

Declining IRR / Year 1 Optimal Holding Period

A common inquiry we receive from our clients of TheAnalyst PRO is why the Investment Analysis tool calculates the IRR for a one year holding period (sell at end of year 1) at a higher rate and declines based on owning the property for a longer term. A great example of this is graphed on the Optimal Holding Period by Annual Equity Yield (IRR) section of the Investment Analysis Report:

Optimal Holding Period Analysis

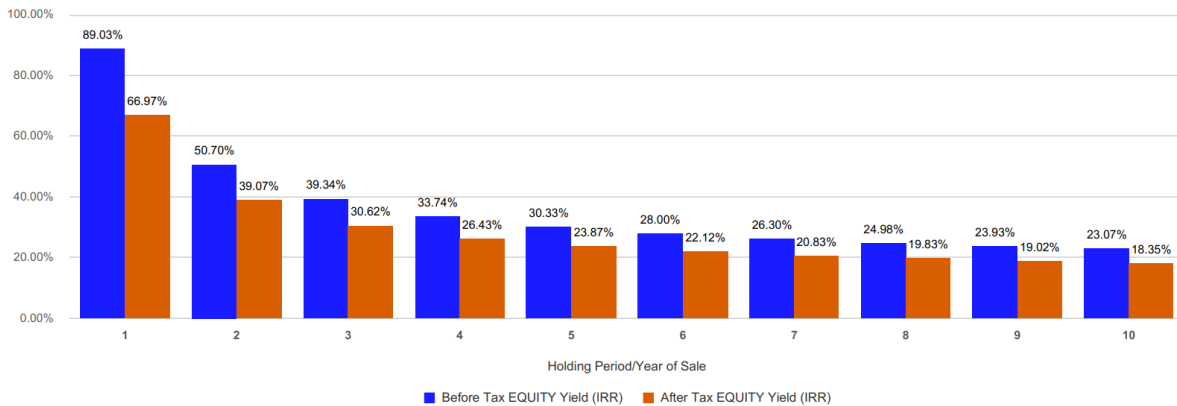
Gabriels Court Apts
Fiscal Year Beginning March 2020



Before Tax Optimal Holding Period	1 Year
Before Tax Optimal Hold Annual Yield	89.03%

After Tax Optimal Holding Period	1 Year
After Tax Optimal Hold Annual Yield	66.97%

Optimal Holding Period by Annual Equity Yield (IRR)



Year of Sale	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Before Tax EQUITY Yield (IRR)	89.03%	50.70%	39.34%	33.74%	30.33%	28.00%	26.30%	24.98%	23.93%	23.07%
After Tax EQUITY Yield (IRR)	66.97%	39.07%	30.62%	26.43%	23.87%	22.12%	20.83%	19.83%	19.02%	18.35%

This Optimal Holding Period by Annual Equity Yield calculation will calculate the IRR if the property is sold Year 1, Year 2, etc.

In this example, the 89.03% Before Tax IRR year 1 assumes the property is purchased at the beginning of the year and sold at the end of the same year. The 50.70% Before Tax IRR in year 2, assumes you own the property 2 years and sell the end of year 2, in which case the IRR is 50.70% for both years 1 and year 2.

The 'inverted' Optimal Holding Period graph is displaying the yield decreases the longer you own the property. This is typically due to the Purchase/Acquisition Price versus Sales Price in the analysis. For the sample the Acquisition CAP Rate is 7.93%, which represents a \$6,500,000 purchase price.

Measures of Investment Performance Analysis

Gabriels Court Apts
Fiscal Year Beginning March 2020



Acquisition CAP Rate	7.93%
Cost of Sale upon Disposition	5.00%

Combined LTV at Acquisition	80.00%
Combined DSCR at Acquisition	1.41

The CAP Rate at Sale was entered at 6.50%, significantly less than the Acquisition CAP Rate.

Sales Proceeds Analysis

Gabriels Court Apts
Fiscal Year Beginning March 2020



Improvement Allocation (70%)	\$4,641,000
Depreciation Life	27.5 Years

Interest Deduction	Yes
Loan Cost Deduction	Yes
U.S. Mid-Month Convention	Yes

For the Year Ending	Year 1 Feb-2021	Year 2 Feb-2022	Year 3 Feb-2023	Year 4 Feb-2024	Year 5 Feb-2025	Year 6 Feb-2026	Year 7 Feb-2027	Year 8 Feb-2028	Year 9 Feb-2029	Year 10 Feb-2030
CAP Rate at Sale (subsequent year NOI)	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Sale Price	\$8,167,000	\$8,411,000	\$8,663,000	\$8,923,000	\$9,190,000	\$9,465,000	\$9,749,000	\$10,041,000	\$10,342,000	\$10,652,000

