ICP: Essentials of Real Estate Investing[1]
Solution Set[2]

Real Estate Investment Group 1 (REIG1), a small investment group comprised of individual investors, has recently raised funds for the purpose of making multi-family real estate investments totaling $20 million. The fund is prepared to purchase distressed or poorly maintained properties in desirable areas in which they can invest in capital and tenant improvements, increase the rents, and sell after a 5-year holding period. The fund has identified an attractive 20-acre, 156-unit property in need of substantial improvement, currently listed at $45,000,000. Fund management believes the property should be valued at a 5.50% CapRate, has placed a successful offer on the property with a $200,000 earnest money deposit that will "go hard" after 45 days, during which time the fund will complete its due diligence.

Market sentiment during the COVID pandemic caused investors and developers to leave the multifamily investment space until a clearer outlook was determined about how consumers will think of apartment style living in the future. The close-quarters environments and shared spaces that multifamily apartment living provides raised concerns for many individuals who became more conscientious and thoughtful about their health and wellbeing. Vacancy rates increased in multifamily apartments across the country throughout 2020 & 2021 as individuals left apartment leases to move back in with family, move to single-family rental options, took steps towards homeownership, etc.

In recent months market sentiment has shifted and real estate markets are recovering. Foot traffic in cities has increased, travel for work and recreation has increased, and businesses in central urban areas are seeing activity more common with pre-pandemic levels. With this "return to normal," we are also seeing individuals becoming more comfortable returning to apartment style living. Leading the charge in the multifamily space are Class A & Class B properties[3] that provide new and up-to-date apartment living.

REIG1 has observed this trend in the multifamily real estate market and sees an opportunity to capitalize on a value-add multifamily real estate investment. As a real estate investment consultant, REIG1 has come to you to identify a viable acquisition target and help understand investment risks, returns, and value-add opportunities. To do so, you need to come up with a financial projection for the acquisition of an operational apartment building.

Additional Info

- Assume REIG1 has a strong relationship with a lender who will finance the acquisition at 75% LTV[4] with a verified appraisal on a 30-year fully amortized mortgage loan at 7.5% interest. Loan origination fees can be assumed to be 1% of the loan amount.
- Current Cap rates for multifamily apartment projects range between 3.5-5.5% today.
- Industry standard operating margins range from 55-65%.
- Assume acquisition will occur 12/31/2022 with the first payment due at the end of January 2023.

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[1] This problem and solution set is intended to present an abbreviated discussion of the included finance concepts and is not intended to be a full or complete representation of them or the underlying foundations from which they are built.
[2] This problem and solution set was developed by Weston Lackey (wklbyustudy14@gmail.com) and Richard Haskell, PhD (rhaskell@westminstercollege.edu), Gore School of Business, Westminster College, Salt Lake City, Utah (updated 2023).
[3] The terms Class A and Class B refer to high profile, premium properties (A) in highly desirable locations versus lower quality, possibly older properties (B) in less desirable locations
[4] LTV is Loan-to-Value and refers to the amount of the loan as a percentage of the value or price of the property

- REIG1 expects to hold the property for five years, after which plans to sell it at a 4.5% cap rate.
- Closing costs and Selling Commissions are expected to run 1.00% and 6.00%, respectively, at the time of sale (12/31/2027).

Property Attributes

The property is on 20 acres and the building has an FAR[5] (Floor Area Ratio) of 0.5 and has a mix of covered and uncovered parking stalls available for an additional rent amount. It is a Class B property capturing the lower end of market rents for this submarket. The property is 12 years old, and rents have been relatively stable for most of the last 10 years (the pandemic notwithstanding). No remodeling or CapEx outside of general maintenance have been performed since the initial construction of the building. While functional, some of the finishes in the units have become optically outdated. The property has an onsite common area laundry rooms tenants can use, but no "in unit" laundry.

