

**planEASe®**

**Lease vs. Buy**



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## **Introduction Page**

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# planEASe®

## Lease vs. Buy

The analysis and all reports and graphs were prepared using a combination of two of our products, [planEASe](#), and the [Reporting Extension](#).

### Assumption Report

- produces a report showing (in English) the assumptions used to generate the other reports. It was created with the idea of generating an assumptions report which can be presented to an investor or other concerned party to explain the assumptive basis of the other planEASe reports.

### Basic Analysis

- details the results of the analysis. Produces the return on savings by purchasing the property (the point of indifference). Both before and after tax returns are shown.

### Sensitivity Analysis

- As you perform an analysis, planEASe measures the worth of the investment in terms of rates of return and net present values. Sensitivity Analysis allows you to investigate how these measures vary with a change in one of the assumptions. **Any** measure may be chosen for the Sensitivity Analysis, and **any** assumption may be chosen as well. Sensitivity Analysis provides a one page table and graph which describes the relationship between the assumption value and the resulting measure.

This is a simple Lease vs. Buy case. For this analysis to work the one client is deciding to lease or buy one property only. If there are more choices, or the possibility of more choices, use the cost comparison process.

In this case the client is going to use this property for business. The choice is whether to lease or buy the space. Buying the property requires a down payment and loan payments. Leasing does not require a down payment, but the amount of the lease payments are greater than the loan service costs. Should the client use the down payment to buy the property or should the client use that down payment amount in some other investment?

It is a better decision to lease and invest the down payment in another investment when the other investment returns more money than would be saved by buying the property. If the other investment does not return more money than would be saved, then it is better to buy the property.

Sounds simple! Remember that the assumptions that lead to any conclusion can change. The advantage that planEASe delivers is not only ease of use, but the ability to vary the assumptions to make the most informed decision possible. In this particular sample, the lease calls for all expenses to be paid for by the tenant. This means the expenses are the same in either case. This means they are a wash, and need not be included in the analysis.

# Analysis Assumptions Report

## Lease/Buy Analysis

### Investment Assumptions

Price of Property	\$1,000,000.00
Closing Costs	2% of Property Price
Date of Acquisition	1 January 2010
Holding Period	10 Years
Inflation Rate	5% per Year
Sale Price Method	Continuous Growth at Inflation Rate
Selling Costs	6%

### Investor's Assumptions

General Vacancy & Credit Loss	Zero
Tax Rate - First Year	34%
Tax Rate - Following Years	34%
Capital Gain Rate	34%
Cost Recovery Recapture Rate	34% - Losses Taken Currently
Present Value Discount Rate Before Debt	12% per Year
Present Value Discount Rate Before Tax	12% per Year
Present Value Discount Rate After Tax	12% per Year

### Building Depreciation Assumptions

Depreciable Amount	75% of Property Price
Depreciable Life	39 Years
Depreciation Method	Straight Line
Depreciation Start Date	at Acquisition

### New First Loan Assumptions

Loan Amount	80% of Property Price
Loan Interest Rate	10.5% Annually
Original Loan Period	30 Years
Loan Origination Date	at Acquisition
Loan Type	Monthly Payments, Amortizing
Loan Points Charged	1.5 Points, Amortized over Loan Life

### Lease Payment Revenue Assumptions

Annual Revenue	\$93,000.00
Revenue Start Date	at Acquisition
Revenue Period	Until Projected Sale
Revenue Growth Method	Annual at the Inflation Rate

## **Before Tax Cash Flow Projection**

### **Lease/Buy Analysis**

Effective Income represents the lease savings the owner does not pay by purchasing the building.

Cash Flow Before Tax represents the down payment, actual savings after debt, and the proceeds from sale the owner receives by purchasing the building.

This creates a "T-bar", and allows an IRR calculation on the down payment. In this case the owner will receive savings worth 19.7% IRR Before Tax on a \$232,000 down payment.

