (IRR) which is 44.24% whereas for Cash Flow No. 2 where there are three sign changes and there are three instances where the interest rate creates a Net Present Value of zero and creating three Internal Rates of Return of 10%, 30% and 50%.



Number of sign changes

The number of sign changes indicates the potential number of solutions for the Internal Rate of Return (IRR). As an example three sign changes indicates that there may be up to three solutions for the IRR.

Even with multiple sign changes there may be one unique Internal Rate of Return (IRR)

Multiple sign changes: Implications and notes

- 1. Not all cash flows with more than one sign change have multiple IRR's. There are circumstances where there are multiple sign changes but there is a unique IRR instead of multiple IRR's.
- 2. In some circumstances the IRR cannot be found. If this is the case, use the Net present Value (NPV) and the Modified Internal Rate of Return (MIRR)
- 3. If there is more than one sign change in the cash flow you need to be cautious in using the IRR generated by the financial calculator or software. Use the Net Present Value and Modified Internal Rate of Return in combination with the Internal Rate of Return (IRR).

Case study. Investment with one sign change This is a typical example where there is only one sign change.

			Net Cas	sh Flow for IRR Office	a & NPV Calcul Capital Plaza Building Examp	ations (Before) ole	Tax)
Ye r	Investment	Finan	cing Paid Bady	Operating Cash Flow (Before Tay)	Sale Proceeds (Before Tax)	Net Cash Flow (Before Tav)	
	\$ (2.730.000)	\$ 1700.000	Faiu Daux			\$ (1 030 000)	
Year 1 Jan-Year 1 Dec	φ (2,700,000) -	÷ 1,700,000	-	- 34.891		34,891	
Year 2 Jan-Year 2 Dec				66,844		66,844	
Year 3 Jan-Year 3 Dec				71,631		71,631	
Year 4 Jan-Year 4 Dec				71,982		71,982	
Year5Jan-Year5Dec			(1,556,958)	72,420	2,860,650	1,376,112	
					Total	\$ 591,461	
Financial Returns (Before Tax) with Financing Internal Rate of Return (IRR) 10.33% Net Present Value (NPV) at 13.00% (\$ 106,083) Modified Internal Rate of Return (MIRR) 9.69% Short Term Financing Rate (Before Tax) 8.000% Short Term Reinvestment Rate (Before Tax) 2.500%			Need to to get	o drop the pr a desired ret	ice by \$106,0 turn of 13.009	083 %	

Case study. Investment with two sign changes

This is a typical example where there are two sign changes. The second sign change is created by the roof being replaced for \$200,000 in year 2.

Net Cash Flow (Before Tax) Capital Plaza Office Building Example										
Operating Sale Net Financing Cash Flow Proceeds Cash Flow										
Year	Investment	Borrow	Paid Back	(Before Tax)	(Before Tax)	(Before Tax)				
	\$ (2,730,000) \$	1,700,000	-			\$ (1,030,000)				
Year 1 Jan-Year 1 Deo				34,891		34,891				
Year 2 Jan-Year 2 Dec	(200,000)			66,844		(133,158)				
Year 3 Jan-Year 3 Dec	Replacing		-	71,631		71,631				
Year 4 Jan-Year 4 Dec	the roof			71,982		71,982				
Year5Jan-Year5Dec		- (1,556,9		72,420	2,860,650	1,376,112				
					Total	\$ 391,461				
Financial Returns (Before	Tax) with Financing				Two sign	changes in				
Internal Rate of Return (IR F	R) 6.6	0%			the Net C	ash Flow				
Net Present Value (NPV) at	t 13.00% (\$	262,713)								
Modified Internal Rate of Re	eturn (MIRR) 6.4	6%								
Short Term Financing Rat	e (Before Tax) 8.0	00%								
Short Term Reinvestment	Rate (Before Tax) 2.5	00%								
Warning The Net Cash Flow with Financing (before tax) has more then one sign change.										

Because there are two sign changes, there may be up to two solutions for the Internal Rate of Return (IRR) we need to be cautious about the Internal Rate of Return of 6.60% and determine if the answer is realistic.

This can be done by comparing the Internal Rate of Return (IRR) of 6.60% against the Modified Internal Rate of Return (MRR) of 6.45%.

Since the IRR and MIRR are close we can assume the IRR of 6.60% is correct.

We can also use the Net Present Value (NPV) to help decide if the Internal Rate of Return (IRR) of 6.60% is correct.

The Net Present Value at 13% is minus \$262,713, which means that the Internal Rate of Return (IRR) must be less than 13%, which it is at 6.60%.

Summary

If the net cash flow has multiple sign changes:

Use the Internal Rate of Return (IRR) with caution as there may be more than one solution.

Check the IRR against the: Modified Internal Rate of Return (MIRR) Net Present Value (NPV)

To see if the Internal Rate of Return (IRR) makes sense and is realistic.

Internal Rate of Return (IRR) and Phased Developments

Experience suggests that the Internal Rate of Return (IRR) is often not a good measure for evaluating phased real estate developments because of wild swings between negative and positive cash flows which occur with phased project

Example. Phased land subdivision development where there are:

Large negative cash flows. Phase 1 development Followed by large positive cash flows from phase 1 sales Followed by negative cash flows. Phase 2 development Followed by large positive cash flows from phase 2 sales

Because of the number of sign changes and significant swings between negative and positive cash flows, the Internal Rate of Return (IRR) may not be a realistic and useful measure of the financial success of the phased development.

Use the overall development profit and Net Present Value (NPV) to measure the financial success of the phased development.

Potential for financing now or in the future

Financial leverage is very important because it generally increase the return on investment but increases the investment risk.

The financial measures used by lenders to determine the loan amount are:

- 1. Debt Service Ratio or Debt Coverage Ratio
- 2. Loan to Value Ratio. Sets the maximum loan amount

The lender calculates the loan amount using both measures and selects the method that yields the lowest loan amount. These lending criteria allow you to determine the potential for financing now and in the future.

Debt Service Ratio or Debt Coverage Ratio

= <u>Net Operating Income</u> = <u>\$240,000 per yr.</u> = 1.33 Typical: 1,25 Debt Service \$180,000

Note: Debt Service is the annual principal and interest payment

Loan to Value Ratio. Typical range 65% to 75%

Another useful measure for determining the financing now and in the future is the Default Ratio. Once the default ratio nears 85% there is little room to increase the first mortgage.

Default Ratio (Breakeven Point)

- = (<u>Operating Expenses + Debt Service</u>) x 100 Potential Gross Income
- = (<u>\$230,000 + 160,000</u>) x 100 = 73% \$534,000

Risk assessment

How risky is the investment?

The Default Ratio (Breakeven Point) and the Debt Service or Coverage Ration are used to measure risk.

The example below show the ratios for a moderate and high risk investment

	Moderate Risk	High Risk
Default Ratio (Breakeven Point)	72%	91%
Debt Service Ratio	1.31	1.07

Risk Analysis and Risk Management

The inability to accurately project investment cash flows, value and return on investment creates investment risk which needs to be incorporated into the analysis.

There are a lot of factors that change over time make it difficult to accurately project cash flows and return on investment.

It is very important to identify potential risks in order to avoid, minimize or transfer the risk.

First we will look at categories of risk and then look at ways to manage risk and how to incorporate risk into investment analysis.

Risk categories

Business and market risks

Business and market risk are external to the property being analyzed and beyond the control of the investor and are often hard or impossible to predict such as:

Calamities.

Fire, flood earthquakes, hurricanes, theft, personal injury etc. These types of risks are handled by transferring the risk to an insurance company by paying a fee to protect against the risk of loss.

Political and legislative risks

Political and legislative risk that impact cash flows and value such as changes in zoning regulations, building and safety standards, environmental laws etc.

Political and legislative changes can have a positive or negative impact on the cash flows, value and return on investment.

Examples:

A light industrial area is rezoned to multifamily zoning which significantly increases the land value The Government introduces or eliminates rents control on rental apartment buildings

Changes to the tax laws affecting income tax and capital gains tax can impact the return on investment.

Economic risks and opportunities

Supply and demand factors, unemployment, vacancies and competition, market rent rates, rates, inflation, strength of the economy, changes in technology that influence the demand for space, changing distribution channels etc., all affect the cash flows and value and pose major risks and opportunities for real estate investors.

The birth of the internet has dramatically affected the demand for different kinds of commercial real estate. Online shopping has changed retailing and created new retail distribution systems

Example. Amazon has disrupted book retailing causing many bookshops to close which creates vacant space. On the other hand, Amazon needs massive distribution centers, hi tech office space for programmers and large amounts of space for their computer data centers.

Some economic factors such an increased competition are easier to monitor and react to than others such as the impact of new technologies on space needs and distribution channels.

Financial markets

The availability of mortgage funds, interest rates change from time to time creating investment risks. If a mortgage needs to be paid off in several years' time and replaced with a new mortgage, what will be the interest rate at that time?, will it be easy to find a new mortgage to replace the outstanding balance of the existing mortgage?

These questions can be explored by using different investment analysis scenarios to measure the impact of financing and re-financing.

Property risks

Property risks are risks associated with the property itself and are much easier to identity and manage than the external business and market risks.

Building and Structural

Present and future capital investment to maintain the property such as replacing the roof, upgrading elevators or the HVAC system can be very expensive. A wise investor will have a professional engineer and other experts inspect the building in order to develop a schedule of capital expenditures that can be incorporated into the cash flow analysis and be reflected in the purchase price.

Failing to do this can result in some nasty surprises in the future.

Revenues and Operating Expenses

Change over time and are influenced by inflation, supply and demand for similar space, terms in the lease related to rent increase and renewal options .

Legal

Attached to buildings are legal documents that can impact the cash flows, value and return on investment. Two really important legal documents that affect cash flows and need to be reviewed when carrying out investment analysis are:

Leases.

The terms of the lease document, such as the rent rate, options to renew, when the lease expires affect the cash flow. When analysing an investment it is very important to read the lease and reflect the lease terms into the revenue projections.

Mortgage contract

The mortgage contract should be reviewed to check if there are conditions that could impact the cash flows. As an example, if the building is sold in the future can the mortgage be paid off and if so, is there a repayment penalty?

A non-recourse loan is an agreement where the loan is secured against the property and the lender cannot hold the borrower personally responsible in the event of a default. The lender can seize and sell the property but cannot seize non-pledged personal assets.

A non-recourse loan is less risky than a recourse loan and is an example of shifting the financial risk to the lender but likely involves a higher interest rate.

Financing and the use of financial leverage

Financial leverage increases the return but may increase the risk and affect the ability to generate enough cash flow to cover the debt service or mortgage payments.

The two measures we use to assess the financial risk are the Debt Service or Coverage Ratio and the Default Ratio (Breakeven point).

A low Debt Service or Coverage Ratio and high Default Ratio (Breakeven point) tends to point towards a high risk investment. If the cash flow falls because of increases in vacancy the building may experience a negative cash flow.

If there are high vacancies and unemployment in the area it is wise to reduce the amount of financing by increasing the Debt Service or Coverage Ratio and decreasing the Default Ratio (Breakeven point). In other words, borrow less.

On the other hand, if the building is in a highly desirable location and has tenants with AAA credit ratings then the financial leverage can be safely increased.

In assessing risk using the Debt Service or Coverage Ratio and the Default Ratio (Breakeven point) you also need to take into account the predictability of the cash flow. If the cash flow is very stable and safe you can increase the financial leverage by lowering the Debt Service or Coverage Ratio and increasing the Default Ratio (Breakeven point) subject to the limits set by the lender.

If the cash flow is unstable and subject to changes you can should decrease the use of financial leverage by increasing the Debt Service or Coverage Ratio and decreasing the Default Ratio (Breakeven point).

	Safe investment	Risky investment
	Great location AAA Credit Tenant(s) Long term leases Predictable cash flows	Poor location Questionable tenants High Vacancies Unpredictable cash flows
Debt Service or Coverage	1.10 -1.25	1.30 -1.45
Default Ratio (Breakeven Point)	85% to 90%	65% to 75%

The example below shows prudent financial ratios for a safe versus a more risky investment.

The mortgage lender will use these ratios in determining the loan amount.

Risk management

Fundamental to real estate investing is risk management and the development of strategies for reducing or eliminating risk which includes:

- 1. Identifying the risks
- 2. Exploring the financial impact of the risk using real estate investment analysis
- 3. Figuring out strategies to reduce the risk
- 4. Reduce or eliminate the risk by transferring to another party

A major strategy is transferring the risk to another party. Examples are:

Taking out insurance to cover unexpected losses caused by fire, floods, personal injury claims etc.

Triple net leases that transfer rising operating costs such as property taxes from the landlord to the tenant

Following are some suggestions on how to incorporate risk into investment analysis.

Risk analysis

There are a number of ways to handle the risks associated with cash flow projections:

- 1. For more risky investments increase the discount factor or desired return used for calculating the Net Present Value (NPV) to offset increased risk and reduce the purchase price.
- 2. Gather more data and information and carry out due diligence. Review important documents such as leases and the mortgage contract. Have a professional engineering inspection carried out to determine the present and future capital expenditures and incorporate the results into the analysis
- 3. Carefully review the assumptions. Changing assumptions often changes the conclusions and investment decision
- 4. Have the full range of alternatives been considered?
- 5. Create average, optimistic and pessimistic forecast
- 6. Use "Sensitivity Analysis" to discover the few variables that have the most impact on the results. This can be done by changing a variable by 10% to see the impact on the Internal Rate of Return, Net Present Value and property value. Only change one variable at a time.

Example: Mortgage interest rate 5.00% Increase by 10% to 5.50% Decrease by 10% to 4.50%

There's no need to worry about variables that don't count. Focus on the few variables that impact the cash flows, value and return on investment such as:

Cap Rates. Changing a Cap Rate from 7% Change to 8% causes a 14% in the property value Small changes in Cap Rates create large changes in value

Rent and rent rates. \$ per Sq. Ft per Year, \$ per Unit per month Rent rate changes from \$20.00 to \$18 per Sq. Ft per Yr. Cap Rate 7.00% Rentable area 20,000 Sq. Ft Drop in value = $($20 - 18) \times 20,000$ Sq. Ft = \$571,428 (10% 7.00% The value of a property is highly sensitive to rents and rent rates

Any inputs express as a % or a rate such as the cap rate and rent expressed as \$ per Sq. Ft or \$ per Unit per month. Beware. Small changes often appear insignificant but can have large impacts on the financial results.

Rent escalation rates, lease renewal rates or rent bumps Leases expiring. It's very costly to replace a tenant moving out Lost revenue, legal and leasing fees Cost of providing free rent and leasehold improvements Major present or future capital expenditures such as replacing the roof, upgrading elevators the HVAC system etc.

Maintenance costs

Inflation rates particularly rising insurance costs and property taxes unless the lease is a triple net lease where the costs are passed through to the tenant

Interest rates and Amortization periods

Financial Returns.			
Cap Rate using the investment in Year 1 of \$2,730,000		6.52%	
		With	Without
		Financing	Financing
Internal Rate of Return (IRR)	Before Tax	13.29%	9.92%
		Debt Coverage Ratio 1.	24
		The use of financial leverage increases the IRR by 34%	

Examples of variables that will make little difference to the cash flows, value or return on investment.

Real estate commission, legal costs, title insurance, appraisal fee, mortgage brokerage fees

7. How much can the investment be increased before the Internal Rate of Return (IRR) falls below the investor's discount rate or desired return? This provides insights into the relationship between the purchase price and return on investment

As an example, does an increase of 10% in the purchase price change the investment decision?

