**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 lease agreements. These are designated *operating* leases.

**Learning Objectives**

**LO15-1** Describe and demonstrate the lessee’s right-of-use approach to accounting for a lease.

**LO15-2** Describe and demonstrate how the lessor accounts for a lease by the performance obligation approach.

**LO15-3** Describe and demonstrate how the lessor accounts for a lease by the derecognition approach and when the approach is appropriate.

**LO15-4** Explain the circumstance that indicates that the lessor should record a residual asset and how the asset should be measured.

**LO15-5** Explain the impact on lease accounting of initial direct costs.

**LO15-6** Describe and demonstrate the short-cut method for accounting for leases and explain when its use is appropriate.

**LO15-7** Explain how to determine the lease term when the agreement contains renewal or termination options.

**LO15-8** Describe and demonstrate the expected outcome technique when dealing with uncertain lease payments.

**LO15-9** Explain the impact on lease accounting of a guaranteed residual value.

**LO15-10** Describe lease disclosure requirements.

**LO15-11** Explain sale-leaseback agreements and their accounting treatment.

**Lecture Outline**

**Part A: Accounting by the Lessor and Lessee**

**I. Advantages of Leasing**

A. Leasing is used as a means of “off-balance-sheet financing.”

1. Can avoid negatively affecting the debt-equity ratio and other mechanical indicators of riskiness.

2. Assumes market is naive, and is “fooled” by off-balance-sheet financing.

B. Achieves operational objectives by facilitating asset acquisition to overcome:

1. Uncertainty or cash flow problems.

2. Time constraints and/or bureaucratic control systems.

3. Fear of obsolescence.

C. Achieves tax objectives: A lessee often can negotiate lower lease payments if it allows the *lessor* to retain ownership and thus benefit from depreciation deductions when:

1. The lessee has little or no taxable income and will get little benefit from depreciation deductions.

2. The lessee has sufficient taxable income to take advantage of the depreciation deductions, but is in lower tax brackets than lessors.

**II. In keeping with the concept of “substance over form” a lease is accounted for as either:**

A. A lease agreement or

B. A purchase/sale accompanied by debt financing (T15-1)

**III. Lease Classification**  (T15-2)

A. A *lessee* should classify a lease transaction as a *capital* lease if it is *noncancellable* and if one or more of four classification criteria are met: (T15-2)

1. The agreement specifies that ownership of the asset transfers to the lessee.

2. The agreement contains a bargain purchase option.

3. The noncancellable 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.

B. Otherwise, it is an *operating* lease.

C. 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.

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.)

**IV. Operating Leases**  (T15-3)

A. 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.

B. A “sale” is not recorded by the lessor;

C. A “purchase” is not recorded by the lessee.

D. Instead, the periodic lease payments are accounted for merely as rent: (T15-4)

1. *Rent revenue* by the lessor,

2. *Rent expense* by the lessee.

E. Advance payments are considered *prepayments of rent.* Theyare deferred and allocated to rent over the lease term. (T15-5)

1. 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.

2. 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.

F. The cost of a *leasehold improvement* is depreciated over its useful life to the lessee. (T15-5)

**V. Capital Leases**  (T15-6)

A. In a capital lease the lessee records a leased asset at the present value of the minimum lease payments.

B. A capital 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.

C. Interest accrues at the effective rate on the balance outstanding during the period. Lease payments (except the first) include interest on the outstanding balance as well as a residual portion that reduces that outstanding balance. (T15-7)

D. An amortization schedule is convenient to keep up with changing amounts. (T15-8)

E. Depreciation is recorded for leased assets in a manner consistent with the lessee’s usual policy for depreciating its operational assets (T15-9)

1. Normally over the term of the lease.

2. Over the asset's useful life, if:

a. Ownership transfers or

b. A bargain purchase option is present.

F. 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. (T15-10)

1. The presence or absence of a manufacturer’s or dealer’s profit distinguishes between a sales-type lease and a direct financing lease.

2. 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." (T15-11)

**Part B: Bargain Purchase Options and Residual Value**

**I. Bargain Purchase Option**

When a BPO is present, both the lessor and the lessee view the option price as an additional lease payment. (T15-12)

A. The lease term effectively ends when the BPO is exercisable.

B. Thus, if a BPO in a six-year lease could be exercised at the end of the fifth year, the effect will be to change the lease term to five years, from six.

**II. Residual Value** (T15-13)

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).

