

## **INCOME APPROACH**

The Income Approach considers the return on Investment and is similar to the method that investors typically use to make their investment decisions. It is most directly applicable to income producing property because the expectation of income is the primary motivating factor for the purchase of real estate. Other important considerations are leverage, tax advantages through depreciation, and pride of ownership. In addition, the investor also benefits from equity build-up due to mortgage loan amortization and potential increases in value.

The Income Approach consists of first estimating the probable annual gross income, based upon actual leases or market rentals. From this amount is deducted an allowance for vacancy and rent loss, based upon the property's historical operating experience and/or future projections. Next, all expenses attributable to the real estate are deducted. Also deducted, when appropriate, is a Reserve for Replacement of short-lived components that would normally be replaced during the investment holding period. The resulting net income is then converted into value by capitalization.

### **Gross Income Estimate - \$1,564,820**

To verify that the subject's projected rentals are at market and to arrive at a projected gross income, we made an examination of the rentals of other similar buildings in the market area. We evaluated the area's rental environment, market orientation, and comparable rental facilities. Our investigation was limited to properties that were similar in style and/or age and had tenant appeal similar to that of the subject property.

It is our determination, after reviewing the general market and studying competitive facilities, that the current rentals are at market. Based upon current rentals, potential gross income for the first year of our analysis, before an allowance for vacancy and rent loss, amounts to \$1,564,820.

### **Vacancy and Rent Loss - \$187,778**

Even when a building is fully occupied as of the date of the appraisal, it is prudent to anticipate some rent loss over the projection period in order to estimate "stabilized" occupancy. Based upon our analysis of the current rental market and the historical rent loss of the subject, a "stabilized" frictional vacancy rate for the subject property is projected at 12.00% of gross income, or \$187,778.

## Effective Gross Income - \$1,377,042

Deducting the stabilized vacancy and rent loss of \$187,778 leaves an Effective Gross Income of \$1,377,042.

### Stabilized Market Income Schedule

Income Item	Gross Units	Income Per Year	Income Per Unit	Unit of Measure
First Floor Office Space	15,200	212,800	14.00	S.F.
First Floor Retail	22,500	270,000	12.00	S.F.
Texas Company - Office	5,000	75,000	15.00	S.F.
CBC Computer	7,500	75,000	10.00	S.F.
Masterplan Office	6,000	84,000	14.00	S.F.
Sentinel	9,000	126,000	14.00	S.F.
Science Foundation Ltd	5,000	70,000	14.00	S.F.
Mutual Investment	10,000	140,000	14.00	S.F.
Capital Formation Part.	15,000	210,000	14.00	S.F.
Modern Design	15,000	210,000	14.00	S.F.
Masterplan - storage	5,000	20,000	4.00	S.F.
Storage Income	5,388	21,562	4.00	S.F.
Miscellaneous Income		19,825		
Parking lot fees		30,633		
Total Units	120,588			
Total Income		\$1,564,820		
Common Area Maintenance		31,005		
Vacancy/Credit Loss		<u>-178,695</u>		
Effective Gross Income		\$1,417,130		

Analysis Type: STABLE  
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Columns may not add due to rounding

## Estimate of Expenses - \$664,249

To arrive at a projected Stabilized Net Income, it is necessary to deduct those expenses that are typical and recurring for the subject property. These are expenses paid for by the owner and relate directly to the operation of the real estate. The expenses used in this income analysis were determined after reviewing expenses of the subject property in prior years and comparing the subject's reported expenses with those of other similar properties. Industry ratios and historical expense patterns for similar property types were also considered.

After considering all of the above, a projection of expenses was made. Stabilized expenses for the subject property were estimated at \$664,249.

In our analysis of expenses, we found that certain items fell either above or below what is considered normal for a property of this type. This is not unusual because individual line item

expenses vary, depending upon such factors as region, economy, uniqueness of the property, etc. Also, each owner allocates line item expenses differently, which accounts for variances when comparing certain line items in this income analysis to those reported.

**Projected Net Income - \$752,881**

Deducting the total estimated stabilized expenses from Effective Gross Income of \$1,377,042 leaves a Net Income for the subject property of \$752,881.

