CHAPTER 17

Pensions and Other Postretirement Benefits

OVERVIEW

Employee compensation comes in many forms. Salaries and wages, of course, provide direct and current payment for services provided. However, it's commonplace for compensation also to include benefits payable after retirement. We discuss pension benefits and other postretirement benefits in this chapter. Accounting for pension benefits recognizes that they represent deferred compensation for current service. Accordingly, the cost of these benefits is recognized on an accrual basis during the years that employees earn the benefits.

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- LO1 Explain the fundamental differences between a defined contribution pension plan and a defined benefit pension plan.
- LO2 Distinguish among the vested benefit obligation, the accumulated benefit obligation, and the projected benefit obligation.
- LO3 Describe the five events that might change the balance of the PBO.
- LO4 Explain how plan assets accumulate to provide retiree benefits and understand the role of the trustee in administering the fund.
- LO5 Describe the funded status of pension plans and how that amount is reported.
- LO6 Describe how pension expense is a composite of periodic changes that occur in both the pension obligation and the plan assets.
- LO7 Record for pension plans the periodic expense and funding as well as new gains and losses and new prior service cost as they occur.
- LO8 Understand the interrelationships among the elements that constitute a defined benefit pension plan.
- LO9 Describe the nature of postretirement benefit plans other than pensions and identify the similarities and differences in accounting for those plans and pensions.
- LO10 Explain how the obligation for postretirement benefits is measured and how the obligation changes.
- LO11 Determine the components of postretirement benefit expense.

United Dynamics

You read yesterday that many companies in the United States have pension plans that are severely underfunded. This caught your attention in part because you have your office interview tomorrow with United Dynamics. You hadn't really thought that much about the pension plan of your potential future employer, in part because your current employer has a defined contribution 401K plan, for which funding is not a concern. However, United Dynamics is an older firm with a defined benefit plan, for which funding is the employer's responsibility.

To prepare for your interview, you obtained a copy of United Dynamics' financial statements. Unfortunately, the financial statements themselves are of little help. You are unable to find any pension liability on the balance sheet, but the statement does report a relatively small "pension asset." The income statement reports pension expense for each of the years reported. For help, you search the disclosure notes. In part, the pension disclosure note reads as follows:

Note 7: Pension Plan

United Dynamics has a defined benefit pension plan covering substantially all of its employees. Plan benefits are based on years of service and the employee's compensation during the last three years of employment. The company's funding policy is consistent with the funding requirements of federal law and regulations. The net periodic pension expense for the company included the following components. The company's pension expense was as follows ($ in millions):

	2007	2006	2005
Current service costs	$ 43	$ 47	$ 42
Interest cost on projected benefit obligation	178	164	152
Return on assets	(213)	(194)	(187)
Amortization of prior service cost	43	43	43
Amortization of net gain	(2)	(1)	–
Net pension costs	$ 49	$ 59	$ 50

The following table describes the change in projected benefit obligation for the plan years ended December 31, 2007, and December 31, 2006 ($ in millions):

	2007	2006
Projected benefit obligation at beginning of year	$2,194	$2,121
Service cost	43	47
Interest cost	178	164
Actuarial (gain) loss	319	(40)
Benefits paid	(106)	(98)
Projected benefit obligation at end of year	$2,628	$2,194

The weighted-average discount rate and rate of increase in future compensation levels used in determining the actuarial present value of the projected benefit obligations in the above table were 8.1% and 4.3%, respectively,

(continued)

(concluded)

at December 31, 2007, and 7.73% and 4.7%, respectively, at December 31, 2006. The expected long-term rate of return on assets was 9.1% at December 31, 2007 and 2006.

The following table describes the change in the fair value of plan assets for the plan years ended December 31, 2007 and 2006 ($ in millions):

	2007	2006
Fair value of plan assets at beginning of year	$2,340	$2,133
Actual return on plan assets	215	178
Employer contributions	358	127
Benefits paid	(106)	(98)
Fair value of plan assets at end of year	$2,807	$2,340

"Ouch! I can't believe how much of my accounting I forgot," you complain to yourself. "I'd better get out my old intermediate accounting book."

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.

QUESTIONS

1. Why is underfunding not a concern in your present employment? (page 831)
2. Were you correct that the pension liability is not reported on the balance sheet? What is the liability? (page 833)
3. What is the amount of the plan assets available to pay benefits? What are the factors that can cause that amount to change? (page 839)
4. What does the "pension asset" represent? Are you interviewing with a company whose pension plan is severely underfunded? (page 841)
5. How is the pension expense influenced by changes in the pension liability and plan assets? (page 842)

PART A THE NATURE OF PENSION PLANS

Over 60 million American workers are covered by pension plans. The United States' pension funds tripled in size during the previous two decades and now are roughly the size of Japan's gross national product. This powerful investment base now controls about one-fourth of the stock market. At the company level, the enormous size of pension funds is reflected in a periodic pension cost that constitutes one of the largest expenses many companies report. The corporate liability for providing pension benefits, though largely off-balance-sheet, is huge. Obviously, then, the financial reporting responsibility for pensions has important social and economic implications.

Pension plans are designed to provide income to individuals during their retirement years. This is accomplished by setting aside funds during an employee's working years so that at retirement the accumulated funds plus earnings from investing those funds are available to replace wages. Actually, an individual who periodically invests in stocks, bonds, certificates of deposit (CDs), or other investments for the purpose of saving for retirement is establishing a personal pension fund. Often, such individual plans take the form of individual retirement accounts (IRAs) to take advantage of tax breaks offered by that arrangement. In employer plans, some or all of the periodic contributions to the retirement fund often are provided by the employer.

Pension plans often enhance productivity, reduce turnover, satisfy union demands, and allow employers to compete in the labor market.

Corporations establish pension plans for a variety of reasons. Sponsorship of pension plans provides employees with a degree of retirement security and fulfills a moral obligation felt by many employers. This security also can induce a degree of job satisfaction and

perhaps loyalty that might enhance productivity and reduce turnover. Motivation to sponsor a plan sometimes comes from union demands and often relates to being competitive in the labor market.

ADDITIONAL CONSIDERATION

When established according to tight guidelines, a pension plan gains important tax advantages. Such arrangements are called *qualified plans* because they qualify for favorable tax treatment. In a qualified plan, the employer is permitted an immediate tax deduction for amounts paid into the pension fund (within specified limits). The employees, on the other hand, are not taxed at the time employer contributions are made—only when retirement benefits are received. Moreover, earnings on the funds set aside by the employer are not taxed while in the pension fund, so the earnings accumulate tax free. If you are familiar with the tax advantages of IRAs, you probably recognize the similarity between those individual plans and corporate pension arrangements.

Qualified pension plans offer important tax benefits.

For a pension plan to be qualified for special tax treatment it must meet these general requirements.

1. It must cover at least 70% of employees.
2. It cannot discriminate in favor of highly compensated employees.
3. It must be funded in advance of retirement through contributions to an irrevocable trust fund.
4. Benefits must vest after a specified period of service, commonly five years. (We discuss this in more detail later.)
5. It complies with specific restrictions on the timing and amount of contributions and benefits.

LO1

Sometimes, employers agree to annually contribute a specific (defined) amount to a pension fund on behalf of employees but make no commitment regarding benefit amounts at retirement. In other arrangements, employers don't specify the amount of annual contributions but promise to provide determinable (defined) amounts at retirement. These two arrangements describe defined contribution pension plans and defined benefit pension plans, respectively:

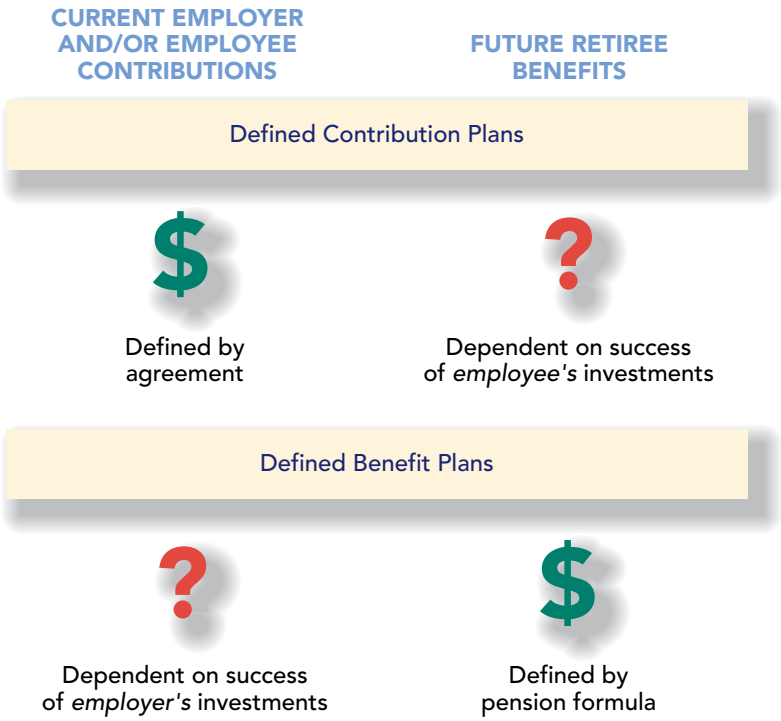
- **Defined contribution pension plans** promise fixed annual contributions to a pension fund (say, 5% of the employees' pay). Employees choose (from designated options) where funds are invested—usually stocks or fixed-income securities. Retirement pay depends on the size of the fund at retirement.
- **Defined benefit pension plans** promise fixed retirement benefits defined by a designated formula. Typically, the pension formula bases retirement pay on the employees' (a) years of service, (b) annual compensation (often final pay or an average for the last few years), and sometimes (c) age. Employers are responsible for ensuring that sufficient funds are available to provide promised benefits.

Virtually all new pension plans are defined contribution plans.

