15 Leases

OVERVIEW

In the previous chapter, we saw how companies account for their long-term debt. The focus of that discussion was *bonds* and *notes.* In this chapter we continue our discussion of debt, but we now turn our attention to liabilities arising in connection with *leases.* Leases that produce such debtor/creditor relationships are referred to as *capital* leases by the lessee and as either *direct financing* or *sales-type* leases by the lessor. We also will see that some leases do not produce debtor/creditor relationships, but instead are accounted for as rental agreements. These are designated *operating* leases.

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- LO1 Identify and describe the operational, financial, and tax objectives that motivate leasing.
- LO2 Explain why some leases constitute rental agreements and some represent purchases/sales accompanied by debt financing.
- LO3 Explain the basis for each of the criteria and conditions used to classify leases.
- LO4 Record all transactions associated with operating leases by both the lessor and lessee.
- LO5 Describe and demonstrate how both the lessee and lessor account for a nonoperating lease.
- LO6 Describe and demonstrate how the lessor accounts for a sales-type lease.
- LO7 Explain how lease accounting is affected by the residual value of a leased asset.
- LO8 Describe the way a bargain purchase option affects lease accounting.
- LO9 Explain sale-leaseback arrangements and their accounting treatment.

It's a Hit!

By the time you finish this chapter, you should be able to respond appropriately to the questions posed in this case. Compare your response to the solution provided at the end of the chapter.

A recent *Wall Street Journal* news brief commented on estimated lease revenues for IBM Corporation, which leases its computers to some customers and sells them to others. An excerpt follows:

> **IBM's quarterly profit was a bit better than expected, but an IBM executive made cautious statements about the future that prompted some analysts to cut profit forecasts. IBM's finance chief warned that IBM is taking a revenue hit as more customers lease mainframes rather than buy them.**
>
> **"What's News," *The Wall Street Journal,* Tuesday, October 22, 1996.**

QUESTIONS

1. **How would IBM's revenues "take a hit" as a result of more customers leasing than buying mainframes?**
2. **Under what kind of leasing arrangements would the "hit" not occur?**

PART A

ACCOUNTING BY THE LESSOR AND LESSEE

An apartment lease is a typical rental agreement referred to as an *operating lease.*

We all are familiar with leases. If you ever have leased an apartment, you know that a lease is a contractual arrangement by which a **lessor** (owner) provides a **lessee** (user) the right to use an asset for a specified period of time. In return for this right, the lessee agrees to make stipulated, periodic cash payments during the term of the lease. An apartment lease is a typical rental agreement in which the fundamental rights and responsibilities of ownership are retained by the lessor; the lessee merely uses the asset temporarily. Businesses, too, lease assets under similar arrangements. These are referred to as **operating leases.** Many contracts, though, are formulated outwardly as leases, but in reality are installment purchases/sales. These are called **capital leases** (**direct financing** or **sales-type leases** to the lessor). Graphic 15–1 compares the possibilities.

GRAPHIC 15–1
Basic Lease Classifications

Lessee	Lessor
Operating lease	Operating lease
Capital lease	Direct financing lease Sales-type lease

After looking at some of the possible advantages of leasing assets rather than buying them in certain circumstances, we will explore differences in leases further.

Decision Makers' Perspective: Advantages of Leasing

LO1

When a young entrepreneur started a computer training center a few years ago, she had no idea how fast her business would grow. Now, while she knows she needs computers, she doesn't know how many. Just starting out, she also has little cash with which to buy them.

The mutual funds department of a large investment firm often needs new computers and peripherals—fast. The department manager knows he can't afford to wait up to a year, the time it sometimes takes, to go through company channels to obtain purchase approval.

An established computer software publisher recently began developing a new line of business software. The senior programmer has to be certain he's testing the company's products on the latest versions of computer hardware. And yet he views large expenditures on equipment subject to rapid technological change and obsolescence as risky business.

Each of these individuals is faced with different predicaments and concerns. The entrepreneur is faced with uncertainty and cash flow problems, the department manager with time constraints and bureaucratic control systems, the programmer with fear of obsolescence. Though their specific concerns differ, these individuals have all met their firms' information technology needs with the same solution: each has decided to lease their computers rather than buy them.

The U.S. Navy once leased a fleet of tankers to avoid asking Congress for appropriations.

Leasing can facilitate asset acquisition.

Computers are by no means the only assets obtained through leasing arrangements. To the contrary, leasing has grown to be the most popular method of external financing of corporate assets in America. The airplane in which you last flew probably was leased, as was the gate from which it departed. Your favorite retail outlet at the local shopping mall likely leases the space it operates. Many companies actually exist for the sole purpose of acquiring assets and leasing them to others. And, leasing often is a primary method of "selling" a firm's products. IBM and Boeing are familiar examples.

The number one method of external financing by U.S. businesses is leasing.

In light of its popularity, you may be surprised that leasing usually is more expensive than buying. Of course, the higher apparent cost of leasing is because the lessor usually shoulders

at least some of the financial and risk burdens that a purchaser normally would assume. So, why the popularity?

Tax incentives often motivate leasing.

The lease decisions described above are motivated by operational incentives. Tax and market considerations also motivate firms to lease. Sometimes leasing offers tax saving advantages over outright purchases. For instance, a company with little or no taxable income—maybe a business just getting started, or one experiencing an economic downturn—will get little benefit from depreciation deductions. But the company can benefit *indirectly* by leasing assets rather than buying. By allowing the *lessor* to retain ownership and thus benefit from depreciation deductions, the lessee often can negotiate lower lease payments. Lessees with sufficient taxable income to take advantage of the depreciation deductions, but still in lower tax brackets than lessors, also can achieve similar indirect tax benefits.

Leasing sometimes is used as a means of off-balance-sheet financing

The desire to obtain "off-balance-sheet financing" also is sometimes a leasing stimulus. When funds are borrowed to purchase an asset, the liability has a detrimental effect on the company's debt-equity ratio and other mechanical indicators of riskiness. Similarly, the purchased asset increases total assets and correspondingly lowers calculations of the rate of return on assets. Despite research that indicates otherwise, management actions continue to reflect a belief that the financial market is naive, and is fooled by off-balance-sheet financing.[1] Managers continue to avoid reporting assets and liabilities by leasing rather than buying and by constructing lease agreements in such a way that capitalizing the assets and liabilities is not required.[2]

Operational, tax, and financial market incentives often make leasing an attractive alternative to purchasing.

Whether or not there is any real effect on security prices, sometimes off-balance-sheet financing helps a firm avoid exceeding contractual limits on designated financial ratios (like the debt to equity ratio, for instance).[3] When the operational, tax, and financial market advantages are considered, the *net* cost of leasing often is less than the cost of purchasing. ■

CHECK WITH THE COACH

Leasing is a popular vehicle for individuals and companies to finance the use of assets. In the business world, leases take many forms and can be motivated by a wide variety of credit conditions. Let the Coach explain to you some of the key aspects of lease accounting and disclosure. At exam time, you will be glad you did.

Capital Leases and Installment Notes Compared

LO2

You learned in the previous chapter how to account for an installment note. To a great extent, then, you already have learned how to account for a capital lease. To illustrate, let's recall the situation described in the previous chapter. We assumed that Skill Graphics purchased a package-labeling machine from Hughes–Barker Corporation by issuing a three-year installment note that required six semiannual installment payments of $139,857 each. That arrangement provided for the purchase of the $666,634 machine as well as interest at an annual rate of 14% (7% twice each year). Remember, too, that each installment payment consisted of part interest (7% times the outstanding balance) and part payment for the machine (the remainder of each payment).

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[1] A comprehensive research study commissioned by the FASB offers strong evidence that managers try to structure leases as operating leases to avoid balance sheet effects, but also that the securities market behaves as if it sees through these attempts. That is, leases have the same effect on the market whether they are reflected as assets and liabilities on the balance sheet or are merely reported in the disclosure notes. These are conclusions of A. Rashad Abdel-khalik, "The Economic Effects on Leases of FASB *Statement No. 13,* Accounting for Leases," *Research Report* (Stamford, Conn.: FASB, 1981).

[2] You will learn later in the chapter that accounting standards are designed to identify lease arrangements that, despite their outward appearance, are in reality purchases of assets. Assets acquired by these arrangements, *capital leases,* are required to be recorded as well as the related lease liability. Managers often structure lease terms so that capitalization requirements are avoided.

[3] It is common for debt agreements, particularly long-term ones, to include restrictions on the debtor as a way to provide some degree of protection to the creditor. Sometimes a minimum level is specified for current assets relative to current liabilities, net assets, debt as a ratio of equity, or many other financial ratios. Often a restriction is placed on dividend payments, share repurchases, or other activities that might impede the debtor's ability to repay the debt. Typically, the debt becomes due on demand when the debtor becomes in violation of such a debt covenant, often after a specified grace period.

Now let's suppose that Skill Graphics instead acquired the package-labeling machine from Hughes–Barker Corporation under a three-year *lease* that required six semiannual rental payments of $139,857 each. Obviously, the fundamental nature of the transaction remains the same regardless of whether it is negotiated as an installment purchase or as a lease. So, it would be inconsistent to account for this lease in a fundamentally different way than for an installment purchase:

Comparison of a Note and Capital Lease

In keeping with the basic accounting concept of substance over form, accounting for a capital lease parallels that for an installment purchase.

At Inception (January 1)		
Installment Note		
Machinery	666,634	
Note payable		666,634
Capital Lease		
Leased machinery	666,634	
Lease payable		666,634

Consistent with the nature of the transaction, interest expense accrues each period at the effective rate times the outstanding balance:

Interest Compared for a Note and Capital Lease

Each payment includes both an amount that represents interest and an amount that represents a reduction of principal.

At the First Semiannual Payment Date (June 30)		
Installment Note		
Interest expense (7% × $666,634)	46,664	
Note payable (difference)	93,193	
Cash (installment payment)		139,857
Capital Lease		
Interest expense (7% × $666,634)	46,664	
Lease payable (difference)	93,193	
Cash (rental payment)		139,857

Because the lease payable balance declines with each payment, the interest becomes less each period. An amortization schedule is convenient to track the changing amounts as shown in Graphic 15–2.

GRAPHIC 15–2

Lease Amortization Schedule

Each rental payment includes interest on the outstanding balance at the effective rate. The remainder of each payment reduces the outstanding balance.

Date	Payments	Effective Interest (7% × Outstanding balance)	Decrease in Balance	Outstanding Balance
				666,634
1	139,857	.07(666,634) = 46,664	93,193	573,441
2	139,857	.07(573,441) = 40,141	99,716	473,725
3	139,857	.07(473,725) = 33,161	106,696	367,029
4	139,857	.07(367,029) = 25,692	114,165	252,864
5	139,857	.07(252,864) = 17,700	122,157	130,707
6	139,857	.07(130,707) = 9,150*	130,707	0
	839,142	172,508	666,634	

*Rounded.

You should recognize this as essentially the same amortization schedule we used in the previous chapter in connection with our installment note example. The reason for the similarity is that we view a capital lease as being, in substance, equivalent to an installment purchase. So naturally the accounting treatment of the two essentially identical transactions should be consistent.

Lease Classification

A lease is accounted for as either a rental agreement or a purchase/sale accompanied by debt financing. The choice of accounting method hinges on the nature of the leasing arrangement.

A basic concept of accounting is substance over form.

Capital leases are agreements that we identify as being formulated outwardly as leases, but which are in reality installment purchases. Sometimes the true nature of an arrangement is obvious. For example, a 10-year noncancelable lease of a computer with a 10-year useful life, by which title passes to the lessee at the end of the lease term, obviously more nearly represents a purchase than a rental agreement. But what if the terms of the contract do not transfer title, and the lease term is for only seven years of the asset's 10-year life? Suppose contractual terms permit the lessee to obtain title under certain prearranged conditions? What if compensation provided by the lease contract is nearly equal to the value of the asset under lease? These situations are less clear-cut.

Accounting for leases attempts to see through the legal form of the agreements to determine their economic substance.

Professional judgment is needed to differentiate between leases that represent rental agreements and those that in reality are installment purchases/sales. The essential question is whether the usual risks and rewards of ownership have been transferred to the lessee. But judgment alone is likely to lead to inconsistencies in practice. The desire to encourage consistency in practice motivated the FASB to provide guidance for distinguishing between the two fundamental types of leases.[4] As you study the classification criteria in the following paragraphs, keep in mind that some leases clearly fit the classifications we give them, but others fall in a gray area somewhere between the two extremes. For those, we end up forcing them into one category or the other by somewhat arbitrary criteria.

Classification Criteria

LO3

A lessee should classify a lease transaction as a capital lease if it includes a noncancelable lease term and one or more of the four criteria listed in Graphic 15–3 are met.[5] Otherwise, it is an operating lease.

GRAPHIC 15–3
Criteria for Classification as a Capital Lease

1. The agreement specifies that ownership of the asset transfers to the lessee.
2. The agreement contains a bargain purchase option.
3. The noncancelable lease term is equal to 75% or more of the expected economic life of the asset.
4. The present value of the minimum lease payments is equal to or greater than 90% of the fair value of the asset.

Let's look closer at these criteria.

Criterion 1: Transfer of ownership.

Since our objective is to determine when the risks and rewards of ownership have been transferred to the lessee, the first criterion is self-evident. If legal title passes to the lessee during, or at the end of, the lease term, obviously ownership attributes are transferred.

Criterion 2: Bargain purchase option.

A **bargain purchase option (BPO)** is a provision in the lease contract that gives the lessee the option of purchasing the leased property at a bargain price. This is defined as a price sufficiently lower than the expected fair value of the property (when the option becomes exercisable) that the exercise of the option appears reasonably assured at the inception of the lease. Because exercise of the option appears reasonably assured, transfer of ownership is expected. So the logic of the second criterion is similar to that of the first. Applying criterion 2 in practice, though, often is more difficult because it is necessary to make a judgment now about whether a future option price will be a bargain.

Criterion 3: Lease term is 75% of economic life.

If an asset is leased for most of its useful life, then most of the benefits and responsibilities of ownership are transferred to the lessee. We presume, quite arbitrarily, that 75% or more of the expected economic life of the asset is an appropriate threshold point for this purpose.

Although the intent of this criterion is fairly straightforward, implementation sometimes is troublesome. First, the lease term may be uncertain. It may be renewable beyond its initial term. Or the lease may be cancelable after a designated noncancelable period. When either

[4]"Accounting for Leases," *Statement of Financial Accounting Standards No. 13* (Stamford, Conn.: FASB, 1980), par. 7.
[5]Noncancelable in this context does not preclude the agreement from specifying that the lease is cancelable after a designated noncancelable lease term. If no portion of the lease term is noncancelable, it is an operating lease. Later in this section, we discuss treatment of any cancelable portion of the lease term.

is an issue, we ordinarily consider the lease term to be the noncancelable[6] term of the lease plus any periods covered by **bargain renewal options.**[7] A bargain renewal option gives the lessee the option to renew the lease at a bargain rate. That is, the rental payment is sufficiently lower than the expected fair rental of the property at the date the option becomes exercisable that exercise of the option appears reasonably assured.

ADDITIONAL CONSIDERATION

Periods covered by bargain renewal options are not included in the lease term if a **bargain purchase option** is present. This is because the lease term should not extend beyond the date a bargain purchase option becomes exercisable. For example, assume a BPO allows a lessee to buy a leased delivery truck at the end of the noncancelable five-year lease term. Even if an option to renew the lease beyond that date is considered to be a bargain renewal option, that extra period would not be included as part of the lease term. Remember, we presume the BPO will be exercised after the initial five-year term, making the renewal option irrelevant.

Another implementation issue is estimating the **economic life** of the leased property. This is the estimated remaining time the property is expected to be economically usable for its intended purpose, with normal maintenance and repairs, at the inception of the lease. Estimates of the economic life of leased property are subject to the same uncertainty limitations of most estimates. This uncertainty presents the opportunity to arrive at estimates that cause this third criterion not to be met.

Finally, if the inception of the lease occurs during the last 25% of an asset's economic life, this third criterion does not apply. This is consistent with the basic premise of this criterion that most of the risks and rewards of ownership occur during the first 75% of an asset's life.

Criterion 4: Present value of payments is 90% of fair value.

If the lease payments required by a lease contract substantially pay for a leased asset, it is logical to identify the arrangement as a lease equivalent to an installment purchase. This situation is considered to exist when the present value of the **minimum lease payments** is equal to or greater than 90% of the fair value of the asset at the inception of the lease. In general, minimum lease payments are payments the lessee is required to make in connection with the lease. We look closer at the make-up of minimum lease payments later in the chapter.

The 90% recovery criterion often is the decisive one. As mentioned earlier, lessees often try to avoid writing a lease agreement that will require recording an asset and liability. When this is an objective, it usually is relatively easy to avoid meeting the first three criteria. However, when the underlying motive for the lease agreement is that the lessee substantively acquire the asset, it is more difficult to avoid meeting the 90% recovery criterion without defeating that motive. New ways, though, continually are being devised to structure leases to avoid meeting this criterion. Later we will look at some popular devices that are used.

Again consistent with the basic premise that most of the risks and rewards of ownership occur during the first 75% of an asset's life, this fourth criterion does not apply if the inception of the lease occurs during the last 25% of an asset's economic life.

Additional Lessor Conditions

As we saw in the previous section, the lessee accounts for a capital lease as if an asset were purchased—records both an asset and a liability at the inception of the lease. Consistency

[6]Noncancelable in this context is a lease that is cancelable only by (a) the occurrence of some remote contingency, (b) permission of the lessor, (c) a new lease with the same lessor, or (d) payment by the lessee of a penalty in an amount such that continuation of the lease appears, at inception, reasonably assured. "Accounting for Leases: Sale and Leaseback Transactions Involving Real Estate, Sales-Type Leases of Real Estate, Definition of the Lease Term, Initial Direct Costs of Direct Financing Leases," *Statement of Financial Accounting Standards No. 98* (Stamford, Conn.: FASB, 1988), par. 22.

[7]If applicable, the lease term also should include (a) periods for which failure to renew the lease imposes a penalty on the lessee in an amount such that renewal appears reasonably assured, (b) periods covered by ordinary renewal options during which a guarantee by the lessee of the lessor's debt directly or indirectly related to the leased property is expected to be in effect or a loan from the lessee to the lessor directly or indirectly related to the leased property is expected to be outstanding, (c) periods covered by ordinary renewal options preceding the date that a bargain purchase option is exercisable, or (d) periods representing renewals or extensions of the lease at the lessor's option. "Accounting for Leases: Sale and Leaseback Transactions Involving Real Estate, Sales-Type Leases of Real Estate, Definition of the Lease Term, Initial Direct Costs of Direct Financing Leases," *Statement of Financial Accounting Standards No. 98* (Stamford, Conn.: FASB, 1988), par. 22.

would suggest that the lessor in the same lease transaction should record the sale of an asset. Indeed, consistency is a goal of the FASB's lease accounting standards. The four classification criteria discussed in the previous section apply to both parties to the transaction, lessees and lessors. However, a fundamental difference is that for a lessor to record the sale side of the transaction, it is necessary also to satisfy the conditions of the realization principle we discussed in Chapter 4. In particular, the FASB specifies that for the lessor to record a lease as a direct financing lease or a sales-type lease, two conditions must be met in addition to one of the four classification criteria. These are listed in Graphic 15–4.

GRAPHIC 15–4

Additional Conditions for Classification as a Nonoperating Lease by the Lessor

1. The collectibility of the lease payments must be reasonably predictable.
2. If any costs to the lessor have yet to be incurred, they are reasonably predictable. (Performance by the lessor is substantially complete.)

Additional lessor conditions for classification as a nonoperating lease are consistent with criteria of the revenue realization principle.

In the case of a sales-type lease in which the lessor recognizes sales revenue, the reason for these additional conditions is apparent; collectibility of payments and substantial completion of the earnings process are conditions of the revenue realization principle. This logic is extended to agreements classified as direct financing leases. Although sales revenue is not recorded in a direct financing lease, the leased asset is removed from the lessor's books and is replaced by a receivable.

Although uniformity of classification is a goal of lease accounting standards, it is obvious that the additional conditions allow inconsistencies.[8] Indeed, in lease negotiations an objective of the parties involved often is to devise terms that will result in a sale by the lessor but an operating lease by the lessee.[9]

In the remaining sections of Part A of this chapter we consider, in order, operating leases, direct financing leases (capital leases to the lessee), and sales-type leases (capital leases to the lessee).

Operating Leases

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If a lease does not meet any of the criteria for a capital lease it is considered to be more in the nature of a rental agreement and is referred to as an **operating lease.**[10] We assume that the fundamental rights and responsibilities of ownership are retained by the lessor and that the lessee merely is using the asset temporarily. In keeping with that presumption, a sale is not recorded by the lessor; a purchase is not recorded by the lessee. Instead, the periodic rental payments are accounted for merely as rent by both parties to the transaction—rent revenue by the lessor, rent expense by the lessee.

LO4

Let's look at an example that illustrates the relatively straightforward accounting for operating leases. The earlier example comparing a capital lease to an installment purchase assumed rental payments at the *end* of each period. A more typical leasing arrangement requires rental payments at the *beginning* of each period. This more realistic payment schedule is assumed Illustration 15–1.

ILLUSTRATION 15–1

Application of Classification Criteria

On January 1, 2000, Sans Serif Publishers, Inc., a computer services and printing firm, leased a color copier from CompuDec Corporation.

The lease agreement specifies four annual payments of $100,000 beginning January 1, 2000, the inception of the lease, and at each January 1 through 2003. The useful life of the copier is estimated to be six years.

Before deciding to lease, Sans Serif considered purchasing the copier for its cash price of $479,079. If funds were borrowed to buy the copier, the interest rate would have been 10%.

How should this lease be classified? We apply the four classification criteria:

[8]"Accounting for Leases," *Statement of Financial Accounting Standards No. 13* (Stamford, Conn.: FASB, 1980).
[9]Later in the chapter we discuss ways this is done.
[10]The term operating lease got its name long ago when a lessee routinely received from the lessor an operator along with leased equipment.