**Stabilized Market Income Statement**

REFERENCE NO: SAMPLE ANALYSIS  
PROPERTY: Office Building

	Amount	% of E.G.I.	Per Net S.F.
<b><u>Gross Income</u></b>			
Total Income	\$1,595,825	112.61%	14.41
Vacancy / Credit Loss	-178,695	-12.61%	-1.61
Effective Gross Income	\$1,417,130	100.00%	12.79
<b><u>Fixed</u></b>			
Real Estate Taxes	250,000	17.64%	2.26
Insurance	31,207	2.20%	0.28
<b><u>Operating</u></b>			
Utilities	100,000	7.06%	0.90
Cleaning	53,950	3.81%	0.49
Maintenance/Repair	62,414	4.40%	0.56
Management	85,028	6.00%	0.77
<b><u>Other</u></b>			
Roads/Grounds/sec	24,965	1.76%	0.23
<b><u>Reserve</u></b>			
Reserve for replacement	56,685	4.00%	0.51
Total Expenses	<u>\$664,249</u>	<u>46.87%</u>	<u>6.00</u>
 NET INCOME	 \$752,881	 53.13%	 6.80

## Capitalization of Net Income

Capitalization is the process of converting into present value (or obtaining the present worth of) a series of anticipated future periodic installments of net income. It is the procedure of expressing such anticipated future benefits of ownership in dollars and processing them into a present worth at a rate that is attracting purchase capital to competitive investments.

The types of capitalization are Yield Capitalization and Direct Capitalization.<sup>1</sup>

### Yield Capitalization

This method of capitalization uses the discounting procedure to convert future benefits to present value on the premise of a required level of profit or rate of return on invested capital.

### Direct Capitalization

This method is used to convert an estimate of a single year's income expectancy into an indication of value in one direct step.

The Direct Capitalization method, using a rate abstracted from the market was not used because there was insufficient income and expense data available for the known comparable sales. Detailed income and expense histories are vital to abstracting a capitalization rate that is reliable.

We have chosen a yield capitalization method in our analysis of income. Two generally accepted methods of yield capitalization are the **Mortgage Equity Technique** and the **Discounted Cash Flow Method**. In all methods of yield capitalization, the future benefits that will be derived from a property are discounted to their present worth to estimate a "present value". The benefits typically considered consist of periodic net income, the growth in periodic net income, the equity build-up through mortgage loan amortization, and the reversion of the sales proceeds in excess of the mortgage loan balance and other costs at the end of the term. The rate at which these cash flows and reversion are discounted to a present value is designated by various analogous terms. Among them are the Equity Yield Rate, the Internal Rate of Return (IRR) and the Discount Rate. IRR is considered by many financial analysts to be the most comprehensive measure of financial benefits that will be received by the investor during the period of ownership.

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<sup>1</sup> The Appraisal of Real Estate, American Institute of Real Estate Appraisers, 10th. Edition, Chicago, Il., pg 341-342

### **Mortgage Equity Technique**

A capitalization rate was developed using the Advanced Mortgage Equity Technique. This is an accepted technique when net income is projected to be stable, beginning in the first year of the analysis. In this method, individual components of the capitalization rate are mathematically derived and an overall rate capitalization rate is calculated. This rate is then applied to stable net income to determine the value.

In order to develop the capitalization rate using the Advanced Mortgage Equity Technique, the following projections were made:

Projected Holding Period	7 years
Loan Ratio	70.00%
Loan Term	20 years
Investor Equity Portion	30.00%
Required Investor Yield	11.00%
Growth Rate in Value per year	.00%
Growth Rate in Income per year	.00%
Soft Costs in addition to Equity	2.00%
Selling Expenses in Terminal Year	7.00%

### **Final Value by the Income Approach**

A capitalization rate of 9.47% was developed using the projections above. Applying this rate to the subject property's Stabilized Net Income of \$752,881 indicates a value by the Advanced Mortgage Equity Technique of \$7,950,969 ( $\$752,881 / 9.47\%$ ). This value has been rounded to \$7,950,000.

### **Final Value by the Income Approach**

**Seven Million Nine Hundred Fifty Thousand Dollars**  
**\$7,950,000**

## Stabilized Market Income Statement

REFERENCE NO: SAMPLE ANALYSIS

PROPERTY: Office Building

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<b><u>Gross Income</u></b>			
Total Income	\$1,595,825	112.61%	14.41
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Effective Gross Income	\$1,417,130	100.00%	12.79
<b><u>Fixed</u></b>			
Real Estate Taxes	250,000	17.64%	2.26
Insurance	31,207	2.20%	0.28
<b><u>Operating</u></b>			
Utilities	100,000	7.06%	0.90
Cleaning	53,950	3.81%	0.49
Maintenance/Repair	62,414	4.40%	0.56
Management	85,028	6.00%	0.77
<b><u>Other</u></b>			
Roads/Grounds/sec	24,965	1.76%	0.23
<b><u>Reserve</u></b>			
Reserve for replacement	<u>56,685</u>	<u>4.00%</u>	<u>0.51</u>
Total Expenses	<u>\$664,249</u>	<u>46.87%</u>	<u>6.00</u>
NET INCOME	\$752,881	53.13%	6.80