- 8. Make sure you include as many inputs as possible, particularly operating expenses
- 9. Verify inputs such as property taxes, insurance, garbage collection, elevator and other service contacts. Items like maintenance are much harder to verify.

Be careful not to underestimate maintenance and other variable operating costs

Real Estate Investment Analysis. Tips and tricks

Following are some tips to consider before starting an analysis.

Analysis Tips

- 1. Think about how you are going to think
- 2. Decide on the type of real estate analysis?
- 3. Make the following decisions before starting the analysis
 - Monthly or yearly analysis?
 - The Analysis Period?
 - Before or after tax analysis?
- 4. Start with the questions you want answered
- 5. Gather the information before starting the analysis
- 6. Keep the initial analysis simple to go through the process. Then refine.
- 7. Develop ways to double check your results

1. Think about how you are going to think

Before jumping into the analysis think about what you are analyzing and how you are going to go about the analysis. Most of the time this is obvious such as straight forward investment analysis.

As a consultant I was asked to help solve the following project. The investor was purchasing a mixed use building for \$4,850,000 and had arranged a first mortgage of \$3,500,000, 4.50% interest, 25 year amortization to finance the acquisition.

During the closing process he found out to his surprise that the current first mortgage with a balance of \$2,319,000, 6.50% interest, \$17,000 monthly payment, couldn't be paid off for another four years. In addition the mortgage specified that a second mortgage couldn't be placed on the property preventing the seller from offering a second mortgage.

	Existing First Mortgage	Seller's New mortgage
Loan Amount	OSB \$2,319,000	\$3,500,000
Interest Rate	6.50% for 4 years	4.50%
Monthly Payment	\$17,000	\$19,372 25 Yr. Amortization
Equity Required	\$2,531,000 (52%)	\$1,350,000 (28%)

Summary

Agreed Price	\$4,850,000
New mortgage	\$3,500,000 (72% LTV) 4.50% 25 year amortization
Prepayment	Can't pay off the first mortgage for 4 years
2 nd Mortgage	Not allowed. Can't set up a 2 nd mortgage with the seller
Existing Mortgage	OSB \$2,319,000 Interest Rate 6.50% Monthly Payment \$17,000
Equity	52% or \$2,531,000 versus 28% or \$1,350,000
Interest Rates	6.50% for the existing mortgage versus 4.50% current market rate
Future Rate	Estimated interest rate in 4 years' time is 6.00%

The Investor's Questions

How much does the price have to be reduced to offset the financial impact of assuming the unfavorable existing first mortgage?

With a lower price what equity is required?

Important Assumption

It was felt that when the current mortgage expired in four years' time it would be replaced with a new mortgage for \$3,500,000. It was estimated at this time that the mortgage rates will have moved from today's rate of 4.50% to 6.00% in four years' time.

Approach

The following approach was used to determine the reduction in price to offset the costs to the purchaser caused by the inability to put a new first mortgage on the property for \$3,500,000, 4.50% interest, 25 year amortization.

- A) What is the return (IRR) over a ten year period if the investor buys the building using the "New" financing and the seller pays off the existing mortgage?
- B) What is the return (IRR) if the buyer assumes the unfavorable first mortgages and replaces it with a new mortgage for \$3,500,000 at the beginning of year 5?
- C) How much would you have to pay for the property to get the same Internal Rate of Return if the buyer assumes the existing unfavorable first mortgage and refinances at the beginning of year 5 for \$3,500,000, 6.00% interest, 25 year amortization

Results

A) What is the return (IRR) over a ten year period if the investor buys the building using the "New" financing and the seller pays off the existing unfavorable first mortgage? **Answer 11.41% before tax**

		Mixe	Video ed Use Buil	ding					
			Finan	cing	Op Cas	er <i>a</i> ting :h Flow	Sale Proceeds		Net Cash Flow
Year	Investment	-	9 orrow	Paid Back	(Bef	ore Tax)	(Before Tax)	(1	Before Tax)
Year 1 Mar-Year 1 Feb	\$ (4,850,000)	\$	3,500,000	-	\$	34,868	-	\$	(1,315,132
Year 2 Mar-Year 2 Feb	-			-		39,327			39,32
Year 3 Mar-Year 3 Feb	-			-		52,529	-		52,52
Year 4 Mar-Year 4 Feb			-	-		53,686			53,68
Year 5 Mar-Year 5 Feb	-			-		54,875			54,87
Year 6 Mar-Year 6 Feb						66,167			66,16
Year 7 Mar-Year 7 Feb	-					67,432			67,43
Year 8 Mar-Year 8 Feb				-		68,590			68,59
Year 9 Mar-Year 9 Feb				-		79,371			79,37
Year 10 Mar-Year 10 Feb				(2,539,305)		80,592	5,572,357		3,113,64
							Total	\$	2,280,48
Financial Returns (Before	Tax) with Financ	cing							
Internal Rate of Return (IRP	0	11.4	1% 🗲	-					
Net Present Value (NPV) at	10.00%	\$ 162	2,463 🚬						
Modified Internal Rate of Re	eturn (MIRR)	10.47	7 %						
Short Term Financing Raty	e (Before Tax)	7.000	3%						

B) Using the agreed price of \$4,850,000 what is the return (IRR) if the buyer assumes the unfavorable first mortgages and replaces it with a new mortgage for \$3,500,000 at the beginning of year 5? Answer 8.23% before tax

					Net Cash Flow (Before Tax) Young & Belsize Two storey Retail & Apartments					
			Finan	cina		Operating Cash Flow	Sale Proceeds		Net Cash Flow	
Year	Investment	_	Borrow	Paid Back	(Before Tax)		(Before Tax)		(Before Tax)	
Year 1 Mar-Year 1 Feb	\$ (4,850,000)	\$	2,319,000		\$	63,326		\$	(2,467,674)	
Year 2 Mar-Year 2 Feb			-	-		67,786	-		67,786	
Year 3 Mar-Year 3 Feb			-	-		80,987	-		80,987	
Year 4 Mar-Year 4 Feb			-	(2,067,748)		82,145	-		(1,985,603)	
Year 5 Mar-Year 5 Feb			3,500,000			18,615	-		3,518,615	
Year 6 Mar-Year 6 Feb			-	-		29,907	-		29,907	
Year 7 Mar-Year 7 Feb			-	-		31,172	-		31,172	
Year 8 Mar-Year 8 Feb			-	-		32,329	-		32,329	
Year 9 Mar-Year 9 Feb			-	-		43,111	-		43,111	
Year 10 Mar-Year 10 Feb	-		-	(3,059,632)		44,332	5,572,357		2,557,057	
							Total	\$	1,907,687	
Financial Returns (Before	Tax) with Finan	cina								
Internal Rate of Return (IRF	8)	8.2	3% 🗲 🗕							
Net Present Value (NPV) at 10.00%			258.551)							
Modified Internal Rate of Return (MIRR)		6.0	15%							
Short Term Financing Rate (Before Tax)			000%							
Short Term Reinvestment	Rate (Before Tax	a 1.0	00%							

C) What is the purchase price that provides an 11.41% return (IRR) if the buyer assumes the unfavorable first mortgages and replaces it with a new mortgage for \$3,500,000 at the beginning of year 5?

Answer \$4,410,994



Buying the property for \$4,410,994 assuming the unfavorable first mortgage and refinancing at the end of four years provides the same return (IRR) as buying the property for \$4,850,000 and replacing the existing unfavorable first mortgage which is 11.41%



Summary and Conclusions

	Price	Equity	Return (IRR)
Put the new mortgage on the property for \$3,500,000, 4.50%, 25 years amortization.	\$4,850,000	28% \$1,350,000	11.41%
Assume the unfavorable first mortgage refinance at end of 4 years	\$4,850,000	52% \$2,531,000	8.23%
Assume the unfavorable first mortgage refinance at end of 4 years	\$4,410,000	47% \$2,091,996	11.41%

Observations and Comments from the case study

1. For unique financial problem "Think about how you are going to think" before you start analyzing more complex or unique investments and situations like the above example

Then test using a simple example. Add the complexity later.

- 2. The importance of understanding how to use discounted cash flow analysis
- 3. Shows how to use investment analysis to structure difficult deal

2. Decide on the type of real estate analysis?

Real estate investment or discounted cash flow can be applied to many types of real estate analysis.

The starting point in analyzing real estate is to decide on the type of analysis.

a) Investment Analysis

This applies to the purchase or valuation of income properties such as buying an income property and holding it for say ten years and then selling.

Investment analysis helps answers questions such as: How much should I pay for the property to get my desired return? What is the property worth? Should I buy property A or B? As a realtor should I try and sell the property? Is it overpriced and unlikely to sell?

b) Buy versus Lease Analysis

I'm tired of paying the monthly rent. Would I be better off to buy a property or rent? Because of the tax implications buy versus lease analysis should be done after tax

c) Hold versus Sell Analysis or Hold & Refinance & Sell

I've owned this property for a number of years, would I be better off to keep or sell the property and invest the after tax proceeds in another investment? Because of the tax implications buy versus sell analysis should be done after tax.

For free videos and a manual on Hold versus Sell analysis please visit <u>www.investitpro.com</u> and select the Learning Center tab.

d) Cash Flow Forecasting & Budgeting

Cash flow forecasting and budgeting is different than investment analysis because the investor owns the building, doesn't plan to sell and want to develop the cash flows for budgeting and decision making.

e) Lease analysis from a landlord or tenant perspective

Lease analysis is used by landlords and tenant to compare different lease proposals and help in lease negotiations.

f) Land Lease Analysis

g) Development Analysis

Development analysis is used to determine how much to pay for the land based on the developer's desired profit and is covered in the video "Development Analysis and the Valuation of land"

To learn more about development analysis please see our Video "Development Analysis and Valuing Land" which can be purchased on our web site <u>www.investitpro.com</u>" or by calling toll free 1-877-878-1828

3. Make the following decisions before starting the analysis

- a) Monthly or yearly analysis?
- b) The Analysis Period?
- c) Before or after tax analysis

a) Monthly or Yearly Analysis?

Yearly analysis is suitable for analyzing rental apartment buildings.

For commercial buildings with leases the analysis should be carried out on a monthly basis because leases can expire or be renewed during the year.

Monthly analysis can take into account seasonal variations such as snow removal during winter or variation in income for seasonal based investments such as marinas, short term summer rentals etc.

b) The Analysis Period?

Five years using yearly projections is an acceptable analysis for apartment rental properties.

For commercial properties the recommendation is a minimum of ten years using monthly projections in order to take into account the impact of lease renewals or bumps or steps in the lease as well re-renting vacant space, the funding of tenant inducements by the landlord such as leasehold improvements, free rent periods and other tenant inducements.

Tip: Always build you largest analysis period first.

As an example if you are interest in analyzing a building over 5 years and 10 years build the 10 year projections first, then all you have to do is change the Analysis Period from 10 years to 5 years. If you build the five year model first and then want to extend the analysis to 10 years you have to project all the expenses and revenues and extend the mortgages from 5 years to 10 years

c) Before or after tax analysis?

Real estate analysis is generally performed before tax because the tax position of the investor is not known. There are two types of investment analysis that should always be done after tax because tax plays a major role in the decision. They are:

- Buy versus Lease Analysis
- Hold versus Sell Analysis

2. Start with the questions you want answered

The starting point is deciding what questions you want answered such as:

What return (IRR) am I looking for given the risk? How much should I pay for property to get my desired return? What's the value of the property? Should I buy property A or property B As a realtor, does this investment make economic sense? Should I take a listing?

Ask "what if" questions and sensitivity analysis

What if the seller carries a second mortgage? What if the major tenant doesn't renew their lease? What if interest rates go from 6.00% to 7.00%?

3. Gather the information before starting the analysis

Before staring the analysis gather all the information you need. There is a check list available in the appendices and the end of the manual.

4. Keep the initial analysis simple then refine

For more complex or unique analysis keep the initial inputs simple and test the results to see if you are using the right approach. If the results are acceptable, then increase to complexity of the analysis.

5. Develop ways to double check you analysis

It is very easy to make a mistake when carrying out real estate analysis such as forgetting to sell the property at the end of the analysis or incorrectly entering the financing or missing key expense items.

As we go through the case studies in the video I'll point out ways to check the inputs and how to determine if the results are realistic.

Case Studies

- 1. Sale Leaseback analysis
- 2. Exploring creative financing
- 3. Lease Comparison Analysis
- 4. Lease negotiations
- 5. Buy versus Lease analysis
- 6. Hold versus Sell analysis
- 7. Replacement Reserve Planning
Sale Lease Back Analysis

From a CoStar newsletter. CoStar has a very good, free weekly new letter.



While investment sales have tanked in most U.S. markets across every property type, interest remains keen in sale-leaseback transactions as more cash-strapped companies look at their non-income-producing assets as an alternative capital source for reducing debt or funding operations. Businesses of all types,



under pressure to quickly boost liquidity, have stepped up their push for sale-leasebacks as an avenue to monetize their assets. Banks have sold off their retail branches ...

An investment company is looking at a Sale Lease Back of an office building. Their Desired Return (IRR) is 12.00% before tax based on a five year analysis.

You have been asked to evaluate the investment and make a presentation and recommendations to the Investment committee

Project Information

Asking Price

The Sale Lease Back owner is asking \$5,100,000 and the acquisition costs are \$20,000

Revenue.....has a twist

The owner will lease back at above market rents for 18 months at \$22.50 per Sq. Ft per Yr. Then vacate.

Rentable Area: 22,358 Sq. Ft Usable Area: 19,500 Gross Up Factor: 14.66%

Analysis Period: 10 years

Investor

Investor Desired Return (IRR): 12.00% before tax Modified Internal Rate of Return (MIRR) Short Term Financing Rate: 7.50% before tax Short Term Reinvestment Rate: 2.50% before tax

Before tax analysis. Non-profit organization

Investment

Investment: \$5,120,000 including acquisition costs of \$20,000 Leasehold Improvements. Year 2 Sept \$200,000

Expenses

Expenses paid by the landlord \$7.00 per Sq. Ft per year increasing at 3.00% per year compounding

Leasing fee: Year 2 Sept \$75,000 (Exclude from the NOI)

Revenues

Sale Lease Back Tenant

Base Rent: \$22.50 per Sq. Ft per Yr. for 18 months Recoverable Expenses (TIM's): \$6.25 per Sq. Ft per Yr. for 18 months

New Tenant

Lease commences Year 2 October and runs until the end of the analysis period.

Base Rent and rent increases at the end of each term

Term 1. \$18.00 per Sq. Ft per Yr. for three years

Free Rent: Two months in the first year

Term 2. Five years. The rent for Term 2 equals Term 1 rent increased by 2.50% compounding for three vears

Term 3. Rent equals Term 2 rent increased by 3.00% compounding for five years



Recoverable Expenses: \$7.00 per Sq. Ft per Yr. increasing at 3.00% per year compounding

Financing

First mortgage: \$3,000,000 Interest Rate: 7.00% Amortization Period: 25 years

Sale

Sale Price: Based on a 7.00% Cap Rate using the Net Operating Income for the year following the sale which is year 11

Selling Expenses: 2.00% of Sale Price. Real Estate Fee. 3.50% of Sale Price

Questions to be answered

A) General

- 1. Based on the above information, what is the Return (IRR) before tax?
- 2. How much should the investor pay to get the Desired Return (IRR) of 12.00% before tax?
- 3. Based on the price that provides the 12.00% IRR before tax, how much a year does the initial investment have to increase and is this realistic?
- 4. Can the financing be increased? If so, how does it affect the financial returns (IRR)?
- 5. The appraiser's approach. How much of the "Present Value" is generated by:
 a) Net Operating Income
 b) Select presented (Deversion on the value)
 - b) Sales proceeds (Reversionary value)

B) Risk Assessment

Risk Assessment Ratios

Debt Coverage Ratio: Shows how much the cash flow exceeds the mortgage payments

Default Ratio (Breakeven Point): What % of the building has to be rented to breakeven?