ILLUSTRATION 15–1
concluded

1. Does the agreement specify that ownership of the asset transfers to the lessee?	No
2. Does this agreement contain a bargain purchase option?	No
3. Is the lease term equal to 75% or more of the expected economic life of the asset?	No (4 yrs < 75% of 6 yrs)
4. Is the present value of the minimum lease payments equal to or greater than 90% of the fair value of the asset?	No ($348,685 < 90% of $479,079)

$100,000 × 3.48685* = $348,685
Lease payments — Present value

Since none of the four classification criteria is met, this is an operating lease.

*Present value of an annuity due of $1: $n = 4$, $i = 10\%$. Recall from Chapter 6 that we refer to periodic payments at the beginning of each period as an *annuity due.*

Journal entries for Illustration 15–1 are shown in Illustration 15–1A.

ILLUSTRATION 15–1A
Journal Entries for an Operating Lease

The operating lease described in Illustration 15–1 is recorded as follows:

At Each of the Four Payment Dates

Sans Serif Publishers, Inc. (Lessee)		
Prepaid rent	100,000	
Cash		100,000
CompuDec Corporation (Lessor)		
Cash	100,000	
Unearned rent revenue		100,000

At the End of Each Year

Sans Serif Publishers, Inc. (Lessee)		
Rent expense	100,000	
Prepaid rent		100,000
CompuDec Corporation (Lessor)		
Unearned rent revenue	100,000	
Rent revenue		100,000
Depreciation expense	x,xxx	
Accumulated depreciation		x,xxx

At the beginning of the year, the rent payments are prepaid rent to the lessee and unearned rent to the lessor.

The lessor retains the asset on its books, and accordingly records depreciation on the asset.

In an operating lease, rent is recognized on a straight-line basis unless another systematic method more clearly reflects the benefits of the asset's use. So, if rental payments are uneven—for instance, if rent increases are scheduled—the total scheduled payments ordinarily would be expensed equally (straight-line basis) over the lease term.[11]

Advance Payments

Often lease agreements call for advance payments to be made at the inception of the lease that represent prepaid rent. For instance, it is common for a lessee to pay a bonus in return for negotiating more favorable lease terms. Such payments are recorded as prepaid rent and allocated (normally on a straight-line basis) to rent expense/rent revenue over the lease term. So the rent that is periodically reported in those cases consists of the periodic rent payments themselves plus an allocated portion of prepaid rent. This is demonstrated in Illustration 15–1B.

[11]"Accounting for Operating Leases With Scheduled Rent Increases," *FASB Technical Bulletin 85-3* (Stamford, Conn.: FASB, 1985), par. 1.

ILLUSTRATION 15–1B

Journal Entries—Operating Lease with Advance Payment

Assume Sans Serif paid a $40,000 bonus (advance payment) at the inception of the lease described in Illustration 15–1 in return for lower periodic payments—$90,000 each.

At the Inception of the Lease

Sans Serif Publishers, Inc. (Lessee)		
Prepaid rent (bonus payment)	40,000	
Cash		40,000
CompuDec Corporation (Lessor)		
Cash	40,000	
Unearned rent revenue (bonus payment)		40,000

At Each of the Four Payment Dates

Sans Serif Publishers, Inc. (Lessee)		
Prepaid rent (annual rent payment)	90,000	
Cash		90,000
CompuDec Corporation (Lessor)		
Cash	90,000	
Unearned rent revenue (annual rent payment)		90,000

At the End of Each Year

Sans Serif Publishers, Inc. (Lessee)		
Rent expense (annual rent)	90,000	
Prepaid rent		90,000
Rent expense (bonus allocation)	10,000	
Prepaid rent ($40,000 ÷ 4)		10,000
CompuDec Corporation (Lessor)		
Unearned rent revenue	90,000	
Rent revenue (annual rent)		90,000
Unearned rent revenue ($40,000 ÷ 4)	10,000	
Rent revenue (bonus allocation)		10,000
Depreciation expense	x,xxx	
Accumulated depreciation		x,xxx

Advance payments in operating leases are deferred and allocated to rent over the lease term.

Rent comprises the periodic rent payments plus an allocated portion of the advance payment.

Sometimes advance payments include security deposits that are refundable at the expiration of the lease or prepayments of the last period's rent. A refundable security deposit is recorded as a long-term receivable (by the lessee) and liability (by the lessor) unless it is not expected to be returned. A prepayment of the last period's rent is recorded as prepaid rent and allocated to rent expense/rent revenue during the last period of the lease term.

At times, lease agreements call for uneven rent payments during the term of the lease. One way this can occur is when the initial payment (or maybe several payments) is waived. This is called a **rent abatement.**

Alternatively, rent payments may be scheduled to increase periodically over the lease term. In any event, the total rent over the term of the lease is allocated to individual periods on a straight-line basis. This means the (temporarily) unpaid portion of rent expense must be credited to deferred rent expense payable until later in the lease term when rent payments exceed rent expense.

Leasehold Improvements

The cost of a *leasehold improvement* is depreciated over its useful life to the lessee.

Sometimes a lessee will make improvements to leased property that reverts back to the lessor at the end of the lease. If a lessee constructs a new building or makes modifications to existing structures, that cost represents an asset just like any other capital expenditure. Like other assets, its cost is allocated as depreciation expense over its useful life to the lessee, which will be the shorter of the physical life of the asset or the lease term.[12] Theoretically, such assets can be recorded in accounts descriptive of their nature, such as buildings or plant.

[12]If the agreement contains an option to renew, and the likelihood of renewal is uncertain, the renewal period is ignored.

In practice, the traditional account title used is **leasehold improvements.**[13] In any case, the undepreciated cost usually is reported in the balance sheet under the caption *property, plant, and equipment.* Movable assets like office furniture and equipment that are not attached to the leased property are not considered leasehold improvements.

Let's turn our attention now to accounting for leases that meet the criteria and conditions for classification as nonoperating leases by both the lessee and the lessor.

Nonoperating Leases–Lessee and Lessor

LO5

In the operating lease illustration, we assumed Sans Serif leased a copier directly from its manufacturer. Now let's assume a financial intermediary provided financing by acquiring the copier and leasing it to the user. And to temporarily avoid unnecessary confusion that adjusting entries might create, the example in Illustration 15–2 assumes that the inception of the lease, as well as subsequent rental payments, are made at the end of both companies' fiscal years.[15]

A lease that transfers substantially all of the benefits and risks incident to ownership of property should be accounted for as the acquisition of an asset and the incurrence of an obligation by the lessee and as a sale or financing by the lessor.[14]

ILLUSTRATION 15–2

Nonoperating Leases

On December 31, 1999, Sans Serif Publishers, Inc., leased a copier from First LeaseCorp. First LeaseCorp purchased the equipment from CompuDec Corporation at a cost of $479,079.

The lease agreement specifies annual payments beginning December 31, 1999, the inception of the lease, and at each December 31 through 2004. The six-year lease term is equal to the estimated useful life of the copier.

First LeaseCorp routinely acquires electronic equipment for lease to other firms. The interest rate in these financing arrangements is 10%.

Since the lease term is equal to the expected useful life of the copier (>75%), the transaction must be recorded by the lessee as a **capital lease.**[16] If we assume also that collectibility of the lease payments and any costs to the lessor that are yet to be incurred are reasonably predictable, this qualifies also as a **direct financing lease** to First LeaseCorp. To achieve its objectives, First LeaseCorp must (a) recover its $479,079 investment as well as (b) earn interest revenue at a rate of 10%. So, the lessor determined that annual rental payments would be $100,000:

Rental payments are calculated such that their present value is equal to the lessor's cost.

$$\underset{\text{Lessor's cost}}{\$479{,}079} \div 4.79079^{*} = \underset{\text{Rental payments}}{\$100{,}000}$$

*Present value of an annuity due of $1: $n = 6$, $i = 10\%$.

Of course, Sans Serif Publishers, Inc., views the transaction from the other side. The price the lessee pays for the copier is the present value of the rental payments:

$$\underset{\text{Rental payments}}{\$100{,}000} \times 4.79079^{*} = \underset{\text{Lessee's cost}}{\$479{,}079}$$

*Present value of an annuity due of $1: $n = 6$, $i = 10\%$.

Journal Entries at Inception—Direct Financing Lease

Direct Financing Lease (December 31, 1999)*

Sans Serif Publishers, Inc. (Lessee)		
Leased equipment (present value of lease payments)	479,079	
Lease payable (present value of lease payments)		479,079
First LeaseCorp (Lessor)		
Lease receivable (gross sum of lease payments)*	600,000	
Unearned interest revenue (difference)		120,921
Inventory of equipment (lessor's cost)		479,079

Lessee

Net Payable
$479,079

Lessor

Gross Rec'ble	Unearned Interest	Net Rec'ble
$600,000	(120,921)	$479,079

[13]Also, traditionally, depreciation sometimes is labeled amortization when in connection with leased assets and leasehold improvements. This is of little consequence. Remember, both depreciation and amortization refer to the process of allocating an asset's cost over its useful life.

[14]"Accounting for Leases," *Statement of Financial Accounting Standards No. 13* (Stamford, Conn.: FASB, 1980).

[15]We relax this assumption and consider accrued interest in a later section.

[16]The fourth criterion also is met. The present value of lease payments ($479,079) is 100% (>90%) of the fair value of the copier ($479,079). Meeting any one of the four criteria is sufficient.

ILLUSTRATION 15–2
concluded

Lessee		
		Net Payable
		$479,079
		(100,000)
		$379,079
Lessor		
Gross Rec'ble	Unearned Interest	Net Rec'ble
$600,000	(120,921)	$479,079
(100,000)	0	(100,000)
$500,000	(120,921)	$379,079

First Lease Payment (December 31, 1999)†

Sans Serif Publishers, Inc. (Lessee)		
Lease payable	100,000	
Cash		100,000
First LeaseCorp (Lessor)		
Cash	100,000	
Lease receivable		100,000

*In the disclosure notes, the lease receivable is reported as the lessor's gross investment in the lease.
†Of course, the entries to record the lease and the first payment could be combined into a single entry since they occur at the same time.

Traditionally, the lessee uses the **net method** to record leases, and the lessor uses the **gross method.**[17] As you study the entries in Illustration 15–2, keep in mind that both methods achieve the same result, and theoretically either method could be used.

A leased asset is recorded by the lessee at the present value of the *minimum lease payments* or the asset's fair value, whichever is lower.

The amount recorded (capitalized) by the lessee is the present value of the **minimum lease payments.** However, if the fair value of the asset is lower than this amount, the recorded value of the asset should be limited to fair value. Unless the lessor is a manufacturer or dealer, the fair value typically will be the lessor's cost ($479,079 in this case). However, if considerable time has elapsed between the purchase of the property by the lessor and the inception of the lease, the fair value might be different. When the lessor is a manufacturer or dealer, the fair value of the property at the inception of the lease ordinarily will be its normal selling price (reduced by any volume or trade discounts). We study this situation (a sales-type lease) later. In unusual cases, market conditions may cause fair value to be less than the normal selling price.

Interest is a function of time. It accrues at the effective rate on the balance outstanding during the period.

Be sure to note that the entire $100,000 first rental payment is applied to principal reduction.[18] Because it occurred at the inception of the lease, no interest had yet accrued. Subsequent rental payments include interest on the outstanding balance as well as a residual portion that reduces that outstanding balance. As of the second rental payment date, one year's interest has accrued on the $379,079 balance outstanding during 2000, recorded as in Illustration 15–2A.

ILLUSTRATION 15–2A
Journal Entries for the Second Lease Payment

Lessee		
		Net Payable
		$479,079
		(100,000)
		$379,079
		(62,092)
		$316,987
Lessor		
Gross Rec'ble	Unearned Interest	Net Rec'ble
$600,000	(120,921)	$479,079
(100,000)	0	(100,000)
$500,000	(120,921)	$379,079
(100,000)	37,908	(62,092)
$400,000	(83,013)	$316,987

Second Lease Payment (December 31, 2000)

Sans Serif Publishers, Inc. (Lessee)		
Interest expense [10% × ($479,079 − 100,000)]	37,908	
Lease payable (difference)	62,092	
Cash (rental payment)		100,000
First LeaseCorp (Lessor)		
Cash (rental payment)	100,000	
Lease receivable		100,000
Unearned interest revenue	37,908	
Interest revenue [10% × ($600,000 − 120,921 − 100,000)]		37,908

Notice that by either the net method (lessee) or the gross method (lessor), the outstanding balance is reduced by $62,092—the portion of the $100,000 payment remaining after interest is covered. The lease liability is reduced directly; the reduction in the net receivable is the combined effect of reducing the gross receivable by $100,000 and unearned interest revenue, a valuation (contra) account, by $37,908.[19]

[17] *SFAS 13* does not specifically mandate the methods to be used, but illustrations provided in the Standard portray the net method for the lessee and the gross method for the lessor. As indicated later in the chapter, both the lessee and the lessor must report in disclosure notes *both* the gross and net amounts of the lease.
[18] Another way to view this is to think of the first $100,000 as a down payment with the remaining $379,079 financed by 5 (i.e., 6 − 1) *year-end* lease payments.
[19] Note that unearned interest revenue is not a liability, as you might assume from the account title. Unlike other unearned revenue accounts for which the cash is received in advance of the revenue being earned (and thus a liability), this account represents interest revenue that will be both received and earned periodically over the lease term. The account is analogous to the discount on notes receivable or on bond investment when those investments are recorded by the gross method.

The amortization schedule in Graphic 15–5 shows how the lease balance and the effective interest change over the six-year lease term.

GRAPHIC 15–5

Lease Amortization Schedule

The first rental payment includes no interest.

The total of the cash payments ($600,000) provides for:
1. Payment for the copier ($479,079).
2. Interest ($120,921) at an effective rate of 10%.

Dec. 31	Payments	Effective Interest	Decrease in Balance	Outstanding Balance
		(10% × Outstanding balance)		
1999				479,079
1999	100,000		100,000	379,079
2000	100,000	.10(379,079) = 37,908	62,092	316,987
2001	100,000	.10(316,987) = 31,699	68,301	248,686
2002	100,000	.10(248,686) = 24,869	75,131	173,555
2003	100,000	.10(173,555) = 17,355	82,645	90,910
2004	100,000	.10 (90,910) = 9,090*	90,910	0
	600,000	120,921*	479,079	

*Adjusted for rounding of other numbers in the schedule.

Each rental payment after the first includes both an amount that represents interest and an amount that represents a reduction of principal. The periodic reduction of principal is sufficient that, at the end of the lease term, the outstanding balance is zero.

An interesting aspect of the amortization schedule that you may want to note at this point relates to a disclosure requirement that we discuss at the end of the chapter. Among other things, the lessee and lessor must report separately the current and noncurrent portions of the outstanding lease balance. Both amounts are provided by the amortization schedule. For example, if we want the amounts to report on the 2000 balance sheet, refer to the next row of the schedule. The portion of the 2001 payment that represents principal ($68,301) is the *current* (as of December 31, 2000) balance. The *noncurrent* amount is the balance outstanding after the 2001 reduction ($248,686). These amounts are the current and noncurrent lease liability for the lessee and the current and noncurrent net investment for the lessor.

Depreciation

Depreciation is recorded for leased assets in a manner consistent with the lessee's usual policy for depreciating its operational assets.

Because a capital lease assumes the lessee purchased the asset, the lessee depreciates its cost.

	End of Each Year	
Sans Serif Publishers, Inc. (Lessee)		
Depreciation expense ($479,079 ÷ 6 years*)	79,847	
Accumulated depreciation		79,847

*If the lessee depreciates assets by the straight-line method.

The depreciation period is restricted to the lease term unless the lease provides for transfer of title or a BPO.

Depreciation Period. The lessee normally should depreciate a leased asset over the term of the lease. However, if ownership transfers or a bargain purchase option is present (i.e., either of the first two classification criteria is met), the asset should be depreciated over its useful life. This means depreciation is recorded over the useful life of the asset to the lessee.

A description of leased assets and related depreciation provided in a recent disclosure note (Graphic 15–6) of Fruit of the Loom, Inc., is representative of leased asset disclosures.

GRAPHIC 15–6

Disclosure of Leased Assets–Fruit of the Loom, Inc.

Lease Commitments (in part)
Assets recorded under capital leases are included in Property, Plant, and Equipment as follows (in thousands of dollars):

GRAPHIC 15–6
concluded

	Jan. 2, 1999	Dec. 31, 1997
Land	$ 8,300	$ 7,800
Buildings, structures and improvements	23,500	22,800
Machinery and equipment	3,800	3,800
	35,600	34,400
Less accumulated depreciation	(17,000)	(15,800)
	$18,600	$18,600

Rental expense for operating leases amounted to $38,100,000, $36,500,000, and $35,900,000 in 1998, 1997, and 1996, respectively.

Accrued Interest

At each financial statement date, any interest that has accrued since interest was last recorded must be accrued for all liabilities and receivables, including those relating to leases.

If a company's reporting period ends at any time between payment dates, it is necessary to record (as an adjusting entry) any interest that has accrued since interest was last recorded. We purposely avoided this step in the previous illustration by assuming that the lease agreement specified rental payments on December 31—the end of the reporting period. But if payments were made on another date, or if the company's fiscal year ended on a date other than December 31, accrued interest would be recorded prior to preparing financial statements. For example, if the inception of the lease had been a day later (January 1, 2000) and rental payments were made on January 1 of each year, the effective interest amounts shown in the lease amortization schedule still would be appropriate but would be recorded one day prior to the actual rental payment. For instance, the second cash payment of $100,000 would occur on January 1, 2000, but the interest component of that payment ($37,908) would be accrued a day earlier as shown in Illustration 15–2B.

ILLUSTRATION 15–2B
Journal Entries When Interest Is Accrued Prior to the Lease Payment

Lessee			Lessor		
		Net Payable	Gross Rec'ble	Unearned Interest	Net Rec'ble
		$479,079	$600,000	(120,921)	$479,079
		(100,000)	(100,000)	0	(100,000)
		$379,079	$500,000	(120,921)	$379,079
		(62,092)	(100,000)	37,908	(62,092)
		$316,987	$400,000	(83,013)	$316,987

December 31, 2000 (to accrue interest)		
Sans Serif Publishers, Inc. (Lessee)		
Interest expense [10% × ($479,079 − 100,000)]	37,908	
Interest payable		37,908
First LeaseCorp (Lessor)		
Unearned interest revenue	37,908	
Interest revenue [10% × ($479,079 − 100,000)]		37,908
Second Lease Payment (January 1, 2001)		
Sans Serif Publishers, Inc. (Lessee)		
Interest payable (from adjusting entry above)	37,908	
Lease payable (difference)	62,092	
Cash (rental payment)		100,000
First LeaseCorp (Lessor)		
Cash (rental payment)	100,000	
Lease receivable		100,000

Notice that this is consistent with recording accrued interest on any debt, whether in the form of a note, a bond, or a lease.

We assumed in this illustration that First LeaseCorp bought the copier for $479,079 and then leased it for the same price. There was no profit on the "sale" itself. The only income derived by the lessor was interest revenue earned over the lease term. In effect, First LeaseCorp financed the purchase of the copier by Sans Serif Publishers. This type of lease is a direct financing lease. This kind of leasing is a thriving industry. It is a profitable part of operations for banks and other financial institutions (Citicorp is one of the largest). Some leasing companies do nothing else. Often leasing companies, like IBM Credit Corporation, are subsidiaries of larger corporations, formed for the sole purpose of conducting financing activities for their parent corporations.

CONCEPT REVIEW EXERCISE

Direct Financing Lease

United Cellular Systems leased a satellite transmission device from Pinnacle Leasing Services on January 1, 2001. Pinnacle paid $625,483 for the transmission device. Its fair market value is $625,483.

Terms of the Lease Agreement and Related Information:

Lease term	3 years (6 semiannual periods)
Semiannual rental payments	$120,000 – beginning of each period
Economic life of asset	3 years
Implicit interest rate	12%
(Also lessee's incremental borrowing rate)	

Required:

1. Prepare the appropriate entries for both United Cellular Systems and Pinnacle Leasing Services on January 1, the inception of the lease.
2. Prepare an amortization schedule that shows the pattern of interest expense for United Cellular Systems and interest revenue for Pinnacle Leasing Services over the lease term.
3. Prepare the appropriate entries to record the second lease payment on July 1, 2001, and adjusting entries on December 31, 2001 (the end of both companies' fiscal years).

SOLUTION

1. Prepare the appropriate entries for both United Cellular Systems and Pinnacle Leasing Services on January 1, the inception of the lease.

Calculation of the present value of minimum lease payments.

Present value of periodic rental payments:

($120,000 × 5.21236*) = $625,483

*Present value of an annuity due of $1: $n = 6$, $i = 6\%$.

January 1, 2001

United Cellular Systems (Lessee)		
Leased equipment (calculated above)	625,483	
Lease payable (calculated above)		625,483
Lease payable	120,000	
Cash (rental payment)		120,000
Pinnacle Leasing Services (Lessor)		
Lease receivable ($120,000 × 6)	720,000	
Unearned interest revenue ($720,000 – 625,483)		94,517
Inventory of equipment (lessor's cost)		625,483
Cash (rental payment)	120,000	
Lease receivable		120,000

2. Prepare an amortization schedule that shows the pattern of interest expense for United Cellular Systems and interest revenue for Pinnacle Leasing Services over the lease term.

	Payments	Effective Interest (6% × Outstanding balance)	Decrease in Balance	Outstanding Balance
1/1/01				625,483
1/1/01	120,000		120,000	505,483
7/1/01	120,000	.06(505,483) = 30,329	89,671	415,812
1/1/02	120,000	.06(415,812) = 24,949	95,051	320,761
7/1/02	120,000	.06(320,761) = 19,246	100,754	220,007
1/1/03	120,000	.06(220,007) = 13,200	106,800	113,207
7/1/03	120,000	.06(113,207) = 6,793*	113,207	0
	720,000	94,517	625,483	

*Adjusted for rounding of other numbers in the schedule.

