



What is a TIC Worth?

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Tenants-in-common interests are passive real estate investments which are sold based on two claimed benefits: stable “cash on cash” returns and deferral of capital gains tax through 1031 exchanges. The “cash on cash” returns are found in financial projections in TIC offering documents. Using a stylized TIC cash flow projection based on our review of these materials, we show that TICs use aggressive assumptions to inflate the apparent returns to investors.

Projected cash flows must be discounted to determine whether a TIC investment is reasonably priced or not. A TIC’s projected cash flows should be subject to sensitivity analysis to determine the risk of unrealistic projections. This traditional risk-return analysis, as part of a reasonable basis suitability analysis, would have determined that TICs had expected returns which were insufficient to compensate for the risk of their leveraged investments in undiversified real estate and that the claimed tax deferral benefits were small compared to the mispricing in TIC offerings.

I. Introduction

Tenants-in-common agreements (TICs) are private placement real estate investments that can be sold to investors for the purpose of a 1031 exchange.² 1031 exchanges allow investors to defer taxes on a realized gain from the sale of a property if it is exchanged for a like-kind property within a short time period. TICs make it easier to match the value of a property sold with a replacement property by splitting up large properties into smaller units which could be purchased individually or in combination. TIC issuance increased dramatically after 2002, when the IRS adopted Rev. Proc. 2002-22 “clarifying when acquisition of a tenant-in-common interest in real estate qualifies as replacement real estate under Section 1031.”³ The total amount of equity invested in TICs increased from \$167 million in 2001 to \$3.7 billion in 2006.⁴

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² See Internal Revenue Code, Title 26, Section 1031.

³ (Whitman, 2007)

⁴ (Flamm, 2007)

TICs' fees and commissions are much larger than any possible tax deferral benefit from a 1031 exchange. TICs are not diversified; unlike traded real estate investment trusts (REITs) or real estate mutual funds which hold large portfolios of properties or related securities, TICs hold individual, or a few closely related, properties. TICs are almost completely illiquid. No public secondary market exists for TIC interests, and no issuer or other entity exists to redeem interests.⁵

FINRA March 2005 NTM 05-18 on TICs states

if the offering document contains projections, members should understand the basis for those projections, and the degree of likelihood that they will occur. For example, members should determine whether any projected yields can reasonably be supported by the property operations.⁶

TICs' projected "cash on cash" returns are not really investment returns and can be easily manipulated by sponsors. The best way to detect such manipulation and determine whether a TIC investment is fairly priced is to calculate the net present value of the TIC's projected cash flows and to determine how sensitive the TIC's net present value is to changes in a few critical assumptions. We present a TIC financial model which captures the fundamental economics of a TIC and allows for the systematic analysis of TIC financial projections.⁷

II. A TIC's Projected Cash Flows Can be Valued

a. Base Case Projections

Table 1 presents our stylized TIC cash flow model. The top of the table lists assumptions. The middle section, ending with the "cash on cash" returns, corresponds to the financial projections found in TIC offering documents. In our example, the TIC sponsor purchases property for \$51.4 million and charges \$6.9 million in upfront fees and reserves for a "fully loaded" purchase price of \$58.2 million. \$20.5 million is raised through the sale of TIC interests to investors and \$37.7 million is obtained through a mortgage. The property has \$3.4 million in base rent in the first year, increasing by 5% every year.⁸ The vacancy rate is 5%. Expenses are 8% of base rental income, and the

⁵Discussions of the legal structure and implications of TIC agreements can be found in (Pederson, 2005), (Berkeley, 2006), (Whitman, 2007), and (Borden B. T., 2009).

⁶ (FINRA, 2005), page 5.

⁷ A version of our model is available in Excel format for free at www.slcg.com/free_tools.php.

⁸ This is a simplifying assumption. Annual market rent increases are not typically reflected immediately in TIC rental revenues, as they can only be realized when current lease contracts expire. TIC sponsors calculate base rental income from current lease terms and expirations by making assumptions about when current leases will expire and require re-leasing. Some TICs calculate this turnover vacancy explicitly and subtract it from base rental income to calculate gross revenue. Another approach, sometimes used in addition to turnover vacancy, is to assume a general vacancy as a fixed percentage of rental income.

interest rate on the mortgage is 6.1%.^{9,10} The sale of the property is assumed to occur in 10 years at a capitalization ('cap') rate of 7% and will incur 5% in broker fees. We also assume \$2.1 million in mezzanine borrowing is available over the life of the TIC and is repaid upon sale of the property.

Operating expenses are subtracted from gross revenue to yield net operating income (NOI). Operating expenses include ongoing costs related to the property, such as landscaping, lighting and heating, etc., and may be reimbursed to some degree by tenants. Principal and interest payments on the mortgage are subtracted from NOI and any transfers from the reserve accounts are added to determine distributions or net cash flow to investors. Distributions to investors are divided by the total amount of investors' contributed capital to determine "cash on cash" returns, which are not really investment returns since in early years these distributions typically include a return of the investors' capital.

TIC sponsors project the sale price for the property held in the TIC based on a cap rate (7% in our example), and calculate the resulting cash flows to investors at that time (\$24.7 million in our example). The sum of all annual cash flows plus the final net proceeds resulting from the sale of the property equals the total cash inflows in the deal (\$40.1 million in our example). The projected distributions in excess of the investors' contributed capital divided by the investors' contributed capital further divided by the number of years covered by the projection arrives at the average annual "cash on cash" return (9.5% in our example) often quoted by TIC offering documents.

b. Cash flows must be discounted to determine value

TIC projections are misleading and the "cash on cash" returns deserve special skepticism. The cash on cash returns highlighted by TIC marketing materials are not a direct reflection of the operating income from the property, but are easily manipulated distribution rates. They often include a return of investors' contributed capital and so are not investment returns as that term is typically used. As discussed below, TIC's 'yield enhancements' and mezzanine financing redistribute cash flows from one period to another, increasing and smoothing cash on cash returns in early years and increasing the projected property sale price.

⁹ Modeling expenses as a fixed percent of base rent is also a simplifying assumption. Expenses as modeled here are also different than the explicit modeling of operating expenses that sometime appear in TIC projections. Our expenses are effectively operating, leasing, or tenant improvement costs that are net of tenant reimbursements but are eligible to be paid by drawing from reserves.

