borrower payments and the interest payment required at the composite rate will be accrued in the mortgage balance in the form of negative amortization. The mortgage amount desired by the borrower is $65,000 for a 30-year term, but a one-time mortgage insurance premium of $2,400 is being funded as a part of the loan amount, making the total loan balance $67,400. The borrower is paying $1,600 in prepaid finance charges at closing.

3. *a.* Determine the APR, assuming that the ARM is made with a 2 percent annual and 5 percent over-the-life interest rate cap.
   b. In what way does the APR disclosure aid the borrower in understanding the terms of this specific loan agreement? What are some of the problems with the APR calculations on ARMs?
4. On August 20, Mr. and Mrs. Cleaver decided to buy a property from Mr. and Mrs. Ward for $105,000. On August 30, Mr. and Mrs. Cleaver obtained a loan commitment from OKAY National Bank for an $84,000 conventional loan at 10 percent for 30 years. The lender informs Mr. and Mrs. Cleaver that a $2,100 loan origination fee will be required to obtain the loan. The loan closing is to take place September 22. In addition, escrow accounts will be required for all prorated property taxes and hazard insurance; however, no mortgage insurance is necessary. The buyer will also pay a full year's premium for hazard insurance to Rock of Gibraltar Insurance Company. A breakdown of expected settlement costs, provided by OKAY National Bank when Mr. and Mrs. Cleaver inspect the uniform settlement statement as required under RESPA on September 21, is as follows:

I. Transactions between buyer-borrower and third parties:	
a. Recording fees—mortgage	$30.00
b. Real estate transfer tax	225.00
c. Recording fees/document prep.	200.00
d. Hazard insurance—one-year policy—Rock of Gibraltar Ins. Co.	420.00
e. Peggy Prudent—attorney	150.00
f. Inspections	50.00
g. Title insurance fee (Landco Title Co.)	400.00
h. Landco Title Co.—closing fee	125.00
II. Transactions between seller and third parties:	
a. Release statement—seller's mortgage	5.00
b. Payoff—seller's mortgage (Home State Bank)	32,715.00
c. Real estate brokerage fee (6% Fast Deal Realty)	6,300.00
III. Buyer-borrower and lender information:	
a. Amount of loan	$ 84,000.00
b. Prepaid interest is owed from closing through September 30, which equals nine days (inclusive). Regular payments to begin on November 1. $[.10 \times 84{,}000) \div 365] \cdot 9$	207.12
c. Property tax escrow—two months required	133.33
d. Loan origination fee	2,100.00
IV. Buyer and seller information:	
a. Purchase price	$105,000.00
b. Deposit paid by Cleaver to Ward (paid in escrow to OKAY National Bank)	1,500.00
c. Real estate tax proration (taxes for the current year to be paid in arrears by BUYER to county next January 1: $800 per year). Therefore, because the SELLER will own the property from January 1 to September 22, or 264 days. Therefore, the Buyer owes for the 101 days prior to closing and transfer of title Therefore, a credit for part of the $800-per-year real estate tax (for 264 days) is due to buyer from seller at closing.	$ 578.63

Required:

a. What are the amounts due from the borrower and due to the seller at closing?
b. What would be the disclosed annual percentage rate as required under the Truth-in-Lending Act?
c. When will the first regular monthly mortgage payment be due from the borrower?

Chapter 9

Income-Producing Properties: Leases, Rents, and the Market for Space

In this chapter our focus is on income-producing properties. We begin by identifying the major property types and the economic forces that affect their value. We will consider supply and demand relationships, location analysis, and the competitive nature of the real estate business. We will then turn to a discussion of the importance of leases in defining the contractual relationship between the owner of the property and the tenant using the space. Leases impact the income potential and riskiness of income property investments.

Property Types

We begin with Exhibit 9–1, which outlines the major classifications used to identify and group different types of real estate. The two major categories used to classify property are residential and nonresidential. Residential properties include *single-family houses* and *multifamily properties* such as apartments. Condominiums and co-ops are also included as residential properties.

In general, residential properties are properties that provide residences for individuals or families. Although hotels and motels can also be thought of as providing residences for people, they are considered to be transient or temporary residences and thus are not categorized as residential property. In the discussion that follows, we use the same categories, which are logical from an economic perspective because factors that affect the supply and demand for hotels and motels are quite different from those that affect the residential properties used as a residence.

Single-family dwellings are usually thought of as individual, detached units developed in subdivision tracts. Other variants include cluster home developments, where owners share "green space" in outdoor areas, and "zero lot line" developments, which contain single-family and detached units. They may be owner occupied or rental properties.

EXHIBIT 9–1
Classification of Real Estate Uses

I. Residential

A. *Single family*
- Detached
- Cluster developments
- Zero lot line developments

B. *Multifamily*
- High rise
- Low rise
- Garden apartments

II. Nonresidential

A. *Office*
- Major multitenant—(central business district) CBD
- Single or multitenant—suburban
- Single tenant—build to suit
- Combination office/showroom
- Professional: Medical, specialized use

B. *Retail*
- Regional shopping centers/malls
- Neighborhood centers
- Community centers
- Strip centers
- Specialty/lifestyle centers
- Discount/outlet centers

C. *Hotel/motel*
- Business/convention
- Full service
- Tourist/resort:
  - Limited service
  - Extended stay
  - All suites

D. *Industrial/Warehouse*
- Heavy industrial
- Light industrial warehouse
- Office/warehouse
- Warehouse:
  - Distribution
  - Research and development (R&D)
  - Flex space

E. *Recreational*
- Country clubs
- Marinas/resorts
- Sports complexes

F. *Institutional (special purpose)*
- Hospital/convalescent
- Universities
- Government
- Other

III. Mixed Use Developments
- Combinations of the above uses

The second major category of residential housing is multifamily housing. It is usually differentiated by location (urban or suburban) and size of structure (high rise, low rise, or garden apartments). High-rise apartments are usually found near the central business district (CBD) of cities because land costs are greater than in suburban areas. These are income-producing properties.

Nonresidential properties are typically broken down into six major subcategories: office, retail, industrial, hotel/motel, recreational, and institutional. As is the case for many of the categories, the same *building* can contain both office and retail space. In fact, the same building could contain residential as well as nonresidential uses of space. A combination of end uses in one property is usually referred to as a *mixed use development*. Thus, the categories being discussed should be viewed more as a convenient way of categorizing the use of space for the purpose of analyzing supply and demand, and thus investment potential for that space.

Office buildings range from major multitenant buildings found in the central business districts of most large cities to single tenant buildings, often built with the needs of a specific tenant or tenants in mind. An example of the latter would be a medical office building near a hospital.

Retail properties vary from large regional shopping centers containing over a million square feet of space to small stores occupied by individual tenants found in almost every town. As indicated earlier, it is also common to find retail space combined with office space, particularly on the first floor of office buildings in major cities.

Hotels and motels vary considerably in size and facilities available. Motels and smaller hotels are used primarily as a place for business travelers and families to spend a night. These properties may have limited amenities and will often be located very close to a major highway. Hotels designed for tourists who plan to stay longer will usually provide dining facilities, a swimming pool, and other amenities. They will also typically be located near other attractions that tourists visit. Hotels at "destination resorts" provide the greatest amount of amenities. These resorts are away from major cities, where the guests usually stay for several days or even several weeks. Facilities at these resort hotels can be quite luxurious, with several dining rooms, swimming pools, nearby golf courses, and so forth. Hotels that cater to convention business may be either a popular destination resort or located near the center of a major city. People who go to conventions usually want a variety of choices for dining and want to be able to combine business with pleasure.

Industrial and warehouse properties include property used for light or heavy manufacturing as well as associated warehouse space. This category includes special-purpose buildings designed specifically for industrial use that would be difficult to convert to another use, buildings used by wholesale distributors, and combinations of warehouse /showroom and office facilities. Older buildings that were initially used as office space often "filter down" to become warehouse or light industrial space.

Recreational real estate includes uses such as country clubs, marinas, sports complexes, and so on. These are very specialized uses, usually associated with retail space that complements the recreational activity (e.g., golf shops). Dining facilities and possibly hotel facilities may also be present.

Institutional real estate is a general category for property that is used by a special institution such as a government agency, a hospital, or a university. The physical structure could be similar to other properties; government office space, for example, would be similar to other offices, and could in fact be in the same building. However, space used by institutions such as universities and hospitals is usually designed for a specific purpose and not easily adaptable for other uses.

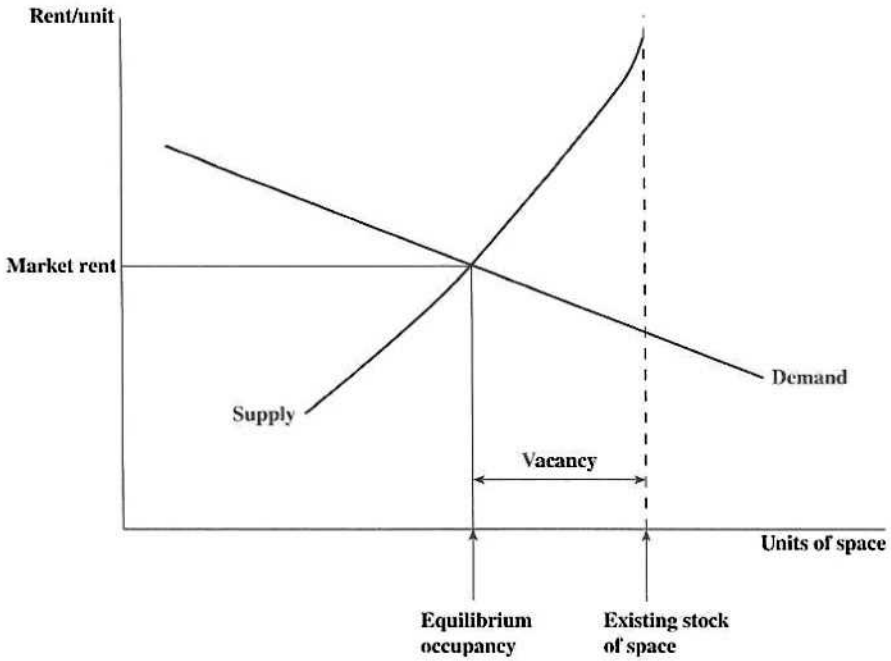
Supply and Demand Analysis

In an earlier chapter, we discussed the importance of economic base analysis in assessing potential real estate investment. Market rents for properties depend on the economic base, as well as on the supply and demand for space by tenants. In this section, we look more closely at market forces that affect both the supply and demand for space and how these factors affect real estate investments.

Equilibrium Market Rental Rate

At any point in time, a fixed stock of space exists in the market in previously constructed buildings. Some of this space will be leased. The remaining space constitutes vacancies, or supply of space available for lease. The price at which an owner can lease the space depends on the market rental rate on comparable properties. The amount of existing space that building owners are willing to lease at different rental rates is expressed by a supply

EXHIBIT 9–2
Rental Market Equilibrium



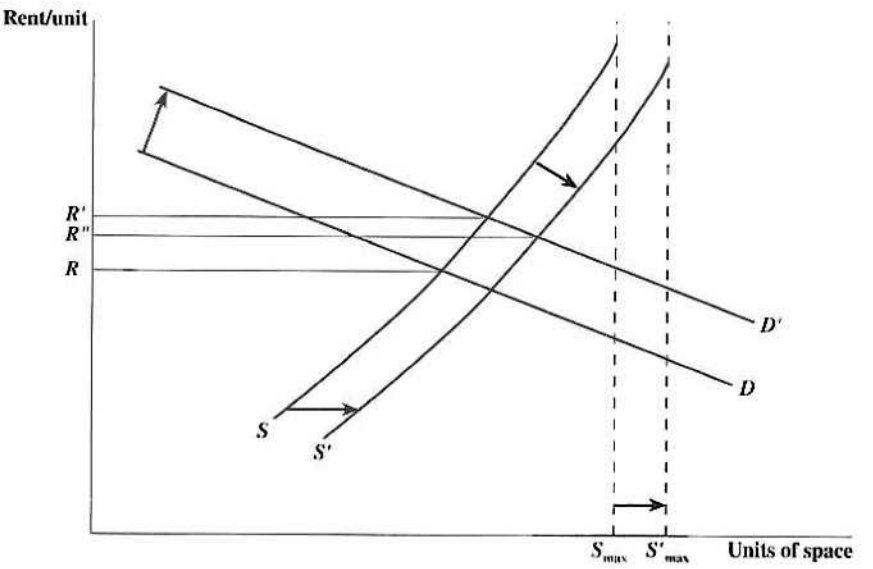
curve as illustrated in Exhibit 9–2. As the market rental rate rises, more space is supplied by the building owners. The maximum amount of space that can be leased at any given point in time is limited, however, to the existing stock of space.

At lower market rental rates, some of the existing space may not be made available for lease. This space may be deliberately held vacant by owners in anticipation of higher market rents in the future. Alternatively, they may prefer to convert the space to a different use rather than rent it under the existing use at the current market rate for that use. A certain amount of space will also always be vacant because of tenants moving and the time it takes for newly constructed space to be offered for lease. This stock of space will change over time due to construction of new buildings and demolition of existing buildings.

Exhibit 9–2 also shows the *demand* for space from users. As the rental rate falls, firms are more willing to use additional space in their operations rather than other factor inputs such as labor and capital. As shown in the exhibit, the intersection of the supply and demand curves determines the equilibrium market rental rate as well as the amount of space that is leased. The total space that is leased at a given point in time includes space that was leased in previous periods. The difference between the existing stock of space and the total amount leased at the market rate represents vacant space. This is a normal, or equilibrium, market vacancy rate.

The supply curve illustrated in Exhibit 9–2 depicts a short-run equilibrium for a period of time during which the total supply of existing space is fixed and does not increase due to new construction or decrease due to demolition. That is, the supply of space includes existing space that was constructed in the past based on an analysis of the rental market at that point in time. Changes in the market for space after an additional building is constructed can result in a change in the market rental rate. For example, suppose that the demand for office space increases because new firms are locating in the area and office employment is increasing. This is indicated by a shift in the demand curve from D to D' in Exhibit 9–3. Based on the supply curve for existing space offered for lease, the market rent would rise from R to R'. The increase in demand is likely to result in an increase in the construction of new space, however, because the profitability

EXHIBIT 9–3
Increase in Demand and Supply



of developing new space increases at the higher market rents and lower market vacancy rate. The amount of new space that is actually developed depends on the profitability of developing new space as well as the supply of land for development. As new space is developed and the stock of space increases, the maximum amount of space that can be offered for lease increases from S_{max} to S'_{max} and shifts the entire supply curve from S to S' as shown in Exhibit 9–3. Based on the new supply curve (after new space is constructed) equilibrium rents decrease from R' to R''. In other words, the rental rate does not rise as much as it would have in the absence of new construction. Depending on the quantity of space added by the new construction, it is possible that rental rates could fall below the level at which they were before demand increased if more space is developed than was needed to meet the increase in demand.