3. Prepare the appropriate entries to record the second lease payment on July 1, 2001, and adjusting entries on December 31, 2001 (the end of both companies' fiscal years).

July 1, 2001

United Cellular Systems (Lessee)		
Interest expense (6% × [$625,483 − 120,000])	30,329	
Lease payable (difference)	89,671	
Cash (rental payment)		120,000
Pinnacle Leasing Services (Lessor)		
Cash (rental payment)	120,000	
Lease receivable (rental payment)		120,000
Unearned interest revenue	30,329	
Interest revenue (6% × [$625,483 − 120,000])		30,329

December 31, 2001

United Cellular Systems (Lessee)		
Interest expense (6% × $415,812: from schedule)	24,949	
Interest payable		24,949
Depreciation expense ($625,483 ÷ 3 years)	208,494	
Accumulated depreciation		208,494
Pinnacle Leasing Services (Lessor)		
Unearned interest revenue	24,949	
Interest revenue (6% × $415,812: from schedule)		24,949

Let's turn our attention now to situations in which the lessors are manufacturers or retailers and use lease arrangements as a means of selling their products.

Sales-Type Leases

LO6

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A **sales-type lease** differs from a direct financing lease in only one respect. In addition to interest revenue earned over the lease term, the lessor receives a manufacturer's or dealer's profit on the "sale" of the asset.[20] This additional profit exists when the fair value of the asset (usually the present value of the minimum lease payments, or "selling price") exceeds the cost or carrying value of the asset sold. Accounting for a sales-type lease is the same as for a direct financing lease except for recognizing the profit at the inception of the lease.[21]

To illustrate, let's modify our previous illustration. Assume all facts are the same except Sans Serif Publishers leased the copier directly from CompuDec Corporation, rather than through the financing intermediary. Also assume CompuDec's cost of the copier was $300,000. If you recall that the lease payments (their present value) provide a selling price of $479,079, you see that CompuDec receives a gross profit on the sale of $479,079 − 300,000 = $179,079. This sales-type lease is demonstrated in Illustration 15–3.

ILLUSTRATION 15–3
Sales-Type Lease

On December 31, 1999, Sans Serif Publishers, Inc., leased a copier from CompuDec Corporation at a price of $479,079.

The lease agreement specifies annual payments of $100,000 beginning December 31, 1999, the inception of the lease, and at each December 31 through 2004. The six-year lease term is equal to the estimated useful life of the copier.

CompuDec manufactured the copier at a cost of $300,000.

CompuDec's interest rate for financing the transaction is 10%.

[20] A lessor need not be a manufacturer or a dealer for the arrangement to qualify as a sales-type lease. The existence of a profit (or loss) on the sale is the distinguishing factor.

[21] It is possible that the asset's carrying value will exceed its fair value, in which case a dealer's loss should be recorded.

ILLUSTRATION 15–3
concluded

Sales revenue	$479,079
− COGS	300,000
Dealer's profit	$179,079

Sales-Type Lease*

CompuDec Corporation (Lessor)

Lease receivable ($100,000 × 6)	600,000	
Cost of goods sold (lessor's cost)	300,000	
Sales revenue (present value of the minimum lease payments)		479,079
Unearned interest revenue ($600,000 − 479,079)		120,921
Inventory of equipment (lessor's cost)		300,000

First Lease Payment*

CompuDec Corporation (Lessor)

Cash	100,000	
Lease receivable		100,000

Remember, no interest has accrued when the first payment is made at the inception of the lease.

*Of course, the entries to record the lease and the first payment could be combined into a single entry:

Lease receivable ($600,000 − $100,000)	500,000	
Cost of goods sold	300,000	
Cash	100,000	
Unearned interest revenue		120,921
Sales revenue		479,079
Inventory of equipment		300,000

Recording a sales-type lease is similar to recording a sale of merchandise on account:

A/R ..... {price}
Sales rev. ..... {price}
COGS ..... {cost}
Inventory ..... {cost}

You should recognize the similarity between recording both the revenue and cost components of this sale by lease and recording the same components of other sales transactions. As in the sale of any product, gross profit is the difference between sales revenue and cost of goods sold.

All entries other than the entry at the inception of the lease, which includes the gross profit on the sale, are the same for a sales-type lease and a direct financing lease.

Accounting by the lessee is not affected by how the lessor classifies the lease. All lessee entries are precisely the same as in the previous illustration of a direct financing lease.

Graphic 15–7 shows the relationships among various lease components, using dollar amounts from the previous illustration.

GRAPHIC 15–7
Lease Payment Relationships

Lessor: SALES-TYPE LEASE		Lessee: CAPITAL LEASE
Gross Investment in Lease*	**$600,000**	**Minimum Lease Payments**
	Less: Interest during lease term ($120,921)	
	Equals:	
Selling Price (present value of payments)	**$479,079**	**Purchase Price** (present value of payments)
	Less: Profit on sale† ($179,079)	
	Equals:	
Cost to Lessor	**$300,000**	(irrelevant to lessee)

The difference between the total payments and their present value (selling price of the asset) represents interest.

If the price is higher than the cost to the lessor, the lessor realizes a profit on the sale.

*The lessor's gross investment in the lease also would include any *unguaranteed* residual value in addition to the minimum lease payments. Also, any residual value guaranteed by the lessee is included in the minimum lease payments (both companies). We address these issues later in the chapter.
†If profit is zero, this would be a direct financing lease.

GLOBAL PERSPECTIVE

In Japan and Italy, there are no accounting requirements regarding nonoperating leases. All leases in those countries are accounted for as operating leases by both lessees and lessors. Most other industrial nations differentiate between operating and nonoperating leases. The criteria for drawing the distinction, though, vary widely from country to country. In Denmark and Sweden, capitalizing is optional.

PART B

OTHER LEASE ACCOUNTING ISSUES

Residual Value

LO7

The **residual value** of leased property is an estimate of what its commercial value will be at the end of the lease term. In our previous examples of nonoperating leases, we assumed that the residual value was negligible. But now let's consider the economic effect of a leased asset that does have a residual value and how that will affect the way both the lessee and the lessor account for the lease agreement.

Suppose the copier leased in Illustration 15–3 was expected to be worth $60,000 at the end of the six-year lease term. Should this influence the lessor's (CompuDec) calculation of periodic rental payments? Other than the possible influence on rental payments, should the lessee (Sans Serif Publishers) be concerned with the residual value of the leased assets? The answer to both questions is maybe. We'll use modified Illustration 15–4 to see why.

ILLUSTRATION 15–4
Residual Value

On December 31, 1999, Sans Serif Publishers, Inc., leased a color copier from CompuDec Corporation at a price of $479,079. The lease agreement specifies annual payments beginning December 31, 1999, the inception of the lease, and at each December 31 through 2004. The estimated useful life of the copier is seven years. At the end of the six-year lease term the copier is expected to be worth $60,000.

CompuDec manufactured the copier at a cost of $300,000.*
CompuDec's interest rate for financing the transaction is 10%.

*This provision is to be consistent with Illustration 15–3 which described a sales-type lease. However, our discussion of the effect of a residual value would be precisely the same if our illustration were of a direct financing lease (for instance, if the lessor's cost were $479,079) except that, of course, neither sales revenue nor cost of goods sold would be recorded in a direct financing lease.

In deciding whether the residual value affects how the lease is recorded, the first question that influences the answer is "Who gets the residual value?"

Who Gets the Residual Value?

If the *lessee* obtains title, the lessor's computation of rental payments is unaffected by any residual value.

Lessee Obtains Title. Consider CompuDec (the lessor) first. Suppose Sans Serif will own the copier at the end of the lease term—by transfer of title or by the expected exercise of a bargain purchase option. In that case, it is Sans Serif, not CompuDec, who will benefit by the residual value. So the lessor can't count on the $60,000 residual value to help recover its $479,079 investment. The lessor's computation of rental payments of $100,000 therefore is unaffected by the residual value.

On the other side of the transaction, the residual value influences the lessee only by the fact that depreciation calculations reflect a reduced depreciable amount. However, in determining the amount to capitalize as a leased asset and to record as a lease liability, the residual value is ignored. The capitalized amount is simply the present value of the minimum lease payments.

If the lessor retains title, the amount to be recovered through periodic lease payments is reduced by the present value of the residual amount.

Lessor Retains Title. On the other hand, if CompuDec retains title to the asset, then it would anticipate receiving the $60,000 residual value at the conclusion of the lease term. That amount would contribute to the total amount to be recovered by the lessor and would reduce the amount needed to be recovered from the lessee through periodic rental payments. The amount of each payment would be reduced from $100,000 to $92,931, calculated in Illustration 15–4A.

ILLUSTRATION 15–4A

Lessor's Calculation of Rental Payments When Lessor Retains Residual Value

Amount to be recovered (fair market value)	$479,079
Less: Present value of the residual value ($60,000 × .56447*)	(33,868)
Amount to be recovered through periodic rental payments	$445,211
Rental payments at the beginning of each of the next six years: ($445,211 ÷ 4.79079†)	$ 92,931

*Present value of $1: $n = 6$, $i = 10\%$.
†Present value of an annuity due of $1: $n = 6$, $i = 10\%$.

On the other side of the transaction, the lessee (Sans Serif Publishers) considers the purchase price of the copier to include, at a minimum, the present value of the periodic rental payments ($445,211):

$$\underset{\text{Rental payments}}{\$92{,}931} \times 4.79079^{*} = \underset{\text{Present value}}{\$445{,}211^{\dagger}}$$

*Present value of an annuity due of $1: $n = 6$, $i = 10\%$.
†The multiplication actually produces $445,212.9. We use $445,211 to be consistent with the lessor's calculation ($445,211 ÷ 4.79079 = $92,931). The difference is due to rounding.

Whether or not the lessee's cost also includes an amount due to the residual value depends on whether the residual value is viewed as an additional "payment" by the lessee. It is viewed as an additional payment when the lessee *guarantees* the residual value to be a particular amount at the end of the lease term.

When the Residual Value Is Guaranteed

Sometimes the lease agreement includes a guarantee by the lessee that the lessor will recover a specified residual value when custody of the asset reverts back to the lessor at the end of the lease term. This not only reduces the lessor's risk but also provides incentive to the lessee to exercise a higher degree of care in maintaining the leased asset than it otherwise might. The lessee promises to return not only the property but also sufficient cash to provide the lessor with a minimum combined value. In effect, the guaranteed residual value is an additional lease payment that is to be paid in property, or cash, or both. As such, it is included in the minimum lease payments and affects the amount the lessee records as both a leased asset and a lease liability, as shown in Illustration 15–4B.

ILLUSTRATION 15–4B

Lessee's Calculation of the Present Value of Minimum Lease Payments Including a Guaranteed Residual Value

Present value of periodic rental payments ($92,931 × 4.79079*)	$445,211
Plus: Present value of the residual value ($60,000 × .56447)†	33,868
Present value of minimum lease payments (Recorded as a leased asset and a lease liability)	$479,079

*Present value of an annuity due of $1: $n = 6$, $i = 10\%$.
†Present value of $1: $n = 6$, $i = 10\%$.

You should notice that the lessee's calculation of the amount to capitalize is precisely the reverse of the lessor's calculation of periodic rental payments. This is because when the residual value is guaranteed, both view it as an additional lease payment. In accordance with *SFAS 13,* the guaranteed residual value is a component of the minimum lease payments for both the lessor and lessee.[22] We see in Graphic 15–8 how this affects the accounting for the lease as reflected in the lease amortization schedule for CompuDec and Sans Serif.

[22]Later you will see that when the residual value is *not* guaranteed, it is *not* considered a component of minimum lease payments for either the lessor or the lessee; but it still is considered a part of the lessor's gross investment in the lease and affects the amount of periodic lease payments.

GRAPHIC 15–8

Amortization Schedule with Residual Value

As long as the asset (and its residual value) revert back to the lessor, the lessor views the residual value as an additional component of its investment in the lease.

The lessee views it as an additional payment only if the residual value is guaranteed by the lessee.

Dec. 31	Payments	Effective Interest	Decrease in Balance	Outstanding Balance
		(10% × Outstanding balance)		
1999				479,079
1999	92,931		92,931	386,148
2000	92,931	.10(386,148) = 38,615	54,316	331,832
2001	92,931	.10(331,832) = 33,183	59,748	272,084
2002	92,931	.10(272,084) = 27,208	65,723	206,361
2003	92,931	.10(206,361) = 20,636	72,295	134,066
2004	92,931	.10(134,066) = 13,407	79,524	54,542
2005	60,000	.10 (54,542) = 5,458*	54,542	0
	617,586	138,507	479,079	

*Adjusted for rounding of other numbers in the schedule.

You should notice several points the amortization schedule reveals. First, the six periodic cash payments are now $92,931 as we calculated previously. Notice also that we now include the $60,000 residual value as an additional lease payment. Despite the different composition of the minimum lease payments, their present value ($479,079) is the same as when we assumed $100,000 periodic payments and no residual value. However, the effective interest that will be recorded over the lease term (as interest expense by the lessee and interest revenue by the lessor) now is more: $138,507. (It was $120,921 before.) The higher interest reflects the fact that payments are farther in the future, causing the outstanding lease balances (and interest on those balances) to be higher during the lease term. Also, note that the total of the lease payments now is more: $617,586. (It was $600,000 before.) This total is referred to as the lessor's **gross investment in the lease** and, as shown in Illustration 15–4C, initially is recorded by the lessor as the lease receivable:[23]

The lessor's *gross investment in the lease* is the total of periodic rental payments and any residual value.

ILLUSTRATION 15–4C

Sales-Type Lease with Guaranteed Residual Value

Sales revenue	$479,079
−COGS	300,000
Dealer's profit	$179,079

Sales-Type Lease, December 31, 1999

Sans Serif Publishers, Inc. (Lessee)		
Leased equipment (present value of lease payments)	479,079	
Lease payable (present value of lease payments)		479,079
CompuDec Corporation (Lessor)		
Lease receivable [($92,931 × 6) + $60,000]	617,586	
Cost of goods sold (lessor's cost)	300,000	
Sales revenue (present value of minimum lease payments*)		479,079
Unearned interest revenue ($617,586 − 479,079)		138,507
Inventory of equipment (lessor's cost)		300,000

First Lease Payment, December 31, 1999

Sans Serif Publishers, Inc. (Lessee)		
Lease payable	92,931	
Cash		92,931
CompuDec Corporation (Lessor)		
Cash	92,931	
Lease receivable		92,931

*Minimum lease payments include the residual value because it's guaranteed.

Notice, too, that the timing of the $60,000 payment is December 31, 2005, the end of the lease term. Remember, the final periodic cash payment on December 31, 2004, is at the beginning of the final year. The journal entries that accompany this final cash payment are shown in Illustration 15–4D.

[23]Under the net method, the net investment in the lease ($479,079) would be recorded as the lessor's lease receivable.

ILLUSTRATION 15–4D

Entries to Accompany Final Periodic Payment

The residual value reduces the asset's depreciable cost to $419,079.

As the outstanding balance becomes less toward the end of the lease term, the portion of each payment that represents interest also becomes less.

December 31, 2004		
Sans Serif Publishers, Inc. (Lessee)		
Depreciation expense [($479,079 − 60,000)* ÷ 6 years]	69,847	
Accumulated depreciation		69,847
Interest expense (10% × outstanding balance)	13,407	
Lease payable (difference)	79,524	
Cash (rental payment)		92,931
CompuDec Corporation (Lessor)		
Cash (rental payment)	92,931	
Lease receivable		92,931
Unearned interest revenue	13,407	
Interest revenue (10% × outstanding balance)		13,407

*The depreciable cost is reduced by the lessee-guaranteed residual value.

At December 31, 2005, the lessee's book value of the fully depreciated copier is its $60,000 estimated residual value. If we assume that the actual residual value also is at least $60,000, then the lessee is not obligated to pay cash in addition to returning the copier to the lessor (demonstrated in Illustration 15–4E).[24]

ILLUSTRATION 15–4E

End of Lease Term—Actual Residual Value Equals the Guaranteed Amount

The sixth and final depreciation charge increases the balance in accumulated depreciation to $419,079.

The copier is reinstated on the books of the lessor at its fair value at the end of the lease term.

December 31, 2005		
Sans Serif Publishers, Inc. (Lessee)		
Depreciation expense [($479,079 − 60,000)* ÷ 6 years]	69,847	
Accumulated depreciation		69,847
Interest expense (10% × outstanding balance)	5,458	
Lease payable (difference)	54,542	
Accumulated depreciation (account balance)	419,079	
Leased equipment (account balance)		479,079
CompuDec Corporation (Lessor)		
Inventory of equipment (residual value)	60,000	
Lease receivable (account balance)		60,000
Unearned interest revenue (account balance)	5,458	
Interest revenue (10% × outstanding balance)		5,458

*The depreciable cost is reduced by the lessee-guaranteed residual value.

However, if we assume that the actual residual value at December 31, 2005, is only $25,000, then the lessee is obligated to pay $35,000 cash to the lessor in addition to returning the copier. The lessee records this payment as a loss.[25]

When the Residual Value Is Not Guaranteed

If the lessee doesn't guarantee the residual value, the asset and liability are recorded as the PV of periodic rental payments only.

The previous example demonstrates that when the residual value is guaranteed, both the lessor and lessee view it as a component of minimum lease payments. But what if the lessee does *not* guarantee the residual value? In that case, the lessee is not obligated to make any payments other than the periodic rental payments. As a result, the present value of the minimum lease payments—recorded as a leased asset and a lease liability—is simply the present value of periodic rental payments ($445,211). The same is true when the residual value is guaranteed by a third-party guarantor. (Insurance companies sometimes assume this role.)

[24]If the actual value is *more* than the estimated residual value, the lessor may realize a gain if and when the asset subsequently is sold, but the potential gain does not affect the entries at the end of the lease term.

[25]Sometimes by mutual agreement the lessee will sell the leased asset at the end of the lease term and remit the proceeds (plus any deficiency under the guarantee) to the lessor.

The lessor's minimum lease payments include a residual value only if it is guaranteed (by either the lessee or a third party guarantor).

From the lessor's perspective, the residual value is a component of minimum lease payments only if it is guaranteed (by either the lessee or a third-party guarantor). Yet, even if it is not guaranteed, the residual value is viewed as a component of the lessor's gross investment in the lease. So, if we modify the previous illustration to assume the residual value is not guaranteed, the lessor's gross investment still is $617,586 [($92,931 × 6) + $60,000], but the sales revenue is only $445,211—the present value of the minimum lease payments. In other words, sales revenue includes the present value only of the periodic rental payments, not the unguaranteed residual value. Cost of goods sold is similarly reduced by the present value of the unguaranteed residual value, as shown in Illustration 15–4F.

ILLUSTRATION 15–4F

Sales-Type Lease with Unguaranteed Residual Value

Dealer's profit is the same as when the residual value is guaranteed because both sales revenue and COGS are reduced by the same amounts.

Sales-Type Lease		
Sans Serif Publishers, Inc. (Lessee)		
Leased equipment (present value of lease payments)	445,211	
Lease payable (present value of lease payments)		445,211
CompuDec Corporation (Lessor)		
Lease receivable ([$92,931 × 6] + $60,000)	617,586	
Cost of goods sold ($300,000 − 33,868)	266,132	
Sales revenue ($479,079 − 33,868)*		445,211
Unearned interest revenue ($617,586 − 479,079)		138,507
Inventory of equipment (lessor's cost)		300,000
First Lease Payment		
Sans Serif Publishers, Inc. (Lessee)		
Lease payable	92,931	
Cash		92,931
CompuDec Corporation (Lessor)		
Cash	92,931	
Lease receivable		92,931

*Also can be calculated as the present value of the lessor's minimum lease payments, which do not include the unguaranteed residual value.

When the lessee doesn't guarantee the residual value, the lessee's net liability and the lessor's net receivable will differ because the former does not include the unguaranteed residual amount.

Sales revenue does not include the unguaranteed residual value because the revenue to be recovered from the lessee is lease payments only. The remainder of the lessor's gross investment is to be recovered—not from payment by the lessee (as is presumed when the residual value is guaranteed), but by selling, re-leasing, or otherwise obtaining value from the asset when it reverts back to the lessor. You might want to view the situation this way: The portion of the asset sold is the portion not represented by the unguaranteed residual value. So, both the asset's cost and its selling price are reduced by the present value of the portion not sold.

The lessor's net lease receivable is $479,079, as described in an earlier amortization schedule, even when the residual value is not guaranteed. However, the lessee's lease liability would be only $445,211 at the inception of the lease and would become zero with the final payment at the beginning of the final year, with reductions occurring in accordance with the pattern described by the schedule in Graphic 15–9.

GRAPHIC 15–9

Lessee's Amortization Schedule—Residual Value Not Guaranteed

Because the lessee does not guarantee the residual value, the lessee does not consider it to be an additional lease payment.

Dec. 31	Payments	Effective Interest (10% × Outstanding balance)	Decrease in Balance	Outstanding Balance
1999				445,211
1999	92,931		92,931	352,280
2000	92,931	.10(352,280) = 35,228	57,703	294,577
2001	92,931	.10(294,577) = 29,458	63,473	231,104
2002	92,931	.10(231,104) = 23,110	69,821	161,283
2003	92,931	.10(161,283) = 16,128	76,803	84,480
2004	92,931	.10 (84,480) = 8,451*	84,480	0
	557,586	112,375*	445,211*	

*Adjusted for rounding of other numbers in the schedule.

When the residual value is not guaranteed, the lessor bears any loss that results from the actual residual value of the leased asset being less than the original estimate.

Graphic 15–10 summarizes the effect of the residual value of a leased asset for each of the various possibilities regarding the nature of the residual value.

GRAPHIC 15–10

Effect of a Residual Value: A Summary

Is the **residual value** of a leased asset included in (a) the lessor's gross investment in the lease (thus affecting the computation by the **lessor** of the amount of the periodic rental payments), (b) the lessor's minimum lease payments (the present value is sales revenue in a sales-type lease), or (c) the lessee's minimum lease payments (the present value is the amount to be capitalized)?