REIG1 is prepared to acquire the property at 5.5% cap rate and invest heavily in the property in an effort to justify increases in unit rents and the property's valuation through a decreased cap rate of 4.5%. Upgrades to the property, club house and pool will begin immediately with an investment of $1,000,000 spread out over the first year of ownership and will be followed up by additional investments beginning in January 2024 of an additional $500,000 to be spread out over the year in equal installments. At the same time, an average of $15,000 in tenant improvements in each unit at a rate of 13 units per month will take place immediately after acquisition. The plan is to renovate each unit as it becomes available with plans to complete all units being completed by the end of 2023. As each unit is completed management expects to increase per unit rental rates by 10%.

Assumptions Table

		Units	Base Amounts	Rennovated Unit rent increase	Annual % Δ
Rental Revenues					
	One Bedroom (monthly)	72	1,200	10%	5.00%
	Two Bedroom (monthly)	84	1,850	10%	5.00%
	Parking (uncovered)	100	50	10%	5.00%
	Parking (covered)	50	125	10%	5.00%
Potential Rental Income					
	Laundry (monthly receipts)		2,400		8.00%
	Vacancy Factor		5.00%		
Effective Gross Operating Income					
Operating Expenses					
	Property Taxes (annual)		75,000		4.00%
	Insurance (annual)		28,000		3.00%
	Management Fees		8.00%		
	Maint & Repair		8.00%		
	Custodial Expense		2.50%		
	Utilities		1.00%		
	Landscape/Snow Removal		5.00%		
	Marketing		1.00%		

[5] Floor area ratio (FAR) is the measurement of a building's floor area in relation to the size of the lot/parcel that the building is located on. FAR is expressed as a decimal number, and is derived by dividing the total area of the building by the total area of the parcel (building area ÷ lot area)

Problems

1) What are the base year (2022) PGR[6] and EGR[5] of the property assuming the rental rates and vacancy factor stated above?

	Base Year Amounts
Rental Revenues	
One Bedroom (monthly)	1,036,800
Two Bedroom (monthly)	1,864,800
Parking (uncovered)	60,000
Parking (covered)	75,000
Potential Rental Income	3,036,600
Laundry (monthly receipts)	28,800
Vacancy Factor	(146,520)
Effective Gross Operating Income	2,918,880

2) What is the total property annual operating expenses for the base year (2022) given the assumptions above?

Operating Expenses	
Property Taxes (annual)	75,000
Insurance (annual)	28,000
Management Fees	233,510
Maint & Repair	233,510
Custodial Expense	72,972
Utilities	29,189
Landscape/Snow Removal	145,944
Marketing	29,189
Total Operating Expenses	847,314

3) What is the NOI of the property?

Potential Rental Income	3,036,600
Effective Gross Operating Income	2,918,880
Net Operating Income	2,071,566

4) What are some potential differences between the potential price of a property given a 3.5% , 4.5% and 5.5% cap rate? *This should include a calculation and explanation as to why there may be differences and what the different cap rates might represent*

CapRates	3.50%	4.50%	5.50%
Values	59,187,589	46,034,791	37,664,829

[6] PGR (potential gross revenue) and EGR (effective gross revenue) are sometimes referred to as PGI and EGI using the term "income" instead of "revenue"

The more appealing a property is to investors, the more they're prepared to pay for it. As such, the lower capitalization rate of return (Cap Rate) investors will expect and/or pay. REIG1 is prepared to pay a rate of 5.5%, invest millions into the property's feature and in tenant improvements to drive higher rent rates, and then expects to sell based on a CapRate of 4.50%. They expect to realize an increase in value by both the increased rents, as reflected in a higher NOI, and a lower CapRate at time of exit.

