

Real Estate and Other Tangible Investments

While traveling through the downtown area of a major city, you see scores of people hurrying to work in high-rise office buildings. The business section of the city's paper includes an article about the low vacancy rates for office space, and you wonder if there might be an investment possibility at hand. Buying an office building is likely out of the question, but you can purchase shares in a company like Equity Office Properties Trust (EOP) to accomplish your objective. EOP, based in Chicago, is actually a special kind of public company: an equity real estate investment trust (REIT).

Equity REITs are professionally managed companies that invest in various types of real estate. Equity Office Properties buys, develops, manages, leases, and renovates office buildings, industrial properties, and parking facilities in 16 states and Washington, DC. EOP's total office portfolio consists of whole or partial interests in 596 buildings comprising 110.1 million square feet. Other REITs might specialize in shopping centers, residential units, health-care facilities, lodging, or a combination of several property categories.

REITs typically offer investors some income in addition to their appreciation potential. For example, EOP's dividend yield in mid-2006 was 3.6%. Originally signed into law by President Eisenhower in 1960 to enable the "little guy" to invest in big-time real estate, REITs also enjoy special tax advantages. A REIT is required to pass at least 90% of its taxable income through to its investors in order to qualify as a fully compliant REIT and avoid federal taxation at the corporate level.

As you will see in this chapter, real estate is an important part of a diversified investment portfolio, whether the investment is made through a REIT or through direct purchase of property.

LEARNING GOALS

After studying this chapter, you should be able to:

- LG 1** Describe how real estate investment objectives are set, how the features of real estate are analyzed, and what determines real estate value.
- LG 2** Discuss the valuation techniques commonly used to estimate the market value of real estate.
- LG 3** Understand the procedures involved in performing real estate investment analysis.
- LG 4** Demonstrate the framework used to value a prospective real estate investment, and evaluate results in light of the stated investment objectives.
- LG 5** Describe the structure and investment appeal of real estate investment trusts.
- LG 6** Understand the investment characteristics of tangibles such as gold and other precious metals, gemstones, and collectibles, and review the suitability of investing in them.

Investing in Real Estate

LG 1

real estate

entities such as residential homes, raw land, and income property.

tangibles

investment assets, other than real estate, that can be seen or touched.

What do warehouses, gold ingots, and Pez containers have in common? They are all investment vehicles—yes, even the Pez containers—chosen by investors who want to put their money in something that can be seen and felt. Real estate and other tangible investments, such as gold, gemstones, and collectibles, offer attractive ways to diversify a portfolio. As noted in Chapter 1, **real estate** includes entities such as residential homes, raw land, and a variety of forms of income property, including warehouses, office and apartment buildings, and condominiums. **Tangibles** are investment assets, other than real estate, that can be seen or touched. Ownership of real estate and tangibles differs from ownership of security investments in one primary way: It involves an asset you can see or touch rather than a security that evidences a financial claim. Particularly appealing are the favorable risk–return tradeoffs resulting from the uniqueness of real estate and other tangible assets and the relatively inefficient markets in which they are traded. In addition, certain types of real estate investments offer attractive tax benefits that may enhance their returns. In this chapter we first consider the important aspects of real estate investment and then cover the other classes of tangible assets.

In addition to the fact that real estate is a tangible asset, it differs from security investments in yet another way: Managerial decisions about real estate greatly affect the returns earned from investing in it. In real estate, you must answer unique questions: What rents should be charged? How much should be spent on maintenance and repairs? What purchase, lease, or sales contract provisions should be used to transfer certain rights to the property? Along with market forces, answers to such questions determine whether you will earn the desired return on a real estate investment.

Like other investment markets, the real estate market changes over time. For example, the national real estate market was generally strong through the 1970s and 1980s. The strong market during this period was driven by generally prosperous economic times, including high economic growth. These years were also a time of relatively high inflation, another factor in the pricing of real estate. Finally, increased demand by large numbers of foreign investors, particularly from Japan and Europe, for U.S. commercial and residential real estate helped fuel the rising market.

But in 1989 the real estate market declined, and it grew increasingly weak through the early 1990s, with commercial values in many cities declining up to 50% and more. This dramatic decline, the largest since World War II, resulted from a variety of factors:

- major revisions in tax law that eliminated important tax benefits for investment in real estate.
- the collapse of oil prices.
- a slowing economy.
- the S&L crisis.
- an excessive inventory of commercial real estate which had been stimulated by abundant credit.

Last to recover from the real estate collapse of the early 1990s were markets whose regional economies had been hit particularly hard: specifically, the “oil patch”—Texas, Oklahoma, Louisiana, and Colorado—and the military defense-dependent areas of New England and California. In the mid 1990s, a resurgence in the real estate market began, and by early 1998 the market nationally had returned nearly to pre-1989 levels. From the mid 1990’s until early 2006, real estate values in most areas of the country steadily increased as a result of the growing demand occasioned by economic growth, low unemployment, low interest rates, and a depleted inventory of available properties. In 2006, real estate growth flattened and a declining trend in values began to occur. The causes were rising interest rates, high oil prices, an uncertain political environment, and an excessive inventory of unsold properties. For today’s real estate investors, the lessons are clear: Macro issues such as the economic outlook, interest rate levels, the demand for new space, the current supply of space, and regional considerations are of major importance.

As recent history demonstrates, investing in real estate means more than just “buying right” or “selling right.” It also means choosing the right properties for your investment needs and managing them well. Here we begin by considering investor objectives, analysis of important features, and determinants of real estate value.

Investor Objectives

Setting objectives involves two steps: First, you should consider differences in the investment characteristics of real estate. Second, you should establish investment constraints and goals.

Investment Characteristics Individual real estate investments differ in their characteristics even more than individual people differ in theirs. Just as you wouldn’t marry without thinking long and hard about the type of person you’d be happy with, you shouldn’t select an investment property without analyzing whether it is the right one for you. To select wisely, you need to consider the available types of properties and whether you want an equity or a debt position.

In this chapter we discuss real estate investment primarily from the standpoint of equity. Individuals can also invest in instruments of real estate debt, such as mortgages and deeds of trust. Usually, these instruments provide a fairly safe rate of return if the borrowers are required to maintain at least a 20% equity position in the mortgaged property (no more than an 80% loan-to-value ratio). This equity position gives the real estate lender a margin of safety if foreclosure has to be initiated.

We can classify real estate into two investment categories: income properties and speculative properties. **Income property** includes residential and commercial properties that are leased out and expected to provide returns primarily from periodic rental income. *Residential properties* include single-family properties (houses, condominiums, cooperatives, and townhouses) and multifamily properties (apartment complexes and buildings). *Commercial properties* include office buildings, shopping centers, warehouses, and factories. **Speculative property** typically includes raw land and investment properties that are expected to provide returns primarily from appreciation in value due to location, scarcity, and so forth, rather than from periodic rental income.

income property
leased-out residential or commercial real estate that is expected to provide returns primarily from periodic rental income.

speculative property
raw land and real estate investment properties that are expected to provide returns primarily from appreciation in value.

Income properties are subject to a number of sources of risk and return. Losses can result from tenant carelessness, excessive supply of competing rental units, or poor management. On the profit side, however, income properties can provide increasing rental incomes, appreciation in the value of the property, and possibly even some shelter from taxes.

Speculative properties, as the name implies, give their owners a chance to reap significant financial rewards but carry also the risk of heavy loss. For instance, rumors may start that a new multimillion-dollar plant is going to be built on the edge of town. Land buyers would jump into the market, and prices soon would be bid up. The right buy–sell timing could yield returns of several hundred percent or more. But people who bought into the market late or those who failed to sell before the market turned might lose the major part of their investment. Before investing in real estate, you should determine the risks that various types of properties present and then decide which risks you will accept and can afford.

Constraints and Goals When setting your real estate investment objectives, you also need to set both financial and nonfinancial constraints and goals. One financial constraint is the risk–return relationship you find acceptable. In addition, you must consider how much money you want to allocate to the real estate portion of your portfolio, and you should define a quantifiable financial objective. Often this financial goal is stated in terms of *discounted cash flow* (also referred to as *net present value*) or *yield*. Later in this chapter we will show how various constraints and goals can be applied to real estate investing.

Although you probably will want to invest in real estate for its financial rewards, you also need to consider how your technical skills, temperament, repair skills, and managerial talents fit a potential investment. Do you want a prestigious, trouble-free property? Or would you prefer a fix-up special on which you can release your imagination and workmanship? Would you enjoy living in the same building as your tenants, or would you prefer as little contact with them as possible? Just as you wouldn't choose a career just for the money, neither should you buy a property solely on that basis.

■ Analysis of Important Features

The analytical framework suggested in this chapter can guide you in estimating a property's investment potential. There are four important general features related to real estate investment.

1. *Physical property.* When buying real estate, make sure you are getting both the quantity and the quality of property you think you are. Problems can arise if you fail to obtain a site survey, an accurate square-footage measurement of the buildings, or an inspection for building or site defects. When signing a contract to buy a property, make sure it accurately identifies the real estate and lists all items of personal property (such as refrigerator and curtains) that you expect to receive.
2. *Property rights.* Strange as it may seem, what you buy when you buy real estate is a bundle of legal rights that fall under concepts in law such as deeds, titles, easements, liens, and encumbrances. When investing in real estate, make sure that along with various physical inspections, you get a legal inspection from a qualified attorney. Real estate sale and lease agreements should not be the work of amateurs.

3. *Time horizon.* Like a roller coaster, real estate prices go up and down. Sometimes market forces pull them up slowly but surely; in other periods, prices can fall so fast that they take an investor's breath away. Before judging whether a prospective real estate investment will appreciate or depreciate, you must decide what time period is relevant. The short-term investor might count on a quick drop in mortgage interest rates and buoyant market expectations, whereas the long-term investor might look more closely at population growth potential.
4. *Geographic area.* Real estate is a spatial commodity, which means that its value is directly linked to what is going on around it. For some properties, the area of greatest concern consists of a few blocks; for others, an area of hundreds of square miles serves as the relevant market area. You must decide what spatial boundaries are important for your investment before you can productively analyze real estate demand and supply.

■ Determinants of Value

In the analysis of a real estate investment, value generally serves as the central concept. Will a property increase in value? Will it produce increasing amounts of cash flows? To address these questions, you need to evaluate four major determinants: demand, supply, the property, and the property transfer process.

demand

in real estate, people's desire to buy or rent a given property.

Demand In the valuing of real estate, **demand** refers to people's desire to buy or rent a given property. In part, demand stems from a market area's economic base. In most real estate markets, the source of buying power comes from jobs. Property values follow an upward path when employment is increasing, and values typically fall when employers begin to lay off workers. Therefore, these are the first questions you should ask about demand: What is the outlook for jobs in the relevant market area? Are schools, colleges, and universities gaining enrollment? Are major companies planning expansion? Are wholesalers, retailers, and financial institutions increasing their sales and services? Upward trends in these indicators often signal a rising demand for real estate.

demographics

measurable characteristics of an area's population, such as household size, age structure, occupation, gender, and marital status.

Population characteristics also influence demand. To analyze demand for a specific property, you should look at an area's population demographics and psychographics. **Demographics** refers to measurable characteristics, such as household size, age structure, occupation, gender, and marital status. **Psychographics** includes characteristics that describe people's mental dispositions, such as personality, lifestyle, and self-concept. By comparing demographic and psychographic trends to the features of a property, you can judge whether it is likely to gain or lose favor among potential buyers or tenants. For example, if an area's population is made up of a large number of sports-minded, highly social 25- to 35-year-old singles, the presence of nearby or on-site health club facilities may be important to a property's success.

psychographics

characteristics that describe people's mental dispositions, such as personality, lifestyle, and self-concept.

Mortgage financing is also a key factor. Tight money can choke off the demand for real estate just as easy money can create an excess supply. As investors saw in the early 1980s, very high interest rates and the almost complete unavailability of mortgages caused inventories of unsold properties to grow and real estate prices to fall. Conversely, as mortgage interest rates fell beginning in 1984, real estate sales and refinancing activity in many cities

throughout the United States rapidly expanded. Although interest rates continued to decline during the early 1990s, they failed to stimulate real estate activity because of generally poor economic conditions and an enormous supply of vacant space. Further declines in interest rates through the balance of the 1990s and early 2000s, coupled with a rapidly improving economy and shrinking property inventory, drove up prices and returns again. Real estate markets remained robust until early 2006, when a declining economy temporarily put the brakes on real estate values and new construction.

supply

in real estate, the potential competitors available in the market.

principle of substitution

the principle that people do not buy or rent real estate per se but, instead, judge properties as different sets of benefits and costs.

INVESTOR FACTS

IT EVEN HAS A KITCHEN—

Here's the new use for some types of investment real estate—housing for business travelers. As shortages of hotel rooms in large cities drive up costs of business travel, BridgeStreet Worldwide has an alternative: The company leases scattered-site furnished apartments from property managers and rents them out nightly, weekly, or monthly. BridgeStreet's clientele is mostly business travelers sent out of town on temporary assignments or those being relocated, although there is also a growing leisure travel market for the properties. The average price is "in the \$70-a-night range." Information is available on the Internet at www.bridgestreet.com. BridgeStreet Worldwide has found a novel way to apply the principles of supply and demand in the real estate market.