If the owner cannot make 19.7% IRR Before Tax in another investment, then purchasing the property will give the greatest return on investment. Hence all things being equal, the purchase of the property would be the logical choice.

If the owner can make more than 19.7% IRR Before Tax in another investment, then purchasing the property would not give the greatest return on investment. Hence all things being equal, leasing the property would be the logical choice.

If the owner makes 19.7% IRR Before Tax in another investment, then 19.7% IRR Before Tax is the point of indifference, when buying or lease yields the same investment opportunities. Hence all things being equal, the leasing or purchase of the property would both be equally logical.

Time	Investment and Sale	Effective Income	Operating Expense	Cash Flow Before Debt	Debt Service	Cash Flow Before Tax
Buy	(1,020,000)	0	0	(1,020,000)	788,000	(232,000)
2010	0	93,000	0	93,000	(87,815)	5,185
2011	0	97,650	0	97,650	(87,815)	9,835
2012	0	102,533	0	102,533	(87,815)	14,717
2013	0	107,659	0	107,659	(87,815)	19,844
2014	0	113,042	0	113,042	(87,815)	25,227
2015	0	118,694	0	118,694	(87,815)	30,879
2016	0	124,629	0	124,629	(87,815)	36,814
2017	0	130,860	0	130,860	(87,815)	43,045
2018	0	137,403	0	137,403	(87,815)	49,588
2019	0	144,274	0	144,274	(87,815)	56,458
Sell	1,531,161	0	0	1,531,161	(732,978)	798,184
Total	511,161	1,169,744	0	1,680,905	(823,128)	857,777

Rate of Return Before Debt (IRR)	14.3%
Rate of Return Before Tax (IRR)	19.6%
Net Present Value Before Debt @12%	141,970
Net Present Value Before Tax @12%	168,590

## ***Taxable Income Projection***

### ***Lease/Buy Analysis***

Time	Taxable Revenue	Taxable Expense	Interest Expense	Depre- ciation	Ordinary Income
Buy	0	0	0	0	0
2010	93,000	0	(84,211)	(18,429)	(9,640)
2011	97,650	0	(83,770)	(19,231)	(5,350)
2012	102,533	0	(83,280)	(19,231)	22
2013	107,659	0	(82,736)	(19,231)	5,692
2014	113,042	0	(82,132)	(19,231)	11,679
2015	118,694	0	(81,462)	(19,231)	18,002
2016	124,629	0	(80,717)	(19,231)	24,681
2017	130,860	0	(79,891)	(19,231)	31,738
2018	137,403	0	(78,974)	(19,231)	39,199
2019	144,274	0	(77,955)	(18,429)	47,889
Sell	0	0	(8,000)	0	(8,000)
Total	1,169,744	0	(823,128)	(190,705)	155,911

## After Tax Cash Flow Projection

### Lease/Buy Analysis

The after tax point of indifference is 15.9% IRR After Tax.

If you make 10% IRR after tax on other investments, all things being equal what would be the logical choice here? Leasing or Purchasing?

Answer: Purchasing, because the other investment returns 10% after tax on the \$232,000 investment, and the purchase returns 15.9% in after tax savings.

Time	Cash Flow Before Tax	Ordinary Income	Capital Gains	Taxable Income	Taxes	Cash Flow After Tax
Buy	(232,000)	0	0	0	0	(232,000)
2010	5,185	(9,640)	0	(9,640)	3,278	8,463
2011	9,835	(5,350)	0	(5,350)	1,819	11,654
2012	14,717	22	0	22	(7)	14,710
2013	19,844	5,692	0	5,692	(1,935)	17,909
2014	25,227	11,679	0	11,679	(3,971)	21,256
2015	30,879	18,002	0	18,002	(6,121)	24,759
2016	36,814	24,681	0	24,681	(8,391)	28,422
2017	43,045	31,738	0	31,738	(10,791)	32,254
2018	49,588	39,199	0	39,199	(13,328)	36,261
2019	56,458	47,889	0	47,889	(16,282)	40,176
Sell	798,184	(8,000)	701,866	693,866	(235,915)	562,269
Total	857,777	155,911	701,866	857,777	(291,644)	566,133

