

CHAPTER 17

THE INCOME OR INVESTMENT APPROACH OF APPRAISAL



Learning Objectives

After studying this chapter a student should be able to:

- ☑ Describe the typical operating expenses borne by the owner of an apartment building
- ☑ Identify items omitted from the calculation of net operating income and describe why these items are omitted
- ☑ Derive reasonable operating expenses and rental values for a subject property based on evidence from comparable properties and, using this information, compute the net operating income of the subject property
- ☑ Calculate yields earned on the sales of properties
- ☑ Estimate the market value of a property using the capitalization process
- ☑ Describe the relationship between sale price (or market value), net operating income and yield (or capitalization rate)

INTRODUCTION

The income or investment approach of appraisal is most frequently applied to the valuation of income-producing properties. The purchase price of these properties is regarded as an invested lump sum from which a return is received through rents paid by tenants, the owner's use and occupation, or a combination of the two. The benefits received through the owner's use and occupation can be measured by the potential rental value of the premises; that is, the amount the owner could receive if he chose to rent the premises. By occupying his own premises, the owner avoids paying rent elsewhere, and the value of his occupation is the rental value of the premises. These owners frequently "charge" themselves rent if they are carrying on a business.

The income approach of appraisal focuses on rental income from the property. The fact that a property is inhabited by its owner makes no difference in principle to applying this method. The only practical difference is that the appraiser may have to estimate rental value without being able to refer to an actual rent schedule or lease for the subject property.

The "return" realized on the investment in real property is not necessarily the actual rent received. If the property is subject to real property taxes, insurance,

heating, or other operating expenses that are *paid for by the landlord*, the *net operating income* is the measure of return used by the appraiser.

There are two techniques used in the income approach: the direct capitalization technique and the discounted cash flow technique. This course focuses on the direct capitalization technique. The other technique is covered in more advanced appraisal courses.

The steps involved in appraising a revenue producing property using the income approach of appraisal and the direct capitalization technique include:

1. calculating the amount of annual *net operating income* the property produces;
2. estimating the return or *yield* expected in the market on investments of this type; and
3. determining the price (market value) that would be paid at the appropriate yield as estimated in step 2, for the right to receive the net operating income as calculated in step 1. This final step is carried out by *capitalizing* the net operating income.

ESTABLISHING NET OPERATING INCOME

As the purpose of the income approach of appraisal is to estimate market value, comparisons with other similar investments must be used in each step of the appraisal process. Whether the appraiser is examining existing rents in the subject property or estimating the rent for vacant or owner-occupied property, he must apply the current contract rents observed in the market place in his analysis. Similarly, he must use a yield rate derived from analyzing recent sales and net operating incomes of properties that are comparable to the subject property. The comparable properties used to derive the yield should possess the same risk as the subject property. For a uniform and accurate appraisal, net operating income should be used as the basis for the appraisal. If net operating income is used, all operating expenses borne by the landlord must be accounted for.

Although the income approach of appraisal can be used in appraising most types of property, it is more appropriate and accurate for properties that produce rental income (e.g., apartment buildings, office buildings, industrial

space). This chapter illustrates the income approach using an apartment building as an example, although the same principles are used in the valuation of any income-producing property. An industrial warehouse case study is presented at the end of the chapter.

The general framework for calculating net operating income is as follows:

$$\begin{array}{l} \text{Gross potential revenue} \\ + \text{ Other income} \\ - \text{ Vacancy and bad debt allowance (also called "vacancy and collection loss allowance")} \\ = \text{ Gross realized revenue (also called "effective gross income")} \\ - \text{ Operating expenses (paid by landlord)} \\ = \text{ Net operating income} \end{array}$$

Gross Potential Revenue

Gross potential revenue is estimated using actual current rents paid on similar properties. Even where the subject or comparable property is fully rented, the rents used in determining the property's net operating income should be compared to *current* rental levels. The appraiser must have a sound knowledge of the current market rents for various types of accommodation, considering the class of building involved. For example, an appraiser may determine that \$1,025 a month is reasonable for a one-bedroom suite in a 40-year old suburban block, and that \$1,300 per month is equally reasonable for a one-bedroom suite with a spacious balcony in a modern multi-storey block overlooking the ocean. Comparisons of rental levels must be made between buildings similar in floor area of accommodation, amount and standard of equipment and fittings, standard of finish, quality of management, location, view, and class of tenant. Where buildings are similar in many of these respects, allowance may be made to adjust for dissimilar characteristics.

Licensees in the IC&I (Industrial, Commercial, and Investment) field should pay particular attention to the difference between the variations between gross potential revenue and current rental revenues. In the IC&I field, licensees can help their clients identify opportunities in buildings with below-market rents or buildings that have the potential to reconfigure interior space to optimize leases. It is easy to get lost in the numbers and quantitative analyses, but the

ability to simply identify an under-priced property will go a long way. The capacity to find such opportunities can help steer an IC&I licensee towards success.

In the estimation of gross potential revenue or gross potential rental value, the terms of the lease must be taken into account. Leasing fees are the costs incurred by the landlord for advertising and perhaps the services of a real estate agent/broker, to attract tenants for vacant units or space within the property. Note that leasing inducements are not considered an operating expense. Rather, they are a consideration in estimating the effective rent the property can generate, when estimating the subject's potential gross income.

The appraiser's concept of rental value should be based on assumptions consistent with typical market leasing terms. In the case of apartment rentals, tenants usually pay the rent each month on a month-to-month tenancy or a one-year lease. The responsibility for operating expenses is usually distributed between the landlord and tenant. The tenant covers his telephone expenses and may pay for cablevision and the cost of electricity generated within the apartment. The landlord typically pays all operating expenses not covered by the tenant. If the appraiser builds his knowledge of rentals on typical tenancy agreements, it will be directly applicable in most cases, and allowances can be made for items not contained in the standard lease agreements.

Other Income

It is common to find a number of garages or car spaces in apartment blocks. If the rental schedule includes garage rentals with the respective suite rentals of the tenants, the garage rents should be deducted and shown separately, making comparison of suite rents more precise; a vacancy allowance may or may not be needed for the parking area depending on the number of stalls available and the demand by tenants in the building (or the neighbourhood). There may also be an entry for laundry income in "other income" for gross potential revenue, if there are coin-operated machines in the apartment building.

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Note if the appraiser indicates any support or basis for the market rent and market vacancy assumptions.