Today, more than two-thirds of workers covered by pension plans are covered by defined contribution plans, fewer than one-third by defined benefit plans. This represents a radical shift from previous years when the traditional defined benefit plan was far more common. However, very few new pension plans are of the defined benefit variety. In fact, many companies are terminating long-standing defined benefit plans and substituting defined contribution plans. Why the shift? There are three main reasons:

1. Government regulations make defined benefit plans cumbersome and costly to administer.
2. Employers are increasingly unwilling to bear the risk of defined benefit plans; with defined contribution plans, the company's obligation ends when contributions are made.
3. There has been a shift among many employers from trying to "buy long-term loyalty" (with defined benefit plans) to trying to attract new talent (with more mobile defined contribution plans).

GRAPHIC 17–1
Defined Contribution and Defined Benefit Pension Plans



The two categories of pension plans are depicted in Graphic 17–1.

Both types of plans have a common goal: to provide income to employees during their retirement years. Still, the two types of plans differ regarding who bears the risk—the employer or the employees—for whether the retirement objectives are achieved. The two types of plans also have entirely different implications for accounting and financial reporting. Our discussion of defined contribution plans will be brief. Although these are now the most popular type of corporate pension plan, their relative simplicity permits a rather straightforward accounting treatment that requires little explanation. On the other hand, defined benefit plans require considerably more complex accounting treatment and constitute the primary focus of this chapter.

Defined Contribution Pension Plans

Defined contribution plans **promise defined periodic contributions to a pension fund, without further commitment regarding benefit amounts at retirement.**

Defined contribution pension plans are becoming increasingly popular vehicles for employers to provide retirement income without the paperwork, cost, and risk generated by the more traditional defined benefit plans. Defined contribution plans promise fixed periodic contributions to a pension fund. Retirement income depends on the size of the fund at retirement. No further commitment is made by the employer regarding benefit amounts at retirement.

These plans have several variations. In money purchase plans, employers contribute a fixed percentage of employees' salaries. Thrift plans, savings plans, and 401(k) plans (named after the Tax Code section that specifies the conditions for the favorable tax treatment of these plans) permit voluntary contributions by employees. These contributions typically are matched to a specified extent by employers. Over 70% of American workers participate in 401(k) plans. More than two trillion dollars are invested in these plans.

When plans link the amount of contributions to company performance, labels include profit-sharing plans, incentive savings plans, 401(k) profit-sharing plans, and similar titles. When employees make contributions to the plan in addition to employer contributions, it's called a *contributory* plan. Sometimes the amount the employer contributes is tied to the amount of the employee contribution.[1] Variations are seemingly endless. An example from a recent annual report of **Cisco Systems** is re-created in Graphic 17–2.

[1]One popular way for employer companies to provide contributions is with shares of its own common stock. If so, the arrangements usually are designed to comply with government requirements to be designated an employee stock ownership plan (ESOP).

Note 10: Employee Benefit Plans (in part)
Employee 401(k) Plans The Company sponsors the Cisco Systems, Inc. 401(k) Plan to provide retirement benefits for its employees. As allowed under Section 401(k) of the Internal Revenue Code, the Plan provides tax-deferred salary deductions for eligible employees. Employees can contribute from 1% to 25% of their annual compensation to the Plan. Employee contributions are limited to a maximum annual amount as set periodically by the Internal Revenue Service. Through December 31, 2002, the Company matched employee contributions dollar for dollar up to a maximum of $1,500 per person per year. Effective January 1, 2003, the new matching structure is 50% of the first 6% of eligible earnings that are contributed by employees. All matching contributions vest immediately. The Company's matching contributions to the Plan totaled $84 million, $81 million, and $40 million in fiscal 2005, 2004, and 2003, respectively.

GRAPHIC 17–2
Defined Contribution Plan—Cisco Systems

Accounting for these plans is quite easy. Each year, the employer simply records pension expense equal to the amount of the annual contribution. Suppose a plan promises an annual contribution equal to 3% of an employee's salary. If an employee's salary is $110,000 in a particular year, the employer would simply recognize compensation expense in the amount of the contribution:

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For defined contribution plans, the employer simply records pension expense equal to the cash contribution.

Pension expense	3,300	
Cash ($110,000 × 3%)		3,300

The employee's retirement benefits are totally dependent upon how well investments perform. Who bears the risk (or reward) of that uncertainty? The employee would bear the risk of uncertain investment returns and, potentially, settle for far less at retirement than at first expected.[2] On the other hand, the employer would be free of any further obligation. Because the actual investments are held by an independent investment firm, the employer is free of that recordkeeping responsibility as well.

Risk is reversed in a defined benefit plan. Because specific benefits are promised at retirement, the employer would be responsible for making up the difference when investment performance is less than expected. We look at defined benefit plans next.

Defined Benefit Pension Plans

***Defined benefit plans* promise fixed retirement benefits defined by a designated formula.**

When setting aside cash to fund a pension plan, the uncertainty surrounding the rate of return on plan assets is but one of several uncertainties inherent in a defined benefit plan. Employee turnover affects the number of employees who ultimately will become eligible for retirement benefits. The age at which employees will choose to retire as well as life expectancies will impact both the length of the retirement period and the amount of the benefits. Inflation, future compensation levels, and interest rates also have obvious influence on eventual benefits.

Uncertainties complicate determining how much to set aside each year to ensure that sufficient funds are available to provide promised benefits.

This is particularly true when pension benefits are defined by a pension formula, as usually is the case. A typical formula might specify that a retiree will receive annual retirement benefits based on the employee's years of service and annual pay at retirement (say, pay level in the final year, highest pay achieved, or average pay in the last two or more years). For example, a pension formula might define annual retirement benefits as:

$$1½\% \times \text{Years of service} \times \text{Final year's salary}$$

By this formula, the annual benefits to an employee who retires after 30 years of service, with a final salary of $100,000, would be:

[2]Of course, this is not entirely unappealing to the employee. Defined contribution plans allow an employee to select investments in line with his or her own risk preferences and often provide greater retirement benefits and flexibility than defined benefit plans.

A pension formula typically defines retirement pay based on the employees' (a) years of service, (b) annual compensation, and sometimes (c) age.

$$1\frac{1}{2}\% \times 30 \text{ years} \times \$100{,}000 = \$45{,}000$$

Typically, a firm will hire an **actuary**, a professional trained in a particular branch of statistics and mathematics, to assess the various uncertainties (employee turnover, salary levels, mortality, etc.) and to estimate the company's obligation to employees in connection with its pension plan. Such estimates are inherently subjective, so regardless of the skill of the actuary, estimates invariably deviate from the actual outcome to one degree or another.[3] For instance, the return on assets can turn out to be more or less than expected. These deviations are referred to as *gains* and *losses* on pension assets. When it's necessary to revise estimates related to the pension obligation because it's determined to be more or less than previously thought, these revisions are referred to as *losses* and *gains,* respectively, on the pension liability. Later, we will discuss the accounting treatment of gains and losses from either source. The point here is that the risk of the pension obligation changing unexpectedly or the pension funds being inadequate to meet the obligation is borne by the employer with a defined benefit pension plan.

Pension gains and losses occur when the *pension obligation* is lower or higher than expected.

Pension gains and losses occur when the *return on plan assets* is higher or lower than expected.

The key elements of a defined benefit pension plan are:

1. The *employer's obligation* to pay retirement benefits in the future.
2. The *plan assets* set aside by the employer from which to pay the retirement benefits in the future.
3. The *periodic expense* of having a pension plan.

As you will learn in this chapter, the first two of these elements are not reported directly in the financial statements. This may seem confusing at first because it is inconsistent with the way you're accustomed to treating assets and liabilities. Even though they are not recorded in the formal accounts, it's critical that you understand the composition of both the pension obligation and the plan assets because (a) they affect amounts that actually are reported on the balance sheet, and (b) their balances are reported in disclosure notes. And, importantly, the pension expense reported on the income statement is a direct composite of periodic changes that occur in both the pension obligation and the plan assets.

Neither the pension obligation nor the plan assets are reported in the balance sheet.

For this reason, we will devote a considerable portion of our early discussion to understanding the composition of the pension obligation and the plan assets before focusing on the derivation of pension expense and required financial statement disclosures. We will begin with a quick overview of how periodic changes that occur in both the pension obligation and the plan assets affect pension expense. Next we will explore how those changes occur, beginning with changes in the pension obligation followed by changes in plan assets. We'll then return to pension expense for a closer look at how those changes influence its calculation. After that, we will bring together the separate but related parts by using a simple spreadsheet to demonstrate how each element of the pension plan articulates with the other elements.

The pension expense is a direct composite of periodic changes that occur in both the pension obligation and the plan assets.

> In applying accrual accounting to pensions, this *Statement (87)* retains three fundamental aspects of past pension accounting: *delayed recognition* of certain events, reporting *net cost*, and *offsetting* liabilities and assets. Those three features of practice have shaped financial reporting for many years . . . and they conflict in some respects with accounting principles applied elsewhere.[4]

Pension Expense—An Overview

The annual pension expense reflects changes in both the pension obligation and the plan assets. Graphic 17–3 provides a brief overview of how these changes are included in pension expense. After the overview, we'll look closer at each of the components.

Next we explore each of these pension expense components in the context of its being a part of either (a) the pension obligation or (b) the plan assets. After you learn how the expense components relate to these elements of the pension plan, we'll return to explore further how they are included in the pension expense.

[3] We discuss changes in more detail in Chapter 20.

[4] "Employers' Accounting for Pensions," *Statement of Financial Accounting Standards No. 87* (Stamford, Conn.: FASB, 1985).

Components of Pension Expense

+	**Service cost** ascribed to employee service during the period
+	**Interest** accrued on the pension liability
−	**Return** on the plan assets*
	Amortized portion of:
+	**Prior service cost** attributed to employee service before an amendment to the pension plan
+ or (−)	**Losses or (gains)** from revisions in the pension liability or from investing plan assets
=	**Pension expense**

GRAPHIC 17–3
Components of Pension Expense

Interest and investment return are financing aspects of the pension cost.

The recognition of some elements of the pension expense is delayed.

*The actual return is adjusted for any difference between actual and expected return, resulting in the *expected* return being reflected in pension expense. This loss or gain from investing plan assets is combined with losses and gains from revisions in the pension liability for deferred inclusion in pension expense. (See the last component of pension expense.)

