

### **Real Estate Investment Analysis**

Real estate investment carries its' own, unique idiom, different from equity and bond finance terms, but the concepts are fundamental among each discipline. For example, the cap ratio is equal to Net operating income/Value of the property, which would be similar to EBIT/Market cap of equity, or EBIT/Enterprise value.

We updated the real estate financial model to incorporate mortgage payments and cleaned up the analysis portion as the previous model was a rough scaffolding of a full blown model. We will continue to work on the model in the upcoming few months, in anticipation of a housing recovery in the U.S. as well as expansion of the RE research from REITs.

The principals of the website has minimal direct investment experience in real estate, although there was a 6 month stint in a multi-family investment firm and a few real estate finance classes in college. Therefore, real estate will be a true weak spot for the firm, but a critical piece in understanding the global economies and capital markets. Almost all of an individual's wealth is found in real estate. So, an individual needs to be well informed about real estate, even when investing in a small investment in residential properties for basic housing.

	Today	Disposition
Transaction price:	\$10,000,000	\$12,000,000
Number of units:	30	-

#### Debt

Mortgage:	\$7,560,000	\$6,648,643
Mortgage point:	2.000	-
Mortgage related fees:	\$200,000	-
Real estate broker point:	2.000	-
Broker related fees:	\$200,000	-
Title, appraisal, inspection fee:	\$10,000	-
Misc. fee:	\$50,000	-
<b>Total cost:</b>	<b>\$460,000</b>	-

#### Equity

Cash invested:	\$3,000,000	\$833,732
Cash balance for operations:	\$100,000	-
Down payment:	\$2,440,000	-
Payment for related costs:	\$460,000	-

Equity after mortgage repayment	-	\$5,351,357
Cash+Gain on disposition:	-	\$6,185,089
Recoupment of original investme	-	\$3,000,000
Gain from investment:	-	\$3,185,089
Bagger:	-	1.06

Mortgage paydown:	-	\$911,357
Value appreciation:	-	\$2,000,000
Seed capital:	-	\$2,440,000
Operational cashflow:	-	\$833,732
<b>Total available cash:</b>	-	<b>\$6,185,089</b>

Effective Gross Rent Multiplier (Market value/EGI)	9.32	10.93
Net Rent Multiplier (Market value/NOI)	12.18	14.40

#### Average Unit Price (Market Value/Number of Units)

Unit Price Appreciation	-	20.00%
Monthly rent/unit	\$3,056	\$3,075
Unit price/annual rent (similar to P/S)	9.09	10.84

#### Operating Expense Ratio (Expenses/EGI)

Loan to Value Ratio (Mortgage/Market Value)	75.60%	55.41%
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#### Debt Coverage Ratio (NOI/Mortgage Payment)

Break Even Occupancy (a.Operating expenses + b.Debt service/Base Reve	67.20%	69.47%
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#### Capitalization Ratio (NOI/Market Value)

Capitalization Ratio (NOI/Market Value)	8.21%	6.94%
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#### Internal Rate of Return based off Cash flow+Appreciation

Market Price Appreciation	-	3.61%
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#### Implied contribution from cashflow

Implied contribution from cashflow	-	0.97% *Based off a higher denominator, market value, versus Return on I
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#### Return on Invested Capital (After tax cashflow/invested cash)

Return on Invested Capital (After tax cashflow/invested cash)	5.52%	4.85% *Is higher than implied contribution from cashflow because 1) sma
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#### Average Return on Invested Capital

Average Return on Invested Capital	3.49%	*Is inline with estimates, 10/3=3.33 x 0.97% implied cashflow ~3.2
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#### Cash on Cash Compounded Annual Return