This analysis considered an increase in the demand for space, which was followed by an increase in the supply of space. A *decrease* in the demand for space causes an opposite movement in the demand curve and a reduction in the equilibrium market rental rate. This results in an increase in the vacancy rate. Because the stock of space already exists, the higher vacancy rate may persist until the demand for space increases. Some decrease in the existing stock may occur due to depreciation and demolition of older buildings, but this occurs over a long period of time.

Implications for Risk

In general, market rent depends on changes in the demand for space as well as expected changes in the supply of space as we discussed. Expected and unexpected changes in market rental rates over the entire economic life of a property affect the return and risk associated with investing in that property. Changes in the demand for space can result from a number of factors that affect the economic base of the area where the property is located. Changes in the supply of space can result from developers reacting to anticipated increases in the demand for space or a belief that they can attract a sufficient number of tenants from existing buildings to make their building profitable. The investor must evaluate how changes in the market rental rate due to changes in supply and demand can affect the income potential of a possible investment as well as the volatility in income. Even if the investment is an existing building that has already been leased, the income can be affected when the existing leases expire and are renewed at the market rental rate at that time.

As we will see later in this chapter, *leases* can be structured to shift some of the risk from the owner/lessor to the user/lessee.

Local Market Studies of Supply and Demand

While it is useful to think of supply and demand relationships in the abstract, when real estate investments are made, a market analysis must usually be undertaken to determine the level of vacancies, rents, the amount of new construction under way, and the time the property will be ready for occupancy. This is important because, as we will see later in this chapter, a forecast of rents, vacancies, and expenses must be made when a property is under consideration for investment. Exhibit 9–4 contains a summary of many of the variables that must be considered when undertaking a market study. All of these relationships are generally dependent on, or derived from, the types of employment generated by the economic base of the area and the levels of supporting employment discussed in the previous section. However, in order to consider the demand for space by type of property, more detail is necessary. When considering investments in apartment and retail properties, in addition to forecasting the number of new employees, investors need information on the quality of job creation indicated by the salaries and wages that will be earned by individuals in the area, as well as their ages, the size of their households, and other related information. This information will provide a better understanding regarding the *type* of apartments and retail merchandise desired, which will, in turn, indicate which submarkets are likely to benefit from economic growth.

EXHIBIT 9–4
Determinants of Supply and Demand—Major Property Types

Demand Influences:

Apartments:
Number of households, age of persons in households, size of household incomes, interest rates, home ownership, affordability, apartment rents, housing prices.

Office Space:
Categories of employment with very high proportions of office use include service and professional employment, including attorneys, accountants, engineers, insurance, real estate brokerages and related activity, banking, financial services, consultants, medical–dental, pharmaceutical, and so on.

Warehouse Space:
Categories of employment with high concentrations in warehouse use include wholesaling, trucking, distribution, assembly, manufacturing, sales/service, and so on.

Retail Space:
Demand indicators include household incomes, age, gender, population, size, and tastes /preferences.

Supply Influences:
Vacancy rates, interest rates and financing availability, age and combination of existing supply stock, construction costs, land costs.

Property Type		*Typical Construction Periods*
Apartments	Suburban garden walkup	6–18 months
	Urban mid-, high-rise	18–24 months
Office Buildings	Suburban low-rise	18–24 months
	CBD mid-, high-rise	24–48 months
Retail	Strip/standalone	6–12 months
	Neighborhood/community	12–24 months
	Enclosed malls	36–48 months
Warehouse	Suburban, single level	9–12+ months

Similarly, when considering investments in warehouses and office properties, a deeper understanding of the nature and kinds of employment produced by growth in the economic base will help in investment analysis. For example, when one considers employment growth in New York City, it is likely that much of the employment will be occurring in offices. On the other hand, if considering Detroit, a higher percentage of employment growth is likely to occur in industrial and warehouse properties. Exhibit 9–4 provides some idea of the variables that influence the demand for various property types.

For the supply side of each market, developers of each property type also carefully consider each of the same variables in Exhibit 9–4. However, they must also weigh the costs of financing and the economic benefits of acquiring land and undertaking development in other locations. The exhibit provides some idea as to the time required to develop various property types. Based on this information, it should be fairly clear that the supply of space available in any market tends to be fixed in the short run and, unlike many other goods and services, requires lead time to adjust to increases in demand. Furthermore, trying to establish the quantity of space that can be produced effectively relative to the size of a submarket is also important when completing an investment study.

Location and User-Tenants

After briefly examining a method for identifying the economic drivers affecting cities and regions, we now turn to a conceptual framework for determining how locations *within* a city are evaluated by businesses. It goes without saying that location is an important attribute in real estate. Successful real estate investors and developers must also realize that location as viewed by *user-tenants* is also important to recognize. We mean that successful real estate investors and developers should understand the *business operations* of potential *tenant-users and how certain locations will appeal to those users.* Recall that many users of real estate are business firms that operate to make a profit. Consequently, most real estate decisions made by these users are considered in terms of how leasing space in alternative locations will generate more profit by (1) increasing sales revenue, (2) reducing the cost of operations, or (3) some combination of both. A very basic illustration of the relationship between user profits and locations is shown in Exhibit 9–5.

As Exhibit 9–5 shows, if we evaluate three locations in Big City, it is clear that User A will realize more profit in location (1) because revenues are greater and its operating expenses are invariant to location. User A can afford to pay more rent per square foot in location (1) and potentially earn a greater profit than it would in locations (2) and (3). User B, on the other hand, will be best off in location (3) because its revenues are invariant to location, and its expenses will be lowest in that location. Location (2) appears to be suboptimal for both Users A and B and may also be appealing to businesses that are different from Users A and B.

Because profitability will vary by location, the above analysis also implies that User A and other users, either who are in competition with User A or who operate businesses in which location significantly affects *sales revenue* (examples could be retailers, restaurants, or certain service providers), will tend to cluster near location (1) as they anticipate earning higher profits there. These firms will compete with one another by bidding for space in that location. The location will take on the characteristics of a *submarket* containing those tenant-users selling goods and services to consumers who are sensitive to the location.

On the other hand, User B, whose *expenses* are very sensitive to location, will choose location (3) because it will tend to lower costs and thus produce higher profits. Competitors of User B and firms that are not necessarily in the same business as User B but that

EXHIBIT 9–5
Relationship between User Revenue, Expenses, and Profits per Square Foot by Location

	Locations in Big City, USA		
	(1)	(2)	(3)
User A:			
Revenue	$120	$100	$ 90
Less: Expenses	80	80	80
Profit	$ 40	$ 20	$ 10
User B:			
Revenue	$100	$100	$100
Less: Expenses	90	80	70
Profit	$ 10	$ 20	$ 30

have *similar operating cost structures* will compete for space in and around location (3). Examples of user-tenants in this location might include wholesale distributors occupying large warehouses. Such distributors may charge the same price for products to all customers in a region; however, their delivery expenses will vary by location. Therefore, they will tend to choose a location in an area that will minimize delivery expenses.

This process of profit analysis and competition by many different firms for space in locations that tend to maximize profits produces certain general land-use results in real estate markets:

1. The process of firms competing for space will result in the highest rents possible for the most profitable locations and, ultimately, the highest land value and best development for a site (e.g., office, retail, warehouse, apartment, or hotel).
2. Locations will tend to be dominated by clusters of users with revenue or operating expense structures that relate in similar ways to a given location.
3. Locations with the greatest appeal to users will tend to produce higher rents and also to exhibit highest spatial *densities*. Developers will attempt to build multistory projects or cluster buildings on very desirable sites so that they may earn the highest rents per square foot. This process will tend to attract tenants whose operations can be conducted in relatively small amounts of space or in multistory structures while still enabling them to earn higher revenues and profits.
4. Some locations are competed for by firms that are most cost-sensitive. These firms tend to require large amounts of land and large facilities on which to conduct larger scales of operations at lower rents per square foot.

When viewing location in this way, we can begin to understand how and why land-use patterns and submarkets develop within urban areas. It should also help us understand why retail and high-rise office developments occur in some areas, while warehouses requiring large quantities of land on single levels occur in others. Of course, these patterns of land use are also affected by zoning and historic land-use patterns in urban markets. However, even the latter influences are subject to periodic changes.

In summary, a key concept to understand is that for most business users, real estate is considered to be an *operating input* that is used with labor to produce output. In other words, business firms in their operations combine labor and materials *with* real estate at a location to produce goods and services. For example, law, accounting, and advertising firms produce services for clients, and employees and real estate are major *inputs* in the *production* of their client services that are sold from a specific location. Retailers may

combine large quantities of merchandise and salespersons on land and in buildings to produce a merchandise/service mix that appeals to customers. Further, the distribution of their goods and merchandise may require a large quantity of land and warehouse buildings with relatively few employees to break down, re-sort, and deliver merchandise to customers. The point of these examples is that because business users view real estate as an input that affects operating expenses and/or revenues, the relationships between land and building space requirements, rent, the number of employees, and revenues should be viewed in the context of various locations. These resources tend to be combined by businesses so that they maximize profit. Land-use patterns follow this pattern of business location decision making.

The Business of Real Estate

Contrary to popular belief, the vast majority of real estate used by business firms is *leased* and not owned. This is true in spite of the vast number of buildings with signs that carry a name of a major corporation on the exterior.[1] Why is this the case? There are many important reasons:

1. Most tenants find leasing to be *more cost-effective than owning*. This is particularly true when their space requirements are less than the quantity of space they would have to purchase in order to satisfy their needs in a desired location. For example, assume that a user needs 20,000 square feet of space to operate profitably, and it must have such space in a specific location. However, only buildings with a minimum size of 100,000 square feet are available for purchase in that location. In this case, the user will usually opt to *lease* the 20,000 square feet of space as opposed to purchasing a 100,000-square-foot building. Leasing will usually be preferred because purchasing would include the responsibility for leasing the remaining 80,000 square feet of excess space to other users. Purchasing would generally not be optimal because
   a. Owning would require a large commitment of capital to purchase the 100,000-square-foot facility. Such capital could be used in other business activities.
   b. A purchase would "put the user in the real estate business." That is, the tenant would have to take the risk of owning and also have the real estate business "know how" to lease, collect rents, maintain, and insure the additional 80,000 square feet of space that it does not use.
2. Even if a tenant could occupy the entire 100,000 square feet in a building, it might still choose to lease because
   a. Owning would *reduce* operating flexibility. For example, if the firm decided to leave a metropolitan area and/or consolidate or expand in a different location in the same metro area, it might have to sell the entire property. This could take a considerable amount of time and tie up personnel and capital. If it had leased the property, it could move upon the lease expiration date or even negotiate a release from the owner/lessor.
   b. If it owns the property, the firm must operate, maintain, and repair the facility. These activities may result in the loss of focus on its core business activities. For example, a technology-consulting firm may be better off focusing all of its effort on consulting with clients rather than worrying about owning, operating, leasing, and managing

[1] These signs usually identify major corporate tenants in a building, who are granted the right to erect a sign by the property owner in its lease agreement.

the building that it occupies. Operating and managing properties is usually done more cost-effectively by firms that specialize in real estate operations.

c. If the firm decided to *size down* from using 100,000 square feet, as the owner of the building it would have to engage a broker to find an additional user or buyer for the excess space. Furthermore, it might have to renovate the space to suit the requirements of the new tenant. Again, this would mean undertaking unrelated real estate business activities.

In summary, the primary point is that history is replete with evidence of corporations that ventured away from their core businesses and engaged in real estate investment and development. Results have been mixed at best. The real estate industry includes economic functions that are *specialized in nature* and are separate and distinct from the operations of the many different business activities conducted by tenant-users. These noncore real estate business activities include the risks of (1) selecting the "right tract" of land and developing the "right amount" of space; (2) leasing that space to many different tenants; (3) hiring personnel, collecting rents, and maintaining the facility; (4) finding financing for the investment or development; and (5) doing continuous research about real estate markets in order to decide when to sell, raise or lower rents, renovate, and so on. These are a few examples of many of the functions requiring special skills that can be performed most cost-effectively by real estate firms that specialize in these activities. Business firm–users are best left to focus on their primary activities (e.g., lawyers, accountants, and advertising companies serving clients, and retailers serving their customers). These users will generally not be as effective in real estate development, investment, leasing, and so on, as those firms that specialize in these activities. It has been estimated that over 80 percent of all office buildings and retail properties is *leased* to tenants. This number is slightly lower for industrial/warehouse properties, of which 37 percent is estimated to be occupied by owners and 63 percent is leased to user-tenants. In summary, the reader should be aware that the real estate business is an activity that involves many firms that specialize in providing services to users. It is generally more cost-effective for users to lease their space requirements than to engage in the activities demanded by ownership.

One general exception to the above observations may occur if a single tenant-user requires its own facilities for its corporate headquarters or must have unique features such as high-tech labs, specialized computer installations, security, or other features that are unique. In these very special cases, ownership may be preferred to leasing.

The "Market" for Income-Producing Real Estate

Given the preceding discussion about (1) the general relationships between users seeking a location to maximize profits, (2) the general desirability among users to lease rather than own the space they need in their operations, and (3) the advantages in terms of cost-effectiveness of depending upon the real estate business/industry to perform the functions and risks associated with developing, owning, leasing, and maintaining land and buildings (as opposed to the tenant-user undertaking these responsibilities), it is clear that an enormous market for real estate services has emerged.

When we approach the subject of making real estate investments, we must understand how this competitive market operates and the nature of the negotiations between owners of real estate and tenant-users. It is also important to understand how owner-investors in real estate must differentiate between expenses associated with operating buildings and expenses that are related to the business operations of a tenant. Property expenses are usually allocated by owners to users, and property owners do not pay expenses associated with the operations of tenants.

It can best be summarized by saying that in this market for real estate services, tenants are searching for locations that provide the highest profit (through either greater revenues or lower costs), and real estate investor-owners stand ready to take the risks of developing and/or leasing and operating real estate for tenant-users. Real estate owners engage in providing these services in exchange for rent. However, as will be seen below, the term *rent* is a very general term and, though important, is not adequate to explain how expenses are allocated between owners and renters. In order to estimate total occupancy costs for tenants and profits for owners, there are many other areas of negotiation between real estate owners and business-users of real estate or tenants in addition to rent. These may include additional rights and responsibilities of both parties that are usually contained in *leases*. Lease contents are important because they affect how much income may be produced from an investment property, the legal responsibilities, and any future options negotiated between owners and tenants that may ultimately affect the value of an investment.

Income Potential—Real Estate Assets

In this section, we consider four major property types: apartment, office, retail buildings, and industrial/warehouses. Our goal is to familiarize the reader with the operating and lease characteristics for each and how forecasts of cash flow may be developed.