	Lessor's		Lessee's
	(a) Gross Investment in Lease *Computation of Payments*	(b) Minimum Lease Payments *Sales Revenue*	(c) Minimum Lease Payments *Asset & Liability*
Lessee gets the residual value—by transfer of title or the expected exercise of a bargain purchase option	No	No	No
Lessor gets the residual value—title does *not* transfer; *no* bargain purchase option			
• Residual value is not guaranteed	Yes	No	No
• Residual value is guaranteed by the lessee.	Yes	Yes	Yes
• Residual value is guaranteed by a third party guarantor.	Yes	Yes	No

Bargain Purchase Options

LO8

We stipulated earlier that a **bargain purchase option (BPO)** is a provision of some lease contracts that gives the lessee the option of purchasing the leased property at a bargain price. We discussed BPOs in the context of how they affect the classification of leases, but none of our earlier illustrations included a situation in which a BPO was present. You should have noted that a bargain price is defined in such a way that an additional cash payment is expected when a BPO is included in the agreement. Remember, a bargain price is one that is sufficiently below the property's expected fair value that the exercise of the option appears reasonably assured. Because exercise of the option appears at the inception of the lease to be reasonably assured, payment of the option price is expected to occur when the option becomes exercisable.

When a BPO is present, both the lessor and the lessee view the option price as an additional lease payment.

The logic applied to lessee-guaranteed residual values in the previous section applies here too. The expectation that the option price will be paid effectively adds an additional cash flow to the lease for both the lessee and the lessor. That additional payment is included as a component of minimum lease payments for both the lessor and the lessee. It therefore (a) reduces the amount of the periodic rent payments the *lessor* must receive from the lessee and (b) is included in the computation of the amount to be capitalized (as an asset and liability) by the *lessee*. In fact, the way a BPO is included in these calculations is precisely the same way that a lessee-guaranteed residual value is included. This is demonstrated in Graphic 15–11.

GRAPHIC 15–11

Effect of a Bargain Purchase Option

✓ The lessor, when computing periodic rental payments, subtracts the present value of the BPO from the amount to be recovered (fair market value) to determine the amount that must be recovered from the lessee through the periodic rent payments.

✓ The lessee adds the present value of the BPO price to the present value of periodic payments when computing the amount to be recorded as a leased asset and a lease liability.

To emphasize the similarity in the way a lessee-guaranteed[26] residual value and a BPO affect the calculations, let's assume the $60,000 in our last illustration is an option price that could be paid by Sans Serif at the conclusion of the lease to purchase the copier. To make this a "bargain" purchase option let's say the residual value at the same time is expected now to be $75,000. This situation is assumed in Illustration 15–5.

ILLUSTRATION 15–5

Bargain Purchase Option

On December 31, 1999, Sans Serif Publishers, Inc., leased a color copier from CompuDec Corporation at a price of $479,079. The lease agreement specifies annual payments beginning December 31, 1999, the inception of the lease, and at each December 31 through 2004. The estimated useful life of the copier is seven years. At the end of the six-year lease term the copier is expected to be worth $75,000 and Sans Serif has the option to purchase it for $60,000 on that date. The residual value after seven years is zero.[27]

CompuDec manufactured the copier at a cost of $300,000.
CompuDec's interest rate for financing the transaction is 10%.

The lessor's selling price is reduced by the present value of the BPO price to determine the amount that must be recovered from the periodic rental payments.

Amount to be recovered (fair market value)	$479,079
Less: Present value of the BPO price ($60,000 × .56447*)	(33,868)
Amount to be recovered through periodic rental payments	$445,211
Rental payments at the beginning of each of the next six years: ($445,211 ÷ 4.79079†)	$ 92,931

*Present value of $1: $n = 6$, $i = 10\%$.
†Present value of an annuity due of $1: $n = 6$, $i = 10\%$.

When you compare the way the *BPO* affected the lessor's (CompuDec's) calculation with the way the lessee-guaranteed residual value affected the calculation earlier, you see that they are exactly the same. That's the case also for the lessee (Sans Serif Publishers) as shown in Illustration 15–5A.

ILLUSTRATION 15–5A

Lessee's Calculation of the Present Value of Minimum Lease Payments When a BPO Is Present

Present value of periodic rental payments ($92,931 × 4.79079*)	$445,211
Plus: Present value of the BPO price ($60,000 × .56447†)	33,868
Present value of minimum lease payments (recorded as a leased asset and a lease liability)	$479,079

*Present value of an annuity due of $1: $n = 6$, $i = 10\%$.
†Present value of $1: $n = 6$, $i = 10\%$.

Because a BPO is expected to be exercised, its exercise price is viewed as one more cash payment.

You should recognize this as the same calculation we used when there was no BPO but the residual value was guaranteed and so was considered an additional lease payment. A question you might have at this point is: Why are we now ignoring the residual value? Earlier it was considered an additional lease payment. Yet, now we view the BPO price as an additional lease payment but ignore the residual value. The reason is obvious when you recall an essential characteristic of a BPO—it's expected to be exercised. So, when it is exercised, title to the leased asset passes to the lessee and with title, any residual value. And remember, when the lessee gets the residual value it is ignored by both parties to the lease.

When a BPO is present, the residual value becomes irrelevant.

The lease amortization schedule for CompuDec and Sans Serif when a BPO is included in the lease agreement (Graphic 15–12) should look familiar to you also.

[26]The lessee-guaranteed qualification here refers to what you learned in the previous section: a residual value is part of the lessee's minimum lease payments only when guaranteed by the lessee; the lessor includes in its computation of rent payments any residual values that revert to the lessor—guaranteed or not.
[27]Our discussion of the effect of a bargain purchase option would be precisely the same if our illustration were of a direct financing lease (for instance, if the lessor's cost were $479,079) except that, of course, neither sales revenue nor cost of goods sold would be recorded in a direct financing lease.

GRAPHIC 15–12

Amortization Schedule—with BPO

Both the lessor and lessee view the BPO price ($60,000) as an additional cash payment.

Dec. 31	Payments	Effective Interest	Decrease in Balance	Outstanding Balance
		(10% × Outstanding balance)		
1999				479,079
1999	92,931		92,931	386,148
2000	92,931	.10(386,148) = 38,615	54,316	331,832
2001	92,931	.10(331,832) = 33,183	59,748	272,084
2002	92,931	.10(272,084) = 27,208	65,723	206,361
2003	92,931	.10(206,361) = 20,636	72,295	134,066
2004	92,931	.10(134,066) = 13,407	79,524	54,542
2005	60,000	.10 (54,542) = 5,458*	54,542	0
	617,586	138,507	479,079	

*Adjusted for rounding of other numbers in the schedule.

Recording the exercise of the option is similar to recording the periodic rent payments. That is, a portion of the payment covers interest for the year, and the remaining portion reduces the outstanding balance (to zero with this last payment), as shown in Illustration 15–5B.

ILLUSTRATION 15–5B

Journal Entries—with BPO

The depreciation entries reflect the fact that the lessee anticipates using the copier for its full seven-year life.

The cash payment expected when the BPO is exercised represents part interest, part principal just like the other cash payments.

December 31, 2005

Sans Serif Publishers, Inc. (Lessee)		
Depreciation expense ($479,079* ÷ 7 years)	68,440	
Accumulated depreciation		68,440
Interest expense (10% × $54,542)	5,458	
Lease payable (difference)	54,542	
Cash (BPO price)		60,000
CompuDec Corporation (Lessor)		
Cash (BPO price)	60,000	
Lease receivable (account balance)		60,000
Unearned interest revenue (account balance)	5,458	
Interest revenue (10% × outstanding balance)		5,458

*The residual value is zero after the full seven-year useful life.

Note that depreciation also is affected by the BPO. As pointed out earlier, the lessee normally depreciates a leased asset over the term of the lease. But if ownership transfers by contract or by the expected exercise of a bargain purchase option, the asset should be depreciated over the asset's useful life. This reflects the fact that the lessee anticipates using the leased asset for its full useful life. In this illustration, the copier is expected to be useful for seven years, so depreciation is $68,440 ($479,079 ÷ 7 years).

When a BPO Is Exercisable before the End of the Lease Term

We assumed in this example that the BPO was exercisable on December 31, 2005—the end of the lease term. This assumption was convenient to illustrate the similarity between how a residual value and a BPO are dealt with when accounting for leases. It also is a very realistic assumption. Sometimes, though, the lease contract specifies that a BPO becomes exercisable before the designated lease term ends. Since a BPO is expected to be exercised, the lease term ends for accounting purposes when the option becomes exercisable. For example, let's say the BPO in the previous example could be exercised a year earlier—at the end of the fifth year. The effect this would have on accounting for the lease is to change the lease term from six years to five. All calculations would be modified accordingly. Stated differently, minimum lease payments include only the periodic cash payments specified in the agreement that occur prior to the date a BPO becomes exercisable. (We assume the option is exercised at that time and the lease ends.)

The length of the lease term is limited to the time up to when a bargain purchase option becomes exercisable.

ETHICAL DILEMMA

"I know we had discussed that they're supposed to be worth $24,000 when our purchase option becomes exercisable," Ferris insisted. "That's why we agreed to the lease terms. But, Jenkins, you know how fast computers become dated. We can make a good case that they'll be worth only $10,000 in three years."

The computers to which Ferris referred were acquired by lease. The lease meets none of the criteria for classification as a capital lease except that it contains an apparent bargain purchase option. Under the lease option, the computers can be purchased for $10,000 after three years.

"We could avoid running up our debt that way," Jenkins agreed. How could debt be avoided? Do you perceive an ethical problem?

We have seen how minimum lease payments are affected by a residual value and by a bargain purchase option. Let's now consider how maintenance, insurance, taxes, and other costs usually associated with ownership (called *executory costs*) affect minimum lease payments.

Executory Costs

One of the responsibilities of ownership that is transferred to the lessee in a capital lease is the responsibility to pay for maintenance, insurance, taxes, and any other costs usually associated with ownership. These are referred to as **executory costs.** Lease agreements usually are written in such a way that these costs are borne by the lessee. These expenditures simply are expensed by the lessee as incurred: repair expense, insurance expense, property tax expense, and so on. Let's return, for example, to Illustration 15–2. Now, suppose that a $2,000 per year maintenance agreement was arranged with an outside service for the leased copier. Sans Serif (the lessee) would expense this fee each year as incurred:

The lessee simply expenses executory costs as incurred.

Maintenance expense	2,000	
Cash (annual fee)		2,000

The lessor is unaffected by executory costs paid by the lessee.

Any portion of rental payments that represents maintenance, insurance, taxes, or other executory costs is not considered part of minimum lease payments.

Sometimes, as an expediency, a lease contract will specify that the lessor is to pay executory costs, but that the lessee will reimburse the lessor through higher rental payments. When rental payments are inflated for this reason, these executory costs are excluded in determining the minimum lease payments. They still are expensed by the lessee, even though paid through the lessor. For demonstration, let's modify Illustration 15–2 to assume the periodic rental payments were increased to $102,000 with the provision the lessor (First LeaseCorp) pays the maintenance fee. We do this in Illustration 15–6.

ILLUSTRATION 15–6

Rental Payments Including Executory Costs Paid by the Lessor

On December 31, 1999, Sans Serif Publishers, Inc., leased a copier from First LeaseCorp. First LeaseCorp purchased the equipment from CompuDec Corporation at a cost of $479,079.

- Six annual payments of $102,000 beginning December 31, 1999.
- Payments include $2,000 which First LeaseCorp will use to pay an annual maintenance fee.
- The interest rate in these financing arrangements is 10%.
- Capital lease to Sans Serif.
- Direct financing lease to First LeaseCorp.
- Interest-rate: 10%.

Second Payment (December 31, 2000)

Sans Serif Publishers, Inc. (Lessee)

Maintenance expense (2000 fee)	2,000	
Prepaid maintenance (paid in 1999)		2,000
Interest expense [10% × ($479,079 − 100,000)]	37,908	
Lease payable (difference)	62,092	
Prepaid maintenance (2001 fee)	2,000	
Cash (rental payment)		102,000

Executory costs that are included in periodic rental payments to be paid by the lessor are, in effect, indirectly paid by the lessee—and expensed by the lessee.

ILLUSTRATION 15–6
concluded

Amounts recorded for periodic interest and the periodic reduction of principal are unaffected by executory costs.

First LeaseCorp (Lessor)		
Cash (rental payment)	102,000	
Lease receivable		100,000
Maintenance fee payable*		2,000
Unearned interest revenue	37,908	
Interest revenue (10% × [$600,000 − 20,921 − 100,000])		37,908

*This assumes the $2,000 maintenance fee has not yet been paid to the outside maintenance service.

Discount Rate

An important factor in the overall lease equation that we've glossed over until now is the discount rate used in present value calculations. Because lease payments occur in future periods, we must consider the time value of money when evaluating their present value. The rate is important because it influences virtually every amount reported in connection with the lease by both the lessor and the lessee.

The lessee uses the lower of the interest rate implicit in the lease or the lessee's own incremental borrowing rate.

One rate is implicit in the lease agreement. This is the effective interest rate the lease payments provide the lessor over and above the price at which the asset is sold under the lease. It is the desired rate of return the lessor has in mind when deciding the size of the rental payments. (Refer to our earlier calculations of the periodic rental payments.) Usually the lessee is aware of the lessor's implicit rate or can infer it from the asset's fair market value. When the lessor's implicit rate is unknown, the lessee should use its own incremental borrowing rate. This is the rate the lessee would expect to pay a bank if funds were borrowed to buy the asset.[28] When the lessor's implicit rate *is* known, the lessee should use the lower of the two rates.

When the Lessee's Incremental Borrowing Rate Is Less than the Lessor's Implicit Rate

Instances are few in which the lessee actually would use its incremental borrowing rate. Here's why. We noted earlier that, like any other asset, a leased asset should not be recorded at more than its fair market value. Look what happens to the present value payments if Sans Serif uses a discount rate less than the 10% rate implicit in Illustration 15–6 (let's say 9%):

$$\underset{\text{Rental payments}}{\$100{,}000} \times 4.88965^{*} = \underset{\text{Lessee's cost}}{\$488{,}965}$$

*Present value of an annuity due of $1: $n = 6$, $i = 9\%$.

But remember, the fair market value of the copier was $479,079. The $100,000 amount for the rental payments was derived by the lessor, contemplating a market value of $479,079 and a desired interest rate of return (implicit rate) of 10%. So, using a discount rate lower than the lessor's implicit rate usually would result in the present value of minimum lease payments being more than the fair market value.

This conclusion does not hold when the leased asset has an unguaranteed residual value. You will recall that the lessor's determinations always include any residual value that accrues to the lessor; but when the lessee doesn't guarantee the residual value, it is *not* included in the lessee's present value calculations. Combining two previous examples, let's modify our demonstration of an unguaranteed residual value (Illustration 15–6) to assume the lessee's incremental borrowing rate was 9%. Because the residual value was expected to

[28] *Incremental borrowing rate* refers to the fact that lending institutions tend to view debt as being increasingly risky as the level of debt increases. Thus, additional (i.e., incremental) debt is likely to be loaned at a higher interest rate than existing debt, other things being equal.

contribute to the lessor's recovery of the $479,079 fair market value, the rental payments were only $92,931. But, the lessee would ignore the unguaranteed residual value and calculate its cost of the leased asset to be $454,400.

$$\underset{\text{Rental payments}}{\$92{,}931} \times 4.88965^{*} = \underset{\text{Lessee's cost}}{\$454{,}400}$$

*Present value of an annuity due of $1: $n = 6$, $i = 9\%$.

In this case, the present value of minimum lease payments would be *less than* the fair market value even though a lower discount rate is used. But again, if there is no residual value, or if the lessee guarantees the residual value, or if the unguaranteed residual value is relatively small, a discount rate lower than the lessor's implicit rate will result in the present value of minimum lease payments being more than the fair market value.

When the Lessor's Implicit Rate Is Unknown

What if the lessee's discount rate is higher than the lessor's implicit rate? This is a logical question in light of the rule that says the lessee should use its own incremental borrowing rate when the lessor's implicit rate is unknown to the lessee. But in practice the lessor's implicit rate usually is known. Even if the lessor chooses not to explicitly disclose the rate, the lessee usually can deduce the rate using information he knows about the value of the leased asset and the lease payments. After all, in making the decision to lease rather than buy, the lessee typically becomes quite knowledgeable about the asset.

Even so, it is possible that a lessee might be unable to derive the lessor's implicit rate. This might happen, for example, if the leased asset has a relatively high residual value. Remember, a residual value (guaranteed or not) is an ingredient in the lessor's calculation of the rental payments. Sometimes it may be hard for the lessee to identify the residual value estimated by the lessor if the lessor chooses not to make it known.[29] The longer the lease term or the more risk of obsolescence the leased asset is subject to, the less of a factor the residual value typically is.

ADDITIONAL CONSIDERATION

As pointed out earlier, the management of a lessee company sometimes will try to structure a lease to avoid the criteria that would cause the lease to be classified as a capital lease in order to gain the questionable advantages of off-balance-sheet financing. On the other hand, a *lessor* normally would prefer recording a **nonoperating** lease, other things being equal. Two ways sometimes used to structure a lease to qualify as an operating lease by the lessee, but as a nonoperating lease by the lessor are: (1) cause the two parties to use different interest rates and (2) avoid including the residual value in the lessee's minimum lease payments. Let's see how they work:

1. Cause the Two Parties to Use Different Interest Rates.

It was pointed out earlier that a lessee sometimes can claim to be unable to determine the lessor's implicit rate. Not knowing the lessor's implicit rate would permit the lessee to use its own incremental borrowing rate. If higher than the lessor's implicit rate, the present value it produces may cause the 90% of fair value criterion **not** to be met for the lessee (thus an operating lease) even though the criterion is met for the lessor (thus a nonoperating lease).

2. Avoid Including the Residual Value in the Lessee's Minimum Lease Payments.

The residual value, if guaranteed by the lessee or by a third party guarantor, is included in the minimum lease payments by the lessor when applying the 90% of fair value criterion and thus increases the

[29]Disclosure requirements provide that the lessor company must disclose the components of its investments in nonoperating leases, which would include any estimated residual values. But the disclosures are aggregate amounts, not amounts of individual leased assets.

ADDITIONAL CONSIDERATION (concluded)

likelihood that it is met. However, when the residual value is guaranteed by a third-party guarantor and not by the lessee, it is **not** included in the lessee's minimum lease payments. So, if a residual value is sufficiently large and guaranteed by a third-party guarantor, it may cause the 90% of fair value criterion to be met by the lessor, but not by the lessee.

Both schemes are unintentionally encouraged by lease accounting rules. As long as arbitrary cut-off points are used (90% of fair value in this case), maneuvers will be devised to circumvent them.

Lessor's Initial Direct Costs

The costs incurred by the lessor that are associated directly with originating a lease and are essential to acquire that lease are referred to as **initial direct costs.** They include legal fees, commissions, evaluating the prospective lessee's financial condition, and preparing and processing lease documents. The method of accounting for initial direct costs depends on the nature of the lease. Remember, a lessor can classify a lease as (1) an operating lease, (2) a direct financing lease, or (3) a sales-type lease. The accounting treatment for initial direct costs by each of the three possible lease types is summarized below.

1. For *operating leases,* initial direct costs are recorded as assets and amortized over the term of the lease. Since the only revenue an operating lease produces is rental revenue, and that revenue is recognized over the lease term, initial direct costs also are automatically recognized over the lease term to match these costs with the rent revenues they help generate.
2. In *direct financing leases,* interest revenue is earned over the lease term, so initial direct costs are matched with the interest revenues they help generate. Therefore, initial direct costs are not expensed at the outset but are deferred and recognized over the lease term. This can be accomplished by reducing the lessor's *unearned interest revenue* by the total of initial direct costs. Then, as unearned interest revenue is recognized over the lease term at a constant effective rate, the initial direct costs are recognized at the same rate (that is, proportionally).
3. For *sales-type leases,* initial direct costs are expensed at the inception of the lease. Since the usual reason for a sales-type lease is for a manufacturer or a dealer to sell its product, it's reasonable to recognize the costs of creating the transaction as a selling expense in the period of the sale.

Contingent Rentals

Sometimes rental payments may be increased (or decreased) at some future time during the lease term, depending on whether or not some specified event occurs. Usually the contingency is related to revenues or profitability above some designated level. For example, a recent annual report of Kmart Corporation included the note re-created in Graphic 15–13.

GRAPHIC 15–13

Disclosure of Contingent Rentals—Kmart

Note L (in part): Leases

. . . Certain leases provide for additional rental payments based on a percentage of sales in excess of a specified base. . . .

Contingent rentals are *not* included in the minimum lease payments because they are not determinable at the inception of the lease. Instead, they are included as components of income when (and if) they occur. Increases or decreases in rental payments that are dependent only on the passage of time are not contingent rentals; these are part of minimum lease payments.

Although contingent rentals are not included in minimum lease payments, they are reported in disclosure notes by both the lessor and lessee.

A Brief Summary

Leasing arrangements often are complex. In studying this chapter you've encountered several features of lease agreements that alter the way we make several of the calculations needed to account for leases. Graphic 15–14 provides a concise review of the essential lease accounting components, using calculations from a hypothetical lease situation to provide a numerical perspective.