Supply Analyzing **supply** means sizing up the competition. Nobody wants to pay you more for a property than the price he or she can pay your competitor; nor when you're buying (or renting) should you pay more than the prices asked for other, similar properties. As a result, you should identify sources of potential competition and inventory them by price and features. In general, people in real estate think of competitors in terms of similar properties. If you are trying to sell a house, for example, your competition is other, similar houses for sale in the same area.

For longer-term investment decisions, however, you should expand your concept of supply and identify competitors through the **principle of substitution**. This principle holds that people do not buy or rent real estate per se but, instead, judge properties as different sets of benefits and costs. Properties fill people's needs, and it is these needs that create demand. Thus, potential competitors are not just geographically and physically similar properties. In some markets, for example, low-priced single-family houses might compete with condominium units, manufactured homes ("mobile homes"), and even rental apartments. Before investing in any property, you should decide what market that property appeals to and then define its competitors as other properties that its buyers or tenants might also typically choose. After identifying all relevant competitors, look for the relative pros and cons of each property in terms of features and respective prices.

The Property We've seen that a property's value is influenced by demand and supply. The price people will pay is governed by their needs and the relative prices of the properties available to meet those needs. Yet in real estate, the property itself is also a key ingredient. To try to develop a property's competitive edge, an investor should consider five items: (1) restrictions on use, (2) location, (3) site, (4) improvements, and (5) property management.

Restrictions on Use In today's highly regulated society, both state and local laws and private contracts limit the rights of all property owners. Government restrictions derive from zoning laws, building and occupancy codes, and health and sanitation requirements. Private restrictions include deeds, leases, and condominium bylaws and operating rules. You should not invest in a property until you or your lawyer determines that what you want to do with the property fits within applicable laws, rules, and contract provisions.

Location You may have heard the adage "The three most important factors in real estate value are location, location, and location." Of course, location is not the only factor that affects value, yet a good location unquestionably increases a property's investment potential. With that said, how can you tell a

convenience

in real estate, the accessibility of a property to the places the people in a target market frequently need to go.

environment

in real estate, the natural as well as aesthetic, socioeconomic, legal, and fiscal surroundings of a property.

improvements

in real estate, the additions to a site, such as buildings, sidewalks, and various on-site amenities.

bad location from a good one? A good location rates high on two key dimensions: convenience and environment.

Convenience refers to how accessible a property is to the places the people in a target market frequently need to go. Any residential or commercial market segment has a set of preferred places its tenants or buyers will want to be close to. Another element of convenience is transportation facilities. Proximity to highways, buses, subways, and commuter trains is of concern to both tenants and buyers of commercial and residential property. Commercial properties need to be readily accessible to their customers, and the customers also value such accessibility.

In the analysis of real estate, the term **environment** has broader meaning than trees, rivers, lakes, and air quality. When you invest in real estate, even more important than its natural surroundings are its aesthetic, socioeconomic, legal, and fiscal surroundings. Neighborhoods with an *aesthetic environment* are those where buildings and landscaping are well executed and well maintained. Intrusion of noise, sight, and air pollution is minimal, and encroaching unharmonious land uses are not evident. The *socioeconomic environment* consists of the demographics and lifestyles of the people who live or work in nearby properties. The *legal environment* relates to the restrictions on use that apply to nearby properties. And last, you need to consider a property's *fiscal environment*: the amount of property taxes and municipal assessments you will be required to pay and the government services you will be entitled to receive (police, fire, schools, parks, water, sewer, trash collection, libraries). Property taxes are a two-sided coin. On the one hand, they impose a cost, but on the other, they provide services that may be of substantial benefit.

Site One of the most important features of a property site is its size. For residential properties, some people want a large yard for a garden or for children to play in; others may prefer no yard at all. For commercial properties, such as office buildings and shopping centers, adequate parking space is necessary. Also, with respect to site size, if you are planning a later addition of space, make sure the site can accommodate it, both physically and legally. Site quality as reflected in soil fertility, topography, elevation, and drainage is also important. For example, sites with relatively low elevation may be subject to flooding.

Improvements In real estate, the term **improvements** refers to the additions to a site, such as buildings, sidewalks, and various on-site amenities. Typically, building size is measured and expressed in terms of square footage. Because square footage is so important in building and unit comparison, you should get accurate square-footage measures on any properties you consider investing in.

Another measure of building size is room count and floor plan. For example, a well-designed 750-square-foot apartment unit might in fact be more livable, and therefore easier to rent even at a higher price, than a poorly designed one of 850 square feet. You should make sure that floor plans are logical; that traffic flows through a building will pose no inconveniences; that there is sufficient closet, cabinet, and other storage space; and that the right mix of rooms exists. For example, in an office building you should not have to cross through other offices to get to the building's only restroom facilities, and small merchants in a shopping center should be located where they receive the pedestrian traffic generated by the larger (anchor) tenants.

Attention should also be given to amenities, style, and construction quality. Amenities such as air conditioning, swimming pools, handicap accessibility, and elevators can significantly affect the value of investment property. In addition, the architectural style and quality of construction materials and workmanship are important factors influencing property value.

Property Management In recent years, real estate owners and investors have increasingly recognized that investment properties (apartments, office buildings, shopping centers, and the like) do not earn maximum cash flows by themselves. They need to be guided toward that objective, and skilled property management can help. Without effective property management, no real estate investment can produce maximum benefits for its users and owners.

Today, property management requires you or a hired manager to run the entire operation as well as to perform day-to-day chores. The property manager will segment buyers, improve a property's site and structure, keep tabs on competitors, and develop a marketing campaign. The property manager also assumes responsibility for the maintenance and repair of buildings and their physical systems (electrical, heating, air conditioning, and plumbing) and for the keeping of revenue and expense records. In addition, property managers decide the best ways to protect properties against loss from perils such as fire, flood, theft, storms, and negligence. In its broadest sense, **property management** means finding the optimal level of benefits for a property and providing them at the lowest costs. Of course, for speculative investments such as raw land, the managerial task is not so pronounced and the manager has less control over the profit picture.

property management
in real estate, finding the optimal level of benefits for a property and providing them at the lowest costs.

Property Transfer Process In Chapter 9 we introduced the concept of an *efficient market*, in which information flows so quickly among buyers and sellers that it is virtually impossible for an investor to outperform the average systematically. As soon as something good (an exciting new product) or something bad (a multimillion-dollar product liability suit) occurs, the price of the affected company's stock adjusts to reflect its current potential for earnings or losses. Some people accept the premise that securities markets are efficient; others do not. But one thing is sure: Most knowledgeable real estate investors know that real estate markets are less efficient than capital markets. What this means is that skillfully conducted real estate analysis can help you beat the averages.

Real estate markets differ from securities markets in that no comprehensive system exists for complete information exchange among buyers and sellers and among tenants and lessors. There is no central marketplace, like the NYSE, where transactions are conveniently made by equally well-informed investors who share similar objectives. Instead, real estate is traded in generally *illiquid markets* that are regional or local in nature and where transactions are made to achieve investors' often unique investment objectives.

In the **property transfer process** itself, the inefficiency of the market means that how you collect and disseminate information affects your results. The cash flows that a property earns can be influenced significantly through promotion and negotiation. *Promotion* is the task of getting information about a property to its buyer segment. You can't sell or rent a property quickly or for top dollar unless you can reach the people you want to reach in a cost-effective

property transfer process
the process of promotion and negotiation of real estate, which can significantly influence the cash flows a property will earn.

way. Among the major ways to promote a property are advertising, publicity, sales gimmicks, and personal selling. *Negotiation* of price is just as important. Seldom does the minimum price a seller is willing to accept just equal the maximum price a buyer is willing to pay; often some overlap occurs. In real estate, the asking price for a property may be anywhere from 5% to 60% *above* the price that a seller (or lessor) will actually accept. Therefore, the negotiating skills of each party determine the final transaction price.

CONCEPTS IN REVIEW

Answers available at: www.myfinancelab.com

- 18.1** Define and differentiate between *real estate* and other *tangibles*. Give examples of each of these forms of investment.
- 18.2** How does real estate investment differ from securities investment? Why might adding real estate to your investment portfolio decrease your overall risk? Explain.
- 18.3** Define and differentiate between *income property* and *speculative property*. Differentiate between and give examples of residential and commercial income properties.
- 18.4** Briefly describe the following important features to consider when making a real estate investment.
- | | |
|----------------------|--------------------|
| a. Physical property | b. Property rights |
| c. Time horizon | d. Geographic area |
- 18.5** What role does demand and supply play in determining the value of real estate? What are *demographics* and *psychographics*, and how are they related to demand? How does the *principle of substitution* affect the analysis of supply?
- 18.6** How do restrictions on use, location, site, improvements, and property management affect a property's competitive edge?
- 18.7** Are real estate markets efficient? Why or why not? How does the efficiency or inefficiency of these markets affect both promotion and negotiation as parts of the property transfer process?

Real Estate Valuation

LG 2

LG 3

market value

in real estate, the actual worth of a property; indicates the price at which it would sell under current market conditions.

In real estate, **market value** is a property's actual worth, which indicates the price at which it would sell under current market conditions. This concept is interpreted differently from its meaning in stocks and bonds. The difference arises for a number of reasons: (1) Each property is unique; (2) terms and conditions of a sale may vary widely; (3) market information is imperfect; (4) properties may need substantial time for market exposure, time that may not be available to any given seller; and (5) buyers, too, sometimes need to act quickly. All these factors mean that no one can tell for sure what a property's "true" market value is. As a result, many properties sell for prices significantly above or below their estimated market values. To offset such inequities, many real estate investors forecast investment returns to evaluate potential property

investments. Here we look first at procedures for estimating the market value of a piece of real estate and then consider the role and procedures used to perform investment analysis.

■ Estimating Market Value

appraisal
in real estate, the process for estimating the current market value of a piece of property.

In real estate, estimating the current market value of a piece of property is done through a process known as a real estate **appraisal**. Using certain techniques, an appraiser determines what he or she feels is the current market value of the property. Even so, you should interpret the appraised market value a little skeptically. Because of both technical and informational shortcomings, this estimate is subject to substantial error.

Although you can arrive at the market values of frequently traded stocks simply by looking at current quotes, in real estate, appraisers and investors typically must use three complex, and imperfect, techniques and then correlate the results to come up with one best estimate. These three approaches to real estate market value are (1) the cost approach, (2) the comparative sales approach, and (3) the income approach.

cost approach
a real estate valuation approach based on the idea that an investor should not pay more for a property than it would cost to rebuild it at today's prices.

The Cost Approach The **cost approach** is based on the idea that an investor should not pay more for a property than it would cost to rebuild it at today's prices for land, labor, and construction materials. This approach to estimating value generally works well for new or relatively new buildings. The cost approach is more difficult to apply to older properties, however. To value older properties, you would have to subtract from the replacement cost estimates some amount for physical and functional depreciation. Most experts agree that the cost approach is a good method to use as a check against a price estimate, but rarely should it be used exclusively.

comparative sales approach
a real estate valuation approach that uses as the basic input the sales prices of properties that are similar to the subject property.

The Comparative Sales Approach The **comparative sales approach** uses as the basic input the sales prices of properties that are similar to the subject property. This method is based on the idea that the value of a given property is about the same as the prices for which other, similar properties have recently sold. Of course, the catch here is that all properties are unique in some respect. Therefore, the price that a subject property could be expected to bring must be adjusted upward or downward to reflect its superiority or inferiority to comparable properties. In addition, the sales prices of comparable homes may not indicate whether or not the sale was a "distress sale" in which the asking price was lowered by the owner in order to hurry the sale along.

Nevertheless, because the comparable sales approach is based on selling prices, not asking prices, it can give a good feel for the market. As a practical matter, if you can find at least one sold property slightly better than the one you're looking at, and one slightly worse, their recent sales prices can serve to bracket an estimated market value for the property you have your eye on.

income approach
a real estate valuation approach that calculates a property's value as the present value of all its future income.

The Income Approach Under the **income approach**, a property's value is viewed as the present value of all its future income. The most popular income approach is called direct capitalization. This approach is represented by the formula in Equation 18.1. It is similar in logic and form to the zero-growth dividend valuation model presented in Chapter 8 for common stock (see Equation 8.7).

Equation 18.1 ►

$$\text{Market value} = \frac{\text{Annual net operating income}}{\text{Market capitalization rate}}$$

Equation 18.1a ►

$$V = \frac{\text{NOI}}{R}$$

net operating income (NOI)
the amount left after subtracting vacancy and collection losses and property operating expenses, including property insurance and property taxes, from an income property's *gross* potential rental income.

market capitalization rate
the rate used to convert an income stream to a present value; used to estimate the value of real estate under the *income approach*.

Annual **net operating income (NOI)** is calculated by subtracting vacancy and collection losses and property operating expenses, including property insurance and property taxes, from an income property's gross potential rental income. An estimated **market capitalization rate** is obtained by looking at recent market sales figures to determine the rate of return currently required by investors. Technically, the market capitalization rate means the rate used to convert an income stream to a present value. By dividing the annual net operating income by the appropriate market capitalization rate, you get an income property's estimated market value. An example of the application of the income approach is shown in Table 18.1.