THE PENSION OBLIGATION AND PLAN ASSETS

PART B

The Pension Obligation

Now we consider more precisely what is meant by the pension obligation. Unfortunately, there's not just one definition, nor is there uniformity concerning which definition is most appropriate for pension accounting. Actually, three different ways to measure the pension obligation have meaning in pension accounting, as shown in Graphic 17–4.

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1. **Accumulated benefit obligation (ABO)** The actuary's estimate of the total retirement benefits (at their discounted present value) earned so far by employees, applying the pension formula using existing compensation levels.
2. **Vested benefit obligation (VBO)** The portion of the accumulated benefit obligation that plan participants are entitled to receive regardless of their continued employment.
3. **Projected benefit obligation (PBO)** The actuary's estimate of the total retirement benefits (at their discounted present value) earned so far by employees, applying the pension formula using estimated future compensation levels. (If the pension formula does not include future compensation levels, the PBO and the ABO are the same.)

GRAPHIC 17–4
Ways to Measure the Pension Obligation

Later you will learn that the projected benefit obligation is the basis for some elements of the periodic pension expense. Remember, there is but one obligation; these are three ways to measure it. The relationship among the three is depicted in Graphic 17–5.

Now let's look closer at how the obligation is measured in each of these three ways. Keep in mind, though, that it's not the accountant's responsibility to actually derive the measurement; a professional actuary provides these numbers. However, for the accountant to effectively use the numbers provided, she or he must understand their derivation.

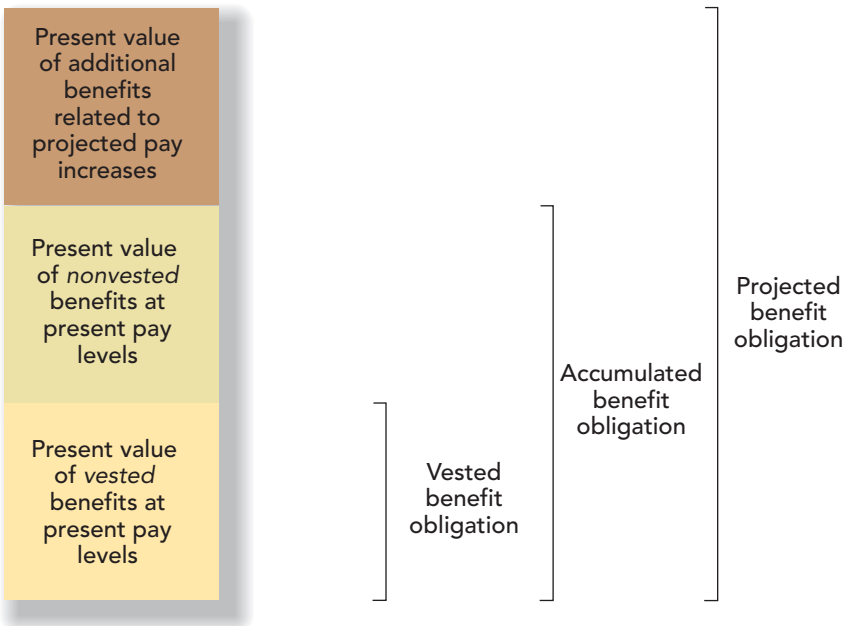
LO2

VESTED BENEFIT OBLIGATION

Suppose an employee leaves the company to take another job. Will she still get earned benefits at retirement? The answer depends on whether the benefits are vested under the terms of this particular pension plan. If benefits are fully vested—yes. **Vested benefits** are those that employees have the right to receive even if their employment were to cease today.

Pension plans typically require some minimum period of employment before benefits vest. Before the Employee Retirement Income Security Act (ERISA) was passed in 1974, horror stories relating to lost benefits were commonplace. It was possible, for example, for an employee to be dismissed a week before retirement and be left with no pension benefits. Vesting requirements were tightened drastically to protect employees. These requirements

GRAPHIC 17–5
Alternative Measures of the Pension Obligation



The benefits of most pension plans vest after five years.

have been changed periodically since then. Beginning in 1989, benefits must vest (a) fully within five years or (b) 20% within three years with another 20% vesting each subsequent year until fully vested after seven years. Five-year vesting is most common. ERISA also established the Pension Benefit Guaranty Corporation (PBGC) to impose liens on corporate assets for unfunded pension liabilities in certain instances and to administer terminated pension plans. The PBGC is financed by premiums from employers equal to specified amounts for each covered employee. It makes retirement payments for terminated plans and guarantees basic vested benefits when pension liabilities exceed assets.

ACCUMULATED BENEFIT OBLIGATION

The *accumulated benefit obligation* ignores possible pay increases in the future.

The **accumulated benefit obligation (ABO)** is an estimate of the discounted present value of the retirement benefits earned so far by employees, applying the plan's pension formula using existing compensation levels. When we look at a detailed calculation of the projected benefit obligation below, keep in mind that simply substituting the employee's existing compensation in the pension formula for her projected salary at retirement would give us the accumulated benefit obligation.

PROJECTED BENEFIT OBLIGATION

● LO3

As described earlier, when the ABO is estimated, the most recent salary is included in the pension formula to estimate future benefits, even if the pension formula specifies the final year's salary. No attempt is made to forecast what that salary would be the year before retirement. Of course, the most recent salary certainly offers an objective number to measure the obligation, but is it realistic? Since it's unlikely that there will be no salary increases between now and retirement, a more meaningful measurement should include a projection of what the salary might be at retirement.[5] Measured this way, the liability is referred to as the **projected benefit obligation (PBO)**. The PBO measurement may be less reliable than the ABO but is more relevant and representationally faithful.

The *PBO* estimates retirement benefits by applying the pension formula using projected future compensation levels.

To understand the concepts involved, it's helpful to look at a numerical example. We'll simplify the example (Illustration 17–1) by looking at how pension amounts would be determined for a single employee. Keep in mind though, that in actuality, calculations would be made (by the actuary) for the entire employee pool rather than on an individual-by-individual basis.

[5]To project future salaries for a group of employees, actuaries usually assume some percentage rate of increase in compensation levels in upcoming years. Recent estimates of the rate of compensation increase have ranged from 4.5% to 10% with 4.5% being the most commonly reported expectation (AICPA, *Accounting Trends and Techniques,* 2004).

ILLUSTRATION 17–1
Projected Benefit Obligation

Jessica Farrow was hired by Global Communications in 1996. The company has a defined benefit pension plan that specifies annual retirement benefits equal to:

1.5% × Service years × Final year's salary

Farrow is expected to retire in 2035 after 40 years service. Her retirement period is expected to be 20 years. At the end of 2005, 10 years after being hired, her salary is $100,000. The interest rate is 6%. The company's actuary projects Farrow's salary to be $400,000 at retirement.*

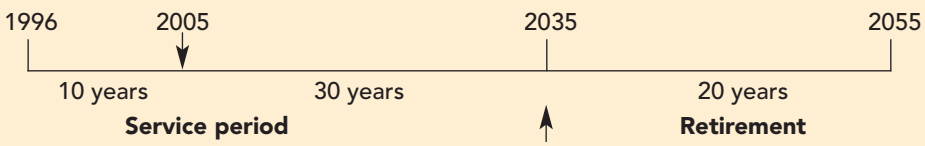
What is the company's projected benefit obligation with respect to Jessica Farrow?

Steps to calculate the projected benefit obligation:

1. Use the pension formula (including a projection of future salary levels) to determine the retirement benefits earned to date.
2. Find the present value of the retirement benefits as of the retirement date.
3. Find the present value of retirement benefits as of the current date.

3. Present value (n = 30, i = 6% of retirement benefits at 2005 is $688,195 × .17411 = **$119,822 (PBO)**

1. Actuary estimates employee has earned (as of 2005) retirement benefits of 1.5% × 10 years × $400,000 = **$60,000 per year**



2. Present value (n = 20, i = 6%) of the retirement annuity at the retirement date is $60,000 × 11.46992 = **$688,195**

The actuary includes projected salaries in the pension formula. The projected benefit obligation is the present value of those benefits.

The lump-sum equivalent at retirement of annuity payments during the retirement period is the present value of those payments.

*This salary reflects an estimated compound rate of increase of about 5% and should take into account expectations concerning inflation, promotions, productivity gains, and other factors that might influence salary levels.

If the actuary's estimate of the final salary hasn't changed, the PBO a year later at the end of 2006 would be $139,715 as demonstrated in Illustration 17–1A.

ILLUSTRATION 17–1A
PBO in 2006

3. Present value (n = 29, i = 6% of retirement benefits at 2006 is $757,015 × .18456 = **$139,715 (PBO)**

1. Actuary estimates employee has earned (as of 2006) retirement benefits of 1.5% × 11 years × $400,000 = **$66,000 per year**

2. Present value (n = 20, i = 6%) of the retirement annuity at the retirement date is $66,000 × 11.46992 = **$757,015**

In 2006 the pension formula includes one more service year.

Also, 2006 is one year closer to the retirement date for the purpose of calculating the present value.

Changes in the PBO. Notice that the PBO increased during 2006 (Illustration 17–1A) from $119,822 to $139,715 for two reasons:

1. One more service year is included in the pension formula calculation (service cost).
2. The employee is one year closer to retirement, causing the present value of benefits to increase due to the time value of future benefits (interest cost).

These represent two of the events that might possibly cause the balance of the PBO to change. Let's elaborate on these and the three other events that might change the balance of the PBO. The five events are (1) service cost, (2) interest cost, (3) prior service cost, (4) gains and losses, and (5) payments to retired employees.

Each year's service adds to the obligation to pay benefits.

1. Service cost. As we just witnessed in the illustration, the PBO increases each year by the amount of that year's **service cost.** This represents the increase in the projected benefit obligation attributable to employee service performed during the period. As we explain later, it also is the primary component of the annual pension expense.

Interest accrues on the PBO each year.

