

### 1.3.1 CASE STUDY #1: APARTMENT BUILDING

As an example, Mr. Smith who accumulated capital worth \$240,000, was offered many investment opportunities: stocks, bonds, mutual funds and real estate. He has some knowledge about real estate from his experience as the owner of a six-unit apartment building and is interested in this type of investment.

A building inspector confirms that the 15-year building Mr. Smith is interested in is in good condition. Mr. Smith then gathers the following information:

- ☐ Start date of the project: 01-01-2003;
- ☐ Realistic scenario: 5 years
- ☐ The building has 20 apartments with a total of 93 rooms;

Number of Units	Number of Rooms	Total Rooms
2	3,5	7
13	4,5	58,5
5	5,5	<u>27,5</u>
	<b>Total</b>	<b>93</b>

- ☐ The building has the following characteristics:

- ⇒ Land Area: 30,000 sq.ft.
- ⇒ Building Area: 14,000 sq.ft.
- ⇒ Year Built: 1988
- ⇒ Renovations: none
- ⇒ Floors Above-Ground: 3
- ⇒ Basement: 1 (semi-basement)
- ⇒ Floor Structure: wood
- ⇒ Elevator: no
- ⇒ Heating: tenants - electrical
- ⇒ Windows: good condition
- ⇒ Roof: good condition
- ☐

- ☐ The asking price is \$870,000, however he believes that \$820,00 would be accepted. The legal fees, land transfer tax<sup>8</sup> and others fees associated with the acquisition of the property are estimated at \$20,000. For tax purposes, the acquisition cost is \$840,000;

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<sup>8</sup> Land transfer tax is estimated at 11 000 \$.

- ☐ The land/building breakdown is necessary to calculate amortization since the land is not depreciable. Mr. Smith establishes, using an appraiser's advice, that the breakdown is the same as for the municipal assessment which is the following: land = \$160,000, building = \$680,000;
- ☐ Since Mr. Smith has \$240,000, he would need a mortgage of \$600,000 representing approximately 72% of the acquisition price;
- ☐ A 5-year mortgage with a 20-year amortization period (or 240 months) can presently be negotiated at an interest rate of 6.0%;
- ☐ Further to verification of leases and asking rents for apartments in the neighborhood, Mr. Smith estimates that the potential gross income is \$130,380. The estimates of vacancies and bad debts are presented in the following table;

Number of Units	Rooms per Unit	Monthly Rent	Yearly Potential Gross Income	Vacancies & Bad Debts	Effective Income
2	3,5	\$425	\$10 200	3%	\$9 894
13	4,5	\$530	\$82 680	3%	\$80 200
5	5,5	\$625	<u>\$37 500</u>	3%	<u>\$36 375</u>
<b>Yearly Total :</b>			<b>\$130 380</b>		<b>\$126 469</b>

(Note: We could compute each unit individually and calculate the PGI and EGI per unit)

- ☐ Further to the analysis of the last three years, Mr. Smith estimates normal expenses at \$44,130 per year (excluding financial fees);

G/L	\$	%
Effective Gross Income	\$126 640	100%
Realty and School Taxes	\$21 000	17%
Insurance	\$1 600	1%
Maintenance and Repairs	\$8 500	7%
Janitor	\$4 500	4%
Utilities	\$2 400	2%
Publicity	\$500	0%
Garbage Removal	\$650	1%
Snow Removal	\$1 200	1%
Management Fees	\$3 500	3%
Phone	<u>\$280</u>	<u>0%</u>
<b>Total</b>	<b>\$44 130</b>	<b>35%</b>

- ☐ Mr. Smith estimates that the income and expenses should increase at an average of 2% per year for the next five years;

- ☐ Mr. Smith estimates that he could resell the building at the end of the fifth year based on an EGIM of 6.45 or a capitalization rate of 10.1%. This represents an increase in value of 1.4% per year. The estimated resale value is \$900,000 after the fifth year. Brokerage fees are estimated at 3%.

Mr. Smith establishes the following financial criteria for his investment:

- ☐ Historical rate of occupancy of at least 95 %: further to an analysis of the building's previous vacancy rates and those of the housing corporation and the neighborhood, Mr. Smith establishes a reserve of 2% for vacancies, to which he adds 1% for bad debts for total of 3%;
- ☐ No cash deficit;
- ☐ Security ratio greater than 1.3%;
- ☐ Average occupancy ratio rate lower than 85%;
- ☐ Annual rate of return on equity higher than 5%;
- ☐ Rate of return on equity for the entire projection period at 13% and more;

It is important to point out that the property in question respects Mr. Smith's non-financial criteria. These criteria concern the age of the property, the structure of the building, the number of apartments and the location and physical condition of the building. Another calculation that considers fiscal aspects shows that the project is profitable.