### **CAPITALIZATION**

Stabilized Net Income divided by Capitalization Rate = Value

\$752,881 divided by 9.47% = \$7,950,969

## Advanced Mortgage Equity Calculation

REFERENCE NO: SAMPLE ANALYSIS  
PROPERTY: Office Building  
ANALYSIS DATE: 08-01-09

### Input Variables

Projected Holding Period	7 Years
Loan Ratio 1	70.00%
Interest Rate	7.00%
Loan Term	20 Years
Investor Equity Portion	30.00%
Required Investor Yield (IRR)	11.000%
Growth Rate in Value per Year	0.000%
Growth Rate in Net Income per Year	0.000%
Soft Costs in Addition to Equity	2.000%
Selling Expenses: Terminal Year	7.000%

### CALCULATION

Loan 1 x Constant (.70000 x 0.093036)	0.0651251
Equity x Required Yield (.30000 x 0.110000)	<u>0.0330000</u>
	0.0981251
LESS Credit for Equity Build-up	
RATIO x %PAID OFF x SINKING FUND	
Loan 1 70.00 0.2073 0.102215	<u>-0.0148340</u>
BASIC RATE	0.0832911
ADD Amortization of Soft Costs (2.00 x 0.21222)	<u>0.0042443</u>
	0.0875354
ADD Depreciation Factor	<u>0.0071551</u>
CAP RATE AT STABLE OPERATION	0.0946905
<b>OVERALL RATE - ROUNDED TO</b>	<b>9.47%</b>

## **Discounted Cash Flow Method**

To check the accuracy of the mathematical calculations applied in the Advanced Mortgage Equity Technique, we performed a discounted cash flow analysis, using the same assumptions and variables. Our Discounted Cash Flow Method begins by selecting a "target" IRR. Then the present value of the cash flows is calculated. Several iterations of the calculations are performed until the IRR is found that will equate the present value of the cash flows with the value that was calculated using the Mortgage Equity Technique. There is only one IRR that will produce this result.

Since both the Discounted Cash Method and the Mortgage Equity Technique are methods of "yield capitalization", both utilize the same assumptions as to holding period, mortgage interest rates, income growth rates, etc. Therefore, the Required IRR that was used in the Mortgage Equity Technique and the IRR that is calculated using the Discounted Cash Flow Method should be identical, if calculated properly. Moreover, because each method is independently calculated, one serves to check the other. The results of our discounted cash flow analysis are presented on the following page. They indicate that the mathematical calculations applied in the Mortgage Equity Technique are correct.

### Discounted Cash Flow Methodology

Because we have assumed that the typical investor in the subject property would finance the property at the best prevailing mortgage terms, we discounted the cash flows rather than the net incomes during the projection period. This method recognizes that the typical investor would be most concerned with the "yield" on equity, based upon the annual cash flows; that is, actual cash available after all expenses and debt service. The present value of these total cash flows is equal to the total investment, including closing costs.

Using the subject property as an example, the present value of the discounted cash flows of the equity portion of the investment is \$2,544,310, which is equal to the sum of the cash equity of \$2,385,291 and closing costs of \$159,019. Therefore, if we divide the present value of the investment - \$2,544,310 by the percentage of the equity 32.00% (Cash Equity = 30.00% and Soft Costs = 2.00%), the result is the present value of the property, \$7,950,969 ( $\$2,544,310/32.00\%$ ).

## Projected Cash Flow Analysis

REFERENCE NO: SAMPLE ANALYSIS  
ANALYSIS DATE: 08-01-09

Indicated Value	\$7,950,969
Less Loans 70.00%	<u>5,565,678</u>
Equity	2,385,291
Soft Costs: 2.00%	<u>159,019</u>
Total Investment	\$2,544,310

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>
	08-2009	08-2010	08-2011	08-2012	08-2013	08-2014	08-2015
<b><u>Cash Flows</u></b>							
Net Income	752,881	752,881	752,881	752,881	752,881	752,881	752,881
Interest Expense	-385,402	-375,830	-365,566	-354,561	-342,759	-330,105	-316,536
Loan Amortization	-132,406	-141,978	-152,241	-163,247	-175,048	-187,703	-201,272
Cash Flow	235,073	235,073	235,073	235,073	235,073	235,073	235,073
Cash on Cash Yield	9.24%	9.24%	9.24%	9.24%	9.24%	9.24%	9.24%
Debt Coverage Ratio	1.45	1.45	1.45	1.45	1.45	1.45	1.45

### **Reversion - Proceeds of Sale at the end of 7 Years**

Future Sale	\$7,950,969
Sale Costs: 7.00%	-556,568
Less Loans	<u>4,411,783</u>
Reversion	\$2,982,618

### **Internal Rate of Return: 7 Year Holding Period**

Initial Investment	-2,544,310						
Cash Flow	235,073	235,073	235,073	235,073	235,073	235,073	235,073
Reversion							2,982,618
INTERNAL RATE OF RETURN	11.000%						