2. Interest cost. The second reason the PBO increases is called the **interest cost.** Even though the projected benefit obligation is not formally recognized as a liability in the company's balance sheet, it is a liability nevertheless. And, as with other liabilities, interest accrues on its balance as time passes. The amount can be calculated directly as the assumed discount rate multiplied by the projected benefit obligation at the beginning of the year.[6]

ADDITIONAL CONSIDERATION

We can verify the increase in the PBO as being caused by the service cost and interest cost as follows:

PBO at the beginning of 2006 (end of 2005)				$119,822
Service cost: (1.5% × 1 yr. × $400,000)	× 11.46992	× .18456		12,701
Annual retirement benefits from 2006 service	To discount to 2035*	To discount to 2006†		
Interest cost: $119,822 × 6%				7,189
PBO at the end of 2006				$139,712‡

*Present value of an ordinary annuity of $1: $n = 20$, $i = 6\%$.

†Present value of $1: $n = 29$, $i = 6\%$.

‡Differs from $139,715 due to rounding.

3. Prior service cost. Another reason the PBO might change is when the pension plan itself is *amended* to revise the way benefits are determined. For example, Global Communications in our illustration might choose to revise the pension formula by which benefits are calculated. Let's back up and assume the formula's salary percentage is increased in 2006 from 1.5% to 1.7%:

1.7% × Service years × Final year's salary
(revised pension formula)

Obviously, the annual service cost from this date forward will be higher than it would have been without the amendment. This will cause a more rapid future expansion of the PBO. But it also might cause an immediate increase in the PBO as well. Here's why.

When a pension plan is amended, credit often is given for employee service rendered in prior years. The cost of doing so is called *prior service cost.*

Suppose the amendment becomes effective for future years' service only, without consideration of employee service to date. As you might imagine, the morale and dedication of long-time employees of the company could be expected to suffer. So, for economic as well as ethical reasons, most companies choose to make amendments retroactive to prior years. In other words, the more beneficial terms of the revised pension formula are not applied just to future service years, but benefits attributable to all prior service years also are recomputed under the more favorable terms. Obviously, this decision is not without cost to the company. Making the amendment retroactive to prior years adds an extra layer of retirement benefits, increasing the company's benefit obligation. The increase in the PBO attributable to making a plan amendment retroactive is referred to as **prior service cost.**[7] For instance, Graphic 17–6 presents an excerpt from an annual report of **Ecolab, Inc.** describing the increase in its PBO as a result of making an amendment retroactive:

[6]Assumed discount rates should reflect rates used currently in annuity contracts. Discount rates recently reported have ranged from 4.5% to 7%, with 6.5% being the most commonly assumed rate (AICPA, *Accounting Trends and Techniques,* 2004).

[7]Prior service cost also is created if a defined benefit pension plan is initially adopted by a company that previously did not have one, and the plan itself is made retroactive to give credit for prior years' service. Prior service cost is created by plan amendments far more often than by plan adoptions because most companies already have pension plans, and new pension plans in recent years have predominantly been defined contribution plans.

Note 1: Retirement Plans (in part)
. . . The Company amended its U.S. pension plan to change the formula for pension benefits and to provide a more rapid vesting schedule. The plan amendments resulted in a $6 million increase in the projected benefits obligation.

GRAPHIC 17–6
Prior Service Cost—Ecolab, Inc.

Let's put prior service cost in the context of our illustration.

At the end of 2005, and therefore the beginning of 2006, the PBO is $119,822. If the plan is amended on January 3, 2006, the PBO could be recomputed as:

	PBO *without* Amendment		PBO *with* Amendment	
1.	1.5% × 10 yrs. × $400,000	= $ 60,000	**1.7%** × 10 yrs. × $400,000	= $ 68,000
2.	$60,000 × 11.46992	= 688,195	$68,000 × 11.46992	= 779,955
3.	$688,195 × .17411	= 119,822	$779,955 × .17411	= 135,798

$15,976
Prior service cost

Retroactive benefits from an amendment add additional costs, increasing the company's PBO. This increase is the prior service cost.

The $15,976 increase in the PBO attributable to applying the more generous terms of the amendment to prior service years is the prior service cost. And, because we assumed the amendment occurred at the beginning of 2006, both the 2006 service cost and the 2006 interest cost would change as a result of the prior service cost. This is how:

PBO at the beginning of 2006 (end of 2005)	$119,822
Prior service cost (determined above)	15,976
PBO including prior service cost at the beginning of 2006	135,798
Service cost: (1.7% × 1 yr. × $400,000) × 11.46992 × .18456	14,395
Annual retirement benefits from 2006 service; To discount to 2035*; To discount to 2006†	
Interest cost: $135,798‡ × 6%	8,148
PBO at the end of 2006	$158,341

*Present value of an ordinary annuity of $1: $n = 20$, $i = 6\%$.
†Present value of $1: $n = 29$, $i = 6\%$.
‡Includes the beginning balance plus the prior service cost because the amendment occurred at the beginning of the year.

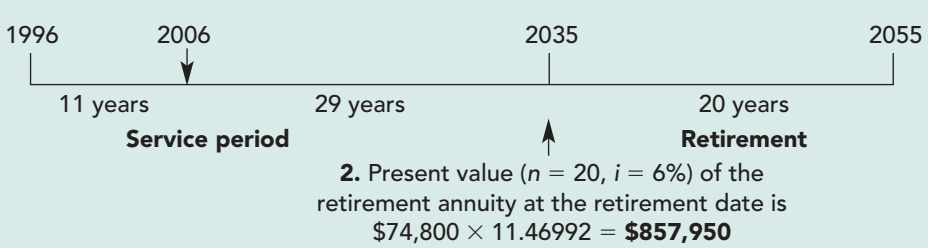
Prior service cost increased the PBO at the beginning of the year.

ADDITIONAL CONSIDERATION

We can verify the PBO balance by calculating it directly:

3. Present value ($n = 29$, $i = 6\%$) of retirement benefits at 2006 is $857,950 × .18456 = **$158,341* (PBO)**

1. Actuary estimates employee has earned (as of 2006) retirement benefits of **1.7%** × 11 years × $400,000 = **$74,800 per year**



2. Present value ($n = 20$, $i = 6\%$) of the retirement annuity at the retirement date is $74,800 × 11.46992 = **$857,950**

*Adjusted by $2 to compensate for the rounding of present value factors.

The pension formula reflects the plan amendment.

The plan amendment would affect not only the year in which it occurs, but also each subsequent year because the revised pension formula determines each year's service cost. Continuing our illustration to 2007 demonstrates this:

During 2007, the PBO increased as a result of service cost and interest cost.

PBO at the beginning of 2007 (end of 2006)				$158,341
Service cost: (1.7% × 1 yr. × $400,000)	× 11.46992	× .19563		15,258
	Annual retirement benefits from 2007 service	To discount to 2035*	To discount to 2007†	
Interest cost: $158,341 × 6%				9,500
PBO at the end of 2007				$183,099

*Present value of an ordinary annuity of $1: $n = 20$, $i = 6\%$.
†Present value of $1: $n = 28$, $i = 6\%$.

Decreases and increases in estimates of the PBO because of periodic reevaluation of uncertainties are called gains and losses.

4. Gain or loss on the PBO. We mentioned earlier that a number of estimates are necessary to derive the PBO. When one or more of these estimates requires revision, the estimate of the PBO also will require revision. The resulting decrease or increase in the PBO is referred to as a *gain* or *loss*, respectively. Let's modify our illustration to imitate the effect of revising one of the several possible estimates involved. Suppose, for instance, that new information at the end of 2007 about inflation and compensation trends suggests that the estimate of Farrow's final salary should be increased by 5% to $420,000. This would affect the estimate of the PBO as follows:

Changing the final salary estimate changes the PBO.

	PBO *without* Revised Estimate		PBO *with* Revised Estimate	
1.	1.7% × 12 yrs. × $400,000	= $ 81,600	1.7% × 12 yrs. × **$420,000**	= $ 85,680
2.	$81,600 × 11.46992	= 935,945	$85,680 × 11.46992	= 982,743
3.	$935,945 × .19563	= 183,099	$982,743 × .19563	= 192,254

$9,155
Loss on PBO

The difference of $9,155 represents a loss on the PBO because the obligation turned out to be higher than previously expected. Now there would be three elements of the increase in the PBO during 2007.[8]

The revised estimate caused the PBO to increase.

PBO at the beginning of 2007	$158,341
Service cost (calculated above)	15,258
Interest cost (calculated above)	9,500
Loss on PBO (calculated above)	9,155
PBO at the end of 2007	$192,254

If a revised estimate causes the PBO to be lower than previously expected, a gain would be indicated. Consider how a few of the other possible estimate changes would affect the PBO:

- A change in life expectancies might cause the retirement period to be estimated as 21 years rather than 20 years. Calculation of the present value of the retirement annuity would use $n = 21$, rather than $n = 20$. The estimate of the PBO would increase.
- The expectation that retirement will occur two years earlier than previously thought would cause the retirement period to be estimated as 22 years rather than 20 years and the service period to be estimated as 28 years rather than 30 years. The new expectation would probably also cause the final salary estimate to change. The net effect on the PBO would depend on the circumstances.
- A change in the assumed discount rate would affect the present value calculations. A lower rate would increase the estimate of the PBO. A higher rate would decrease the estimate of the PBO.

5. Payment of retirement benefits. We've seen how the PBO will change due to the accumulation of service cost from year to year, the accrual of interest as time passes, making

[8]The increase in the PBO due to amending the pension formula (prior service cost) occurred in 2006.

plan amendments retroactive to prior years, and periodic adjustments when estimates change. Another change in the PBO occurs when the obligation is reduced as benefits actually are paid to retired employees.

Payment of retirement benefits reduces the PBO.

The payment of such benefits is not applicable in our present illustration because we've limited the situation to calculations concerning an individual employee who is several years from retirement. Remember, though, in reality the actuary would make these calculations for the entire pool of employees covered by the pension plan. But the concepts involved would be the same. Graphic 17–7 summarizes the five ways the PBO can change.