Yearly Operating Cash Flow report

c) Financing Potential

Financing Ratios

Debt Coverage Ratio: Generally around 1.25 but depends on the lender and the risk

Loan to Value Ratio: 75%

Default Ratio (Breakeven Point) If less than 85% may be an opportunity to increase the first mortgage

Presentation

What should the presentation package to the Investment committee include?

The Analysis

What is the Return (IRR) before tax based on the asking price of \$5,100,000? Answer: The Internal Rate of Return (IRR) is 10.98%

The most insightful report is the Net Cash Flow Report. It provides an overall financial view of the investment.

-							Net Cash Fl Sale Lease Office	ow (Before Ta Back Example Building	X)	
				Financi	ng	(Operating Cash Flow	Sale Proceeds		Net Cash Flow
Year		Investment		Borrow	Paid Back	(E	∃efore T <i>a</i> ×)	(Before Tax)	(Before Tax)
Year 1 Jan-Year 1 Dec	\$	(5,120,000)	\$	3,000,000		\$	231,846	-	\$	(1,888,154)
Year2Jan-Year2Dec		(200,000)		-	-		(96,582)	-		(296,582)
Year3Jan-Year3Dec		· • 🔺 -		-	-		139,563	-		139,563
Year 4 Jan-Year 4 Dec		- I -			-		139,396			139,396
Year5Jan-Year5Dec		- I -		-	-		146,886	-		146,886
Year6Jan-Year6Dec		· · ·		-	-		169,858	-		169,858
Year7 Jan-Year7 Dec		- I -			-		169,411			169,411
Year8Jan-Year8Dec		· · ·		-	-		169,076	-		169,076
Year9Jan-Year9Dec		· · ·		-	-		168,852	-		168,852
Year 10 Jan-Year 10 Dec	_	·			(2,359,001)		185,956	6,638,817		4,465,772
	L	easehold	Imp	provements				Total	\$	3,384,078
Financial Returns (Before)	Гах)	with Financi	ng							
Internal Rate of Return (IRR)			10.9	88% 	No. 1 to 1		4	L. \$407.500		
Net Present Value (NPV) at Modified Internal Rate of Re	12.00 turn (D% (MIRR)	(\$ 1 10.(167,563) 4	the desire	rop ed r	eturn (IRR)	of 12.00% b	to efo	get ore tax
Short Term Financing Rate Short Term Reinvestment P	(Bet ≀ate	fore Tax) (Before Tax)	7.5(2.5(00% 00%						

Relationship between the Desired Return (IRR) and the Purchase Price

Shows how much to pay for the property to achieve the desired return (IRR).

As an example, if the desired return was 12.00% before tax, the purchase price is approximately \$4,950,000.



Using Goal Seeking to answer the following questions:

- a) How much should the investor pay to get a Desired Return (IRR) of 12% before tax?
- b) Based on the investment of \$5,120,000 how much does the property have to increase in value per year compounding to achieve a 12.00% return and is this realistic?

Answers

a) Purchase Price \$4,952,437 (including acquisition costs) provides a Return (IRR) of 12.00% before tax.

Asking price is \$5,100,000

b) Increase in Value per Year is 3.996% compounding using the Purchase Price of \$5,120,000 May be too optimistic over a ten year period

Goal Seeking			\sim
Desired Return on Investment (Discount	Rate)		
Internal Rate or Return (IRR) Before Tax	12.000% Analysis Period	: 10 years	Display Results
Average Cash On Cash Return Before Tax	0.000% Purchase Price	N/A	
Goal Seeking Results: Before Tax			
To achieve an Internal Rate of Return (IRF	R) of 12.000% before tax		
With financing	Too optimistic?		
a) Buy the property for 🛛 🗕 \$ 4,952	2,437 or		
b) Sell the property for \$ 7,575	5,913 which is a 💙3.996% A	nnual Compoundin	g Appreciation Rate
Without financing			
a) Buy the property for \$ 4,149),618 or		
b) Sell the property for \$10,214	1,467 which is a 7.151% A	nnual Compoundin	g Appreciation Rate
Done Export to Exce	Export to PDF	Print	Help

The appraisal approach to value

How much of the Present Value is generated by:

- a) Net Operating Income
- a) Sales Proceeds (Reversionary value)

Are the results realistic?

Note: Excludes financing which generally increases the Internal Rate of Return

			Present Value Sale Lease Ba Office Bu	: Appraisal ck Example ilding			
Year	Net Operating Income	Present Value Discount Factor at 12.00%	Present Value Net Operating Income	Property Reversion (Sale)	Present Value Discount Factor at 12.00%	Present Value Property Reversion (Sale)	Overali Present Value
Year 1 Jan-Year 1 Dec	486,287	0.89285714	434,184				434,184
Year 2 Jan-Year 2 Dec Year 3 Jan-Year 3 Dec	232,859 394,004	0.79719388 0.71178025	185,633 280,444				185,633 280,444
Year 4 Jan-Year 4 Dec	393,836	0.63551808	250,290				250,290
Year 5 Jan-Year 5 Dec	401,326	0.56742686	227,723				227,723
Year6 Ja⊓-Year6 Dec	424,299	0.50663112	214,963				214,963
Year7 Ja⊓-Year7 Dec	423,852	0.45234922	191,729				191,729
Year 8 Jan-Year 8 Dec	423,516	0.40388323	171,051				171,051
Year 9 Jan-Year 9 Dec	423,293	0.36061002	152,644				152,644
Year 10 Jan-Year 10 Dec	440,397	0.32197324	1 41,796	6,638,817	0.32197324	2,137,521	2,279,317
		Present Values	2,250,457			2,137,521	4,387,978
CASH FLOW. PRESENT V	ALUE SUMMARY	,		Soome roa	listic 51 20% of	the Net Present	/aluo at
Present Value Net C	perating Income	2,250,457	51.29% 🗲	12 00% in a	locited from the	Not Operating I	
Present Value of I	Reversion (Sale)	2,137,521	48.71%	1200% IS 0	ienved from the	Net Operating I	licome
Present \	/alue at 12.00%	4,387,978	100.00%				
Note: Present Value is cal	culated before ta	x and excludes fina	ancing and capital e	xpenditures			

Risk Assessment & Financing Potential

	January Inv Webinars IQ Sale Lease Back	04, 2011 vestor Pro Jan 2011							
Financial Returns.									
Cap Rate using the investment in Year 1 of \$5,120,	,000		 9.50 %						
			With Financing	Without Financing					
Internal Rate of Return (IRR)		Before Ta×	10.98%	9.01%					
Net Present Value (NPV)		Before Tax	(\$ 167,563) at 1:	2.00% (\$ 970,382) at 12	:00%				
Modified Internal Rate of Return (MIRR)		Before Ta×	10.01 %	7.76%					
Short Term Financing Rate (Before Ta	BX)		7.50%	7.50 %					
Short Term Reinvestment Rate (Befor	re Tax)		2.50%	2.50 %					
	Need to	drop the p	rice by \$167.	563 to get a					
Francisk Commission During	return	IRR) of 12.00	0% before ta:	x					
Financial Operating Ratios	. o tall i								
Tetel Less to Miles Petio			Overall						
(At End of Year) using	Doht	Default Ratio	Overal Operation						
Original Loan Outstanding	Coverage	(Breakeven)	Expense Ratio						
Year Amount Loan Balance	Ratio	(Usina PGI)	(Usina PGI)						
Year 1 90.18% 88.80%	1.91	63,93%	24.35%	-					
Year 2 53.30% 51.61%	0.92	105.48%	40.91%						
Year3 53.32% 50.69%	1.55	75.08%	29.66%						
Year 4 52.33% 48.76%	1.55	75.32%	30.28%						
Year5 49.49% 45.12%	1.58	74.57 %	30.51%						
Year 6 49.55% 44.09%	1.67	71,95%	29.94%						
Year 7 49.58% 42.97%	1.67	72.26%	30.60%						
Year 8 49.61% 41.76%	1.66	72.55%	31.25%						
Year9 47.68% 38.86%	1.66	72.84%	31.90%						
Year 10 42.70% 33.58%	1.73	71.15%	31.67 %						
	- ▲	↑							
Very low loan to Value Ratio	<u>'</u>	ЦК	elatively low	<i>i</i> breakeven point	_				
	L	Might be a and bring	ble to increa the Debt Cov	ase the first mortgage /erage Ratio down to 1.2	5				
Both the Debt Coverage Ra	atio and th	ne Default R	atio indicate	s					
that there may be potential	to merea	se the math	longage						
Once the Default Ratio gets to increase the first mortgage	Once the Default Ratio gets above 85% there is little room to increase the first mortgage and risk starts to be a concern								
Debt Coverage Ratio could	be reduce	ed to 1.25 by	increasing	the first					
the lender									

Operating Cash Flow Report

Show the cash flow from operations

				Operating Ca Sale Lease Office	٧	January 05, 2011 Investor Pro Webinars IQ Sale Lease Back Jan 2011						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
CASH FLOW BEFORE TAX												
Potential Gross Income Less: Vacancy & Credit Loss Allow.	642,793	394,060	560,124	564,875	577,507	605,622	610,765	616,019	621,608	644,525		
Effective Gross Income	642,793	394,060	560,124	564,875	577,507	605,622	610,765	616,019	621,608	644,525		
Operating Expenses	156,506	161,201	166,120	171,039	176,181	181,323	186,913	192,502	198,315	204,129		
Net Operating Income	486,287	232,859	394,004	393,836	401,326	424,299	423,852	423,516	423,293	440,397		
Less Expenses not included in NOI	-	75,000	-	-	-	-	-	-	-	-		
Net Income	486,287	157,859	394,004	393,836	401,326	424,299	423,852	423,516	423,293	440,397		
Less: Principal Payments	45,894	49,212	52,770	56,584	60,675	65,061	69,764	74,808	80,216	86,014		
Interest payments	208,546	205,228	201,671	197,856	193,766	189,379	184,676	179,633	174,225	168,426		
CASH FLOW BEFORE TAX	231,846	(96,582)	139,563	139,396	146,886	169,858	169,411	169,076	168,852	185,956		

Overall Cash Flow Report

Shows all the cash inflows and outflows

			Sale	Overall Casi Lease Back I	h Flow Yearly nvestment Ex Ruiklier	y ×ample			October 13, 2012 Investor Pro			
				Office	Building		We	binars IQ Sale	Q Sale Lease Back Jan 2011			
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
Potential Gross Income Less: Vacancy & Credit Loss Allow.	642,793	394,060	560,124	564,875	577,507	605,622	610,765	616,019	621,608	644,525		
Effective Gross Income	642,793 156,506	394,060 161,201	560,124 166,120	564,875 171 039	577,507 176-181	605,622 181,323	610,765 196 913	616,019 192,502	621,608 198 315	644,525 204 129		
Net Operating Income	486,287	232,859	394,004	393,836	401,326	424,299	423,852	423,516	423,293	440,397		
Net Income	486,287	157,859	394,004	333,836	401,326	424,299	423,852	423,516	423,293	440,397		
Less: Principal Payments Interest payments	208,546	205,228	201,671	197,856	193,766	189,379	184,676	179,633	174,225	168,426		
	231,846	(96,582)	139,563	139,396	146,886	169,858	169,411	169,076	168,852	185,956		
Investment & CAFITAL INFROVEME	(5.420.000)											
Leasehold Improvements		(200,000)								·		
FINANCING Borrow(+) Payback(-)	(5,120,000)	(200,000)	-		-	-	-	-		-		
First Mortgage	3,000,000	· ·		•	•	· ·		•	•	(2,359,001) (2,359,001)		
SALE Sale Price Loss: Boal Estate Commissions	-1									7,025,203		
Selling Expenses Net Sales Proceeds (Before Tax)										140,504 6,638,817		
OVERALL CASH FLOW BEFORE TAX	(1,888,154)	(296,582)	139,563	139,396	146,886	169,858	169,411	169,076	168,852	4,465,772		
FINANCIAL RETURNS Before Tax												
Internal Rate of Return (IRR) Net Present Value (NPV) at 12.00%	10.98% (167,563)											

Income & Expense Statement

			income Sale Le	e & Expense ease Back In Office B	e Statement nvestment E Building	X early xample		October 13, 2012 Investor Pro Webinars IQ Sale Lease Back Jan 2011					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11		
REVENUE													
General Revenue	-	-	-	-	-	-	-	-	-	-	-		
Rent Roll Revenue	642,793	394,060	560,124	564,875	577,507	605,622	610,765	616,019	621 ,608	644,525	702,153		
Potential Gross Income	642,793	394,060	560,124	564,875	577,507	605,622	610,765	616,019	621,608	644,525	702,153		
Less: Vacancy & Credit Loss Allowance													
General Revenue	-	-	-	-	-	-	-	-	-	-	-		
Rent Roll Revenue	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-		
Effective Gross Income	642,793	394,060	560,124	564,875	577,507	605,622	610,765	616,019	621,608	644,525	702,153		
Operating Expenses													
Operating Expenses	156,506	161,201	166,120	171,039	176,181	181,323	186,913	192,502	198,315	204,129	210,389		
	156,506	161,201	166,120	171,039	176,181	181,323	186,913	192,502	198,315	204,129	210,389		
Net Operating Income	486,287	232.859	394.004	393,836	401.326	424,299	423,852	423,516	423,293	440,397	491,764		
Less: Expense not included in NOI	,	<i>,</i>	,	,	,	,	,	,	,	,	,		
Leasing Fee	\rightarrow	▶ 75,000	-	-	-	-	-	-	-	-	-		
		75,000	-	-	-	-	-	-	-	-			
Net Income	486,287	157,859	394,004	393,836	401,326	424,299	423,852	423,516	423,293	440,397	491,764		
	Note: Incom	The Lea e becau	sing Fee se it's a i	is exclu non recu	uded from urring ex	m the Ne opense	et Opera	ting					

Income & Expense projection graph



Presentation Package

What should be included in the presentation package to the investment committee?

Keep it brief. Don't include too many reports. Focus on the highlights

Include reports that are easy to follow without technical financial knowledge

Cover Page with building photograph

Table of Contents

Executive Summary (One page to two pages)

- Overview of the investment opportunity
- Critical assumptions
 - Analysis period Lease up period after the 18 months Lease rate at the end of the 18 month Lease projections. Terms, renewal rates Recoverable expenses Leasehold improvement costs Leasing fees Financing How the sale price at the end of the ten years is calculated
- Results

Purchase price to achieve a 12% Return (IRR): \$4,952,437 Annual increase in value to achieve the desired return: 3.996% based on the asking price which may be too optimistic Risk assessment. Moderate Financing: First mortgage could be increased

• Recommendation & conclusions

Purchase price: \$4,952,437 Consider increasing the financing

Reports (limit the number of reports)

- Net Cash Flow
- Operating Cash Flow
- Income & Expense Statement
- Graph. Purchase Price versus Desired Return (IRR)
- Detailed reports can be provided later if requested

TIP. Use "Snagit" screen capture program www.techsmith.com

Creative Financing

Creative financing between the seller and the buyer can be used to create a sale, which may not be possible based on the seller's price and conventional financing.

One approach is to develop and review the operating cash flow before tax and then structure seller financing based on the available cash flow before tax.

This is best illustrated with an example.