Vacancy and Bad Debt Allowance

Vacancy and bad debt (also known as vacancy and collection loss) allowance is not an operating expense and is an allowance for reductions in gross potential revenue attributable to vacancies, tenant turnover, and nonpayment of rent or other income. *Gross potential revenue* are the potential rents earned if the building has 100% occupancy, while *gross realized revenue* is the amount of money actually received by way of rents on the units actually rented. Thus, the gross realized revenue is derived from total gross rentals but is modified by vacancy and bad debt allowances.

gross potential revenue
the potential rents earned if the building has 100% occupancy

gross realized revenue
the amount of money actually received by way of rents on the units actually rented

	Gross potential revenue (per annum)	\$300,000
–	Vacancy and bad debt allowance (2%)	6,000
=	Gross realized revenue	\$294,000

The vacancy allowance should be determined by the long-term vacancy rates in the area; that is, the vacancies in comparable buildings modified, if necessary, by expected future trends. Note that the allowance for vacancy is a percentage of gross potential revenue; this is not necessarily the same as a percentage of the number of suites, particularly where there is a wide variation in the amount of rent per suite. Published surveys of vacancies, rentals, and other real estate trends can provide some useful information by comparing one period with another, but they normally provide only a very rough guide as to the actual vacancies and rents of individual properties on a given date.

Operating Expenses

Typical operating expenses for apartment blocks are listed and described below, and are categorized as either fixed or variable expenses. The deductions include only those operating expenses payable by the landlord.

Fixed Expenses

Fixed expenses are those that must be paid regardless of the level of occupancy and use of the property. These include:

- real property taxes; and
- insurance policies.

fixed expenses

those that must be paid regardless of the level of occupancy and use of the property

Real property taxes: are paid annually to the taxing authority. If these are not known (as with a new building), they can be estimated by obtaining the assessment on the land and completed building, and the tax rates. This information is available at the local assessment or municipal office. As a general rule, real property taxes represent the single largest operating expense item. Normally, the detailed appraisal report would compare the subject's assessment to that of comparable properties to verify whether the subject's assessment appears equitable and that its level of property taxes are fair and comparable to similar properties in the market.

Insurance policies: one or more insurance contracts may be used to insure against fire, rent loss through damage or explosion, water escape, and public liability. The fire insurance premium depends on the cost of reconstruction of the building and the fire risk inherent in the structure and adjoining buildings. Sample quotations and actual charges provide a range that can be used in making estimates, as well as a comparison of the cost of insurance for similar, competing properties.

Variable Expenses

The second type of expenses are classified as *variable expenses*, as their amounts will vary based upon the nature of the occupancy of the property and the amount of lease activity required to maintain full occupancy. These include:

- management
- utilities (e.g., electricity, gas, water, sewer)
- maintenance and repairs

- cleaning/janitorial
- grounds and parking area maintenance
- wages
- garbage removal
- decorating; and
- miscellaneous expenses.

variable expenses

expenses that will vary based upon the nature of the occupancy of the property and the amount of lease activity required to maintain full occupancy

Management: is a professional service charge covering the general supervision of the building, collection of rents, payment of operating expenses, and maintenance of proper accounts. This fee is usually between 3% and 5% of the gross income collected, although it can vary from this range. It may be as low as 1% for warehouse properties leased on an absolute net basis. The fee may or may not include leasing commissions. Where management work is done by the owner, an appropriate fee should be estimated. The theory of the income approach is that no property can manage itself, so this expense must be recognized, such that all properties are appraised on a similar basis. A management expense should always be reflected in an income approach application for commercial properties.

Utility charges: for a commercial property include the cost of water, sewer, gas, electricity, heating, and air conditioning. The subject's expense history is a useful source of information, as well as information from the utility suppliers on typical norms of usage and cost for properties of a type similar to the subject. Also, the cost of utilities for comparable properties will help validate the market norms that should be applicable for the subject property.

Maintenance and Repairs: operating repairs consist of repairs to the electrical, plumbing, heating, and air-conditioning installations. Less frequent repairs will be required to the building structure, roof, walls and floors. Maintenance consists of painting and decorating internally and externally. Interior painting is usually considered necessary every three to five years; high tenant turnover

may hasten this. Exterior decorating can vary considerably; a white painted stucco wall will obviously require more expensive attention than baked enamel. Occasionally tenants with long-term leases will covenant to decorate their own space, in which case the appraiser will have to estimate and deduct a suitable market amount.

Specialty services, such as elevator maintenance, are generally arranged by contract with the manufacturer or installer. Service cost depends on the number and speed of the elevators, which in turn depend on the number of floors (or “stops”), population per floor, and rate of service required at peak load periods.

In the case of all *cyclical repairs*, repairs that are done on a periodic basis, an appropriate annual allowance or reserve should be made to cover the total periodic cost. For example, to cover the cost of painting every three years, one-third of the total painting cost could be allocated as an expense each year.

cyclical repairs

repairs that are done on a periodic basis

The appraiser should continuously consult reliable sources about these maintenance costs, because owners and investors frequently underestimate maintenance costs or carry out repairs only as they arise without allocating reserves in advance. Maintenance and repair costs must be dealt with realistically in an appraisal, whether or not these annual amounts are actually set aside.

The appraiser should maintain accurate records of decorating and repair costs. In time, the appraiser will be in a position to check expense estimates based on his experience. For example, he will know that painting, decorating, and general repairs on a standard building should approximate a certain amount per annum per average suite.

If repairs are immediately required at the time of appraisal, their cost should be deducted as a lump sum from the property's final value. This is because the appraiser has relied on evidence from properties that do not need these immediate repairs. Therefore, if the analysis did not deduct the immediate repairs required, the estimated value of the subject property would be overstated.

Replacement reserves or allowances: provides for the periodic replacement of building components that wear out more rapidly than the building itself and must be replaced during the building's economic life. Replacement refers to the need to replace equipment with relatively short lives such as stoves, refrigerators, washing machines, and other fixtures and appliances. Replacement occurs when an item becomes seriously defective or, in a higher class apartment building, becomes obviously out of date. An economic life of approximately seven years is reasonable for current models of appliances. Carpeting in halls and corridors taking heavy foot traffic could last ten years or more without becoming unsightly, provided it was originally of good quality and has been well maintained. Similar allowances can be made for electric garbage disposal units and exhaust fans by varying the economic life period according to the quality and use of the item. As with cyclical repairs, an appropriate annual reserve should be allocated as an expense.

ALERT

Identifying replacement reserves can be challenging. An owner could defer replacement for a year or two, electing to repair rather than replace so that the timing of the replacement is difficult to judge precisely, and they are often hidden in the repairs allowance. In preparing a forecast of net operating income, particularly for appraisal purposes, the analyst knows that fixtures need to be replaced and an appropriate annual reserve should be allocated as an expense. In practice, cash is seldom set aside for such reserves and whether or not they are included depends on what is typical of the market. In this case, do what the market does, make adjustments so that you are comparing apples to apples.

Cleaning or janitorial: depending upon the type of commercial property and the terms and conditions of the lease, the landlord may be responsible for the costs of regular daily, weekly, or monthly janitorial and cleaning services. This may be done under the heading of maintenance, but can be a significant cost for certain types of properties such as office buildings. If cleaning and janitorial services includes the cost of a building supervisor for an apartment building, often one of the living units is provided either free of charge or at reduced rent for the "super" to live on-site. The potential cost of any such benefit is included in the effective gross income of the property and also would be identified and deducted as an expense item.

