

**FINANCE 673**  
**REAL PROPERTY VALUATION**

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Homework 1

**Income and Expense Analysis**

### **Problem 1**

The following tables summarize the income and expense data for a 24 unit apartment building. Income and expenses are expected to grow at about 2% per annum. Market vacancies are estimated at 5%. **Use this information to develop an operating statement for the property appropriate for a direct capitalization analysis of its value.** Your operating statement should include estimates of PGI, EGI, fixed and variable expenses and NOI. In this market, it is not typical to deduct replacement reserves when estimating NOI. **Determine the OER, based on EGI and PGI. Capitalize your estimated NOI into value at an  $R_0$  of 10.0%.**

### **Apartment Rental Data**

#### Number of units:

1 bedroom	8
2 bedrooms	8
3 bedrooms	8
<u>Total number of units</u>	24

#### Current monthly rent per unit:

1 bedroom	\$ 650
2 bedrooms	950
3 bedrooms	1,000

### **Expense Data**

<b>Item</b>	<b>Last year's expenses</b>
Real estate taxes	\$37,448
Insurance	5,000
Fuel	17,500
Electricity	4,020
Water and sewer	5,216
Trash removal	4,800
Pest control	2,400
Maintenance and repairs	12,506
Interior and exterior decorating	5,484
Cleaning and supplies	2,798
Janitorial	12,000
<u>Total annual expenses</u>	<u>\$109,172</u>

**Problem 2**

Given:

A ten-unit apartment building

Average monthly rent	\$550
Vacancy rate	7%
Operating Expenses	
Fixed	\$16,000
Variable	15% of <i>EGI</i>
Reserves	\$2,000

**A. What is expected  $I_0$ ?**

**B. What is the operating expense ratio (based on EGI)?**

### **Problem 3**

You are assigned to appraise a thirty-year-old, five-story, elevator-equipped, apartment building containing eighty-one units. The present owners manage the building themselves. As their rental schedule seems to follow no particular pattern, you are setting up your own gross income estimate based on comparable properties in the immediate neighborhood. The subject building contains sixty-one one-bedroom units, (including a basement unit provided for the janitor) and twenty two-bedroom units. The present gross income is \$156,000 per year. All corner units contain two bedrooms; there are four corner units to each floor.

Based on your comparative analysis, market rents for the subject property are as follows:

There are thirteen one-bedroom units per floor except the first floor which has eight one-bedroom units: Rental value for floors two through four is \$525 per unit per month; fifth floor, 10% higher; first floor 4% lower.

There are four two-bedroom corner units per floor: The rental value for floors two through four is \$725 per unit per month; fifth floor, 10% higher; first floor, 5% lower.

Janitor's basement apartment: one-bedroom (3 rooms), \$375 per month (only unit in basement)

**Set up a gross income estimate (PGI) in proper form.**

#### **Problem 4**

A small retail center with five stores is leased in its entirety to the corner druggist for \$3,150 per month for ten years.

Each store has a 25-foot front by 60-foot depth, with the exception of the corner drug store, which has the same frontage, but an 80-foot depth.

A check of comparable rentals shows that the market rent for stores of this type is \$1,200 per month for the corner store and \$750 per month for each of the other four stores. Market vacancy is 12%. The landlord normally furnishes water and pays taxes, insurance (except public liability and plate glass), and the exterior-maintenance costs.

The druggist's lease calls for the property owner to pay real estate taxes, water, fire and extended-coverage insurance, and for the druggist to pay for all exterior maintenance and miscellaneous repairs. The druggist sublets the four stores to ordinary local merchants on year-to-year agreements.

You find the expenses break down as follows:

Management	7% of EGI
Taxes	\$4,500
Insurance (fire and extended coverage)	\$960
Water	\$500
Maintenance (exterior)	\$2,400

- A. Reconstruct the stabilized operating statement under the ten-year lease to the druggist.**
- B. Reconstruct the stabilized operating statement based on market rentals and expenses.**
- C. What are the operating expense ratios of each case based on EGI?**

### **Problem 5**

An apartment property contains 100 units, each renting for \$250 per month. Vacancy and rental loss is estimated at 6%. Other income, collected each year when vacancy has been about 6%, generates \$25,000 per year. Fixed expenses are \$50,000 per year, while annual variable expenses are estimated at \$80,000. Replacements reserves, considered in estimating NOI, are \$15,000 per year. Annual debt service is \$125,000.

**A. What is potential gross rental income?**

**B. What is effective gross income?**

**C. What is net operating income?**

**D. What is pre-tax cash flow ( $I_E$ )?**



**Problem 8**

For the property in Problem 5, assume an overall income capitalization rate ( $R_O$ ) of 9.0%.

Estimate the following:

**A. EGIM**

**B. PGIM**

**C. OER (based on EGI)**

**D. NIR**