Investment. Shopping Center with leases and % Rents

Analysis Period: 9 years

Purchase Price: \$12,000,000 based on 6.17% Cap Rate

Conventional First Mortgage \$7,500,000, 25 year amortization, interest rate 6.00% Debt Service Ratio: 1.28

Equity required by the buyer: \$4,500,000 (37%)

Result: Internal Rate of Return (Before Tax): 12.57%

Steps for exploring creative financing

- 1. Carry out a conventional analysis
- 2. Examine the Operating Cash Flow before tax
- 3. Decide on a possible financial arrangement
- 4. Run the analysis with the revised financial structure
- 5. Examine the results

Creative Financing Options

There are many creative financing options including:

Interest only mortgage No payment of principle & interest until the end of the term Graduated payment mortgage Variable rate mortgage

Goals

- 1. To get the equity down from 37% to 25%
- 2. Increase the returns to the Investor
- 3. Facilitate the sale through creative seller financing

	Operating Cash Flow Yearty Park Royal Village Investment Retail +Rent Roll & Categories											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9			
CASH FLOW BEFORE TAX												
Potential Gross Income	1,004,000	1,143,920	1,177,142	1,211,370	1,246,975	1,322,064	1,360,544	1,396,125	1,432,144			
Less: Vacancy & Credit Loss Allow.				-	-	-						
Effective Gross Income	1,004,000	1,143,920	1,177,142	1,211,370	1,246,975	1,322,064	1,360,544	1,396,125	1,432,144			
Operating Expenses	264,000	271,920	280,160	288,400	297,160	305,920	315,320	324,720	334,440			
Net Operating Income	740,000	872,000	896,982	922,970	949,815	1,016,144	1,045,224	1,071,405	1,097,704			
Less: Principle Payments	133,503	141,737	150,479	159,760	169,614	180,076	191,182	202,974	215,493			
Interest payments	446,368	438,134	429,392	420,111	410,257	399,796	388,689	376,897	364,378			
CASH FLOW BEFORE TAX	160,129	292,129	317,110	343,098	369,943	436,273	465,352	491,533	517,832			

Decide on a possible financial arrangement

We will test the following financial arrangement:

Change the term of the first mortgage from 10 years to 5 years and pay off the first mortgage at the end of 5 years

Create seller financing as follows:

\$1,480,000 second mortgage, Interest Rate: 9.00%, Term: 5 years Fixed payment: Year 1 \$6,000 per month or \$72,000 per year Year 2 \$9,000 per month or \$108,000 per year Year 3 \$11,000 per month or \$132,000 per year Year 4 \$13,000 per month or \$156,000 per year Year 5 \$15,000 per month or \$180,000 per year

Year 6 January. Refinance with a conventional first mortgage Loan Amount: \$10,000,000 Interest Rate: 6.50% 25 year amortization Debt Service Coverage Ratio: 1.25 Use the refinancing of \$10,000,000 to pay off: First Mortgage: \$6,744,907 Seller Financing: \$1,532,403 Investor pockets \$1,722,691

Results using creative financing

Investor's equity changes from \$4,500,000 (37.50%) to \$3,020,000 (25.00%)

The Investor's Internal Rate of Return (IRR) changes from 12.57% to 15.03% before tax which is a 19.57% increase. Investor pockets \$1,722,690 when the property is refinanced for \$10,000,000 at the start of year 6

Cash Flow with the Seller's second mortgage

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
CASH FLOW BEFORE TAX									
Potential Gross Income	1,00 4,000	1,143,920	1,177,142	1,211,370	1,246,975	1,322,064	1,360,544	1,396,125	1,432,144
Less: Vacancy & Credit Loss Allow.	-	-	-	-	-	-	-	-	-
Effective Gross Income	1,004,000	1,143,920	1,177,142	1,211,370	1,246,975	1,322,064	1,360,544	1,396,125	1,432,144
Operating Expenses	264,000	271,920	280,160	288,400	297,160	305,920	315,320	324,720	334,440
Net Operating Income	740,000	872,000	896,982	922,970	949,815	1,016,144	1,045,224	1,071,405	1,097,704
Less Principal Payments	133,503	141,737	150,479	173,553	209,716	165,110	176,168	187,966	200,554
Interest payments	518,368	546,134	561,392	562,318	550,155	645,139	634,081	622,283	609,694
CASH FLOW BEFORE TAX	88,129	184,129	185,110	187,098	189,943	205,895	234,975	261,156	287,455
	Cash F	low with s	seller's se	cond mor	tgage –-				>
CASH FLOW BEFORE TAX	160.129	292.129	317.110	343.098	369.943	436.273	465.352	491.533	517.832
	Cash I	low with	seller's th	e conven	tional firs	t mortgag	le		>
1							,-		-

Net Cash Flow Report with the Seller's second mortgage

				Net Cas	h Flow (Before	e Tax)				
				Pai	n Royal Village					
				Investment Retail +Rent Roll & Categories						
				Operating	Sale	Net				
		Finar	rcing	Cash Flow	Proceeds	Cash Flow				
Year	Investment	Borrow	Paid Back	(Before Tax)	(Before Tax)	(Before Tax)				
Year 1 Jan-Year 1 Dec	\$ (12,000,000)	\$ 8,980,000		\$ 88,129	-	\$ (2,931,871)				
Year 2 Jan-Year 2 Dec		-	-	184,129		184,129				
Year 3 Jan-Year 3 Dec		-		185,110		185,110				
Year 4 Jan-Year 4 Dec	-	-	-	187,098	-	187,098				
Year 5 Jan-Year 5 Dec			(8,277,310)	189,943		(8,087,367)				
Year 6 Jan-Year 6 Dec		10,000,000		205,895		10,205,895				
Year7 Jan-Year7 Dec		-		234,975		234,975				
Year 8 Jan-Year 8 Dec				261,156		261,156				
Year9Jan-Year9Dec		-	(9,270,202)	287,465	13,788,870	4,806,123				
					Total	\$ 5,045,248				
Financial Returns (Before	Tax) with Financi	na								
Internal Rate of Return (IRI	R)	15 03%	-							
Net Present Value (NPV) a	t 13.00 %	\$ 380,228								

What happens when the building is refinanced at the end of 5 years?

New first mortgage	\$ 10,000,000
Used to pay off the:	
First mortgage	6,744,907
Seller's second mortgage	<u>1,532,403</u>
To the Investor	\$ 1,722,690

The investor receives \$1,722,690 cash.

Mortgage Schedules. Outstanding balances at end of 5 years

Eirst Mortgago					
Flist Moltgage		Outstanding	EndofYear	Mortgage	
		Balance	Accrued Interest	Payout	
Payout at end of Analysis Period: Dec Year 9	э .	\$ 6,744,906.22	-	\$ 6,744,906.22	
Payout at end oflast Term : Dec Year 5		\$ 6,744,906.22	-	\$ 6,744,906.22	
				Additional	
		Interest	Principal	Payment or	Outstanding
Time Period	Payment	Payment	Payment	(Borrowing)	Balance
Year 1 Jan-Year 1 Dec	579,871.32	446,368.35	133,502.97	-	7,366,497.03
Year 2 Jan-Year 2 Dec	579,871.32	438,134.18	141,737.14	-	7,224,759.89
Year 3 Jan-Year 3 Dec	579,871.32	429,392.14	150,479.18	-	7,074,280.71
Year 4 Jan-Year 4 Dec	579,871.32	420,110.92	1 59,7 60.40	-	6,914,520.31
Year 5 Jan-Year 5 Dec	579,871.32	410,257.23	169,614.09		> 6,744,906.22
	2,899,356.60	2,1 44,2 62.82	755,093.78	Outstar	nding Balance

Seller's second mortgage				Additional	Outstanding
conor o cocona mongago		Interest	Principal	Paymentor	Balance plus
Time Period	Payment	Payment	Payment	(Borrowing)	Unpaid Interest
Year 1 Jan-Year 1 Dec	72,000.00	72,000.00	-	-	1,543,788.69
Year 2 Jan-Year 2 Dec	108,000.00	108,000.00	-	-	1,576,038.45
Year 3 Jan-Year 3 Dec	132,000.00	1 32,000.00	-	-	28. 298, 586, 1
Year 4 Jan-Year 4 Dec	156,000.00	142,207.10	13,792.90	-	1,572,505.38
Year 5 Jan-Year 5 Dec	180,000.00	139,898.05	40,101.95		→1,532,403.43
	648,000.00	594,105.15	53,894.85	Outsta	anding Balance

Cash Flow Comparison Report

Project Compa	October 20, 2012	
Net Cash Flow(Before Tax)	Investor Pro	
	Conventional First Mortgage	With Seller's Second Mortgage
Year 0	(4,500,000)	(3,020,000)
1	160,129	88,129
2	292,129	184,129
3	317,110	185,110
4	343,098	187,098
5	369,943	1,912,633
6	436,273	205,895
7	465,352	234,975
8	491,533	261,156
9	8,351,520	4,806,123
10		
Total	6,727,087	5,045,248
Before Tax Financial Return		
With Financing		
Internal Rate of Return (IRR)	12.57%	
Net Present Value (NPV) NPV. Discount R <i>a</i> te	(\$ 126,179) 13.00%	\$ 380,228 13.00%

Creative Financing. Review and Summary

The following framework or steps can be used to explore creative financing options.

- 1. Decide on the goals of the creative financing
 - To get the equity reduced from 43% to 25% Hopefully increase the financial return to the buyer Help put the deal together
- 2. Check that the first mortgage allows a second mortgage to be placed on the property
- 3. Carryout real estate investment analysis using the conventional first mortgage and calculate the Internal Rate of Return (IRR)
- 4. Examine the cash flows before tax. Is there sufficient cash flow to support a second mortgage?
- 5. Decide on the second mortgage arrangement, the interest rate and when the loan be paid back E.g. After five years. There are many possibilities:
 - Interest only loan
 - Graduated payment mortgage
 - Accrued interest loan. Interest accumulates and is paid with a balloon payment when the mortgage is paid back
 - Etc.

Take a guess at what you think might work and look at the results. Are the results acceptable from the buyer's and seller's perspective? This is a trial and error process.

- 6. When the second mortgage is paid out consider whether to refinance the building and incorporate the refinancing into the analysis
- 7. Carryout real estate investment analysis using the conventional first mortgage and the second mortgage and calculate the Internal Rate of Return (IRR)
- 8. Review the cash flow before tax to make sure there is a comfortable cash flow and check the Debt Service Ratio and the Default Ratio and Breakeven Point. Are they acceptable?
- 9. Compare the buyer's return (Internal Rate of Return) with the conventional mortgage against the creative financing option. Has the Internal Rate of Return (IRR) improved?
- 10. If the results are not acceptable try another creative financing arrangement. Remember that this is a trial and error process

Seller

- 1. Check that the current first mortgage allows a second mortgage to be placed on the property
- 2. Consult with an accountant and lawyer to establish the tax consequences and risks of selling the property and carrying a second mortgage

Lease comparison analysis

When comparing leases you calculate the total costs each year and then use a Discount Rate to calculate the Net Present Value (NPV) and the Net Effective Rent

Net Effective Rent at $X\% = \frac{\text{Net Present Value at }X\%}{\text{No. of Years x Area}}$ where X% is the Discount Rate

Note: You cannot calculate the Internal Rate of Return (IRR) because there is no investment.

Example:

A tenant is considering two different spaces and has established the following annual costs taking in to account the base rent, additional rent, free rent and parking costs.

Which is the best proposal from a financial perspective?

Using a 10.00% Discount Rate

Net Effective Rent at $10\% = \frac{\text{Net Present Value at } 10\%}{\text{No. of Years x Area}}$ where 10% is the Discount Rate

Which is the best lease arrangement for the tenant?

Year	Building A 4,000 Sq. Ft	Building B 4,000 Sq. Ft
1	\$120,000	\$115,000
2	130,000	122,000
3	142,000	131,000
4	145,000	135,000
5	148,000	140,000
6	150,000	172,000
7	152,000	176,000
8	154,000	178,000
9	157,000	182,000
10	163,000	185,000
NPV at 10%	\$878,089	\$901,884
Net Effective Rent at 10%	\$878,089 10 years x 4,000 Sq. Ft	<u>\$901,884</u> 10 years x 4,000 Sq. Ft
	= \$21.95 per Sq. Ft per Yr. = \$1.83 per Sq. Ft per Mo	= \$22.55 per Sq. Ft per Yr. = \$1.88 per Sq. Ft per Mo

From a Tenant's perspective Space A has the lowest Net Present Value (NPV) and is the best deal from a financial perspective.

Developing the Leasing Cash Flows. Landlord perspective

Following are the typical revenues and expenses that are used in carrying out a lease analysis from the landlord's perspective/

Revenues

Base Rent plus rent increases and renewals Percentage Rent. Shopping Centers Rent Caps. Imposes a limit on future rent increases Additional Rent also called Recoverable TIMs (Taxes, Insurance & Maintenance) Recoverable Expense Cap. Tenant pays the recoverable expenses up to the Expense Cap Expense Stop. Landlord pays the recoverable expenses up to the Expense Stop Parking Revenue Other Revenue

Operating Expenses

Expenses that are paid by the landlord to operate the space such as: Taxes Insurance Maintenance Property Management Miscellaneous Expenses Security

Tenant Inducements

Free Rent Leasehold Improvements paid by the landlord or Leasehold Improvement Allowances Renovation Costs Moving Allowances Cash Signing Bonus

Leasing Expenses

Leasing Agents' Fee Legal Fees City fees Architectural and engineering fees to obtain occupancy permits and other City permits

Financing Considerations

Loans by the landlord to the tenant for leasehold improvements Loan obtained by the landlord to fund leasehold improvements

Termination Costs

The cost of clean-up and restoring the space to re-rent after the tenant moves out

Case Study. Lease Analysis Landlord perspective

The landlord has received a proposal from the tenant to lease suite 306

Rentable Area: 5,900 Sq. Ft Usable Area: 5,200 Sq. Ft Discount Rate: Before Tax 10.00% (Used to calculate the Net Present Value)

Leasing Costs

Leasehold Improvements: \$50,000 Leasing Fee: Year 1 Jan \$12,000

Revenue

Base Rent

\$26.00 per Unit of Tenant's Rentable Area per Y. paid monthly. Two terms of 5 years. Increase for the second term base on the first term rate increasing at 3.00% compounding for five years

Free Rent: First two months. 100% of Base Rent

Recoverable Expenses (TIM's)

\$9.00 per Unit of Tenant's Rentable Area per Yr. paid monthly for 12 months then increasing at 3.00% compounding per year.