Grounds and Parking Area Maintenance: includes the cost of cutting and maintaining the lawns, flower beds, trees, shrubbery, etc. It also includes the

cost to maintain fencing and parking areas, and for the cleaning of the grounds. In the winter, snow removal is normally included.

Wages: covers the cost of building employees but excludes the cost of professional management which is listed separately. Wages also includes unemployment insurance, workers' compensation, Canada Pension Plan, and holiday pay contributions by the employer. The actual amounts can usually be obtained quite readily. The provincial *Employment Standards Act* specifies minimum wages for resident caretakers according to a stated base and the number of suites cared for. This should be referred to for any necessary estimates. Other wages included in this category are those paid to gardeners and extra cleaning staff.

Garbage removal: there may be costs associated with garbage removal involving large disposal bins that are emptied under contract with private sector service providers. There may be other costs assigned by the local municipality.

Decorating expenses: these may include the cost of interior painting, wallpapering, floor coverings, or other expenses in common of public areas of the building. They may also apply to the cost to decorate vacant units in apartment buildings in order to attract new tenants.

Miscellaneous expenses: covers minor items, such as janitor's supplies, advertising, licensing (e.g., a municipal charge for apartment buildings according to the number of suites), and window cleaning.

The types of expenses listed above are the most common for commercial properties. In all cases, appraisers must carefully examine the lease terms for any clauses which may alter the standard division of operating expenses between the landlord and the tenant, and ultimately, value.

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Note if the subject and comparables are equivalent in gross/net rents; are the expenses roughly in proportion between subject and comparables? Is the treatment of the replacement reserve consistent – claimed in all or in none?

Lease Considerations

The principles involved in estimating net operating income are similar for all commercial properties. This includes multi-family apartment buildings, office, industrial and retail operations. Income-producing real estate is usually leased creating various lease interests and it is the lease document that governs the relationship between the tenants and the landlord, and hence the income stream of the property. Commercial leases can be written on a gross or net basis.

On a gross lease, the owner or the lessor pays all operating costs. The rental rate charged to the tenant is a base rent amount plus a contribution to these expenses, this “gross rent” remains constant for the term of the lease. The gross lease is largely confined to residential apartments, older and/or smaller office buildings, and government leases. When it is used for commercial properties, it often includes escalation clauses which can at least partially protect the lessor from rising expenses. An “escalator clause” allows the landlord to recover any increases in the cost of an expense over a stated base, and is generally found in industrial and commercial leases. For example, a tenant may be liable for any increase in the amount of real property taxes over \$2,000. The landlord would pay the first \$2,000 per annum and, if the real property taxes increased to \$2,250, could recover \$250 from the tenant.

A net lease is where the tenant pays a base rent plus their pro rata share of the operating expenses such as property taxes, utilities, heating, repairs and maintenance etc. There are variations of this ranging from “single net” where the tenant pays a base rent and a portion of the operating expenses to “triple net” where the tenant pays all operating expenses but the landlord is responsible for structural repairs and “absolute net” where the tenant pays a base rent plus all expenses including structural maintenance and repairs. The net lease is more common than the gross lease for commercial properties.

In a multi-family apartment building, reflecting a gross lease situation, the landlord is responsible for all operating expenses. This includes the heat, hot water, gas (since heating systems are usually gas-fired) and that portion of the electricity used in the common areas. Electricity used in the individual suites is typically the tenant’s responsibility.

In a multi-office building, cleaning services and tenants’ lighting may be included in the normal rent charged. The tenant however, may be expected to sign a three-year lease because of the expenses involved in each change of tenancy such as movement of partitions and additions to building signs. A

commercial or industrial building leased entirely to one occupier for 10 or 20 years would probably have the tenant liable for most (if not all) operating expenses. If the landlord is responsible for none of the operating expenses, the rent paid would be his net operating income. Although there is a standard procedure for determining the net operating income of any type of property, the actual terms of each tenancy agreement must be analyzed to determine the distribution of operating expenses.

Commercial and industrial tenants are very concerned with floor area. The rent paid by these tenants is based on rent per square foot per annum. In calculating rentable area, only the space rented to a tenant for their exclusive use is included. The tenant has no control over, or any exclusive use of, the amount of building area taken up by shared halls, stairs, washrooms, or wall thickness, and he cannot be expected to pay for these directly.

Example

The following income and expense statement based on a gross lease is for a five-storey multi-family apartment building. It is five years old, constructed from reinforced concrete and has 46 suites and 40 garage spaces.

INCOME AND EXPENSE STATEMENT FOR THE YEAR END, 20XX – ABC GARDEN APARTMENTS

Gross potential rent		
6 bachelor suites @ \$885 per month		\$5,310
22 one-bedroom suites @ \$1,100 per month		24,200
15 two-bedroom suites @ \$1,300 per month		19,500
3 three-bedroom suites @ \$1,500 per month		4,500
40 garages @ \$45.00 per month		<u>1,800</u>
Gross monthly rent		55,310
	× 12	
GROSS POTENTIAL REVENUE		\$663,720
Less vacancy allowance and bad debt allowance		
2% (from market observation)		
– Apartments	\$12,842	
Less vacancy allowance		
6% (from market observation)		
– Parking	<u>1,296</u>	<u>14,138</u>
GROSS REALIZED REVENUE/EFFECTIVE GROSS INCOME		\$649,582
Operating expenses		
Property taxes (Actual taxes in year of appraisal)	\$30,426	
Water (average over last 3 years)	8,073	
Fuel (average over last 3 years)	42,920	
Electricity (average over last 3 years)	2,525	
Waste	6,500	
Maintenance and repairs:		
Interior decorating \$8,850 every 3 years	\$2,950	
Exterior decorating \$10,500 every 3 years	3,500	
Roof covering cost \$40,000 every 20 years	2,000	
General repairs	<u>2,250</u>	10,700
Replacement reserves (for equipment):		
Total appliances \$50,596 every 7 years	\$7,228	
Total other \$8,200 every 10 years	<u>820</u>	8,048
Insurance (actual for 1 year)		11,090
Wages		20,520
Management (3% of gross realized income)		19,487
Miscellaneous expenses (average over last 3 years)		<u>750</u>
TOTAL OPERATING EXPENSES		\$161,039
NET OPERATING INCOME		<u>\$488,543</u>

In this case, operating expenses represent 25% of gross realized income or effective gross income, which is considered reasonable if located in a market where comparable expense ratios range from 25-28% for similar buildings. A higher percentage could be expected in an older block where maintenance expenses are higher and rents lower by comparison to newer buildings. In a lower rental range, a lower standard of maintenance and services would be expected. The appraiser should check that each expense item is reasonable compared to other similar apartment buildings. For example, the wage expense of \$20,520 divided by the number of suites (46) shows that the owner is paying \$446.09 per suite. This may be high or low in comparison to other buildings. The appraiser could also convert wages into a percentage of gross realized revenue to see if it was a reasonable expense. All of the operating expenses must be compared to those paid in similar buildings to see if they are reasonable.