The term **market rent** refers to the price that must be paid by a potential tenant to use (lease) a particular type of space under then current market conditions. The rent depends on many factors, including (1) the outlook for the national economy, (2) the economic base of the area in which the property is located, (3) the demand for the type of space provided by the property in the location being analyzed, and (4) the supply of similar competitive space.

For example, the market rent on office buildings depends on the number of firms doing business in the area as well as the likelihood of new firms locating in the area, the number of employees these firms currently employ and are expected to employ in the near future, and the amount of space that the firm needs for its employees to do their job. These factors can be very difficult to estimate as they depend upon many uncertain and complex factors. The number of employees and amount of space per employee that is needed by a particular type of firm may be quite different in the future than it was in the past, due to changes in the way the firm does business, especially with advances in technology.

Similarly, the market rent on apartments depends on the demographic makeup of the population and median income of families in the area in which the property is located, the cost and availability of homes or condominiums to purchase as an alternative to renting an apartment, and other factors. Market rents for retail space also depend on the demographic makeup of the population and the median income of families as well as the percentage of income they typically spend on various goods and services from retail establishments in a particular area. Real estate investors must also be very concerned with the *credit quality* of tenants. As a part of the leasing process, credit reports, bank references, and references from suppliers and customers are all important.

Real estate is a durable asset that has a relatively long economic life. The market rent at a given point in time is the price that users must pay for the use of a particular unit of space, for example, the rent per square foot of leasable area in a building. Market rents can change many times over the economic life of the building because of changes in the demand for space from potential users and/or changes in the supply of space as additions or deletions are made to the stock of available space. These changes are one source of volatility that will affect the rental income from properties over time. The value of a particular property at any point in time depends on the present value of the rental income expected from the building over its remaining economic life. Thus, real estate investors must consider how

changes in the supply and demand for space might affect market rental rates over the economic life of the property.

Vacancy

As indicated previously, all space available in a building may not be leased at a particular time. This is because tenants may leave after their lease has expired (or breach their lease agreement before it expires!), or it could be that the space has never been rented, especially if it is in a newly constructed building. To project income for a property, it is therefore necessary to project how much of the space will be occupied by tenants during the anticipated holding period for the project. There should always be some allowance for vacant space, even in markets where leasing activity is strong, because as tenant turnover occurs it takes time to make space ready and to re-lease space to new tenants. Hence, there will always be some loss in rents, even in buildings occupied by a few larger tenants.

It is more difficult to project vacancy for newly constructed properties. While some leases may be signed before a project is completed, it is possible that *less than full occupancy* will be achieved immediately after construction is completed. In these cases, projections must be made as to how long it will take for remaining space to be "absorbed" by the market. That is, how long will it take for occupancy to reach a normal level? Obviously, the longer it takes for space to be rented, the less income the investor will receive during the initial years of the project. Because this affects cash flows in the early years of the holding period, it will also have a significant impact on the investment value of a property.

At this point it is useful to make a few additional observations. First, when dealing with an acquisition of a property and developing a pro forma statement that will be used in an investment analysis, it is important to stress that such a forecast should contain a summary of *cash flow only*. The focus on cash flow is stressed and should be differentiated from statements that stress accounting income determined in accordance with generally accepted accounting principles (GAAP). While the latter may be important when producing annual reports, taxes, and so on, it should *not* be used in making an analysis for acquisitions of properties. Second, the term *net operating income* (*NOI*) was discussed in the previous chapter and is used extensively in the real estate investment business. In this chapter, we also focus on *operating cash flow*, that is, a summary of all cash inflows and outflows. We make this distinction because when undertaking an investment analysis, we will usually have access to detailed rent and expense information from the seller of the property or his agent. We will usually make an inspection of the property and estimate the extent of needed outlays for tenant improvements that may be necessary as leases mature and the property is made ready for new tenants or outlays for major repairs after the property is inspected. As a result, we will be in a position to adjust *NOI* by making annual estimates of cash outflows for such items. In Exhibit 9–6, we list data sources that may be used to help compile appropriate benchmarks for operating expenses and other data that may be relevant when developing financial projections for various properties. In summary, when analyzing financial statements, the reader should pay particular attention to how treatments of outlays for tenant improvements, repairs, and replacements are included in statements of

Web App

There are many online sites such as **www.reis.com** that offer summaries and outlooks on both national and regional rental markets. Find reports on the current state of either the apartment, office, warehouse, and retail properties for the city or region where you live or are interested in living. What is the outlook for this type of property in that area? What is happening to rents and vacancy rates?

EXHIBIT 9–6
Useful Data Sources for Income Property Research

Type of Property	Source
Apartment, condominium, cooperative	*Income and Expense Analysis: Apartments, Condominiums and Cooperatives* (Chicago: Institute of Real Estate Management, annually)
Office buildings	*Office Building Experience Exchange Report* (Washington, DC: Building Owners and Managers Association International, annually)
Shopping centers	*The Dollars and Cents of Shopping Centers* (Washington, DC: Urban Land Institute)
Industrial parks	*Site Selection Handbook* (Atlanta: Conway Publications, Inc.)

cash flows. In this chapter, rather than using an average outlay for such items, we will make an estimate of cash outflows for the year in which the outlay is expected to occur.

Underwriting Tenants

Typically, income properties are leased to tenants for a specified period of time. The lease document assigns rights, duties, and responsibilities between the **lessor** (owner) and **lessee** (tenant) for the duration of the lease. The terms of the **lease** include legal considerations that are designed to protect the interests of both the lessor and the lessee and specify how rents and expenses are to be paid.

When negotiating for the use of space, the property owner will evaluate the financial capacity of the tenant. This investigation is extremely important because the lease is a contractual agreement that creates an asset for the property owner and a liability for the tenant. Leases may require significant rent payments for very long periods of time; therefore, the ability of the tenant to pay currently and in future periods is very important. Furthermore, to properly assess risk, the property owner must understand the nature of the tenant's business, its competitive position in the industry, and the health of the industry itself. Typically, when evaluating a tenant and a lease proposal, the owner considers the following information:

- Financial statements/income statement–balance sheet.
- Credit ratings.
- Any analyst reports on the firm/industry.
- Bank relationships.
- Existing obligations (debt, other leases).

Underwriting leases is a very important component of risk assessment, which ultimately affects cash flow produced by a property and hence its value. Furthermore, if a tenant defaults on a lease because of a business failure and petitions a court for bankruptcy protection, the tenant may be allowed to continue to occupy the space and pay little or no rent during reorganization.[2]

General Contents of Leases

As discussed earlier, the contents of the lease include the term "lessor," which usually refers to the owner of the property. Thus, we tend to use *lessor* and *owner* interchangeably. Similarly,

[2] It should also be pointed out that from a *tenant's* point of view, the financial condition of the *property owner* is very important. Should the property owner encounter financial difficulty and enter bankruptcy, the ownership of the property may change and the operation/management may affect the quality of service to the tenant.

the "lessee" is typically the tenant who occupies and uses the space and pays rent. Hence, the terms *lessee* and *user-tenant* are used interchangeably. While many terms may be included in lease agreements, elements that are commonly included in many leases are shown below:

1. Parties to the lease, namely, lessor and lessee. The date of the lease agreement, occupancy date, identification of area to be leased, and the length of the lease term.
2. The base or minimum rent and any methods that will be used to calculate and adjust future rent. Description of any concessions and other inducements to be provided to the tenant by the landlord.
3. Deposits and any indemnities and guarantees from third parties or co-signers.
4. Condition of the leased premises to be provided to the occupant on the move-in date, including any tenant improvements.
5. Allowable uses of the property, restrictions on occupancy, and prohibitions regarding future changes in the use of the property.
6. Any restrictions on assignment or subletting of any of the leased space by the tenant.
7. The use of common areas and facilities, such as lobbies, restrooms, and parking lots.
8. Responsibility for maintenance and repair of the tenant's space and of the general premises.
9. Any restrictions on alteration or improvements to the property by the tenant.
10. Construction of any expansion in the future by the owner and provisions for affected tenants.
11. Eminent domain and any consideration to be given to the tenant should it affect the space rented, business operation, availability of parking, and so forth.
12. The responsibility for payment of specific expenses by the lessee and/or the lessor.
13. The extent to which the owner and/or the tenant must provide for fire and casualty insurance.
14. Any lease renewal options.
15. Estoppels.

Depending on the amount of space, length of the term, and financial implications for both owners and tenants, leases may range from very complex to relatively simple agreements. For corporate users who may be leasing large amounts of space and who plan to move many employees and equipment to the space being leased, many conditions may be negotiated in lease agreements. On the other hand, leases may be relatively straightforward, as may be the case for apartment leases. While we do not exhaust all possible features that may be included in leases, Concept Box 9.1 provides the reader with more detail on the general contents of leases listed above. This additional detail gives some idea as to the range and the variety of items that may be included in leases that affect the future cash flows from rents, payment of expenses, options, and other factors affecting risk and return on investment. When evaluating a property for investment, the analyst must carefully review each lease. Indeed, some consider the major determinant of property value to be the present values of cash flows from all leases in effect when a property is acquired. When undertaking an investment analysis, leases in effect may have been executed recently or many years ago, and each lease will reflect market conditions prevailing at the time the agreement was made. Consequently, when an analysis is being done, it is important to identify any leases with onerous or overly restrictive terms, as this can have a major effect on property values. Lenders also carefully consider lease terms when evaluating properties as security for mortgage loans. In fact, if lenders consider any lease terms to be objectionable, they may require property owners to obtain from tenants a change in the lease agreement as a condition for obtaining financing.

Detailed Discussion of General Lease Terms

Concept Box 9.1

The goal of this concept box is to expand the discussion of leases and how various clauses and options may affect the risk and/or cash flow to the investor. While the following list is not exhaustive, the reader should be aware that like any contract being negotiated, many features may be added to leases to meet the needs of both the owner and tenants.

1. *Parties to the lease.* If a corporation is a party to the lease, assurance that the person signing the lease is a corporate officer with the proper responsibility is important. The nature of the corporate entity and its relationship to a parent corporation or other entities should be investigated. Failure to do so may present delays in receipts and payments of cash flows if rents become delinquent or the lease is terminated and bankruptcy occurs. Occupancy dates may be important in leases on newly constructed property which the owner may not have finished by the move-in date. In these situations, *tenants* may want the option to *terminate* the lease. Similarly with retail leases, should the tenant delay occupancy for an unreasonably long period of time, the property *owner* may want to *terminate* the lease, particularly if the retail sales of other tenants appear to be adversely affected by the vacant space. When dealing with the right to terminate a lease, issues including forfeiture of deposits and other penalties may have to be considered.
2. *Rents.* As will be explained in the chapter, there are many ways to determine rents, ranging from rents that are flat, stepped-up, indexed, and so forth. *Concessions* also may be included that effectively lower rents. For example, the owner may provide a **free rent** period during which no rent is paid. These concessions or discounts tend to be used (1) when vacancy rates are high because the market is oversupplied with rentable space or (2) when demand for space is weak because of slow economic growth. In addition to free rent, other concessions may include a move-in allowance, buyouts of existing leases, designated free parking, and the like.
3. *Other guarantees.* Depending on the outcome of the underwriting, if the risk of default is considered to be a possibility, a prospective tenant may be required to find a third party to indemnify the lease payments (a co-signer) or obtain a **letter of credit** (LOC) for a fee from a bank. In an LOC, the bank guarantees that any rents in arrears will be paid to the property owner. Provisions for reductions in the amount of the LOC based on timely rent payments by the tenant may be included in the lease in order to reduce annual LOC fees paid by the tenant.
4. *The condition of the space* on the move-in date may be "as is," or the lease may require it to be "finished out" or renovated before the move-in date. In such cases, the lease may call for **tenant improvements** (TIs), which could include paint, lighting, carpets, wall coverings, and so on. The extent of TIs is negotiated and expressed as dollars per square foot of usable space that the owner will budget for a tenant. Any cost in excess of the agreed budget amount must be paid by the tenant. The dollar amount and the description of TIs that the owner will provide are described in a **work letter** which is prepared by the property owner. Also, the disposition of any of these improvements upon expiration of the lease is usually specified.
5. **Allowable uses** and prohibited uses are enumerated in all leases. These provisions usually prohibit tenants from making major changes in their use of the leased space. For example, a tenant could be prohibited from adding a retail business in space that has been leased in an office building.
6. **Subletting.** In the event that a tenant needs less space than originally leased, leases may allow the tenant to *sublet* to third parties with approval of the property owner. The owner generally agrees not to unreasonably withhold approval even though the tenant may be "in competition" with the property owner, who may also be trying to lease vacant space in the same building. Even if subletting is allowed, most owners will require that the original lessee remain liable for rents on any sublet space for the remaining lease term.
7. **Business conduct.** All tenants are usually required to "obey the rules" regarding the use of common areas as indicated in the lease. In retail leases, this could mean a prohibition relating to the use of the mall way (common area) for special sales, promotions, signing, and so on.

8. *Owner services to be provided.* In most office leases, the property owner will agree to provide services such as cleaning, maintenance, and repairs. In the case of retail and warehouse properties, more discretion is given to the tenant regarding maintenance and alteration of space to conform to the operating needs of the tenant. However, the property owner usually retains the right to approve (1) alterations and (2) the selection of architects, contractors, materials, and the like.
9. If the property owner wants to expand and construct new rental space, many leases contain **nondisturbance clauses,** which require the owner not to interfere with the tenant's business operations during an expansion or as any existing space is being renovated. When negotiating leases, tenants may require temporary relocation to other space, or the creation of special accommodations (e.g., private entries, exits) during construction.
10. Should the state or other government entity use **eminent domain** to condemn all or part of the owner's property (to acquire right-of-way, etc.), the lease may provide that the tenant receive a reduction in rent or other consideration, should *parking* or other factors affecting the tenant's business occur. Similarly, leases usually include provisions that address events, such as a fire or other occurrences, that result in the loss of business or damage to the tenant's space.
11. Leases vary considerably regarding **responsibility for expenses.** In some cases, the property owner agrees to provide and pay for some or all of the operating expenses. In other cases, property owners do not wish to take responsibility for many of those expenses because (1) they may be directly related to the tenant's business and should be paid by the tenant and (2) there is a risk that such expenses may suddenly rise. Consequently, many property owners prefer to either "pass through" or recover certain expenses from tenants (to be discussed).
12. Many leases require the building owner to provide comprehensive insurance in common areas of the property (lobby, parking, etc.). Tenants must also provide *evidence of insurance* covering the tenant's space.
13. As the lease expiration date approaches, tenants must give a *termination notice* to the owner as to whether the lease will be renewed or terminated. This is an important decision for both the tenant and the property owner. For the tenant, if the lease is not renewed, considerable cost to move the business and employees may be incurred. For the property owner, nonrenewal may entail finding a new tenant to occupy the vacated space, negotiating the rent, and paying "make-ready" expenses and leasing commissions. The renewal option is likewise complicated because in addition to the usual factors, it usually involves re-negotiation of a new rent for the next lease term. In order to reduce the uncertainty regarding the rent negotiation, many office, retail, and warehouse leases specify that a market survey of comparable properties will be conducted by at least two brokerage or research firms (one selected by each party). The survey will be made up to one year before and not less than three months before the lease expiration date. The results of the survey will serve as the basis to negotiate the new rent. In some cases, tenants may have a "most favored nation" clause in their lease. This gives the tenant the right to review the most recent leases executed by the property owner with other tenants in the building. Information on current rents and other terms are thereby provided to the tenant and may be used in negotiations. The landlord and tenant may also agree to arbitration if a new lease agreement cannot be completed.
14. **Estoppel certificates.** This provision allows a questionnaire to be sent to existing tenants seeking verification of (1) rents/expenses that the tenant is obligated to pay under lease terms, (2) any past-due amounts, and (3) any rents being withheld by the tenant because of disagreements with the owner. This clause is important because investors may want verification (1) that all rents and recoveries are, in fact, being collected from tenants and (2) that there are no disputes, lawsuits, and the like between the current owner and tenants. *Change in property ownership/bankruptcy.* This provision may give the tenant the right to terminate the lease in the event that the property is sold or the property owner enters bankruptcy.