Expenses paid by Landlord

\$9.00 per Sq. Ft per year paid monthly for 12 months. Increasing at 3.00% per year compounding

Termination Costs

Cost incurred at the end of the lease by the tenant for cleaning up the space. Cleanup and restoration costs: \$15,000

	LANDLORD							
	L	easehold				Operating	Termination	Net
	Imr	provements	Financing of Improve	ments	c	ash Flow	Costs	Cash Flow
Year		Costs	Borrow Pai	d Back	(B	efore Tax)	(Before Tax)	(Before Tax)
Year 1 Jan-Year 1 Dec	\$	(50,000)	-	-	\$	115,833	-	\$ 65,833
Year 2 Jan - Year 2 Dec		-		-		153,400	-	153,400
Year3 Ja⊓-Year3 Dec		-	-	-		153,400	-	153,400
Year 4 Jan-Year 4 Dec		-	-	-		153,400	-	153,400
Year 5 Jan - Year 5 Dec		-	-	-	_	153,400		153,400
Year 6 Jan - Year 6 Dec		-	-	-	_	177,826		177,826
Year 7 Jan-Year 7 Dec		-	-	-		177,826	-	177,826
Year 8 Jan-Year 8 Dec		-	-	-		177,826	-	177,826
Year 9 Jan-Year 9 Dec		-	-	-		177,826	-	177,826
Year 10 Jan-Year 10 Dec		-		-		177,826	(15,000)	162,826
					To	tal Net Cash F	low (Before Tax)	1,553,563
					Net	Present Value	e (NPV) at 10.00%	910,135
Before Tax Summary								
Total Rentable Area			5,900 Sq. Ft					
Total Usable Area			5,200 Sq. Ft					
Total Net Cash Flow			\$1,553,563					
Average Annual Net Cash Flo	w		\$ 155,356 per Year					
Average Monthly Net Cash Flo	WC		\$12,946 per Month					
			Rentable Area		Usal	ble Area		
Total Rate			\$ 263.32 Sq. Ft		\$ 29	98.76 Sq. Ft		
Average Effective Annual Rate	Э		\$ 26.33 Sq. Ft per Yr		\$ 29.88 Sq. Ft per Yr			
Average Effective Monthly Rat	te		\$ 2.19 Sq. Ft per Mo		\$2.	.49 Sq. Ft per M	No	
Not Descent Volve at 40.00%			8 040 405					
Het Present value at 10.00%		•	\$ 310,132					
Net Effective Rent at 10.00%		\rightarrow	▶ \$ 15.43 Sq. Ft per Yr		\$17	7.50 Sq. Ft per	Yr	
			\$1.29 Sq. Ft per Mo		\$1.	46 Sq. Ftper M	NO	

Developing the Leasing Cash Flows. Tenant perspective

Following are the typical revenues and expenses that are used in carrying out a lease analysis from the tenants' perspective.

Rent

Base Rent plus rent increases and renewals Percentage Rent. Shopping Centers Rent Caps Additional Rent also called Recoverable TIMs (Taxes, Insurance & Maintenance) Recoverable Expense Cap. Tenant pays the recoverable expenses up to the Expense Cap Expense Stop. Landlord pays the recoverable expenses up to the Expense Stop Parking Revenue Other revenue

Additional Rent

Expenses that are paid by the tenant to the landlord's as spelled out in the lease for recoverable expenses such as:

Taxes Insurance Maintenance Property Management Miscellaneous Expenses Security etc.

Tenant Inducements provided by the landlord

Free Rent Moving Allowances Cash Signing Bonus etc.

Leasing Expenses

Leasing Agents' Fee (Tenant Rep fees) Leasehold improvements costs paid by the tenant City fees Architectural and engineering fees to obtain occupancy permits and other City permits

Location Comparison

Tenant may take into account the different cost associated with different locations such as: Moving costs

Differences in utility costs such as electrical, gas, oil etc.

Financing Considerations

Loan obtained by the tenant to fund leasehold improvements

Termination Costs

The cost of clean-up and restoring the space as required by the lease.

Case Study. Lease Analysis Tenant perspective

Rentable Area: 5,900 Sq. Ft Usable Area: 5,200 Sq. Ft Discount Rate: Before Tax 10.00%

Leasehold Improvements paid by the tenant: \$75,000 in addition to \$50,000 being provided by the landlord

Leasing Expenses

Base Rent

\$26.00 per Unit of Tenant's Rentable Area per Year paid monthly. Two terms of 5 years. Increase for the second term base on the first term rate increasing at 3.00% compounding for five years

Free Rent: First two months. 100% of Base Rent

Additional Rent (TIM's)

\$9.00 per Unit of Tenant's Rentable Area per Yr. paid monthly for 12 months then increasing at 3.00% compounding per year

Termination Costs

Cost incurred by the tenant at the end of the lease for cleaning up the space. \$25,000

	TENANT					
	Tenant		Operating	Termination	Overall Rental	
	Leasehold	Financing of Improvements	Cash Flow	Costs	Costs	
Year	Improvements	Borrow Paid Back	(Before Tax)	(Before Tax)	(Before Tax)	
Year1 Jan-Year1 Dec	\$ 75,000		- \$ 180,933	-	\$ 255,933	
Year 2 Jan-Year 2 Dec	-		- 208,093	-	208,093	
Year 3 Jan-Year 3 Dec	-		- 209,745	-	209,745	
Year 4 Jan-Year 4 Dec	-		- 211,397	-	211,397	
Year 5 Jan-Year 5 Dec	-		- 213,167		213,167	
Year 6 Jan-Year 6 Dec	-		- 239,363	-	239,363	
Year 7 Jan-Year 7 Dec	-		- 241,251	-	241,251	
Year 8 Jan-Year 8 Dec	-		- 243,139	-	243,139	
Year 9 Jan-Year 9 Dec	-		- 245,086	-	245,086	
Year 10 Jan-Year 10 Dec	-		- 247,092	25,000	272,092	
			Total Rental C	osts (Before Tax)	2,339,266	
			Net Present Value	e (NPV) at 10.00%	1,426,978	
Before Tax Summary						
Total Rentable Area		5.900 Sa. Ft				
Total Usable Area		5.200 Sq. Ft				
		-11				
Total Rental Costs		\$ 2,339,266				
Average Annual Rental Costs		\$ 233,927 per Year				
Average Monthly Rental Costs		\$ 19,494 per Month				
		Rentable Area	Usable Area			
Total Rate		\$ 396.49 Sq. Ft	\$ 449.86 Sq. Ft			
Average Effective Appual Rate		\$ 39.65 Sa Etiner Vr	\$ 44.99 Sq. Et per	Vr		
Average Effective Monthly Rate		\$ 330 Sa Ether Mo	\$ 375 Sq. 11 per	 Mo		
Average Enconversionally Rat	6	\$ 5.56 54.1 Epct M0	φ οπο οφπτρειή	NO		
Net Present Value at 10.00%		\$1,426,978				
Net Effective Rent at 10.00%		▶\$\$24.19 Sq. Ft per Yr 🛛 📥	\$ 27.44 Sq. Ft per	Yr		
	-	\$ 2.02 Sq. Ft per Mo	\$ 2.29 Sq. Ft per M	Мо		

Net Cash Flow & Net Effective Rent Report

Answer. Net Effective Rent at 10% before tax from the tenant's perspective is \$24.19 per Sq. Ft per Year

Lease Negotiations. Trade Offs between Landlord & Tenant

In lease analysis the main financial variables that can be manipulated in negotiating a lease are:

Base Rent and the timing of future escalations How future rent escalations are calculated Free Rent periods Leasehold improvements funded by the landlord Leasehold improvement loans from the landlord to the tenant Cash payments from the landlord to the tenant for moving costs, cash signing bonus etc.

Example of trade offs:

Higher starting Base Rent which is offset by:

Increasing the leasehold improvements provided by the landlord

More free rent periods

...so that the Net Effective Rent for the tenant stays the same.

Primary goals of the landlord

1. High Rent

The landlord wants the lease rate (also called the face rate) to be as high as possible because the lease rate is the major factor that determines the value. When an appraiser is valuing the property they will focus on the lease rate and the renewal rates. It's very unlikely the appraiser will take into account leasehold improvement, free rent periods and other tenant inducements when valuing the building because these are general historical costs.

2. Good Tenant

Losing a tenant is very costly for the landlord. It may take many months to find a tenant, negotiate the lease and there are many costs involved:

- Loss of rental income
- Landlord has to pay the taxes insurance and maintenance that were being recovered from the tenant if the lease was a triple net (nnn) lease
- Provide costly inducements such as free rent and leasehold improvement allowances
- Legal fees and real estate leasing fee

From a Landlord's and a Tenant's perspective which is the best lease proposal?

Rentable Area: 10,000 Sq. Ft of industrial space Net Effective Rent Discount Rate: 7.00% before tax Operating Costs: \$4.00 per Sq. Ft per Yr. increasing at 3.00% per year compounding Lease Term: 5 years Discount Rate for calculating the Net Effective Rent: 7.00%

Proposal	Base Rent	Free Rent	Leasehold Improvements	Rent Escalation
А	\$12.00	None	None	None
В	\$13.	None	\$50,000	None
с	\$13.43	6 months Jan & Dec for 3 yrs.	None	None
D	\$10.92	None	None	5.00% per Yr

Which is the best deal for the Landlord _____ Tenant _____

Answer: _____

Net Cash Flow and Net Effective Rent Report

COMPANY		Project Comparison Report	t	April 14, 2012 Investor Pro				
	Landlord Analysis CORFAC Tenant A Proposal Net Cash Flow (Before Tax)	Landlord Analysis CORFAC Tenant B Proposal Net Cash Flow (Before Tax)	Landlord Analysis CORFAC Tenant C Proposal Net Cash Flow (Before Tax)	Landlord Analysis CORFAC Tenant D Proposal Net Cash Flow (Before Tax)				
Year 0 1 2 3 4 5 Total [–]	80,000 78,800 77,600 76,300 75,000 387,700	(50,000) 92,200 91,000 89,800 88,500 87,200 398,700	71,917 70,717 69,617 90,600 89,300 392,050	80,000 78,800 77,800 76,300 75,000 387,700				
Before Tax Financial Summary	Different overall cash flows but same Net Effective Rent							
Total Rentable Area	10,000 Sq. Ft	10,000 Sq. Ft	10,000 Sq. Ft	10,000 Sq. Ft				
Total Net Cash Flow Awerage Annual Net Cash Flow Awerage Monthly Net Cash Flow	\$ 387,700 \$ 77,540 \$ 6,462	\$ 398,700 \$ 79,740 \$ 6,645	\$ 392,050 \$ 78,410 \$ 6,634	\$ 387,700 \$ 77,540 \$ 6,462				
Average Rent Rates Based on Rentable Area Average Effective Annual Rate Average Effective Monthly Rate	\$ 7.75 \$ 0.65	\$7.97 \$0.66	\$ 7.84 \$ 0.65	\$7.75 \$0.65				
Net Present Value and Net Effective Rent Net Present Value (NPV) NPV Discount Rate (Before Tax) Based on Rentable Area	\$ 318,621 7.00%	\$ 318,643 7.00 % Sāme N	\$ 318,513 7.00% Vet Effective Rent	\$ 318,621 7.00%				
Net Effective Yearly Rent Net Effective Monthly Rent	\$ 6.37 \$ 0.53	\$637 \$053	\$ 6.37 \$ 0.53	\$6.37 \$0.53				

The four options have the same Net Effective Rent of 6.37%

Since all four options produce the same Net Present Value and Net Effective Rent, which is the best deal for the Landlord and for the Tenant?

Impact on the property value

The landlord wants to maintain the highest base rent which is option C to maximize the value of the property.

The following table shows the property "Value" of the different lease proposals based on an 8.00% Cap Rate.

Proposal		Value
A \$12.00 per Sq. Ft per Yr.	<u>\$12 x 10,000 Sq. Ft</u> 8.00%	\$1,500,000
B Lease hold improvements \$50,000 \$13 per Sq. Ft per Yr.	<u>\$13 x 10,000 Sq. Ft</u> 8.00%	\$1,625,000
C Free rent 6 months spread over 3 years \$13.43	<u>\$13.43 x 10,000 Sq. Ft</u> 8.00%	\$1,678,750
D \$10.92 per Sq. Ft per Yr. Escalating at 5.00% per Yr.	<u>\$10.82 x 10,000 Sq. Ft</u> 8.00%	\$1,352,500

Best option for the landlord

Landlord. Option C is the best option for the landlord because it produces the highest value when capitalized at an 8.00% Cap Rate.

The landlord wants the lease rate (also called the face rate) to be as high as possible because the lease rate is the major factor that determines the value. When an appraiser is valuing the property they will focus on the lease rate and the renewal rates. It's very unlikely the appraiser will take into account free rent periods and other tenant inducements when valuing the building because these are general historical costs.

The landlord may also prefer Option C because it means giving up two months of free rent each year for three years which costs \$67,150 rather than having to come up with \$50,000 for leasehold improvements.

The landlord has to take into account tenant compatibility and the quality of the tenant.

Losing a tenant is very costly for the landlord. It may take many months to find a tenant, negotiate the lease and there are many costs involved:

Loss of rental income

Landlord has to pay the taxes insurance and maintenance that were being recovered from the tenant if the lease was a triple net (nnn) lease

Provide costly inducements such as free rent and leasehold improvement allowances Legal fees and real estate leasing fee

Best option for the tenant

From the Tenant's perspective all four options are financially the same because they have the same Net Present Value and Net Effective Rent.

The best option may depend on the tenant's situation and preferences. As an example:

If they are just starting a business and have no need for leasehold improvements they might choose the option with the lowest starting lease rate which is \$10.92 Option C which escalates at 5.00% per year compounding

If they need lease hold improvements they may be willing to pay a higher rent. In this case the best choice is Option B which provides \$50,000 of leasehold improvements and a lease rate of \$13.00 per Sq. Ft per Yr.

Case Study continued

The landlord submits a counter proposal to the tenant.

The goal is to increase the base rent and hence the value of the property but keep the Net Effective Rent the same as the tenant's proposal by increasing the free rent and providing a cash bonus for signing the lease to offset the increase in the base rent from \$26.00 to \$28.00 per Sq. Ft per Yr.

5,900 Sq. Ft Rentable	Tenant's Proposal	Landlord's Counter Proposal			
Base Rent	\$26.00 per Sq. Ft per Yr. (NNN)	\$28.00 per Sq. Ft per Yr. (NNN)			
Contract Term	Ten years	Same			
Renewal Rate at end of first five years	Based on 3% compounding for 5 years	Same			
Recoverable Expenses paid by the tenant	9.00 per Sq. Ft per Yr. increasing at 3.00% per Yr. compounding	Same			
Free rent	First two months	Four months First two months for two years			
Leasehold improvements by landlord	\$50,000 by landlord Tenant also has to spend \$75,000	\$80,000 plus a loan to tenant of \$45,000 at 6.00% amortized over 5 years and paid monthly			
Cash signing bonus	Zero	\$15,000			
CPI	Expected to increase at 3.00 per yea	ur compounding			
Discount Rate for calculating the Net Effective Rent	10.00% before tax				
Result Net Effective Rent at 10.00%	\$15.43 per Sq. Ft per Yr.	\$15.48 per Sq. Ft per Yr.			

Increase in the property value by increasing the Base Rent

The Cap Rate from the sale of comparable properties is 6.50%

Increase in value = (\$28.00 - \$26.00) x 5,900 Sq. Ft 6.50% Cap Rate = \$181,538

Additional Tenant Inducement Costs.