Using an Expert Real estate valuation is a complex and technical procedure. It requires reliable information about the features of comparable properties, their selling prices, and terms of financing. It also involves some subjective judgments, as is the case in the example in Table 18.1. Rather than relying exclusively on their own judgment, many investors hire a real estate agent or a professional real estate appraiser to advise them about the market value of a property. As a form of insurance against overpaying, the use of an expert can be well worth the cost and is often required by the lender.

TABLE 18.1 Applying the Income Approach

Comparable Property	(1) NOI	(2) Sale Price	(3) (1) ÷ (2) Market Capitalization Rate (<i>R</i>)
2301 Maple Avenue	\$16,250	\$182,500	.0890
4037 Armstrong Street	15,400	167,600	.0919
8240 Ludwell Street	19,200	198,430	.0968
7392 Grant Boulevard	17,930	189,750	.0945
Subject property	\$18,480	?	?

From this market-derived information, an appraiser would work through Equation 18.1a to determine the subject property's value as follows:

$$V = \frac{\text{NOI}}{R}$$

$$V = \frac{\$18,480}{R}$$

$$V = \frac{\$18,480}{.093^*}$$

$$V = \underline{\underline{\$198,710}}$$

*Based on an analysis of the relative similarities of the comparables and the subject property, the appraiser decided that the appropriate *R* equals .093.

investment analysis
 approach to real estate valuation that not only considers what similar properties have sold for but also looks at the underlying determinants of value.

■ Performing Investment Analysis

Estimates of market value play an integral role in real estate decision making. Yet today, more and more investors supplement their market value appraisals with **investment analysis**. This form of real estate valuation not only considers what similar properties have sold for but also looks at the underlying determinants of value. It is an extension of the traditional valuation approaches (cost, comparative sales, and income) that gives investors a better picture of whether a selected property is likely to satisfy their investment objectives.

Market Value versus Investment Analysis The concept of market value differs from investment analysis in four important ways: (1) retrospective versus prospective, (2) impersonal versus personal, (3) unleveraged versus leveraged, and (4) net operating income (NOI) versus after-tax cash flows.

Retrospective versus Prospective Market value appraisals look backward; they attempt to estimate the price a property will sell for by comparing recent sales of similar properties. Under static market conditions, such a technique can be reasonable. But if, say, interest rates, population, or buyer expectations are changing rapidly, past sales prices may not accurately indicate a property's current value or its future value. An investment analysis tries to incorporate in the valuation process such factors as economic base, population demographics and psychographics, cost of mortgage financing, and potential sources of competition.

Impersonal versus Personal A market value estimate represents the price a property will sell for under certain specified conditions—in other words, a sort of market average. But in fact, every buyer and seller has a unique set of needs, and each real estate transaction can be structured to meet those needs. Thus, an investment analysis looks beyond what may constitute a “typical” transaction and attempts to evaluate a subject property's terms and conditions of sale (or rent) as they correspond to a given investor's constraints and goals.

For example, a market value appraisal might show that with normal financing and conditions of sale, a property is worth \$180,000. Yet because of personal tax consequences, it might be better for a seller to ask a higher price for the property and offer owner financing at a below-market interest rate.

Unleveraged versus Leveraged The returns a real estate investment offers will be influenced by the amount of the purchase price that is financed with debt. But simple income capitalization ($V=NOI/R$) does not incorporate alternative financing plans that might be available. It assumes either a cash or an unleveraged purchase.

The use of debt financing, or **leverage**, gives differing risk–return parameters to a real estate investment. Leverage automatically increases investment risk because borrowed funds must be repaid. Failure to repay a mortgage loan results in foreclosure and possible property loss. Alternatively, leverage may also increase return. If a property can earn a return in excess of the cost of the borrowed funds (that is, debt cost), the investor's return is increased to a level well above what could have been earned from an all-cash deal. This is known as **positive leverage**. Conversely, if the return is below the debt cost, the return on invested equity is less than from an all-cash deal. This is called

leverage
 in real estate, the use of debt financing to purchase a piece of property and thereby affect its risk–return parameters.

positive leverage
 a position in which, if a property's return is in excess of its debt cost, the investor's return is increased to a level well above what could have been earned from an all-cash deal.

negative leverage
 a position in which, if a property's return is below its debt cost, the investor's return is less than from an all-cash deal.

negative leverage. The following example both shows how leverage affects return and provides insight into the possible associated risks.

Assume you purchase a parcel of land for \$20,000. You have two financing choices: Choice A is all cash; that is, no leverage is employed. Choice B involves 80% financing (20% down payment) at 12% interest. With leverage (choice B), you sign a \$16,000 note (0.80 of \$20,000) at 12% interest, with the entire principal balance due and payable at the end of one year. Now suppose the land appreciates during the year to \$25,000. (A comparative analysis of this occurrence is presented in Table 18.2.) Had you chosen the all-cash deal, the one-year return on your initial equity would have been 25%. The use of leverage magnifies that return, no matter how much the property appreciated. The leveraged alternative (choice B) involved only a \$4,000 investment in personal initial equity, with the balance financed by borrowing at 12% interest. The property sells for \$25,000, of which \$4,000 represents recovery of the initial equity investment, \$16,000 goes to repay the principal balance on the debt, and another \$1,920 of gain is used to pay interest ($\$16,000 \times 0.12$). The balance of the proceeds, \$3,080, represents your return. The return on your initial equity is 77%—over three times that provided by the no-leverage alternative, choice A.

We used 12% in this example, but the cost of money has surprisingly little effect on comparative (leveraged versus unleveraged) returns. For example, using 6% interest, the return on equity rises to 101%, even greater than the unleveraged alternative. Granted, using a lower interest cost does improve return, but other things being equal, what really drives return on equity is the amount of leverage.

There is another side to the coin, however. No matter what the eventual outcome, risk is always inherent in leverage; it can easily turn a bad deal into a disaster. Suppose the \$20,000 property discussed above dropped in value by 25% during the one-year holding period. The comparative results are presented in Table 18.3 on page 18-14. The unleveraged investment would have resulted

TABLE 18.2 The Effect of Positive Leverage on Return: An Example*

Purchase price:		\$20,000	
Sale price:		\$25,000	
Holding period:		1 year	
Item Number	Item	Choice A No Leverage	Choice B 80% Financing
1	Initial equity	\$20,000	\$4,000
2	Loan principal	0	16,000
3	Sale price	25,000	25,000
4	Capital gain [(3) - (1) - (2)]	5,000	5,000
5	Interest cost [0.12 × (2)]	0	1,920
6	Net return [(4) - (5)]	\$ 5,000	\$3,080
	Return on investor's equity [(6) ÷ (1)]	$\frac{\$ 5,000}{\$20,000} = 25\%$	$\frac{\$3,080}{\$4,000} = 77\%$

*To simplify this example, all values are presented on a *before-tax* basis. To get the true return, one would consider taxes on the capital gain and the interest expense.

TABLE 18.3 The Effect of Negative Leverage on Return: An Example*

Purchase price:		\$20,000	
Sale price:		\$15,000	
Holding period:		1 year	
Item Number	Item	Choice A No Leverage	Choice B 80% Financing
1	Initial equity	\$20,000	\$ 4,000
2	Loan principal	0	16,000
3	Sale price	15,000	15,000
4	Capital loss [(3) – (1) – (2)]	5,000	5,000
5	Interest cost [0.12 × (2)]	0	1,920
6	Net loss [(4) – (5)]	<u>\$ 5,000</u>	<u>\$6,920</u>
	Return on investor's equity [(6) ÷ (1)]	$\frac{\$ 5,000}{\$20,000} = \underline{\underline{-25\%}}$	$\frac{\$6,920}{\$4,000} = \underline{\underline{-173\%}}$

*To simplify this example, all values are presented on a *before-tax* basis. To get the true return, one would consider taxes on the capital loss and the interest expense.

in a negative return of 25%. This is not large, however, compared to the leveraged position, in which you would lose not only the entire initial investment of \$4,000 but an additional \$2,920 (\$1,000 additional principal on the debt + \$1,920 interest). The total loss of \$6,920 on the original \$4,000 of equity results in a (negative) return of 173%. Thus, the loss in the leverage case is nearly seven times the loss experienced in the unleveraged situation.

NOI versus After-Tax Cash Flows Recall that to estimate market value, the income approach capitalizes net operating income (NOI). To most investors, though, the NOI figure holds little meaning. This is because the majority of real estate investors finance their purchases. In addition, few investors today can ignore the effect of federal income tax law on their investment decisions. Investors want to know how much cash they will be required to put into a transaction and how much cash they are likely to get out. The concept of NOI does not address these questions. Thus, we instead use **after-tax cash flows (ATCFs)**, which are the annual cash flows earned on a real estate investment, net of all expenses, debt payments, and taxes. To them we apply the familiar finance measure of investment return—discounted cash flow—as a prime criterion for selecting real estate investments. (Sometimes yield is used instead to assess the suitability of a prospective real estate investment.)

after-tax cash flows (ATCFs)
the annual cash flows earned on a real estate investment, net of all expenses, debt payments, and taxes.

discounted cash flow
use of present-value techniques to find *net present value (NPV)*.

net present value (NPV)
the difference between the present value of the cash flows and the amount of equity necessary to make an investment.

Calculating Discounted Cash Flow Calculating **discounted cash flow** involves the use of present-value techniques we discussed in Chapter 4, Appendix 4A; in addition, you need to learn how to calculate annual after-tax cash flows and the after-tax net proceeds of sale. You then can discount the cash flows an investment is expected to earn over a specified holding period. This figure in turn gives you the present value of the cash flows. Next, you find the **net present value (NPV)**—the difference between the present value of the cash flows and the amount of equity necessary to make the investment. The resulting difference tells you whether the proposed investment looks good (a positive net present value) or bad (a negative net present value).

This process of discounting cash flows to calculate the net present value (NPV) of an investment can be represented by the following equation:

Equation 18.2 ▶

$$\text{NPV} = \left[\frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots + \frac{CF_{n-1}}{(1+r)^{n-1}} + \frac{CF_n + CF_{R_n}}{(1+r)^n} \right] - I_0$$

where:

I_0 = the original required investment

CF_i = annual after-tax cash flow for year i

CF_{R_n} = the after-tax net proceeds from sale (reversionary after-tax cash flow) occurring in year n

r = the discount rate and $[1/(1+r)^i]$ is the present-value interest factor for \$1 received in year i using a r percent discount rate

In this equation, the annual after-tax cash flows, CFs, may be either inflows to investors or outflows from them. Inflows are preceded by a plus (+) sign, outflows by a minus (-) sign.

Calculating Yield An alternative way to assess investment suitability is to calculate the *yield*, which was first presented in Chapter 4. It is the discount rate that causes the present value of the cash flows just to equal the amount of equity, or, alternatively, it is the discount rate that causes net present value (NPV) just to equal \$0. Setting the NPV in Equation 18.2 equal to zero, we can rewrite the equation as follows:

Equation 18.3 ▶

$$\left[\frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots + \frac{CF_{n-1}}{(1+r)^{n-1}} + \frac{CF_n + CF_{R_n}}{(1+r)^n} \right] = I_0$$

Because estimates of the cash flows (CF_i), including the sale proceeds (CF_{R_n}), and the equity investment (I_0) are known, the yield is the unknown discount rate (r) that solves Equation 18.3. It represents the compounded annual rate of return actually earned by the investment.

Unfortunately, the yield is often difficult to calculate without the use of the sophisticated routine found on most financial business calculators or, alternatively, the use of a properly programmed personal computer. For our purposes, we will use the following three-step procedure to estimate yield to the nearest whole percent (1%).

Step 1: Calculate the investment's net present value (NPV) using its required return.

Step 2: *If the NPV found in step 1 is positive (>\$0)*, raise the discount rate (typically 1% to 5%) and recalculate the NPV using the increased rate.

If the NPV found in step 1 is negative (<\$0), lower the discount rate (typically 1% to 5%) and recalculate the NPV using the decreased rate.

Step 3: *If the NPV found in step 2 is very close to \$0*, the resulting discount rate is a good estimate of the investment's yield to the nearest whole percent.

If the NPV is still not close to \$0, repeat step 2.

If the calculated yield is greater than the discount rate appropriate for the given investment, the investment is acceptable. In that case, the net present value would be positive.

When consistently applied, the net present value and yield approaches give the same recommendation for accepting or rejecting a proposed real estate investment. The next section shows how all the elements discussed so far in this chapter can be applied to a real estate investment decision.

CONCEPTS IN REVIEW

Answers available at: www.myfinancelab.com

- 18.8** What is the *market value* of a property? What is real estate *appraisal*? Comment on the following statement: “Market value is always the price at which a property sells.”
- 18.9** Briefly describe each of the following approaches to real estate market value:
- Cost approach
 - Comparative sales approach
 - Income approach
- 18.10** What is real estate *investment analysis*? How does it differ from the concept of market value?
- 18.11** What is *leverage*, and what role does it play in real estate investment? How does it affect the risk–return parameters of a real estate investment?
- 18.12** What is *net operating income (NOI)*? What are *after-tax cash flows (ATCFs)*? Why do real estate investors prefer to use ATCFs?
- 18.13** What is the *net present value (NPV)*? What is the *yield*? How are the NPV and yield used to make real estate investment decisions?