¹⁰ In our base case, we assume a 30 year mortgage wherein the first five years are interest-only, and then amortized over a 30 year period (such that there is a balance due at the end of the mortgage term). We have seen this arrangement multiple times in TICs and its implications are discussed below.

Sponsors' financial projections do not discount cash flows to reflect the time value of money or the riskiness of the investment. This step is critical to know whether the projected cash flows are sufficient to warrant the amount paid by investors. This is the same basic analysis required to determine whether a bond that pays a 10-year, 5% coupon is fairly priced or not. The projected coupon and maturity payments are discounted to the present at a discount rate which reflects the riskiness of those cash flows and the resulting present value is compared to the asking price of the bond. A TIC's projected cash distributions and net property sale proceeds are very similar to the coupon and maturity payments from a bond and are discounted in exactly the same way.

Since the TIC financial models project cash distributions to equity investors, the correct discount rate to apply to determine the net present value is the cost of equity which is equal to the risk free interest rate plus the levered beta multiplied by the equity risk premium. The levered beta takes into account the underlying real estate investments covariance with the market portfolio and the amount of leverage used in the TIC.¹¹¹²

*Cost of Equity = Riskfree Rate + Levered Beta * Equity Risk Premium*

$$\text{Levered Beta} = \text{Unlevered Beta} * \left(1 + \left(\frac{\text{Debt}}{\text{Equity}} \right) \right)$$

We assume the risk free rate of interest is 4.66%, the equity risk premium is 6%, and the unlevered beta is 0.5.¹³ Given these assumptions and the debt to equity ratio in our example TIC, the cost of equity is 13.2%. Using this discount rate, the resulting discounted cash flows are shown in the lower panel of Table 1. The sum of the discounted cash flows minus the contributed capital is the net present value, and reflects the value of the TIC. Despite the stylized TIC's reported 9.5% average annual "cash on cash" returns, the discounted present value is -\$5,746,324.¹⁴

¹¹ These formulas are generally applicable to discounting any investment's future cash flows and can be found in most introductory corporate finance or investments textbook. They are applicable specifically to discounting cash flows from real estate investments. See (Corgel & Djoganopoulos, 2000), (Damodaran, 2001), and (Gyourko & Nelling). Analysts publish discount rates for particular real estate markets and submarkets. The discount rates reported by many market sources only reflect the appropriate discount rate on an all-equity transaction. If the property is purchased with debt (that is, with leverage), the discount rate should be adjusted higher.

¹² We do not adjust the debt to equity ratio for any tax shield that may arise due to the debt financing because TICs do not pay entity tax. If we adjust the debt to equity ratio for a tax shield assuming a 35% entity tax rate, the cost of equity described below would change from 13.2% to 11.2%. For a description of these alternative methods see (Pratt & Grabowski, 2010), chapter 11.

¹³ The risk-free rate is the 2007 total return on US Treasury Bills presented on page 203 of (Ibbotson 2011).

¹⁴ We do not include any modification to the discount rate to reflect any small-firm premium, liquidity premium, or any other additional risks that may be present in the TIC. As all of these adjustments would

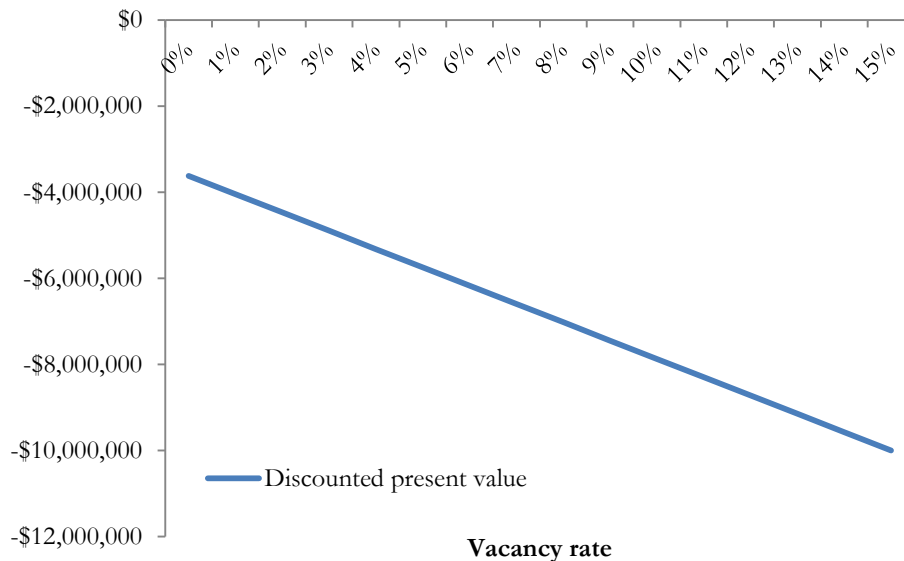
III. Unreasonable assumptions inflate the apparent value of a TIC

a. Vacancy rates

TICs use aggressive vacancy assumptions, increasing effective gross income, net operating income, and cash available to investors. Using more realistic vacancy rates lowers net operating income, lowers total distributions to investors, lowers the anticipated sale price of the property at maturity and reduces the net present value of the TIC.¹⁵

For example, changing our base case scenario's general vacancy from 5% to 10% lowers the net present value of TIC to -\$7,871,083. The resulting cash flows are shown in Table 2. The effect of systematically changing vacancy rates on the discounted value of the TIC is shown in Figure 1.