### **Present Value of Cash Flows using a Discount Rate of 11.000%**

Cash Flow	235,073	235,073	235,073	235,073	235,073	235,073	235,073
Reversion							<u>2,982,618</u>
Present Value							3,217,691
Discount Factor	<u>0.900901</u>	<u>0.811622</u>	<u>0.731191</u>	<u>0.658731</u>	<u>0.593451</u>	<u>0.534641</u>	<u>0.481658</u>
Present Value	211,778	190,791	171,884	154,850	139,505	125,680	1,549,828

P V of CASH FLOWS \$2,544,315 approximates Initial Investment of \$2,544,310, based upon a value of \$7,950,969

## Net Present Value Analysis

As a final proof of the calculations performed in both the Mortgage Equity Technique and the Discounted Cash Flow Method, we performed a Net Present Value analysis of the cash flows, using the same Required IRR of 11.00% and Holding Period of 7 years. The net present value of the cash flows, i.e. the Present Value of the cash flows less Initial Cash Investment, is near zero. This verifies that the calculations used in the other methods are correct.

### Proof of Yield on Equity

REFERENCE NO: SAMPLE ANALYSIS  
 PROPERTY: Office Building  
 ANALYSIS DATE: 08-01-09

		Required Rate of Return	11.000%
		Holding Period	7 Years
<b>Original Equity</b>	Ratio	Value	
Equity	0.30000	\$7,950,969	\$2,385,291
Soft Costs	0.02000	\$7,950,969	<u>159,019</u>
		Initial Cash Investment	\$2,544,310
<b>Terminal Equity</b>		Resale Value	\$7,950,969
		Loan Balance	-4,411,783
		Sale Expenses	<u>-556,568</u>
		Net Reversion	\$2,982,618
<b>PROOF</b>			
Year	Cash Flow	Present Value Factor @ 11.000%	Present Value
1	235,073.41	0.9009009	211,777.85
2	235,073.41	0.8116224	190,790.84
3	235,073.41	0.7311914	171,883.65
4	235,073.41	0.6587310	154,850.14
5	235,073.41	0.5934513	139,504.63
6	235,073.41	0.5346408	125,679.83
7	235,073.41	0.4816584	113,225.08
Net Reversion	2,982,617.75	0.4816584	<u>1,436,603.00</u>
		Present Value of Cash Flows	2,544,314.90
		Initial Cash Investment	<u>-2,544,309.75</u>
		Net Present Value	5.15

## Yield Analysis

To examine the effect upon value of different Internal Rates of Return, we selected a range of yield rates above and below the Internal Rate of Return of 11.00% that was used to calculate the final estimate of value by the Income Approach of \$7,950,969. Applying the same mathematical analysis, but using this selected range of Internal Rates of Return, the results are presented below.

### Yield Range Analysis

REFERENCE NO: SAMPLE ANALYSIS  
PROPERTY: Office Building  
ANALYSIS DATE: 08-01-09

#### Input Variables

Projected Holding Period	7 Years
Loan Ratio 1	70.00%
Interest Rate	7.00%
Loan Term	20 Years
Investor Equity Portion	30.00%
Yield Range Analyzed (IRR)	8.000% to 14.000%
Growth Rate in Value per Year	0.000%
Growth Rate in Net Income per Year	0.000%
Soft Costs in Addition to Equity	2.000%
Selling Expenses: Terminal Year	7.000%

<b>Selected IRR</b>	<b>Indicated Value</b>	<b>Required Equity</b>	<b>D.C.R.</b>
8.00%	8,904,872	2,849,559	1.30
8.50%	8,729,968	2,793,590	1.32
9.00%	8,561,938	2,739,820	1.35
9.50%	8,400,375	2,688,120	1.38
10.00%	8,244,906	2,638,370	1.40
10.50%	8,095,209	2,590,467	1.43
<b>11.00%</b>	<b>7,950,969</b>	<b>2,544,310</b>	<b>1.45</b>
11.50%	7,811,867	2,499,797	1.48
12.00%	7,677,658	2,456,851	1.51
12.50%	7,548,074	2,415,384	1.53
13.00%	7,422,880	2,375,322	1.56
13.50%	7,301,869	2,336,598	1.58
14.00%	7,184,810	2,299,139	1.61

## Debt Coverage Ratio

The Debt Coverage Ratio is often considered by lenders when underwriting a loan secured by an income producing property. The formula for the DCR is:

Net Income / Annual Debt Service = Debt Coverage Ratio

Based upon a stabilized net income of \$752,881 and an annualized loan payment that is based upon a Loan to Value Ratio of 70.00% of value, the indicated DCR for the first year of our analysis is 1.45.