

# Impact of Leverage on Investment Performance

## I. Introduction

We are working with an Individual investor who has \$6,000,000 to invest in real estate. The investor has looked at several properties and has narrowed it down to a couple of possibilities. The investor particularly likes Crossroads Center, one of our listings which is a neighborhood shopping center that is available for \$5,500,000. The investor is fairly unsophisticated in real estate investing. Most of the investor's investment experience is in stocks and bonds and has done very well in this investment arena over the last 20 years.

Our investor has always heard that when buying real estate it's better to borrow as much as you can to acquire the real estate. The investor is not totally convinced that this is the correct acquisition strategy. The investor has asked us to analyze the possible acquisition of the neighborhood shopping center and recommend a strategy that would maximize the return and/or the growth of capital should the investor acquire this property.

## II. Investor and Property assumptions for the Analysis

Use the following assumptions to perform a five year before and after tax projection on the neighborhood shopping center property for the investor:

### Property information

- Purchase price-\$5,500,000
- Acquisition costs-\$50,000
- Land size-5 acres
- Building size-44,200 square feet
- Land/improvement ratio-20/80
- Useful life-39 years
- Projected NOI's
  - Year 1-\$544,378
  - Year 2-\$577,553
  - Year 3-\$590,618
  - Year 4-\$602,131
  - Year 5-\$617,222
  - Year 6-\$627,118
- Disposition cap rate-9.5% (round the projected sale price to the nearest \$1,000.
- Disposition cost of sale-5% of sale price

### **Taxable Investor information**

- Tax rate for ordinary income-40%
- Tax rate for capital gains-15%
- Tax rate for cost recovery recapture-25%
- Total capital to invest-\$6,000,000
- After tax reinvestment rate-4.8%
- Anticipated holding period-5 years

### **Financing information**

- Loan availability-75% of acquisition price
- Interest rate-8.75%
- Amortization period-20 years
- Loan term-10 years
- Payments per year-12
- Loan costs-2% of loan amount

**Answer the following questions based on your interpretation of the data from the excel workbook solution:**

1. What is the before tax yield without financing?
2. What is the after tax yield without financing?
3. What is the before tax yield with financing?
4. What is the after tax yield with financing?
5. What is the before tax cost of the debt financing if used?
6. What is the after tax cost of the debt financing if used?
7. What is the effective tax rate if acquired without financing?
8. What is the effective tax rate if acquired with financing?
9. What is the after tax growth rate of capital if acquired without financing?
10. What is the after tax growth rate of capital if acquired with financing?
11. What reinvestment rate would equalize the capital accumulation from both alternatives?

# Answer Sheet

Answer the following questions based on your interpretation of the data from the excel workbook solution:

1. What is the before tax yield without financing?  
12.50%
2. What is the after tax yield without financing?  
8.55%
3. What is the before tax yield with financing?  
19.52%
4. What is the after tax yield with financing?  
15.13%
5. What is the before tax cost of the debt financing if used?  
9.28%
6. What is the after tax cost of the debt financing if used?  
5.57%
7. What is the effective tax rate if acquired without financing?  
32%
8. What is the effective tax rate if acquired with financing?  
22%
9. What is the after tax growth rate of capital if acquired without financing?  
7.89%
10. What is the after tax growth rate of capital if acquired with financing?  
7.50%
11. What reinvestment rate would equalize the capital accumulation from both alternatives?  
If the reinvestment rate and the cost of funds were the same, the capital accumulation would be the same.