Extra two months of free rent (\$28.00/12) x 2 months x 5,900 Sq. Ft. = \$27,533 Increase in leasehold improvements from \$50,000 to \$80,000 = \$30,000 Cash Signing Bonus: \$15,000

Net Benefit to Landlord	
Increase in value	\$181,538
Less: Extra free rent	27,533
Additional leasehold improvements	30,000
Cash Signing Bonus	<u>15,000</u>
Net Benefit to landlord	\$109,005

Landlord's counter proposal to tenant

Project Info.	Lan	dlor	l j Im	Leasehold provements	Expenses	ì	Revenu	e Ì	V	acancy	F	inancing 🔵	Те	rmination
Landlord. Net Cash Flow & Net Effective Rent (B efore Tax) October 31, 2012 Capital Plaza Investor Pro Suite 306 CTA Realty VIDEO Lease Analysis Landlord Counter Proposal														
						LANL	DLORD							
		Le	asenoid overnents	Financing of	Improvements		Tenenti	0900		Оре	erating h Elow	Termination Costs		Net Seeb Flow
Vear		mpr	Costs	Borrow	Paid Back		Loan	Paid	Back	. (Befo	n now me Taxì	(Before Tax)	(B	efore Taxì
Year1 Jan-Year1 De		\$	(80.000)				(45,000)	1 010	-	<u>, (Doic</u> \$	121.106	<u>(Denore Fax)</u> -	. <u>(</u>	(3.894)
Year 2 Jan-Year 2 De	- c	*	(00,000)			*	(10,000)		_	*	148,106	-	*	148.106
Year 3 Jan - Year 3 De	č		-				-		-		175.640	-		175.640
Year 4 Jan-Year 4 De	c c		-				-		-		175,640	-		175.640
Year 5 Jan - Year 5 De	с		-				-		-		175,640	-		175.640
Year 6 Jan - Year 6 De	c		-				-		-		191,514	-		191,514
Year 7 Jan - Year 7 De	c		-				-		-		191,514	-		191,514
Year 8 Jan - Year 8 De	с		-				-		-		191,514	-		191,514
Year 9 Jan - Year 9 De	с		-				-		-		191,514	-		191,514
Year 10 Jan-Year 10 [Dec		-				-		-		191,514	(15,000)		176,514
										Total	Net Cash F	low (Before Ta:	e)	1,613,702
										Net Pro	esent Value	e (N PV) at 10.00°	6	913,481
Before Tax Summary	1													
Total Rentable Area				5,900 Sq. Ft										
Total Usable Area				5,200 Sq. Ft										
Total Net Cash Flow				\$1,613,702										
Average Annual Net C	ash Flov	v		\$ 161,370 per Y	′ear									
Average Monthly Net	Cash Flo	w		\$13,448 per Mo	onth									
				• • • • • • • • • • • • • • • • • • • •										
				Rentable Area		Usa	able Area							
Total Rate \$ 273.51 Sq. Ft \$ 310.3				10.33 Sq. Ft										
Average Effective Annual Rate \$ 27.35 Sq. Ft per Vr \$			\$3	1.03 Sq. Ft per	Yr									
Average Effective Monthly Rate \$ 2.28 Sq. Ft per Mo \$ 2.7			.59 Sq. Ft per M	vlo										
_														
Net Present Value at	10.00%		-	\$913,481										
Net Effective Rent at	10.00%		\rightarrow	▶\$ 15.48 Sq. Ft p	per Yr	\$1	7.57 Sq. Ft per	Yr						
				\$1.29 Sq. Ftpe	er Mo	\$1	.46 Sq. Ft per M	٥N						

Lease Comparison Report

Compares the Tenant's proposal with the Landlord's counter proposal.

The Landlord's counter proposal changes the Net Effective Rent at 10% to \$15.43 from \$15.48 per Sq. Ft per Yr.

		Project Comparison Report
	Landlord Analysis	Landlord Analysis
	VIDEO Lease Analysis Landlord	WDEO Lease Analysis Landlord
	Office	Counter Proposal
	Net Cash Flow (Before Tax)	NetCash Flow (Before Tax)
Year O	(50,000)	(125,000)
1	115,833	121,106
2	153,400	148,106
3	153,400	175,640
4	153,400	175,640
5	153,400	175,640
6 7	177,826	191,514
, ,	177,620 477,038	191,514
9	177.826	101,514
10	162.826	176 514
Total	1,553,563	1,613,702
Before Tax Financial Summary		
Total Rentable Area	5,900 Sg. Ft	5,900 Sq. Ft
Total Usable Area	5,200 Sq. Ft	5,200 Sq. Ft
Total Net Cash Flow	\$ 1,553,563	\$ 1,613,702
Average Annual Net Cash Flow	\$ 155,358	\$ 161,370
Average Monthly Net Cash Flow	\$ 12,946	\$ 13,448
Average Rent Rates		
Based on Rentable Area	* -e -c	\$ 07 0F
Average Effective Annual Rate	\$20.33 \$2.40	\$27.30
Based on Lisable Area	ψ 2.18	4220
Average Effective Appual Rate	\$ 29.88	\$3103
Average Effective Monthly Rate	\$ 2.49	\$2.59
Net Present Value and Net Effective Rent		
Net Present Value (NPV)	\$ 910,135	\$913,481
NPV Discount Rate (Before Tax)	10.00%	10.00%
Based on Rentable Area		Close 🔪
Net Effective Yearly Rent	\$ 15.43	\$ 15.48
Net Effective Monthly Rent	\$ 1.29	\$ 129
Based on Usable Area Not Effective Veget: Deet	e 47.50	& AT ET
Net Effective Mesthy Pest	ຊາກ.30 ຄ.4.48	ቅ 17.27 ድላ / R
Net Ellecave Monthly Kent	φ 1.40	\$ 1.40

This result illustrates how important it is for the Landlord to maintain the base rent as high as possible and offset the higher lease rate by giving the tenant more free rent, increasing the leasehold improvement allowance and providing other inducements such as a cash signing bonus.

Analyzing Mutually Exclusive Investments

Mutually exclusive investments are investments where the investor has several options that are mutually exclusive. They can choose one of the options but not both. Some examples of mutually exclusive investments are:

- 1. Buy or Lease?
- 2. Hold or Sell?
- 3. Personal choice example. I can drive to work or catch a bus but I can't do both

Using the Buy versus Lease as an example, mutually exclusive investments are analyzed as follows:

- 1. Develop the "Net cash flow" for the "Buy" option
- 2. Develop the "Net cash flow" for the "Lease" Option
- 3. Calculate "Net Cash Flow Buy Net Cash Flow Lease"

This is called the "Differential" or 'Incremental Cash Flow" analysis and is a very important concept

Analyzing Buying versus Renting a home. Case Study

Purchase Price: \$700,000

First Mortgage: \$550,000, Interest Rate 4.50%, 25 year amortization Property Taxes: \$4,500 per year increasing at 4.50% compounding per year Insurance: \$600 per year increasing at 3.00% per year compounding Maintenance \$150 per month increasing at 3.00% compounding per year Utilities: Ignored because the utility costs apply to both buying or renting Appreciation: 6.00% per year Analysis Period: 5 years

Buyer's Discount Rate (Desired Return): 10%

Renting

Rent: \$2,200 per month increasing at 3.50% per year compounding

What is the return on the investment?

What is the financial return if we treat the purchase of the home as an investment rather than a "Mutually Exclusive Investment" i.e., ignoring the savings in renting?





Buy versus Rent Analysis using the differential cash flow analysis approach



Results Summary

Approach	Internal Rate of Return (IRR)	Result
Investment Analysis	2.88%	Incorrect
Buy versus Rent Analysis (Differential cash flow analysis)	14.80%	Correct

Buy versus Lease Analysis. Case Study

Buy versus Lease Analysis using the "Differential Cash Flow" approach.

Note. Buy versus Lease analysis should always be carried out after tax because of the differences in taxes between buying and leasing.

Case Study. Buy versus Lease Analysis

An architectural firm is renting 3,000 Sq. Ft. in quality office park development. Their lease will be expiring shortly. The firm has an opportunity to buy the unit they are occupying for \$850,000

Question: Should the architectural firm buy their space or renew the lease?

Investor's Discount Rate or Desired Return (IRR): 13.00% Before Tax Marginal Tax Rate: 35%

Note: The project information and details used to carry out this Buy versus Lease analysis can be seen in Appendix No.1 of this manual.

Project Information

Cedar Plaza, Rentable Area: 3,000 Sq. Ft Analysis Period: 10 Years

INVESTOR INFORMATION

Investor's Marginal Tax Rate: 35.00% Discount Rate: Before Tax 13.00% Short Term Rates Before Tax for calculating the Modified Internal Rate of Return (MIRR) Financing Rate: 8.00% Reinvestment Rate: 3.00%

INVESTMENT Land \$300,000 Building: \$550,000 Depreciation Method: Commercial Prop. St. Line

BUY (EXPENSES)

These are the operating costs associated with owning the building such as property taxes, insurance, maintenance etc.

Total Operating Costs: \$7.00 per Sq. Ft per Yr. paid monthly for 12 months then increasing at 3.00% compounding per year

LEASE (EXPENSES)

Cost of leasing instead of buying such as Base Rent, Additional Rent, Parking etc.

Base Rent

\$17.00 per Sq. Ft per Yr. paid monthly. Two terms of 5 years. Increase for the second term based on 3.00% compounding for five years

Additional Rent

\$6.00 per Sq. Ft per Yr. paid monthly for 12 months then increasing at 3.00% compounding per year for the remaining 9 years

Parking

12 spaces at \$30 per monthly for 12 months then increasing at 3.00% compounding per year for the remaining 9 years

FINANCING (BUY)

The financing to buy the property: First Mortgage \$700,000 Amortization: 20 years, Interest Rate 7.50%

SALE INFORMATION

Real Estate Commission: 5.00% of the Sale Price Selling Expenses: \$7,000 Sale Price based on the original investment increasing at 3.5% compounding per year

	Net Cash Flow. Buy v Lease (After Tax) Cedar Plaza Buy v Lease Analysis							November 05, 2012 Investor Pro Buy v Lease				
	BUY							LEASE		BUY v LEASE		
				Operating	g Sale		Net Leasing		Cash Flow			
		Financing		a Cash Flow		Proceeds	Cash Flow		Expenses		Difference	
Year	Investment	Borrow		Paid Back	(After Tax)	(After Tax)		(After Tax)		(After Tax)		(AfterTax)
Year1 Jan-Year1 Dec	\$ (850,000)	\$ 700	,000	-	\$ (58,403)	-	\$	(208,403)	\$	(47,658)	\$	(160,745)
Year 2 Jan-Year 2 Dec	-		-	-	(59,031)	-		(59,031)		(48,093)		(10,938)
Year 3 Jan-Year 3 Dec	-		-	-	(59,920)	-		(59,920)		(48,551)		(11,369)
Year 4 Jan-Year 4 Dec	-		-	-	(60,845)	-		(60,845)		(49,010)		(11,834)
Year 5 Jan-Year 5 Dec	-		-	-	(61,827)	-		(61,827)		(49,473)		(12,354)
Year 6 Jan-Year 6 Dec	-		-	-	(62,851)	-		(62,851)		(55,262)		(7,589)
Year / Jan-Year / Dec	-		-	-	(63,959)	-		(63,959)		(55,749)		(8,209)
Year 8 Jan-Year 8 Dec	-		-	-	(65,115)	-		(65,115)		(56,279)		(8,835)
Year 9 Jan-Year 9 Dec	-		-		(66,341)			(66,341)		(56,811)		(9,530)
Year 10 Jan-Year 10 Dec	-		-	(475,068)	(67,832)	1,054,789	_	511,889	_	(57,367)	_	569,256
						Total	\$	(196,402)	\$	(524,254)	\$	327,852
					Net Present Valu	e (NPV) at 8.45%	\$	(299,647)	\$	(339,146)	\$	39,499
BUY v LEASE Financial Returns (After Tax) Internal Rate of Return (IRR) 10.57%								Ash Flow				
Net Present Value (NP V) at 8.45% \$ 39,499 Modified Internal Rate of Return (MIRR) 9.85% Short Term Finanding Rate (After Tax) 5.200% Short Term Reinvestment Rate (After Tax) 1.950%												
Conclusion. If the Net Present Value (NP V) is positive consider buying. If the Net Present Value (NP V) is negative consider Leasing.					Present Value g instead of le	is positive asing						
Consider Buying if the Total Purchase Price is approximately \$ 889,499 or less.												

In the above example the Investor's Discount Rate or Desired Return (IRR) is 8.45% after tax

Buying compared to Leasing provides an Internal Rate of Return (IRR) of 10.57% after tax. In this example, buying is the better financial option because the Internal Rate of Return of 10.57% after tax is higher than the Desired Return (IRR) of 8.45% after tax..

The Net Present Value can also be used to choose whether to Buy or Lease using the following rules:

- 1. If the Net Present Value after tax is positive consider buying
- 2. If the Net Present Value after tax is negative consider selling

Applying the Net Present Value rules to the example above:

The Net Present Value at 8.45% after tax is +\$39,499 which indicates that buying is the best option from a financial perspective.

Buy versus Lease Graph. Purchase Price & the Desired Return

The graph allows you to determine the maximum purchase that can be paid in order to achieve the desired return (IRR) after tax from Buying compared to Leasing

As an example, if the Desired Return (IRR) after tax is 8.45% for Buying versus Leasing is then the maximum that should be paid for the property is approximately \$890,000.



If the purchase price is higher than \$890,000 we would be better off leasing.

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Buy versus Lease Crossover Graph

Shows the cutoff point between buying and leasing.

Up to a Desired Return (IRR) of 10.40% after tax buying should be considered instead of to leasing.

As an example, if the buyer can invest their money at 10.40% or more they should consider leasing. If not, they should consider buying.


More examples of the use of differential cash flow analysis

Whenever we are dealing with mutually exclusive investment such as "buy versus lease" we need to use differential cash flow analysis to choose the best option.

Leasing example using differential cash flow analysis

A landlord has 150,000 Sq. Ft to lease and has received the following proposals:

Tenant A to rent the 150,000 Sq. Ft Tenant B to rent 100,000 Sq. Ft Tenant C to rent 50,000

The mutually exclusive choices are:

1) Rent 150,000 to Tenant A Rent 100,000 Sq. Ft to Tenant B and 50,000 Sq. Ft to Tenant C

To decide on the best option;

Develop the Net Flow renting to Tenant A Develop the Net Cash Flow renting to Tenant B Develop the Net Cash Flow renting to Tenant B

Calculate Net Cash Flow Tenant A - Net Cash Flow Tenant B - Net Cash Flow Tenant C

If the Net Cash Flow is positive the best choice financially is renting to Tenant A

If the Net Cash Flow is negative the best choice financially is renting to Tenant B and C

Hold vs. Sell or Hold & Refinance & Sell Analysis

Hold versus sell analysis is another example of mutually exclusive investment analysis. The owner can either hold or sell the property but can't do both.

Hold versus Sell Analysis

Hold versus Sell is a very unique form of Investment analysis because the Investor already owns and has financed the building. The unique characteristics of Hold versus Sell Analysis are;

1. No initial investment

The initial investment was made when the building was purchased a number of years ago. The previous investment results in onward going depreciation claims and affects the after tax cash flows and the Hold v Sell decision

2. No initial Financing on the Analysis Start Date

Likely there is an existing mortgage(s) on the property which generates onward going principal and interest. In order to calculate the mortgage interest and principal payments we need to know:

The Outstanding Balance of the Mortgage on the Analysis Start Date Remaining Amortization Period or the monthly payment Interest Rate

3. Need to calculate the "Sell Now" sales proceeds

To carry out Hold versus Sell analysis we need to calculate the After Tax Sale Proceeds if the property was sold today.

Sell Now. Cash Flow from Sale Plaza 500 15,000 Sq. Ft Office Building	Hold ver	March 28, 2011 Investor Pro rsus Sell Office Monthly
Sell Now. Cash Flow from Sale (Before Tax)		
Sell Now. Sale Price	\$	4 ,200 ,000
Less: Real Estate Commissions		189,000
Selling & Legal Expenses		63,000
Net Sale Price		3,948,000
Less: Mortgage Repayment		2,623,720
Sell Now. Cash Flow from Sale (Before Tax)		1 ,324 ,280
Less: Income Taxes Paid on Sale (Capital Gain & Recaptured Depreciation)		500,000
Sell Now. Cash Flow from Sale (After Tax)		824,280

Hold versus Sell analysis should always be made after tax

Hold versus Sell analysis should always be carried out after tax to take into account the "Capital Gain" and "Recaptured Depreciation Taxes" paid on sale.

Before and after tax analysis can yield different conclusions.

For the example the before tax analysis recommends selling the building and the after tax analysis recommends keeping the property.