An Example of Real Estate Valuation

LG 4

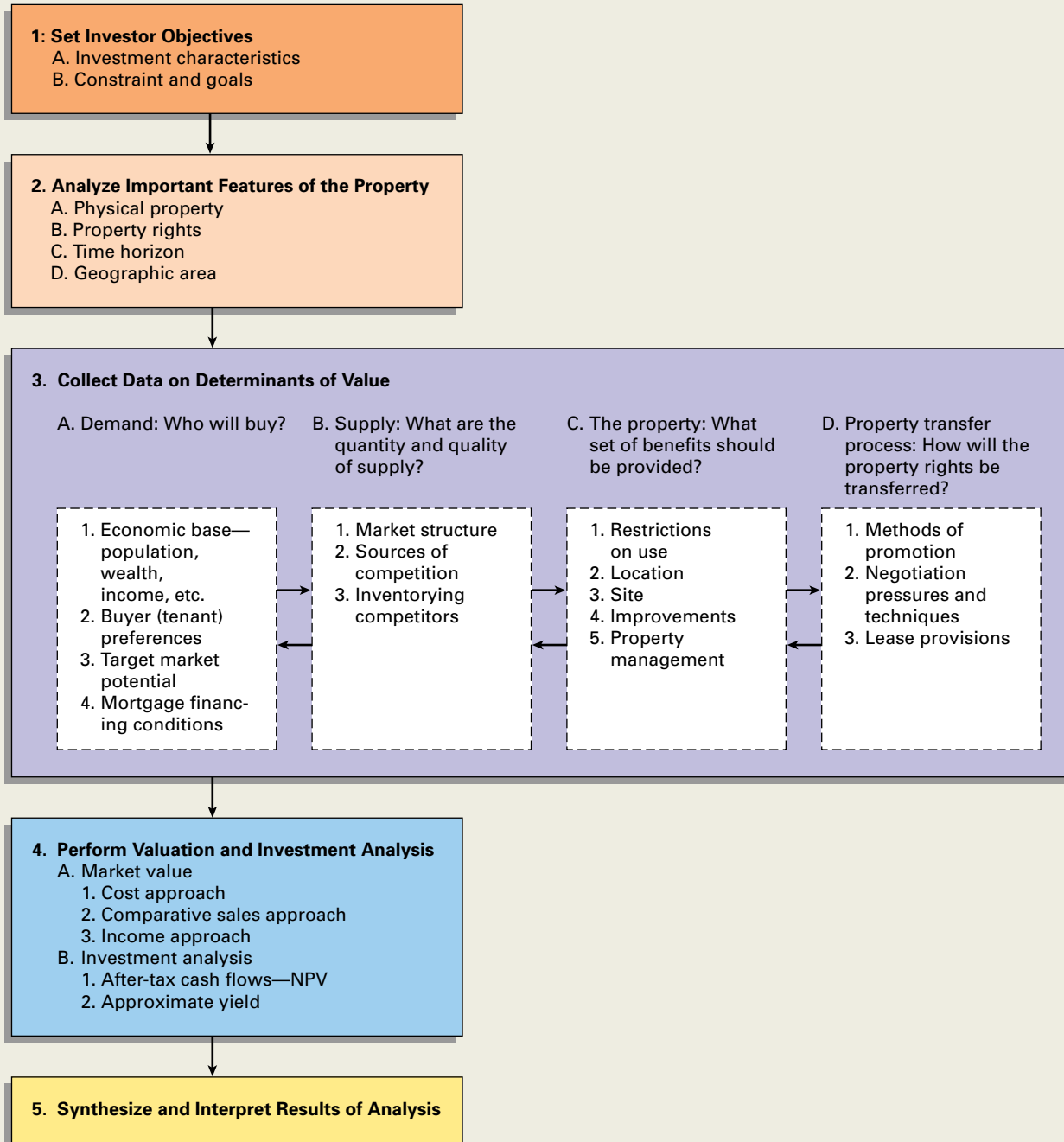
Assume that Jack Wilson is deciding whether to buy the Academic Arms Apartments. To improve his real estate investment decision making, Jack follows a systematic procedure. He designs a schematic framework of analysis that corresponds closely to the topics we’ve discussed. Following this framework (shown in Figure 18.1), Jack follows a five-step procedure. He (1) sets his investor objectives, (2) analyzes important features of the property, (3) collects data on the determinants of the property’s value, (4) performs valuation and investment analysis, and (5) synthesizes and interprets the results of his analysis.

■ Set Investor Objectives

Jack is a tenured associate professor of management at Finley College. He’s single, age 40, and has gross income of \$125,000 per year from salary, consulting fees, stock dividends, and book royalties. His adjusted gross income is about \$85,000. His applicable tax rate on ordinary income is 28%. Jack wants to diversify his investment portfolio further. He would like to add a real estate

FIGURE 18.1 Framework for Real Estate Investment Analysis

This framework depicts a logical five-step procedure for analyzing potential investment properties to assess whether they are acceptable investments that might be included in one’s investment portfolio. (Adapted from Gary W. Eldred, *Real Estate: Analysis and Strategy*.)



investment that has good appreciation potential and provides a positive yearly after-tax cash flow. For convenience, Jack requires the property to be close to his office, and he feels his talents and personality are suited to the ownership of apartments. Jack has \$60,000 of cash to invest. On this amount, he would like to earn a 13% rate of return. Jack has his eye on a small apartment building, the Academic Arms Apartments.

■ Analyze Important Features of the Property

The Academic Arms building is located six blocks from the Finley College Student Union. The building contains six 2-bedroom, 2-bath units of 900 square feet each. It was built in 1985, and all systems and building components appear to be in good condition. The present owner gave Jack an income statement reflecting the property's 2006 income and expenses. The owner has further assured Jack that no adverse easements or encumbrances affect the building's title. Of course, if Jack decides to buy Academic Arms, he will have a lawyer verify the quality of the property rights associated with the property. For now, though, he accepts the owner's word.

Jack considers a five-year holding period reasonable. At present, he's happy at Finley and thinks he will stay there at least until age 45. Jack defines the market for the property as a one-mile radius from campus. He reasons that students who walk to campus (the target market) limit their choice of apartments to those that fall within that geographic area.

■ Collect Data on Determinants of Value

Once Jack has analyzed the important features, he next thinks about the factors that will determine the property's investment potential: (1) demand, (2) supply, (3) the property, and (4) the property transfer process.

Demand Finley College is the lifeblood institution in the market area. The base of demand for the Academic Arms Apartments will grow (or decline) with the size of the college's employment and student enrollment. On this basis, Jack judges the prospects for the area to be in the range of good to excellent. During the coming five years, major funding (due to a \$25 million gift) will increase Finley's faculty by 15%, and expected along with faculty growth is a rise in the student population from 3,200 to 3,700 full-time students. Jack estimates that 70% of the new students will live away from home. In the past, Finley largely served the local market, but with its new affluence—and the resources this affluence can buy—the college will draw students from a wider geographic area. Furthermore, because Finley is a private college with relatively high tuition, the majority of students come from upper-middle-income families. Parental support can thus be expected to heighten students' ability to pay. Overall, then, Jack believes the major indicators of demand for the market area look promising.

Supply Jack realizes that even strong demand cannot yield profits if a market suffers from oversupply. Fortunately, Jack thinks that Academic Arms is well insulated from competing units. Most important is the fact that the designated market area is fully built up, and as much as 80% of the area is zoned single-family residential. Any efforts to change the zoning would be strongly opposed

by neighborhood residents. The only potential problem Jack sees is that the college might build more student housing on campus. Though the school administration has discussed this possibility, no funds have yet been allocated to such a project. In sum, Jack concludes that the risk of oversupply in the Academic Arms market area is low—especially during the next five years.

The Property Now the question is whether the Academic Arms Apartments will appeal to the desired market segment? On this issue, Jack concludes the answer is yes. The property already is zoned multifamily, and its present (and intended) use complies with all pertinent ordinances and housing codes. Of major importance, though, is the property's location. Not only does the site have good accessibility to the campus, but it is also three blocks from the Campus Town shopping district. In addition, the aesthetic, socioeconomic, legal, and fiscal environments of the property are compatible with student preferences.

On the negative side, the on-site parking has space for only five cars. Still, the building itself is attractive, and the relatively large two-bedroom, two-bath units are ideal for roommates. Although Jack has no experience managing apartments, he feels that if he studies several books on property management and applies his formal business education, he can succeed.

Property Transfer Process As noted earlier, real estate markets are not efficient. Thus, before a property's sale price or rental income can reach its potential, an effective means to get information to buyers or tenants must be developed. Here, of course, Jack has a great advantage. Notices on campus bulletin boards and an occasional ad in the school newspaper should be all he needs to keep the property rented. Although he might experience some vacancy during the summer months, Jack feels he can overcome this problem by requiring 12-month leases but then granting tenants the right to sublet as long as the sublessees meet his tenant-selection criteria.

■ Perform Valuation and Investment Analysis

Real estate cash flows depend on the underlying characteristics of the property and the market. That is why we have devoted so much attention to analyzing the determinants of value. Often real estate investors lose money because they “run the numbers” without sufficient research. Jack decided to use the determinants of value to perform an investment analysis, which should allow him to assess the property's value relative to his investment objectives. He may later use an appraisal of market value as confirmation. As we go through Jack's investment analysis calculations, remember that the numbers coming out will be only as accurate as the numbers going in.

The Numbers At present, Mrs. Bowker, the owner of Academic Arms Apartments, is asking \$285,000 for the property. To assist in the sale, she is willing to offer owner financing to a qualified buyer. The terms would be 20% down, 10.5% interest, and full amortization of the outstanding mortgage balance over 30 years. The owner's income statement for 2006 is shown in Table 18.4 on page 18-20. After talking with Mrs. Bowker, Jack believes she would probably accept an offer of \$60,000 down, a price of \$270,000, and a 30-year mortgage at 10%. On this basis, Jack prepares his investment calculations.

TABLE 18.4 Income Statement, Academic Arms Apartments, 2006

Gross rental income (6 × \$520 × 12)		\$37,440
Operating expenses:		
Utilities	\$3,125	
Trash collection	745	
Repairs and maintenance	1,500	
Promotion and advertising	200	
Property insurance	920	
Property taxes	<u>3,500</u>	
Less: Total operating expenses		<u>9,990</u>
Net operating income (NOI)		<u>\$27,450</u>

Cash Flow Analysis As a first step in cash flow analysis, Jack projects the owner's income statement for 2007 (as shown in Table 18.5). This projection reflects higher rent levels, higher expenses, and a lower net operating income. Jack believes that because of poor owner management and deferred maintenance, Mrs. Bowker is not getting as much in rents as the market could support. In addition, however, her expenses understate those he is likely to incur. For one thing, a management expense should be deducted. Jack wants to separate what is rightfully a return on labor from his return on capital. Also, once the property is sold, a higher property tax assessment will be levied against it. All expenses have been increased to adjust for inflation and a more extensive maintenance program. With these adjustments, the NOI for Academic Arms during 2007 is estimated at \$23,804.

To move from NOI to after-tax cash flows (ATCFs), we need to perform the calculations shown in Table 18.6. This table shows that to calculate ATCF, Jack must first compute the income tax savings or income taxes he would incur as a result of property ownership. In this case, potential tax savings accrue during the first four years because the allowable tax deductions of interest and depreciation exceed the property's net operating income; in the final year, income exceeds deductions, so taxes are due.

The "magic" of simultaneously losing and making money is caused by **depreciation**. Tax statutes incorporate this tax deduction, which is based on

depreciation

in real estate investing, a tax deduction based on the original cost of a building and used to reflect its declining economic life.

TABLE 18.5 Projected Income Statement, Academic Arms Apartments, 2007

Gross potential rental income	\$39,600	
Less: Vacancy and collection losses at 4%	<u>1,584</u>	
Effective gross income (EGI)		\$38,016
Operating expenses:		
Management at 5% of EGI	\$ 1,901	
Utilities	3,400	
Trash collection	820	
Repairs and maintenance	2,500	
Promotion and advertising	200	
Property insurance	1,080	
Property taxes	<u>4,311</u>	
Less: Total operating expenses		<u>14,212</u>
Net operating income (NOI)		<u>\$23,804</u>

TABLE 18.6 Cash Flow Analysis, Academic Arms Apartments, 2007–2011

	2007	2008	2009	2010	2011
Income Tax Computations					
NOI	\$23,804	\$24,994	\$26,244	\$27,556	\$28,934
– Interest*	20,947	20,825	20,690	20,541	20,376
– Depreciation**	7,454	7,454	7,454	7,454	7,454
Taxable income (loss)	(\$ 4,597)	(\$3,285)	(\$ 1,900)	(\$ 439)	\$ 1,104
Marginal tax rate	0.28	0.28	0.28	0.28	0.28
Tax savings (+) or taxes (–)	+\$ 1,287	+\$ 920	+\$ 532	+\$ 123	–\$ 309
After-Tax Cash Flow (ATCF) Computations					
NOI	\$23,804	\$24,994	\$26,244	\$27,556	\$28,934
– Mortgage payment	22,115	22,115	22,115	22,115	22,115
Before-tax cash flow	\$ 1,689	\$ 2,879	\$ 4,129	\$ 5,441	\$ 6,819
Tax savings (+) or taxes (–)	+ 1,287	+ 920	+ 532	+ 123	– 309
After-tax cash flow (ATCF)	\$ 2,976	\$ 3,799	\$ 4,661	\$ 5,564	\$ 6,510

*Based on a \$210,000 mortgage at 10% compounded annually. Some rounding has been used.