Leases and Rental Income

The initial rent that must be paid under the lease contract is usually a specified dollar amount, which we refer to as the **minimum rent,** or **base rent.** However, the base amount may stay the same or change during the term of the lease.

There are many ways that rents can be adjusted over the term of a lease. Adjustments are usually dependent on the term of the lease, the amount of space being leased, and the type of property (e.g., retail vs warehouse). Some very general methods used to adjust rents are discussed below. The reader also should keep in mind that a combination of the methods discussed below may be used to adjust rents.

1. *Flat rents.* In some cases, rents may remain the same (or flat) for the term of the lease. This is commonly the case for apartment leases. Flat rents may also apply to other leases with relatively short terms, or when tenant/user turnover occurs frequently.
2. *Step-up rents.* Some leases include step-up clauses. These provide that rent will increase at the end of specified time intervals and in *specific amounts* during the term of the lease. Example: base rent will be $20 per square foot and will increase by $1 per square foot on the anniversary date of the lease for each of the next five years. Step-ups are used commonly in office, retail, and warehouse leases.
3. *Indexed rents.* Another way of adjusting rents is to use a specified index as a basis for the adjustment. This approach may be used in lieu of, or combined with, step-up provisions. The consumer price index (CPI) is commonly used when rents are indexed. That is, the base rental rate is adjusted periodically in accordance with changes in the CPI. Other indexes also can be used. For example, in New York City it is common to use *Porter's wage index* to adjust rents for office properties. Using price indexes like the CPI to adjust rents differs from step-up leases because the change in rents is not known until the date of the **CPI adjustment.** Furthermore, index adjustments shift the risk of unexpected changes in the rate of inflation to the tenant. As a result, tenants may negotiate caps, or upper limits, on the index. In return for using indexed adjustments in the lease, tenants may negotiate a lower base rent than would otherwise be the case if either flat or step-up provisions were used. The lease also may address adjustments when a decline in the index occurs (*deflation*). In such cases, a *floor,* or maximum reduction in rent, may be included. Indexed leases are used in office, retail, and warehouse leases.
4. *Rents adjusted based on revenue/sales performance.* In some retail leases, rents also may be fully or partially determined by an indicator of retail sales performance. For example, some leases in shopping centers may include a provision for rents to be partially based on the tenant's sales volume. This is referred to as a **percentage rent lease.** In such cases, a flat or step-up base rent is negotiated. Then an additional clause specifies that if the tenant's sales volume exceeds a certain amount (usually referred to as the "breakpoint"), additional rent will be paid based on some percentage of the tenant's sales over the negotiated breakpoint. The dollar amount by which the total rent exceeds the base rent is referred to as **overage rent.** In cases where a tenant's retail revenues decline, rents may revert to the base rent.

Leases and Responsibility for Expenses (Recoveries)

There are many ways in which property owners can structure leases in order to recover operating expenses. Lease contents can be varied to allow for different combinations of rent and expense payments. However, *it should always be kept in mind that competitive market conditions prevailing at the time that a lease is being negotiated will play a major part in determining: (1) rents and (2) who will bear the risk of paying some, or*

all, operating expenses. Common patterns used to treat operating expenses in leases are described as follows:

1. *Gross (full-service) leases.* The tenant pays rent only, and the property owner provides all services and pays all operating expenses.
2. *Modified (full-service) leases.* The tenant pays rent that is lower than rent payable under a full-service lease. The owner provides all services but recovers from the tenant *specific expenses* identified in the lease (e.g., electricity). Such expenses tend to be highly variable in nature (e.g., energy related) and represent an expense risk that property owners may not be willing to assume.
   a. *Direct pass throughs.* When some tenants, because of the nature of their business, use a greater amount of a service than other tenants occupying a property, owners usually attempt to link and "pass through" related expenses directly to those tenants. In these cases, owners may provide all services. However, instead of prorating expenses, owners will use submetering and other methods to assure that such costs are better matched to tenants relative to their usage.[3]
   b. *Nonoperating expense pass throughs.* Lease modifications are sometimes made when a property owner negotiates a pro rata "pass through" of certain, specific, *nonoperating* expenses to tenants. These nonoperating expenses are deemed "costs of doing business," but they are not manageable by the property owner. Examples of such **expense pass throughs** are property taxes and insurance. Many property owners believe that because these expenses are determined by external parties, such as public agencies and insurance companies, the property owner cannot "manage" them. Should there be a sudden increase in taxes or premiums, property owners argue that they cannot always recover them by increasing rents. This is particularly a concern in cases where long-term leases are involved. Consequently, many property owners maintain that such expenses should be "passed through" to tenants as a "cost of doing business."
3. *Leases with operating expense recoveries.* In many situations, particularly for leases involving large amounts of space, property owners may *not* want to execute either a full-service or modified full-service lease because they would continue to bear the risk of paying a substantial amount of the expenses required to operate the property. In these cases, tenants usually agree to pay lower rents than would be the case for a full-service or modified full-service lease, in exchange for agreeing to pay a greater range of operating expenses. Typically, in such leases, certain operating expenses will be identified as "recoverable." (See Concept Box 9.2.) These expenses will be totaled, prorated, and billed to tenants, usually based on the percentage of rentable area that the tenant occupies in a property.

Large Users of Leased Space

Typically, as individual tenants lease very large amounts of the total space available in a property, a greater share of operating expenses will be directly related and identifiable to the operation of that tenant. In these cases, rather than identifying recoverable expenses and then prorating and billing tenants, leases usually provide that such tenants pay all

[3] For example, if tenant (A) operates its business seven days a week or evenings, other tenants in a building will not want to bear any of tenant (A)'s share of operating expenses. In such cases, the property owner will generally link such expenses directly to the tenants. For example, electricity maybe linked with separate meters. For other items such as extra, security, HVAC, etc. the owner will usually require the tenant to request the number of hours needed above normal operating hours per week. The owner will then bill that tenant based on an hourly rate so as not to affect other tenant.

Common Classification of Expenses Related to Owning and Operating Income Properties

Concept Box 9.2

In order to better understand what expenses are identified as recoverable expenses in leases, it may be useful to review the greater range of expenses usually associated with *owning* and *operating* a property.

Operating Expenses Typically Classified as Recoverable in Leases		Ownership Expenses Typically Not Classified as Recoverable in Leases
Cleaning	Water/sewer	Leasing commissions
Repairs	Security	Property accounting
Maintenance	Management	Administrative overhead
Landscaping	Real estate taxes	Financing fees
Electricity	Insurance	Capital outlays/tenant improvements
Business taxes	Depreciation allowance*	

* This allowance does not have to be the same as one of the depreciation methods prescribed by GAAP accounting principles. It may represent a rate of actual economic depreciation of the building, as estimated by the property owner.

As shown above, not all expenses incurred by a property owner are recoverable. Expenses incurred relative to marketing, leasing, advertising, concessions, capital expenditures/depreciation, are viewed as ownership expenses and therefore the *responsibility of the property owner.* These expenses relate more to the ownership of the property and are not directly related to services provided to tenants.

operating expenses directly. In many of these cases, the owner provides a reduced level of services or no services (cleaning, etc.) that would be provided under a full-service or modified full-service lease. Examples include

1. *Single net leases.* The tenant pays rent and pays for all operating expenses identified in the lease.
2. *Double net or net, net leases.* As in the single net lease, the tenant pays rent and pays all operating expenses directly. In addition, the owner "passes through" nonoperating expenses such as property taxes and insurance costs to the tenant.
3. *Triple net or net, net, net leases.* As in the single and double net lease, in addition to paying operating expenses, taxes, and insurance, the tenant also agrees to pay certain recurring capital outlays for repairs, alterations, and modifications to the *interior* of the leased building space. (Triple net leases are commonly used by tenants occupying large amounts of space in warehouse/industrial properties or office buildings. In these cases, tenants may require the flexibility to modify, move fixtures, and reconfigure the interior space in order to operate their business efficiently. However, tenants usually must be willing to pay for the cost of doing so.) Property owners are usually responsible for the cost of certain *exterior* repairs (roof, walls, and other equipment) to the property.
4. **Common area maintenance (CAM).** In cases where a building is a part of a larger property development (e.g., a corporate campus or industrial/warehouse park), tenants may pay a pro rata share of expenses required to maintain "common areas" in the

Common Classification of Expenses Related to Owning and Operating Income Properties

Concept Box 9.2 (Continued)

After owners and tenants negotiate what expenses will be recoverable, tenants usually also agree to pay for increases in recoverable operating expenses after they take occupancy of the space. In order to establish a base line of recoverable expenses at the time the tenant takes occupancy, the lease will generally specify that tenants will pay only a share of increases in recoverable expenses *in excess* of what is referred to as an **expense stop.** This "stop" is usually calculated based on the total recoverable operating expenses *per square foot* of **rentable area** in the building that is incurred by the property owner during a specified *base year.** The tenant agrees to pay only for increases in recoverable operating expenses per square foot *in excess* of this stop. For example, when a lease is negotiated, if the building owner has incurred recoverable operating expenses per rentable square foot of $7 for the entire building during the base period, this may be used as the "stop." If expenses subsequently increase to $8 per square foot during the *next period,* the tenant would pay only recoverable expenses in excess of the $7 stop, or $1 per rentable square foot. The owner would be responsible for the base level of such expenses, or $7. The $7 stop may remain the same during the term of the lease or it could be indexed.†

* The owner and tenant will usually negotiate whether the *base year* is defined to be the current year, the year before, or the year after the lease is signed. This may be important during periods when operating expenses have been increasing. Determining rentable area is discussed later in the chapter.

† One complication arises when establishing stops and operating expenses for new or renovated buildings that are not yet fully occupied. In these cases, operating expenses per square foot of rented area may be unknown, or disproportionately high until the building reaches normal occupancy levels. As such, tenants may insist that their share of operating expenses be based on some level of normal occupancy (say 95%), and not on current occupancy levels. This requires an estimate and is referred to as "grossing up" expenses. This is discussed in more detail in Chapter 16.

campus. These expenses could include maintenance/lighting of roads, landscaping, security, and so on, and are referred to as CAM charges. In *retail leases,* CAM charges for maintaining, heating, and cooling mallways, as well as maintaining parking lots, providing security, and the like, are very important. How these CAM expenses are prorated among tenants is also very important and will be discussed in more detail in the case examples that conclude this chapter.

Comparing Leases: Effective Rent

From the above discussion, we know that a number of provisions may affect how rents are determined and various expense recovery options that may be included in a lease. These provisions, in combination, determine the expected series of rental payments and the extent of risk that is borne by the owner/lessor versus the tenant/lessee over the term of the lease. Because of the large number of possible combinations of lease terms, cash flows may vary considerably from lease to lease, making it difficult to establish what the lease cost is, as well as making comparisons between leases difficult. Therefore, it is useful to calculate a single measure or **effective rent** that can be used for comparison of individual leasing alternatives. It should be stressed again that lease contents will vary based on competitive market conditions as tenants/users shop and compare space in various locations. Market conditions at the time leases are negotiated and renewed will determine rents, methods of rent adjustments, concessions, and the extent to which the property owner may pass through certain operating expenses and/or recover them from tenants. In order to compare

the various possibilities, it is useful to calculate the effective rent for every lease at the time that it is being *negotiated* or *renewed.* To calculate the effective rent we will use the following procedure:

1. Calculate the present value of the expected net rental stream. The net rental stream is the amount of rent received minus operating expenses that the owner must pay after deducting any expense recoveries from the tenant. Note that the focus here is on the income to the *owner* of the property.
2. Calculate an equivalent level annuity over the term of the lease. An equivalent level annuity has the same present value as the original cash flow stream.

To illustrate, we will calculate the effective rent that would be collected by the lessor for different lease structures. Because of rent adjustments, the responsibility for payment of operating expenses can vary considerably for different lease structures, so the effective rent must be calculated *net* of any operating expenses that must be paid by the lessor. That is, any operating expenses that must be paid by the lessor will be subtracted from the rental income. A similar procedure would be used to calculate the effective rent paid by the lessee. In this case, the amount of operating expenses that the lessee is responsible for paying would be *added* to the rent each year.

The effective rent will be calculated for the following five alternatives for a five-year lease on 10,000 square feet of rentable space:

1. *Gross lease.* Rent will be $40 per rentable square foot each year. The lessor (owner) will be responsible for the payment of all operating expenses. Expenses are estimated to be $20 during the first year and will increase by $1 per year thereafter.
2. *Gross lease with expense stop.* Rent will be $38 per rentable square foot the first year with the lessor responsible for payment of recoverable operating expenses as identified in the lease, up to an expense stop of $20 per square foot. Lessee pays all expenses in excess of $20 per square foot. Expenses are estimated to be $20 during the first year and will increase by $1 per year thereafter.
3. *Gross lease with step up rents.* Rent will be $35 per rentable square foot and will increase by $2 per square foot each year thereafter. Operating expense will be $20 per square foot and will increase by $1 per year.
4. *Gross lease with step-up rents and expense stop.* Rents will be $32 per square foot. Operating expenses will be $20, and will increase by $1 per year. The tenant will pay (the owner will recover) all increases in operating expense above a $20 expense stop.
5. *Gross lease with expense stop and CPI adjustment.* Rent will be $30 per rentable square foot the first year and increase by the full amount of any change in the CPI after the first year with an expense stop at $20 per square foot. The CPI will increase as shown in case (5) in Exhibit 9–7. Operating expenses are assumed to be $4 per square foot and will increase by 50 cents per year thereafter.