GRAPHIC 15–14

Lease Terms and Concepts: A Summary

Lease Situation for Calculations

($ in 000s)			
Lease term (years)	4	Lessor's cost	$300
Asset's useful life (years)	5	Residual value:	
Lessor's implicit rate (known by lessee)	12%	Guaranteed by lessee	$8
Lessee's incremental borrowing rate	13%	Guaranteed by third party[a]	$6
Rental payments (including executory costs) at the beginning of each year	$102	Unguaranteed	$5
		Executory costs paid annually by lessor	$2
		Bargain purchase option	none
		Initial direct costs	3

Amount	Description	Calculation
Lessor's:		
Gross investment in the lease[b]	Total of periodic rental payments[c] plus any residual value that reverts to the lessor (guaranteed or not) or plus BPO price[d]	($100 × 4) + ($8 + 6 + 5) = $419
Net investment in the lease	Present value of the gross investment (discounted at lessor's rate) plus any initial direct costs in a direct financing lease	($100 × 3.40183[e]) + ($19 × .63552[f]) = $352[g]
Unearned interest revenue	Gross investment − Net investment	$419 − 352 = $67
Minimum lease payments	Total of periodic rental payments[c] plus residual value guaranteed to the lessor (by lessee and/or by third party) or plus BPO price[d]	($100 × 4) + ($8 + 6) = $414
Sales revenue	Present value of lessor's minimum lease payments; also, net investment − present value of unguaranteed residual value	($100 × 3.40183[e]) + ($14 × .63552[f]) = $349; also: $352 − ($5 × .63552) = $349
Cost of goods sold	Lessor's cost − Present value of unguaranteed residual value	$300 − ($5 × .63552[f]) = $297
Dealer's profit	Sales revenue − Cost of goods sold; also, Net investment − Lessor's cost	$349 − 297 = $52; also, $352 −300 = $52
Lessee's:		
Minimum lease payments	Total of periodic rental payments[c] plus residual value guaranteed by lessee or plus BPO price[d]	($100 × 4) + $8 = $408
Leased asset	Present value of minimum lease payments (using lower of lessor's rate and lessee's incremental borrowing rate); cannot exceed fair value	($100 × 3.40183[e]) + ($8 × .63552[f]) = $345
Lease liability at inception	Same is leased asset	($100 × 3.40183[e]) + ($8 × .63552[f]) = $345

[a]Beyond any amount guaranteed by the lessee (amount guaranteed is $8 + 6 minus any amount paid by the lessee).
[b]This is the amount to be recovered by the lessor and therefore is used in the calculation of periodic lease payments. It also is the lease receivable at the inception of lease.
[c]Any portion of rental payments that represents maintenance, insurance, taxes, or other executory costs is not considered part of minimum lease payments. In this case, rentals are reduced as follows: $102 − 2 = $100.
[d]In this context, a residual value and a BPO price are mutually exclusive: if a BPO exists, any residual value is expected to remain with the lessee and is not considered an additional payment.
[e]Present value of annuity due of $1: $n = 4$, $i = 12\%$.
[f]Present value of $1: $n = 4$, $i = 12\%$.
[g]Since this is a sales-type lease ($352 − 300 = $52 dealer's profit), initial direct costs are expensed at the lease's inception and do not increase the net investment in the lease.

CONCEPT REVIEW EXERCISE

Various Lease Accounting Issues

(This is an extension of the previous Concept Review Exercise.)

United Cellular Systems leased a satellite transmission device from Satellite Technology Corporation on January 1, 2001. Satellite Technology paid $500,000 for the transmission device. Its retail value is $653,681.

Terms of the Lease Agreement and Related Information:

Lease term	3 years (6 semiannual periods)
Semiannual rental payments	$123,000—beginning of each period
Economic life of asset	4 years
Implicit interest rate (Also lessee's incremental borrowing rate)	12%
Unguaranteed residual value	$40,000
Regulatory fees paid by lessor	$3,000/twice each year (included in rentals)
Lessor's initial direct costs	$4,500
Contingent rental payments	Additional $4,000 if revenues exceed a specified base

Required:

1. Prepare an amortization schedule that describes the pattern of interest expense over the lease term for United Cellular Systems.
2. Prepare an amortization schedule that describes the pattern of interest revenue over the lease term for Satellite Technology.
3. Prepare the appropriate entries for both United Cellular Systems and Satellite Technology on January 1 and June 30, 2001.
4. Prepare the appropriate entries for both United Cellular Systems and Satellite Technology on December 31, 2003 (the end of the lease term), assuming the device is returned to the lessor and its actual residual value is $14,000 on that date.

SOLUTION

1. Prepare an amortization schedule that describes the pattern of interest expense over the lease term for United Cellular Systems.

Calculation of the Present Value of Minimum Lease Payments:

Present value of periodic rental payments excluding executory costs of $3,000:

($120,000 × 5.21236*) = $625,483

*Present value of an annuity due of $1: $n = 4$, $i = 6\%$.

Note: The *unguaranteed* residual value is excluded from minimum lease payments for both the lessee and lessor.

	Payments	Effective Interest (6% × Outstanding balance)	Decrease in Balance	Outstanding Balance
1/1/01				625,483
1/1/01	120,000		120,000	505,483
6/30/01	120,000	.06(505,483) = 30,329	89,671	415,812
1/1/02	120,000	.06(415,812) = 24,949	95,051	320,761
6/30/02	120,000	.06(320,761) = 19,246	100,754	220,007
1/1/03	120,000	.06(220,007) = 13,200	106,800	113,207
6/30/03	120,000	.06(113,207) = 6,793*	113,207	0
	720,000	94,517	625,483	

*Adjusted for rounding of other numbers in the schedule.

2. Prepare an amortization schedule that describes the pattern of interest revenue over the lease term for Satellite Technology.

Calculation of the Lessor's Net Investment:

Present value of periodic rental payments excluding executory costs of $3,000 ($120,000 × 5.21236*)	$625,483
Plus: Present value of the unguaranteed residual value ($40,000 × .70496†)	28,198
Lessor's net investment in lease	$653,681

*Present value of an annuity due of $1: $n = 6$, $i = 6\%$.

†Present value of $1: $n = 6$, $i = 6\%$.

Note: The *unguaranteed* residual value is excluded from minimum lease payments, but is part of the lessor's gross and net investment in the lease.

	Payments	Effective Interest	Decrease in Balance	Outstanding Balance
		(6% × Outstanding balance)		
1/1/01				653,681
1/1/01	120,000		120,000	533,681
6/30/01	120,000	.06(533,681) = 32,021	87,979	445,702
1/1/02	120,000	.06(445,702) = 26,742	93,258	352,444
6/30/02	120,000	.06(352,444) = 21,147	98,853	253,591
1/1/03	120,000	.06(253,591) = 15,215	104,785	148,806
6/30/03	120,000	.06(148,806) = 8,928	111,072	37,734
12/31/03	40,000	.06 (37,734) = 2,266*	37,734	0
	760,000	106,319	653,681	

*Adjusted for rounding of other numbers in the schedule.

3. Prepare the appropriate entries for both United Cellular Systems and Satellite Technology on January 1 and June 30, 2001.

January 1, 2001

United Cellular Systems (Lessee)		
Leased equipment (calculated above)	625,483	
Lease payable (calculated above)		625,483
Lease payable (payment less executory costs)	120,000	
Regulatory fees expense (executory costs)	3,000	
Cash (rental payment)		123,000
Satellite Technology (Lessor)		
Lease receivable [($120,000 × 6) + $40,000[a]]	760,000	
Cost of goods sold [$500,000 − ($40,000[a] × .70496)]	471,802	
Sales revenue (present value of minimum lease payments[b])		625,483
Unearned interest revenue ($760,000 − 653,681)		106,319
Inventory of equipment (lessor's cost)		500,000
Selling expense	4,500	
Cash (initial direct costs)		4,500
Cash (rental payment)	123,000	
Regulatory fees payable (or cash)		3,000
Lease receivable (payment less executory costs)		120,000

June 30, 2001

United Cellular Systems (Lessee)		
Interest expense (6% × [$625,483 − 120,000])	30,329	
Lease payable (difference)	89,671	
Regulatory fees expense (annual fee)	3,000	
Cash (rental payment)		123,000
Satellite Technology (Lessor)		
Cash (lease payment)	123,000	
Regulatory fees payable (or cash)		3,000
Lease receivable (payment less executory costs)		120,000
Unearned interest revenue	32,021	
Interest revenue [6% × ($653,681 − 120,000)]		32,021

[a]This is the unguaranteed residual value.
[b]Also, $653,681 − ($40,000[a] × .70496).

4. Prepare the appropriate entries for both United Cellular Systems and Satellite Technology on December 31, 2003 (the end of the lease term), assuming the device is returned to the lessor and its actual residual value is $14,000 on that date.

December 31, 2003

United Cellular Systems (Lessee)		
Depreciation expense ($625,483 ÷ 3 years)	208,494	
Accumulated depreciation		208,494

Accumulated depreciation (account balance)	625,483	
Leased equipment (account balance)		625,483
Satellite Technology (Lessor)		
Inventory of equipment (actual residual value)	14,000	
Loss on leased assets ($40,000 − 14,000)	26,000	
Lease receivable (account balance)		40,000
Unearned interest revenue (account balance)	2,265	
Interest revenue (6% × $37,735: from schedule)		2,265

Sale-Leaseback Arrangements

LO9

In a sale-leaseback transaction, the owner of an asset sells it and immediately leases it back from the new owner. Sound strange? Maybe, but this arrangement is common. In a sale-leaseback transaction two things happen:

1. The seller-lessee receives cash from the sale of the asset.
2. The seller-lessee pays periodic rent payments to the buyer-lessor to retain the use of the asset.

What motivates this kind of arrangement? The two most common reasons are: (1) If the asset had been financed originally with debt and interest rates have fallen, the sale-leaseback transaction can be used to effectively refinance at a lower rate. (2) The most likely motivation for a sale-leaseback transaction is to generate cash.

Capital Leases

Illustration 15–7 demonstrates a sale-leaseback involving a capital lease.

ILLUSTRATION 15–7
Sale-Leaseback

Teledyne Distribution Center was in need of cash. Its solution: sell its four warehouses for $900,000, then lease back the warehouses to obtain their continued use. The warehouses had a carrying value on Teledyne's books of $600,000 (original cost $950,000). Other information:

1. The sale date is December 31, 2000.
2. The noncancelable lease term is 10 years and requires annual payments of $133,155 beginning December 31, 2000. The estimated remaining useful life of the warehouses is 10 years.
3. The annual rental payments (present value $900,000) provides the lessor with a 10% rate of return on the financing arrangement.* Teledyne's incremental borrowing rate is 10%.
4. Teledyne depreciates its warehouses on a straight-line basis.

*$133,155 ×	6.75902	=	$900,000 ($899,997.30 rounded)
Rent payments	(from Table 6A-6) $n = 10$, $i = 10\%$		Present value

Recording a sale-leaseback transaction follows the basic accounting concept of substance over form.

The sale and simultaneous leaseback of the warehouses should be viewed as a single borrowing transaction. Although there appear to be two separate transactions, look closer at the substance of the agreement. Teledyne still retains the use of the warehouses that it had prior to the sale-leaseback. What is different? Teledyne has $900,000 cash and a noncancelable obligation to make annual payments of $133,155. In substance, Teledyne simply has borrowed $900,000 to be repaid over 10 years along with 10% interest. From the perspective of substance over form, we do not immediately recognize the $300,000 gain on the sale of the warehouses but defer the gain to be recognized over the term of the lease (or the useful life of the asset if title is expected to transfer outright or by the exercise of a BPO), demonstrated in Illustration 15–7A.

ILLUSTRATION 15–7A
Recording a Sale-Leaseback

The gain on sale-leaseback is deferred and recognized over the lease term as a reduction of depreciation expense.

December 31, 2000		
Cash	900,000	
Accumulated depreciation ($950,000 − 600,000)	350,000	
Warehouses (cost)		950,000
Deferred gain on sale-leaseback (difference)		300,000
Leased warehouses (present value of lease payments)	900,000	
Lease payable (present value of lease payments)		900,000
Lease payable	133,155	
Cash		133,155
December 31, 2001		
Interest expense (10% × [$900,000 − 133,155])	76,684	
Lease payable (difference)	56,471	
Cash (rental payment)		133,155
Depreciation expense ($900,000 ÷ 10 years)	90,000	
Accumulated depreciation		90,000
Deferred gain on sale-leaseback ($300,000 ÷ 10 years)	30,000	
Depreciation expense		30,000

Since the lease term is equal to the expected useful life of the warehouses (>75%), the leaseback must be recorded by the lessee as a capital lease.[30] There typically is an interdependency between the lease terms and the price at which the asset is sold. The earnings process is not complete at the time of sale but is completed over the term of the lease. So, viewing the sale and the leaseback as a single transaction is consistent with the realization principle. Look closely at the 2000 entries to see the net effect of recording the sale leaseback this way. Amortizing the deferred gain over the lease term as a reduction of depreciation expense decreases depreciation each year to $60,000.[31] Interest expense is $76,684. If Teledyne had *not* sold the warehouses ($600,000 carrying value) and had borrowed $900,000 cash by issuing an installment note, the 2000 effect would have been virtually identical:

Depreciating the carrying value of the warehouses over their remaining useful life produces depreciation equal to the net depreciation recorded in a sale-leaseback.

December 31, 2001		
Interest expense (10% × [$900,000 − 133,155])	76,684	
Note payable (difference)	56,471	
Cash (installment payment)		133,155
Depreciation expense ($600,000 ÷ 10 years)	60,000	
Accumulated depreciation		60,000

The deferred gain is reported on the balance sheet as a valuation (contra) account, offsetting the leased asset. The 2001 balance sheet effect of the sale-leaseback transaction and a $900,000 installment note are compared in Graphic 15–15. Once again, the effect is virtually identical.

Accounting by the buyer/lessor is no different in a sale-leaseback transaction than another lease transaction. That is, it records a lease in accordance with the usual lease guidelines.

[30]The fourth criterion also is met. The present value of lease payments ($900,000) is 100% (>90%) of the fair value of the warehouses ($900,000). Meeting any one of the four criteria is sufficient.

[31]If depreciation is over the useful life of the leased asset rather than the lease term because ownership is expected to transfer to the lessee, amortization of the deferred gain also would be over the useful life. If a leaseback of land is a capital lease, the amortization of the deferred gain is recorded as revenue.

GRAPHIC 15–15

Comparison of a Sale-Leaseback and a Purchase

	Sale-Leaseback	Retain Asset; Borrow Cash
Assets		
Leased asset	$900,000	$950,000
Less: Accumulated depreciation	(90,000)	(410,000)
Less: Deferred gain ($300,000 − 30,000)	(270,000)	
	$540,000	$540,000
Liabilities		
Lease payable ($900,000 − 133,155 − 56,471)	$710,374	
Note payable ($900,000 − 133,155 − 56,471)		$710,374

Operating Leases

If the leaseback portion of the previous sale-leaseback transaction were classified as an operating lease, the gain still would be deferred but would be recognized as a reduction of rent expense rather than depreciation. There is no leased asset to depreciate.[32]

December 31, 2001		
Deferred gain on sale-leaseback ($300,000 ÷ 10 years)	30,000	
Rent expense		30,000

Those of you with a healthy sense of skepticism will question whether the leaseback portion of our sale-leaseback situation could qualify as an operating lease. After all, the 10-year lease term is equal to the 10-year remaining useful life. But when you remember that neither the third (75% of economic life) nor the fourth (90% recovery) classification criterion applies if the inception of the lease occurs during the last 25% of an asset's economic life, you see the possibility of an operating lease. Suppose, for instance, that the original useful life of the warehouses was 40 years. In that case, the current lease term would occur during the last 25% of an asset's economic life and we would have an operating lease.

Losses on Sale-Leasebacks

In a sale-leaseback, any gain on the sale of the asset is deferred and amortized. However, a real loss on the sale of the property is recognized immediately—not deferred. A real loss means the fair value is less than the carrying amount of the asset. On the other hand, if the fair value exceeds the carrying amount, but the asset is sold to the buyer/lessor for less than the carrying amount, an artificial loss is produced that is probably in substance a prepayment of rent and should be deferred and amortized.

Real Estate Leases

Some leases involve land—exclusively or in part. The concepts we discussed in the chapter also relate to real estate leases. But the fact that land has an unlimited life causes us to modify how we account for some leases involving real estate.

Leases of Land Only

Because the useful life of land is indefinite, the risks and rewards of ownership cannot be presumed transferred from the lessor to the lessee unless title to the land is expected to

[32]The deferred gain would be reported as a deferred liability since it could not be offset against a leased asset.

Only the first (title transfers) and second (BPO) classification criteria apply in a land lease.

transfer—outright or by the expected exercise of a bargain purchase option (criterion 1 or criterion 2). Since the useful life is undefined, the third and fourth criteria are not applicable. Relatedly, because the leased asset is land, depreciation is inappropriate.

Leases of Land and Building

When the leased property includes both land and a building and the lease transfers ownership or is expected to by exercise of a BPO, the lessee should record each leased asset separately. The present value of the minimum lease payments is allocated between the leased land and leased building accounts on the basis of their relative market values.

When (a) the leased property includes both land and a building, (b) neither of the first two criteria is met, and (c) the fair value of the land is 25% or more of the combined fair value, both the lessee and the lessor treat the land as an operating lease and the building as any other lease.

When neither of the first two criteria is met, the question arises as to whether the third and fourth criteria apply. Because they logically should apply to the building (because its life is limited) but not to the land (because its life is unlimited), the profession employs an arbitrary guideline. If the fair value of the land is less than 25% of the combined fair value, it is in effect ignored and both the lessee and the lessor treat the land and building as a single unit. The single leased asset is depreciated as if land were not involved. If the fair value of the land is 25% or more of the combined fair value, both the lessee and the lessor treat the land and building as two separate leases. Thus, the land lease is an operating lease, and the building lease is classified and accounted for in the manner described in the chapter.

Leases of Only Part of a Building

Usual lease accounting procedures apply to leases that involve only part of a building, although extra effort may be needed to arrive at reasonable estimates of cost and fair value.

Some of the most common of leases involve leasing only part of a building. For instance, businesses frequently lease space in an office building or individual stores in a shopping mall. Practical difficulties arise when applying lease accounting procedures in these situations. What is the cost of the third shop from the entrance in a $14 million mall? What is the fair value of a sixth floor office suite in a 40-floor office complex? Despite practical difficulties, usual lease accounting treatment applies. It may, however, be necessary to employ real estate appraisals or replacement cost information to arrive at reasonable estimates of cost or fair value.

Leveraged Leases

A *leveraged lease* involves significant long-term, nonrecourse financing by a third-party creditor.

In a **leveraged lease,** a third-party, long-term creditor provides nonrecourse financing for a lease agreement between a lessor and lessee. The term *leveraged* refers to the fact that the lessor acquires title to the asset after borrowing a large part of the investment.

From the lessee's perspective, accounting for a leveraged lease is not distinguishable from accounting for a nonleveraged lease. Accounting for leveraged leases by the lessor is similar to that for nonleveraged leases. A lessor records its investment (receivable) net of the nonrecourse debt. The lessor's liability to the lender should be offset against its lease receivable from the lessee because its role is in substance that of a mortgage broker. That is, the lessor earns income by serving as an agent for a firm wishing to acquire property and a lender seeking an investment. The lessor borrows enough cash from the lender to acquire the property, which is in turn leased to the lessee under a capital lease. Payments from the lessee are applied to the note held by the lender. The note may be assumed by the lessee *without recourse* such that the lessor is absolved of responsibility for its payment. In order to qualify for favorable treatment under the tax code, the lessor must maintain at least a minimum percentage of equity position in the asset. Also, the lessor should report income from the lease only in those years when the receivable exceeds the liability.

A lessor records its investment (receivable) net of the nonrecourse debt and reports income from the lease only in those years when the receivable exceeds the liability.

Lease Disclosures

Lease disclosure requirements are quite extensive for both the lessor and lessee. Virtually all aspects of the lease agreement must be disclosed. For *all* leases (a) a general description of

the leasing arrangement is required as well as (b) minimum future payments, in the aggregate and for each of the five succeeding fiscal years. Other required disclosures are specific to the type of lease and include: residual values, contingent rentals, unearned interest, sublease rentals, and executory costs. Some representative examples are shown in Graphics 15–16 (lessor) and 15–17 (lessee).

IBM is a manufacturer that relies heavily on leasing as a means of selling its products. Its disclosure of sales-type leases is shown in Graphic 15–16.

GRAPHIC 15–16

Lessor Disclosure of Sales-Type Leases—IBM Corporation

F: Investments and Sundry Assets

	($ in millions)	
	1998	**1997**
Net investment in sales-type leases*	$14,384	$13,733
Less: Current portion (net)	6,510	5,720

*These leases relate principally to IBM equipment and are generally for terms ranging from three to five years. Net investment in sales-type leases includes unguaranteed residual values of approximately $685 million and $563 million at December 31, 1998 and 1997, and is reflected net of unearned income at these dates of approximately $1,600 million for both years. Scheduled maturities of minimum lease payments outstanding at December 31, 1998, expressed as a percentage of the total, are approximately as follows: 1999, 48%; 2000, 31%; 2001, 15%; 2002, 5%; 2003 and after, 1%.

Wal-Mart Stores leases facilities under both operating and capital leases. Its long-term obligations under these lease agreements are disclosed in a note to its financial statements (see Graphic 15–17).

GRAPHIC 15–17

Lessee Disclosure of Leases—Wal-Mart Stores

Note 7: Long-Term Lease Obligations

The Company and certain of its subsidiaries have long-term leases for stores and equipment. Rentals (including, for certain leases, amounts applicable to taxes, insurance, maintenance, other operating expenses, and contingent rentals) under all operating leases were $654 million in 1999, $596 million in 1998, and $561 million in 1997. Aggregate minimum annual rentals at January 31, 1999, under noncancelable leases are as follows (in millions):

Fiscal Years	Operating Leases	Capital Leases
1999	$ 394	$ 349
2000	371	370
2001	358	370
2002	337	366
2003	324	365
Thereafter	2,745	3,504
Total minimum rentals	$4,529	$5,324
Less estimated executory costs		69
Net minimum lease payments		5,255
Less imputed interest at rates ranging from 6.1% to 14.0%		2,450
Present value of net minimum lease payments		$2,805

Certain of the leases provide for contingent additional rentals based on percentage of sales. Such additional rentals amounted to $49 million, $46 million, and $51 million in 1999, 1998, and 1997, respectively. Substantially all of the store leases have renewal options for additional terms from five to 25 years at comparable rentals.