A. If the *lessee* obtains title, the lessor’s computation of lease payments is unaffected by any residual value.

B. If the *lessor* retains title, the amount to be recovered through periodic lease payments is reduced by the present value of the residual amount. (T15-14)

C. On the other side of the transaction, the *lessee* considers the “purchase” price of the copier to include:

1. At a minimum, the present value of the periodic lease payments.

2. An amount due to the residual value viewed as an additional “payment” if the lessee *guarantees* the residual value to be a particular amount at the end of the lease term. (T15-15, T15-16, T15-17)

**Part C: Other Lease Accounting Issues**

A. Executory costs are maintenance, insurance, taxes, and any other costs usually associated with ownership. (T15-18)

1. 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 lease payments.

2. Any portion of lease payments that represents executory costs is not considered part of minimum lease payments.

3. The lessee simply expenses executory costs as incurred.

B. The lessee uses the lower of the interest rate implicit in the lease or the lessee’s own incremental borrowing rate. (T15-19)

C. Initial direct costs are the costs incurred by the lessor that are associated directly with originating a lease and are essential to acquire that lease.

1. They include legal fees, commissions, evaluating the prospective lessee's financial condition, and preparing and processing lease documents.

2. The method of accounting for initial direct costs depends on the nature of the lease:

a. 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 lease 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.

b. 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 increasing the lessor’s *lease receivable* by the total of initial direct costs. Then, as 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).

1. 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.

D. Lease disclosure requirements include (a) a “general description” of the leasing arrangement as well as (b) minimum future payments, in the aggregate, and for each of the five succeeding fiscal years.

E. Decision-Makers’ Perspective: Financial Statement Impact

1. Balance Sheet and Income Statement

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

ii. Operating leases also represent long-term commitments that can become a problem if business declines and cash inflows drop off.

1. The net income difference between treating a lease as a capital lease versus an operating lease generally is not significant.
2. The impact on the balance sheet between capital leases and operating leases is significant.

2. Statement of Cash Flow Impact

i. Both the lessee and lessor report cash payments for operating leases in a statement of cash flows as cash flows from operating activities.

ii. Each lease payment in a capital lease includes both an amount that represents interest and an amount that represents a reduction of principal. In a statement of cash flows, then, the lessee reports the interest portion as cash flows from operating activities and the principal portion as cash flows from financing activities. The lessor in a direct financing lease reports the interest portion as cash flows from operating activities and the principal portion as cash flows from investing activities. Unlike for an operating lease, both the lessee and lessor report the lease at its inception as a non-cash investing/financing activity.

iii. Consistent with reporting sales of products under installment sales agreements rather than lease agreements, the lessor reports cash receipts from a sales-type lease as cash flows from operating activities.

**Part D: Special Leasing Arrangements**

A. In a sale-leaseback transaction the owner of an asset sells it and immediately leases it back from the new owner.

1. 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).

2. The lease portion of the transaction is evaluated and accounted for like any lease.

B. Real estate leases involve land – exclusively, or in part.

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

2. 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.

3. 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.

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

1. A lessee accounts for a leveraged lease the same way as a nonleveraged lease.

2. 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.

**International Financial Reporting Standards**

A. The IASB and FASB are collaborating on a joint project for a revision of leasing standards. The Boards have agreed that a “right of use” model (where the lessee recognizes an asset representing the right to use the leased asset for the lease term and also recognizes a corresponding liability for the lease rentals, whatever the term of the lease) is the only approach which recognizes assets and liabilities that corresponded to the conceptual framework definitions. Many people expect the new standard to result in most, if not all, leases being recorded as an intangible asset for the right of use and a liability for the present value of the lease payments. (T15-20)

B. Under *IAS No. 17*, land and buildings elements are considered separately unless the land element is not material. Under U.S. GAAP, land and building elements generally are accounted for as a single unit, unless land represents more than 25% of the total fair value of the leased property. (T15-21)

C. Under *IAS No. 17*, both parties to a lease generally use the rate implicit in the lease to discount minimum lease payments. Under U.S. GAAP, lessors use the implicit rate and lessees use the incremental borrowing rate unless the implicit rate is known and is the lower rate. (T15-22)

D. When the leaseback is an operating lease, under *IAS No. 17*, the gain is recognized immediately but is amortized over the lease term under U.S. GAAP. When the leaseback is a finance (capital) lease, under *IAS No. 17*, the gain is recognized over the lease term but is recognized over the useful life of the asset under U.S. GAAP. (T15-23)

**SUPPLEMENT: WHERE WE’RE HEADED**

A. The right to use leased property can be a significant asset. Likewise, the obligation to make the lease payments can be a significant liability.