**INVEST-PRO: REAL ESTATE INVESTMENT ANALYSIS**  
**example for book us - FINANCIAL CALCULATIONS - realistic**

	2003	2004	2005	2006	2007
Year:	1	2	3	4	5
Gross Potential Income (GPI)	\$130,380	\$132,988	\$135,647	\$138,360	\$141,128
Vacancies And Bad Debts	\$3,911	\$3,990	\$4,069	\$4,151	\$4,234
<b>Gross Effective Income (GEI)</b>	<b>\$126,469</b>	<b>\$128,998</b>	<b>\$131,578</b>	<b>\$134,209</b>	<b>\$136,894</b>
Operating Expenses (OE)	\$44,130	\$45,013	\$45,913	\$46,831	\$47,768
<b>Net Operating Income (NOI)</b>	<b>\$82,339</b>	<b>\$83,985</b>	<b>\$85,665</b>	<b>\$87,378</b>	<b>\$89,126</b>
<b>Financing Cost (FC)</b>					
- Interest (I)	\$35,564	\$34,576	\$33,527	\$32,414	\$31,231
- Capital Reimbursement (CR)	\$16,019	\$17,007	\$18,056	\$19,169	\$20,352
- Mortgage Balance	\$583,981	\$566,974	\$548,919	\$529,749	\$509,398
Cash Flows After Financing	\$30,756	\$32,402	\$34,082	\$35,795	\$37,543
Income Tax at 40% of net taxable income	\$9,231	\$9,873	\$10,964	\$12,095	\$13,679
Capital Expenditures	\$0	\$0	\$0	\$0	\$0
<b>Net Cash Flow (NCF)</b>	<b>\$21,525</b>	<b>\$22,529</b>	<b>\$23,118</b>	<b>\$23,700</b>	<b>\$23,864</b>

**INCOME TAX CALCULATION**

Undepreciated Cost Of The Building	\$680,000	\$656,303	\$631,576	\$606,848	\$582,121
NOI - Interest Cost	\$46,775	\$49,409	\$52,138	\$54,964	\$57,895
Deducted Cumulated Losses	\$0	\$0	\$0	\$0	\$0
Capital Cost Allowance (1) (2) (3) (Depreciation)	\$23,697	\$24,727	\$24,727	\$24,727	\$23,697
Net Taxable Income	\$23,078	\$24,681	\$27,410	\$30,237	\$34,198
Income Tax To Be Paid @ 40%	\$9,231	\$9,873	\$10,964	\$12,095	\$13,679
Losses Incurred During the Current Year	\$0	\$0	\$0	\$0	\$0
Cumulated Losses	\$0	\$0	\$0	\$0	\$0

- (1) The half-month convention applies to the first and last year of ownership.  
(2) Capital cost allowance cannot generate a negative taxable income  
(3) This software does not reassign negative income (losses) against positive income (profits) from prior years.

**ANNUAL RATIOS**

Cash on Cash Ratio (NCF / CD)	8.97%	9.39%	9.63%	9.88%	9.94%
Security Ratio (NOI - Income Tax / FC)	1.42	1.44	1.45	1.46	1.46
Minimal Occupancy Rate (OE + FC / GPI)	73.41%	72.64%	71.87%	71.13%	70.40%
Annual Cash Flow: (\$240,000)	\$21,525	\$22,529	\$23,118	\$23,700	\$23,864
NPV of Cash Flows at 7% (\$240,000)	\$20,117	\$19,678	\$18,871	\$18,081	\$17,015

Selling Price	\$900,000
Brokerage Fees @ 3%	\$27,000
Taxes to Be Paid From	
- Capital Gain (4)	\$8,250
- Recapture of Capital Cost Allowance	\$19,576
Mortgage Balance	\$509,398
<b>Net Cash Flow From This Project:</b>	<b>\$335,777</b>

(4) We assume capital gain is taxed at 25% and recapture is taxed at 20%. If the net cash flow is negative, this loss is tax deductible against other income or capital gain (please consult your tax expert).

**FINANCIAL INDICATORS FOR THIS PROJECT**

IRR at a Marginal Taxation Rate of: 40%	15.37%
Net Present Value at 7%	\$93,165
EGIM at Purchase	6.64
Cap Rate at Purchase	9.80%
Price per Apartment at Purchase	\$42,000
Price per Room at Purchase	\$9,032
Price per Square Foot at Purchase	\$60
EGIM at Resale: (Price / GEI 2008)	6.45
Cap Rate at Resale: (NOI 2008 / Price)	10.10%
Price per Apartment at Resale	\$45,000
Price per Room at Resale	\$9,677
Price per Square Foot at Resale	\$64

IRR: Internal Rate of Return.

NPV: Net Present Value of project, sum of yearly cash flows discounted at the prescribed yield.

EGIM: Effective gross income multiplier.

Cap Rate: Capitalization Rate of the project, Income / Sale Price

CD: Cash Down (Equity invested)

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