GRAPHIC 17–7
Components of Change in the PBO

The Projected Benefits Obligation Changes as a Result of:		
Cause	**Effect**	**Frequency**
Service cost	+	Each period
Interest cost	+	Each period (except the first period of the plan, when no obligation exists to accrue interest)
Prior service cost	+	Only if the plan is amended (or initiated) that period
Loss or gain on PBO	+ or −	Whenever revisions are made in the pension liability estimate
Retiree benefits paid	−	Each period (unless no employees have yet retired under the plan)

ILLUSTRATION EXPANDED TO CONSIDER THE ENTIRE EMPLOYEE POOL

The PBO is not formally recognized in the balance sheet.

For our single employee, the PBO at the end of 2007 is $192,254. Let's say now that Global Communications has 2,000 active employees covered by the pension plan and 100 retired employees receiving retirement benefits. Illustration 17–2 expands the numbers to represent all covered employees.

ILLUSTRATION 17–2
The PBO Expanded to Include All Employees

The changes in the PBO for Global Communications during 2007 were as follows:

	($ in millions)*
PBO at the beginning of 2007† (amount assumed)	$400
Service cost, 2007 (amount assumed)	41
Interest cost: $400 × 6%	24
Loss (gain) on PBO (amount assumed)	23
Less: Retiree benefits paid (amount assumed)	(38)
PBO at the end of 2007	$450

*Of course, these expanded amounts are not simply the amounts for Jessica Farrow multiplied by 2,000 employees because her years of service, expected retirement date, and salary are not necessarily representative of other employees. Also, the expanded amounts take into account expected employee turnover and current retirees.
†Includes the prior service cost that increased the PBO when the plan was amended in 2006.

Pension Plan Assets

● LO4

So far our focus has been on the employer's obligation to provide retirement benefits in the future. We turn our attention now to the resources with which the company will satisfy that obligation—the **pension plan assets.** Like the PBO, the pension plan assets are not formally recognized on the balance sheet but are actively monitored in the employer's informal records. Its balance, too, must be reported in disclosure notes to the financial statements, and as explained below, the return on these assets is included in the calculation of the periodic pension expense.

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We assumed in the previous section that Global Communications' obligation is $450 million for service performed to date. When employees retire, will there be sufficient funds to

provide the anticipated benefits? To ensure sufficient funding, Global will contribute cash each year to a pension fund.

A *trustee* manages pension plan assets.

The assets of a pension fund must be held by a **trustee.** A trustee accepts employer contributions, invests the contributions, accumulates the earnings on the investments, and pays benefits from the plan assets to retired employees or their beneficiaries. The trustee can be an individual, a bank, or a trust company. Plan assets are invested in stocks, bonds, and other income-producing assets. The accumulated balance of the annual employer contributions plus the return on the investments (dividends, interest, market price appreciation) must be sufficient to pay benefits as they come due.

When an employer estimates how much it must set aside each year to accumulate sufficient funds to pay retirement benefits as they come due, it's necessary to estimate the return those investments will produce. This is the **expected return on plan assets.** The higher the return, the less the employer must actually contribute. On the other hand, a relatively low return means the difference must be made up by higher contributions. In practice, recent estimates of the rate of return have ranged from 4.5% to 11%, with 8.5% being the most commonly reported expectation.[9] In Illustration 17–3, we shift the focus of our numerical illustration to emphasize Global's pension plan assets.

ILLUSTRATION 17–3
How Plan Assets Change

Global Communications funds its defined benefit pension plan by contributing each year the year's service cost plus a portion of the prior service cost. Cash of $48 million was contributed to the pension fund at the end of 2007.

Plan assets at the beginning of 2007 were valued at $300 million. The expected rate of return on the investment of those assets was 9%, but the actual return in 2007 was 10%. Retirement benefits of $38 million were paid at the end of 2007 to retired employees.

What is the value of the company's pension plan assets at the end of 2007?

A trustee accepts employer contributions, invests the contributions, accumulates the earnings on the investments, and pays benefits from the plan assets.

	($ in millions)
Plan assets at the beginning of 2007	$300
Return on plan assets (10% × $300)	30
Cash contributions	48
Less: Retiree benefits paid	(38)
Plan assets at the end of 2007	$340

Recall that Global's PBO at the end of 2007 is $450 million. Because the plan assets are only $340 million, the pension plan is said to be *underfunded.* One reason is that we assumed Global incurred a $60 million prior service cost from amending the pension plan at the beginning of 2006, and that cost is being funded over several years. Another factor is the loss from increasing the PBO due to the estimate revision, since funding has been based on the previous estimate. Later, we'll assume earlier revisions also have increased the PBO. Of course, actual performance of the investments also impacts a plan's funded status.

An *underfunded* pension plan means the PBO exceeds plan assets.

It is not unusual for pension plans today to be underfunded. Historically the funded status of pension plans has varied considerably. Prior to the Employee Retirement Income Security Act (ERISA) in 1974, many plans were grossly underfunded. The new law established minimum funding standards among other matters designed to protect plan participants. The new standards brought most plans closer to full funding. Then the stock market boom of the 1980s caused the value of plan assets for many pension funds to swell to well over their projected benefit obligations. More than 80% of pension plans were overfunded. As a result, managers explored ways to divert funds to other areas of operations. Today a majority of plans again are underfunded. Many of the underfunded plans are with troubled companies, placing employees at risk. The PBGC guarantees are limited to about $3,400 per month, often less than promised pension benefits.

An *overfunded* pension plan means plan assets exceed the PBO.

[9] AICPA, *Accounting Trends and Techniques,* 2004.

REPORTING THE FUNDED STATUS OF THE PENSION PLAN

LO5

FINANCIAL REPORTING CASE

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A company's PBO is not reported among liabilities in the balance sheet. Similarly, the plan assets a company sets aside to pay those benefits are not reported among assets in the balance sheet. However, beginning in 2006 (for most companies), firms must report the net difference between those two amounts, referred to as the "funded status" of the plan.[10] From our previous discussion, we see the funded status for Global to be the following at Dec. 31, 2007, and Dec. 31, 2006:

($in millions)	2007	2006
Projected benefit obligation (PBO)	$450	$400
Fair value of plan assets	340	300
Underfunded status	$110	$100

A company must report in its balance sheet a liability for the underfunded (or asset for the overfunded) status of its postretirement plans.

Because the plan is underfunded, Global reports a pension liability of $110 million in its 2007 balance sheet and $100 million in 2006. If the plan becomes overfunded in the future, Global will report a pension asset instead.

Now, let's look at all the ways that changes in the pension liability and the pension plan assets affect pension expense.

DETERMINING PENSION EXPENSE

PART C

The Relationship between Pension Expense and Changes in the PBO and Plan Assets

LO6

Like wages, salaries, commissions, and other forms of pay, pension expense is part of a company's compensation for employee services each year. Accordingly, the accounting objective is to achieve a matching of the costs of providing this form of compensation with the benefits of the services performed. However, the fact that this form of compensation actually is paid to employees many years after the service is performed means that other elements in addition to the annual service cost will affect the ultimate pension cost. These other elements are related to changes that occur over time in both the pension liability and the pension plan assets. Graphic 17–8 provides a summary of how some of these changes influence pension expense.

The matching principle and the time period assumption dictate that the costs be allocated to the periods the services are performed.

We've examined each of the components of pension expense from the viewpoint of its effect on the PBO or on plan assets, using the Global Communications illustration to demonstrate that effect. Now, let's expand the same illustration to see how these changes affect *pension expense.* Illustration 17–4 provides this expanded example.

COMPONENTS OF PENSION EXPENSE

Illustration 17–4 demonstrates the relationship between some of the changes in the PBO and in plan assets and the components of pension expense: service cost, interest cost, the return on plan assets, prior service cost amortization, and net gain or loss amortization. Let's look at these five components of pension expense one at a time.

1. Service Cost. The $41 million service cost represents the increase in the projected benefit obligation attributable to employee service performed during 2007 (benefits earned by employees during the year). Each year this is the first component of the pension expense.

2. Interest Cost. The interest cost is calculated as the interest rate (actuary's discount rate) multiplied by the projected benefit obligation at the beginning of the year. In 2007, this is 6% times $400 million, or $24 million.

Interest cost is the discount rate times the PBO balance at the beginning of the year.

The PBO is not formally recognized as a liability in the company's balance sheet, but it is a liability nevertheless. The interest expense that accrues on its balance is not separately reported on the income statement but is instead combined with the service cost (and other amounts) as the second component of the annual pension expense.

[10]"Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans—an amendment of FASB Statements No. 87, 88, 106, and 132(R)," *Statement of Financial Accounting Standards No. 158* (Stamford, Conn.: FASB, 2006).

GRAPHIC 17–8
Components of the Periodic Pension Expense

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The pension expense reported in the income statement is a composite of periodic changes that occur in both the pension obligation and the plan assets.