Cash on Cash Compounded Annual Return	10.89%	*Cash+ Gain on disposition divided by cash invested
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	Year 0	Decline			Recovery		Stabilization		Sale
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 7
<i>Base Rental Revenue Growth</i>			-6.00%	-3.00%	-1.00%	2.00%	-3.00%	3.00%	3.00%
Base Rental Revenues		\$1,100,305	\$1,034,287	\$1,003,258	\$993,226	\$1,013,090	\$1,043,483	\$1,074,787	\$1,107,031
Expense Reimbursement Revenue		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gross Revenue		\$1,100,305	\$1,034,287	\$1,003,258	\$993,226	\$1,013,090	\$1,043,483	\$1,074,787	\$1,107,031
<i>Vacancy Percentage</i>			7.00%	10.00%	14.00%	10.00%	7.00%	5.00%	5.00%
Less: Vacancies		-\$77,021	-\$103,429	-\$140,456	-\$99,323	-\$70,916	-\$52,174	-\$53,739	-\$55,352
<b>Net Base Rental Revenue</b>		<b>\$1,023,284</b>	<b>\$930,858</b>	<b>\$862,802</b>	<b>\$893,903</b>	<b>\$942,174</b>	<b>\$991,309</b>	<b>\$1,021,048</b>	<b>\$1,051,679</b>
<i>Ancillary Income Growth</i>			-8.00%	-7.00%	-3.00%	1.00%	3.00%	3.00%	3.00%
Plus: Ancillary Income		\$50,000	\$46,000	\$42,780	\$41,497	\$41,912	\$43,169	\$44,464	\$45,798
<b>Effective Gross Income (EGI)</b>		<b>\$1,073,284</b>	<b>\$976,858</b>	<b>\$905,582</b>	<b>\$935,400</b>	<b>\$984,085</b>	<b>\$1,034,478</b>	<b>\$1,065,512</b>	<b>\$1,097,477</b>
<i>Operating Expense Growth</i>			-2.00%	-1.00%	0.00%	4.00%	4.00%	3.00%	3.00%
Less: Operating Expenses (Insurance, Utilities, Etc.)		-\$102,934	-\$100,875	-\$99,867	-\$99,867	-\$103,861	-\$108,016	-\$111,256	-\$114,594
Less: Real Estate Taxes		-\$100,000	-\$100,000	-\$100,000	-\$100,000	-\$100,000	-\$100,000	-\$100,000	-\$100,000
Less: Replacement Reserve		-\$49,514	-\$46,543	-\$45,147	-\$44,695	-\$45,589	-\$46,957	-\$48,365	-\$49,816
<b>Total Expenses</b>		<b>-\$252,448</b>	<b>-\$247,418</b>	<b>-\$245,014</b>	<b>-\$244,562</b>	<b>-\$249,450</b>	<b>-\$254,973</b>	<b>-\$259,621</b>	<b>-\$264,410</b>
<b>NOI</b>		<b>\$820,836</b>	<b>\$729,440</b>	<b>\$660,568</b>	<b>\$690,838</b>	<b>\$734,635</b>	<b>\$779,505</b>	<b>\$805,891</b>	<b>\$833,067</b>
<i>Change in Cap Ex</i>			-9.00%	8.00%	4.00%	19.00%	-22.00%	-2.00%	0.00%
Less: Cap Ex		-\$75,264	-\$68,490	-\$73,969	-\$76,928	-\$91,545	-\$71,405	-\$69,977	-\$69,977
<i>Change in TI</i>			9.00%	10.00%	-10.00%	-10.00%	-8.00%	0.00%	0.00%
Less: TI		-\$35,000	-\$38,150	-\$41,965	-\$37,769	-\$33,992	-\$31,272	-\$28,771	-\$28,771
<i>Change in Leasing Commissions</i>			27.00%	11.00%	18.00%	-2.00%	-15.00%	-3.00%	0.00%
Less: Leasing Commissions		-\$20,458	-\$25,982	-\$28,840	-\$34,031	-\$33,350	-\$38,348	-\$27,497	-\$27,497
<i>Cap Ex, TI, Leasing Commissions Total</i>		-\$130,722	-\$132,622	-\$144,774	-\$148,728	-\$158,886	-\$131,025	-\$126,244	-\$126,244
<b>Adjusted Net Operating Income (NOI)</b>		<b>\$690,114</b>	<b>\$596,818</b>	<b>\$515,794</b>	<b>\$542,110</b>	<b>\$575,749</b>	<b>\$648,480</b>	<b>\$679,646</b>	<b>\$706,823</b>
Less: Debt Service First Mortgage		-\$487,005	-\$487,005	-\$487,005	-\$487,005	-\$487,005	-\$487,005	-\$487,005	-\$487,005
<b>Before-Tax Cash Flow</b>		<b>\$203,109</b>	<b>\$109,813</b>	<b>\$28,790</b>	<b>\$55,106</b>	<b>\$88,744</b>	<b>\$161,476</b>	<b>\$192,642</b>	<b>\$219,818</b>
Plus: Mortgage Amortization		\$111,538	\$117,244	\$123,243	\$129,548	\$136,176	\$143,143	\$150,466	
Plus: Replacement Reserve		\$49,514	\$46,543	\$45,147	\$44,695	\$45,589	\$46,957	\$48,365	
Less: Depreciation of Building		-\$250,000	-\$250,000	-\$250,000	-\$250,000	-\$250,000	-\$250,000	-\$250,000	
Less: Cost Amortization		-\$7,179	-\$7,179	-\$7,179	-\$7,179	-\$7,179	-\$7,179	-\$7,179	
<b>Taxable Income (Loss)</b>		<b>\$106,982</b>	<b>\$16,421</b>	<b>-\$80,000</b>	<b>-\$27,830</b>	<b>\$13,330</b>	<b>\$94,396</b>	<b>\$134,294</b>	
Less: Application of Suspended Losses		\$0	\$0	\$0	\$0	-\$16,646	-\$49,387	\$0	
<b>Net Taxable Income (Loss)</b>		<b>\$106,982</b>	<b>\$16,421</b>	<b>-\$80,000</b>	<b>-\$27,830</b>	<b>-\$3,316</b>	<b>\$45,009</b>	<b>\$134,294</b>	
Tax Benefit (Liability) *at 35% tax rate		\$37,444	\$5,747	\$0	\$0	\$0	\$15,753	\$47,003	
<b>After-Tax Cash Flow</b>		<b>\$165,665</b>	<b>\$104,066</b>	<b>\$28,790</b>	<b>\$55,106</b>	<b>\$88,744</b>	<b>\$145,722</b>	<b>\$145,639</b>	