Figure 1: Effect of vacancy rate on net present value



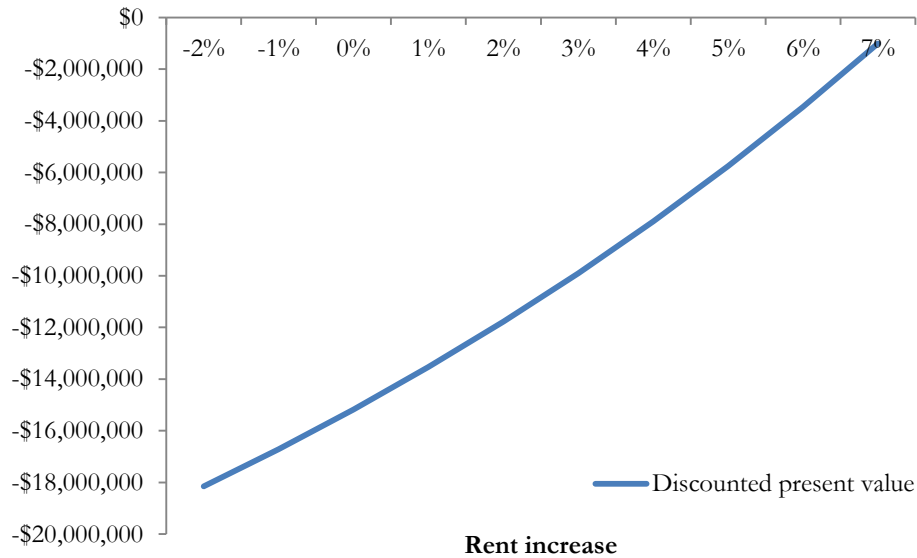
b. Market rent increases

TIC sponsors also sometimes project more rapid growth in base rents than general market conditions support. Our base case projection used a 5% annual growth in base rents. Reducing the base rent growth rate from 5% to 3% holding the other base case assumptions constant lowers the net present value to -\$9,898,509. See Table 3. The effect of varying the market rent increase rate on the net present value of our base case TIC is shown in Figure 2.

increase the discount rate, and therefore lower the net present value calculated here, we consider this a conservative assumption.

¹⁵ For a discussion of the use of discounted cash flow analysis for real estate projections see (Kolbe & Greer, 2009), Chapter 13 and (Brown, 2012), Chapter 4.

Figure 2: Effect of rent increase rate on net present value



c. Capitalization (“Cap”) rate

TICs calculate an expected sale price by projecting future NOI to the date of the sale, then assume that the market value of the property will equal 1 divided by an assumed cap rate multiplied by the terminal NOI:

$$Value = \frac{1}{Cap\ Rate} \times NOI$$

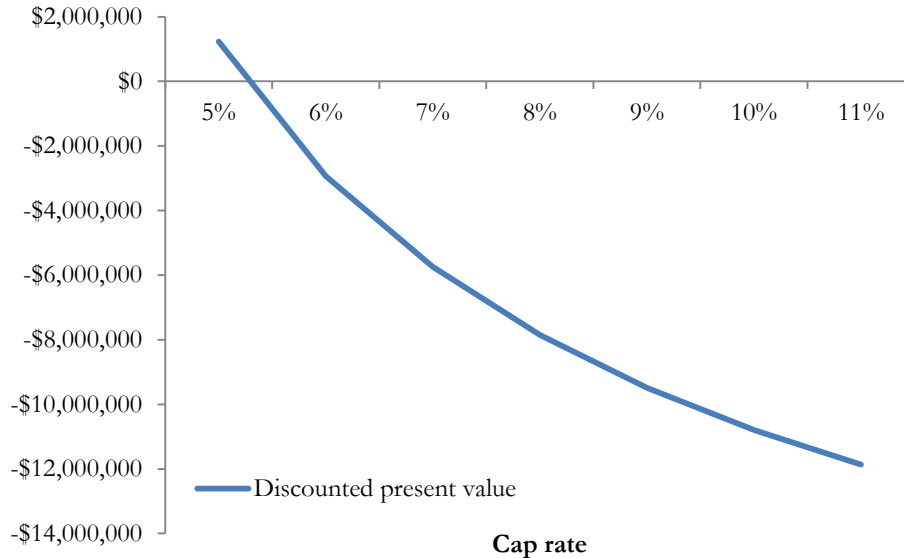
A cap rate is a simple rule of thumb, closely related to price-to-earnings ratios with which an analyst will calculate the value of a business based on projections of its future earnings and assuming the market value of the property or business will be a fixed multiple future earnings. A higher cap rate implies a lower “price earnings” ratio and therefore a lower market value for the TIC for any given level of projected earnings.

TIC offering documents often include calculations showing the effect of different assumed cap rates. For example, a TIC may show five potential outcomes assuming cap rates of 6.5%, 6.75%, 7.0%, 7.25%, and 7.5%. This range may not reflect the going cap rate in the local market—cap rates in 2007 were as high as 11% in some markets. In contrast, the TICs we have seen often purchase their properties at very low cap rates, suggesting they overpaid for a given amount of NOI.

Table 4 demonstrates the impact on our base case of changing the assumed cap rate at sale from 7% to 8%. This decreases the projected sale price (because the NOI has not changed), and lowers the proceeds from sale. This one modest change alone causes

the net present value of the TIC to fall to -\$7,849,025. The effect of varying the cap rate is shown in Figure 3.

Figure 3: Effect of cap rate on cash flows and present value



Because the cap rate method relies only on an assumed cap rate and the NOI of the final year of the projection, the resulting terminal sales price is critically dependent on projected conditions in that final year. For example, if vacancies are anticipated to be particularly high in that year, the NOI could be depressed leading to a lower anticipated sales price. Similarly, any assumptions that bias the final year NOI higher would inflate the terminal sales price and the terminal cash flow to investors.

The cumulative effect of the example changes in assumptions described above is very large. Table 5 shows that changing the market rent increase, the vacancy rate, and the cap rate to values that may more accurately reflect market values reduces the net present value of the TIC to -\$13,453,489, or -65% of the investors' contributed capital.