Based on the above assumptions, the average rent, the present value of the rental stream, and the effective rent for each lease alternative are shown in Exhibit 9–7. A 10 percent discount rate is used to calculate the present value and convert the present value into an effective rent. This rate should reflect the riskiness of the rental stream, as discussed below. The effective rent varies for each alternative. This is expected because the risk differs for each alternative.

To illustrate the determination of *effective rent*, the following calculations are shown for the first lease alternative:

Step 1. Find the *present value* of net rent assuming that a discount rate of 10 percent is appropriate.

$$PV = \frac{\$20.00}{1.10} + \frac{\$19.00}{(1.10)^2} + \frac{\$18.00}{(1.10)^3} + \frac{\$17.00}{(1.10)^4} + \frac{\$16.00}{(1.10)^5}$$
$$= \$68.95$$

Step 2. Calculate the equivalent level annuity with the same present value. The result is the *effective rent*. Either the present value or the effective rent may be used for comparisons. The effective rent amounts to an annualized equivalent of the present value and is more commonly used in practice.

Solution:

$PV = -\$68.95$
$i = 10\%$
$n = 5$
$FV = 0$
Solve for $PMT = \$18.19$

Function:
PMT (PV, i, n, FV)

The same calculation can be performed for each lease alternative, and the results are shown in Exhibit 9–7.

Based on the examples shown in Exhibit 9–7(A), property owners can now use **effective net rent**, to compare leases with major differences in rents and responsibility for operating expenses. We should point out that results for **net leases** or those leases with a total operating expense pass through to tenants can now also be considered. This can be done by examining the net rent component of each of the five cases in Exhibit 9–7(A). Because the net rent in each case is equal to the gross rent less all operating expenses (now being passed through to the tenant), the net rent would be the cash flow that should be of importance to property owners when evaluating net leases.[4]

Other Financial Considerations

In addition to rents and operating expenses, there are several other financial considerations that may be negotiated as a part of lease agreements. Depending on how competitive market conditions are when leases are being negotiated, owners and potential lessees may negotiate one or more *concessions and/or tenant improvement allowances (TIs)* including: moving allowances, free or discounted rent, buyouts of existing leases or lease termination fees, and other inducements that a property owner may use to lease space to a desirable tenant.

To illustrate how these considerations may be included in effective net rent calculations, we return to case 1 in Exhibit 9–7(A). Recall that we are considering a lease of 10,000 square feet of space. The present value per square foot is $68.95. When multiplied

[4] We should point out that, in practice, net leases are often used in negotiations with tenants requiring large amounts of space. Gross leases tend to be used more often for multitenant users requiring smaller amounts of space. So, in practice, comparing gross and net leases may not occur frequently because of the differences in the types of tenants and their rentable area requirements.

EXHIBIT 9–7 (A) Comparative Effective Rents—Hypothetical Scenarios

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Year	(0)	(1)	(2)	(3)	(4)	(5)
1. Gross Lease—Flat Rents						
Gross rent	—	40.00	40.00	40.00	40.00	40.00
Less: Operating expenses	—	20.00	21.00	22.00	23.00	24.00
Add: Recoveries	—	—	—	—	—	—
Net rent		20.00	19.00	18.00	17.00	16.00
Average net rent	18.00	—	—	—	—	—
Present value	68.95	—	—	—	—	—
Effective net rent	18.19	—	—	—	—	—
2. Gross Lease—Flat Rents with Expense Stop						
Gross rent	—	38.00	38.00	38.00	38.00	38.00
Less: Operating expenses	—	20.00	21.00	22.00	23.00	24.00
Add: Recoveries	—	—	1.00	2.00	3.00	4.00
Net rent	—	18.00	18.00	18.00	18.00	18.00
Average net rent	18.00	—	—	—	—	—
Present value	68.23	—	—	—	—	—
Effective net rent	17.99	—	—	—	—	—
3. Gross Lease with Step Up Rents						
Gross rent	—	39.00	41.00	43.00	45.00	47.00
Less: Operating expenses	—	20.00	21.00	22.00	23.00	24.00
Add: Recoveries	—	—	—	—	—	—
Net rent	—	19.00	20.00	21.00	22.00	23.00
Average net rent	21.00	—	—	—	—	—
Present value	78.89	—	—	—	—	—
Effective net rent	20.81	—	—	—	—	—
4. Gross Lease with Step Up Rents and Expense Stop						
Gross rent	—	37.00	39.00	41.00	43.00	45.00
Less: Operating expenses	—	20.00	21.00	22.00	23.00	24.00
Add: Recoveries	—	—	1.00	2.00	3.00	4.00
Net rent	—	17.00	19.00	21.00	23.00	25.00
Average net rent	21.00	—	—	—	—	—
Present value	78.16	—	—	—	—	—
Effective net rent	20.62	—	—	—	—	—
5. Gross Lease Rents Indexed to Expected CPI with Expense Stop						
CPI	—	N/A	5.0%	6.0%	6.0%	6.0%
Gross rent	—	35.00	36.75	38.95	41.29	43.77
Less: Operating expenses	—	20.00	21.00	22.00	23.00	24.00
Add: Recoveries	—	—	1.00	2.00	3.00	4.00
Net rent	—	15.00	16.75	18.95	21.29	23.77
Average net rent	19.15	—	—	—	—	—
Present value	71.02	—	—	—	—	—
Effective net rent	18.73	—	—	—	—	—

EXHIBIT 9–7 (B)
Commentary on Effective Rents by Type of Lease shown in Exhibit 9–7(A)

Lease type	Effective Rents (PSF)	Comments
1. Flat Rent	$18.19	Owner receives flat rents totaling $40 PSF annually and is responsible for paying operating expenses. Owner (1) forgoes any opportunity to raise rents and (2) must absorb all current and future increases in operating expenses.
2. Flat Rent with Expense Stop	$17.99	Owner receives lower flat rents totaling $38 PSF annually. However, owner will "pass through" to the tenant all operating expenses in excess of the $20 PSF expense stop. Owner forgoes opportunities to raise rents but shifts some of the risk of any increases in operating expenses to the tenant.
3. Step-Up Rents @ $2.00 annually	$20.81	Owner receives lower initial rent of $39. However, rents will be "stepped up" by $2 PSF per year. As in case 1, owner absorbs any future increase in operating expenses.
4. Step Up Rents and $20.00 Expense Stop	$20.62	Owner receives lower initial rents of $37 PSF. However, owner will step up rents by $2 PSF each year. Owner also will shift all operating expenses in excess of $20 PSF to the tenant.
5. Rents Indexed to CPI and Expense Stop	$18.73	Initial rents are lowest under this scenario. To the extent that future rents are correlated with the CPI, the owner will shift the risk of future rent increases to the tenant. Also, the owner will shift increases in operating expenses in excess of the $20 stop to the tenant.

by 10,000 SF, a total present value of $689,500 is determined. We now consider a case where the property owner offers a lease with the following incentives: $15,000 moving allowance and $20,000 in additional tenant improvements (TIs). These concessions would total $35,000. This will reduce the present value in case 1 to $654,500 and reduce the present value to $65.45 per square foot. Solving for the equivalent ordinary annuity as before results in an effective rent of $17.25.

In some cases, free rent may also be used as an inducement. For example if in case 1, if our property owner was to offer a rent reduction to $30 PSF for the first two years of the lease, we would recompute the effective rent by discounting at 10% for five years. This results in an effective net rent of $13.61.

Year	(0)	(1)	(2)	(3)	(4)	(5)
Net rent		$10.00	$9.00	$18.00	$17.00	$16.00
Present value	$51.69					
Effective net rent	$13.61					

When the concessions of $35,000 are included *in addition* to the discounted rent, the new present value would be ($51.59 × 10,000) − $35,000 = $480,900. This revised present value of $480,900 ÷ 10,000 = $48.09 per square foot. This results in an effective rent of $12.69.

From the preceding examples, it should be clear that the effective rent is a measure of the expected present value of cash flows to the lessor (cost to the lessee). However, it should be stressed that effective rents cannot be compared without considering differences in risk. The effective rent is useful, however, when it is desirable to compare the expected returns from different lease alternatives with a single measure. It also is superior to comparing average rents or total rents over the life of the lease.

Developing Statements of Operating Cash Flow

What follows is a general discussion of the *link* between lease provisions and how investors in income-producing real estate develop statements of cash flow. These statements are very important as they serve as a basis for estimating real estate values and performing an investment analysis. These statements reflect (1) lease terms, (2) market supply and demand conditions affecting rents, (3) the tenant's credit risk, and (4) how responsibility for certain expenses associated with operating a property will be divided between the property owners and the tenants. As has been described, lease terms vary considerably for apartments, office buildings, retail properties, and warehouses. Differences in lease terms must be translated, and models must be developed into statements of cash flow in order to assess investment risk and return for investment opportunities.

It is useful to think of net cash flow realized from an investment in an income property as a combination of the relationships shown in Exhibit 9–8. *Rental income* for a property is calculated based on rents specified *in every lease* made with individual tenants. As we have discussed, rents specified in leases may be flat, stepped up, indexed, or based on some level of business performance. Furthermore, because existing leases have been made in previous periods and for different maturity periods, some leases may be due to expire, or "rollover," after a property is acquired. Therefore, rentable income in any year is a reflection of leases executed in previous years as well as leases being executed currently. As Exhibit 9–8 shows, in addition to rent, many properties produce *other income* from other services provided (such as laundry facilities in apartments, cell towers atop office buildings, covered parking, etc.).

EXHIBIT 9–8
General Approach for Developing Pro Forma Statements of Cash Flow for Income-Producing Properties

Rental Income
Add: Other Income
Expense Recoveries
Less: Vacancy and Collection Losses
Concessions
Effective Gross Income
Less: Operating Expenses
CAPEX/Improve Allowance*
NOI (Net Cash Flow)†

* This item represents recurring cash outlays for repairs and improvements made in conjunction with the normal operation of a property. Such items may include outlays needed to improve operating efficiency or prepare space for new tenants. In cases where major outlays for capital improvements (new roof, parking lot, etc.) are needed, these items should be included in a supplemental statement showing such outlays as nonoperating capital outflows only for the years that they are expected to occur.

† The reader should be aware that in real estate investment analysis, cash flow is the relevant focus. Even though the term *net operating income* (NOI) will be used in the coming chapters, it is calculated as cash flow and not income as determined by generally accepted accounting principles (GAAP). The term *NOI* is used interchangeably with cash flow from operations.

The statement shown in Exhibit 9–8 also shows that expense recoveries are usually *added* to the rent and other income to produce gross cash inflow for the property. *As we have explained, depending on the lease terms, some operating expenses may be recovered from tenants. Depending on the types of leases negotiated, such as full-service leases, modified full-service leases, net leases, and so on, some tenants may pay a pro rata share of operating expenses, while other tenants may pay a higher base rent but not make any contribution to operating expenses. Expense recoveries also must be determined on a lease-by-lease basis.*

After other sources of income and expense recoveries are determined, cash inflow is then reduced by loss of rents because of vacancies and nonpayment of rents (because of tenant bankruptcy, etc.). In addition to these reductions, property owners may have provided tenants with **concessions,** such as move-in allowances or rent reductions for a specified period of time. These are inducements for new tenants to lease space or to keep old tenants who are renewing leases. After these allowances are deducted, the resultant *effective gross income* is the amount of cash flow available to the owner to pay operating expenses.

In addition to operating expenses, additional items requiring cash outlays include "make ready" expenses for new tenants and other expenditures. These items are likely to occur regularly and will depend on the rate of lease turnover and will require that expenditures be made. Exhibit 9–8 includes such an allowance (see: CAPEX/Improve allowance). As will be shown later, when doing an investment analysis, multiperiod statements of cash flow including operating cash flows and a separate statement for capital outlays should be developed.

From effective gross income, operating expenses and the CAPEX allowance are deducted, and the net result is the *net cash flow*, also referred to as *net operating income (NOI).* This concept represents the net cash inflow from operating the property over a normal operating cycle (usually one year). *NOI is a very important concept in real estate investment analysis.*

As we explained, the pro forma statement of cash flow shown in Exhibit 9–8 is very basic. As each major property type is considered in this chapter, pro forma statements of cash flow may be affected because of certain lease provisions that are important to each property type. We should also note that our explanation in this chapter is limited to basic pro forma statements *for only a one-year period.* As will be seen in later chapters, when doing an investment analysis, pro forma statements must be developed annually for longer periods of time. We now turn to an examination of how leases and cash flows may vary for office, retail, industrial/warehouse, and multifamily properties.

Case Example: Office Properties

Rent Premiums and Discounts for Office Space

Office space tends to be leased for three- to seven-year terms with tenants often having the option to renew leases for additional terms. Rents vary by location within office properties, and owners may charge *premium rents* for space with the following features and locations:

- Ground floor, transfer points, and space contiguous to elevator banks.
- Higher floors with unobstructed views.
- Building corners.

Rent discounts may apply to office space in the following locations:

- Middle floors and locations not adjacent to the elevator bank.
- Offices with obstructed or less desirable views.
- Noncontiguous space occupied by one tenant (e.g., space on the second floor and space on the sixth floor).

See Concept Box 9.3 for a listing of the typical provisions in office property leases.

Determining Lease Revenue

In order to determine revenue, the base rent per square foot of rentable area must be multiplied by the quantity leased to tenants. While this may seem to be a straightforward calculation, it is not always as easy as it seems. This is particularly true in buildings where multiple tenants use and share common space. We will provide a hypothetical example using an office building to give the reader some idea of how rentable space is determined. However, depending on the city in which a building is located, local practices may affect how these calculations will be done.

Rentable Area in a Building

It is useful to think about the rentable area in a building as the total area that could be rented to a *single tenant-user.* This would usually equal the total area on all floors and the lobby *but exclude* the nonrentable area, which usually includes the thickness of exterior walls, any columns or protrusions through the floors such as elevator shafts or structural supports, mechanical equipment closets, basements, and so on, needed by the owner to maintain or operate the building. It would *include* areas such as elevator landings, lobbies, or reception areas, restrooms, or any areas that could be used by a tenant and their visitors/clients (these latter areas are also referred to as *common areas*). To illustrate, if we assume that a building contains 250,000 square feet of gross building area and, of that area, 200,000 square feet *could be rented and occupied by one tenant,* and if we also assume that base rents are $20 per square foot, then the total rent would equal $20 times the rentable area of 200,000 feet, or $4 million per year. The single tenant would make payments based on this amount prorated monthly by dividing by 12.