#### Cash Balance Monitoring

Beginning Cash Balance	\$100,000	\$265,665	\$369,731	\$398,521	\$453,627	\$542,371	\$688,093	\$833,732
Cash minimum amount:	\$100,000							
Cash minimum warning:								

Return on Invested Capital 5.52% 3.47% 0.96% 1.84% 2.96% 4.86% 4.85% 3.49%

#### Breakeven Analysis

Total Expenses+Debt Service:	-\$739,453	-\$734,423	-\$732,018	-\$731,566	-\$736,455	-\$741,977	-\$746,626
Breakeven occupancy	67.20%	71.01%	72.96%	73.66%	72.69%	71.11%	69.47%

#### Cash Investment Analysis

Aggregated Cash	-\$2,900,000	-\$2,734,335	-\$2,630,269	-\$2,601,479	-\$2,546,373	-\$2,457,629	-\$2,311,907	\$3,185,089
Annual change in cash	-\$2,900,000	\$165,665	\$104,066	\$28,790	\$55,106	\$88,744	\$145,722	\$5,496,996

#### Price Appreciation

Purchase Price	\$10,000,000							
Entry Cap Rate	8.21%							
Estimated Disposition Price	\$12,000,000							
Exit Cap Rate	6.94%							
Price Appreciation from Initial Investment to Sale	20.00%							
Purchase Price appreciation based off estimated CAGR	<b>\$10,000,000</b>	\$10,263,881	\$10,534,725	\$10,812,717	\$11,098,044	\$11,390,900	\$11,691,484	<b>\$12,000,000</b>
CAGR	2.64%							