Rate of Return Before Tax (IRR)	19.6%
Rate of Return After Tax (IRR)	15.9%
Net Present Value Before Tax @12%	168,590
Net Present Value After Tax @12%	71,027

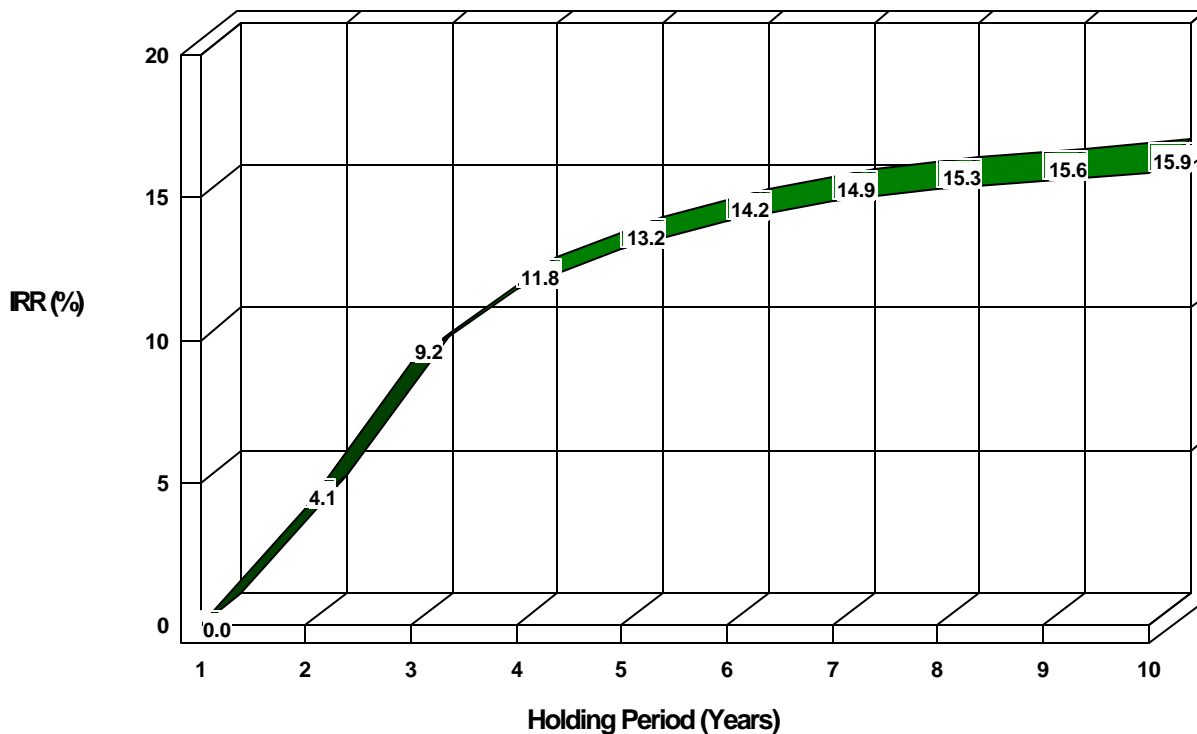
# Sensitivity Analysis

## Lease/Buy Analysis

How long should the property be held? As you can see from the chart, at the five year mark the 12% return the investor desired has already been acquired on the savings.