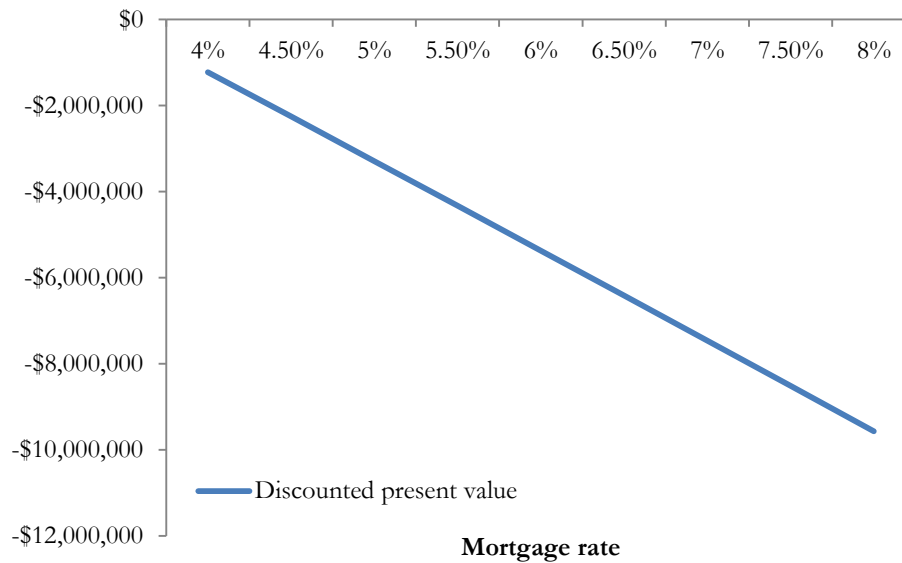
IV. Financing terms and reserve accounts can increase reported “cash on cash” returns while reducing investment value.

a. Mortgage features have a significant impact on net present value.

Many TICs use interest-only financing for the early years of the mortgage, thereby lowering mortgage payments in early years, increasing payments in later years, and leaving a larger mortgage balance to be repaid when the property is eventually sold. In our base case, if instead of a 30-year, fixed rate, 5-year interest-only mortgage the TIC obtains a 30-year, fixed rate, fully amortizing mortgage, the present value of the TIC is reduced to -\$6,237,129.

The effect of switching to a fully amortizing mortgage is to reduce cash on cash returns in early years, but increase them in later years. Of course, the mortgage rate itself greatly affects cash on cash returns and the net present value of the deal. While this rate may not be a factor the TIC sponsor directly controls, sponsors sometimes obtain interest-rate buydowns or other loan modifications that affect the effective rates in certain periods. The sensitivity of the TIC's net present value to changes in mortgage rates is shown in Figure 4.

Figure 4: Effect of mortgage rate on cash flows and present value



Mezzanine funding is available borrowing used by many TICs to fund expenses after the reserve accounts have been depleted. This borrowing effectively increases later-year cash on cash returns and increases the mortgage balance that must be paid off at maturity. Mezzanine funding is usually reported below NOI, and therefore does not affect the terminal value of the property.

b. Leverage increases fees and lowers net present value.

If a TIC purchased a property that cost only the amount of investors' contributed capital minus the upfront fees and reserves, this 'unlevered' property would generate less rental income but would have no mortgage payments and no mortgage balance to eventually pay off. The fees and commissions on such an unlevered deal would be lower, because many fees are a percentage of initial purchase price and ultimate sale price of the property. This would of course generate less revenue for the sponsor (and none for the lender), but would improve the net present value of the deal for investors.

We can model such a deal by eliminating the mortgage and proportionally reducing the purchase price, upfront fees and reserves, and first year rent of our property such that the investors' contributed capital of \$20.5 million is the sole source of capital

for the deal. The resulting purchase price is \$18.1 million, with \$2.4 million in upfront fees and reserves, the first year rent is reduced to \$1.2 million, and the mezzanine draw is reduced to \$746,473 (each factor is reduced by approximately 35%).¹⁶ Because the property is unlevered, the discount rate adjusts to 7.7%, reflecting a smaller market exposure. Using the assumptions presented in Table 1 and the modified discount rate, the resulting net present value increases from -\$5,746,324 with the mortgage to -\$1,033,032 without the mortgage. These results suggest that the leverage embedded in TIC deals primarily benefits the sponsor at the expense of the investors.

c. Reserves smooth cash on cash returns and lower net present value

Reserve accounts set aside some of the investors' contributed capital or proceeds from borrowing to pay for anticipated future expenses such as leasing commissions, tenant improvements, and capital expenditures.¹⁷ Reserves may be required by the lender, and are often given separate accounts. Reserves increase the amount of investors' contributed capital and pay that money back into the TIC at a later date.

Reserves reduce expenses in early years (before the reserves run out) and thereby 'smooth' cash on cash returns over the life of the TIC. However, in a *discounted* cash flow context, the effect is to reduce the TIC's net present value. In our model, we created a \$3.2 million reserve account and used it to pay down expenses each year. We credited the balance of the reserve account with 3% annually, as is common in most TIC projections, to reflect the interest rate on a money-market or similar account.¹⁸ If we reduce the TIC reserves to zero, the amount of investors' contributed capital decreases by \$3.1 million, the expenses increase in early years, and the "cash on cash" returns are reduced but the TICs net present value increases from -\$5,746,324 to -\$5,347,559. This is a simple illustration of how "cash on cash" returns are not really returns and can be easily manipulated to mislead investors.

V. TIC fees and commissions outweigh tax benefits

a. TICs are saddled with high fees and commissions

The fees and commissions in a TIC agreement tend to be extremely high—in our experience, upfront fees of 15% or more of investors' contributed capital is common. In

¹⁶ The fee reduction may actually be larger in some deals which have substantial lender fees—if there were no mortgage, the sponsor's fees would be reduced proportionally, but the lender fees would not be paid at all. There might also be no reserves in such a deal, as many reserves are required by the lender. However, we preserve these features as conservative simplifications.

¹⁷ Usually not operating expenses, especially not those reimbursable by tenants.

¹⁸ If this rate were equal to the discount rate of the TIC (13.2% in our base case), the effect would be the same on discounted and undiscounted cash flows. However, if the reserve account earned 13.2%, it would presumably be as risky as the TIC itself.

its Notice to Members, FINRA highlights that these fees could be larger than the value of the tax deferral benefit:

... a member must also consider whether the fees and expenses associated with TIC transactions outweigh the potential tax benefits to the customer. TICs structured with high up-front fees and expenses paid to the sponsor and/or salespersons of the selling broker-dealers raise particular concerns about the ability to make a suitable recommendation.¹⁹

TIC fees go by different names and are distributed amongst the sponsor, the property manager (often an affiliate of the sponsor), the broker-dealers (also potentially affiliated), and the lender. Selling commissions are often the largest single expense, accounting for approximately 6-8% of investors' contributed capital. Other offering and organization fees include due diligence allowances, placement fees, marketing expenses, etc. In addition, there are often fees related to the purchase of the property, such as lender fees, loan origination fees, closing costs, and promotional fees.