#### Price Appreciation & Operational Cashflow

Future Value Total Cash Flows	-\$10,000,000	\$165,665	\$104,066	\$28,790	\$55,106	\$88,744	\$145,722	\$12,145,639	\$12,000,000
Present Value of Cash Flow	-\$10,000,000	\$150,605	\$86,005	\$21,630	\$37,638	\$55,103	\$82,256	\$6,232,633	\$6,157,897
PV of Cash Flow Stream Excluding Initial Investment	\$6,665,871								
Net Present Value of Cash Flows (NPV)	-\$3,031,027								
Percentage of NPV from Net Sales	92.38%								
IRR	3.61%								
Discount Rate	10.00%								
Holding Period (In Years)	7 years								

#### Margin (determined using Base Rental Revenue)

Ancillary Income	4.54%	4.45%	4.26%	4.18%	4.14%	4.14%	4.14%	4.14%
Effective Gross Income (EGI)	97.54%	94.45%	90.26%	91.18%	91.14%	91.14%	91.14%	99.14%
Operating Expense	-9.36%	-9.75%	-9.95%	-10.05%	-10.25%	-10.35%	-10.35%	-10.35%
Real Estate Taxes	-9.09%	-9.67%	-9.97%	-10.07%	-9.87%	-9.58%	-9.30%	-9.30%
Replacement Reserve	-4.50%	-4.50%	-4.50%	-4.50%	-4.50%	-4.50%	-4.50%	-4.50%
Total Expenses	-22.94%	-23.92%	-24.42%	-24.62%	-24.62%	-24.43%	-24.16%	-24.16%
NOI	74.60%	70.53%	65.84%	69.55%	72.51%	74.70%	74.98%	74.98%
Adjusted Net Operating Income (NOI)	62.72%	57.70%	51.41%	54.58%	56.83%	62.15%	63.24%	63.24%
Before-Tax Cash Flow	18.46%	10.62%	2.87%	5.55%	8.76%	15.47%	17.92%	17.92%
Taxable Income (Loss)	9.72%	1.59%	-5.98%	-2.80%	1.32%	9.05%	12.49%	12.49%
Net Taxable Income (Loss)	9.72%	1.59%	-5.98%	-2.80%	1.32%	9.05%	12.49%	12.49%
Tax Rate	-35.00%	-35.00%	0.00%	0.00%	0.00%	-35.00%	-35.00%	-35.00%
After-Tax Cash Flow	15.06%	10.06%	2.87%	5.55%	8.76%	13.96%	13.55%	13.55%

Mortgage \$7,560,000  
Interest rate: 5.00%  
Maturity: 30 years  
Number of months 360  
Type of loan: Fixed  
Monthly P&I payment: \$40,583.71