### Holding Period versus Rate of Return After Tax

Assumption	IRR
1 Year	0.0%
2 Years	4.1%
3 Years	9.2%
4 Years	11.8%
5 Years	13.2%
6 Years	14.2%
7 Years	14.9%
8 Years	15.3%
9 Years	15.6%
10 Years	15.9%



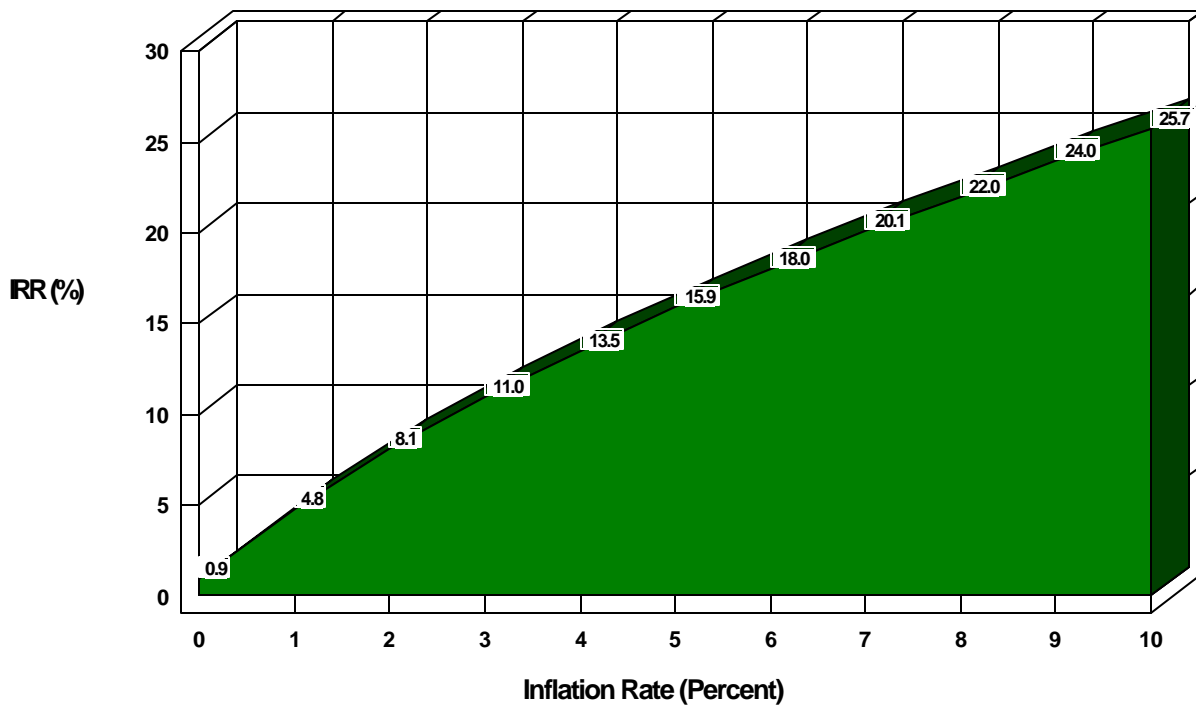
# Sensitivity Analysis

## Lease/Buy Analysis

How long should the property be held? As you can see from the chart, at the five year mark the 12% return the investor desired has already been acquired on the savings.

### Inflation Rate versus Rate of Return After Tax

Assumption	IRR
Zero	0.9%
1% per Year	4.8%
2% per Year	8.1%
3% per Year	11.0%
4% per Year	13.5%
5% per Year	15.9%
6% per Year	18.0%
7% per Year	20.1%
8% per Year	22.0%
9% per Year	24.0%
10% per Year	25.7%





# Sensitivity Analysis

## Lease/Buy Analysis

How does the loan amount affect the decision?

### New First Loan Amount versus Rate of Return After Tax

Assumption	IRR
70% of Property Price	14.0%
72% of Property Price	14.3%
74% of Property Price	14.7%
76% of Property Price	15.0%
78% of Property Price	15.4%
80% of Property Price	15.9%
82% of Property Price	16.4%
84% of Property Price	17.0%
86% of Property Price	17.6%
88% of Property Price	18.4%
90% of Property Price	19.3%