The property manager receives an ongoing fee for running the day-to-day operations of the property. This fee is typically 2-3% per year and is included in the projected schedule of fees. Property managers also often receive a commission on the sale of a property, which is a fraction not of the investors' contributed capital but the sale price of the property. Therefore, sponsors and their affiliates achieve revenues from the sale of the TIC, its management, and its termination.

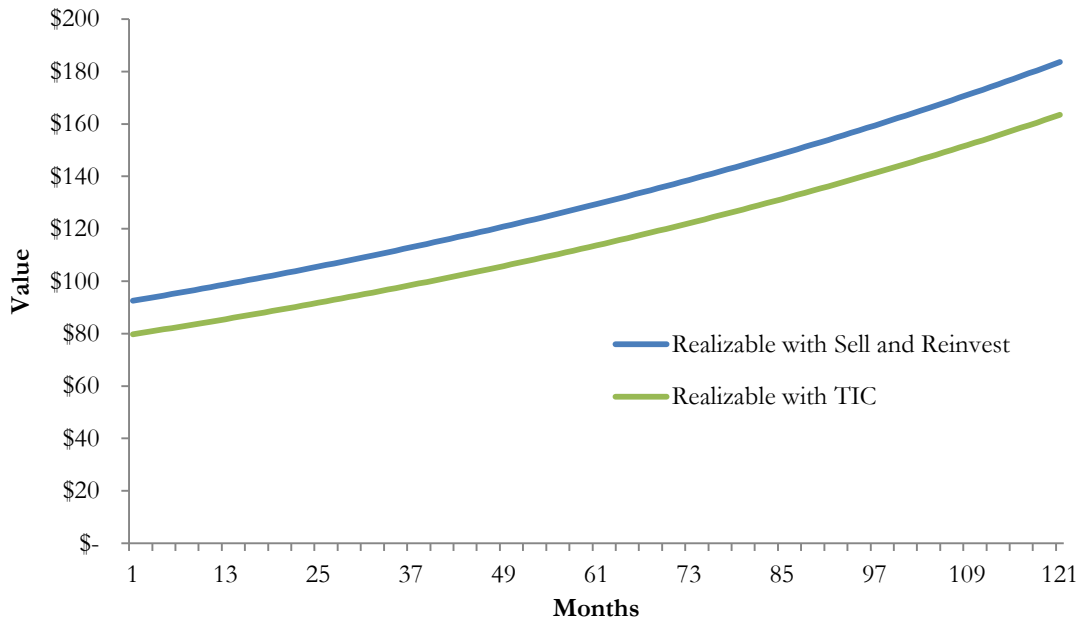
b. Fees and commissions reduce the benefit of a 1031 exchange over a fully taxable sale.

The tax implications of 1031 exchanges have been discussed thoroughly in the academic literature.²⁰ Briefly, in Figure 5 we contrast a 1031 exchange with a fully taxable sale of \$0 cost basis property for \$100 and immediate purchase a new investment property. If the investor sells and pays 15% capital gains taxes she will have \$85 to reinvest in property with a total return of 8% per year. After 10 years, the property value has increased to \$183.51 and 15% capital gains taxes are paid on the \$98.51 increase in value from the \$85 cost basis, leaving the investor with \$168.73 after taxes.

¹⁹ (FINRA, 2005), page 4.

²⁰ See especially (Ling & Petrova, 2008).

Figure 5: Sale-and-purchase strategy is superior to TIC with 15% fees



If the investor buys a TIC with 15% in upfront fees, the \$100 paid for the TIC buys \$85 worth of property which then grows at 8%.²¹ After 10 years, the TIC property has grown in value to \$183.51 but the cost basis is \$0, not \$85 and so the investor pays \$27.53 in taxes and is left with only \$155.98 compared to the \$168.73 after tax value outside the TIC.

In this example, a fully taxable sale and subsequent reinvestment in a property is superior to a TIC investment.²² If the cost basis is \$0 (\$25, \$50) TIC fees would have to be less than 8% (6%, 4%) in our example for the after tax value of the TIC after 10 years to exceed the after tax value of a simple sale and reinvestment. The sale-and-reinvestment strategy is superior to the TIC for levels of fees we observe in practice.

VI. Conclusion

In this paper, we have constructed a TIC model based on cash flow projections found in actual TIC agreements. We used this model to demonstrate the effect of changing critical parameters on the TIC's net present value. We have found that most TICs used aggressive assumptions and that more reasonable market rates drastically

²¹ We conservatively assume that the TIC's property with the same returns after all fees and expenses that transparent real estate investments earn - unlikely given the high costs and conflicts of interest in TICs.

²² We could add some complexity to this example. For instance we could include taxation of periodic distributions at ordinary income tax rates and incorporate annual depreciation expense and depreciation recapture at sale but the basic economics of our example would remain. The tax deferral benefit of a TIC is only a benefit if the TIC's fees are lower than we observe in the market place.

reduce the already poor undisclosed value of TIC interests. Many features of TIC projections appear to reduce the net present value of the deal for the sake of making their “cash on cash” returns appear greater and less volatile than their actual operating income would suggest. We also find that the potential tax deferral benefits are too small to warrant the high costs of the inefficient TIC structures.

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Table 1: TIC Base case projected cash flows of \$40,109,263 are worth only \$14,803,676 when discounted to the present, or \$5,746,324 less than the \$20,550,000 investors pay for this TIC.