The Cap Rate is thought of as a multiple, but is different than the type of Enterprise Multiple we see throughout much of finance. In fact, it is the inverse of an Enterprise Multiple wherein a CapRate of 5.50% may possibly be compared to an 18.18 NOI Multiple: $\frac{1}{Cap\ Rate} = Multiple;\ \frac{1}{0.055} = 18.18$ and the higher the multiple, the more an asset may be worth. We can see a range of CapRates as Multiples by extending the CapRate table presented above as follows:

CapRates	3.50%	4.50%	5.50%
Values	59,187,589	46,034,791	37,664,829
Enterprize Multiples	28.57	22.22	18.18

If a firm might be valued based on a 18.18x multiple of its EBITDA (recall that NOI is very similar to EBITDA), then a firm with EBITDA of $2,071,566 may be valued at 18.18 x 2,071,566 = 37,664,829. This is the same as dividing the firm's EBITDA by .055 or 5.5%: 2,071,566/.055 = 37,664,829.

So what does a Cap Rate represent? It is a multiplier and like all good multipliers it tells us a lot about the expected growth rate of the subject cash flow.

5) The broker lists the property at $45.0 million. What cap rate is being used?

Let's use the Real Estate valuation model in which we use the Cap Rate and solve for an Inferred Cap Rate. If we know the Price (value) and NOI, which we do, we can solve for Inferred Cap Rate.

$$\frac{NOI}{Price} = \frac{2{,}071{,}566}{45{,}000{,}000} = 0.460\ or\ 4.60\% = \ Inferred\ Cap\ Rate \qquad -$$

6) You think the broker is nearly 900 basis points[7] (0.9%) low with respect to the cap rate used in the asking price, but fundamentally you like everything else out about the deal, the property, and due diligence checks out. If you can get a deal done at a cap rate 900 basis points higher than the broker is asking, you advise REIG1 to make the offer. What would their offer be?

If we add 900 basis points (0.9%) to the Inferred Cap Rate we end up with a Cap Rate of 4.60% + 0.90% = 5.50%. With an NOI of $2,071,566 we can estimate REIG1's offer to be the offer REIG and inform us of the price the fund is likely to offer: $\frac{2{,}071{,}566}{.0550} = 37{,}664{,}829$

7) How much equity would they need to fund the acquisition?

[7] "Basis point" is a term often used when discussing investment costs and returns and is equal to 1/1000th of a percent. 500 basis points is 500/1000th of a percent or 0.5%

With a loan to value of 75%, the fund would need to come up with $9,416,207 to purchase the property and a loan amount of $28,248,622.

8) Prepare a loan amortization schedule based on the details of the loan the bank has authorized and the transaction amount indicated by your answers above.

   See the **Loan Amortization Schedule** in this linked spreadsheet.

9) If the fund is successful in its offer and the property and transaction clear the due diligence hurdles, does the fund have enough cash available to purchase the property? Is this a property REIG1 can afford to pay for in cash? Could they afford the acquisition if they used debt financing up to 75% LTV? *You can assume an average cap rate for the current market climate. Do not spend time on deals you cannot afford*

   At a 5.5% Cap Rate, the rate REIG1 is prepared to pay, the property's value can be estimated at

$$\frac{NOI}{Cap\ Rate} = \frac{2{,}071{,}566}{.055} = 37{,}664{,}836$$

   Give a 75% loan to value (price) ratio the loan amount would be 37,644,836 x .75 = 24,248,622 and the resulting down payment is 37,664,836 – 24,248,622 = 9,416,207

   Given REIG's $20,000,000 cash position, the fund has sufficient resources to purchase the property outright at its purchased price and without the use of leverage. The fund would be required to employ leverage to make this investment, but also to assure the fund's investors that they're purchasing more than one property with their $20,000,000 investment. The down payment alone is less than the $20,00,000 the fund has raised, but the Levered Peak Investment calculates at $11,946,330 indicating the fund needs access to at least that amount to cash flow the investment.

The Full analysis from which these values have been derived can be accessed through this linked spreadsheet. Please report any errors or typos to Richard Haskell, PhD immediately by emailing rhaskell@westminstercollege.edu