Period (in months)	Beginning balance	Payment	Principal	Interest	Ending Principal Balance	Accrued Interest paid	Principal Repaid
0	\$7,560,000						
1	\$7,560,000	\$40,584	\$9,084	\$31,500	\$7,550,916	\$31,500	
2	\$7,550,916	\$40,584	\$9,122	\$31,462	\$7,541,795	\$62,962	
3	\$7,541,795	\$40,584	\$9,160	\$31,424	\$7,532,635	\$94,386	
4	\$7,532,635	\$40,584	\$9,198	\$31,386	\$7,523,437	\$125,772	
5	\$7,523,437	\$40,584	\$9,236	\$31,348	\$7,514,201	\$157,120	
6	\$7,514,201	\$40,584	\$9,275	\$31,309	\$7,504,927	\$188,429	
7	\$7,504,927	\$40,584	\$9,313	\$31,271	\$7,495,614	\$219,700	
8	\$7,495,614	\$40,584	\$9,352	\$31,232	\$7,486,262	\$250,931	
9	\$7,486,262	\$40,584	\$9,391	\$31,193	\$7,476,871	\$282,124	
10	\$7,476,871	\$40,584	\$9,430	\$31,154	\$7,467,441	\$313,278	
11	\$7,467,441	\$40,584	\$9,469	\$31,114	\$7,457,971	\$344,392	
12	\$7,457,971	\$40,584	\$9,509	\$31,075	\$7,448,462	\$375,467	\$111,538
13	\$7,448,462	\$40,584	\$9,548	\$31,035	\$7,438,914	\$406,502	
14	\$7,438,914	\$40,584	\$9,588	\$30,995	\$7,429,326	\$437,498	
15	\$7,429,326	\$40,584	\$9,628	\$30,956	\$7,419,697	\$468,453	
16	\$7,419,697	\$40,584	\$9,668	\$30,915	\$7,410,029	\$499,369	
17	\$7,410,029	\$40,584	\$9,709	\$30,875	\$7,400,321	\$530,244	
18	\$7,400,321	\$40,584	\$9,749	\$30,835	\$7,390,572	\$561,078	
19	\$7,390,572	\$40,584	\$9,790	\$30,794	\$7,380,782	\$591,872	
20	\$7,380,782	\$40,584	\$9,830	\$30,753	\$7,370,951	\$622,626	
21	\$7,370,951	\$40,584	\$9,871	\$30,712	\$7,361,080	\$653,338	
22	\$7,361,080	\$40,584	\$9,913	\$30,671	\$7,351,167	\$684,009	
23	\$7,351,167	\$40,584	\$9,954	\$30,630	\$7,341,214	\$714,639	
24	\$7,341,214	\$40,584	\$9,995	\$30,588	\$7,331,218	\$745,227	\$117,244
337	\$925,061	\$40,584	\$36,729	\$3,854	\$888,332	\$7,005,044	
338	\$888,332	\$40,584	\$36,882	\$3,701	\$851,449	\$7,008,745	
339	\$851,449	\$40,584	\$37,036	\$3,548	\$814,413	\$7,012,293	
340	\$814,413	\$40,584	\$37,190	\$3,393	\$777,223	\$7,015,686	
341	\$777,223	\$40,584	\$37,345	\$3,238	\$739,878	\$7,018,925	
342	\$739,878	\$40,584	\$37,501	\$3,083	\$702,377	\$7,022,007	
343	\$702,377	\$40,584	\$37,657	\$2,927	\$664,720	\$7,024,934	
344	\$664,720	\$40,584	\$37,814	\$2,770	\$626,906	\$7,027,704	
345	\$626,906	\$40,584	\$37,972	\$2,612	\$588,934	\$7,030,316	
346	\$588,934	\$40,584	\$38,130	\$2,454	\$550,804	\$7,032,770	
347	\$550,804	\$40,584	\$38,289	\$2,295	\$512,516	\$7,035,065	
348	\$512,516	\$40,584	\$38,448	\$2,135	\$474,067	\$7,037,200	\$450,994
349	\$474,067	\$40,584	\$38,608	\$1,975	\$435,459	\$7,039,175	
350	\$435,459	\$40,584	\$38,769	\$1,814	\$396,690	\$7,040,990	
351	\$396,690	\$40,584	\$38,931	\$1,653	\$357,759	\$7,042,643	
352	\$357,759	\$40,584	\$39,093	\$1,491	\$318,666	\$7,044,133	
353	\$318,666	\$40,584	\$39,256	\$1,328	\$279,410	\$7,045,461	
354	\$279,410	\$40,584	\$39,420	\$1,164	\$239,990	\$7,046,625	
355	\$239,990	\$40,584	\$39,584	\$1,000	\$200,407	\$7,047,625	
356	\$200,407	\$40,584	\$39,749	\$835	\$160,658	\$7,048,460	
357	\$160,658	\$40,584	\$39,914	\$669	\$120,744	\$7,049,130	
358	\$120,744	\$40,584	\$40,081	\$503	\$80,663	\$7,049,633	
359	\$80,663	\$40,584	\$40,248	\$336	\$40,415	\$7,049,969	
360	\$40,415	\$40,584	\$40,415	\$168	\$0	\$7,050,137	\$474,067