Features and Assumptions

1

<u>Property Purchase</u>		<u>Rent and Expenses</u>		<u>Capital Sources</u>		<u>Property Sale</u>		<u>Discount Rate</u>	
Purchase price:	\$51,357,000	Base rent:	\$3,400,000	Equity:	\$20,550,000	Years to sale:	10	Debt	65%
Upfront fees:	\$3,708,000	Annual increase:	5.0%	Mortgage:	\$37,690,000	Cap rate at sale:	7.0%	Equity	35%
Reserves:	\$3,175,000	Vacancy rate:	5.0%	Interest rate:	6.1%	Fees on sale:	6%	Risk-free rate:	4.66%
Fully loaded price	\$58,240,000	Expenses:	8.0%	Interest-only period:	5	Final year NOI:	\$4,588,829	Risk premium:	6.00%
		Mezzanine draw:	\$2,115,553			Projected sale	\$65,554,698	Unlevered beta:	0.50
								Discount rate:	13.2%

Projections

<u>Year</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Base rent	\$3,400,000	\$3,570,000	\$3,748,500	\$3,935,925	\$4,132,721	\$4,339,357	\$4,556,325	\$4,784,141	\$5,023,349	\$5,274,516
Vacancy	\$170,000	\$178,500	\$187,425	\$196,796	\$206,636	\$216,968	\$227,816	\$239,207	\$251,167	\$263,726
Gross revenue	\$3,230,000	\$3,391,500	\$3,561,075	\$3,739,129	\$3,926,085	\$4,122,389	\$4,328,509	\$4,544,934	\$4,772,181	\$5,010,790
Expenses	\$272,000	\$285,600	\$299,880	\$314,874	\$330,618	\$347,149	\$364,506	\$382,731	\$401,868	\$421,961
Net operating income	\$2,958,000	\$3,105,900	\$3,261,195	\$3,424,255	\$3,595,467	\$3,775,241	\$3,964,003	\$4,162,203	\$4,370,313	\$4,588,829
Mortgage P&I payments	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895
Payments from reserves	\$272,000	\$285,600	\$299,880	\$314,874	\$330,618	\$347,149	\$364,506	\$382,731	\$401,868	\$421,961
Cash distributions to investors	\$933,360	\$1,094,860	\$1,264,435	\$1,442,489	\$1,629,445	\$1,383,495	\$1,589,614	\$1,806,040	\$2,033,286	\$2,271,896
Cash-on-cash returns:	4.5%	5.3%	6.2%	7.0%	7.9%	6.7%	7.7%	8.8%	9.9%	11.1%
Reserve balance	\$3,175,000	\$2,990,090	\$2,785,625	\$2,560,317	\$2,312,806	\$2,041,654	\$1,745,341	\$1,422,260	\$1,070,714	\$688,912

Net Present Value Analysis

Present value of cash flow:	\$824,798	\$909,508	\$928,203	\$935,745	\$934,079	\$700,842	\$711,595	\$714,442	\$710,783	\$701,820
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Proceeds from Property Sale

Projected sale price:	\$65,554,698
Fees on sale:	\$3,933,282
Reserve balance	\$266,951
Mortgage loan balance	<u>\$37,228,023</u>
Net proceeds from property sale:	\$24,660,344
Discounted proceeds from sale:	\$6,731,859

Return on Capital

	<u>Undiscounted</u>	<u>Discounted</u>
Cash flow over 10 years:	\$15,448,919	\$8,071,817
Proceeds from property sale:	<u>\$24,660,344</u>	<u>\$6,731,859</u>
Total projected cash flows:	\$40,109,263	\$14,803,676
Investor's contributed capital:	<u>-\$20,550,000</u>	<u>-\$20,550,000</u>
Return on capital:	\$19,559,263	-\$5,746,324

Table 2: Reasonable vacancy rates further lower the net present value. In this case, increasing the vacancy rate from 5% to 10% reduces the net present value to -\$7,871,083.

Features and Assumptions

1

<u>Property Purchase</u>		<u>Rent and Expenses</u>		<u>Capital Sources</u>		<u>Property Sale</u>		<u>Discount Rate</u>	
Purchase price:	\$51,357,000	Base rent:	\$3,400,000	Equity:	\$20,550,000	Years to sale:	10	Debt:	65%
Upfront fees:	\$3,708,000	Annual increase:	5.0%	Mortgage:	\$37,690,000	Cap rate at sale:	7.0%	Equity:	35%
Reserves:	\$3,175,000	Vacancy rate:	10.0%	Interest rate:	6.1%	Fees on sale:	6%	Risk-free rate:	4.66%
Fully loaded price	\$58,240,000	Expenses:	8.0%	Interest-only period:	5	Final year NOI:	\$4,325,103	Risk premium:	6.00%
		Mezzanine draw:	\$2,115,553			Projected sale	\$61,787,187	Unlevered beta:	0.50
								Discount rate:	13.2%

Projections										
<u>Year</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Base rent	\$3,400,000	\$3,570,000	\$3,748,500	\$3,935,925	\$4,132,721	\$4,339,357	\$4,556,325	\$4,784,141	\$5,023,349	\$5,274,516
Vacancy	\$340,000	\$357,000	\$374,850	\$393,593	\$413,272	\$433,936	\$455,633	\$478,414	\$502,335	\$527,452
Gross revenue	\$3,060,000	\$3,213,000	\$3,373,650	\$3,542,333	\$3,719,449	\$3,905,422	\$4,100,693	\$4,305,727	\$4,521,014	\$4,747,064
Expenses	\$272,000	\$285,600	\$299,880	\$314,874	\$330,618	\$347,149	\$364,506	\$382,731	\$401,868	\$421,961
Net operating income	\$2,788,000	\$2,927,400	\$3,073,770	\$3,227,459	\$3,388,831	\$3,558,273	\$3,736,187	\$3,922,996	\$4,119,146	\$4,325,103
Mortgage P&I payments	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895
Payments from reserves	\$272,000	\$285,600	\$299,880	\$314,874	\$330,618	\$347,149	\$364,506	\$382,731	\$401,868	\$421,961
Cash distributions to investors	\$763,360	\$916,360	\$1,077,010	\$1,245,692	\$1,422,809	\$1,166,527	\$1,361,798	\$1,566,833	\$1,782,119	\$2,008,170
Cash-on-cash returns:	3.7%	4.5%	5.2%	6.1%	6.9%	5.7%	6.6%	7.6%	8.7%	9.8%
Reserve balance	\$3,175,000	\$2,990,090	\$2,785,625	\$2,560,317	\$2,312,806	\$2,041,654	\$1,745,341	\$1,422,260	\$1,070,714	\$688,912

Net Present Value Analysis										
Present value of cash flow:	\$674,571	\$761,227	\$790,617	\$808,083	\$815,625	\$590,932	\$609,613	\$619,816	\$622,982	\$620,351

Proceeds from Property Sale		Return on Capital	
Projected sale price:	\$61,787,187		
Fees on sale:	\$3,707,231		
Reserve balance	\$266,951		
Mortgage loan balance	<u>\$37,228,023</u>		
Net proceeds from property sale:	\$21,118,883		
Discounted proceeds from sale:	\$5,765,100		
		Cash flow over 10 years:	<u>Undiscounted</u> \$13,310,677 <u>Discounted</u> \$6,913,817
		Proceeds from property sale:	\$21,118,883 \$5,765,100
		Total projected cash flows:	<u>\$34,429,561</u> <u>\$12,678,917</u>
		Investor's contributed capital:	<u>-\$20,550,000</u> <u>-\$20,550,000</u>
		Return on capital:	\$13,879,561 -\$7,871,083

Table 3: Reasonable assumed rent increases also further lowers the net present value. Reducing the increase in rents from 5% to 3%, but keeping the vacancy at only 5%, reduces the net present value to -\$9,898,509.