Multiple Tenants—Rentable Area per Floor—Load Factors

In cases where many tenants share a building, each tenant will occupy its **usable area** on a floor. For example, if four tenants share one floor equally and that floor has a total of 20,000 square feet of rentable area that is partitioned off into equal interior office spaces of 4,500 square feet each, then the total *usable* space on the floor is 18,000 square feet. However, there would have been 20,000 square feet of usable *area* if only one tenant leased the entire floor. Therefore, when multiple tenants *share* a floor, the difference between the total rentable area on a floor (or space that would be used if only one tenant occupied that floor) and usable area occupied by multiple tenants is a common area of 2,000 square feet. This space would be used by all four tenants and their clients/visitors. In this instance, the owner will prorate the 2,000 square feet of common area among the four tenant users to determine the *rentable area* for each tenant by using a **load factor,** which is calculated as follows:

$$\text{Load factor per floor} = \frac{\text{Rentable area per floor}}{\text{Usable area per floor}}$$

$$1.111 = \frac{20{,}000}{18{,}000}$$

Therefore, for a tenant with *usable area* of 4,500 square feet, *rentable area* for that tenant would be calculated as $4{,}500 \times 1.111 = 5{,}000$ square feet. The tenant would pay rent based on its *rentable area* of 5,000 square feet. If this relationship exists on each of the 10 floors in the building, the load factor for the building would be $(200{,}000 \div 180{,}000) = 1.111$.

However, it should be pointed out that loads may vary by tenant and by floor. For example, if a single tenant occupies an entire floor, then the useable area and the rentable area would be the same, or 20,000 square feet for that tenant on that floor.

Lease and Selected Operating Characteristics—Office Properties Concept Box 9.3

Because of the cost and importance of space that firms use in their operations, many options and other features are considered by owners and tenants when negotiating leases. In addition to the basic provisions discussed earlier (see Concept Boxes 9.1 and 9.2), what follows is a sample of some features found frequently in office leases:

- *Tenant right of first refusal.* According to the **right of first refusal,** tenants may have the right to rent contiguous space and/or any space in the building when it becomes available.
- *Tenant right to "put back" space to property owner.* Tenant may have the right to decrease space rented in the event that tenant desires to reduce space needs.
- *Sale or merger* by a landlord shall give tenant the option to terminate the lease.
- *Access/egress.* Material modification in access/egress or parking on the site by the owner requires approval of tenant.
- *Purchase option.* The tenant has the first right to purchase the property should the property owner desire to sell at some future date.
- *Signage.* The purpose of a **signage clause** is to grant one or more tenants the right to display a name inside and/or outside of the building. (For tenants that lease very large amounts of space, sometimes referred to as **anchor tenants,** signage may be offered as an inducement to lease space.) The size and designs of the signs are carefully controlled by the landlord, particularly when given exclusively to one tenant. Note: Other potential tenants may avoid leasing space in an office building featuring a competitor's name. There may be "prestige" issues involved, depending on the tenant mix in the building.
- *New lease approval.* Anchor tenants may want the right to approve any major lease agreements being negotiated by the property owner with new tenants so as to protect their image/identification with the building.
- *Overloading—use of space.* Tenant must keep the current and future number of employees per square foot at an agreed level (e.g., 250 sq. ft. of rentable space per employee).
- *Parking.* Property owner must reserve and/or keep a specified minimum number of spaces relative to rentable square feet currently in the building and relative to leasable space to be constructed in the future.

In many cases, the load factor *per floor* may be further adjusted for additional areas in the building. For example, a large office building may contain an "oversized" and elaborate lobby and may have other common areas (rooftop observations, etc.). In our example, if we assume that the 200,000 rentable square feet is distributed evenly over 10 floors (square building), and the first floor is a lobby and common area containing 10,000 square feet, then an owner *may also attempt* to prorate this lobby common area among all tenants in the building. One way that this might be done is to take the ratio of the other common area (lobby) of 10,000 square feet ÷ 200,000 square feet total rentable area which is 5 percent. The load factor for a floor (1.111) may then be increased by another 5 percent or $1.111 \times 1.05 = 1.1667$ (total load factor). Our tenant's rentable area would then be calculated as Usable area × Total load factor or $4{,}500 \times 1.1667$ or 5,250 square feet. Assuming $20 per square foot base rents, the total rental revenue to the owner from this tenant would be

$$\$20 \times (4{,}500 \times 1.1667) = \text{Rent per year}$$
$$20 \times 5{,}250 = \$105{,}000$$

For a single tenant occupying one entire floor, recall that the rentable and usable areas on that floor will be the same, or 20,000 square feet. Therefore, this single tenant would

pay an annual rent based on the rentable area on the floor, increased by the load for other common areas in the building as follows:

$$\$20 \times 20{,}000 \text{ sq. ft.} \times 1.05 = \$420{,}000$$

Therefore, when tenants shop for office space in a multitenanted office building, they will not only be interested in the base rent per square foot. They will also be interested in how the *rentable area* is determined, including the *load factors* that will be applied to the usable area they occupy to determine the total rentable area. Rentable area is the quantity against which the base rent will be multiplied to determine rent payments. In many cases, when tenants compare buildings for possible occupancy, they compare total load factors as "efficiency measures." High load factors generally indicate a large amount of common area, and therefore *lower* "building efficiency." However, if an image-conscious tenant desires a premium, spacious area in which to receive its clients and large common areas, this qualitative consideration may offset low efficiency. It should also be pointed out that regardless of how load factors are calculated, these factors are negotiable between owners and tenants much in the same way as the concessions discussed above.

Pro Forma Statement of Cash Flow—Office Properties

In Exhibit 9–9, we provide an example of a pro forma statement of cash flow for Webster Office Plaza, a 17-story office property with 459,295 square feet of *rentable area.* Estimates of revenue used to compile this statement are based on a total of 65 leases, which include a combination of flat, step-up, and indexed rents. Based on the rentable area, and assuming full occupancy, a weighted average has been used to estimate total rent at $25.65 per rentable square foot, or $11,780,917 for the coming year. The property also should produce other income from some retail services, cell tower rents, and parking and storage fees. It should be noted that in the revenue section of the statement, an *expected expense recoveries from tenants* amount equaling $1,139,051 has been included. This amount was estimated by reviewing expense provisions in each of the 65 leases. Such a review should determine leases that (1) are "full service," and therefore do not provide for any operating expense recovery from tenants, (2) are modified full service, (3) provide for pass throughs for taxes and insurance, or (4) provide for operating expense recoveries, and if so, whether "stops" are applicable. Vacant space is estimated to be equivalent to 5 percent of gross rent. Also, as shown, concessions (moving allowances and rent discounts given to new tenants) are deducted from revenues. Effective gross income from all sources is $12,675,727.

Total expenses payable by the property owner are estimated to be $13.39 per rentable foot, for a total of $6,149,959. Additional deductions include $2,549,087 as a CAPEX/Improve allowance. These latter outlays include tenant improvement costs that have been negotiated as part of the tenant/improvement/"finish out" costs of preparing the space for new tenant occupancy and other outlays. After deducting operating expenses and the CAPEX/Improve allowance from effective gross income, the net operating income (NOI) for Webster Office Plaza is determined for the base year to be $3,976,681.

It should be stressed that this pro forma statement is intended to provide the reader with guidance as to how to construct a pro forma statement for the base year only. In order to perform a more comprehensive investment analysis of this property, a *multiyear forecast* for Webster must be made. This forecast would be made based on the terms in all 65 leases, including expected lease terminations, lease renewals, and lease extensions, as well as lease concessions and commissions. Future adjustments in rent, expenses, pass throughs, and recoveries also should be included. In addition, future major capital expenditures or outlays for major improvements, repairs, and replacements (roof, elevators, HVAC, etc.), and tenant improvements should be included for those years during which outlays are expected in such a multiyear forecast. Examples of a more comprehensive, multiyear forecast will be included in the next chapter.

EXHIBIT 9–9
Pro Forma Statement of Cash Flow—Base Year Estimate

Webster Office Plaza		
Property Description		
Webster Office Plaza		
Rentable Area (RA): 459,295 sq. ft., 17 stories		Parking: 2,000 spaces
Occupancy: 95%		Site Area: 10 acres
# Tenants: 65		# Elevators: 12
Rentable sq. ft. per Tenant (avg.): 7,000		
Revenue		
Gross Rent ($25.65 base per sq. ft.* RA)		$11,780,917
Add: Expense Recoveries from Tenants	$1,139,051	
Add: Other Revenues		
Retail Services (Lobby)	10,000	
Cell Tower Rents	54,301	
Storage Fees	9,186	
Parking	381,215	
Less: Vacancy (5% of Gross Rent)	597,898	
Less: Concessions (Free Rent, etc.)	101,045	
Effective Gross Income		$12,675,727
Less: Operating Expenses		
Property Taxes	913,997	
Mgmt./Admin./Leasing Expenses	982,891	
Insurance	638,420	
Maintenance/Operations	987,484	
Utilities	1,731,542	
Janitorial/Cleaning	725,686	
Business & Other Taxes	169,939	
Total Operating Expenses	6,149,959	
CAPEX/Improve Allowance	2,549,087	8,699,046
Net Operating Income (NOI)		$3,976,681

*Rounded.

Case Example: Industrial and Warehouse Properties

Many of the same features in office leases apply to industrial properties and warehouses. Indeed, many buildings include a combination of office space and warehouse space. However, there are a few areas where these properties differ.

Leases for warehouse property tend to be highly individualized due to the special-purpose nature of the buildings. Tenants generally prefer longer-term leases ranging from 10 to 20 years. Long-term leases are preferred because many large warehouse users require equipment with high installation costs that cannot be moved easily or on short notice. Leases tend to contain significant pass-through clauses, or will usually be (1) *net*, (2) *net, net*, or (3) *net, net, net leases*. Rent premiums for industrial/warehouse properties might be added for properties with the following features:

- Located near entrances to industrial parks.
- Located near freeways, interstate highways, or rail access.
- Wide turning radius and access to loading docks.

Rent discounts for industrial/warehouse properties might be added for properties with the following features:

- Poor ingress/egress.
- Poor traffic circulation on the site.

When industrial and warehouse buildings are located in a large, campus-like development, common area charges may be included in leases. This occurs because of the expenses associated with maintenance, landscaping, upkeep, security, and the like, that may be performed in the common areas of the entire development for the benefit of all tenants but do not apply to any specific building. Because all tenants in all buildings benefit from these services, the owner may recover these expenses with a CAM (common area maintenance) charge.

Leases may provide that tenants can make outlays for leasehold improvements in order to improve efficiency. Such outlays are usually the responsibility of the tenant. Property owners usually retain the right to approve both the design and the contractor installing such improvements. How and if such improvements will be removed upon termination of the lease and the party responsible for the cost of doing so also should be addressed in the lease.

Pro Forma Statement of Cash Flow—Industrial/Warehouse Properties

In Exhibit 9–10, we provide a brief illustration of the pro forma cash flow for a distribution /warehouse with a total of 100,000 square feet of rentable area, 10 percent of which is office and showroom space. It will have a single tenant/user who has agreed to pay (a) $6.60 per square foot in rent and (b) a portion of additional operating expenses/fees related to maintenance and repair of the property equal to $1 per square foot per year. In this case, the lease agreement indicates that the tenant will pay all operating expenses and utilities. The tenant agrees to pay the property owner an additional $1 per square foot for operating expenses (maintenance, etc.) incurred by the owner, who will, in turn, make payments to service

EXHIBIT 9–10
Pro Forma Statement of Cash Flow—Base Year Estimate

Hellis Distribution Facility		
Property Description		
Hellis Distribution Facility/Office/Showroom Building		
Rentable Area (RA): 100,000 sq. ft./10% Office/Showroom Space		
Lease: Single Tenant—5 Year Term—Net, Net		
Rent per sq. ft.: .55 per Month, $6.60 per Year		
Operating Expense Recovery from Tenant: $1.00 per sq. ft. per Year		
Revenue		
Rent (Base of $6.60 per sq. ft. x RA)		$660,000
Add: Expense Recovery from Tenant	$100,000	
Pass Throughs		
Property Taxes	125,000	
Insurance	50,000	
Effective Gross Income		$938,000
Less: Operating Expenses		
Maint./Repair/Other Expenses	150,000	
Property Taxes	125,000	
Insurance	50,000	
Total Operating Expenses	325,000	
CAPEX/Improve Allowance	69,000	394,000
Net Operating Income (NOI)		$544,000

providers. As can be seen in the exhibit, operating expenses for general maintenance, repairs, and other expenses total $150,000. As a result, all expenses will not be recovered from the tenant, who is expected to pay an expense recovery totaling $100,000. The difference is the net amount of expenses that must be paid by the owner. However, property taxes and insurance will be billed, or passed through, to the tenant. These expenses must be paid by the owner. Other outlays shown in Exhibit 9–10 include CAPEX/Improve allowance outlays for recurring expenses prior to occupancy of the warehouse.

As was the case for office properties (see Exhibit 9–9), this pro forma is for the base year only. A more thorough investment analysis would include multiyear pro forma statements reflecting changes in revenue and expenses based on the lease agreement and any expected capital outlays for repairs of exterior, structural items such as roofing, parking areas, driveways, and the like for the years in which such outlays are expected.

Case Example: Retail Properties

Retail properties derive much of their value from the landlord's ability to lease to a mix of tenants that attract shoppers. Key indicators of the success of a retail property include *sales per square foot of rentable space* and *customer traffic counts*. These factors are very important to retail property owners when trying to lease space to prospective tenants. When developing retail properties, owners usually complete a *trade area analysis*. This study uses the population, age, and income of potential customers in the trade area as an indicator of demand for goods and services.

Retail properties are subject to many changing trends, new concepts in retailing, fashions, and the like. In addition to rents and expenses, retail leases contain many provisions that affect how tenants may, and may not, operate their businesses. This is because most retailers will be operating their businesses adjacent, or in proximity, to other retailers. Furthermore, some tenants may have the right to approve leases being negotiated with competing retailers. Retail leases with some tenants may also exclude certain other tenants that may be deemed as incompatible or that may detract or interfere with the operations of existing retailers.

Cash flow from retail leases may vary greatly. In addition to the flat, stepped-up, and /or indexed base rents, landlords and tenants may negotiate some of the rent based on a tenant's sales volume. Furthermore, retail leases usually incorporate recoveries of certain operating expenses. One very important item regarding retail properties is the recovery of expenses related to maintaining common areas, or **CAM charges.** These expenses tend to be *very significant* and are very important to tenants in retail properties. Although much of our discussion applies to shopping malls, many of the concepts described here also apply to other types of retail properties.

The Retail Leasing Environment

Anchor Tenants versus In-line Tenants

When an investment in large retail properties is considered, understanding the nature of the business and importance of various tenants is important. A common distinction is made between *anchor* tenants and *in-line*, or *shop*, tenants. Anchor tenants usually include very large department stores or other retailers that achieve very high sales volumes and generate a considerable amount of customer traffic. In many cases, because they lease a very large amount of space, anchors receive large rent discounts and demand many special lease features. In-line tenants, on the other hand, tend to be smaller retailers that hope to generate retail sales as a result of participating in the high shopping traffic, part of which is produced by the anchor tenants. By combining primary, complimentary, and cross-shopping activity

between anchor and in-line tenants, the property owner hopes to create a retail environment that tends to produce high total retail sales for all tenants per square foot of rentable space.