The Company has entered into lease commitments for land and buildings for 47 future locations. These lease commitments with real estate developers or through sale/leaseback provide for minimum rentals for 20 to 25 years, excluding renewal options, which, if consummated based on current cost estimates, will approximate $49 million annually over the lease terms.

Decision Makers' Perspective: Financial Statement Impact

Leasing sometimes is used as a means of off-balance-sheet financing.

As indicated in the Decision Makers' Perspective at the beginning of the chapter, leasing can allow a firm to conserve assets, to avoid some risks of owning assets, and to obtain favorable tax benefits. These advantages are desirable. It also was pointed out earlier that some firms try to obscure the realities of their financial position through off-balance-sheet financing or by avoiding violating terms of contracts that limit the amount of debt a company can have. Accounting guidelines are designed to limit the ability of firms to hide financial realities. Nevertheless, investors and creditors should be alert to the impact leases can have on a company's financial position and on its risk.

Balance Sheet and Income Statement

Lease liabilities affect the debt-equity ratio and the rate of return on assets.

Lease transactions identified as nonoperating impact several of a firm's financial ratios. Because we record liabilities for capital leases, the debt-equity ratio (liabilities divided by shareholders' equity) is immediately impacted. Because we also record leased assets, the immediate impact on the rate of return on assets (net income divided by assets) is negative, but the lasting effect depends on how leased assets are utilized to enhance future net income. As illustrated in this chapter, the financial statement impact of a capital lease is no different from that of an installment purchase.

Do operating leases create long-term commitments equivalent to liabilities?

Even operating leases, though, can significantly affect risk. Operating leases represent long-term commitments that can become a problem if business declines and cash inflows drop off. For example, long-term lease commitments became a big problem for Businessland in the early 1990s. The company's revenues declined but it was saddled with lease commitments for numerous facilities the company no longer occupied. Its stock's market price declined from $11.88 to $.88 in one year.

The net income difference between treating a lease as a capital lease versus an operating lease generally is not significant.

Whether leases are capitalized or treated as operating leases affects the income statement as well as the balance sheet. However, the impact generally is not significant. Over the life of a lease, total expenses are equal regardless of the accounting treatment of a lease. If the lease is capitalized, total expenses comprise interest and depreciation. The total of these equals the total amount of rental payments, which would constitute rent expense if not capitalized. There is, however, a timing difference between lease capitalization and operating lease treatment, but the timing difference usually isn't great.

The difference in impact on the balance sheet between capital leases and operating leases is significant.

The more significant difference between capital leases and operating leases is the impact on the balance sheet. As mentioned above, a capital lease adds to both the asset and liability side of the balance sheet; operating leases do not affect the balance sheet at all. How can external financial statement users adjust their analysis to incorporate the balance sheet differences between capital and operating leases? A frequently offered suggestion is to capitalize all noncancelable lease commitments, including those related to operating leases. Some financial analysts, in fact, do this on their own to get a better feel for a company's actual debt position.

To illustrate, refer to Graphic 15–17 on the previous page, which reveals the operating lease commitments disclosed by Wal-Mart Stores. If these lease arrangements were considered nonoperating, these payments would be capitalized (reported at the present value of all future payments). By making some reasonable assumptions, we can estimate the present value of all future payments to be made on existing operating leases. For example, the interest rates used by Wal-Mart to discount rental payments on capital leases range from 6.1% to 14.0%. If we use the approximate average rate of 10%, and make certain other assumptions, we can determine the debt equivalent of the operating lease commitments as shown in Graphic 15–18.

GRAPHIC 15–18

Estimating the Debt Equivalent of Operating Lease Commitments

Capitalized Value or Debt Equivalent of Wal-Mart's Operating Leases

Fiscal Years	Operating Leases	PV Factor 10%	Present Value
1999	$ 394	.909	$ 358
2000	371	.826	306
2001	358	.751	269
2002	337	.683	230
2003	324	.621	201
Thereafter	2,745	.386*	1,060
Total minimum rentals	$4,529		$2,424

*This is the PV factor for $i = 10\%$, $n = 10$, which treats payments after 2003 as occurring in 2008, an assumption due to not knowing precise dates of specific payments after 2003.

If capitalized, these operating lease commitments would add $2,424 million to Wal-Mart's liabilities and approximately $2,424 to the company's assets.[33] Let's look at the impact this would have on the company's debt to equity ratio and its return on assets ratio using selected financial statement information taken from Wal-Mart's annual report for the fiscal year ending January 31, 1999, shown below:

	($ in millions)
Total assets	$49,996
Total liabilities	16,762
Total shareholders' equity	21,112
Net income for 1998	4,430

The debt to equity and return on assets ratios are calculated in Graphic 15–19 without considering the capitalization of operating leases and then again after adding $2,424 million to both total assets and total liabilities. In the calculation of return on assets, we use only the 1998 year-end total assets rather than the average total assets for the year. Also, we assume no impact on income.

GRAPHIC 15–19

Ratios With and Without Capitalization of Operating Leases

	($ in millions) Without Capitalization	With Capitalization
Debt to equity ratio	$\frac{\$16,762}{\$21,112} = .79$	$\frac{\$19,186}{\$21,112} = .91$
Return on assets	$\frac{\$4,430}{\$49,996} = 8.9\%$	$\frac{\$4,430}{\$52,420} = 8.5\%$

The debt to equity ratio rises from .79 to .91, and the return on assets ratio declines from 8.9% to 8.5%.

Statement of Cash Flow Impact

Operating leases are not reported on a statement of cash flows at the leases' inception.

On a statement of cash flows, lease payments (operating or nonoperating) are reported as cash flows from financing activities by the lessee and cash flows from investing activities by the lessor. The principal difference between an operating and a nonoperating lease is that the lease at its inception would be reported as a noncash investing/financing activity if treated as nonoperating, but not reported at all if treated as an operating lease. ■

[33] If these operating leases were capitalized, both assets and liabilities would increase by the same amount at inception of the lease. However, in later years, the leased asset account balance and the lease liability account will, generally, not be equal. The leased asset account is reduced by depreciation and the lease liability account is reduced (amortized) down to zero using the effective interest method.

FINANCIAL REPORTING CASE SOLUTION

1. **How would IBM's revenues "take a hit" as a result of more customers leasing than buying mainframes?** ***(p. 677)*** When IBM leases computers under operating leases, it reports revenue as it collects "rent" over the lease term. When IBM sells computers, on the other hand, it recognizes revenue "up front" in the year of sales. Actually, total revenues are not necessarily less with a lease, but are spread out over the several years of the lease term. This delays the recognition of revenues, creating the "hit" in the reporting periods in which a shift to leasing occurs.
2. **Under what kind of leasing arrangements would the "hit" not occur?** ***(p. 685)*** The hit will not occur when IBM leases its computers under sales-type leases. In those cases, despite the fact that the contract specifies a lease, in effect, IBM actually sells its computers under the arrangement. Consequently, IBM will recognize sales revenue (and cost of goods sold) at the inception of the lease. The amount recognized is roughly the same as if customers actually buy the computers. As a result, the income statement will not receive the hit created by the substitution of operating leases for outright sales.

THE BOTTOM LINE

1. Leasing is used as a means of off-balance-sheet financing and to achieve operational and tax objectives.
2. In keeping with the concept of substance over form, a lease is accounted for as either a rental agreement or a purchase/sale accompanied by debt financing.
3. A lessee should classify a lease transaction as a capital lease if it is noncancelable and if one or more of four classification criteria are met. Otherwise, it is an operating lease. A lessor records a lease as a direct financing lease or a sales-type lease only if two conditions relating to revenue realization are met in addition to one of the four classification criteria.
4. In an operating lease a sale is not recorded by the lessor; a purchase is not recorded by the lessee. Instead, the periodic rental payments are accounted for merely as rent revenue by the lessor, rent expense by the lessee.
5. In a capital lease the lessee records a leased asset at the present value of the minimum lease payments. A nonoperating lease is recorded by the lessor as a sales-type lease or direct financing lease, depending on whether the lease provides the lessor a dealer's profit.
6. A sales-type lease requires recording sales revenue and cost of goods sold by the lessor at the inception of the lease. All other entries are the same as in a direct financing lease.
7. A lessee-guaranteed residual value is included as a component of minimum lease payments for both the lessor and the lessee. An unguaranteed residual value is not (but is part of the lessor's gross investment in the lease).
8. A bargain purchase option is included as a component of minimum lease payments for both the lessor and the lessee. The lease term effectively ends when the BPO is exercisable.
9. A gain on the sale of an asset in a sale leaseback arrangement is deferred and amortized over the lease term (or asset life if title is expected to transfer to the lessee). The lease portion of the transaction is evaluated and accounted for like any lease.

QUESTIONS FOR REVIEW OF KEY TOPICS

Q 15–1 The basic concept of "substance over form" influences lease accounting. Explain.

Q 15–2 How is interest determined in a nonoperating lease transaction. How does the approach compare to other forms of debt (say bonds payable or notes payable)?

Q 15–3 How are leases and installment notes the same? How do they differ?

Q 15–4 A lessee should classify a lease transaction as a capital lease if it is noncancelable and one or more of four classification criteria are met. Otherwise, it is an operating lease. What are these criteria?

Q 15–5 What is a bargain purchase option? How does it differ from other purchase options?

Q 15–6 Lukawitz Industries leased equipment to Seminole Corporation for a four-year period, at which time possession of the leased asset will revert back to Lukawitz. The equipment cost Lukawitz $4 million and has an expected useful life of six years. Its normal sales price is $5.6 million. The present value of the minimum lease payments for both the lessor and lessee is $5.2 million. The first payment was made at the inception of the lease. Collectibility of the remaining lease payments is reasonably assured, and Lukawitz has no material cost uncertainties. How should this lease be classified (a) by Lukawitz Industries (the lessor) and (b) by Seminole Corporation (the lessee)? Why?

Q 15–7 Can the present value of minimum lease payments differ between the lessor and lessee? If so, how?

Q 15–8 Compare the way a bargain purchase option and a residual value are treated by the lessee when determining minimum lease payments.

Q 15–9 What are executory costs? How are they accounted for by the lessee in a capital lease when paid by the lessee? When paid by the lessor? Explain.

Q 15–10 The discount rate influences virtually every amount reported in connection with a lease by both the lessor and the lessee. What is the lessor's discount rate when determining the present value of minimum lease payments? What is the lessee's discount rate?

Q 15–11 A lease might specify that rental payments may be increased (or decreased) at some future time during the lease term depending on whether or not some specified event occurs such as revenues or profits exceeding some designated level. Under what circumstances are contingent rentals included or excluded from minimum lease payments? If excluded, how are they recognized in income determination?

Q 15–12 The lessor's initial direct costs often are substantial. What are initial direct costs?

Q 15–13 When are initial direct costs recognized in an operating lease? In a direct financing lease? In a sales-type lease? Why?

Q 15–14 In a sale-leaseback transaction the owner of an asset sells it and immediately leases it back from the new owner. This dual transaction should be viewed as a single borrowing transaction. Why?

Q 15–15 Explain how the general classification criteria are applied to leases that involve land.

Q 15–16 What are the guidelines for determining when a material amount of land is involved in a lease?

Q 15–17 How does a leveraged lease differ from a nonleveraged lease?

EXERCISES

E 15–1
Operating lease

On January 1, 2000, Nath-Langstrom Services, Inc., a computer software training firm, leased several computers from ComputerWorld Corporation under a two-year operating lease agreement. The contract calls for four rent payments of $10,000 each, payable semiannually on June 30 and December 31 each year. The computers were acquired by ComputerWorld at a cost of $90,000 and were expected to have a useful life of six years with no residual value.

Required:

Prepare the appropriate entries for both (a) the lessee and (b) the lessor from the inception of the lease through the end of 2000. (Use straight-line depreciation.)

E 15–2
Operating lease; advance payment; leasehold improvement

On January 1, 2000, Winn Heat Transfer leased office space under a three-year operating lease agreement. The arrangement specified three annual rent payments of $80,000 each, beginning January 1, 2000, the inception of the lease, and at each January 1 through 2002. Winn also paid a $96,000 advance payment at the inception of the lease in addition to the first $80,000 rent payment. With permission of the owner, Winn made structural modifications to the building before occupying the space at a cost of $180,000. The useful life of the building and the structural modifications were estimated to be 30 years with no residual value.

Required:

Prepare the appropriate entries for Winn Heat Transfer from the inception of the lease through the end of 2000. Winn's fiscal year is the calendar year. Winn uses straight-line depreciation.

E 15–3
Multiple choice; operating leases

The following questions dealing with various topics in this chapter are adapted from recent CPA examinations. Determine the response that best completes the statements or questions.

1. On January 2, 1999, Ral Co. leased land and building from an unrelated lessor for a 10-year term. The lease has a renewal option for an additional 10 years, but Ral has not reached a decision with

regard to the renewal option. In early January 1999, Ral completed the following improvements to the property:

Description	Estimated Life	Cost
Sales office	10 years	$47,000
Warehouse	25 years	$75,000
Parking lot	15 years	$18,000

Amortization of leasehold improvements for 2000 should be
a. $7,000
b. $8,900
c. $12,200
d. $14,000

2. As an inducement to enter a lease, Graf Co., a lessor, granted Zep, Inc., a lessee, 12 months of free rent under a five-year operating lease. The lease was effective on January 1, 2000, and provides for monthly rental payments to begin January 1, 2001. Zep made the first rental payment on December 30, 2000. In its 2000 income statement, Graf should report rental revenue in an amount equal to
a. Zero.
b. Cash received during 2000
c. One-fourth of the total cash to be received over the life of the lease.
d. One-fifth of the total cash to be received over the life of the lease.

(Note: Exercises 4, 5, and 6 are three variations of the same basic situation.)

E 15–4
Capital lease; lessee

Manufacturers Southern leased high-tech electronic equipment from Edison Leasing on January 1, 2000. Edison purchased the equipment from International Machines at a cost of $112,080.

Related Information:	
Lease term	2 years (8 quarterly periods)
Quarterly rental payments	$15,000—beginning of each period
Economic life of asset	2 years
Fair value of asset	$112,080
Implicit interest rate (Also lessee's incremental borrowing rate)	8%

Required:
Prepare a lease amortization schedule and appropriate entries for Manufacturers Southern from the inception of the lease through January 1, 2001. Depreciation is recorded at the end of each fiscal year (December 31) on a straight-line basis.

E 15–5
Direct financing lease; lessor

Edison Leasing leased high-tech electronic equipment to Manufacturers Southern on January 1, 2000. Edison purchased the equipment from International Machines at a cost of $112,080.

Related Information:	
Lease term	2 years (8 quarterly periods)
Quarterly rental payments	$15,000—beginning of each period
Economic life of asset	2 years
Fair value of asset	$112,080
Implicit interest rate (Also lessee's incremental borrowing rate)	8%

Required:
Prepare a lease amortization schedule and appropriate entries for Edison Leasing from the inception of the lease through January 1, 2001. Edison's fiscal year ends December 31.

E 15–6
Sales-type lease; lessor

Manufacturers Southern leased high-tech electronic equipment from International Machines on January 1, 2000. International Machines manufactured the equipment at a cost of $85,000.

Related Information:	
Lease term	2 years (8 quarterly periods)
Quarterly rental payments	$15,000—beginning of each period
Economic life of asset	2 years
Fair value of asset	$112,080
Implicit interest rate (Also lessee's incremental borrowing rate)	8%

Required:

1. Show how International Machines determined the $15,000 quarterly rental payments.
2. Prepare appropriate entries for International Machines to record the lease at its inception, January 1, 2000, and the second rental payment on April 1, 2000.

E 15–7
Capital lease

American Food Services, Inc., leased a packaging machine from Barton and Barton Corporation. Barton and Barton completed construction of the machine on January 1, 2000. The lease agreement for the $4 million (fair market value) machine specified four equal payments at the end of each year. The useful life of the machine was expected to be four years with no residual value. Barton and Barton's implicit interest rate was 10% (also American Food Services' incremental borrowing rate).

Required:

1. Prepare the journal entry for American Food Services at the inception of the lease on January 1, 2000.
2. Prepare an amortization schedule for the four-year term of the lease.
3. Prepare the journal entry for the first lease payment on December 31, 2000.
4. Prepare the journal entry for the third lease payment on December 31, 2002.

(Note: You may wish to compare your solution to this exercise with that of Exercise 14–17 which deals with a parallel situation in which the packaging machine was acquired with an installment note.)

E 15–8
Lessor calculation of annual rental payments; lessee calculation of asset and liability

Each of the three independent situations below describes a nonoperating lease in which annual rental payments are payable at the beginning of each year. The lessee is aware of the lessor's implicit rate of return.

	Situation		
	1	2	3
Lease term (years)	10	20	4
Lessor's rate of return	11%	9%	12%
Lessee's incremental borrowing rate	12%	10%	11%
Fair market value of leased asset	$600,000	$980,000	$185,000

Required:

For each situation, determine:

a. The amount of the annual rental payments as calculated by the lessor.
b. The amount the lessee would record as a leased asset and a lease liability.

E 15–9
Lessor calculation of annual rental payments; lessee calculation of asset and liability

(Note: This is a variation of the previous exercise modified to assume rental payments are at the end of each period.)

Each of the three independent situations below describes a nonoperating lease in which annual rental payments are payable at the *end* of each year. The lessee is aware of the lessor's implicit rate of return.

	Situation		
	1	2	3
Lease term (years)	10	20	4
Lessor's rate of return	11%	9%	12%
Lessee's incremental borrowing rate	12%	10%	11%
Fair market value of leased asset	$600,000	$980,000	$185,000

Required:

For each situation, determine:

a. The amount of the annual rental payments as calculated by the lessor.
b. The amount the lessee would record as a leased asset and a lease liability.

E 15–10
Calculation of annual lease payments; residual value

Each of the four independent situations below decribes a nonoperating lease in which annual rental payments are payable at the beginning of each year. Determine the annual rental payments for each:

	Situation			
	1	2	3	4
Lease term (years)	4	7	5	8
Lessor's rate of return	10%	11%	9%	12%
Fair market value of leased asset	$50,000	$350,000	$75,000	$465,000
Lessor's cost of leased asset	$50,000	$350,000	$45,000	$465,000
Residual value:				
Guaranteed by lessee	0	$ 50,000	0	$ 30,000
Unguaranteed	0	0	$ 7,000	$ 15,000

E 15–11
Lease concepts; direct financing leases; guaranteed and unguaranteed residual value

Each of the four independent situations below describes a direct financing lease in which annual rental payments of $100,000 are payable at the beginning of each year. Each is a capital lease for the lessee. Determine the following amounts at the inception of the lease:

A. The lessor's:
   1. Minimum lease payments
   2. Gross investment in the lease
   3. Net investment in the lease
   4. Unearned interest revenue

B. The lessee's:
   5. Minimum lease payments
   6. Leased asset
   7. Lease liability

	Situation			
	1	2	3	4
Lease term (years)	7	7	8	8
Lessor's and lessee's discount rate	9%	11%	10%	12%
Residual value:				
Guaranteed by lessee	0	$50,000	0	$40,000
Unguaranteed	0	0	$50,000	$60,000

E 15–12
Calculation of annual lease payments; BPO

For each of the three independent situations below determine the amount of the annual rental payments. Each describes a nonoperating lease in which annual rental payments are payable at the beginning of each year. Each lease agreement contains an option that permits the lessee to acquire the leased asset at an option price sufficiently lower than the expected market value that the exercise of the option appears reasonably certain.

	Situation		
	1	2	3
Lease term (years)	5	12	4
Lessor's rate of return	12%	11%	9%
Fair market value of leased asset	$60,000	$420,000	$185,000
Lessor's cost of leased asset	$50,000	$420,000	$145,000
Bargain purchase option:			
Option price	$10,000	$ 50,000	$ 22,000
Exercisable at end of year:	5	5	3

E 15–13
Capital lease; bargain purchase option; lessee

Federated Fabrications leased a tooling machine on December 31, 1999, for a three-year period. The lease agreement specified annual payments of $36,000 beginning with the first payment at the inception of the lease, and each December 31 through 2001. The company had the option to purchase the machine on December 30, 2002, for $45,000 when its fair value was expected to be $60,000. The machine's estimated useful life was six years with no salvage value. Federated depreciates assets by the straight-line method. The company was aware that the lessor's implicit rate of return was 12%, which was less than Federated's incremental borrowing rate.

Required:

1. Calculate the amount Federated should record as a leased asset and lease liability for this capital lease.
2. Prepare an amortization schedule that describes the pattern of interest expense for Federated over the lease term.
3. Prepare the appropriate entries for Federated from the inception of the lease through the end of the lease term.

E 15–14
Bargain purchase option; lessor; direct financing lease

Universal Leasing leases electronic equipment to a variety of businesses. The company's primary service is providing alternate financing by acquiring equipment and leasing it to customers under long-term direct financing leases. Universal earns interest under these arrangements at a 10% annual rate.

The company leased an electronic typesetting machine purchased for $30,900 to a local publisher, Desktop Inc., on December 31, 1999. The lease contract specified annual payments of $8,000 beginning December 31, 1999, the inception of the lease, and each December 31 through 2001 (three-year lease term). The publisher had the option to purchase the machine on December 30, 2002, for $12,000 when it was expected to have a residual value of $16,000.

Required:

1. Show how Universal calculated the $8,000 annual rental payments for this direct financing lease.

2. Prepare an amortization schedule that describes the pattern of interest revenue for Universal Leasing over the lease term.
3. Prepare the appropriate entries for Universal Leasing from the inception of the lease through the end of the lease term.