1. Under the new Accounting Standards Update (ASU) the lessee reports both the right-of-use asset and the corresponding liability in the balance sheet.

2. The concept of operating leases is eliminated.

B. The lessor reports a receivable for the lease payments it will receive and removes from its records (derecognizes) the asset (or portion thereof) for which it has given up the right of use.

1. We no longer have direct financing and sales-type leases.

2. If the lease receivable represents only a portion of the total fair value of the asset, the lessor also records a “residual asset” for the portion related to the right of use not transferred to the lessee.

3. The lessor earns an immediate profit from the lease transaction in addition to the interest revenue earned over the term of the lease if the present value of the lease payments exceeds the carrying amount of the asset transferred.

C. The lessee amortizes its right-of-use asset the lease term. As with other long-term assets, its cost is allocated to the periods it benefits.

D. The residual asset represents the portion of the underlying asset not transferred to the lessee.

1. The lessor “accretes” the residual asset from its initial balance to the residual value expected at the end of the lease term.

2. At the end of each year of the lease term, the lessor records accretion of the residual asset using the interest rate implicit in the agreement.

3. Because the asset increases with the passage of time, the lessor records revenue from accretion.

E. Initial direct costs are those associated directly with originating a lease and that would not have been incurred had the lease agreement not occurred**.** These include legal fees, commissions, evaluating the prospective lessee’s financial condition, and preparing and processing lease documents. Initial direct costs are simply added to the carrying amount of the right-of-use asset if incurred by the lessee or to the lease receivable if incurred by the lessor.

F. There often is uncertainty regarding lease payments, the length of the lease term, and whether the title will transfer to the lessee.

1. We consider the lease term for both the lessee and the lessor to be the contractual lease term modified by any renewal or termination options for which there is a “significant economic incentive” to exercise the options.

2. If future lease payments are uncertain, we consider them as part of the lease payments only if they are “reasonably assured.”

3. A cash payment predicted under a lessee-guaranteed residual value is treated the same as a lease payment. That is, the present value of that payment is added to the present value of the lease payments the lessee records as both a right-of-use asset and a lease liability. Similarly, it also adds to the amount that the lessor records as a lease receivable.

4. We consider the exercise price of a *purchase option* to be an additional cash payment (just like a cash payment predicted under a lessee-guaranteed residual value), which will increase both the lessee’s lease payable and the lessor’s lease receivable, only if the lessee has a "significant economic incentive" to exercise the purchase option.

 G. A lease that has a maximum possible lease term (including any options to renew or extend) of twelve months or less is considered a “short-term lease.”

1. In a short-term lease, the lessee can elect not to record the lease at its commencement and instead simply record payments as lease expense.

2. In a short-term lease, the lessor can elect not to record the lease at its commencement and instead simply record lease receipts as lease revenue.

**PowerPoint Slides**

A PowerPoint presentation of the chapter is available at the textbook website.

An alternate version of the PowerPoint presentation also is available.

**Teaching Transparency Masters**

The following can be reproduced on transparency film as they appear here, or you can use the disk version of this manual and first modify them to suit your particular needs or preferences.

#### Basic Lease Classifications

 A lease is accounted for as either a lease agreement (**operating lease**) or a purchase/sale accompanied by debt financing. The choice of accounting method hinges on the nature of the leasing arrangement. **Capital leases** are agreements that we identify as being formulated outwardly as leases, but which are in reality installment purchases.

 **Lessee Lessor**

 **●** Operating lease **●**Operating lease

 **●** Capital lease **●** Capital lease:

 **⮩**Direct financing lease

  **⮩**Sales-type lease

T15-1

**Classification Criteria**

A *lessee* should classify a lease transaction as a *capital* lease if it includes a *noncancelable* lease term and one or more of the following four criteria are met. Otherwise, it is an *operating* 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 termis 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.

### Additional Lessor Conditions

✓ The collectibility of the lease payments must be reasonably predictable.

✓ If any costs to the lessor have yet to be incurred, they are reasonably predictable. (Performance by the lessor is substantially complete.)

T15-2

#### Operating Leases

On January 1, 2013, Sans Serif Publishers, Inc., a computer services and printing firm, leased a color copier from CompuDecCorporation.