ALERT

Lease Analysis can get quite complicated, with concessions given such as free rent and tenant improvements, etc. Have these been considered and evaluated? Has the appraiser considered contracted rents that are below market? Has the appraiser accounted for the expense recovery on vacant space?

In retail stores, location is of prime importance and the extent of frontage is often as important as total floor space. For smaller trades, excessive depth (more than 80 feet) is not generally valuable space.

In the analysis of each type of income-producing property, the appraiser is expected to have sufficient knowledge to present a realistic statement of net operating income. At law, he cannot avoid all responsibility for such particulars merely because he obtained some of the figures from other persons.

Items Omitted in Calculating Net Operating Income

Financial statements and income tax calculations for business properties have been discussed in a previous chapter. Several items included in these statements are not used in calculating net operating income. The major omissions include depreciation, capital cost allowance, income tax and debt repayments. These items are omitted because they are specific to the individual owner or investor. As the appraiser is estimating market value, not value to the owner, he cannot consider any items which vary according to an owner's individual circumstances. Each of the items omitted in calculating net operating income is considered below.

Depreciation: measures the loss of value which occurs even though repair and maintenance work has been carried on. The major problems associated with estimates of depreciation are:

1. The life of a building depends on its economic durability, not its physical durability. For example, a building 30 years old may be demolished as it is no longer needed while a neighbouring building, 70 years old, is kept in use.
2. The economic life of many buildings is so long that the amount of depreciation taken each year is not an important element in the estimation of value.

3. There is no objective method of estimating the future economic life of a building and any estimate made must be based on subjective opinion. For example, if a property which represents highest and best use for the foreseeable future is being appraised, limiting the economic life of the property is not relevant.
4. If depreciation is attributed to buildings, it could be argued that appreciation should be attributed to the value of the site. Measuring appreciation would be as difficult as measuring depreciation.
5. In examining similar buildings, there is no way to determine if, or how, depreciation enters into the calculation of value by the vendor and purchaser.

For these reasons, no depreciation allowance is made in appraisals using the investment or income approach. The yield produced from the analysis represents the expected rate of return before an allowance for depreciation.

Income Tax: since the rate at which individuals are taxed varies and, broadly speaking, all investments are liable to income tax on the same basis, income tax is not deducted in determining net operating income. However, income tax can be a very important element in calculating value to the owner, and there may be instances when some adjustments for income tax are considered before a purchase is made. If the appraiser is estimating market value, he should leave these adjustments up to the individual purchasers.

Capital cost allowance: refers to the depreciation of assets, claimed for income tax purposes. It is calculated according to the provisions of the *Income Tax Act*. The arguments against deducting capital cost allowance are the same as those given for income tax, since capital cost allowance is only relevant in income tax calculations.

Debt service: Each project or property will have its own unique financing package. Since this may vary considerably between properties and investors, appraisers can only consider net operating income *before* financing costs are included.

Equity Yield

In practice, the purchase of a property is usually financed partly by the buyer's own cash and partly from funds raised by a mortgage. Alternatively, property may already be subject to a mortgage in which case the buyer assumes the existing mortgage and purchases the vendor's equity in the property. Equity is defined as the total property value less all mortgage debts. The net operating income represents a return on the *entire value of the property*, before financing is considered; net operating income is *not* a return on the equity portion of the property's value. Mortgage debt is only considered in cases where the property is financed at a contract rate that differs from current mortgage rates. In these cases, some allowance must be made to account for mortgages whose contract rate is significantly above, or below, the current market rate for similar mortgages. Likewise, income tax is not considered in the estimate of net operating income. The measure of return on the total property price used by the appraiser is net operating income, before income tax and financing. If a purchaser wishes to calculate his potential equity yield, he will have to consider his own financing arrangements and income tax situation. The appraiser does not include these items in his attempt to estimate market value.

REQUIRED RATE OF RETURN

A purchaser of an income-producing property invests a lump sum today to receive a regular return in the form of rental income. The property owner is an investor; he could invest the same money in other investments, such as government bonds, mining stock, or his own business or trade. In considering his investment in any asset, an investor must look at the following attributes and compare these attributes among investments.

1. **Risk:** the likelihood that his return and/or his original investment of money will increase, decrease, or stay the same.
2. **Management Requirements:** the amount of time and effort he must invest in order to receive a return and protect the money he has put into the property.
3. **Liquidity:** the ease with which he can convert the asset to cash.

After an investor has considered each of these attributes for a particular investment, he can estimate a return on that investment that he would be

satisfied earning. Generally, the higher the risk, the greater the management requirements and the lower the liquidity of the investment, the higher the return the investor will demand.

Example

The purchase of a Canada Savings Bond is not a risky investment. The amount of interest that will be earned, and the date it will be received, are known in advance. It is not likely the government will default on this payment. The investment does not require a great deal of management time from the investor. A Canada Savings Bond is also a liquid investment; on payment of an interest penalty, it can be cashed at any time.

An office building, on the other hand, is more risky than a Canada Savings Bond. The amount of rents that will be received and the amount the building could be sold for in the future can only be estimated. The investment may or may not require a great deal of management time depending on the owner's preferences, but will certainly require more time than the purchase of the Canada Savings Bond. An office building cannot be quickly and easily converted into cash.

In analyzing these two investments, an investor would demand a higher return for the office building than the Canada Savings Bond. The office building has more risk, requires more of his time and is less liquid than a Canada Savings Bond.

As all investors react in the same way to risk, management requirements, and liquidity, their collective decisions allow investments to be categorized into different return classes. In other words, investments similar to Canada Savings Bonds will require the same return as a Canada Savings Bond. An office building, similar to the one described above, will require a similar return. Appraisers who are familiar with different investments, will be able to classify investments according to their respective required returns by comparing their risk, management requirements, and liquidity. The appraiser's classifications cannot remain stagnant because these attributes will change over time and among investments; as they change, so will the required return.

Relationship Between Income, Sale Price and Return/Yield

If the government issues, or sells, a bond for \$1,000 at an interest rate of 6% per annum, the government will pay \$60 interest per year to the holder of the bond. An investor who pays \$1,000 for this bond, earns an annual income of \$60 or he earns a 6% return on his investment of \$1,000. The rate of return earned on an

investment is always expressed as an effective rate; that is, a nominal rate with annual compounding (j_1). The return is calculated as follows:

$$\text{Rate of Return (or Yield)} = \frac{\text{Income}}{\text{Sale Price}}$$
$$\frac{\$60}{\$1,000} = 0.06 \text{ or } 6\%$$

If the original bondholder sells this bond to someone else, the government will continue to pay interest of \$60 per year to the new holder of the bond. Assume the second owner pays \$960 for the bond.

$$\text{Rate of Return (or Yield)} = \frac{\$60}{\$960} = 0.0625 \text{ or } 6.25\%$$

If an investor pays \$960 for the bond, he earns a return of 6.5% on his investment.

