

**RE 614 – Real Estate Appraisal**  
**Fall 2008**

Homework 7 – Income Approach – Solutions

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*TTh 9:30-10:45*

- 1) Trent is appraising a commercial office building in east Wichita. The building has 120,000 square feet of gross leasable area. Of this, 35,000 square feet rent for \$17.50 per square foot (psf), 65,000 square feet rent for \$16.00 psf, while the remaining 20,000 square feet rent for \$15.25 psf. All leases in this building are gross leases. Currently, the average vacancy rate for similar office space in east Wichita is 12%.

Based on the owner’s past tax returns, Trent has forecasted the following expenses for the property:

Depreciation allowances	205,000
Utilities	\$195,170
Maintenance	185,000
Management expenses	10% of EGI
Mortgage interest	220,000
Property insurance	135,000
Property taxes	260,000

- a) Write out the pro forma operating statement for this property. What is its expected net operating income?

Potential gross income		
35,000 @ 17.50	\$612,500	
65,000 @ 16.00	1,040,000	
20,000 @ 15.25	305,000	1,957,500
Less: Vacancy & collection		(234,900)
Effective gross income		1,722,600
Operating expenses		
Utilities	195,170	
Maintenance	185,000	
Management expenses	172,260	
Property insurance	135,000	
Property taxes	260,000	(947,430)
Net operating income		775,170

- b) Suppose that the property recently sold for \$10 million. What is the cap rate of this transaction?

$$R = NOI / V = 775,170 / 10,000,000 = 0.0775 = 7.75 \text{ percent.}$$

- c) What is the net Income Multiplier of this transaction?

$$NIM = V / NOI = 10,000,000 / 775,170 = 12.90.$$

- d) Similar office buildings have recently been selling at an 8.50 percent cap rate. Based on this, what is the market value of this property?

$$V = NOI / R = 775,170 / 0.085 = \$9,199,647 \text{ or approximately } \$9.2 \text{ million.}$$

- e) Suppose that the market (effective) gross income multiplier is 5.7. What is the indicated market value of this subject using a gross income multiplier?

$$V = GIM \times EGI = 5.7 \times 1,722,600 = \$9,818,820 \text{ or approximately } \$9.8 \text{ million.}$$

- f) Provide two specific weaknesses of the cap rate and net income multiplier as tools for valuing an income property.

Cap rates only consider first year net operating income. If the income generated by this property is expected to grow at a faster rate than other properties in the market, it could sell for a lower cap rate.

In addition, cap rates do not fully account for a property's risk. If this building is in a superior location with high-credit tenants committed to long-term leases, then this property might also command a higher than typical price (e.g., a lower cap rate).

- g) What additional weakness does the gross income multiplier have in addition to the two just mentioned?

The NIM does not take into account operating expenses associated with the property. If these differ from other properties in the market, the appraiser must make adjustments for this as well.