The lease agreement specifies four annual payments of $100,000 beginning January 1, 2013, the inception of the lease, and at each January 1 through 2013. 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:

 **1** Does the agreement specify that
ownership of the asset transfers
to the lessee? NO

 **2** Does the agreement contain a
bargain purchase option? NO

 **3** Is the lease termequal to75%
or more of the expected NO
economic life of the asset? {4 yrs < 75% of 6 yrs}

 **4** Is the present value of the
minimum lease payments equal
to or greater than 90% of the NO
fair value of the asset? {$348,685 < 90% of $479,079}

 $100,000 x 3.48685\*\* = $348,685
 lease present
 payments value

 \*\* present value of an annuity due of $1: n=4, i=10%

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

T15-3

#### Operating Leases

***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

T15-4

### ADVANCE PAYMENTS

🏱 Advance payments are considered prepayments of rent. Theyare deferred and allocated to rent over the lease term.

### Leasehold Improvements

🏱 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 on 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.

T15-5

#### Direct Financing Leases – Lessee and Lessor Calculations

On January 1, 2013, 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 January 1, 2013, the inception of the lease, and at each December 31 through 2018. **The six-year lease term is equal to the estimated useful life of the copier**. The interest rate is 10%.

**Calculations:**

**Lessor:**

 $479,079 ÷ 4.79079\*\* = $100,000

 lessor’s lease
 cost payments

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

**Lessee:**

 $100,000 x 4.79079\*\* = $479,079

 lease lessee’s
 payments cost

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

T15-6

#### Direct Financing Leases – Lessee and Lessor Entries

***Direct Financing Lease [January 1, 2013]*Sans Serif Publishers, Inc. (Lessee)**Leasedequipment (present value of payments) 479,079
 Lease payable (present value of payments) 479,079

**First LeaseCorp (Lessor)**

Lease receivable\* (present value of payments) 479,079

 Inventory of equipment (lessor’s cost) 479,079

***First Lease Payment [January 1, 2013]*Sans Serif Publishers, Inc. (Lessee)**Lease payable 100,000
 Cash 100,000

**First LeaseCorp (Lessor)**

Cash 100,000
 Lease receivable 100,000

T15-6 (continued)

#### Direct Financing Leases – Second Lease Payment

***Second Lease Payment [December 31, 2013]*
Sans Serif Publishers, Inc. (Lessee)**Interest expense (10% x [$479,079 – 100,000]) 37,908
Lease payable (difference) 62,092
 Cash (lease payment) 100,000

**First LeaseCorp (Lessor)**Cash (lease payment) 100,000
 Lease receivable (difference) 62,092

 Interest revenue (10% x [$479,079 – 100,000]) 37,908

T15-7

#### Lease Amortization Schedule

 Effective Decrease Outstanding
 Payments Interest in Balance Balance
 10% x Outstanding Balance

 1/1/13 479,079
 1/1/13 100,000 100,000 379,079
 12/31/13 100,000 .10 (379,079) = 37,908 62,092 316,987
 12/31/14 100,000 .10 (316,987) = 31,699 68,301 248,686
 12/31/15 100,000 .10 (248,686) = 24,869 75,131 173,555
 12/31/16 100,000 .10 (173,555) = 17,355 82,645 90,910
 12/31/17 100,000 .10 (90,910) = 9,090\* 90,910 0
  **600,000 120,921\* 479,079**

 \* adjusted for rounding of other numbers in the schedule

T15-8

### DEPRECIATION

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

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

\* if the lessee depreciates assets by the straight-line method

The lessee normally should depreciate a leased asset over the term of the lease. However, if:

(a) ownership transfers or

(b) a bargain purchase option is present

(i.e., either of the first two classification criteria is met) the asset should be depreciated over the asset's useful life. This means depreciation is recorded over the useful life of the asset *to the lessee*.

T15-9

### Sales-Type Leases

 On January 1, 2013, 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 January 1, 2013, the inception of the lease, and at each December 31 through 2018. 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%.

Lease receivable (PV of minimum lease payments) 479,079
 **Cost of goods sold (lessor’s cost) 300,000
 Sales revenue (PV of minimum lease payments) 479,079**

 Inventory of equipment (lessor’s cost) **300,000**

 **First Lease Payment**

Cash 100,000
 Lease receivable 100,000

T15-10

#### Lease Payment Relationships

 **Lessor Lessee
 Sales-type Lease Capital lease** Gross Investment $600,000 Minimum Lease
 in Lease\* Payments

 Less:
 *Interest during lease term* [$120,921]

 Equals:
 Selling Price: $479,079 Purchase Price:
 Present Value of Payments Present Value of Payments

 Less:
 *Profit on Sale****\*\**** [$179,079]

 Equals:
 Cost to Lessor $300,000 {Irrelevant to Lessee}

**\*** 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).

\***\*** If profit is zero, this would be a direct financing lease.