Assume a third owner pays \$1,200 for the bond. The government continues to pay interest of \$60 per year to the third owner of the bond.

$$\text{Rate of Return (or Yield)} = \frac{\$60}{\$1,200} = 0.05 \text{ or } 5\%$$

The third owner earns 5% on his investment of \$1,200.

The return an investor earns on an investment is also referred to as the investor's *yield*. This example illustrates that assuming interest payments remain the same, when the price paid for a bond falls, the return or yield earned on the bond rises. Conversely, when bond prices rise, yields fall. Bond prices and their associated yields are inversely related.

CAPITALIZATION PROCESS: MARKET VALUE

In the income approach of appraisal, the market value for any particular real estate property is determined by the yields prospective purchasers reasonably expect to earn. Prospective purchasers base their return expectations on the yields earned on similar investments; similar in terms of risk, management requirements, and liquidity.

To estimate the market value of an apartment building, the appraiser must establish:

1. the net operating income (NOI) the property will earn; and
2. the return (measured as a percentage of price) purchasers currently require in sales of similar properties with similar risk.

After NOI is calculated, it is converted to market value, expressed as a capital sum. This conversion from net operating income to a capital amount is referred to as the *capitalization process*.

capitalization process

the conversion of net operating income to a capital amount, such as market value

Example

If an apartment building provides a net operating income of \$10,000 per year and purchasers require a return of 6% from this investment, the likely sales price or, market value, will be that capital sum for which \$10,000 per year represents a 6% yield. In this problem, market value is the unknown. The calculation for finding market value is done as follows:

$$\begin{array}{rcl} 6\% \text{ Return on Market Value} & = & \$10,000 \\ \text{or } 6\% \times \text{Market Value} & = & \$10,000 \\ \text{or Market Value (or Sales Price)} & = & \frac{\$10,000}{0.06} \\ & = & \underline{\underline{\$166,667}} \end{array}$$

If a purchaser paid \$166,667 for the apartment property today and the property produced a net operating income of \$10,000 per year, the yield (before considering income tax and mortgage payments) would be 6%.

$$\begin{aligned} \text{Yield} &= \frac{\text{Net Operating Income}}{\text{Sale Price}} \\ &= \frac{\$10,000}{\$166,667} \\ &= 0.06 \text{ or } 6\% \end{aligned}$$

It is apparent then that the relationship of yield (or return) on a government bond is similar to that of the yield (or capitalization rate) on an income generating property. This relationship is presented below:

$$\text{Yield (or Return)} = \frac{\text{Income}}{\text{Sale Price}}$$

or

$$\text{Yield (or Capitalization Rate)} = \frac{\text{Net Operating Income}}{\text{Market Value (or Sale Price)}}$$

or

$$\text{Market Value} = \frac{\text{Net Operating Income}}{\text{Yield (or Capitalization Rate)}}$$

To apply the income approach of appraisal, the appraiser must use the sale prices and net operating incomes of comparable properties to estimate the required yield for this type of property. The yield is the return an investor expects to earn on the purchase of a property and is expressed as a percentage of the purchase price. The yield the appraiser derives from the comparables is then called a *capitalization rate* when it is applied to the net operating income of the subject property. A capitalization rate is used to establish an expected sale price for a property that has not yet sold. The expected sale price is an estimate of the amount investors (the market) will pay in order to receive the yield they demand on this particular type of property.

capitalization rate

the return an investor requires for investing in a property to receive the annual net operating income flows

The essential ingredients for the derivation of market value using the income approach are:

1. a realistic calculation of net operating income; and
2. an accurate estimate of the appropriate yield purchasers are prepared to accept from a similar investment.

Example

Comparables	Sale Price	Net Operating Income	Yield
A	\$5,000,000	\$350,000	$\$350,000 \div \$5,000,000 = 0.07$ or 7%
B	\$4,500,000	\$300,000	$\$300,000 \div \$4,500,000 = 0.0667$ or 6.67%
C	\$4,800,000	\$325,000	$\$325,000 \div \$4,800,000 = 0.0677$ or 6.77%

Based on the appraiser's experience and knowledge of the local market, he determines that for properties of this type, investors require a yield of say, 7%. 7% is now called the capitalization rate and

applied to the net operating income of the subject property to estimate its market value. The net operating income of the subject property, derived by the appraiser, is \$320,000.

$$\text{Market Value} = \frac{\text{Net Operating Income}}{\text{Capitalization Rate}}$$

or

$$\text{Market Value} = \frac{\$320,000}{0.07} = \$4,570,000 \text{ (rounded)}$$

The appropriate capitalization rate for any given case is best obtained by analyzing *actual sales prices* and reliable estimates of net operating income for *recent* sales of *similar* income-producing properties. If the appraiser knows that a similar property recently sold for \$4,750,000 and that it produced a net operating income of \$360,000 per annum, he can calculate the implied yield or capitalization rate as follows:

$$\text{Yield (or Return)} = \frac{\text{Net Operating Income}}{\text{Sales Price}}$$

or

$$\text{Yield (or Capitalization Rate)} = \frac{\$360,000}{\$4,750,000} = 0.0758 \text{ or } 7.58\%$$

The purchaser in this case was prepared to accept 7.58% yield on the total price. This is how sales are analyzed to build up a record of capitalization rates or yields for various types of real estate. Complete and up-to-date records are very useful.

An accurate estimate of net operating income requires time and careful analysis. Shortcuts should be avoided until a proper level of competence is achieved. One shortcut that should *never be used* is capitalization rates calculated from gross realized income instead of net operating income. The operating expenses borne by the landlord must always be considered.

ALERT

Capitalization rates require an apples to apples comparison – comparables treated consistently and equivalently to subject properties.

Comparable sales and the capitalization rates reflect what the market/purchaser is prepared to accept from his or her investment. The capitalization rate should reflect the difference in the comparables and the subject property. Therefore, the capitalization rate for each comparable may be adjusted to better

reflect the subject property. For example, the comparable capitalization rate is adjusted lower to reflect the low vacancy rate used in the comparable NOI calculation vs. the higher market vacancy rate used in calculating the subject NOI. The same exercise may be done in comparing better location, hence higher property rents, and so on. Caution: this process requires the appraiser to consider the comparable as a whole rather than in parts, as a small change in the capitalization rate results in a large change in value. Try it and see!

Comparative Security of Real Estate Investments

Returns or yields from real estate investments must be competitive with other investment yields in the long run. Any investor who can obtain 6% from a government bond (a secure and trouble-free investment) will generally want a higher return from an apartment building because it is less liquid and has a net operating income which depends on many factors.