**Based on a straight-line depreciation over 27.5 years and a depreciable basis of \$205,000. Land value is assumed to equal \$65,000.

the original cost of the building, to reflect its declining economic life. However, because this deduction does not actually require a current cash outflow by the property owner, it acts as a *noncash expenditure* that reduces taxes and increases cash flow. In other words, in the 2007–2010 period, the property ownership provides Jack with a tax shelter; that is, Jack uses the income tax losses sustained on the property to offset the taxable income he receives from salary, consulting fees, stock dividends, and book royalties. (Tax shelters are covered in more detail in Web Chapter 17.)

Once the amount of tax savings (or taxes) is known, it is added to (or subtracted from) the before-tax cash flow. Because Jack qualifies as an “active manager” of the property (an important provision of the Tax Reform Act of 1986, discussed more fully in Web Chapter 17) and because his income is low enough (also discussed in Web Chapter 17), he can use the real estate losses to reduce his other income. It is important to recognize that under the Tax Reform Act of 1986, the amount of tax losses that can be applied to other taxable income is limited. *It is therefore important to consult a tax expert about the tax consequences of expected income tax losses when calculating ATCFs from real estate investments.*

Proceeds from Sale Jack must now estimate the net proceeds he will receive when he sells the property. For purposes of this analysis, Jack has assumed a five-year holding period. Now he must forecast a selling price for the property. From that amount he will subtract selling expenses, the outstanding balance on the mortgage, and applicable federal income taxes. The remainder equals Jack’s after-tax net proceeds from sale. These calculations are shown in Table 18.7 on page 18-22. (Note that although Jack’s ordinary income is subject to a 28% tax rate, because he would have held the property for more than 12 months, the maximum rate of 15% applies to the capital gain expected on the sale of the property.)

Jack wants to estimate his net proceeds from the sale conservatively. He believes that at a minimum, market forces will push up the selling price of the

TABLE 18.7 Estimated After-Tax Net Proceeds from Sale, Academic Arms Apartments, 2011

Income Tax Computations	
Forecasted selling price (at 5% annual appreciation)	\$344,520
– Selling expenses at 7%	24,116
– Book value (purchase price less accumulated depreciation)	<u>232,730</u>
Total gain on sale	\$87,674
Capital gain (Selling price – selling expense – purchase price)	\$50,404
Recaptured depreciation (Purchase price – book value)	<u>\$37,270</u>
Tax on recaptured depreciation ($\$37,270 \times 0.25$)	\$ 9,318
Tax on capital gain ($\$50,404 \times 0.15$)	<u>7,561</u>
Total taxes payable	<u>\$16,879</u>
Computation of After-Tax Net Proceeds	
Forecasted selling price	\$344,520
– Selling expenses	24,116
– Mortgage balance outstanding	<u>202,806</u>
Net proceeds before taxes	\$117,598
– Taxes payable (calculated above)	<u>16,879</u>
After-tax net proceed from sale (CF_{R2011})	<u>\$100,719</u>

*Although Jack's ordinary income is taxed at a 28% rate, his long-term capital gains tax rate is 15% and the recaptured depreciation tax rate is 25%.

property at the rate of 5% per year beyond his assumed purchase price of \$270,000. Thus, he estimates that the selling price in five years will be \$344,520. (He obtained this amount by multiplying the \$270,000 purchase price by the future-value interest factor of 1.276 from Appendix A, Table A.1, for the 5% and five years—that is, $\$270,000 \times 1.276 = \$344,520$.) Making the indicated deductions from the forecasted selling price, Jack computes the after-tax net proceeds from the sale equal to \$100,719.

Discounted Cash Flow In this step, Jack discounts the projected cash flows to find their present value, and he subtracts the amount of his equity investment from their total to get net present value (NPV). In making this calculation (see Table 18.8), Jack finds that at his required rate of return of 13%, the NPV of these amounts equals \$10,452. Looked at another way, the present value of the amounts Jack forecasts he will receive exceeds the amount of his initial equity investment by \$10,452. The investment therefore meets (and exceeds) his acceptance criterion.

Yield Alternatively, Jack could estimate the yield by using the initial equity, I_0 , of \$60,000, along with the after-tax cash flow, CF_j , for each year j (shown at the bottom of Table 18.6) and the after-tax net proceeds from sale, CF_{R2011} , of \$100,719 (calculated in Table 18.7). The future cash flows associated with Jack's proposed investment in Academic Arms Apartments are summarized in column 1 of Table 18.9. Using these data along with the planned \$60,000 equity investment, we can apply the three-step procedure described earlier in this chapter to estimate the yield.

Step 1: The investment's NPV at the 13% discount rate is \$10,452, as shown in Table 18.8.

TABLE 18.8 Net Present Value, Academic Arms Apartments*

$$NPV = \left[\frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \frac{CF_4}{(1+r)^4} + \frac{CF_5}{(1+r)^5} \right] - I_0$$

$$NPV = \left[\frac{\$2,976}{(1+0.13)^1} + \frac{\$3,799}{(1+0.13)^2} + \frac{\$4,661}{(1+0.13)^3} + \frac{\$5,564}{(1+0.13)^4} + \frac{\$107,229^{**}}{(1+0.13)^5} \right] - 60,000$$

$$NPV = \$2,634 + \$2,975 + \$3,230 + \$3,413 + \$58,200 - \$60,000$$

$$NPV = \$70,452 - \$60,000$$

$$NPV = \underline{\underline{+\$10,452}}$$

*All inflows are assumed to be end-of-year receipts.

**Includes both the fifth-year annual after-tax cash flow of \$6,510 and the after-tax net proceeds from sale of \$100,719.

Step 2: Because the NPV in step 1 is positive, we decide to recalculate the NPV using a 16% discount rate as shown in columns 2 and 3 of Table 18.9. As shown at the bottom of column 3, the NPV at the 16% discount rate is \$2,488.

Step 3: Because the NPV of \$2,488 calculated in step 2 is well above \$0, we repeat step 2.

Step 2: We decide to raise the discount rate to 18% and recalculate the NPV as shown in columns 4 and 5 of Table 18.9. As shown at the bottom of column 5, the NPV at the 18% discount rate is -\$2,183.

Step 3: Because the NPV of -\$2,183, calculated in our first repetition of step 2 is below \$0, we again repeat step 2.

Step 2: We now decide to lower the rate by 1%, to 17%, and recalculate the NPV as shown in columns 6 and 7 of Table 18.9. As shown at the bottom of column 7, the NPV is \$98.

TABLE 18.9 Yield Estimation, Academic Arms Apartments

End of Year	(1) After-Tax Cash Flow*	NPV at 16%		NPV at 18%		NPV at 17%	
		(2) 16% PVIF**	(3) (1) × (2) Present Value	(4) 18% PVIF**	(5) (1) × (4) Present Value	(6) 17% PVIF**	(7) (1) × (6) Present Value
1	\$2,976	.862	\$2,565	.847	\$2,521	.855	\$2,544
2	3,799	.743	2,823	.718	2,728	.731	2,777
3	4,661	.641	2,988	.609	2,839	.624	2,908
4	5,564	.552	3,071	.516	2,871	.534	2,971
5	107,229***	.476	51,041	.437	46,859	.456	48,896
Present value of cash flows			\$62,488		\$57,817		\$60,098
– Initial equity			60,000		60,000		60,000
Net Present value (NPV)			<u>\$ 2,488</u>		<u>–\$ 2,183</u>		<u>\$ 98</u>

*Cash flows derived in Tables 18.6 and 18.7 and summarized in the numerators of terms to the right of the equals sign in the second equation in Table 18.8.

**PVIF represents the present-value interest factors found in Appendix A, Table A.3.

***Includes the fifth-year annual after-tax cash flow of \$6,510 and the after-tax net proceeds from sale of \$100,719.

Step 3: It is now clear that the yield is somewhere between 17% and 18%, because the NPV would equal \$0 in that range. The better estimate to the nearest whole percent is 17%, because the NPV at this rate is closer to \$0 (\$98) than that at the 18% rate (-\$2,183).

Because the yield is estimated (to the nearest whole percent) to be 17%, which is greater than Jack's required rate of return of 13%, the investment meets—and exceeds—his acceptance criterion. Though it yields merely an estimate, when consistently applied this technique should always result in the same conclusion about acceptability as that obtained using net present value.

■ Synthesize and Interpret Results of Analysis

Now Jack reviews his work. He evaluates his analysis for important features and determinants of the property's value, checks all the facts and figures in the investment analysis calculations, and then evaluates the results in light of his stated investment objectives. He asks himself, "All things considered, is the expected payoff worth the risk?" In this case, he decides it is.

Even a positive finding, however, does not necessarily mean Jack should buy this property. He might still want to shop around to see if he can locate an even better investment. Furthermore, he might be wise to hire a real estate appraiser to confirm that the price he is willing to pay seems reasonable with respect to the recent sales prices of similar properties in the market area.

Nevertheless, Jack realizes that any problem can be studied to death; no one can ever obtain all the information that will bear on a decision. He gives himself a week to investigate other properties and talk to a professional appraiser. If nothing turns up to cause him to have second thoughts, he will offer to buy the Academic Arms Apartments. On the terms presented, he is willing to pay up to a maximum price of \$270,000.

CONCEPTS IN REVIEW

Answers available at: www.myfinancelab.com

- 18.14** List and briefly describe the five steps in the framework for real estate investment analysis shown in Figure 18.1.
- 18.15** Define *depreciation* from a tax viewpoint. Explain why it is said to offer tax shelter potential. What real estate investments provide this benefit? Explain.
- 18.16** Explain why, despite its being acceptable on the basis of NPV or of yield, a real estate investment still might not be acceptable to a given investor.

Real Estate Investment Securities

LG 5

The most popular ways to invest in real estate are through individual ownership (as we've just seen) and real estate investment trusts (REITs). Individual ownership of investment real estate is most common among wealthy individuals, professional real estate investors, and financial institutions. The strongest advantage of individual ownership is personal control, and the strongest drawback is that it requires a relatively large amount of capital. Although thus far

we have emphasized active, individual real estate investment, it is likely that most individuals will invest in real estate by purchasing shares of a real estate investment trust such as Equity Office Properties Trust.

■ Real Estate Investment Trusts (REITs)

real estate investment trust (REIT)

A closed-end investment company that invests money, obtained through the sale of its shares to investors, in various types of real estate and real estate mortgages.

A **real estate investment trust (REIT)** is a type of closed-end investment company (see Chapter 12) that invests money, obtained through the sale of its shares to investors, in various types of real estate and real estate mortgages. REITs were established with the passage of the Real Estate Investment Trust Act of 1960, which set forth requirements for forming a REIT, as well as rules and procedures for making investments and distributing income. The appeal of REITs lies in their ability to allow small investors to receive both the capital appreciation and the income returns of real estate ownership without the headaches of property management.

REITs were quite popular from the mid 1960s until 1974, when the bottom fell out of the real estate market as a result of many bad loans and an excess supply of property. In the early 1980s, however, both the real estate market and REITs began to make a comeback. As of early 2006, there are about 200 publicly traded REITs. Beginning in the mid 1990s demand for REITs exploded. From 1993 to 2000, the market capitalization of all REITs soared from \$32 billion to \$139 billion and reached \$475 billion by early 2006 (*Source: National Association of Real Estate Investment Trusts, August 2006*). The high interest in REITs has been attributed to a generally strong economy, rising real estate values, historically low mortgage interest rates, and the greatly diminished appeal of real estate limited partnerships (described later) that resulted from changes in the tax laws. REITs are again popular forms of real estate investment that at times have earned attractive annual rates of return. From 1975 to 2005, the compound total return of publicly traded REITs (yield plus capital gains) was 13.8%.

INVESTOR FACTS

REIT INDUSTRY PROFILE—Of the about 200 REITs registered with the SEC, more than two-thirds trade publicly on a major stock exchange. Mortgage REITs lend money to property developers. Equity REITs invest in a variety of property types, such as shopping centers, apartments, warehouses, office buildings, and hotels. Other REITs specialize; for example, health care REITs might specialize in hospitals, medical office buildings, nursing homes, or assisted living centers. Some REITs invest throughout the country. Others specialize in one region. Here is a profile of the REIT industry's property investment strategy at the end of 2005:

Residential, 17%
Office buildings, 19%
Shopping centers, 12%
Regional malls, 14%
Diversified, 7%
Industrial facilities 7%
Mixed (industrial & office), 4%
Lodging/resorts, 6%
Health care, 5%
Specialty, 4%
Self-storage, 4%

Source: "About REITs," National Association of Real Estate Investment Trusts, downloaded September 4, 2006, from www.investinreits.com/learn/reitstory.cfm.