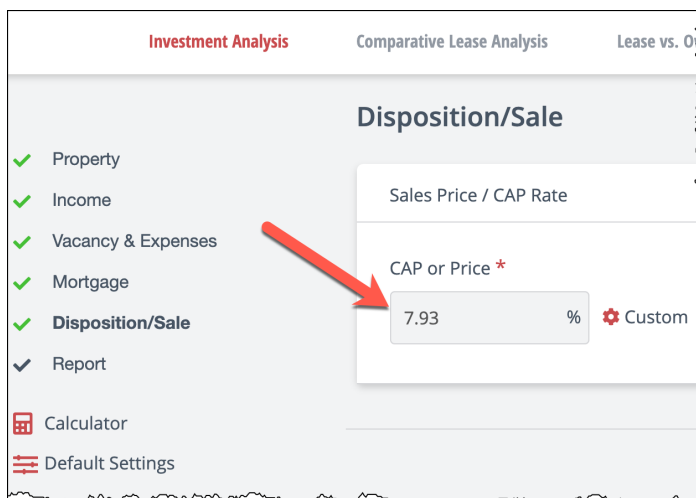
The result of the 6.5% CAP Rate at Sale (disposition) is a large increase in the projected Sales Price versus initial Purchase Price. In our example the Sales Price in Year 1 is \$8,167,000. This represents a whopping 25.65% increase from the original purchase price of \$6,500,000 in the first year. For this reason, the Investment Analysis report will calculate a higher IRR during the first years of ownership. In our example, the NOI increases slightly each year, and the future predicted Sales Price also increases each year based on the 6.5% CAP. However, the IRR decreases each year. This is due to the large profit from the sales proceeds being diluted for each year of ownership.

You may ask, if the property appreciated 25.65% in one year, why is the IRR nearly double this increase at 50.70%? This is due to using leverage. Please refer to the Power of Positive Leverage tutorial in the Training Center for more details.

In the Measures of Investment Performance section of the 5 and 10-year After Tax Investment Analysis Report, you will see the Unleveraged Property Yield if the property is sold at the end of Year 1 at 24.57% before tax.

Year Property Sold	1
Before Tax Unleveraged Property Yield (IRR)	24.57%
After Tax Unleveraged Property Yield (IRR)	17.73%

By simply changing the CAP Rate at Sale input to equal the Acquisition CAP Rate (7.93%), there will not be a large increase in sales proceeds.



Sales Proceeds Analysis

Gabriels Court Apts
Fiscal Year Beginning March 2020



Improvement Allocation (70%)	\$4,641,000
Depreciation Life	27.5 Years

Interest Deduction	Yes
Loan Cost Deduction	Yes
U.S. Mid-Month Convention	Yes

For the Year Ending	Year 1 Feb-2021	Year 2 Feb-2022	Year 3 Feb-2023	Year 4 Feb-2024	Year 5 Feb-2025	Year 6 Feb-2026	Year 7 Feb-2027	Year 8 Feb-2028	Year 9 Feb-2029	Year 10 Feb-2030
CAP Rate at Sale (subsequent year NOI)	7.93%	7.93%	7.93%	7.93%	7.93%	7.93%	7.93%	7.93%	7.93%	7.93%
Sale Price	\$6,694,000	\$6,895,000	\$7,101,000	\$7,314,000	\$7,533,000	\$7,759,000	\$7,991,000	\$8,230,000	\$8,477,000	\$8,731,000

The projected Sales Price in Year 1 is \$6,694,000. This represents a 2.98% increase from the original purchase price of \$6,500,000 which is due to the increase in NOI from Year 1 to Year 2 (Year 2 NOI is used to calculate sales price at end of Year 1).

Here, you will see the Equity Yield (IRR) if the property is sold at the end of Year 1 is 0.00% and the Optimal Holding Period by Annual Equity Yield (IRR) Before Tax is 6 Years and After Tax is 8 Years.

Optimal Holding Period Analysis

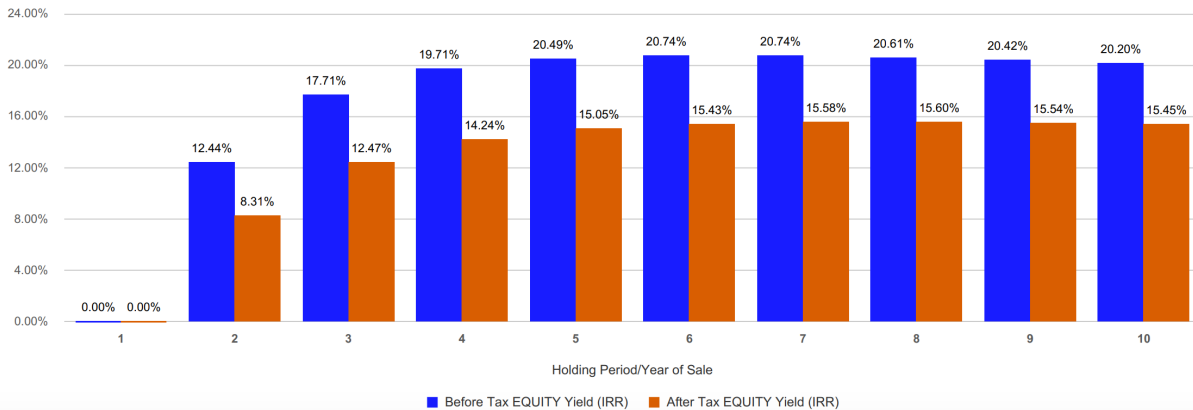
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Before Tax Optimal Holding Period	6 Years
Before Tax Optimal Hold Annual Yield	20.74%

After Tax Optimal Holding Period	8 Years
After Tax Optimal Hold Annual Yield	15.6%

Optimal Holding Period by Annual Equity Yield (IRR)



While we have positive operational cash flow in year 1, if the property is sold at the end of year 1 we will incur both the acquisition cost and disposition cost, 2% and 5% respectively for our example. The operational cash flow and small 2.98% appreciation in property value is not enough to offset the acquisition and disposition costs resulting in no equity return if the property is sold at the end of year 1.