Rents

Another very important distinction between anchor and in-line tenants is the determination of rent. In general, when negotiating with property owners, anchor tenants can usually bargain more effectively than in-line tenants. In many cases, *anchor tenants will pay very low rents, or no rent at all.* In fact, if a particular anchor tenant is highly desirable, the property owner may be willing to lease space at very favorable rents *and* provide other incentives such as contributing funds to construct and finish out the space being leased by the anchor. In some cases, property owners may sell a portion of the property to an anchor tenant, thereby allowing the tenant to build, finish, operate, and control the retail space in accordance with the floor plan and dêcor that the anchor believes to be most desirable and successful. Alternatively, if the property is not sold, the landlord usually enters a long-term operating agreement with the anchor tenant.

In contrast to the low rents and very long-term leases made with anchor tenants, rents for in-line tenants tend to be driven by current market conditions. Rent typically consists of a *base rent* per square foot of rentable space for relatively short terms—say, three to five years (with renewal options). Furthermore, as is the case for many commercial properties, this base rate could be flat for the lease term, subject to specific, periodic step-ups, or indexed to the CPI. Leases are usually reviewed by the owner and tenant prior to the expiration date and renegotiated.

For some in-line tenants, an additional component of retail leases combines base rent with a so-called **percentage rent clause.** The rationale for this usually occurs when, in spite of high traffic counts and sales volumes, in-line tenants believe that the base rents being asked by the property owner are relatively high. In these cases, tenants may prefer to negotiate a lower base rent and agree to pay additional rents (referred to as overage rents) if their business in the retail property is successful. The additional rent is based on a percentage of the retail sales above some **breakpoint sales level.** Tenants may believe that this rent arrangement is consistent with the landlord's claims relative to sales per square foot and customer traffic count: If the retail environment is as good as the owner claims, then the owner should bear part of the tenant's business risk as a portion of the total rent determination.

A basic example of a percentage lease is as follows. Assume that for 1,000 square feet of rentable retail space, a property owner is asking a flat base rent of $38 per square foot (psf). However, instead of the $38 psf rent, the landlord may offer a *lower base rent* of $35 psf, plus *overage rent* equal to 8 percent of all gross sales revenue produced in excess of a breakpoint sales volume. Breakpoint sales levels and percentage rent factors are negotiated and vary by the type of retail tenant. For example, jewelry stores may have a relatively low breakpoint sales level and a high percentage rent factor, while a party goods store would have a relatively high breakpoint sales volume and low percentage rent factor. In our example, if the breakpoint sales level is negotiated to be $900,000 and the tenant produces gross sales of $1 million, then base rents plus *overage rents* would be as follows:

Base rent:		Total	Per Square Foot (psf)
$35 psf × 1,000 sp. ft.	=	$35,000	$35
Add overage rents:			
($1,000,000 – $900,000).08	=	8,000	8
Total base rent plus overage rents		$43,000	$43
Rent due beginning of each month	=	($43 × 1,000 sq. ft.) ÷ 12 = $3,583.33	

On the other hand, if sales volume for the in-line tenant in our example turned out to be less than the breakpoint sales volume of $900,000, base rents would remain $35 per square foot. Percentage leases also must specify what revenue items will be included in gross sales when determining breakpoint sales and overage rents. Returned merchandise, sales to employees, gift certificates, Internet sales, and revenue adjustments for sales taxes must all be clarified. Furthermore, documentation may be required of tenants and usually includes sales reports, financial statements based on tenant record retention, and sales tax receipts. The landlord also usually reserves audit rights.

CAM Charges—Recoveries

As indicated above, another very important component of retail leases is an expense recovery for common area maintenance (CAM). Many retail properties include a large amount of common area space that is used for mall walkways, parking, and nonshopping spaces. These areas are used by all customers who visit the property, hence the term "common areas." This space must be lighted, operated, maintained, insured, and repaired, and security must be provided by the owner. Also, in an enclosed mall, common areas are usually heated and cooled. When rents on retail leases are negotiated, common area maintenance (CAM) charges based on specific expenses identified in the lease also are usually negotiated. With regard to CAM charges, it should be pointed out that in many situations anchor tenants may pay less per square foot for these expenses than in-line tenants may pay. CAM charges are usually charged to *in-line tenants* as follows:

CAM charges per square foot of rentable in-line space:

$$\frac{\text{(Total CAM expenses for the property} - \text{Contribution to CAM expenses paid by anchor tenants)}}{\text{(Total rentable area occupied by in-line tenants)}}$$

A general example of CAM charges might be as follows: (1) a retail mall contains 2 million square feet of space, of which 1.2 million is rentable area and 800,000 square feet is common area; (2) total CAM expenses are $3 million for the year; and (3) anchor tenants occupy 700,000 square feet of rentable area and in-line tenants occupy 500,000 square feet. The owner of the mall has negotiated with four anchor tenants that they will pay $2 per rentable foot for CAM charges on a combined total of 700,000 square feet. The CAM charges for in-line tenants will be

$$\frac{\$3{,}000{,}000 - \$1{,}400{,}000}{500{,}000} = \$3.20 \text{ CAM charges per rentable square foot (in-line tenants)}$$

It should be clear that when negotiating CAM charges with anchor tenants, the property owner may be taking on considerable risk. In many cases, property owners attempt to attract anchor tenants by providing very favorable lease terms, including relatively low rents and low CAM charges. However, in order to justify these favorable terms to anchor tenants, higher rents and CAM expenses may have to be negotiated with in-line tenants. Depending on the level of retail sales achieved, in-line tenants may not be able to afford relatively high rents and CAM charges. As a result, they may vacate the property at their first opportunity. Alternatively, the property owners may have to reduce rents to in-line tenants and owners may not achieve their expected rental revenue.

In addition to CAM charges, in some cases, retail property owners may pass through insurance and property taxes directly to all tenants based on the share of the rentable area that they occupy. In addition, all tenants will usually be required to belong to a retail merchants association and pay for various advertising and promotional costs. See Concept Box 9.4 for a discussion of retail property leases and operating characteristics.

Leases and Selected Operating Characteristics of Retail Properties Concept Box 9.4

Because of the nature of retail properties and the interaction of many vastly different businesses ranging from high fashion to restaurants, many features are unique to leases on retail properties. What follows is a list of some of the more important features that may affect risk and return.

- *Lease termination or "kick out" clause.* Because sales per square foot and customer traffic are so important to the success of retail property investments, both retailers and owners may include a **termination clause**, which specifies that the tenant must achieve a certain level of sales per square foot within a specific period of time (e.g., two years), otherwise either the property owner *or* the tenant may terminate the lease.
- *Cotenancy clause.* The **cotenancy clause** is a demand commonly made by tenants who require the continued presence of a certain anchor or other tenants as a condition of making a lease with the property owner. This occurs when a tenant has found that sales increase when certain cotenants are present in retail malls. Furthermore, if any of these cotenants terminate their leases, in-line tenants may: (1) require the property owner to find a comparable replacement within a specific time period, (2) renegotiate rent, or (3) terminate the lease.
- *Anchor tenant and lender approval of major leases.* In retail situations, large anchor tenants are usually very concerned about the quality, image, and visibility of potential in-line tenants, and they may demand the right to approve all major leases (e.g., 5,000 sq. ft. or more) being negotiated between property owners and (1) new in-line tenants and (2) other anchor tenants. (As a side note, mortgage lenders also may be concerned about these lease provisions. Recall that the property and its value serve as security for the mortgage loan. So from a financial perspective lenders will also be interested in lease provisions. In addition to rents, lenders also will focus on CAM charges and other lease provisions and options, particularly those given to major tenants.
- *Signage.* A signage clause confers the right to display a name inside and/or outside of the building or in the mall ways. In the case of retail anchor tenants, unique signage may be offered by the owner as an inducement to the tenant to lease space. Signage for in-line tenants tends to be more restrictive and may be be specified as to size, color conformity with other in-line tenants in the mall, and so on.
- *Exclusivity clause.* An **exclusivity clause** limits the ability of the property owner to lease space in the building to competitors of existing tenants. Some exclusive retail shops insist upon an exclusive-use provision prohibiting any similar shop from leasing space anywhere in, or in proximity to, the building in order to protect sales.
- *Nondilution, or radius, clause.* When an exclusivity clause is provided to tenants, the property owner may require a **radius clause** in exchange. Tenants must agree not to lease any additional space in the same market/trade area specifically defined (e.g., within a radius of five miles). of the property.
- *Excluded uses.* Many anchor tenants require that some uses be excluded within a specified number of feet from their leased space. These could include movie theaters, restaurants, health clubs, and so forth. The anchor tenant may believe that parking and/or access to their location may be adversely affected by these uses.
- *Operating times.* All tenants must generally operate during specified times each day and on holidays. This precludes problems that may affect customer traffic due to nonuniformity in times of operation of the many tenants in a retail property.

Pro Forma Statement of Cash Flow—Retail Properties

Exhibit 9–11 provides an illustration for Shady Elm Community Shopping Center, a community center with 245,000 square feet of rentable space. It includes one 70,000 square foot grocery store and one 40,000 square foot home dêcor/furnishings store as *anchor*

EXHIBIT 9–11
Pro Forma Statement of Cash Flow—Base Year Estimate

Shady Elm Community Shopping Center

Property Description
Shady Elm Community Shopping Center

Rentable Area (RA):	245,000 sq. ft.	Anchor Tenants: (2) Grocery/Home Furnishings
Common Area:	80,000 sq. ft.	In-line/Shop Tenants: (30)
Parking:	2,500 spaces	Site Area: 19 acres

Revenue		
Rent (Base of $16.73 per sq. ft. × RA)		$4,098,850
Add: Overage Rent (from % leases)	$ 308,700	
CAM and Other Expense Recoveries from Tenants	1,139,250	
Other Income (Kiosks, Outbuildings)	159,250	
Less: Vacancy (5% × RA × Base)	330,750	
Concessions	—	
Effective Gross Income		$5,375,300
Less: Operating Expenses		
Maintenance/Repair	584,700	
Mgmt./Admin./Leasing Expenses	340,000	
Property Taxes	1,050,000	
Insurance	66,000	
Other	35,000	
Total Operating Expenses	1,875,700	
CAPEX/Improve Allowance	315,000	2,190,000
Net Operating Income (NOI)		$2,984,600

tenants and 30 other *in-line* or *shop tenants*. It includes an interior, covered, and air-conditioned mallway that provides 80,000 square feet of common area access for the entire center. Base rents are expected to average $16.73 per rentable square foot; however, six tenants in the center have executed percentage rent leases. It is expected that these leases will produce *overage rents* of $308,700 during the base year.

CAM expenses recoverable from tenants for maintenance of the 80,000 feet of mallway and other common area (parking lots, etc.) are expected to be $1,139,250, or about $4.65 per rentable foot. After considering rents, overage rents, other income, and CAM recoveries less vacancies, Shady Elm is expected to produce effective gross income of $5,375,300 during the base year. Total operating expenses to be paid by the owner are listed on the pro forma and are expected to be $1,875,700. Other items expected to be paid by the owner of Shady Elm include an allowance for tenant and capital improvements amounting to $315,000. After including all revenue items and deductions for operating expenses and a CAPEX/Improve allowance, NOI for the center is estimated to be $2,984,600.

In order to accomplish a more complete investment analysis of Shady Elm, a multiyear pro forma statement of cash flow based on a review of rents and expenses for all 32 leases, plus any expected capital expenditures (CAPEX) in years when outlays are expected to occur, would have to be made. We will provide a discussion of multiperiod pro forma cash flows in Chapter 10.

Case Example: Apartment Properties

Using the same general format shown in Exhibit 9–8, we consider an example of cash flows for apartment investments. For a number of reasons, investments in apartment properties are considerably different from office, retail, and warehouse investments. Leases are made for relatively short periods of time, the turnover of units may be very significant, and many state and federal consumer protection laws may apply. Exhibit 9–12 shows a pro forma statement of cash flow for apartment properties.

It should be noted that the *gross potential rental income* is calculated based on *full occupancy* of the mix of one- and two-bedroom units at an *average current rent* of $885.65 per month, producing $2,465,649 for the coming year. The "*loss to lease*" term is somewhat unique to estimating cash flows for apartments. It reflects the fact that leases on a number of units may have been made in previous periods and are different from current market rents being negotiated on new leases. The $61,036 loss to lease is determined by identifying the number of units with leases made in prior periods when rents were lower. The difference in rents being collected on the older leases and rents that are currently being collected on new leases is determined and then multiplied by the number of older leases/units. From this amount, rents on vacant units and rent losses from nonpayment and rent discounts/concessions are then subtracted, producing net rental income of $1,937,861. Other income from nonrent sources (such as parking, storage, laundry facilities, etc.) is shown to produce an

EXHIBIT 9–12
Waterfall Court Apartments—Summary Description

Name of Property	**Principal Amenities:**		
Waterfall Court Apartments	Direct-access garages with automatic garage door openers. Washer/dryer connections (full-size) in some units, swimming pool, limited access gates, parking spaces (400/some covered).		
Location			
Suburbia, USA			
Improvement Description	**Land Area Density:**		
A 232-unit garden apartment community located on a major north-south arterial road. The property was well constructed with a high level of amenities, including 100% direct-access garages. All buildings are two-story construction with 90% brick exteriors.	15 acres/15.5 units per acre		
	Unit mix:		
	1 bedroom—1 bath		
	2 bedrooms—2 baths	104 units	
	Avg. 1,000 sq. ft. per unit	128 units	
	Average monthly rent:		
Age: Seven years old	$885.65 per unit/.88 per square foot		
Gross Potential Rental Income (GPRI)	$2,465,649		
Less: Loss to Lease*	61,036		
Gross Rental Income	$2,404,613		
Less: Vacancy and Collection Loss	285,013		
Concessions and Adjustments	181,739		
Net Rental Income		1,937,861	
Add:			
Other Income	111,080		
Recovery of expenses from tenants	200,000	311,080	
Total Income		2,248,941	
Less: Operating and Leasing Expenses		990,380	
CAPEX/Improve Allowance		246,095	
Net Operating Income (NOI)		1,012,466	

*Loss to lease could be positive if current market rents have fallen relative to rents on older leases made prior to the present time.