Hold versus Sell Analysis. The fundamental question:

If I take the sales proceeds after paying:

- 1. off the mortgage
- 2. real estate fees
- 3. closing costs
- 4. income taxes. Capital gain and recaptured depreciation

and invest the proceeds in an investment with similar risk, can I get a higher return after tax than keeping the building for say another 10 years? If not, then I should keep the property.

That's the essence of Hold versus Sell analysis and decision making

Hold versus Sell Calculations

Hold versus Sell analysis involves;

- 1. Developing the Cash Flow After Tax. Hold
- 2. Developing the Cash Flow After Tax. Sell
- 3. Calculating (Cash Flow Hold Cash Flow Sell) called the Differential Cash Flow

Hold versus Sell Case Study

PROJECT INFO

Property Name: Plaza 500Description: 15,000 Sq. Ft Office Building Total Rentable Area: 15,000 Sq. Ft Usable Area: 12,750 Sq. Ft Analysis Period: 10 Years

INVESTOR

Marginal Tax Rate: 35.00% Capital Gain Rate: 15.00% Recaptured Deprec. Rate: 25.00% Discount Rate Before Tax: 13.00% Short Term Rates before Tax for calculating the Modified Internal Rate of Return (MIRR) Financing Rate: 7.000% Reinvestment Rate: 2.00%

INVESTMENT

Investments made prior to the Analysis Start Date

In order to calculate the annual depreciation during the Analysis Period we need to enter previous investments in the building or improvements (excluding the land which is not depreciated), the depreciation

method and when the investment was made.

In this example, the property was acquired 7 years ago and the value assigned to the building (or improvements) was \$2,800,000. In order to continue the depreciation claims and reduce taxable income During the analysis period the following information is entered in the Investment Folder

Investments made prior to the Analysis Start Date Land. Original Value: \$700,000 when acquired 7 years ago. Description: Building Undepreciated Value Value of Asset when acquired 7 years ago: \$2,800,000 Depreciation Method: Commercial Prop. St Line Original Recovery Period: 39 years How Long Ago: 7 years 0 months

Note: The above information is for a property located in the USA. The information required for a Canadian property is much simpler. All you need is the "Undepreciated Balance" and the 'CCA Rate".

Please visit <u>www.investitpro.com</u> select Canada where there are several Hold versus Sell videos for Canadian investments.

Investments made after the Analysis Start Date

Investments made on or after the Analysis Start Date are entered in the Investment Folder. In this example,

the roof is being replaced in year 3 Jan for \$200,000 in is depreciated using "Commercial Prop. St Line"

Roof Replacement Amount: \$200,000 Year 3 Jan Depreciation Method: Commercial Prop. St Line Investment: New

SELL NOW information

The following information is used to calculate the sales proceeds before and after tax if the property was sold today.

Sale Price Today: \$4,200,000

Important Note: The sale price would include the current balance in the Replacement Reserve Account of \$270,000 which is included in the Sale Price of \$4,200,000 Repayment of existing Mortgages: \$2,623,720 (This is the outstanding balance of the mortgage) Selling Expenses Real Estate Commissions: 4.50% of Sale Price Selling & Legal Expenses: 1.50% of Sale Price Income Taxes paid on Sale: \$500,000 which includes Capital Gain and Recaptured Depreciation tax. This information would come from the owner's accountant.

REPLACEMENT RESERVES

Mortgage insurance agencies, conventional lenders and lenders following HUD guidelines often require that Replacement Reserves be established and maintained in an interest-bearing account to aid in funding extraordinary maintenance and repair and replacement of capital items such as the roof.

Opening Balance: \$270,000. (This is the amount in the Replacement Reserve Account on the Analysis Start Date)

Interest Rate: 2.50% Amounts added to the Replacement Reserve Account Year 2 Jan: \$75,000 Amount withdrawn from the Replacement Reserve Account Roof Replacement: Year 3 Jan: <\$200,000>

EXPENSES

Operating expenses paid for by the investor such as taxes, insurance, maintenance, property management Etc.

TIM's

\$8.00 per Sq. Ft per Yr. for the first 12 months then increasing at 3.00% per Yr. compounding

REVENUE

Base Rent

\$20.00 per Sq. Ft per Yr. for the first 12 months then increasing at 3.00% compounding per year

Recoverable Expenses

\$7.25 per Sq. Ft per Yr. paid monthly for the first 12 months then increasing at 3.00% compounding per year.

VACANCY

No vacancy

FINANCING

Existing First Mortgage Status: Pre-existing mortgage or financing Type: Standard Mortgage Original Mortgage: \$3,000,000, 7.50%, 25 year amortization taken out 7 years ago Current Outstanding Balance: Year 1 January: \$2,623,720 (This is the outstanding balance of the existing first mortgage on the Analysis Start Date) Time Period: 18 years Amortization: 18 years (The remaining Amortization Period) Interest Rate: 7.50%

SALE

Real Estate Commissions 5.00% of Sale Price Selling Expenses Selling Expenses: 2.00% of Sale Price Legal Fees: 1.00% of Sale Price Sale Price Base on a Cap Rate of 7.50% using the Income for the year following the Sale i.e., based on the Income & Expenses for Year 11.

Hold vs. Sell Net Cash Flow Report After Tax



Hold versus Sell Decision Rules

Using the Internal Rate of Return (IRR)

If I keep the building is the after tax return (IRR) higher than the after tax return from investing the after tax sales proceeds elsewhere?

In the above example the Internal Rate of Return from holding the building compared to selling is 14.509% after tax.

The question is "Can I find an investment with similar risk that provides better than a 14.509% IRR? after tax. If not, I should keep the building.

Using the Net Present Value Approach. Decision Rules

Consider 'Holding" if the "Net Present Value" at the Investor's after tax discount Rate is positive

Consider 'Selling" if the "Net Present Value" at the Investor's after tax discount Rate is negative

At the bottom of the Net Cash Flow report is the conclusion:

"Consider holding because the Net Present Value at 8.45% is positive"

Hold Versus Sell Crossover Graph

Shows the cut off point between holding and selling.

Up to a Desired Return (IRR) of 14.50% after tax they should hold the property.

As an example, if the owner can invest the after tax sales proceeds at 14.50% after tax or more they should consider selling. If not, they should consider keeping the property.



Hold & Refinance Analysis

If the analysis suggests the investor should hold and not sell the building and should consider refinancing the building to release cash.

The ability refinance will depend on the loan to value ratio and debt Service Ratio for the current mortgage. If the loan to value ratio is high there may not be room to increase the mortgage.

			Finan	icial Measures	Summary	November 08, 2012
				Plaza 500		Investor Pro
			15,0	00 Sq.Ft Office	e Building	Hold versus Sell Office Monthly
Financial Return	s.					
Internal Rate of F	Return (IR R)			Before Tax	12.18%	
	,			After Ta×	14.51%	
Net Present Valu	ie (NPV)			Before Tax	(\$ 88,678) at 13.0	JO%
				Atter Tax	\$ 597,473 at 8.45	0%
Modified Internal	Rate of Return	(MIRR)		Before Tax	10.95%	
:	Short Term Fina	ncing Rate (Befor	e Tax)		7.00%	
:	Short Term Rein	vestment R <i>a</i> te (B	efore Tax)		2.00%	
Modified Internal	Rate of Return	(MIRR)		After Tax	12.71%	
	Short Term Fina	ncing Rate (After	Taxì		4.55%	
:	Short Term Rein	vestment Rate (B	efore Tax)		1.30%	
Financial Operat	ing Ratios Total Loanto) Value Ratio			Overall	
	(At End of 1	′ear)using	Debt	Default Ratio	Operating	
-	Original Loan	Outstanding	Coverage	(Breakeven)	Expense Ratio	
Year	Amount	Loan Balance	Ratio	(Using PGI)	(Using PGI)	
Year 1	0%	64.35%	1.09	94.44%	29.36%	
Year 2	0%	60.60%	1.12	92.54%	29.36%	
Year 3	0%	56.86%	1.15	90.72%	29.37%	
Year 4	0%	53.11%	1.19	88,93%	29.36%	
rearo Verse	0%	48.40% As ec.~	1.22	<u>87.17%</u> 95.40%	29.34%	
Year7	0% 0%	41.99%	$ \rightarrow 1.20$	00.49% 83.85%	29.34%	· · · · · · · · · · · · · · · · · · ·
Year 8	0%	38.29%	1.34	82.27%	29.36%	Both the Debt Coverage Patie
Year 9	0%	34.58%	1.38	80.72%	29.35%	and the Default Datie events
Year 10	0%	30,86%	1,42	79,23%	29.36%	and the Default Ratio suggest
		•	•	•		there is no room to refinance
Loan	to Value P	atio low				until year 6 or 7
LUan	to value N					

Operating Cash Flow

				November 08, 2012 Investor Pro Hold versus Sell Office Monthly						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
CASH FLOW BEFORE TAX										
Potential Gross Income	408,750	421,050	433,650	446,550	460,050	473,850	488,100	502,800	517,800	533,400
Less: Vacancy & Credit Loss Allow.	-	-	-	-	-	-	-	-	-	-
Effective Gross Income	408,750	421,050	433,650	446,550	460,050	473,850	488,100	502,800	517,800	533,400
Operating Expenses	120,000	123,600	127,350	131,100	135,000	139,050	143,250	147,600	151,950	156,600
Net Operating Income	288,750	297,450	306,300	315,450	325,050	334,800	344,850	355,200	365,850	376,800
Less: Principal Payments	71,689	77,254	83,252	89,715	96,680	104,185	112,273	120,989	130,382	140,504
Interest payments	194,348	188,783	182,785	176,322	169,357	161,852	153,764	145,048	135,655	125,533
CASH FLOW BEFORE TAX	→22,713	31,413	40,263	49,413	59,013	68,763	78,813	89,163	99,813	110,763
Less Income Tax at 35.00%	10,302	16,019	17,805	23,230	29,065	35,142	41 ,529	48,242	55,298	63,846
CASH FLOW AFTER TAX	12,411	15,394	22,458	26,183	29,948	33,621	37,284	40,921	44,515	46,918
INCOME TAX CALCULATIONS	sh Flow be	efore tax is	s low prev	enting ref	Financing (until years	5 6 or 7			
Net Operating Income	288,750	297,450	306,300	315,450	325,050	334,800	344,850	355,200	365,850	376,800
Plus: Interest Repl. Reserve Acct.	6,828	8,897	4,064	4,167	4,273	4,381	4,491	4,605	4,722	4,841
Less Interest Payments	194,348	188,783	182,785	176,322	169,357	161,852	153,764	145,048	135,655	125,533
Depreciation & Amortization	71,795	71,795	76,708	76,923	76,923	76,923	76,923	76,923	76,923	73,692
Taxable Income	29,435	45,770	50,871	66,372	83,042	100,406	118,655	137,835	157,994	182,416
Income Tax at 35.00%	10.302	16.019	17,805	23.230	29.065	35.142	41.529	48,242	55.298	63.846

Cash Flow Graph

From years one to five the cash flow is low and probably can't support an increase in the mortgage. Around year 6 there may be potential to refinance and increase the first mortgage



Replacement Reserve Report

The Replacement Reserve report shows the:

- 1. Interest Rate earned on funds in the account
- 2. Opening Balance
- 3. How funds flow in and out of the account on a monthly basis including the interest earned for the month
- 4. The balance in the account which is returned to the investor at the end of the analysis period when the building is sold

Maintenance Reserve Accounts Opening Balance: \$ 270,000										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Replacement Reserve Additions to Mtce Reserves	-	75,000	U Ūs	ed to pay	for the ro	of replace	ment	-	-	-
Roof Replacem ent			V							
Additions to Mtce Reserves	-	-	(200,000)	-	-	-	-	-	-	-
Replacement Reserve Summary										
Balance. Beginning of Year	270,000	276,828	360,725	164,790	168,957	173,229	177,610	182,102	186,707	191,428
Additions to Mtce Reserves	-	75,000	(200,000)	-	-	-	-	-	-	-
Interest	6,828	8,897	4,064	4,167	4,273	4,381	4,491	4,605	4,722	4,841
Recovery										(196,269)
Balance. End of Year	276,828	360,725	164,790	168,957	173,229	177,610	182,102	186,707	191,428	
						B	alance in ack to the	the Resei investor	rve Accou	nt is paid

Replacement Reserve Planning

Over time the owners of a building can face substantial costs in maintaining the building such as replacing the roof, upgrading elevators, structural repairs, replacing the boiler and HVAC system etc. As an example, replacing a roof could cost over \$250,000 and upgrading a four stop hydraulic elevator could cost between \$100,000 and \$200,000.

The question is "Where does the money come from?"

Prudent owners will have put aside money or have funds available to cover expensive expenditures.

One approach is to fund the expenditures by re-mortgaging the property but this option may not always be available and may expose the investor to financial risks if they can't come up with the money for the major repairs.

Owners who do not have the funds available to cover future capital expenditures can run into serious financial difficulty and may be forced to sell the property.

Replacement Reserves

Replacement reserves are funds deposited into an interest bearing bank account on a regular basis to fund;

Future Capital Expenditures such as replacing the; Roof and membranes Boiler HVAC System Elevators Carpets Washer & Dryers Windows etc.

as well as major structural repairs

Lender Requirements. Replacement Reserves

Mortgage insurance agencies and lenders and organizations such as HUD in the USA and CMHC in Canada may specify the monthly or yearly contributions to a replacement reserve fund and restrict how funds in the account will be used and limit owners from withdrawing funds from the account.

Replacements Reserves may increase the initial investment if the lender or mortgage insurer restricts the withdrawal of funds from the replacement reserve fund.

Example

Purchase Price	\$2,000,000
Replacement Reserve Account	<u>300,000</u>
Acquisition cost	\$2,300,000

When the property is sold the balance remaining in the Replacement Reserve Account is recovered by the seller.

Future capital expenditures and repairs. Projections

As the building ages there are many capital expenditures that need to be made to maintain the building in good working order. These expenditures are non-recurring and are in addition to the regular operating expenses. Replacement schedules are often developed on behalf of the owner by architects, engineers, quantity surveyors or professionals specializing in conducting building assessments.

Following is an example of a cash flow projection for a 40 year old 100 unit rental apartment building.

The annual capital expenditures range from \$202 to \$571 per unit per year or from 2.72% to 8.52% of potential gross income.

Investors often set up a replacement reserve fund which they contribute to on a regular basis to ensure that funds are available to carry out the needed capital expenditures. As an example, in 2020 \$60,000 is needed to replace the asphalt parking area and the total capital expenditures in 2020 is \$80,500.