Basic Structure REITs sell shares of stock to the investing public and use the proceeds, along with borrowed funds, to invest in a portfolio of real estate investments. The investor therefore owns part of the real estate portfolio held by the real estate investment trust. Typically, REITs yield a return at least 1 to 2 percentage points above money market funds and about the same return as high-grade corporate bonds. REITs are required by law to pay out 95% of their income as dividends, which leaves little to invest in new acquisitions. Furthermore, they must keep at least 75% of their assets in real estate investments, earn at least 75% of their income from real estate, and hold each investment for at least four years.

Like any investment fund, each REIT has certain stated investment objectives, which should be carefully considered before acquiring shares. There are three basic types of REITs:

- *Equity REITs.* These invest in properties such as apartments, office buildings, shopping centers, and hotels.
- *Mortgage REITs.* These make both construction and mortgage loans to real estate investors.
- *Hybrid REITs.* These invest both in properties and in construction and real estate mortgage loans.

Equity REITs are by far the most common type accounting for over 80% of all REITs. The shares of REITs are traded on organized exchanges, such as the NYSE and the AMEX, as well as in the over-the-counter (OTC) market.

Investing in REITs REITs provide an attractive mechanism for real estate investment by individual investors. They also provide professional management. In addition, because their shares can be traded in the securities markets, investors can purchase and sell shares conveniently with the assistance of a full-service, premium discount, or basic discount broker. Investors in REITs can reap tax benefits by placing their shares in a Keogh plan, an individual retirement arrangement (IRA), or some other tax-deferring vehicle.

The most direct way to investigate REITs before you buy is to get the names of those that interest you and then call or write the headquarters of each for information on the properties and/or mortgages it holds, its management, its future plans, and its track record. Additional information on REIT investments can be obtained from the National Association of Real Estate Investment Trusts, 1875 I Street NW, Suite 600, Washington, DC 20006, 800-3-NAREIT, www.nareit.com.

The evaluation process will, of course, depend on the type of REIT you are considering. Equity REITs tend to be most popular because they share directly in real estate growth. If a property's rent goes up, so will the dividend distribution, and share prices may also rise to reflect property appreciation. Equity REITs can be analyzed by applying the same basic procedures described in Chapters 7 and 8 for common stock valuation. Because mortgage REITs earn most of their income as interest on real estate loans, they tend to trade like bonds; therefore, many of the techniques for analyzing bond investments presented in Chapters 10 and 11 can be used to evaluate them. Hybrid REITs have the characteristics of both property and mortgages and should therefore be evaluated accordingly.

Regardless of type, you should review the REIT's investment objective and performance as you would those of a mutual fund (see Chapter 12). Carefully check the types of properties and/or mortgages held by the REIT. Be sure to look at the REIT's dividend yield and capital gain potential. Above all, as with any investment, select the REIT that is consistent with your investment risk and return objectives. The *Investing in Action* box offers guidelines for selecting a REIT that's right for you.

■ Other Forms of Real Estate Investment

Prior to 1986, public and private *real estate limited partnerships (RELPs)*, professionally managed real estate syndicates, were a popular real estate investment vehicle for individuals. Managers of RELPs assume the role of general partner, which means their liability is unlimited, and other investors are limited partners, which means they are legally liable for only the amount of their investment. Limited partnerships were often used as tax shelters (discussed in more detail in Web Chapter 17.)

The Tax Reform Act of 1986 severely limited the tax-sheltered income that RELPs can provide. Because the income and losses generated from these limited partnerships are considered *passive*, any write-offs they generate can shelter only a limited amount of ordinary income from taxes, and only for tax-

INVESTING *in Action*

Real Estate Rides Again

Would you rather own a golf course or a factory outlet shopping center? Today's real estate investment trusts (REITs) make it easy to choose. They are likely to be niche players that typically focus on one geographic area or specialize in one property type—apartments, factory outlet malls, shopping centers, office buildings, mobile home parks, even golf courses.

The popularity of REITs waxes and wanes, depending on economic conditions and the returns on other investments. However, according to the National Association of Real Estate Investment Trusts (NAREIT), over the last 30 years, the total average annual return from REITs has been 12.35% a year, higher than any of the major market indexes.

Today, REITs have moved away from the acquisition binge of the 1990s that created high but unsustainable growth rates. Now they are focusing on getting the most out of their properties by modernizing buildings and adding amenities and services that allow them to attract and retain tenants and raise rents.

Many financial advisers recommend putting 5% to 10% of your portfolio in real estate (which includes your house). Because real estate doesn't move in tandem with stocks, REITs offer additional diversification to an investment portfolio and exhibit less volatility than stocks. Other advantages of REIT investments include an income stream with yields of about 6 to 8%; possible share appreciation; skilled management from experienced real estate professionals; and performance monitoring by independent sources.

If you find REITs attractive, advisers recommend diversifying, both geographically and in terms of property type, because each type of REIT performs differently.

Choosing a REIT can be difficult. The accounting is different from that of the typical

public company. Instead of reading about earnings per share, you'll have to analyze the REIT's *funds from operations (FFO)*. The main difference between FFO and EPS is that FFO adds back depreciation. In addition, evaluate the types and merits of property owned, plus regional and local economic factors, and the structure of the REIT itself (ownership, management, debt, etc.). Study the prospectus carefully, concentrating on the following areas:

- **Management.** Look for a track record of five or more years of buying, selling, and managing properties before going public. Management should also own 10% to 15% of the REIT; you want its interests to be the same as yours.
- **Leverage.** This should be under 40% and should be largely fixed-rate, long-term debt rather than short-term, variable-rate debt, which leaves the REIT vulnerable to changes in interest rates.
- **Assets.** Analyze the quality of assets, consistency by geographic region or type of asset, and demographic and economic characteristics of the locations. Hotels and retail display greater economic sensitivity than office buildings and apartments, for example.

Still confused about which REITs to buy? Then buy shares in one of the over 50 real estate mutual funds that invest in REITs and let professional managers choose the best REITs.

Sources: Lewis Braham, "REITs Still Offer a Solid Defense," *Business Week*, December 25, 2000, p. 94; David R. Francis, "Why Real Estate Funds Stand on Solid Ground," *The Christian Science Monitor*, April 9, 2001, p. 15; Jay Loomis, "REITs Outperform," *The Journal News* (Westchester, NY), January 26, 2004, downloaded from www.nynews.com.

payers with adjusted gross income below \$150,000. While RELPs still exist, most are private investments and not available to the general public.

Today the most feasible way for individuals to invest in real estate is through publicly traded REITs, discussed above. Although they do not offer tax benefits, they can provide the income and appreciation benefits of real estate. They are also liquid investments that are traded on the major securities

exchanges. Another option for wealthy investors is a private limited liability corporation (LLC) that invests in real estate. Like REITs, LLCs can offer tax benefits to members while limiting their liability.

CONCEPTS IN REVIEW

Answers available at: www.myfinancelab.com

18.17 Briefly describe the basic structure and investment considerations associated with a *real estate investment trust (REIT)*. What are the three basic types of REITs?

18.18 According to the *Investing in Action* box on page 18-27, what measure should you look for in evaluating an REIT that differs from the accounting measure you'd consider for a typical public company? What role does the concept of diversification play with regard to investments in REITs?

Other Tangible Investments

LG 6

Although real estate investing is much more popular, some individuals find *tangibles*—investment assets, other than real estate, that can be seen and touched—to be attractive investment vehicles. Common types of tangibles (which we'll refer to as “other tangible investments” because real estate itself is a tangible asset) include precious metals, gemstones, coins, stamps, artwork, antiques, and other so-called *hard assets*. During the 1970s, tangibles soared in popularity, for several reasons. First, double-digit inflation rates made investors nervous about holding cash or securities like stocks, bonds, and mutual funds. Their nervousness was heightened by the poor returns securities offered in those years. As a result, they turned to investments offering returns that exceeded the rate of inflation—in other words, tangibles.

In 1981 and 1982, things began to change, however, as interest in tangibles waned and their prices underwent substantial declines. For example, in the 12-month period from June 1981 to June 1982, the price of gold dropped 34%, silver plunged 45%, and U.S. coins fell almost 30% in value. With a few exceptions, the investment returns on tangibles continued at a substandard pace through the rest of the 1980s and through the 1990s. Such performance, of course, is precisely what you would have expected: These investment vehicles tend to perform nicely during periods of high inflation, but they don't do nearly so well when inflation drops off—as it has since 1982. Indeed, the investment performance of tangibles from 1972 to 1982 stands in stark contrast to the returns on these same investments from 1982 to 1992. During the first period, gold yielded an average annual return of 18.6%, compared to stocks at 3.8% and bonds at 3.6%. The subsequent 10 years saw the reverse to be true, with gold falling to less than 1% average annual return and stocks and bonds returning 18.4% and 15.2%, respectively. On the other hand, during the five-year period ended in September 2006, gold prices rose from about \$280 per ounce to \$625 per ounce—a compound annual rate of return of 17.4%. During that same period, the Dow Jones Industrial Average increased at a compound annual rate of 3.2%. There's no doubt that tangibles can be as

volatile as securities. Even so, because there's still a lot of interest in tangibles as investment vehicles, we'll take a brief look at these unusual, and at times highly profitable, investment vehicles.

■ Tangibles as Investment Outlets

You can hold a gold coin, look at a work of art, or sit in an antique car. Some tangibles, such as gold and diamonds, are easily transported and stored; others, such as art and antiques, usually are not. These differences can affect the price behavior of tangibles. Art and antiques, for example, tend to appreciate fairly rapidly during periods of high inflation and relatively stable international conditions. Gold, on the other hand, is preferred during periods of unstable international conditions, in part because it is portable. Investors appear to believe that if international conditions deteriorate past the crisis point, at least they can “take their gold and run.”

The market for tangibles varies widely, and therefore so does the liquidity of these investments. On the one hand are gold and silver, which can be purchased in a variety of forms and which are generally viewed as being fairly liquid because they're relatively easy to buy and sell. (To a degree, platinum also falls into this category.) On the other hand are all the other forms of tangibles, which are highly illiquid: They are bought and sold in rather fragmented markets, where transaction costs are high and where selling an item is often a time-consuming and laborious process.

The tangibles market is dominated by three forms of investments:

- Gold and other precious metals (silver and platinum)
- Gemstones (diamonds, rubies, emeralds, sapphires)
- Collectibles (everything from coins and stamps to artworks and antiques)

As the *Investing in Action* box on page 18-30 indicates, over the past 15 or so years the interest in collectibles has exploded as our consumer culture has churned out even more products deemed collectible.

Investment Merits The only source of return from investing in tangibles comes in the form of *appreciation in value*—capital gains, in other words. No current income (interest or dividends) accrues from holding tangibles. Instead, if their tangibles do not appreciate rapidly in value, investors may be facing substantial *opportunity costs* in the form of lost income that could have been earned on the capital. Another factor to consider is that most tangibles have *storage and/or insurance costs* that require regular cash outlays.

The future prices and therefore the potential returns on tangibles tend to be affected by one or more of the following key factors:

- Rate of inflation.
- Scarcity (supply–demand relationship) of the assets.
- Domestic and international instability.

Because future prices are linked to inflation as well as to the changing supply–demand relationship of these assets, investments in tangibles tend to be somewhat risky. A slowdown in inflation or a sizable increase in the supply of

INVESTOR FACTS

ART LESSONS—How do you know whether art is a good investment or not? The Mei/Moses Fine Art Index hopes to become the Dow Jones Industrial Average of the art world. Developed by two New York University professors, the index systematically charts the changing value of Impressionist, Old Master, and American paintings sold more than once at Christie's and Sotheby's auction houses. Over the years the return on art as measured by the index has been comparable to government bonds—and the investor has something of beauty to hang on the walls. However, many art advisors do not believe that art should be viewed as a commodity for investment but for the pleasure it brings its owner.

Source: Sara Silver, “Index Lets Investors See the Long-term Value of Art,” *San Diego Union Tribune*, May 27, 2001, pp. H1, H6.

INVESTING *in Action*

Money in Action: Treasure or Trash?

No longer is the world of collectibles the exclusive domain of the rich, cultured, and famous. Today's collectors are as likely to save comic books, Beanie Babies, snow domes, and autographed baseballs as Old Master paintings, rare books, and antiques. "Miscellany"—ranging from costly jewelry, vintage clothes, and sports and entertainment memorabilia to comic books and Pez candy dispensers—is now a major category at leading auction houses, both online and off. Web sites like eBay and Yahoo have made it easier than ever to buy and sell collectibles.

The eclectic tastes of Boomers and Gen Xers are changing the collectibles markets. Popular culture reigns supreme. Experts predict that the new treasures will be relics of the twentieth-century technology revolution—old televisions and computers—and things collectors remember from childhood—Barbie and G.I. Joe dolls, comic books, and entertainment memorabilia from favorite TV shows and movies.