Features and Assumptions

1

<u>Property Purchase</u>		<u>Rent and Expenses</u>		<u>Capital Sources</u>		<u>Property Sale</u>		<u>Discount Rate</u>		
Purchase price:	\$51,357,000	Base rent:	\$3,400,000	Equity:	\$20,550,000	Years to sale:	10	Debt	65%	
Upfront fees:	\$3,708,000	Annual increase:	3.0%	Mortgage:	\$37,690,000	Cap rate at sale:	7.0%	Equity	35%	
Reserves:	\$3,175,000	Vacancy rate:	5.0%	Interest rate:	6.1%	Fees on sale:	6%	Risk-free rate:	4.66%	
Fully loaded price	\$58,240,000	Expenses:	8.0%	Interest-only period:	5	Final year NOI:	\$3,859,519	Risk premium:	6.00%	
		Mezzanine draw:	\$2,115,553			Projected sale	\$55,135,987	Unlevered beta:	0.50	
								Discount rate:	13.2%	
Projections										
<u>Year</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Base rent	\$3,400,000	\$3,502,000	\$3,607,060	\$3,715,272	\$3,826,730	\$3,941,532	\$4,059,778	\$4,181,571	\$4,307,018	\$4,436,229
Vacancy	\$170,000	\$175,100	\$180,353	\$185,764	\$191,336	\$197,077	\$202,989	\$209,079	\$215,351	\$221,811
Gross revenue	\$3,230,000	\$3,326,900	\$3,426,707	\$3,529,508	\$3,635,393	\$3,744,455	\$3,856,789	\$3,972,493	\$4,091,667	\$4,214,417
Expenses	\$272,000	\$280,160	\$288,565	\$297,222	\$306,138	\$315,323	\$324,782	\$334,526	\$344,561	\$354,898
Net operating income	\$2,958,000	\$3,046,740	\$3,138,142	\$3,232,286	\$3,329,255	\$3,429,133	\$3,532,007	\$3,637,967	\$3,747,106	\$3,859,519
Mortgage P&I payments	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895
Payments from reserves	\$272,000	\$280,160	\$288,565	\$297,222	\$306,138	\$315,323	\$324,782	\$334,526	\$344,561	\$354,898
Cash distributions to investors	\$933,360	\$1,030,260	\$1,130,067	\$1,232,868	\$1,338,753	\$1,005,561	\$1,117,894	\$1,233,598	\$1,352,773	\$1,475,523
Cash-on-cash returns:	4.5%	5.0%	5.5%	6.0%	6.5%	4.9%	5.4%	6.0%	6.6%	7.2%
Reserve balance	\$3,175,000	\$2,990,090	\$2,791,228	\$2,577,743	\$2,348,937	\$2,104,082	\$1,842,423	\$1,563,170	\$1,265,503	\$948,570
Net Present Value Analysis										
Present value of cash flow:	\$824,798	\$855,844	\$829,566	\$799,764	\$767,440	\$509,391	\$500,428	\$487,993	\$472,894	\$455,809
Proceeds from Property Sale						Return on Capital				
Projected sale price:	\$55,135,987							<u>Undiscounted</u>	<u>Discounted</u>	
Fees on sale:	\$3,308,159							Cash flow over 10 years:	\$11,850,656	\$6,503,927
Reserve balance	\$593,672							Proceeds from property sale:	\$15,193,477	\$4,147,564
Mortgage loan balance	<u>\$37,228,023</u>							Total projected cash flows:	\$27,044,133	\$10,651,491
Net proceeds from property sale:	\$15,193,477							Investor's contributed capital:	<u>-\$20,550,000</u>	<u>-\$20,550,000</u>
Discounted proceeds from sale:	\$4,147,564							Return on capital:	\$6,494,133	-\$9,898,509

Table 4: Higher cap rate lowers net present value. Assuming a cap rate of 8% rather than 7%, and using base case values for all other parameters, lowers the net present value to **-\$7,849,025**.

Features and Assumptions

1

<u>Property Purchase</u>		<u>Rent and Expenses</u>		<u>Capital Sources</u>		<u>Property Sale</u>		<u>Discount Rate</u>	
Purchase price:	\$51,357,000	Base rent:	\$3,400,000	Equity:	\$20,550,000	Years to sale:	10	Debt	65%
Upfront fees:	\$3,708,000	Annual increase:	5.0%	Mortgage:	\$37,690,000	Cap rate at sale:	8.0%	Equity	35%
Reserves:	\$3,175,000	Vacancy rate:	5.0%	Interest rate:	6.1%	Fees on sale:	6%	Risk-free rate:	4.66%
Fully loaded price	\$58,240,000	Expenses:	8.0%	Interest-only period:	5	Final year NOI:	\$4,588,829	Risk premium:	6.00%
		Mezzanine draw:	\$2,115,553			Projected sale	\$57,360,361	Unlevered beta:	0.50
								Discount rate:	13.2%