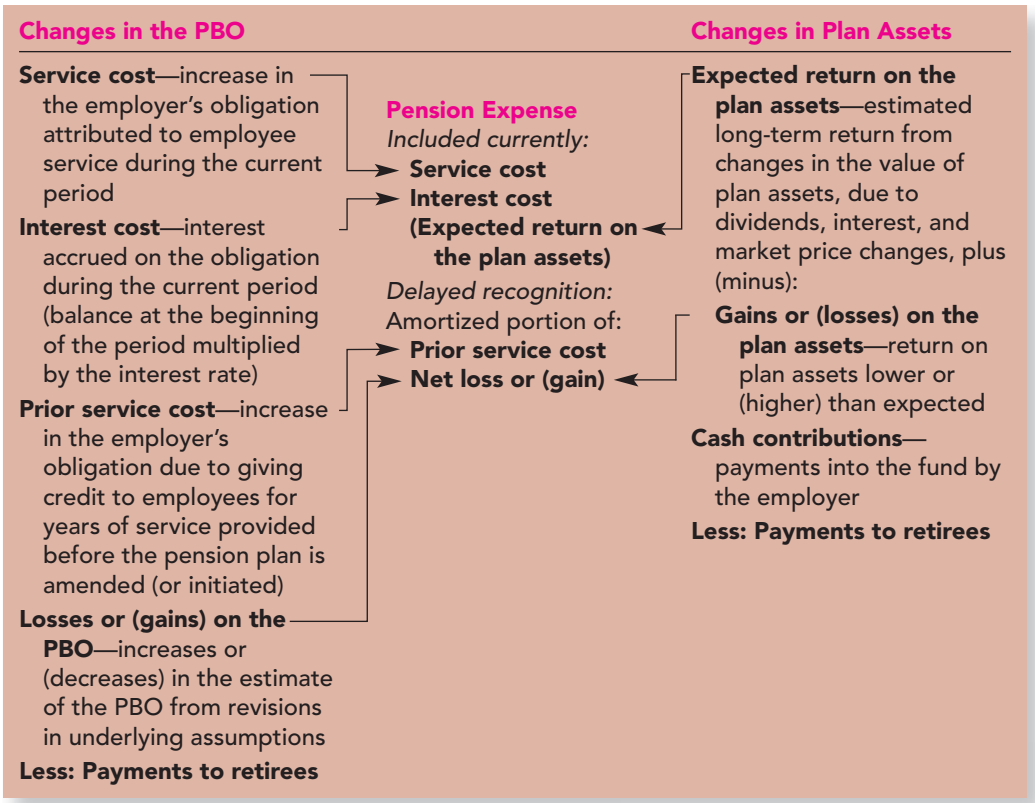


ILLUSTRATION 17–4
Pension Expense

Reports from the actuary and the trustee of plan assets indicate the following changes during 2007 in the PBO and plan assets of Global Communications.

These are the changes in the PBO and in the plan assets we previously discussed (Illustration 17–2 and Illustration 17–3).

($ in millions)	PBO		Plan Assets
Beginning of 2007	$400	*Beginning* of 2007	$300
Service cost	41	Return on plan assets,*	
Interest cost, 6%	24	10% (9% expected)	30
Loss (gain) on PBO	23	Cash contributions	48
Less: Retiree benefits	(38)	Less: Retiree benefits	(38)
End of 2007	$450	*End* of 2007	$340

A *prior service cost* of $60 million was incurred at the beginning of the previous year (2006) due to a plan amendment increasing the PBO. At the beginning of 2007 Global had a *net loss–pensions* of $55 million (previous losses exceeded previous gains). The average remaining service life of employees is estimated at 15 years.

2007 Pension Expense

Global's 2007 Pension Expense Is Determined as Follows:	($ in millions)
Service cost	$41
Interest cost	24
Expected return on the plan assets ($30 actual, less $3 gain)	(27)
Amortization of prior service cost (calculated later)	4
Amortization of net loss–pensions (calculated later)	1
Pension expense	$43

*Expected rates of return anticipate the performance of various investments of plan assets. This is not necessarily the same as the discount rate used by the actuary to estimate the pension obligation. Assumed rates of return recently reported have ranged from 4.5% to 11%, with 8.5% being the most commonly assumed rate (AICPA, *Accounting Trends and Techniques*, 2004).

3. Return on Plan Assets. Remember, plan assets comprise funds invested in stocks, bonds, and other securities that presumably will generate dividends, interest, and capital gains. Each year these earnings represent the return on plan assets during that year. When accounting for the return, we need to differentiate between its two modes: the *expected* return and the *actual* return.

The return earned on investment securities increases the plan asset balance.

Actual versus expected return. We've assumed Global's expected rate of return is 9%, so its expected return on plan assets in 2007 was 9% times $300 million, or $27 million. But, as previously indicated, the actual rate of return in 2007 was 10%, producing an actual return on plan assets of 10% times $300 million, or $30 million.

Obviously, investing plan assets in income-producing assets lessens the amounts employers must contribute to the fund. So, the return on plan assets reduces the net cost of having a pension plan. Accordingly, the return on plan assets each year *reduces* the amount recorded as pension expense. Just as the interest expense that accrues on the PBO is included as a component of pension expense rather than being separately reported, the investment revenue on plan assets is not separately reported either. In actuality, both the interest and return-on-assets components of pension expense do not directly represent employee compensation. Instead, they are financial items created only because the pension payment is delayed while the obligation is funded currently.

The interest and return-on-assets components are financial items created only because the compensation is delayed and the obligation is funded currently.

Adjustment for loss or gain. A controversial question is *when* differences between the actual and expected return should be recognized in pension expense. It seems logical that since the net cost of having a pension plan is reduced by the actual return on plan assets, the charge to pension expense should be the actual return on plan assets. However, the FASB concluded that the actual return should first be adjusted by any difference between that return and what the return had been expected to be. So, it's actually the *expected* return that is included in the calculation of pension expense. In our illustration, Global's pension expense is reduced by the expected return of $27 million.

The return on plan assets reduces the net cost of having a pension plan.

The difference between the actual and expected return is considered a loss or gain on plan assets. Although we don't include these losses and gains as part of pension expense when they occur, it's possible they will affect pension expense at a later time. On the next page, we will discuss how that might happen.

Any loss or gain is not included in pension expense right away.

4. Amortization of Prior Service Cost. Recall that the $60 million increase in Global's PBO due to recalculating benefits employees earned in prior years as a result of a plan amendment is referred to as the prior service cost. Obviously, prior service cost adds to the cost of having a pension plan. But when should this cost be recognized as pension expense? An argument can be made that the cost should be recognized as expense in the year of the amendment when the cost increases the company's pension obligation. In fact, some members of the FASB have advocated this approach. At present, though, we amortize the cost gradually to pension expense. Here's the rationalization.

Prior service cost is recognized as pension expense over the future service period of the employees whose benefits are recalculated.

Amending a pension plan, and especially choosing to make that amendment retroactive, typically is done with the idea that future operations will benefit from those choices. For that reason, the cost is not recognized as pension expense in the year the plan is amended. Instead, it is recognized as pension expense over the time that the employees who benefited from the retroactive amendment will work for the company in the future. Presumably, this future service period is when the company will receive the benefits of its actions.

In our illustration, the amendment occurred in 2006, increasing the PBO at that time. For the individual employee, Jessica Farrow, the prior service cost was calculated to be $15,976. Our illustration assumes that, for all plan participants, the prior service cost was $60 million at the beginning of 2006. The prior service cost at the beginning of 2007 is $56 million. The following section explains how this amount was computed.

One assumption in our illustration is that the average remaining service life of the active employee group is 15 years. To recognize the $60 million prior service cost in equal annual amounts over this period, the amount amortized as an increase in pension expense each year is $4 million:[11]

[11]An alternative to this straight-line approach, called the *service method,* attempts to allocate the prior service cost to each year in proportion to the fraction of the total remaining service years worked in each of those years. This method is described in the chapter appendix.

Amortization of Prior Service Cost:	($ in millions)
Service cost	$41
Interest cost	24
Expected return on the plan assets	(27)
Amortization of prior service cost	4
Amortization of net loss–pensions	1
Pension expense	$43

By the straight-line method, prior service cost is recognized over the average remaining service life of the active employee group.

Be sure to note that, even though we're amortizing it, the prior service cost is not an asset, but instead a part of *accumulated other comprehensive income*, a shareholders' equity account. This is a result of the FASB's current disinclination to treat the cost as an expense as it is incurred. The Board, instead, prefers to ascribe it the off-the-income-statement designation as *other comprehensive income* in the same manner as the handful of losses and gains also categorized the same way and not reported among the gains and losses in the traditional income statement. You first learned about comprehensive income in Chapter 4 and again in Chapter 12. We'll revisit it again later in this chapter.

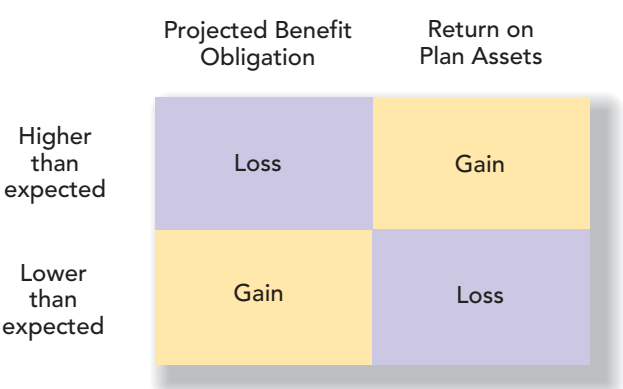
Prior service cost is not expensed as it is incurred. Instead, it is reported as a component of *accumulated other comprehensive income* to be amortized over time.

The prior service cost declines by $4 million each year:

Prior Service Cost	($ in millions)
Prior service cost at the beginning of 2007	$56
Less: 2007 amortization	(4)
Prior service cost at the end of 2007	$52

5. Amortization of a Net Loss or Net Gain. You learned previously that gains and losses can occur when expectations are revised concerning either the PBO or the return on plan assets. Graphic 17–9 summarizes the possibilities.

GRAPHIC 17–9
Gains and Losses



Gains and losses occur when either the PBO or the return on plan assets turns out to be different than expected.

Like the prior service cost we just discussed, we don't include these gains and losses as part of pension expense in the income statement, but instead report them as *other comprehensive income* in the statement of comprehensive income as they occur. We then report the gains and losses on a cumulative basis as a net loss–pensions or a net gain–pensions, depending on whether we have greater losses or gains over time. We report this amount in the balance sheet as a part of *accumulated other comprehensive income*, a shareholders' equity account.

There is no conceptual justification for not including losses and gains in earnings. After all, these increases and decreases in either the PBO or plan assets immediately impact the net cost of providing a pension plan and, conceptually, should be included in pension expense as they occur.

Nevertheless, The FASB requires that income statement recognition of gains and losses from either source be delayed. Why?—for practical reasons.

INCOME SMOOTHING

The FASB acknowledged the conceptual shortcoming of delaying the recognition of a gain or a loss while opting for this more politically acceptable approach. Delayed recognition was

favored by a dominant segment of corporate America that was concerned with the effect of allowing gains and losses to immediately impact reported earnings. In 2006, the FASB decided to formally reconsider all aspects of accounting for postretirement benefit plans, including this treatment of gains and losses.[14] The project will consider overhauling the entire system for accounting for and reporting on postretirement benefits. This result might include immediately including gains and losses in pension expense, thereby eliminating income smoothing.