An even higher risk is often involved with industrial property (unless it is leased for a long term to a very sound tenant). With a lack of standard design and with a wide variation in the requirements of industrial occupiers, a vacated factory can remain on the market for a long period before a suitable replacement tenant or buyer is found.

In a broad sense, it is possible to classify types of real estate in some order of security and to indicate the relative yields expected.

Capitalization Rates: A Word of Caution

This application of the income approach is based on the appraisal of investments of highest and best use where no obvious change in land use is expected, and where the net operating income earned is stabilized and expected for years to come. Hence, the yield or capitalization rate is based on a single period's stabilized income. It is simple and most commonly applied by real estate investors in making their pricing decisions.

Where a property is not expected to continue in its current use for as long as can be predicted or in more complex valuation assignments such as a hotel, it would be inappropriate and misleading to apply the income approach as described here. In this case, a rate derived by discounted cash flow (DCF) which considers changes in income and expenses over time including tax and debt, is more appropriate. The latter is beyond the scope of this course.

CASE STUDY 1

Subject Property

Lakeview Apartments is a 26-unit apartment building. The appraiser has obtained the following information regarding income and expenses (actual):

Gross revenue	\$359,300
Less Expenses	
Real property taxes	\$18,540
Water	\$3,100
Fuel	\$15,700
Electricity	\$4,600
Janitor	\$14,500
Insurances	\$2,820
Sundry expenses	\$2,000
Management	\$17,070

Lakeview Apartments is seven years old, of good construction and located in a desirable area close to shops, beaches and transportation. It contains 16 one-bedroom suites, four two-bedroom suites, and six bachelor suites. \$9,500 must be spent immediately to repair a small area of the roof.

Comparables

Records of three recent sales¹ of similar properties are summarized below:

- Sale 1 has 21 suites and is four years old. Net operating income last year was \$202,000. The property sold for \$2,485,000.
- Sale 2 has 16 suites, is 12 years old, and is in a slightly poorer location. Net operating income last year was \$141,000. The sale price was \$1,700,000.
- Sale 3 has 35 suites, is three years old, with a high standard of finish and equipment. Net operating income last year was \$340,000. This property sold for \$4,200,000.

The purpose of the appraisal is to advise the owner of the price (or market value)² he can expect on the sale of Lakeview Apartments. Knowing that \$9,500 must be spent on immediate repairs to Lakeview Apartments, how should the appraiser complete the appraisal?

Step 1: Determine the Appropriate Capitalization Rate for the Subject Property Based on Recent Sales

Sale 1: Indicated Cap Rate: $\$202,000 \div 2,485,000 = 0.081287$ or 8.13%

Sale 2: Indicated Cap Rate: $\$141,000 \div 1,700,000 = 0.082941$ or 8.29%

Sale 3: Indicated Cap Rate: $\$340,000 \div \$4,200,000 = 0.0809523$ or 8.09%

The comparables indicate cap rates (or yields) in the range of 8.09% to 8.29%. The appraiser's opinion is that Sale 1 is the most similar to the subject property and should be given the most weight in the analysis. Therefore, this cap rate, 8.13% rounded to 8.15%, is considered the best indication from the market of the rate of return expected on this property. The 8.09% and 8.29% rates of Sales 2 and 3 "bracket" this rate, providing a high and low limit and with the subject failing in the indicated range. This supports the selected 8.15% as a good representative of market expectations for this type of investment.

Step 2: Estimate the Potential (Versus the Actual) Net Operating Income (NOI) of the Subject Property

Remember the purpose of the appraisal is to advise the owner of the price he can expect on the sale of the building assuming current market conditions and expectations. Evidence from the comparable properties can be used to confirm if the subject's income and expenses are reasonable – and if not, what is reasonable or expected of the market, to determine the NOI for the subject property.

Further, a vacancy rate must be assumed, based on the market evidence. The comparables each had a vacancy rate of approximately 5%. This is consistent with market experience in this area and is supported by statistics published by CMHC and the local Real Estate Board. A 5% vacancy rate is considered reasonable for the subject.

Estimates of maintenance and replacement reserve must be included in calculating net operating income. An effective unit of comparison for maintenance fees is the expense per unit or expense as a percentage of gross realized revenue. For example, researching the maintenance fees for the three comparable properties yields the following per suite estimates:

Sale 1: $\$14,500 \div 21 = \690.48 per suite

Sale 2: $\$11,000 \div 16 = \687.50 per suite

Sale 3: $\$24,000 \div 35 = \685.71 per suite

Average expenses per suite $[(690.48 + 687.50 + 685.71) \div 3]$ is \$687.90.

The appraiser feels that an estimate of \$687.90 per suite is appropriate for the subject, so the maintenance expense would be roughly \$17,900 ($\688×26 suites).

Evidence from the comparable properties can be used to confirm if the subject's management fee is reasonable – and if not, to determine what a reasonable management fee should be. A similar analysis is done for all the expenses to determine the NOI for the subject property.

An immediate expenditure of \$9,500 is required for repairs. However, this repair cost cannot be considered as part of operating expenses, as that would implicitly assume this figure was to be spent each year in perpetuity. Instead, this is a one-time capital expense and must be subtracted from the calculated market value to arrive at an adjusted final estimate of value.

The net operating income of the subject is estimated as follows:

Gross potential revenue		\$359,300 ³
Less vacancy allowance (5%)		<u>17,965</u>
Gross realized revenue or Effective Gross Income (EGI)		\$341,335
Less estimated annual operating expenses		
Real property taxes	\$18,540	
Water	5,100	
Fuel	19,700	
Electricity	8,600	
Janitor	16,500	
Maintenance	17,900	
Insurance	12,820	
Sundries	2,000	
Management	<u>17,070</u>	\$118,230
Annual net operating income		<u><u>\$223,105</u></u>

Step 3: Capitalizing the Estimated Net Operating Income of the Subject Property

Market value of the subject property (before considering immediate repairs) is estimated by capitalizing the net operating income at the capitalization rate determined in Step 1.

$$223,105 \div 8.15\% = \$2,737,485$$

Step 4: Deduct Cost of Immediate Repairs Required

$$\begin{array}{r}
 \$2,737,485 \\
 - \quad 9,500 \text{ (Cost of immediate repairs)} \\
 \hline
 \$2,727,985 \text{ or } \$2,728,000 \text{ (rounded)}
 \end{array}$$

\$2,728,000 is the estimate of value using the income for the subject property at the date of valuation.