What's behind the broadened popularity of collecting? Many like the sheer fun and the thrill of the hunt. There's always the chance you'll find hidden treasure, but it's rare that anyone makes a killing in "junk collectibles." Figuring out what will become next year's hottest col-

lectible is difficult. Collectibles run in cycles, and today's fad may be out tomorrow. Karen Keane, managing director of Skinner, Inc., a Boston auction house, recommends things that represent their time period. Who could guess that a 1900-era electric fan would sell for \$13,200, or a first issue Star Wars figurine would sell for \$15,000 in a recent eBay auction? The market for old computers didn't exist in 1989 but now does.

To identify future prize collectibles, look for museum demand for a certain historical period, a cult-like group of collectors (Star Trek fans, for example), and limited availability. Don't expect mass-market items or manufactured collectibles such as Hummels and so-called limited-edition collector's plates and coins to appreciate much. Veteran collectors advise novices to pick a field that interests them so that they at least get pleasure from what they own.

Sources: Edward Baig, "How Do You Tell Trash from Treasure?" *Business Week*, June 27, 1994, pp. 106E2-E4; Victoria Murphy, "Coming Attractions," *Forbes*, December 25, 2000, pp. 157-158; "The Pleasures of Investing in Collectibles," *Today's Manager*, April/May 2001, Singapore Institute of Management, downloaded from www2.sim.edu.sg/infgd/tdmmag.nsf/.

the asset relative to the demand for it can unfavorably affect its market price. On the other hand, increasing inflation and continued scarcity can favorably influence the return. Another factor that tends to affect the market value—and therefore the return—of tangible investments, especially precious metals and gemstones, is the domestic and/or international political environment. In favorable times, these forms of investing are not especially popular, whereas in times of turmoil, as occurred after 9/11 (2001), demand for them tends to rise because of their tangible (and portable) nature.

■ Investing in Tangibles

To some extent, investing in tangibles is no different from investing in securities. Selection and timing are important in both cases and play a key role in determining the rate of return on invested capital. Yet when investing in tangibles, you have to be careful to separate the economics of the decision from the pleasure of owning these assets. Let's face it, many people gain a lot of pleasure from wearing a diamond, owning a piece of fine art, or driving a rare

automobile. There's certainly nothing wrong with that, but when you're buying tangible assets for their *investment merits*, there's only one thing that matters—the economic payoff from the investment.

As a serious investor in tangibles, you must consider expected price appreciation, anticipated holding period, and potential sources of risk. In addition, you should carefully weigh the insurance and storage costs of holding such assets, as well as the potential impact that a lack of a good resale market can have on return. Perhaps most important, *don't start a serious tangibles investment program until you really know what you're doing*. Know what to look for when buying gems, a rare coin, or a piece of fine art, and know what separates the good gems, rare coins, or artwork from the rest. In the material that follows, we look at tangibles strictly as *investment vehicles*.

precious metals

tangibles such as silver, gold and platinum which concentrate a great deal of value in a small amount of weight and volume.

Gold and Other Precious Metals Precious metals are tangibles that concentrate a great deal of value in a small amount of weight and volume. In other words, just a small piece of a precious metal is worth a lot of money. Three kinds of precious metals command the most investor attention: gold, silver, and platinum. Of these three, silver (at about \$12.80 per ounce in late mid-2006) is the cheapest. It is far less expensive than either gold (about \$625.00 per ounce) or platinum (about \$1,245.00 per ounce), which were also priced in September 2006. Gold is by far the most popular, so we'll use gold here to discuss precious metals.

For thousands of years, people have been fascinated with gold. Records from the age of the pharaohs in Egypt show a desire to own gold. Today, ownership of gold is still regarded as a necessity by many investors, and its price has increased considerably since it traded for less than \$300 per ounce between 1997 and late 2001. Actually, Americans are relatively recent gold investors because of the legal prohibition on gold ownership, except in jewelry form, that existed from the mid-1930s until January 1, 1975. Like other forms of precious metals, gold is a highly speculative investment vehicle whose price has fluctuated widely over the past 20 years (see Figure 18.2 on page 18-32). Many investors hold at least a part—and at times, a substantial part—of their portfolios in gold as a hedge against inflation or a world economic or political disaster.

Gold can be purchased as coins, bullion, or jewelry (all of which can be physically held); it can also be purchased through gold-mining stocks and mutual funds, gold futures (and futures options), and gold certificates. Here's a brief rundown of the different ways gold can be held as a form of investing:

- *Gold bullion coins.* Gold bullion coins have little or no collector value; rather, their value is determined primarily by the quality and amount of gold in the coins. Popular gold coins include the American Eagle, the Canadian Maple Leaf, the Mexican 50-Peso, and the Chinese Panda. (Numismatic coins, however, are valued for rarity and beauty beyond the intrinsic value of their gold content.)
- *Gold bullion.* Gold bullion is gold in its basic ingot (bar) form. Bullion ranges in weight from 5- to 400-gram bars; the kilo bar (which weighs 32.15 troy ounces) is probably the most popular size.
- *Gold jewelry.* Jewelry is a popular way to own gold, but it's not a very good way to invest in gold, because gold jewelry usually sells for a substantial premium over its underlying gold value (to reflect artisan costs,

FIGURE 18.2**The Price of Gold, 1975–2006**

The price of gold is highly volatile and can pave the way to big returns or, just as easily, subject the investor to large losses.

Source: www.kitco.com



retail markups, and other factors). Moreover, most jewelry is not pure 24-carat gold but a 14- or 18-carat blend of gold and other, nonprecious metals.

- *Gold stocks, mutual funds, and exchange-traded funds (ETFs).* Many investors prefer to purchase shares of gold-mining companies, mutual funds, or ETFs that invest in gold stocks. The prices of gold-mining stocks tend to move in direct relationship to the price of gold. Thus, when gold rises in value, these stocks usually move up, too. It is also possible to purchase shares in mutual funds that invest primarily in gold-mining stocks. Gold funds offer professional management and a much higher level of portfolio diversification; the shares of gold-oriented mutual funds also tend to fluctuate along with the price of gold. Additionally, beginning in 2004, a number of exchange-traded funds (ETFs) linked to gold prices became available.
- *Gold futures.* A popular way of investing in the short-term price volatility of gold is through futures contracts or futures options.
- *Gold certificates.* A convenient and safe way to own gold is to purchase a gold certificate through a bank or broker. The certificate represents ownership of a specific quantity of gold that is stored in a bank vault. In this way, you do not have to be concerned about the safety that taking physical possession of gold entails; also, by purchasing gold certificates, you can avoid state sales taxes (which may be imposed on coin or bullion purchases).

Like gold, silver and platinum can be bought in a variety of forms. Silver can be purchased as bags of silver coins, bars or ingots, silver-mining stocks, futures contracts, or futures options. Similarly, platinum can be bought in the form of coins, plates and ingots, platinum-mining stocks, or futures contracts.

Transaction costs in precious metals vary widely, depending on the investment form chosen. At one extreme, an investor buying one Canadian Maple Leaf coin might pay 5% commission, 7% dealer markup, and 4% gross excise tax (sales tax). In contrast, the purchase of a gold certificate would entail only a 2% total commission and markup, with no sales tax. Storage costs vary as well. Gold coins and bars can easily be stored in a safe-deposit box that costs perhaps \$50 to \$75 per year. Gold purchased via gold certificates usually is subject to a storage fee of less than 1% per year. Gold coins, bullion, and jewelry can be easily stolen, so it is imperative that these items be stored in a safe-deposit box at a bank or other depository. Except for transaction costs, the expenses of buying and holding gold can be avoided when investments are made in gold-mining stocks and mutual funds and in gold futures.

Gemstones By definition, gemstones consist of diamonds and the so-called colored precious stones (rubies, sapphires, and emeralds). Precious stones offer their owners beauty and are often purchased for aesthetic pleasure. However, diamonds and colored stones also serve as a viable form of investing. Along with gold, they are among the oldest of investment vehicles, providing a source of real wealth, as well as a hedge against political and economic uncertainties. However, diamonds and colored stones are very much a specialist's domain. Generally, standards of value are fully appreciated only by experienced personnel at fine stores, dealers, cutters, and an occasional connoisseur-collector. In diamonds, the value depends on the whiteness of the stone and the purity of crystallization. A key factor, therefore, is for the purchaser to understand the determinants of quality. Precious stones vary enormously in price, depending on how close they come to gem color and purity.

Investment diamonds and colored stones can be purchased through registered gem dealers. Depending on quality and grade, commissions and dealer markups can range from 20% to 100%. Because of the difficulty in valuing gemstones, it is imperative to select only dealers with impeccable reputations. As investment vehicles, diamonds and colored stones offer no current income, but their prices are highly susceptible to changing market conditions. For example, the peak price of the best-quality, flawless 1-carat diamond, a popular investment diamond, was about \$60,000 in early 1980. By late 1982, this stone was worth only about \$20,000—a drop of 67% in just over two years. Since then, prices have fallen to between \$5,000 and \$12,000 in late 2006 depending upon the color and clarity of the diamond.

The big difficulty in precious stone investments, aside from the expertise needed in deciding what is in fact gem quality, is the relative illiquidity of the stones. As a rule, gemstones should be purchased only by investors who can hold them for at least two years; high transaction costs usually mean that profitable resale is not possible after shorter periods. Furthermore, gemstones can be difficult to resell, and sellers often wait a month or more for a sale. Diamonds and colored stones also require secure storage, and there are no payoffs prior to sale.

Collectibles Collectibles represent a broad range of items—from coins and stamps to posters and cars—that are desirable for any number of reasons, such as beauty, scarcity, historical significance, or age. Collectibles have value because of their attractiveness to collectors. During the 1970s, many collectibles shot up in value, but since the early 1980s, most have either fallen in value or have appreciated at a much lower rate than inflation. There are some exceptions, of course, but they remain just that—the exception rather than the rule. Some examples of collectibles that have done well in recent years are paintings, exotic automobiles and early “muscle cars,” cartoon celluloids, and baseball cards.

An investment-grade collectible is an item that is relatively scarce as well as historically significant within the context of the collectible genre itself and, preferably, within the larger context of the culture that produced it. Further, it should be in excellent condition and attractive to display. Although there are almost no bounds to what can be collected (beer cans, fishing tackle, magazines, sheet music), the major categories of collectibles that tend to offer the greatest investment potential include:

- Rare coins (numismatics)
- Rare stamps (philately)
- Artwork (the paintings, prints, sculpture, and crafts of recognized artists)
- Antiques (cars, furniture, etc.)
- Baseball cards
- Books
- Games, toys, and comic books
- Posters
- Movie memorabilia
- Historical letters

In general, collectibles are not very liquid. Their resale markets are poor, and transaction costs can be high. Artwork, for example, commonly has a 100% dealer markup, and sales tax is added to the retail price. (Works sold on consignment to dealers have much lower costs—generally, a commission of “only” 25%—but they can take months to sell.) In addition, investing in collectibles can be hazardous unless you understand the intricacies of the market. In this area of investing, you are well advised to become a knowledgeable collector before even attempting to be a serious investor in collectibles.

Although certain psychic income may be realized in the form of aesthetic pleasure, the financial return, if any, is realized only when the item is sold. On a strictly financial basis, items that have a good market and are likely to appreciate in value are the ones to collect. If an item under consideration is expensive, its value and authenticity should always be confirmed by an expert prior to purchase. (There are many unscrupulous dealers in collectible items.) After purchase, you should make certain to store collectibles in a safe place and adequately insure them against all relevant perils. Despite these obstacles, collectibles can provide highly competitive rates of return and can be good inflation hedges during periods of abnormally high inflation.

CONCEPTS IN REVIEW

Answers available at: www.myfinancelab.com

- 18.19** What are *tangibles*? Briefly describe the conditions that tend to cause tangibles to rise in price.
- 18.20** What are the three basic forms of tangible investments? Briefly discuss the investment merits of tangibles. Be sure to note the key factors that affect the future prices of tangibles.
- 18.21** Why, according to the *Investing in Action* box on page 18-30, do experienced collectors advise novices to pick a field of collecting that particularly interests them?
- 18.22** Describe the different ways in which one can hold gold and other precious metals as a form of investing. Discuss gemstone investments in terms of quality, commissions, and liquidity.
- 18.23** What are some popular types of collectibles? What important variables should be taken into account when investing in them?

Summary

LG 1

Describe how real estate investment objectives are set, how the features of real estate are analyzed, and what determines real estate value. The starting point for investing in real estate is setting objectives. Investment real estate includes income properties, which can be residential or commercial, and speculative properties, such as raw land, which are expected to provide returns from appreciation in value rather than from periodic rental income. The investor also needs to analyze important features such as the physical property, the rights that owning it entails, the relevant time horizon, and the geographic area of concern.

The four determinants of real estate value are demand, supply, the property, and the property transfer process. Demand refers to people's willingness to buy or rent, and supply includes all those properties from which potential buyers or tenants can choose. To analyze a property, one should evaluate its restrictions on use, location, site, improvements, and property management. The transfer process involves promotion and negotiation of a property.