T15-11

**EFFECT OF A BARGAIN PURCHASE OPTION**

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. 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.

⮩ The *lessor*, when computing periodic lease payments, *subtracts* the present value of the BPO price 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.

T15-12a

#### WHEN A BPO IS EXERCISABLE BEFORE THE END OF THE LEASE TERM

🢡 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 a BPO in a six-year lease could be exercised at the end of the fifth year. The effect this would have on accounting for the lease is to change the lease term to five years, from six.

T15-12b

#### Residual Value

#### 🢡 Lessee Obtains Title

⮩ If the *lessee* obtains title to the leased asset, the **lessor’s** computation of lease payments is unaffected by any residual value.

⮩ The residual value influences the **lessee** only by the fact that depreciation calculations reflect a reduced depreciable amount. In determining the amount to capitalize as a leased asset and to record as a lease liability, the residual value is ignored.

#### 🢡 Lessor Retains Title

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

⮩ On the other side of the transaction, whether the *lessee* considers the “purchase” price of the copier to include the present value of 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.

T15-13

#### Residual Value

On January 1, 2013, Sans Serif Publishers, Inc. leased a color copier from CompuDec Corporation at a “price” of $479,079. The lease agreement specifies annual payments beginning January 1, 2013, the inception of the lease, and at each December 31 through 2018. **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%.

#### Lessor’s Calculation of the Lease Payments Including a Residual Value

 Amount to be recovered (fair value) $479,079
 *Less:* PV of the residual value ($60,000 x .56447\*) (33,868)

 Amount to be recovered through
 periodic lease payments $445,211

 Lease payments at the beg. ⭣

 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%

T15-14

#### Lessee’s Calculation of the Amount Recorded as a Leased Asset and Liability Including a Residual Value

🢣 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 lease payments ($445,211):

 $92,931 x 4.79079\*\* = $445,211

 lease present
 payments value

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

#### ⮩ If Residual Value is Guaranteed:

 PV of periodic payments ($92,931 x 4.79079\*\*) $445,211

 *Plus:* PV of the residual value ($60,000 x .56447\*) 33,868

 PV of minimum lease payments

 [Recorded as a leased asset and a lease liability] $479,079

 \* present value of $1: n=6, i=10%

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

T15-15

#### Amortization Schedule

#### With Residual Value

#### *Or* With BPO

 Effective Decrease Outstanding Payments Interest in Balance Balance
 10% x Outstanding Balance

 1/1/13 479,079
 1/1/13 92,931 92,931 386,148
12/31/13 92,931 .10 (386,148) = 38,615 54,316 331,832
12/31/14 92,931 .10 (331,832) = 33,183 59,748 272,084
12/31/15 92,931 .10 (272,084) = 27,208 65,723 206,361
12/31/16 92,931 .10 (206,361) = 20,636 72,295 134,066
12/31/17 92,931 .10 (134,066) = 13,407 79,524 54,542
12/31/18 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

T15-16

**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 lease 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 b c **Minimum Minimum**

 **Computation Lease Lease**

 **of Payments Payments Payments**

**Lessee** gets the residual value –
by transfer of title or the expected **No No No**

exercise of a bargain purchase option

**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*. Y**es Yes Yes**

**•** Residual value is *guaranteed*
 by a *third party guarantor*. **Yes Yes No**

T15-17

#### Executory Costs

⮩ Minimum lease payments exclude “**executory costs**” to be paid by the lessee, such as maintenance, insurance, and taxes. These expenditures simply are expensed by the lessee as incurred: repair expense, insurance expense, property tax expense, etc. The lessor is unaffected by executory costs paid by the lessee.

⮩ 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 lease payments. When lease 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 by the lessor.

T15-18

#### Discount Rate

⮩ The lessor’s implicit rate 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 lease 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*. When the lessor’s implicit rate *is* known, the lessee should use the lower of the two rates. This is the rate the lessee would be expected to pay a bank if funds were borrowed to buy the asset.

T15-19

**INTERNATIONAL FINANCIAL REPORTING STANDARDS**

### Joint Lease Project. The IASB and FASB are collaborating on a joint project for a revision of leasing standards. The Boards have agreed that a “right of use” model (where the lessee recognizes an asset representing the right to use the leased asset for the lease term and also recognizes a corresponding liability for the lease rentals, whatever the term of the lease) is the only approach which recognizes assets and liabilities that corresponded to the conceptual framework definitions. Many people expect the new standard to result in most, if not all, leases being recorded as an intangible asset for the right of use and a liability for the present value of the lease payments.