Additional Comments on this Case

As discussed in the other appraisal chapters, the income approach of appraisal is most often used in estimating the value of an income-producing property. However, the appraiser could also do further analysis using the market approach as a “check” on the value indicated by the income approach if adequate data was available. For example, the appraiser could further analyze the three sales using sale prices on a per suite basis:

	Sale Price	Number of Suites	Indicated Price per Suite
Sale 1	\$2,485,000	21	\$118,334
Sale 2	\$1,700,000	16	\$106,250
Sale 3	\$4,200,000	35	\$120,000

These comparables indicate a range of \$106,250 to \$120,000 per suite. The appraiser considers Sale 1 as the best comparable but also takes into the account the age of the subject property. He might be of the opinion that a price of say, \$109,000 per suite is reasonable for the subject property. Therefore, a value of \$2,834,000 ($\$109,000 \times 26$ suites) should be estimated for the subject property *before the costs of immediate repairs are deducted*. The final estimate of value using the market approach would be:

$$\begin{array}{r}
 \$2,834,000 \\
 - \quad 9,500 \text{ (Cost of immediate repairs)} \\
 \hline
 \$2,824,500 \text{ or } \$2,825,000 \text{ (rounded)}
 \end{array}$$

\$2,825,000 is the estimate of value using the market approach for the subject property at the date of valuation.

The estimate using the market approach is reasonably close to that indicated by the income approach. The appraiser would then complete his analysis by

explaining which approach should be given the most weight and reconciling the value indications to determine the final estimate of value for the subject property at the date of valuation.

This discussion on the application of the appraisal methods is simplified for illustration purposes; it ignores the expertise and judgment required by the appraiser to select the appropriate rate, expenses, capitalization, and/or suite price for the subject property based on market evidence. Here, we have assumed the figures are reasonable to show how the approaches are done. In practice, an appraiser must justify why a particular amount or rate is appropriate for the subject property. While it may appear from this case study that it is reasonably easy to use these approaches to value a property, remember, in practice, the appraiser must first collect the market evidence (which may be incomplete or require many adjustments) and then justify the use of particular estimates (rents and/or expenses) for the subject property. [Figure 17.1](#) illustrates how a change in these variables affects market value.

CASE STUDY 2

Subject Property

The subject is a five-year-old steel-frame warehouse divided into four bays. One of the tenants pays for an additional 5,000 square feet of outside, fenced storage. Bays 1, 3, and 4 were leased out three years ago, each for a five-year lease term. Bay 2 was leased out in January last year (the previous lease was negotiated five years ago, and the space was vacant for six months two years ago). The subject and all comparable leases are leased on a triple net basis, with the tenant responsible to pay the stated net rent plus all expenses except structural maintenance and management. The effective date of appraisal is May 1, 20XX.

FIGURE 17.1: Lakeview Apartments: Sensitivity Analysis Lakeview Apartments: sensitivity analysis

1. Change in NOI items.				Notes			
Gross potential revenue			\$359,300				\$359,300
Less vacancy allowance(5%)			\$17,965		1.		\$8,983
Gross realized revenue or (EGI)			\$341,335	\$341,335			\$350,318 \$350,318
Less estimated annual operating expenses							
Real property taxes			\$18,540				\$18,540
water			\$5,100				\$5,100
fuel			\$19,700		2.		\$10,800
electricity			\$8,600				\$8,600
janitor			\$16,500				\$16,500
maintenance			\$17,900				\$17,900
insurance			\$12,820		3.		\$15,500
sundries			\$2,000				\$2,000
management			\$17,070	\$118,230			\$17,070 \$112,010
Annual net operating income (NOI)				\$223,105			\$238,308
cap rate				8.15%			8.15%
Value				\$2,737,485			\$2,924,025
2. Selection of Cap Rate							
NOI	\$223,105	\$223,105	\$223,105	\$223,105	\$223,105	\$223,105	\$223,105 \$223,105
cap rate	9.00%	8.50%	8.25%	8.15%	8.00%	7.75%	7.50% 7.25%
Value	\$ 2,478,944	\$ 2,624,765	\$ 2,704,303	\$ 2,737,485	\$ 2,788,813	\$ 2,878,774	\$ 2,974,733 \$ 3,077,310

Notes

1. Overall market vacancy drops to 2.5%.
2. Management puts in better controls to monitor heat loss throughout the building.
3. Insurance expense is increased.

Gross Potential Revenue

The following income information was provided by the owner.

“Actual” Income: ABC Warehouse Property, Kelowna, BC			
Income Source	Last Year	Two Years ago	Three Years ago
Bay #1 – 2,000 ft ²	\$12,000	\$12,000	\$12,000
Bay #2 – 2,000 ft ²	\$14,000	\$5,000	\$10,000
Bay #3 – 4,000 ft ²	\$22,000	\$22,000	\$22,000
Bay #4 – 2,000 ft ²	<u>\$12,000</u>	<u>\$12,000</u>	<u>\$12,000</u>
Total Warehouse space rent	\$60,000	\$51,000	\$56,000
Outside fenced storage	<u>\$3,000</u>	<u>\$3,000</u>	<u>\$3,000</u>
Total Income	\$63,000	\$54,000	\$59,000

A search of the neighbourhood indicates several lease negotiations completed between January and April, 20XX. Three specific lease transactions from the past few months were identified to assist in establishing the appropriate market lease rate for the subject property.

Lease Comparable #1 is for 1,800 square feet of warehouse space, similar to the subject. This space was rented for \$6.00 per square foot, with the lease commencing April 15, 20XX.

Lease Comparable #2 is for 2,500 square feet of warehouse space, with a ceiling clearance of only 12 feet compared to 14 feet in the subject building. This space was rented for \$5.75 per square foot, with the lease commencing April 25, 20XX. An analysis of other warehouse space leases indicates that warehouse space with a ceiling clearance of only 12 feet rents for 5% less than 14 foot high space.

Lease Comparable #3 is for 3,500 square feet of warehouse space, and is similar to the subject. This space was rented for \$5.90 per square foot, with the lease commencing January 1, 20XX. An analysis of other warehouse leases indicates that warehouse rents have increased by 0.5% per month between January 1 and May 1, 20XX.

Below is a rental analysis for these three lease comparables:

Lease Comparable	#1	#2	#3
Rental Rate	\$6.00/ft ²	\$5.75/ft ²	\$5.90/ft ²
Adjustments			
Time	0	0	+2%
Warehouse Height	0	+5%	0
Adjusted Rental Rate	\$6.00/ft ²	\$6.04/ft ²	\$6.02/ft ²

The market does not appear to attribute different unit lease rates for space in the range of 1,000 to 4,000 square feet; therefore, no size adjustment was necessary for the analysis.

The subject’s actual rental rate last year for warehouse space is \$60,000 ÷ 10,000 square feet = \$6.00/ft².