The Board believes that it would be conceptually appropriate and preferable to [have] . . . no delay in recognition of gains and losses, or perhaps [to have] . . . gains and losses reported currently in comprehensive income but not in earnings. However, it concluded that those approaches would be too great a change from past practice to be adopted at the present time.[12]

Delayed recognition of gains and losses achieves income smoothing at the expense of conceptual integrity.

The practical justification for delayed recognition is that, over time, gains and losses might cancel one another out. Given this possibility, why create unnecessary fluctuations in reported income by letting temporary gains and losses decrease and increase (respectively) pension expense? Of course, as years pass there may be more gains than losses, or vice versa, preventing their offsetting one another completely. So, if a net gain or a net loss gets "too large," pension expense must be adjusted.

The Board acknowledges that the delayed recognition included in this Statement results in excluding the most current and most relevant information.[13]

SFAS 87 defines too large rather arbitrarily as being when a net gain or a net loss at the beginning of a year exceeds an amount equal to 10% of the PBO, or 10% of plan assets, whichever is higher.[15] *SFAS 87* refers to this threshold amount as the "corridor." When the corridor is exceeded, the excess is not charged to pension expense all at once. Instead, as a further concession to income smoothing, only a portion of the excess is included in pension expense. The minimum amount that should be included is the excess divided by the average remaining service period of active employees expected to receive benefits under the plan.[16]

A net gain or a net loss affects pension expense only if it exceeds an amount equal to 10% of the PBO, or 10% of plan assets, whichever is higher.

In our illustration, we're assuming a net loss–pensions of $55 million at the beginning of 2007. Also recall that the PBO and plan assets are $400 million and $300 million, respectively, at that time. The amount amortized to 2007 pension expense is $1 million, calculated as follows:

Determining Net Loss Amortization—2007	($ in millions)
Net loss (previous losses exceeded previous gains)	$55
10% of $400 ($400 is greater than $300): the "corridor"	(40)
Excess at the beginning of the year	$15
Average remaining service period	÷ 15 years
Amount amortized to 2007 pension expense	$ 1

Because the net loss exceeds an amount equal to the greater of 10% of the PBO or 10% of plan assets, part of the excess is amortized to pension expense.

The pension expense is increased because a net loss is being amortized. If a net *gain* were being amortized, the amount would be *deducted* from pension expense because a gain would indicate that the net cost of providing the pension plan had decreased.

[12]FASB, "Employers' Accounting for Pension and Other Postretirement Benefits," *Preliminary Views,* November 1982, par. 107.
[13]Ibid., par. 88.
[14]"Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans—an amendment of FASB Statements No. 87, 88, 106, and 132(R)," *Statement of Financial Accounting Standards No. 158* (Stamford, Conn.: FASB, 2006), par. B16.
[15]For this purpose the FASB specifies the market-related value of plan assets. This can be either the fair market value or a weighted-average fair market value over a period not to exceed five years. We will uniformly assume fair market value in this chapter.
[16]Companies are permitted to amortize the entire net loss (or gain) rather than just the excess, but few choose that option. (*SFAS 87,* par. 33.)

Amortization of the Net Loss–Pensions:	($ in millions)
Service cost	$41
Interest cost	24
Expected return on the plan assets	(27)
Amortization of prior service cost	4
Amortization of net loss–pensions	1
Pension expense	$43

Amortization of a net gain would decrease pension expense.

Amortization of a net loss increases pension expense.

This amortization reduces the net loss in 2007 by $1 million. Also recall that Global incurred (a) a $23 million loss in 2007 from revising estimates relating to the PBO and (b) a $3 million gain when the 2007 return on plan assets was higher than expected. These three changes affected the net loss–pensions in 2007 as follows:

Net Loss–Pensions	($ in millions)
Net loss–pensions at the beginning of 2007	$55
Less: 2007 amortization	(1)
Plus: 2007 loss on PBO	23
Less: 2007 gain on plan assets	(3)
Net loss–pensions at the end of 2007	$74

New losses add to a net loss; new gains reduce a net loss.

ADDITIONAL CONSIDERATION

The $74 million balance at the end of 2007 would be the beginning balance in 2008. It would be compared with the 2008 beginning balances in the PBO and plan assets to determine whether amortization would be necessary in 2008. If you were to look back to our analyses of the changes in those two balances, you would see the 2008 beginning balances in the PBO and plan assets to be $450 million and $340 million, respectively. The amount amortized to 2008 pension expense will be $1.93 million, calculated as follows:

	($ in millions)	
Net loss (previous losses exceeded previous gains)	$74	
10% of $450 ($450 is greater than $340)	(45)	
Excess at the beginning of the year	$29	
Average remaining service period	÷ 15	years*
Amount amortized to 2008 pension expense	**$1.93**	

*Assumes the average remaining service period of active employees is still 15 years in 2008 due to new employees joining the firm.

GLOBAL PERSPECTIVE

Most large companies in Japan sponsor pension plans that are funded through financial institutions. Contributions to pension funds are tax deductible. Because the taxes levied by the government are reported as income tax expense on the income statement, most Japanese companies report annual pension expense equal to cash contributions to the pension fund.

In other countries, such as France, Belgium, Finland, India, and New Zealand, pension costs are not covered by accounting standards. In still other countries pension accounting is irrelevant because the occurrence of pension plans is rare (Korea, Argentina, and Brazil, for example).

REPORTING ISSUES

PART D

Recording the Pension Expense

LO7

Recall from Illustration 17–4 that Global's 2007 pension expense is $43 million. Three of the five components of that expense affect the pension liability. Here's why. The expense includes the $41 million service cost and the $24 million interest cost, both of which add to Global's PBO. Since the pension liability is the difference between the PBO and plan assets, when the PBO goes up, so does the pension liability. Similarly, the expense includes a $27 million reduction for the expected return on plan assets. Since the pension liability is the difference between the PBO and plan assets, when the plan assets goes up, the pension liability goes down.[17] These changes are reflected in the following entry:

65 ↑ PBO
27 ↑ Less: plan assets
38 ↑ Pension liability

To Record Pension Expense	($ in millions)	
Pension expense (total)	43	
Pension liability ($41 + 24 – 27)		38
Prior service cost (2007 amortization)		4
Net loss–pensions (2007 amortization)		1

The pension liability (PBO minus plan assets) is affected only by the three components of pension expense that change either the PBO or plan assets.

The pension expense also includes the $4 million prior service cost amortization and the $1 million amortization of the net loss–pensions as we calculated earlier. Unlike the other three components, though, these amortization amounts affect neither the PBO nor the plan assets and therefore don't change the pension liability. Of course, amortization reduces the two balances being amortized; the prior service cost decreases by $4 million and the net loss–pensions by $1 million, thus the credits to those accounts.

Recording the Funding of Plan Assets

When Global adds its annual cash investment to its plan assets, the value of those plan assets increases by $48 million. Since the pension liability is the excess of the PBO over plan assets, that liability is reduced when plan assets increase:

PBO
48 ↑ Less: plan assets
48 ↓ Pension liability

To Record Funding	($ in millions)	
Pension liability	48	
Cash (contribution to plan assets)		48

It is not unusual for the cash contribution to differ from that year's pension expense. After all, the determination of the periodic pension expense and the funding of the pension plan are two separate processes. Pension expense is an accounting decision. How much to contribute each year is a financing decision affected by cash flow and tax considerations, as well as minimum funding requirements of ERISA. Subject to these considerations, cash contributions are actuarially determined with the objective of accumulating (along with investment returns) sufficient funds to provide promised retirement benefits.

The pension expense is, of course, reported in the income statement. In addition, the composition of that amount must be reported in disclosure notes. For instance, Northwest Air Lines described the composition of its pension expense in the disclosure note in its 2004 annual report, shown in Graphic 17–10.

Recording Gains and Losses

As we discussed earlier, gains and losses (either from changing assumptions regarding the PBO or from the return on assets being higher or lower than expected) are deferred and not

[17]The increase in plan assets is the $30 million *actual* return, but the $27 million *expected* return is the reduction in pension expense because the $3 million gain isn't included in expense. We see in the next section that the $3 million gain is reflected in the funded status of the plan (pension liability) and is recorded as other comprehensive income.

GRAPHIC 17–10
Disclosure of Pension Expense—Northwest Air Lines

The components of pension expense are itemized in the disclosure note.

Note 12: Pension and Other Postretirement Health Care Benefits
The components of net periodic cost of defined benefit plans included the following (in millions):

	2004	2003	2002
Service cost	$ 239	$ 248	$ 218
Interest cost	534	531	503
Expected return on plan assets	(503)	(476)	(538)
Amortization of prior service cost	75	77	80
Recognized net actuarial loss	99	111	46
Net periodic benefit cost	$ 444	$ 491	$ 309

immediately included in pension expense and net income. Instead, we report them as *other comprehensive income* in the statement of comprehensive income. So Global records a *loss–other comprehensive income* for the $23 million loss that occurs in 2007 when it revises its estimate of future salary levels causing its PBO estimate to increase as well as a $3 million *gain–other comprehensive income* that occurred when the $30 million actual return on plan assets exceeded the $27 million expected return. Here's the entry:

Losses and gains (as well as any new prior service cost should it occur) are reported as OCI and cause a change in the pension liability.

23 ↑ PBO
3 ↑ Less: plan assets
20 ↑ Pension liability

To Record Gains and Losses as Other Comprehensive Income (OCI)	($ in millions)	
Loss–OCI (from change in assumption)	23	
Gain–OCI (from actual return exceeding expected return)		3
Pension liability (to balance)		20

The loss increases the PBO, and the gain increases plan assets. Since the pension liability is the excess of the PBO over the plan assets, when the PBO goes up by $23 million, the pension liability goes up. But when the plan assets go up by $3 million, the pension liability goes down. As a result, the pension liability increases by $20 million.

Remember, gains and losses become part of either a net loss–pensions or a net gain–pensions account (net loss–pensions in Global's case), which is a component of *accumulated other comprehensive income*, a shareholders' equity account.