### The impact of any changes will be significant; U.S. companies alone have over $1.25 *trillion* in operating lease obligations*.*

T15-20

**INTERNATIONAL FINANCIAL REPORTING STANDARDS**

**Leases of land and buildings.** Under *IAS No. 17*, land and buildings elements are considered separately unless the land element is not material. Under U.S. GAAP, land and building elements generally are accounted for as a single unit, unless land represents more than 25% of the total fair value of the leased property.

T15-21

**INTERNATIONAL FINANCIAL REPORTING STANDARDS**

**Present value of minimum lease** **payments.**  Under *IAS No. 17*, both parties to a lease generally use the rate implicit in the lease to discount minimum lease payments. Under U.S. GAAP, lessors use the implicit rate and lessees use the incremental borrowing rate unless the implicit rate is known and is the lower rate.

T15-22

**INTERNATIONAL FINANCIAL REPORTING STANDARDS**

**Recognizing a gain on a sale and leaseback transaction**. When the leaseback is an operating lease, under *IAS No. 17*, the gain is recognized immediately but is amortized over the lease term under U.S. GAAP. When the leaseback is a finance (capital) lease, under *IAS No. 17*, the gain is recognized over the lease term but is recognized over the useful life of the asset under U.S. GAAP.

T15-23

**Suggestions for Class Activities**

**1. Spreadsheet Activity**

Have students create a functional lease amortization schedule in Excel. Suggest that the spreadsheet:

1. Include cells for the number of periods, the interest rate, the present value of cash flows, and periodic rent. The cells should be “defined” as the respective variables so that formulas in the schedule that refer to the variable names will pick up the values entered in the cells.

2. An advanced step would be to have a cell in which the user can: Enter "1" if payments are at the beginning of the period. Payments are assumed at the end of the period if the cell is blank. This requires “if-then” statements within the formulas that refer to the cell.

3. The initial balance can be made to calculate the PV if that amount is not provided by the user in the PV cell, and to calculate the payments if the PV is provided by the user in the PV cell. Thus, if "PV" is blank, the calculation will default to the "Payment."

Provide students with various variable values to conduct several “what if?” exercises.

**2. Google Analysis**

Have students, individually or in groups, go to the most recent Dell annual report at Dell’s web site at: www.dell.com/. Ask them to:

1. Compare the Company’s lease commitments, both capital and operating, with those in the 2011 report that is packaged with all new texts. Are there any discernible trends? How might they be interpreted?

2. Are there any sale-leaseback transactions?

3. Are any lease transactions reported on the statement of cash flows? If so, how?

4. Read “Management's Discussion and Analysis of Results of Operations and Financial Condition,” and determine management‘s view of Dell’s current and future lease position.

**3. Professional Skills Development Activities**

The following are suggested assignments from the end-of-chapter material that will help your students develop their communication, research, analysis, and judgment skills.

**Communication Skills.** Research Case 15-2 and IFRS Cases 15-5 and 15-10 are suitable for student presentation(s). In addition to Communication Cases 15-3 and 15-8, Research Case 15-2 can be adapted to ask students to write a memo to the Controller supporting their position. Question 11, Problem 15-4, and Ethics Case 15-4 create good class discussions. In addition to Communication Case 15-3 and Analysis Case 15-1 do well as group assignments. Discussion Questions 15-6 and 15-11, and Real World Cases 15-6 and 15-7 create good class discussions.

**Research Skills.** In their professional lives, our graduates will be required to locate and extract relevant information from available resource material to determine the correct accounting practice, perhaps identifying the appropriate authoritative literature to support a decision. Research Case 15-2, as well as IFRS Case 15-10, provide excellent opportunities to help students develop this skill.

**Analysis Skills.** The “Broaden Your Perspective” section includes Analysis Cases that direct students to gather, assemble, organize, process, or interpret date to provide options for making business and investment decisions. In addition to Analysis Case 15-1, Exercises 15-8, 15-9, and 15-10, Communication Case 15-3, and Real World Cases 15-6 and 15-7 also provide opportunities to develop analysis skills.

**Judgment Skills.** The “Broaden Your Perspective” section includes Judgment Cases that require students to critically analyze issues to apply concepts learned to business situations in order to evaluate options for decision-making and provide an appropriate conclusion. Problems 15-5. 15-6, and 15-7, and Trueblood Case 15-9 also require students to exercise judgment.