The subject’s actual rents appear to reflect current market rents, given the three market comparable leases. A similar analysis was conducted for vacant land rental rates associated with warehouse type properties, and the subject’s

outside storage rent of \$3,000 also appears indicative of current market rates. Therefore, the subject’s income statement from last year is confirmed as establishing the stabilized gross potential revenue for appraisal purposes:

Reconstructed and Stabilized Income: ABC Warehouse Property, Kelowna, BC		
Effective Date: May 1 (this year)		
Income Source	Market Rental Rate	Stabilized Market Rent
Bay #1 – 2,000 ft ²	\$6.00/ft ²	\$12,000
Bay #2 – 2,000 ft ²	\$6.00/ft ²	\$12,000
Bay #3 – 4,000 ft ²	\$6.00/ft ²	\$24,000
Bay #4 – 2,000 ft ²	\$6.00/ft ²	<u>\$12,000</u>
Total Warehouse space rent		\$60,000
Outside fenced storage	\$3,000	<u>\$3,000</u>
Gross Potential Revenue		\$63,000

Alternatively, if the rents for the comparables were substantially different from the subject, the owner’s income statement would need to have been revised to reflect market rents.

Effective Gross Income (EGI)

The gross potential revenue was estimated at \$63,000. Now, the vacancy and collection loss must be estimated and deducted to indicate the stabilized effective gross income.

A review of published statistics for the Kelowna neighbourhood where the subject property is located indicates a vacancy rate of 4% for warehouse space in the first quarter of this year. A canvass of an eight-block area surrounding the subject property, focusing on properties offering the same warehouse utility as the subject, indicates that approximately 9,800 square feet of space was vacant and available for rent, out of a total of 237,000 square feet. This equates to a current vacancy rate of 4.1%. The subject’s history indicates that, over the past three years, its vacancy rate was only 3.3%. Based on this information, the appraiser decides on 4% as the most appropriate market vacancy rate for the subject, despite the subject’s actual vacancy rate. Remember, if market rents are used for the appraisal analysis, rather than actual rents, then the vacancy rate for appraisal purposes will also likely differ from actual vacancies.

There is no published information available on collection loss. Interviews with owners of similar properties indicate that there is rarely a problem with respect to bad debts and collection loss, but it does occur from time to time, perhaps only 1% of total rents. Interviews with managers of warehouse properties indicate a similar allowance for collection loss. Therefore, the collection loss or bad debt allowance is estimated at 1%.

There is no information related to a vacancy or collection loss rate applicable to the outside storage space, but since it is warehouse-related, it seems reasonable to assume that the same rates will apply.

The effective gross income (EGI) for the subject property is as follows:

Gross Potential Revenue	\$63,000
Less vacancy and collection loss (4% + 1%)	<u>3,150</u>
Effective Gross Income (EGI):	\$59,850

Expense Analysis and Net Operating Income

The effective gross income (EGI) calculated in the last step was \$59,850. The expense analysis for a warehouse property is fairly simple. The rent for the subject and comparables was triple net. This means the landlord is responsible only for management and structural maintenance.

In order to estimate the expense allowance for management, interviews were conducted with owners who engaged managers to operate and maintain their building, and several warehouse property management firms. They indicated a range of 2% to 3% of effective gross income was typical, given the minimum work required to manage a warehouse property. It is considerably less labour intensive than managing an apartment building or other larger multi-tenanted commercial properties. For the subject, with only four tenancies to manage, a rate of 2% seems appropriate. This equates to \$1,197 ($\$59,850 \times 2\%$) as the management expense.

For structural maintenance, owners and managers of comparable warehouse properties were interviewed, and they indicated a range of 1% to 2% (of EGI) was warranted. A rate of 1% seems appropriate given the subject building is only five years old, the nature of the tenancies does not place unusual physical stress on the structure of the building, and that it is in very good condition. This equates to \$599 ($\$59,850 \times 1\%$) as the structural maintenance expense.

For the owner’s share of operating expenses on vacant space, we can examine operating expenses as a whole, given the market for warehouse properties in Kelowna is not complex enough to warrant an analysis of each expense item individually and in depth. Reliable published sources indicate that the operating costs for a warehouse property in Kelowna last year averaged \$1.00 per square foot. In addition, the annual taxes averaged \$1.20 per square foot. The subject property would be considered of average size and the property is located in a typical industrial setting. Therefore, \$2.20 per square foot is considered reasonable in estimating all the expenses paid by the tenant in a triple net lease situation. The owner would be responsible for the expenses for vacant space and space with collection losses. This is calculated as follows:

Owner’s share of expenses = \$2.20 per ft² × 10,000 ft² × 5% (vacancy and collection loss rate)
= \$1,100

The net operating income (NOI) is as follows:

EGI		\$59,850
Expenses		
Management	\$1,197	
Structural Maintenance	\$599	
Owner’s share for vacancy and rental loss	<u>\$1,100</u>	<u>– \$2,896</u>
NOI		\$56,954

The subject’s expense ratio is \$2,896 ÷ \$59,850 = 4.8%

Capitalization and Reconciliation

The subject property’s effective gross income was estimated at \$59,850, the net operating income was estimated at \$56,954, and the subject’s expense ratio was calculated to be 4.8%. We now focus on the derivation of a capitalization rate for the subject property.

A search of the market has found several comparable, leased warehouse properties that sold over the past year. Three of the most recent sales that are most similar to the subject were analyzed to derive an overall capitalization rate and a gross (effective) income multiplier. The analysis of these three sales is summarized below.

Comparable	#1	#2	#3
Date of sale	March	April	January
Sale Price	\$850,000	\$710,000	\$933,000
Effective Gross Income (EGI)	\$81,500	\$62,900	\$86,400
Net Operating Income (NOI)	\$76,500	\$60,350	\$82,100
Expense ratio	6.10%	4.10%	5.00%
Gross Income Multiplier (GIM)	10.43	11.29	10.80
Overall Capitalization Rate (OCR)	9.00%	8.50%	8.80%

Using direct comparison, the three comparable sales indicate a range in overall capitalization rates of 8.5% to 9.0%. The subject's expense ratio was calculated as 4.8%, most similar to Comparable #3. The capitalization rate indicated by Comparable #3 is the midpoint of the three sales, and it is well-supported by the other two. Comparable #3 has been given the most weight in concluding a market overall capitalization rate of 8.8%.

The value indication for the subject property, based on direct capitalization, is:

$$\begin{aligned}
 \text{Market Value} &= \text{NOI} \div \text{OCR} \\
 &= \$56,954 \div 0.088 \\
 &= \$647,205 \text{ or } \$647,000 \text{ (rounded)}
 \end{aligned}$$

CONCLUSION

The income approach relies on good comparable data on revenues, expenses, sales prices and capitalization rates from market sources, and is the best approach to estimate market value where the subject property is an income-producing property. However, remember that a review requires not just the consideration of the final number, but also the decisions that led to finding this number, and whether those decisions are reasonable in the circumstances.

- 1 In practice, four sales are usually required as a minimum.
- 2 The market value is “The most probable price which a property should bring in a competitive and open market, as of the specified date, under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeable, and assuming the price is not affected by undue stimulus.” *Canadian Uniform Standards of Professional Appraisal Practice*.
- 3 Assume that rents have been verified and are considered market rents: gross revenue (actual) does not need to be adjusted.