100 Unit Apartment Building											1
Starting May	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
REVENUE											
Apartment Rental Income	670.000	683,400	697.068	711.009	725.230	739,734	754.529	769.619	785.012	800.712	816,726
Potential Gross Income	670,000	683,400	697,068	711.009	725,230	739,734	754,529	769.619	785.012	800.712	816,726
Less: Vacancy & Credit Loss Allowance	33,500	34,170	34,853	35,550	36,262	36,987	37,726	38,481	39,251	40,036	40,836
Effective Gross Income	636,500	649,230	662,215	675,459	688,969	702,747	716,803	731,138	745,761	760,676	775,890
Operating Expenses											
Operating Expenses	325 000	331 500	338 130	344 893	351 790	358 826	366 003	373 323	380 789	388 405	396 173
	325,000	331 500	338 130	344 893	351 790	358 826	366,003	373 323	380 789	388 405	396 173
Net Operating Income	311,500	317,730	324.085	330,566	337,179	343,921	350,800	357.815	364,972	372.271	379,717
Less: Expense not included in NOI		,		,	,		,	,	,		
Replacement - Asphalt	-	-	-	-	-	-	-	-	60,000	-	-
AquaPex Plumbing	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-
Roof Membrane	31,000	20,000	-	-	-	-	-	-	-	-	-
HVAC Units	5,000	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200
Windows. Caulking			20,000								
Kitchen Cabinets	-	-	-	-	-	-	2,000	2,000	2,000	2,000	2,000
Signage	-	-	-	-	-	-	3,500	-	-	-	-
Fencing	-	-	-	7,000	-	-	-	-	-	-	-
Furniture Office	-	1,500	-	-	-	-	-	-	-	-	-
Refrigerators	3,000	5,100	4,500	4,500	1,800	1,300	1,300	1,300	900	900	900
Ranges	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,800
Dishwashers	-	-	250	-	250	-	250	-	250	-	250
Washing Machines	900	900	900	900	900	-	-	-	-	-	-
Dryers	-	850	850	850	850	850	-	-	-	-	-
Carpeting - Units	5,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000
Wall Coverings	6,000	4,000	4,000	4,000	4,000	4,000	3,000	4,500	4,500	6,000	6,000
	57,100	49,750	47,900	34,650	25,200	20,150	22,450	20,200	80,050	21,300	22,150
Net Income	254,400	267,980	296,185	295,916	311,979	323,771	328,350	337,615	284,922	350,971	357,567
Capital Expenditures per Unit per Year	571	498	479	347	252	202	225	202	801	213	222
% of Potential Gross Income	8.52%	7.28%	6.87%	4.87%	3.47%	2.72%	2.98%	2.62%	10.20%	2.66%	2.71%

The importance of professional engineering inspections

A building is a complex system which may have hidden, serious problems that are costly for a buyer to fix. Some examples are;

- Concrete rot
- Salt corrosion causing deterioration of reinforcing steel and the integrity of the floor slab
- Failure of post tensioning floor slab systems



• Failure of thin wall copper pipe

Conclusion

Before buying a building to have an inspection carried out by architects, professional engineers or consultants to determine:

- 1. The cost of major repairs and replacements that have to be made shortly after acquiring the property
- 2. Future capital expenditures, replacements and other nonrecurring costs
- 3. Carry out replacement reserve planning

Including replacement reserves in investment analysis

The Replacement Reserve Account is similar to a bank account.

Care has to be taken with the entries in the Replacement Reserve Account to ensure that the cash flows are correct which requires offsetting entries for capital expenditures or major repairs. This is best illustrated using the example.

- Annual Contribution to the Replacement Reserve Account The annual amount contributed to the reserve account is \$24,000 increasing at 3.00% compounding.
- 2. Replacement of the Roof for \$250,000 Year 3 Jan Paid from the Replacement Reserve Account
- 3. Replacement of Appliances. 10 sets at <\$1,500> per set for a total of <\$15,000> Year 4 Jan Paid from the Replacement Reserve Account



Important Question

Why is it necessary to set up the replacement of the roof for \$250,000 in both the Replacement Reserve Folder and as an investment?

The objective of the Replacement Reserve Account is to build up funds to pay for future replacement of capital items and major repairs. In this example there is an opening balance of \$300,000 in the Replacement Reserve Account with funds being added to the account every year. Funds added to the account have the effect of reducing the Internal Rate of Return to the investor.

The roof replacement in Year 3 for \$250,000 is paid from the Replacement Reserve Account and requires no additional input of cash from the Investor and does not affect the before tax cash flow in year 3 as long as there is an offsetting entry in the Investment folder.

From an investment perspective no funds are required from the Investor to pay for the roof repair. It is simply an internal transfer of funds from the Replacement Reserve Account to the Investment folder. This can be seen in the Net Cash Flow report where the <\$250,000> Year 3 in the Investment column is offset by the \$250,000 reduction in the Replacement Reserve Account.

Replacement of the Roof for \$250,000 in year 3.

Two offsetting entries are required when entering the roof replacement for \$250,000 in year 3 as shown in the following report.



Income & Expense Statement

The Income & Expense Statement shows the cost of replacing the appliances below the Net Operating Income which is paid from the Replacement Reserve Account.

Note that the replacement of the appliances is not included in the Net Operating Income because it is a non-recurring expense which should always be excluding from the Net Operating Expenses.

Please see the explanation below.

COMPANY			incom Parklane Examp	e & Expense Place 40 Ur ble with Repl	e Statennent hit Apartmen acement Re	t Yearly t Building serves		Rental Apar	rtment. Using	Octo g Replacem e	ber 18, 2010 Investor Pro ent Reserves
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
REVENUE											
On e bedroom Units	270,000	278,100	286,500	294,900	303,900	312,900	322,500	332,100	342,000	352,200	363,000
Two bedroom Units	198,000	205,920	214,200	222,660	231,660	240,840	250,560	260,640	270,900	281,880	293,040
Laundry	7,200	7,680	8,160	8,160	8,640	9,120	9,600	10,080	10,560	11,040	11,520
Parking	24,000	25,200	26,460	27,786	29,172	30,630	32,160	33,768	35,460	37,230	39,096
Potential Gross Income	499,200	516,900	535,320	553,506	573,372	593,490	614,820	636,588	658,920	682,350	706,656
Less: Vacancy & Credit Loss Allowance	14,256	14,751	15,266	15,772	16,326	16,886	17,480	18,085	18,704	19,354	20,027
Effective Gross Income	484,944	502,149	520,054	537,734	557,046	576,604	597,340	618,503	640,216	662,996	686,629
Operating Expenses											
Property Taxes	90,000	93,600	97,344	100,264	103,272	106,370	109,562	112,848	116,234	119,721	123,312
Insurance	45,000	47,250	49,613	52,093	54,698	57,433	60,304	63,320	66,485	69,810	73,300
Maintenance	16,000	16,640	17,320	18,000	18,720	19,480	20,240	21,040	21 ,880	22,760	23,680
Resident Caretaker	36,000	37,440	38,940	40,500	42,120	43,800	45,552	47,376	49,272	51 ,240	53,292
Property Manager	19,398	20,086	20,802	21,509	22,282	23,064	23,894	24,740	25,609	26,520	27,465
Other Expenses	14,976	15,507	16,060	16,605	17,201	17,805	18,445	19,098	19,768	20,471	21,200
	221,374	230,523	240,079	248,972	258,293	267,952	277,996	288,422	299,247	310,521	322,249
Net Operating Income	263,570	271,626	279,975	288,763	298,753	308,652	319,344	330,082	340,969	352,475	364,380
Less: Expense not included in NOI 🛛 🛶	_			-							
Replace Appliances	-	-		15,000	-	-	-	-	-	-	-
	-	-	-	15,000	-	-	-	-	-	-	-
Net Income	263,570	271,626	279,975	273,763	298,753	308,652	319,344	330,082	340,969	352,475	364,380
Interest on Mice Reserve Account	4,860	5,304	2,015	2,214	2,652	3,109	3,586	4,082	4,600	5,138	-
Income	268,430	276,930	281,991	275,977	301,405	311,762	322,930	334,164	345,569	357,613	364,380

Replacement Reserve Report

The Replacement Reserve Report shows the;

- Opening Balance in the Replacement Reserve Account
- Interest Rate
- Inflows or amounts deposited into the Replacement Reserve Account
- Outflows or amounts withdrawn from the Replacement Reserve Account
- Interest earned
- The amount recovered when the property is sold at the end of the analysis period. Called the "Recovery" on the Replacement Reserve report

Recoveries

At the end of the Analysis Period the balance in the Replacement Reserve Account is recovered and the account balance reduced to zero. This provides a positive cash flow to the investor. In this case the "Recovery" is \$347,693 and the ending balance in the Replacement Reserve Account is zero.

Important Notes:

- 1. Deposits into the account on the report are shown as a positive value
- 2. Amounts withdrawn are shown as a negative value

Compan	Y		Panki Ex	Replacemen ane Place 40 I ample with Re	t Reserve Ye Unit Apartmer placement Re	arty it Building serves	October 15, 2010 Investor Pro Rental Apartment. Using Replacement Reserves				
Maintenance Reserve Accounts Opening Balance: \$ 300,000											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Annual Contributions Additions to Mtce Reserves	24,000	24,720	25,462	26,225	27,012	27,823	28,657	29,517	30,402	31,315	
Roof Replacement Additions to Mtce Reserves	-	-	(250,000)	Roof Replac	cement -	-	-	-	-	-	
Replace Appliances Price per Unit Quantity	-	-	-	(1,500) 10	Appliance	Replacement		-	-	-	
Additions to Mtce Reserves	-	-	-	(15,000)	-	-	-	-	-	-	
Replacement Reserve Summary Balance. Beginning of Year Additions to Mtce Reserves Balance before Interest Interest Recovery	300,000 24,000 324,000 4,860	328,860 24,720 353,580 5,304	358,884 (224,538) 134,346 2,015	136,361 11,225 147,586 2,214	149,800 27,012 176,812 2,652	179,464 27,823 207,287 3,109	210,396 28,657 239,053 3,586	242,639 29,517 272,156 4,082	276,238 30,402 306,640 4,600	311,240 31,315 342,555 5,138 ▶ (347,693) Recovery	
Balance. End of Year	328,860	358,884	136,361	149,800	179,464	210,396	242,639	276,238	311,240	-	

Handling Non-recurring Revenue & Expenses

Non-recurring revenue and expenses, such as replacing some of the appliances, or a leasing fee need to be excluded from the Net Operating Income because they are one off non-recurring expenditures.

The Net Operating Income is used to calculate the sales value and sales proceeds using a Cap Rate.

Example: The impact of including non-recurring expenses in the Net Operating Income on the Sale Price in year 4

Replace Appliances \$15,000 in year 4

Drop in value = $\frac{$15,000}{7.00\%}$ = \$214,286

Including the \$15,000 for replacing the appliances in year 4 in the Net Operating Income causes a \$214,286 drop in value of the property.

Why?

Because the Capitalization process assumes the leasing expense is constant and goes on forever and that each year \$15,000 is being spent on the leasing fee which is not the case.

The \$15,000 leasing fee is paid once in year 1.

	Year 3	Year 4	Year 5	Year 6	Forever
Capitalization Assumption	-	\$15,000	\$15,000	\$15,000	\$15,000
Actual	-	\$15,000	-	-	-

Replacement Reserves. General Rules

Care has to be taken when using the Replacement Reserve Folder to ensure that the cash flows and the calculation of the Internal Rate of Return (IRR) and Net Present Value are correct.

- 1. Contributions or additions to the Replacement Reserve Account are entered as a positive value
- 2. Withdrawals from the Replacement Reserve Account are entered as a negative value
- 3. Capitalized investments such as replacing a roof, which are funded from the Replacement Reserve account, require offsetting entries and are entered in both the:
 - Replacement Reserve folder AND THE
 - Investment folder with the appropriate depreciation method selected
- 4. Major repairs or replacements that can be expensed for tax purposes are entered in both the
 - Replacement Reserve folder AND THE
 - Expenses folder. The "NOI" box unchecked so that the major repair, which is a nonrecurring expense, is not included in the Net Operating Income.
- 5. Withdrawals or payments to the Investor from the Replacement Reserve account can be made directly from the Replacement Reserve folder and don't involve offsetting entries.

Replacement Reserve. Interest calculations

The funds in the Replacement Reserve account earn interest based on the interest rate entered in the Replacement Reserve Folder. The interest calculations are shown in the Replacement Reserve Report.

Maintenance Reserve Accounts Opening Balance: \$ 300,000		Pankla Exa	Replacemen ne Place 40 l mple with Re	t Reserve Ye Jnit Apartmer placement Re	a rty nt Building eserves	October 19, 2010 Investor Pro Rental Apartment. Using Replacement Reserves				
Interest Rate: 1.500%	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Annual Contributions Additions to Mtce Reserves	24,000	24,720	25,462	26,225	27,012	27,823	28,657	29,517	30,402	31,315
RoofReplacement Additions to Mtce Reserves	-	-	(250,000)	-	-	-	-	-	-	-
Replace Appliances										
Price per Unit	-	-	-	(1,500)	-	-	-	-	-	-
Additions to Mtce Reserves	-	-	-	(15,000)	-	-	-	-	-	
Replacement Reserve Summary										
Balance. Beginning of Year	300,000	328,860	358,884	136,361	149,800	179,464	210,396	242,639	276,238	311,240
Additions to Mtce Reserves	24,000	24,720	(224,538)	11,225	27,012	27,823	28,657	29,517	30,402	31,315
Balance before Interest	324,000	353,580	134,346	147,586	176,812	207,287	239,053	272,156	306,640	342,555
Interest 🚽 🛛 🗕	4,860	5,304	2,015	2,214	2,652	3,109	3,586	4,082	4,600	5,138
Recovery Relation End of Veer	328.860	358 884	136361	1/0 800	179 /6/	210 396	242 630	276 238	311 240	(347,693)
Darance. End of 7 Cal	יסריציפאר 32ס,ססט 35ס,ססיא זיסס,351 149,800 179,454 210,395 242,539 The "Recovery" in								mulated inte	rest T

The interest accumulates in the Replacement Reserve Account and is not reflected in the cash flows until the property is sold.

The balance in the replacement reserve account when the property is sold includes accumulated interest.

At this time the balance in the replacement reserved account is returned to the investor. In the example the "Recovery" at the end of the analysis period is \$347,693.

For after tax analysis income tax is paid on the interest earned on the funds in the Replacement Reserve account, which is shown on the Operating Cash Flow Report on the next page.

For more information on Replacement Reserves please visit www.investitpro.com>Learning Center Pro where there is a free video and manual on the use of Replacement Reserves in real estate investment analysis.

Appendices

Information Sources and web sites

<u>www.investitpro.com</u> Visit the Online Learning Center for educational resources, articles etc. <u>www.investitacademy.com</u> Online education "Raising Your Commercial IQ" video series

The following organizations provide information on income and operating expenses.

Institute of Real Estate Management (IREM) <u>www.irem.org</u> Tel: (312) 329-6000 Income/Expense Analysis. Office Buildings Income/Expense Analysis. Shopping Centers Income/Expense Analysis. Conventional Apartments Income/Expense Analysis. Federally Assisted Apartments Income/Expense Analysis. Condominiums, Co-ops & PUDs

Building Owners and Managers Assoc. (BOMA) <u>www.boma.org</u> Tel: 1-800-426-6292 Office building expenses. Experience Exchange Report

International Council of Shopping Centers (ICSC) <u>www.icsc.org</u> A variety of reports on sales, operating expense and percentage by type of shopping center, location etc.

National Apartment Owners Association www.naahq.org

Appraisal Institute <u>www.appraisalinstitute.org</u> Excellent books on analyzing many kinds of properties including Hotel and Motels, Mobile Home & RV Parks, Apartment Buildings, Nursing Homes, Land Subdivisions, Golf Courses, Marinas, Convenience Stores & Retail Facilities, Shopping Centers, Religious Facilities, Rural Properties, Industrial Properties etc.

Commercial Listing services called CIE's (Commercial Information Exchanges)

www.loopnet.com USA & Canada

www.costar.com USA Excellent newsletter

www.iciworld.com Canada

www.costar.com www.REISReport.com http://www.thenewsfunnel.com/ Excellent free newsletters and blogs on commercial real estate

CCIM Institute. <u>www.CCIM.com</u> or CCIM.NET CCIM.STDB (Site to do business)

Excellent site for USA and Canadian construction costs: <u>www.rsmeans.com</u>

Snaglt Screen Capture program <u>www.techsmith.com</u>

Used to produce the screen captures used in this manual. Great productivity tool.