E 15–15
Executory costs; lessor and lessee

On December 31, 1999, NRC Credit Corporation leased equipment to Brand Services under a direct financing lease designed to earn NRC a 12% rate of return for providing long-term financing. The lease agreement specified:

a. 10 annual payments of $55,000 (including executory costs) beginning December 31, 1999, the inception of the lease.
b. The estimated useful life of the leased equipment is 10 years with no residual value. Its cost to NRC was $316,412.
c. The lease qualifies as a capital lease to Brand.
d. A 10-year service agreement with Quality Maintenance Company was negotiated to provide maintenance of the equipment as required. Payments of $5,000 per year are specified, beginning December 31, 1999. NRC was to pay this executory cost as incurred, but lease payments reflect this expenditure.
e. A partial amortization schedule, appropriate for both the lessee and lessor, follows:

Dec. 31	Payments	Effective Interest (12% × Outstanding balance)	Decrease in Balance	Outstanding Balance
				316,412
1999	50,000		50,000	266,412
2000	50,000	.12(266,412) = 31,969	18,031	248,381
2001	50,000	.12(248,381) = 29,806	20,194	228,188

Required:
Prepare the appropriate entries for both the lessee and lessor to record:
1. The lease at its inception.
2. The second lease payment and depreciation (straight line) on December 31, 2000.

E 15–16
Executory costs plus management fee; lessor and lessee

Refer to the lease agreement described in the previous exercise. Assume the contract specified that NRC (the lessor) was to pay, not only the $5,000 maintenance fees, but also insurance of $700 per year, and was to receive a $250 management fee for facilitating service and paying executory costs. The lessee's rental payments were increased to include an amount sufficient to reimburse executory costs plus NRC's fee.

Required:
Prepare the appropriate entries for both the lessee and lessor to record the **second** lease payment, executory costs, and depreciation (straight line) on December 31, 2000.

E 15–17
Multiple choice; nonoperating leases

The following questions dealing with various topics in this chapter are adapted from recent CPA examinations. Determine the response that best completes the statements or questions.

1. On December 31, 1999, Roe Co. leased a machine from Colt for a five-year period. Equal annual payments under the lease are $105,000 (including $5,000 annual executory costs) and are due on December 31 of each year. The first payment was made on December 31, 1999, and the second payment was made on December 31, 2000. The five lease payments are discounted at 10% over the lease term. The present value of minimum lease payments at the inception of the lease and before the first annual payment was $417,000. The lease is appropriately accounted for as a capital lease by Roe. In its December 31, 2000, balance sheet, Roe should report a lease liability of
   a. $317,000
   b. $315,000
   c. $285,300
   d. $248,700
2. Winn Co. manufactures equipment that is sold or leased. On December 31, 2000, Winn leased equipment to Bart for a five-year period ending December 31, 2005, at which date ownership of the leased asset will be transferred to Bart. Equal payments under the lease are $22,000 (including $2,000 executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2000. Collectibility of the remaining lease payments is reasonably assured, and Winn has no material cost uncertainties. The normal sales price of the equipment is $77,000, and cost is $60,000. For the year ended December 31, 2000, what amount of income should Winn realize from the lease transaction?
   a. $17,000

b. $22,000
c. $23,000
d. $33,000

3. At the inception of a capital lease, the guaranteed residual value should be
   a. Included as part of minimum lease payments at present value.
   b. Included as part of minimum lease payments at future value.
   c. Included as part of minimum lease payments only to the extent that guaranteed residual value is expected to exceed estimated residual value.
   d. Excluded from minimum lease payments.

E 15–18
Lessor's initial direct costs; operating, direct financing and sales-type leases

Terms of a lease agreement and related facts were:

a. Leased asset had a retail cash selling price of $100,000. Its useful life was six years with no residual value (straight-line depreciation).
b. Annual rental payments at the beginning of each year were $20,873, beginning January 1.
c. Lessor's implicit rate when calculating annual rental payments was 10%.
d. Costs of negotiating and consummating the completed lease transaction incurred by the lessor were $2,062.
e. Collectibility of the rent payments by the lessor was reasonably predictable and there were no costs to the lessor that were yet to be incurred.

Required:

Prepare the appropriate entries for the lessor to record the lease, the initial payment at its inception, and at the December 31 fiscal year-end under each of the following three independent assumptions:

1. The lease term is three years and the lessor paid $100,000 to acquire the asset (operating lease).
2. The lease term is six years and the lessor paid $100,000 to acquire the asset (direct financing lease). Also assume that adjusting the net investment by initial direct costs reduces the effective rate of interest to 9%.
3. The lease term is six years and the lessor paid $85,000 to acquire the asset (sales-type lease).

E 15–19
Lessor's initial direct costs; operating lease

The following relate to an operating lease agreement:

a. The lease term is 3 years, beginning January 1, 2000.
b. The leased asset cost the lessor $800,000 and had a useful life of eight years with no residual value. The lessor uses straight-line depreciation for its depreciable assets.
c. Annual rental payments at the beginning of each year were $137,000.
d. Costs of negotiating and consummating the completed lease transaction incurred by the lessor were $2,400.

Required:

Prepare the appropriate entries for the lessor from the inception of the lease through the end of the lease term.

E 15–20
Lessor's initial direct costs; direct financing lease

Terms of a lease agreement and related facts were:

a. Costs of negotiating and consummating the completed lease transaction incurred by the lessor were $4,242.
b. The retail cash selling price of the leased asset was $500,000. Its useful life was three years with no residual value.
c. Collectibility of the rent payments by the lessor was reasonably predictable and there were no costs to the lessor that were yet to be incurred.
d. The lease term is three years and the lessor paid $500,000 to acquire the asset (direct financing lease).
e. Annual rental payments at the beginning of each year were $184,330.
f. Lessor's implicit rate when calculating annual rental payments was 11%.

Required:

1. Prepare the appropriate entries for the lessor to record the lease and related payments at its inception, January 1, 2000.
2. Calculate the effective rate of interest revenue after adjusting the net investment by initial direct costs.
3. Record any entry(s) necessary at December 31, 2000, the fiscal year-end.

E 15–21
Lessor's initial direct costs; sales-type lease

The lease agreement and related facts indicate the following:

a. Leased equipment had a retail cash selling price of $300,000. Its useful life was five years with no residual value.
b. Collectibility of the rent payments by the lessor was reasonably predictable and there were no costs to the lessor that were yet to be incurred.

c. The lease term is five years and the lessor paid $265,000 to acquire the equipment (sales-type lease).
d. Lessor's implicit rate when calculating annual rental payments was 8%.
e. Annual rental payments beginning January 1, 2000, the inception of the lease, were $69,571.
f. Costs of negotiating and consummating the completed lease transaction incurred by the lessor were $7,500.

Required:

Prepare the appropriate entries for the lessor to record:
1. The lease and the initial payment at its inception.
2. Any entry(s) necessary at December 31, 2000, the fiscal year-end.

E 15–22
Sale-leaseback; capital lease

To raise operating funds, Signal Aviation sold an airplane on January 1, 2000, to a finance company for $770,000. Signal immediately leased the plane back for a 13-year period, at which time ownership of the airplane will transfer to Signal. The airplane has a fair value of $800,000. Its cost and its carrying value were $620,000. Its useful life is estimated to be 15 years. The lease requires Signal to make payments of $102,771 to the finance company each January 1. Signal depreciates assets on a straight-line basis. The lease has an implicit rate of 11%.

Required:

Prepare the appropriate entries for Signal on:
1. January 1, 2000, to record the sale-leaseback.
2. December 31, 2000, to record necessary adjustments.

E 15–23
Sale-leaseback; operating lease

To raise operating funds, National Distribution Center sold its office building to an insurance company on January 1, 2000, for $800,000 and immediately leased the building back. The operating lease is for the final 12 years of the building's estimated 50-year useful life. The building has a fair value of $800,000 and a carrying amount of $650,000 (its original cost was $1,000,000). The rental payments of $100,000 are payable to the insurance company each December 31. The lease has an implicit rate of 9%.

Required:

Prepare the appropriate entries for National Distribution Center on:
1. January 1, 2000, to record the sale-leaseback.
2. December 31, 2000, to record necessary adjustments.

E 15–24
Multiple choice; other lease accounting issues

The following questions dealing with various topics in this chapter are adapted from recent CPA examinations. Determine the response that best completes the statements or questions.

1. Able sold its headquarters building at a gain and simultaneously leased back the building. The lease was reported as a capital lease. At the time of sale, the gain should be reported as
   a. Operating income.
   b. An extraordinary item, net of income tax.
   c. A separate component of shareholders' equity.
   d. An asset valuation allowance.
2. On January 1, 2000, Wren Co. leased a building to Brill under an operating lease for 10 years at $50,000 per year, payable the first day of each lease year. Wren paid $15,000 to a real estate broker as a finder's fee. The building is depreciated $12,000 per year. For 2000, Wren incurred insurance and property tax expense totaling $9,000. Wren's net rental income for 2000 should be
   a. $27,500
   b. $29,000
   c. $35,000
   d. $36,500

E 15–25
Concepts; terminology

Listed below are several terms and phrases associated with leases. Pair each item from List A (by letter) with the item from List B that is most appropriately associated with it.

List A	List B
_____ 1. Effective rate times balance.	a. PV of BPO price.
_____ 2. Realization principle.	b. Lessor's net investment.
_____ 3. Minimum lease payments plus unguaranteed residual value.	c. Lessor's gross investment.
_____ 4. Periodic rent payments plus lessee-guaranteed residual value.	d. Operating lease.
_____ 5. PV of minimum lease payments plus PV of unguaranteed residual value.	e. Depreciable assets.
_____ 6. Initial direct costs.	f. Loss to lessee.
	g. Executory costs.
	h. Depreciation longer than lease term.
	i. Disclosure only.

_____ 7. Rent revenue.
_____ 8. Bargain purchase option.
_____ 9. Leasehold improvements.
_____ 10. Cash to satisfy residual value guarantee.
_____ 11. Capital lease expense.
_____ 12. Deducted in lessor's computation of rental payments.
_____ 13. Title transfers to lessee.
_____ 14. Contingent rentals.
_____ 15. Rent payments plus lessee-guaranteed and third-party-guaranteed residual value.

j. Interest expense.
k. Additional lessor conditions.
l. Lessee's minimum lease payments.
m. Purchase price less than fair market value.
n. Sales-type lease selling expense.
o. Lessor's minimum lease payments.

E 15–26
Real estate lease; land and building

On January 1, 2000, Cook Textiles leased a building with two acres of land from Peck Development. The lease is for 10 years at which time Cook has an option to purchase the property for $100,000. The building has an estimated life of 20 years with a residual value of $150,000. The lease calls for Cook to assume all costs of ownership and to make annual payments of $200,000 due at the beginning of each year. On January 1, 2000, the estimated value of the land was $400,000. Cook uses the straight-line method of depreciation and pays 10% interest on borrowed money. Peck's implicit rate is unknown.

Required:
Prepare Cook Company's journal entries related to the lease in 2000.

PROBLEMS

P 15–1
Operating lease; scheduled rent increases

On January 1, 2000, Sweetwater Furniture Company leased office space under a 21-year operating lease agreement. The contract calls for annual rent payments on December 31 of each year. The payments are $10,000 the first year and increase by $500 per year. Benefits expected from using the office space are expected to remain constant over the lease term.

Required:
Record Sweetwater's rent payment at December 31, 2004 (the fifth rent payment) and December 31, 2014 (the 15th rent payment).

P 15–2
Lease amortization schedule

On January 1, 2000, National Insulation Corporation (NIC) leased office space under a capital lease. Rental payments are made annually. Title does not transfer to the lessee and there is no bargain purchase option. Portions of the lessee's lease amortization schedule appear below:

Jan. 1	Payments	Effective Interest	Decrease in Balance	Outstanding Balance
2000				192,501
2000	20,000		20,000	172,501
2001	20,000	17,250	2,750	169,751
2002	20,000	16,975	3,025	166,726
2003	20,000	16,673	3,327	163,399
2004	20,000	16,340	3,660	159,739
2005	20,000	15,974	4,026	155,713
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
2017	20,000	7,364	12,636	61,006
2018	20,000	6,101	13,899	47,107
2019	20,000	4,711	15,289	31,818
2020	35,000	3,182	31,818	0

Required:
1. What is NIC's lease liability at the inception of the lease (after the first payment)?
2. What amount would NIC record as a leased asset?
3. What is the lease term in years?
4. What is the asset's residual value expected at the end of the lease term?
5. How much of the residual value is guaranteed by the lessee?
6. What is the effective annual interest rate?
7. What is the total amount of minimum lease payments?
8. What is the total effective interest expense recorded over the term of the lease?

P 15–3
Direct financing and sales-type lease; lessee and lessor

Rand Medical manufactures lithotripters. Lithotripsy uses shock waves instead of surgery to eliminate kidney stones. Physicians' Leasing purchased a lithotripter from Rand for $2,000,000 and leased it to Mid-South Urologists Group, Inc., on January 1, 2000.

Lease Description:	
Quarterly rental payments	$130,516—beginning of each period
Lease term	5 years (20 quarters)
No residual value; no BPO	
Economic life of lithotripter	5 years
Implicit interest rate and lessee's incremental borrowing rate	12%
Fair value of asset	$2,000,000

Collectibility of the rental payments is reasonably assured, and there are no lessor costs yet to be incurred.

Required:

1. How should this lease be classified by Mid-South Urologists Group and by Physicians' Leasing?
2. Prepare appropriate entries for both Mid-South Urologists Group and Physicians' Leasing from the inception of the lease through the second rental payment on April 1, 2000. Depreciation is recorded at the end of each fiscal year (December 31).
3. Assume Mid-South Urologists Group leased the lithotripter directly from the manufacturer, Rand Medical, which produced the machine at a cost of $1,700,000. Prepare appropriate entries for Rand Medical from the inception of the lease through the second rental payment on April 1, 2000.

P 15–4
Capital lease

At the beginning of 2000, VHF Industries acquired a machine with a fair market value of $6,074,700 by signing a four-year lease. Rentals are payable in four annual payments of $2 million at the end of each year.

Required:

1. What is the effective rate of interest implicit in the agreement?
2. Prepare the lessee's journal entry at the inception of the lease.
3. Prepare the journal entry to record the first lease payment at December 31, 2000.
4. Prepare the journal entry to record the second lease payment at December 31, 2001.
5. Suppose the market value of the machine and the lessor's implicit rate were unknown at the time of the lease, but that the lessee's incremental borrowing rate of interest for notes of similar risk was 11%. Prepare the lessee's entry at the inception of the lease.

(Note: You may wish to compare your solution to this problem with that of Problem 14–11, which deals with a parallel situation in which the machine was acquired with an installment note.)

P 15–5
Guaranteed residual value; direct financing lease

(Note: Problems 5, 6, and 7 are three variations of the same basic situation.)

On December 31, 2000, Rhone-Metro Industries leased equipment to Western Soya Co. for a four-year period ending December 31, 2004, at which time possession of the leased asset will revert back to Rhone-Metro. The equipment cost Rhone-Metro $365,760 and has an expected useful life of six years. Its normal sales price is $365,760. The lessee-guaranteed residual value at December 31, 2004, is $25,000. Equal payments under the lease are $100,000 and are due on December 31 of each year. The first payment was made on December 31, 2000. Collectibility of the remaining lease payments is reasonably assured, and Rhone-Metro has no material cost uncertainties. Western Soya's incremental borrowing rate is 12%. Western Soya knows the interest rate implicit in the lease payments is 10%. Both companies use straight-line depreciation.

Required:

1. Show how Rhone-Metro calculated the $100,000 annual rental payments.
2. How should this lease be classified (a) by Western Soya Co. (the lessee) and (b) by Rhone-Metro Industries (the lessor)? Why?
3. Prepare the appropriate entries for both Western Soya Co. and Rhone-Metro on December 31, 2000.
4. Prepare an amortization schedule(s) describing the pattern of interest over the lease term for the lessee and the lessor.
5. Prepare all appropriate entries for both Western Soya and Rhone-Metro on December 31, 2001 (the second rent payment and depreciation).
6. Prepare the appropriate entries for both Western Soya and Rhone-Metro on December 31, 2004 assuming the equipment is returned to Rhone-Metro and the actual residual value on that date is $1,500.

P 15–6
Unguaranteed residual value; executory costs; sales-type lease

Rhone-Metro Industries manufactures equipment that is sold or leased. On December 31, 2000, Rhone-Metro leased equipment to Western Soya Co. for a four-year period ending December 31, 2004, at which time possession of the leased asset will revert back to Rhone-Metro. The equipment cost $300,000 to manufacture and has an expected useful life of six years. Its normal sales price is $365,760. The expected residual value of $25,000 at December 31, 2004, is not guaranteed. Equal

payments under the lease are $104,000 (including $4,000 executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2000. Collectibility of the remaining lease payments is reasonably assured, and Rhone-Metro has no material cost uncertainties. Western Soya's incremental borrowing rate is 12%. Western Soya knows the interest rate implicit in the lease payments is 10%. Both companies use straight-line depreciation.

Required:

1. Show how Rhone-Metro calculated the $104,000 annual rental payments.
2. How should this lease be classified (a) by Western Soya Co. (the lessee) and (b) by Rhone-Metro Industries (the lessor)? Why?
3. Prepare the appropriate entries for both Western Soya Co. and Rhone-Metro on December 31, 2000.
4. Prepare an amortization schedule(s) describing the pattern of interest over the lease term for the lessee and the lessor.
5. Prepare the appropriate entries for both Western Soya and Rhone-Metro on December 31, 2001 (the second rent payment and depreciation).
6. Prepare the appropriate entries for both Western Soya and Rhone-Metro on December 31, 2004, assuming the equipment is returned to Rhone-Metro and the actual residual value on that date is $1,500.

P 15–7

Bargain purchase option exercisable before lease term ends; executory costs; sales-type lease

Rhone-Metro Industries manufactures equipment that is sold or leased. On December 31, 2000, Rhone-Metro leased equipment to Western Soya Co. for a noncancelable stated lease term of four years ending December 31, 2004, at which time possession of the leased asset will revert back to Rhone-Metro. The equipment cost $300,000 to manufacture and has an expected useful life of six years. Its normal sales price is $365,760. The expected residual value of $25,000 at December 31, 2004, is not guaranteed. Western Soya Co. can exercise a bargain purchase option on December 30, 2003, at an option price of $10,000. Equal payments under the lease are $134,960 (including $4,000 annual executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2000. Collectibility of the remaining lease payments is reasonably assured, and Rhone-Metro has no material cost uncertainties. Western Soya's incremental borrowing rate is 12%. Western Soya knows the interest rate implicit in the lease payments is 10%. Both companies use straight-line depreciation.

Hint: A lease term ends for accounting purposes when an option becomes exercisable if it's expected to be exercised (i.e., a BPO).

Required:

1. Show how Rhone-Metro calculated the $134,960 annual rental payments.
2. How should this lease be classified (a) by Western Soya Co. (the lessee) and (b) by Rhone-Metro Industries (the lessor)? Why?
3. Prepare the appropriate entries for both Western Soya Co. and Rhone-Metro on December 31, 2000.
4. Prepare an amortization schedule(s) describing the pattern of interest over the lease term for the lessee and the lessor.
5. Prepare the appropriate entries for both Western Soya and Rhone-Metro on December 31, 2001 (the second rent payment and depreciation).
6. Prepare the appropriate entries for both Western Soya and Rhone-Metro on December 30, 2003, assuming the BPO is exercised on that date.

P 15–8

Operating lease to lessee—nonoperating lease to lessor

Allied Industries manufactures high performance conveyers that often are leased to industrial customers. On December 31, 2000, Allied leased a conveyer to Poole Carrier Corporation for a three-year period ending December 31, 2003, at which time possession of the leased asset will revert back to Allied. Equal payments under the lease are $200,000 and are due on December 31 of each year. The first payment was made on December 31, 2000. Collectibility of the remaining lease payments is reasonably assured, and Allied has no material cost uncertainties. The conveyer cost $450,000 to manufacture and has an expected useful life of six years. Its normal sales price is $659,805. The expected residual value of $150,000 at December 31, 2003, is guaranteed by United Assurance Group. Poole Carrier's incremental borrowing rate and the interest rate implicit in the lease payments are 10%.

Required:

1. Show how Allied Industries calculated the $200,000 annual rental payments.
2. How should this lease be classified (a) by Allied (the lessor) and (b) by Poole (the lessee)? Why?
3. Prepare the appropriate entries for both Poole and Allied on December 31, 2000.
4. Prepare an amortization schedule(s) describing the pattern of interest over the lease term.
5. Prepare the appropriate entries for both Poole and Allied on December 31, 2001, 2002, and 2003, assuming the conveyer is returned to Allied at the end of the lease and the actual residual value on that date is $105,000.

P 15–9
Lease concepts; direct financing leases; guaranteed and unguaranteed residual value

Each of the four independent situations below describes a direct financing lease in which annual rental payments of $10,000 are payable at the beginning of each year. Each is a capital lease for the lessee. Determine the following amounts at the inception of the lease:

A. The lessor's:
1. Minimum lease payments
2. Gross investment in the lease
3. Net investment in the lease
4. Unearned interest revenue

B. The lessee's:
5. Minimum lease payments
6. Leased asset
7. Lease liability

	Situation			
	1	2	3	4
Lease term (years)	4	4	4	4
Asset's useful life (years)	4	5	5	5
Lessor's implicit rate (known by lessee)	11%	11%	11%	11%
Lessee's incremental borrowing rate	11%	12%	11%	12%
Residual value:				
Guaranteed by lessee	0	$4,000	0	0
Guaranteed by third party	0	0	$4,000	0
Unguaranteed	0	0	0	$4,000

P 15–10
Lease concepts

Four independent situations are described below. For each, annual rental payments of $100,000 (not including any executory costs paid by lessor) are payable at the beginning of each year. Each is a non-operating lease for both the lessor and lessee. Determine the following amounts at the inception of the lease:

A. The lessor's:
1. Minimum lease payments
2. Gross investment in the lease
3. Net investment in the lease
4. Unearned interest revenue
5. Sales revenue
6. Cost of goods sold
7. Dealer's profit

B. The lessee's:
8. Minimum lease payments
9. Leased asset
10. Lease liability

	Situation			
	1	2	3	4
Lease term (years)	4	5	6	4
Lessor's cost	$369,175	$433,809	$500,000	$400,000
Asset's useful life (years)	6	7	7	5
Lessor's implicit rate (known by lessee)	10%	12%	9%	10%
Lessee's incremental borrowing rate	9%	10%	11%	12%
Residual value:				
Guaranteed by lessee	0	$ 53,000	$ 40,000	$ 60,000
Guaranteed by third party*	0	0	0	$ 50,000
Unguaranteed	$ 30,000	0	$ 35,000	$ 40,000
Executory costs paid annually by lessor	$ 1,000	$ 8,000	$ 5,000	$ 10,000

*Over and above any amount guaranteed by the lessee (after a deductible equal to any amount guaranteed by the lessee).