LG 2

Discuss the valuation techniques commonly used to estimate the market value of real estate. A market value appraisal can be used to estimate real estate value. The three imperfect approaches to real estate valuation are the cost approach, the comparative sales approach, and the income approach. The cost approach estimates replacement cost. The comparative sales approach bases value on the prices at which similar properties recently sold. The income approach measures value as the present value of all the property's future income.

LG 3

Understand the procedures involved in performing real estate investment analysis. Real estate investment analysis considers the underlying determinants of a property's value. It involves forecasting a property's cash flows and then calculating either their net present value or the yield to evaluate the proposed investment relative to the investor's objectives. Risk and return parameters vary depending on the degree of leverage employed in financing a real estate investment. Any quantitative analysis of real estate value and returns must be integrated with various subjective and market considerations.

- LG 4** Demonstrate the framework used to value a prospective real estate investment, and evaluate results in light of the stated investment objectives. The framework for analyzing a potential real estate investment involves five steps: (1) set investor objectives; (2) analyze important features of the property; (3) collect data on determinants of value; (4) perform valuation and investment analysis, which involves forecasting the property's cash flows and either applying discounted cash flow techniques to find the net present value (NPV) or estimating the yield; (5) synthesize and interpret results of analysis.
- LG 5** Describe the structure and investment appeal of real estate investment trusts. Real estate investment trusts can provide investors with an alternative to active real estate ownership. REITs allow investors to buy publicly traded ownership shares in a professionally managed portfolio of real estate properties, mortgages, or both. The risk–return characteristics of REITs can be analyzed much like stocks, bonds, and mutual funds.
- LG 6** Understand the investment characteristics of tangibles such as gold and other precious metals, gemstones, and collectibles, and review the suitability of investing in them. Tangibles represent a non–real-estate investment vehicle that can be seen and touched and that has an actual form and substance. The three basic types of tangibles are gold and other precious metals, gemstones, and collectibles. Some tangibles, particularly precious metals, can be held in a variety of forms. Tangibles generally provide substantial returns during periods of high inflation.

Key Terms

after-tax cash flows (ATCFs), <i>p. 18-14</i>	market value (in real estate), <i>p. 18-9</i>
appraisal (in real estate), <i>p. 18-10</i>	negative leverage, <i>p. 18-13</i>
comparative sales approach, <i>p. 18-10</i>	net operating income (NOI), <i>p. 18-11</i>
convenience (in real estate), <i>p. 18-7</i>	net present value (NPV), <i>p. 18-14</i>
cost approach, <i>p. 18-10</i>	positive leverage, <i>p. 18-13</i>
demand (in real estate), <i>p. 18-5</i>	precious metals, <i>p. 18-31</i>
demographics, <i>p. 18-5</i>	principle of substitution, <i>p. 18-6</i>
depreciation (in real estate), <i>p. 18-20</i>	property management, <i>p. 18-8</i>
discounted cash flow, <i>p. 18-14</i>	property transfer process, <i>p. 18-8</i>
environment (in real estate), <i>p. 18-7</i>	psychographics, <i>p. 18-5</i>
improvements (in real estate), <i>p. 18-7</i>	real estate, <i>p. 18-2</i>
income approach, <i>p. 18-10</i>	real estate investment trust (REIT), <i>p. 18-25</i>
income property, <i>p. 18-3</i>	speculative property, <i>p. 18-3</i>
investment analysis, <i>p. 18-12</i>	supply (in real estate), <i>p. 18-6</i>
leverage (in real estate), <i>p. 18-12</i>	tangibles, <i>p. 18-2</i>
market capitalization rate, <i>p. 18-11</i>	

Discussion Questions

- LG 1** **Q18.1** Assume you have inherited a large sum of money and wish to use part of it to make a real estate investment.
- Would you invest in income property or speculative property? Why? Describe the key characteristics of the income or speculative property on which you would focus your search.

- b. Describe the financial and nonfinancial goals you would establish prior to initiating a search for suitable property.
- c. What time horizon would you establish for your analysis? What geographic area would you isolate for your property search?

LG 1

LG 4

Q18.2 Imagine that you have been hired by a wealthy out-of-town investor to find him a residential income property investment with five to ten units located within a 5-mile radius of the college or university you attend.

- a. Search the defined area to find three suitable properties. You may want to use a real estate agent to isolate suitable properties more quickly.
- b. Research the area to assess the demand for the properties you've isolated. Be sure to consider both the demographics and the psychographics of the area's population. Also assess mortgage market conditions as they would relate to financing 75% of each property's purchase price.
- c. Assess the supply of competitive properties in the geographic area you've isolated. Identify the key competitive properties by using the principle of substitution.
- d. Compare the competitive positions of the properties, and isolate the best property on the basis of the following five features: (1) restrictions on use, (2) location, (3) site, (4) improvements, and (5) property management.

LG 2

LG 3

LG 4

Q18.3 Contact a local commercial realtor and obtain a copy of a valuation he or she has performed on an investment property in your immediate general geographic area.

- a. Review the analysis and critically evaluate the realtor's work. Specifically review the cost approach, the comparative sales approach, and the income approach.
- b. Drive by the property and assess the demand for and supply of competitive properties in the area.
- c. On the basis of your review of the realtor's professional analysis and your own assessment of the property, make a list of your questions and comments on the professional analysis.
- d. Make an appointment with the realtor who provided you with the analysis, and in your meeting with him or her, go over your list of questions and comments.

LG 5

Q18.4 Contact a stockbroker and obtain and study a copy of a prospectus for a currently popular real estate investment trust (REIT).

- a. Indicate what type of REIT (equity, mortgage, or hybrid) it represents.
- b. Evaluate the quality of the properties it holds.
- c. Assess the REIT's financial and management track record, using the Internet to provide current performance data.
- d. Would you invest in this REIT? Explain why, including how it does or doesn't meet your investment objectives.

LG 6

Q18.5 Assume you're interested in investing in gold to protect against an expected significant decline in consumer confidence and securities values.

- a. Isolate and evaluate the various alternatives for investing in gold coins, gold stocks, gold futures, and gold certificates.
- b. Prepare a comparative grid of the costs, ease of purchase and sale, commissions (if any), and potential returns from each of these alternative ways to invest in gold.
- c. Choose and justify your choice of the best of these alternative investments in gold. Discuss the risks you associate with this investment.
- d. What alternative forms of tangible investment (excluding real estate) would you consider as potential substitutes for gold?

Problems

LG 2

LG 3

P18.1 Charles Cook, an investor, is considering two alternative financing plans for purchasing a parcel of real estate costing \$50,000. Alternative X involves paying cash; alternative Y involves obtaining 80% financing at 10.5% interest. If the parcel of real estate appreciates in value by \$7,500 in 1 year, calculate (a) Charles's net return and (b) his return on equity for each alternative. If the value dropped by \$7,500, what effect would this have on your answers to parts a and b?

LG 2

LG 3

P18.2 In the coming year, the Sandbergs expect a potential rental property investment costing \$120,000 to have gross potential rental income of \$20,000, vacancy and collection losses equaling 5% of gross income, and operating expenses of \$10,000. The mortgage on the property is expected to require annual payments of \$8,500. The interest portion of the mortgage payments and the depreciation are given below for each of the next 3 years. The Sandbergs are in the 25% marginal tax bracket.

Year	Interest	Depreciation
1	\$8,300	\$4,500
2	8,200	4,500
3	8,100	4,500

The net operating income is expected to increase by 6% each year beyond the first year.

- Calculate the net operating income (NOI) for each of the next 3 years.
- Calculate the after-tax cash flow (ATCF) for each of the next 3 years.

LG 2

LG 3

P18.3 Walt Hubble is contemplating selling rental property that originally cost \$200,000. He believes that it has appreciated in value at an annual rate of 6% over its 4-year holding period. He will have to pay a commission equal to 5% of the sale price to sell the property. Currently, the property has a book value of \$137,000. The mortgage balance outstanding at the time of sale currently is \$155,000. Walt will have to pay a 15% tax on any capital gains and a 25% tax on recaptured depreciation.

- Calculate the tax payable on the proposed sale.
- Calculate the after-tax net proceeds associated with the proposed sale, CF_R .

LG 3

P18.4 Bezie Foster has estimated the annual after-tax cash flows (ATCFs) and after-tax net proceeds from sale (CF_R) of a proposed real estate investment as noted below for the planned 4-year ownership period.

Year	ATCF	CF_R
1	\$6,200	
2	8,000	
3	8,300	
4	8,500	\$59,000

The initial required investment in the property is \$55,000. Bezie must earn at least 14% on the investment.

- Calculate the net present value (NPV) of the proposed investment.
- Estimate the yield (to the nearest whole percent) from the investment.
- From your findings in parts a and b, what recommendation would you give Bezie? Explain.

Case Problem 18.1*Gary Sofer's Appraisal of the Wabash Oaks Apartments*

LG 2 **LG 3** **LG 4**

Gary Sofer wants to estimate the market value of the Wabash Oaks Apartments, a 12-unit building with 6 one-bedroom units and 6 two-bedroom units. The present owner of Wabash Oaks provided Gary with the following annual income statement. Today's date is March 1, 2007.

Owner's Income Statement Wabash Oaks Apartments, 2006		
Gross income		\$65,880
Less: Expenses		
Utilities	\$14,260	
Property insurance	2,730	
Repairs and maintenance	1,390	
Property taxes	4,790	
Mortgage payments	18,380	
Total expenses		41,550
Net income		\$24,330

Current rental rates of properties similar to Wabash Oaks typically run from \$425 to \$450 per month for one-bedroom units and \$500 to \$550 per month for two-bedroom units. From a study of the market, Gary determined that a reasonable required rate of return for Wabash Oaks would be 9.62% and that vacancy rates for comparable apartment buildings are running around 4%.

Questions

- a. Using Figure 18.1 on page 18-17 as a guide, discuss how you might go about evaluating the features of this property.
- b. Gary has studied economics and knows about demand and supply, yet he doesn't understand how to apply them to an investment analysis. Advise Gary in a practical way how he might incorporate demand and supply into an investment analysis of the Wabash Oaks Apartments.
- c. Should Gary accept the owner's income statement as the basis for an income appraisal of Wabash Oaks? Why or why not?
- d. In your opinion, what is a reasonable estimate of the market value for the Wabash Oaks?
- e. If Gary could buy Wabash Oaks for \$10,000 less than its market value, would it be a good investment for him? Explain.

Case Problem 18.2*Analyzing Dr. Davis's Proposed Real Estate Investment*

LG 1 **LG 2**
LG 3 **LG 4**

Dr. Marilyn Davis, a single, 34-year-old heart specialist, is considering the purchase of a small office condo. She wants to add some diversity to her investment portfolio, which now contains only corporate bonds and preferred stocks. In addition, because of her high federal tax bracket of 33%, Marilyn wants an investment that produces a good after-tax rate of return.

A real estate market and financial consultant has estimated that Marilyn could buy the office condo for \$200,000. In addition, this consultant analyzed the property's rental potential with respect to trends in demand and supply. He discussed the following items with Marilyn: (1) The office condo was occupied by a tenant, who had 3 years remaining on her lease, and (2) it was only 4 years old, was in excellent condition, and was located near a number of major thoroughfares. For her purposes, Marilyn decided the office condo should be analyzed on the basis of a 3-year holding period. The gross rents in the most recent year were \$32,000, and operating expenses were \$15,000. The consultant pointed out that the lease had a built-in 10% per year rent escalation clause and that he expected operating expenses to increase by 8% per year. He further expected no vacancy or collection loss, because the tenant was an excellent credit risk.

Marilyn's accountant estimated that annual depreciation would be \$7,272 in each of the next 3 years. To finance the purchase of the office condo, Marilyn has considered a variety of alternatives, one of which would involve assuming the existing \$120,000 mortgage. On the advice of a close friend, a finance professor at the local university, Marilyn decided to arrange a \$150,000, 10.5%, 25-year mortgage from the bank at which she maintains her business account. The annual loan payment would total \$16,995. Of this, the following breakdown between interest and principal would apply in each of the first 3 years:

Year	Interest	Principal	Total
1	\$15,688	\$1,307	\$16,995
2	15,544	1,451	16,995
3	15,384	1,611	16,995

The loan balance at the end of the 3 years would be \$145,631. The consultant expects the property to appreciate by about 9% per year to \$259,000 at the end of 3 years. Marilyn would incur a 5% sales commission expense on this assumed sale price. The office condo's book value at the end of 3 years would be \$178,184. The net proceeds on the sale would be taxed at Marilyn's 15% long-term capital gains rate for any capital gains and a 25% rate for recaptured depreciation.

Questions

- What is the expected annual after-tax cash flow (ATCF) for each of the 3 years (assuming Marilyn has other passive income that can be used to offset any losses from this property)?
- At a 15% required rate of return, will this investment produce a positive net present value?
- What is the estimated yield for this proposed investment?
- Could Marilyn increase her returns by assuming the existing mortgage at a 9.75% interest rate rather than arranging a new loan? What measure of return do you believe Marilyn should use to make this comparison?
- Do you believe Marilyn has thought about her real estate investment objectives enough? Why or why not?