Lease and Selected Operating Characteristics of Apartments — Concept Box 9.5

1. *Leases.*
   a. Multiple occupants—all occupants are jointly and severely liable for rent. No subletting or substitution of tenants is allowed without approval of lessor. A fee may be charged for substitution of any tenants on the lease.
   b. Lease termination—failure to pay rent, delay in taking occupancy, breach of lease agreement, breach of community rules. In some situations, the lessee may be able to terminate the lease and/or temporarily stop rent payments because of military duty or loss of employment.
2. *Collection losses* are usually due to nonpayment of rent, bankruptcy, abandonment of units, and so on.
3. *Concessions and adjustments.* Free rents, reduced rents for affordable housing requirements, discounts for corporate accounts, and so on.
4. *When leases expire* and the tenant does not give notice to vacate or renew, some states require that the lease automatically becomes "month to month," whereas other states may require that the lease be extended for a term equivalent to the original term of the lease. In some cases, if leases are not renewed on the lease expiration date, an additional "fee" may be added to the rent if the tenant renews at a later date.
   a. *Fees* are usually charged for late rent payments and for NSF checks.
   b. *Deposits: security, damage, pets*—specified dollar amounts usually collected upon execution of the lease and the conditions under which all or part of amounts collected will be returned to the lessee (tenant).
   c. *Move out notice by tenants*—usually 30 days prior to move out date. Failure to provide notice results in an additional fee.
   d. *Additional income* may come from the following sources: lease cancellation fees, application fees, forfeited deposits, cable TV contract, laundry room, vending machines, garage rentals, club room rents, damage charges, and so on.
5. *Recoveries.* Heating/cooling, water, and special services provided to tenant by property owner.
6. *Repairs.* Owner takes responsibility for repairs of appliances, roof sprinklers, parking lot, equipment, glass windows, pool, HVAC, and all supplies. Turnover costs: all make-ready expenses (carpet and other cleaning, paint, counter tops, tile/bath, etc.), property maintenance, security, administrative costs, and benefits.

additional $111,080, and utility expense recoveries from tenants for water and heat provided by the property owner are also included, resulting in a total income from all sources of $2,248,941. Operating and leasing expenses are projected to be $990,380. After combining all items of income and expenses, *net operating income* is projected to be $1,012,466, after including a CAPEX allowance of $246,095 for replacements. Many other contents in apartment leases and other operating features affecting cash flows are detailed in Concept Box 9.5.

Conclusion

The purpose of this chapter has been to familiarize the reader with lease provisions and operating characteristics generally representative of major property types. The illustrations have shown that regional economic conditions, market supply and demand, lease terms, tenant credit, investment risk, and the ability of property owners to pass through operating costs are all important considerations in income property analysis. Furthermore, the ability to modify and develop pro forma cash flow statements and to undertake a competitive market analysis serve as foundations for analysis and for estimating an investment value for properties being sought for acquisition. These latter topics will be the focus in the chapters that follow.

Key Terms

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Useful Web sites

www.bls.gov/cpi—Consumer price index site sponsored by the U.S. Department of Labor, Bureau of Labor Statistics. This site gives information on different indexes and rates as well as news releases.

www.reis.com—Provides commercial real estate trends, analytics, market research, and news that support transactions by real estate professionals.

www.leasingprofessional.com—Source of information about leases, including terminology, sample leases, and links to other sites.

www.globest.com—Provides current real estate news that is updated daily.

www.naea.co.uk—This site is hosted by the National Association of Estate Agents (NAEA), which is the United Kingdom's leading professional body for estate agency personnel, representing the interests of approximately 10,000 members who practice across all aspects of property services both in the United Kingdom and overseas. These include residential and commercial sales and lettings, property management, business transfer, and auctioneering.

www.realestate-tokyo.com—This site is a good source for residential and commercial real estate properties in Tokyo. It also offers information on apartments and houses to rent in the Tokyo area, properties for sale, offices for rent, and, in general, about life in Japan and the real estate market.

www.ipd.com—This site provides objective measurement and analysis of various properties. The company that runs this website does not invest in the market and does not offer any direct investment advice, so it tends to be unbiased.

www.snl.com/sectors/real-estate—This site provides fundamental financial data on more than 230 REITs, REOCS, and homebuilders. It gives detailed, descriptive property data, cost and performance data, and property mapping. It also is a good source for analyst coverage, FFO estimates, proprietary AFFO, and NAV consensus estimates.

Questions

1. How may the use of leases shift the risk of rising operating expenses from the lessor to the lessee?
2. What is the difference between base or face rents and effective rents?
3. What is meant by usable versus rentable space?
4. What are CAM charges?
5. What are (a) pass through expenses, (b) recoverable expenses, and (c) common area expenses? Give examples of each.
6. What is an estoppel? Why is it used?
7. What is meant by "loss to lease"? Explain.
8. What types of expenses would property owners pay when operating and maintaining common areas? Give examples for office, retail, and warehouse properties.

Problems

1. A property owner is evaluating the following alternatives for leasing space in his office building for the next five years:

   Net lease with steps. Rent will be $15 per square foot the first year and will increase by $1.50 per square foot each year until the end of the lease. All operating expenses will be paid by the tenant.

   Net lease with CPI adjustments. The rent will be $16 per square foot the first year. After the first year, the rent will be increased by the amount of any increase in the CPI. The CPI is expected to increase 3 percent per year.

   Gross lease. Rent will be $30 per square foot each year with the lessor responsible for payment of all operating expenses. Expenses are estimated to be $9 during the first year and increase by $1 per year thereafter.

   Gross lease with expense stop and CPI adjustment. Rent will be $22 the first year and increase by the full amount of any change in the CPI after the first year with an expense stop at $9 per square foot. The CPI and operating expenses are assumed to change by the same amount as outlined above.

   a. Calculate the effective rent to the owner (after expenses) for each lease alternative using a 10 percent discount rate.

   b. How would you rank the alternatives in terms of risk to the property owner?

   c. Considering your answers to parts (*a*) and (*b*), how would you compare the four alternatives?

2. As CFO for Everything.Com, you are shopping for 5,000 square feet of *usable* office space for 25 of your employees in Center City, USA. A leasing broker shows you space in Apex Atrium, a 10-story multitenanted office building. This building contains 300,000 square feet of gross building area. A total of 45,000 square feet is interior space and is nonrentable. The nonrentable space consists of areas contained in the basement, elevator core, and other mechanical and structural components. An additional 30,000 square feet of common area is the lobby area usable by all tenants. The 5,000 square feet of usable area that you are looking for is on the seventh floor, which contains 28,000 square feet of rentable area, and is leased by other tenants who occupy a combined total of 20,000 square feet of usable space. The leasing broker indicated that base rents will be $30 per square foot of *rentable area.*

   a. Calculate total rentable area in the building as though it would be rented to one tenant.

   b. Calculate the load factor and common area on the seventh floor only.

   c. Calculate the rentable area, including the load factor for common areas on the seventh floor and the total rent per square foot that will be paid by Everything.Com for the coming year if it chooses to lease the space.

   d. Adjust (*b*) assuming that the owner adjusts the load factor for other common areas in the building.

   e. Calculate total rent per square foot, assuming that adjusted load factors are applied to usable area for both the common areas in the building lobby and on the seventh floor.

3. An owner of the Atrium Tower Office Building is currently negotiating a five-year lease with ACME Consolidated Corp. for 20,000 rentable square feet of office space. ACME would like a base rent of $20 per square foot with step-ups of $1 per year beginning one year from now.

   a. What is the present value of cash flows to ATRIUM under the above lease terms? (Assume a 10% discount rate.)

   b. The owner of ATRIUM believes that base rent of $20 PSF in (*a*) is too low and wants to raise that amount to $24 with the same $1 step ups. However, now ATRIUM would provide ACME a $50,000 moving allowance and $100,000 in tenant improvements (TIs). What would be the present value of this alternative to ATRIUM?

   c. ACME informs ATRIUM that it is willing to consider a $23 PSF with the $1 annual step-ups. However, under this proposal, ACME would require ATRIUM to buyout the one year remaining on its existing lease in another building. That lease is $15 PSF for 20,000 SF per year. If ATRIUM buys out ACME's old lease, ACME will not require a moving allowance or TIs. What would be the present value of this proposal to ATRIUM? How does it compare with the alternative in (*b*)?

4. CAM charges for retail leases in a shopping mall must be calculated. The retail mall consists of a total area of 2.8 million square feet, of which 800,000 square feet has been leased to anchor tenants that have agreed to pay $2 per rentable square foot in CAM charges. In-line tenants occupy 1.3 million square feet, and the remainder is common area, which the landlord believes will require $8 per square foot to maintain and operate each year. If the owner is to cover total CAM charges, will in-line tenants have to pay per square foot for CAM charges?
5. A retail lease for 10,000 square feet of rentable space is being negotiated for a five-year term.

   Option A calls for a base rent of $25 per square foot for the coming year with step-ups of $1 per year each year thereafter. CAM charges are expected to be $3 for the coming year and are forecasted to increase by 6 percent at the end of each year thereafter.

   Option B calls for a lower base rent of $23 per square foot with the same step-ups and CAM charges, but the tenant must pay overage rents based on a percentage lease clause. The clause specifies that the tenant must pay 8 percent on gross sales over a breakpoint level of $900,000 per year. The owner believes that the tenant's gross sales will be $850,000 during the first year but should increase at a rate of 10 percent per year each year thereafter.

   a. If the property owner believes that a 12 percent rate of return should be earned annually on this real estate investment, which option is best for the owner of the retail center?

   b. What if sales are expected to increase by 20 percent per year?
6. You have been asked to develop a pro forma statement of cash flow for the coming year for Autumn Seasons, a 200-unit suburban garden apartment community. This community has a mix of 40 studio, 80 one-, and 80 two-bedroom apartments with current monthly rents of $550, $600, and $800, respectively. Leases with tenants are usually made for 12-month periods. Current rents are expected to remain fixed for the next six months. After that time, monthly rents for each apartment type should increase by $10 per unit and remain at those levels for the remainder of the year. Ten studios were leased three months ago for $500, 20 one-bedroom units were leased two months ago for $580, and 10 two-bedroom units were leased last month for $805. All other units have been leased recently at current rents. All of the previously leased units also are on 12-month leases. When those leases roll over, all are expected to be renewed at market rents upon rollover for an additional 12 months. Presently, 4 studios, 6 one-, and 6 two-bedroom units are vacant. This vacancy pattern should remain the same for the remainder of the year.

   Autumn Seasons anticipates that during the coming year, it will earn other income from laundry facilities, the awarding of an exclusive cable TV contract, parking, plus fees from net deposits, late fees, and so on of $200,000. Autumn Seasons expect to pay total turnover and operating expenses of $400 per month, per occupied unit during the next year. However, it expects to recover some of these expenses for heating and central cooling that it provides to tenants in an amount totaling $100 per month, per occupied unit. During the next year, it is also anticipated that $100,000 will be required for recurring, make-ready expenses (carpet, paint, drywall repair, etc.), and another $250,000 will be required as an allowance for nonrecurring items including parking lot repairs, and so on. A total of $10,000 in fees will be paid to Apartment Locator Services, a company that provides marketing services and finds new tenants for Autumn.

   a. Prepare a statement of operating cash flow (NOI) for the coming year.

   b. Add to the (*a*) anticipated outlays for nonrecurring items and commissions. What will be net cash flow for the coming year?
7. You have been asked to develop a pro forma statement of cash flow for the coming (base) year for Summer Place Mall. The information given to you is listed below.

Property Information:

SUMMER PLACE MALL	
Age of Improvement	10 years
Rentable Area (RA)	400,000 sq. ft.

Common Area (CA)	160,000 sq. ft.
Number of Tenants	40
Financial Information:	
Avg. Base Rents	$20 per sq. ft.
Overage Rents (5 Tenants)	50,000 sq. ft. @ $8.00 per sq. ft.
CAM Expenses Recoverable from Tenants	$5.00 per sq. ft.
Average Lease Term	3.5 years
Vacancy	Equal to 10% of total rental revenue
Operating Expenses:	
Maintenance/Repair	$1,200,000
Mgmt/admin./Leasing Expenses	$230,000
Property Taxes	$1,715,000
Insurance	$105,000
Other	–
Other Information:	
Recurring CAPEX/Improve Allowance	$160,000

a. From the above data, develop a pro forma statement for a base year showing net operating income (NOI) for Summer Place.

b. If you plan to begin work on *future pro formas* for Summer Place, list at least five major factors that you would consider.

8. You have been asked to develop a pro forma statement of cash flow for Betts Distribution Center, an Internet-based order fulfillment/distribution/office/warehouse property. In addition to recoverable operating expenses, the new tenant will be billed for pass throughs including insurance and property taxes, which will then be paid by the owner. The information given to you is listed below.

Property Information:	
BETTS DISTRIBUTION CENTER	
Age of Improvement	8 years old
Rentable Space	200,000 sq. ft.
Single Tenant	10 year lease term, net, net
Financial Information:	
Rent	$7.00 per sq. ft. (7-year term), flat
Recoverable Expenses from Tenant	$1.50 per sq. ft., fixed
Operating Expenses	$700,000
Property Taxes	$50,000
Insurance	$15,000
Other Cash Outlays:	
Allowances for:	
Recurring CAPEX/Improve Allowance	$60,000

a. Develop a pro forma statement for the Betts property for a base year showing net operating income (NOI).

b. If you plan to begin work on *future pro formas* for Betts, list at least five major factors that you would consider.

9. You have been asked to develop a pro forma statement of cash flow for West Office Plaza. The information given to you is listed below.

Property Information:	
WEST OFFICE PLAZA	
Rentable Area	300,000 sq. ft.
Age	8 years
# Stories	15
# Tenants	40
Financial Information:	
Base Rent Avg.	$20 per sq. ft.
Other Income/Parking/Storage	$1.50 per sq. ft.
Expenses Recoverable from Tenants	$2.50 per sq. ft.
Current Vacancy	5%
Expenses:	
Mgmt./Admin./Security/Ownership	$695,000
Property Taxes	$675,000
Insurance	$430,000
General Operations/Leasing Expense/Marketing	$667,000
Utilities	$1,159,100
Janitorial/Cleaning	$489,000
Business Taxes	$110,000
Other:	
Recurring CAPEX/Improvement Allowance	$700,000

   a. Develop a pro forma statement of cash flow for a base year showing net operating income (NOI) for West Office Plaza.

   b. If you plan to begin work on *future pro formas* for West Office Plaza, list at least five major factors that you would consider.

10. **Spreadsheet Problem.** Refer to the effective rent example on page 276 in the book that is replicated in the Ch9 Eff. Rent tab in the Excel workbook provided on the website.

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   a. Suppose that the CPI is expected to increase by 4 percent starting in year 2 and remain at 4 percent per year rather than the original pattern that is 2 percent in year 2, 3 percent in year 3, 4 percent in year 4, and 5 percent in year 5. What leases will be affected? What is the new effective rent on these leases?

   b. Suppose that in addition to the change in part (*a*), expenses increase by $1 per year instead of $.50. What leases will be affected? What is the new effective rent on these leases?