P 15–11
Executory costs; lessor and lessee

Branif Leasing leases mechanical equipment to industrial consumers under direct financing leases that earn Branif a 10% rate of return for providing long-term financing. A lease agreement with Branson Construction specified 20 annual payments of $100,000 beginning December 31, 1999, the inception of the lease. The estimated useful life of the leased equipment is 20 years with no residual value. Its cost to Branif was $936,500. The lease qualifies as a capital lease to Branson. Maintenance of the equipment was contracted for through a 20-year service agreement with Midway Service Company

requiring 20 annual payments of $3,000 beginning December 31, 1999. Both companies use straight-line depreciation.

Required:

Prepare the appropriate entries for both the lessee and lessor to record the second lease payment and depreciation on December 31, 2000, under each of three independent assumptions:

1. The lessee pays executory costs as incurred.
2. The contract specifies that the lessor pays executory costs as incurred. The lessee's rental payments were increased to $103,000 to include an amount sufficient to reimburse these costs.
3. The contract specifies that the lessor pays executory costs as incurred. The lessee's rental payments were increased to $103,300 to include an amount sufficient to reimburse these costs plus a 10% management fee for Branif.

P 15–12

Sales-type lease; bargain purchase option exercisable before lease term ends; lessor and lessee

Mid-South Auto Leasing leases vehicles to consumers. The attraction to customers is that the company can offer competitive prices due to volume buying and requires an interest rate implicit in the lease that is one percent below alternate methods of financing. On September 30, 2000, the company leased a delivery truck to a local florist, Anything Grows.

The lease agreement specified quarterly payments of $3,000 beginning September 30, 2000, the inception of the lease, and each quarter (December 31, March 31, and June 30) through June 30, 2003 (three-year lease term). The florist had the option to purchase the truck on September 29, 2002, for $6,000 when it was expected to have a residual value of $10,000. The estimated useful life of the truck is four years. Mid-South Auto Leasing's quarterly interest rate for determining payments was 3% (approximately 12% annually). Mid-South paid $25,000 for the truck. Both companies use straight-line depreciation.

Hint: A lease term ends for accounting purposes when an option becomes exercisable if it's expected to be exercised (i.e., a BPO).

Required:

1. Calculate the amount of dealer's profit that Mid-South would recognize in this sales-type lease. (Be careful to note that, although payments occur on the last calendar day of each quarter, since the first payment was at the inception of the lease, payments represent an annuity due.)
2. Prepare the appropriate entries for Anything Grows and Mid-South on September 30, 2000.
3. Prepare an amortization schedule(s) describing the pattern of interest expense for Anything Grows and interest revenue for Mid-South Auto Leasing over the lease term.
4. Prepare the appropriate entries for Anything Grows and Mid-South Auto Leasing on December 31, 2000.
5. Prepare the appropriate entries for Anything Grows and Mid-South on September 29, 2002, assuming the bargain purchase option was exercised on that date.

P 15–13

Lessee-guaranteed residual value; third-party-guaranteed residual value; unguaranteed residual value; executory costs; different interest rates for lessor and lessee

On December 31, 1999, Yard Art Landscaping leased a delivery truck from Branch Motors. Branch paid $40,000 for the truck. Its retail value is $45,114.

The lease agreement specified annual payments of $11,000 beginning December 31, 1999, the inception of the lease, and at each December 31 through 2002. Branch Motors' interest rate for determining payments was 10%. At the end of the four-year lease term (December 31, 2003) the truck was expected to be worth $15,000. The estimated useful life of the truck is five years with no salvage value. Both companies use straight-line depreciation.

Yard Art guaranteed a residual value of $6,000. Guarantor Assurance Corporation was engaged to guarantee a residual value of $11,000, but with a deductible equal to any amount paid by the Lessee ($11,000 reduced by any amount paid by the Lessee). Yard Art's incremental borrowing rate is 9%.

A $1,000 per year maintenance agreement was arranged for the truck with an outside service firm. As an expediency, Branch Motors agreed to pay this fee. It is, however, reflected in the $11,000 rental payments.

Collectibility of the rent payments by Yard Arts is reasonably predictable and there are no costs to the lessor that are yet to be incurred.

Required:

1. How should this lease be classified by Yard Art Landscaping (the lessee)? Why?
2. Calculate the amount Yard Arts Landscaping would record as a leased asset and a lease liability.
3. How should this lease be classified by Branch Motors (the lessor)? Why?
4. Show how Branch Motors calculated the $11,000 annual rental payments.
5. Calculate the amount Branch Motors would record as sales revenue.
6. Prepare the appropriate entries for both Yard Arts and Branch Motors on December 31, 1999.
7. Prepare an amortization schedule that describes the pattern of interest expense over the lease term for Yard Arts.

8. Prepare an amortization schedule that describes the pattern of interest revenue over the lease term for Branch Motors.
9. Prepare the appropriate entries for both Yard Arts and Branch Motors on December 31, 2000.
10. Prepare the appropriate entries for both Yard Arts and Branch Motors on December 31, 2002 (the final rent payment).
11. Prepare the appropriate entries for both Yard Arts and Branch Motors on December 31, 2003 (the end of the lease term), assuming the truck is returned to the lessor and the actual residual value of the truck was $4,000 on that date.

P 15–14
Initial direct costs; direct financing lease

Bidwell Leasing purchased a single-engine plane for its fair market value of $645,526 and leased it to Red Baron Flying Club on December 31, 1999.

Terms of the lease agreement and related facts were:

a. Eight annual payments of $110,000 beginning December 31, 1999, the inception of the lease, and at each December 31 through 2006. Bidwell Leasing's implicit interest rate was 10%. The estimated useful life of the plane is eight years. Payments were calculated as follows:

Amount to be recovered (fair market value)	$645,526
Rent payments at the beginning of each of the next eight years: ($645,526 ÷ 5.86842*)	$110,000

*Present value of an annuity due of $1: $n = 8$, $i = 10\%$.

b. Red Baron's incremental borrowing rate is 11%.
c. Costs of negotiating and consummating the completed lease transaction incurred by Bidwell Leasing were $18,099.
d. Collectibility of the rent payments by Bidwell Leasing is reasonably predictable and there are no costs to the lessor that are yet to be incurred.

Required:

1. How should this lease be classified (a) by Bidwell Leasing (the lessor) and (b) by Red Baron (the lessee)?
2. Prepare the appropriate entries for both Red Baron Flying Club and Bidwell Leasing on December 31, 1999.
3. Prepare an amortization schedule that describes the pattern of interest expense over the lease term for Red Baron Flying Club.
4. Determine the effective rate of interest for Bidwell Leasing for the purpose of recognizing interest revenue over the lease term.
5. Prepare an amortization schedule that describes the pattern of interest revenue over the lease term for Bidwell Leasing.
6. Prepare the appropriate entries for both Red Baron and Bidwell Leasing on December 31, 2000 (the second rent payment). Both companies use straight-line depreciation.
7. Prepare the appropriate entries for both Red Baron and Bidwell Leasing on December 31, 2006 (the final rent payment).

P 15–15
Initial direct costs; sales-type lease

(Note: This problem is a variation of the preceding problem, modified to cause the lease to be a sales-type lease.)

Bidwell Leasing purchased a single-engine plane for $400,000 and leased it to Red Baron Flying Club for its fair market value of $645,526 on December 31, 1999.

Terms of the lease agreement and related facts were:

a. Eight annual payments of $110,000 beginning December 31, 1999, the inception of the lease, and at each December 31 through 2006. Bidwell Leasing's implicit interest rate was 10%. The estimated useful life of the plane is eight years. Payments were calculated as follows:

Amount to be recovered (fair market value)	$645,526
Rent payments at the beginning of each of the next eight years: ($645,526 ÷ 5.86842*)	$110,000

*Present value of an annuity due of $1: $n = 8$, $i = 10\%$.

b. Red Baron's incremental borrowing rate is 11%.
c. Costs of negotiating and consummating the completed lease transaction incurred by Bidwell Leasing were $18,099.

d. Collectibility of the rent payments by Bidwell Leasing is reasonably predictable and there are no costs to the lessor that are yet to be incurred.

Required:

1. How should this lease be classified (a) by Bidwell Leasing (the lessor) and (b) by Red Baron (the lessee)?
2. Prepare the appropriate entries for both Red Baron Flying Club and Bidwell Leasing on December 31, 1999.
3. Prepare an amortization schedule that describes the pattern of interest expense over the lease term for Red Baron Flying Club.
4. Prepare the appropriate entries for both Red Baron and Bidwell Leasing on December 31, 2000 (the second rent payment). Both companies use straight-line depreciation.
5. Prepare the appropriate entries for both Red Baron and Bidwell Leasing on December 31, 2006 (the final rent payment).

P 15–16
Sale-leaseback

To raise operating funds, North American Courier Corporation sold its building on January 1, 2000, to an insurance company for $500,000 and immediately leased the building back. The lease is for a 10-year period ending December 31, 2009, at which time ownership of the building will revert to North American Courier. The building has a carrying amount of $400,000 (original cost $1,000,000). The lease requires North American to make payments of $88,492 to the insurance company each December 31. The building had a total original useful life of 30 years with no residual value and is being depreciated on a straight-line basis. The lease has an implicit rate of 12%.

Required:

1. Prepare the appropriate entries for North American on (a) January 1, 2000, to record the sale-leaseback and (b) December 31, 2000, to record necessary adjustments.
2. Show how North American's December 31, 2000, balance sheet and income statement would reflect the sale-leaseback.

P 15–17
Real estate lease; land and building

On January 1, 2000, Cook Textiles leased a building with two acres of land from Peck Development. The lease is for 10 years. No purchase option exists and the property will revert to Peck at the end of the lease. The building and land combined have a fair market value on January 1, 2000, of $1,450,000 and the building has an estimated life of 20 years with a residual value of $150,000. The lease calls for Cook to assume all costs of ownership and to make annual payments of $200,000 due at the beginning of each year. On January 1, 2000, the estimated value of the land was $400,000. Cook uses the straight-line method of depreciation and pays 10% interest on borrowed money. Peck's implicit rate is unknown.

Required:

1. Prepare journal entries for Cook Textiles for 2000. Assume the land could be rented without the building for $59,000 each year.
2. Assuming the land had a fair market value on January 1, 2000, of $200,000 and could be rented alone for $30,000, prepare journal entries for Cook Textiles for 2000.

BROADEN YOUR PERSPECTIVE

Expand your critical-thinking skills through practice. These cases will give you an opportunity to work with other students, hone your writing skills, use the Internet, and explore other resources that will broaden your knowledge and develop your decision-making skills.

Financial Analysis Case 15–1
Reporting leases; off-balance-sheet financing

Federal Express Corporation

Refer to the financial statements and related disclosure notes of Federal Express Corporation in the appendix to Chapter 1. Management's Discussion and Analysis states that "Generally, management's practice in recent years with respect to funding new aircraft acquisitions has been to finance such aircraft through long-term lease transactions that qualify as off-balance-sheet operating leases under applicable accounting rules."

Required:

1. What does Federal Express's management mean when it says some leases "qualify as off-balance-sheet" financing?
2. See Note 5 in the disclosure notes. What is Federal Express's capital lease liability?

3. If the operating leases were capitalized, approximately how much would that increase the capital lease liability?
4. What effect would that have on the company's debt-equity ratio?

Discussion Case 15–2
Capital leases

Casey King Enterprises entered into two noncancelable leases for new machines to be used in its manufacturing operations. The first lease does not contain a bargain purchase option; the lease term is equal to 80% of the estimated economic life of the machine. The second lease contains a bargain purchase option; the lease term is equal to 50% of the estimated economic life of the machine.

Required:

1. What is the theoretical basis for requiring lessees to capitalize certain long-term leases? Do not discuss the specific criteria classifying a lease as a capital lease.
2. How should a lessee account for a capital lease at its inception?
3. How should a lessee record each minimum lease payment for a capital lease?
4. How should Von classify each of the two leases? Why?

(AICPA adapted)

Writing Case 15–3
Where's the gain?

General Tools is seeking ways to maintain and improve cash balances. As company controller, you have proposed the sale and leaseback of much of the company's equipment. As seller-lessee, General Tools would retain the right to essentially all of the remaining use of the equipment. The term of the lease would be six years. A gain would result on the sale portion of the transaction. The lease portion would be classified appropriately as a capital lease.

You previously convinced your CFO of the cash flow benefits of the arrangement, but now he doesn't understand the way you will account for the transaction. "I really had counted on that gain to bolster this period's earnings. What gives?" he wondered. "Put it in a memo, will you? I'm having trouble following what you're saying to me."

Required:

Write a memo to your CFO. Include discussion of each of these points:

1. How the sale portion of the sale-leaseback transaction should be accounted for at the lease's inception.
2. How the gain on the sale portion of the sale-leaseback transaction should be accounted for during the lease.
3. How the leaseback portion of the sale-leaseback transaction should be accounted for at the lease's inception.
4. The conceptual basis for capitalizing certain long-term leases.

Group Interaction Case 15–4
Classification issues; lessee accounting

Interstate Automobiles Corporation leased 40 vans to VIP Transport under a four-year noncancelable lease on December 30, 1999. Information concerning the lease and the vans follows:

a. Equal annual lease payments of $300,000 are due on December 31 each year. The first payment was made December 31, 1999. Interstate's implicit interest rate is 10% and known by VIP.
b. VIP has the option to purchase all of the vans at the end of the lease for a total of $290,000. The vans' estimated residual value is $300,000 at the end of the lease term and $50,000 at the end of 7 years, the estimated life of each van.
c. VIP estimates the fair value of the vans to be $1,240,000. Interstate's cost was $1,050,000.
d. VIP's incremental borrowing rate is 11%.
e. VIP will pay the executory costs (maintenance, insurance, and other fees not included in the annual lease payments) of $1,000 per year. The depreciation method is straight-line.
f. The collectibility of the lease payments is reasonably predictable, and there are no important cost uncertainties.

Your instructor will divide the class into from two to six groups depending on the size of the class. The mission of your group is to assess the proper recording and reporting of the lease described.

Required:

1. Each group member should deliberate the situation independently and draft a tentative argument prior to the class session for which the case is assigned.
2. In class, each group will meet for 10 to 15 minutes in different areas of the classroom. During that meeting, group members will take turns sharing their suggestions for the purpose of arriving at a single group treatment.
3. After the allotted time, a spokesperson for each group (selected during the group meetings) will share the group's solution with the class. The goal of the class is to incorporate the views of each group into a consensus approach to the situation.

Specifically, you should address:

a. Identify potential advantages to VIP of leasing the vans rather than purchasing them.
b. How should the lease be classified by VIP? by Interstate?
c. Regardless of your response to previous requirements, suppose VIP recorded the lease on December 31, 1999, as a capital lease in the amount of $1,100,000. What would be the appropriate journal entries related to the capital lease for the second lease payment on December 31, 2000?

Discussion Case 15–5
Lease classification and reporting

On January 1, 2000, Hendrick Company entered into two noncancelable leases for machines to be used in its manufacturing operations. The first lease transfers ownership of the machine to the lessee by the end of the lease term. The second lease contains a bargain purchase option. Payments have been made on both leases during 2000.

Required:

1. How should Hendrick classify each of the two leases? Why?
2. How should a lessee report a capital lease on its balance sheet and income statement?
3. How should a lessee report an operating lease on its balance sheet and income statement?

(AICPA adapted)

International Case 15–6
Comparison of lease accounting in the U.K. and the United States

One of the world's largest petroleum and petrochemical groups is the British Petroleum Company p.l.c. (BP), based in London. Lease disclosures accompanying BP's 1993 financial statements are reproduced below:

Accounting Policies (in part)

Leases

Assets held under leases which result in group companies receiving substantially all risks and rewards of ownership (finance leases) are capitalized as tangible fixed assets at the estimated present value of underlying lease payments. The corresponding finance lease obligation is included with borrowings. Rentals under operating leases are charged against income as incurred.

Note 24: Finance Debt (in part)	**(£ million)**	
Obligations under Finance Leases	**1993**	**1992**
Minimum future lease payments payable within:		
1 year	99	81
2 to 5 years	491	487
Thereafter	3,286	3,591
	3,876	4,159
Less finance charges	2,581	2,836
Net obligations	1,295	1,323

Required:

On the basis of the information the disclosures provide, compare lessee accounting for leases in the United Kingdom with that in the United States.

Critical Thought Case 15–7
Debt equivalent of operating leases

At December 31, 1997, American Airlines had 186 jet aircraft under operating leases and 82 aircraft under capital leases. Lease disclosures accompanying American's 1997 financial statements are reproduced below:

5. Leases

American leases various types of equipment and property, including aircraft, passenger terminals, equipment and various other facilities. The future minimum lease payments required under capital leases, together with the present value of net minimum lease payments, and future minimum lease payments required under operating leases that have initial or remaining noncancelable lease terms in excess of one year as of December 31, 1997, were (in millions):

Year Ending Dec. 31	Capital Leases	Operating Leases
1998	$ 211	$ 940
1999	206	926
2000	272	887
2001	254	893
2002	204	858
2003 and subsequent	1,041	13,116
	2,188 (1)	$17,620 (2)
Less amount representing interest	694	
Present value of net minimum lease payments	$1,494	

(1) Future minimum payments required under capital leases include $192 million guaranteed by AMR relating to special facility revenue bonds issued by municipalities.
(2) Future minimum payments required under operating leases include $6.2 billion guaranteed by AMR relating to special facility revenue bonds issued by municipalities.

American's capital lease liability is reported among other debt on the balance sheet. The company's debt to equity ratio is 2.32, calculated as $12,399/$5,354. Some analysts might consider operating lease commitments as equivalent to debt when assessing financial risk. If American's operating leases were considered capital leases, lease payments would be capitalized at the present value of all future payments.

Required:

1. If the interest rate used by American to discount rental payments on capital leases is 12% and rentals after 2002 are payable approximately evenly over the following 15 years (approximated as $13,116 ÷ $858), what is the debt equivalent of the operating lease commitments?
2. If operating lease commitments are considered equivalent to debt, what is American's debt to equity ratio?

Real World Case 15–8
Lease concepts

Safeway, Inc., is one of the world's largest food retailers, operating 1,378 stores in the United States and Canada. Approximately two-thirds of the premises that the company occupies are leased. 1997 financial statements and disclosure notes revealed the following information:

Balance Sheet
($ in millions)

Assets	1997	1996
Property:		
Property under capital lease	$329.2	$278.7
Less: Accumulated amortization	(153.4)	(156.1)
Liabilities		
Current liabilities:		
Current obligations under capital leases	22.0	18.4
Long-term debt:		
Obligation under capital leases	223.1	160.4

The minimum rental payments applicable to capital leases for 1998 is $48.7 million and amortization expense for property under capital leases was $21.1 million in 1997.

Required:

1. Discuss some possible reasons why Safeway leases rather than purchases most of its premises.
2. The net asset "property under capital lease" has a 1997 balance of $175.8 million ($329.2 − 153.4). Liabilities for capital leases total $245.1 ($22.0 + 223.1). Why do the asset and liability amounts differ?
3. Prepare a 1998 summary entry to record the $48.7 million in rental payments.
4. Assuming that all property under capital lease is depreciated over the life of the lease, what is the average life of Safeway's capital leases?
5. What is the approximate average interest rate on Safeway's capital leases?

Ethics Case 15–9
Leasehold improvements

American Movieplex, a large movie theater chain, leases most of its theater facilities. In conjunction with recent operating leases, the company spent $28 million for seats and carpeting. The question being discussed over breakfast on Wednesday morning was the length of the depreciation period for these leasehold improvements. The company Controller, Sarah Keene, was surprised by the suggestion of Larry Person, her new assistant.

Keene: Why 25 years? We've never depreciated leasehold improvements for such a long period.
Person: I noticed that in my review of back records. But during our expansion to the Midwest, we don't need expenses to be any higher than necessary.
Keene: But isn't that a pretty rosy estimate of these assets' actual life? Trade publications show an average depreciation period of 12 years.

Required:

1. How would increasing the depreciation period affect American Movieplex's income?
2. Does revising the estimate pose an ethical dilemma?
3. Who would be affected if Person's suggestion is followed?

Internet Case 15–10
Researching lease disclosures; retrieving information from the Internet

EDGAR, the Electronic Data Gathering, Analysis, and Retrieval system, performs automated collection, validation, indexing, acceptance, and forwarding of submissions by companies and others who are required by law to file forms with the U.S. Securities and Exchange Commission (SEC). All publicly traded domestic companies use EDGAR to make the majority of their filings. (Some foreign companies do so voluntarily.) Form 10-K or 10-KSB, which include the annual report, is required to be filed on EDGAR. The SEC makes this information available on the Internet.

Required:

1. Access EDGAR on the Internet. The web address is www.sec.gov.
2. Search for a company with which you are familiar and which you believe leases some of its facilities. (Retail firms and airlines are good candidates). Access the company's most recent 10-K filing. Search or scroll to find the financial statements and related notes.
3. From the disclosure notes, determine the total capital lease obligation of the firm. What percentage does this represent of total liabilities (including current liabilities and deferred taxes) reported on the balance sheet?
4. Compare the company's rental commitments over the next five years and beyond five years for capital leases and operating leases. If operating leases were capitalized, would the company's reported debt change significantly?
5. Repeat steps 2–4 for another firm in the same industry. Are leasing practices similar between the two firms?