Projections

<u>Year</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Base rent	\$3,400,000	\$3,570,000	\$3,748,500	\$3,935,925	\$4,132,721	\$4,339,357	\$4,556,325	\$4,784,141	\$5,023,349	\$5,274,516
Vacancy	\$170,000	\$178,500	\$187,425	\$196,796	\$206,636	\$216,968	\$227,816	\$239,207	\$251,167	\$263,726
Gross revenue	\$3,230,000	\$3,391,500	\$3,561,075	\$3,739,129	\$3,926,085	\$4,122,389	\$4,328,509	\$4,544,934	\$4,772,181	\$5,010,790
Expenses	\$272,000	\$285,600	\$299,880	\$314,874	\$330,618	\$347,149	\$364,506	\$382,731	\$401,868	\$421,961
Net operating income	\$2,958,000	\$3,105,900	\$3,261,195	\$3,424,255	\$3,595,467	\$3,775,241	\$3,964,003	\$4,162,203	\$4,370,313	\$4,588,829
Mortgage P&I payments	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895
Payments from reserves	\$272,000	\$285,600	\$299,880	\$314,874	\$330,618	\$347,149	\$364,506	\$382,731	\$401,868	\$421,961
Cash distributions to investors	\$933,360	\$1,094,860	\$1,264,435	\$1,442,489	\$1,629,445	\$1,383,495	\$1,589,614	\$1,806,040	\$2,033,286	\$2,271,896
Cash-on-cash returns:	4.5%	5.3%	6.2%	7.0%	7.9%	6.7%	7.7%	8.8%	9.9%	11.1%
Reserve balance	\$3,175,000	\$2,990,090	\$2,785,625	\$2,560,317	\$2,312,806	\$2,041,654	\$1,745,341	\$1,422,260	\$1,070,714	\$688,912

Net Present Value Analysis

Present value of cash flow:	\$824,798	\$909,508	\$928,203	\$935,745	\$934,079	\$700,842	\$711,595	\$714,442	\$710,783	\$701,820
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Proceeds from Property Sale

Projected sale price:	\$57,360,361
Fees on sale:	\$3,441,622
Reserve balance	\$266,951
Mortgage loan balance	<u>\$37,228,023</u>
Net proceeds from property sale:	\$16,937,667
Discounted proceeds from sale:	\$4,629,158

Return on Capital

	<u>Undiscounted</u>	<u>Discounted</u>
Cash flow over 10 years:	\$15,448,919	\$8,071,817
Proceeds from property sale:	<u>\$16,957,667</u>	<u>\$4,629,158</u>
Total projected cash flows:	\$32,406,586	\$12,700,975
Investor's contributed capital:	<u>-\$20,550,000</u>	<u>-\$20,550,000</u>
Return on capital:	\$11,856,586	-\$7,849,025

Table 5: Reasonable assumptions drastically lower net present value. The combined effect of a reasonable vacancy rates, rent increases, and cap rate reduces the value of the TIC interests to - \$13,453,976. Investors would be paying \$20,550,000 for a TIC interest which is only worth \$7,096,024.

Features and Assumptions

1

<u>Property Purchase</u>		<u>Rent and Expenses</u>		<u>Capital Sources</u>		<u>Property Sale</u>		<u>Discount Rate</u>	
Purchase price:	\$51,357,000	Base rent:	\$3,400,000	Equity:	\$20,550,000	Years to sale:	10	Debt	65%
Upfront fees:	\$3,708,000	Annual increase:	3.0%	Mortgage:	\$37,690,000	Cap rate at sale:	8.0%	Equity	35%
Reserves:	\$3,175,000	Vacancy rate:	10.0%	Interest rate:	6.1%	Fees on sale:	6%	Risk-free rate:	4.66%
Fully loaded price	\$58,240,000	Expenses:	8.0%	Interest-only period:	5	Final year NOI:	\$3,637,708	Risk premium:	6.00%
		Mezzanine draw:	\$2,115,553			Projected sale	\$45,471,345	Unlevered beta:	0.50
								Discount rate:	13.2%

Projections

<u>Year</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Base rent	\$3,400,000	\$3,502,000	\$3,607,060	\$3,715,272	\$3,826,730	\$3,941,532	\$4,059,778	\$4,181,571	\$4,307,018	\$4,436,229
Vacancy	\$340,000	\$350,200	\$360,706	\$371,527	\$382,673	\$394,153	\$405,978	\$418,157	\$430,702	\$443,623
Gross revenue	\$3,060,000	\$3,151,800	\$3,246,354	\$3,343,745	\$3,444,057	\$3,547,379	\$3,653,800	\$3,763,414	\$3,876,316	\$3,992,606
Expenses	\$272,000	\$280,160	\$288,565	\$297,222	\$306,138	\$315,323	\$324,782	\$334,526	\$344,561	\$354,898
Net operating income	\$2,788,000	\$2,871,640	\$2,957,789	\$3,046,523	\$3,137,919	\$3,232,056	\$3,329,018	\$3,428,888	\$3,531,755	\$3,637,708
Mortgage P&I payments	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,296,640	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895	\$2,738,895
Payments from reserves	\$272,000	\$280,160	\$288,565	\$297,222	\$306,138	\$315,323	\$324,782	\$334,526	\$344,561	\$354,898
Cash distributions to investors	\$763,360	\$855,160	\$949,714	\$1,047,104	\$1,147,417	\$808,484	\$914,905	\$1,024,519	\$1,137,422	\$1,253,711
Cash-on-cash returns:	3.7%	4.2%	4.6%	5.1%	5.6%	3.9%	4.5%	5.0%	5.5%	6.1%
Reserve balance	\$3,175,000	\$2,990,090	\$2,791,228	\$2,577,743	\$2,348,937	\$2,104,082	\$1,842,423	\$1,563,170	\$1,265,503	\$948,570

Net Present Value Analysis

Present value of cash flow:	\$674,571	\$710,387	\$697,171	\$679,259	\$657,757	\$409,557	\$409,560	\$405,285	\$397,613	\$387,289
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Proceeds from Property Sale

Projected sale price:	\$45,471,345
Fees on sale:	\$2,728,281
Reserve balance	\$593,672
Mortgage loan balance	<u>\$37,228,023</u>
Net proceeds from property sale:	\$6,108,714
Discounted proceeds from sale:	\$1,667,576

Return on Capital

	<u>Undiscounted</u>	<u>Discounted</u>
Cash flow over 10 years:	\$9,901,797	\$5,428,448
Proceeds from property sale:	\$6,108,714	\$1,667,576
Total projected cash flows:	<u>\$16,010,511</u>	<u>\$7,096,024</u>
Investor's contributed capital:	<u>-\$20,550,000</u>	<u>-\$20,550,000</u>
Return on capital:	<u>-\$4,539,489</u>	<u>-\$13,453,976</u>