ADDITIONAL CONSIDERATION

Just as we record new losses and gains as they occur, we also will record a change in the prior service cost account for any new prior service cost should it occur. For instance, if Global revised its pension formula again and recalculated its PBO using the more generous formula, causing a $40 million increase in the PBO, the company would record the new prior service cost this way:

To Record New Prior Service Cost as Other Comprehensive Income (OCI)	($ in millions)	
Prior service cost–OCI (increase in PBO due to plan amendment)	40	
Pension liability		40

If an amendment *reduces* rather than increases the PBO, the *negative prior service cost* would reduce both the prior service cost and pension liability.

Comprehensive Income

Comprehensive income, as you may recall from Chapter 4, is a more expansive view of income than traditional net income. In fact, it encompasses all changes in equity other than

from transactions with owners.[18] So, in addition to net income, comprehensive income includes up to four other changes in equity. A statement of comprehensive income is demonstrated in Illustration 17–5, highlighting the presentation of the components of other comprehensive income pertaining to Global's pension plan.

ILLUSTRATION 17–5
Statement of Comprehensive Income

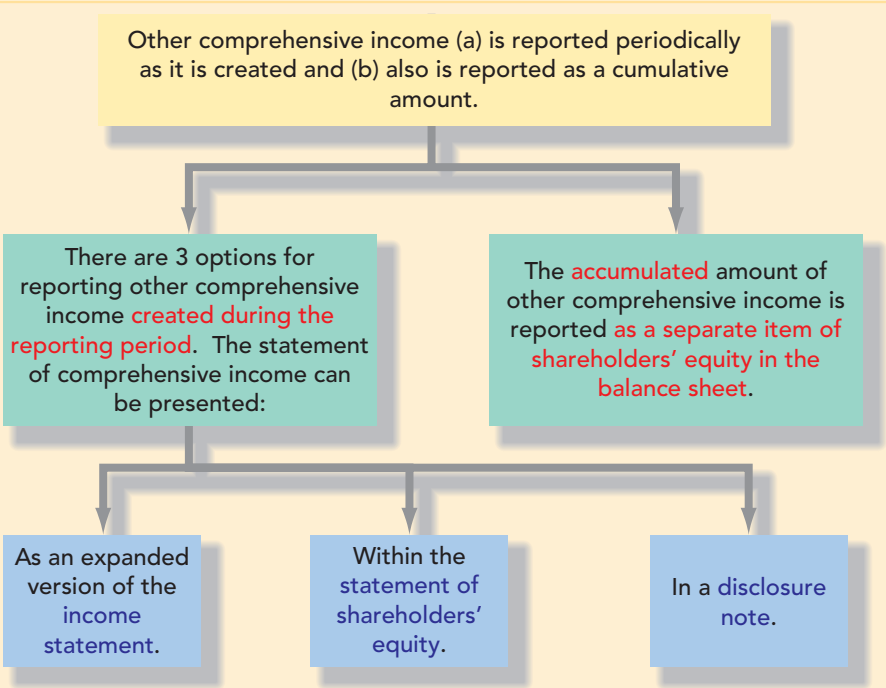
	($ in millions)	
Net income		$xxx
Other comprehensive income:		
Net unrealized holding gains (losses) on investments	$ x	
Loss on pensions—due to revising a PBO estimate*	(23)	
Gain on pensions—return on plan assets exceeds expected*	3	
Amortization of net loss—pensions	1	
Amortization of prior service cost	4	
Deferred gains (losses) from derivatives	x	
Gains (losses) from foreign currency translation	x	xx
Comprehensive income		$xxx

Gains and losses, as well as any new prior service cost should it arise, are among the other comprehensive income items reported in the period they occur.

*From Illustration 17–4 on p. 842
Note: These amounts are shown without considering taxes. Actually each of the elements of comprehensive income *should be reported net of tax*. For instance, if the tax rate is 40%, the gain would be reported as $13.8 million: $23 million less a $9.2 million tax benefit.

Other comprehensive income (OCI) items are reported both (a) as they occur and (b) as an accumulated balance as shown in Illustrations 17–6 and 17–7.[19]

ILLUSTRATION 17–6
Reporting Comprehensive Income



In addition to reporting the gains or losses (and other elements of comprehensive income) that occur in the current reporting period, we also report these amounts on a *cumulative* basis

[18]Transactions with owners primarily include dividends and the sale or purchase of shares of the company's stock.
[19]The statement of comprehensive income can be reported either (a) as an extension of the income statement, (b) in a disclosure note, or (c) as part of the statement of shareholders' equity.

ILLUSTRATION 17–7
Balance Sheet Presentation of Pension Amounts

Global Communication
Balance Sheets
For Years Ended December 31

	2007	2006
Assets		
Current assets	$xxx	$xxx
Property, plant, and equipment	xxx	xxx
Liabilities		
Current Liabilities	$xxx	$xxx
Pension liability	110	100
Other long-term liabilities	xxx	xxx
Shareholders' Equity		
Common stock	$xxx	$xxx
Retained earnings	xxx	xxx
Accumulated other comprehensive income:		
Net unrealized holding gains on investments	xxx	xxx
Net loss–pensions*	(74)	(55)
Prior service cost*	(52)	(56)

If the plan had been overfunded, Global would have reported a pension asset among its assets rather than this pension liability.

The net loss–pensions and prior service cost reduce shareholders' equity.

*These are debit balances and therefore negative components of accumulated other comprehensive income; a net gain–pensions would be a credit balance and a positive component of accumulated other comprehensive income.

Reporting OCI as it occurs and also as an accumulated balance is consistent with the way we report net income and its accumulated counterpart, retained earnings.

in the balance sheet. Comprehensive income includes (a) net income and (b) other comprehensive income. Notice that we report net income that occurs in the current reporting period in the income statement and also report accumulated net income (that hasn't been distributed as dividends) in the balance sheet as retained earnings. Similarly, we report other comprehensive income as it occurs in the current reporting period (see Illustration 17–5) and also report *accumulated other comprehensive income* in the balance sheet. In its 2007 balance sheet, Global will report the amounts as shown in Illustration 17–7.

Look back to the schedule on page 846 to see how the net loss–pensions increased from $55 million to $74 million during 2007 and the schedule on page 844 to see how the prior service cost decreased from $56 million to $52 million. The pension liability represents the underfunded status of Global's pension plan on the two dates.

Income Tax Considerations

Other comprehensive income items are reported net of tax, in both the (a) statement of comprehensive income and (b) accumulated other comprehensive income.

We have ignored the income tax effects of the amounts in order to focus on the core issues. Note, though, that as gains and losses occur, they are reported net of tax (tax expense for a gain, tax savings for a loss) in the statement of comprehensive income.[20] Likewise, accumulated other comprehensive income in the balance sheet also is reported net of tax.

Putting the Pieces Together

● LO8

In preceding sections, we've discussed (1) the projected benefit obligation (including changes due to periodic service cost, accrued interest, revised estimates, plan amendments, and the payment of benefits); (2) the plan assets (including changes due to investment returns, employer contributions, and the payment of benefits); (3) prior service cost; (4) gains and losses; (5) the periodic pension expense (comprising components of each of these); and (6) the funded status of the plan. These elements of a pension plan are interrelated. It's helpful to see how each element relates to the others. One way is to bring each part together in a *pension spreadsheet*. We do this for our 2007 Global Communications Illustration in Graphic 17–11.

[20]Similarly, if any new prior service cost should arise due to a plan amendment, it too would be reported net of tax.

($ in millions) Note: ( )s indicate credits; debits otherwise	Informal Records: PBO	Informal Records: Plan Assets	Formal Records: Prior Service Cost	Formal Records: Net Loss–Pensions	Formal Records: Pension Expense	Formal Records: Cash	Formal Records: Prepaid (Liability) / Asset
Balance, Jan. 1, 2007	(400)	300	56	55			(100)
Service cost	(41)				41		(41)
Interest cost	(24)				24		(24)
Expected return on assets		27			(27)		27
Adjust for: Gain on assets		3		(3)			3
Amortization of:							
Prior service cost			(4)		4		
Net loss				(1)	1		
Loss on PBO	(23)			23			(23)
Prior service cost	0		0				0
Contributions to fund		48				(48)	48
Retiree benefits paid	38	(38)					
Balance, Dec. 31, 2006	(450)	340	52	74	43		(110)

GRAPHIC 17–11
Pension Spreadsheet

When the PBO exceeds plan assets, we have a pension liability. If plan assets exceed the PBO, we have a pension asset.

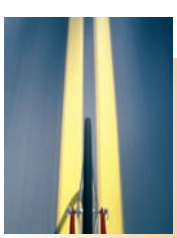
Each change in one of the accounts in the formal records (the blue-shaded area) affects exactly two such accounts.

You should spend several minutes studying this spreadsheet, focusing on the relationships among the elements that constitute a postretirement benefit pension plan. Notice that the first numerical column simply repeats the actuary's report of how the PBO changed during the year, as explained previously (Illustration 17–2). Likewise, the second column reproduces the changes in plan assets we discussed earlier (Illustration 17–3). We've also previously noted the changes in the prior service cost (page 844) and the net loss–pensions (page 846) that are duplicated in the third and fourth columns. The fifth column repeats the calculation of the 2007 pension expense we determined earlier (page 842), and the cash contribution to the pension fund is the sole item in the next column.

The last column shows the changes in the funded status of the plan. Be sure to notice that the funded status is the difference between the PBO (column 1) and the plan assets (column 2). That means that each of the changes we see in either of the first two columns also is reflected as a change in the funded status in the last column. For example, we noted earlier that when Global added $48 million to its plan assets, the pension liability decreased since it's the excess of the PBO over plan assets. We see that result in our spreadsheet.

Notice that each change in a formal account (blue-shaded columns) is reflected in exactly two of those columns. Any of the changes that affect the pension liability (or asset) also is reported in one of the first two (pink) columns due to the relationship described in the previous paragraph.

DECISION MAKERS' PERSPECTIVE



Although financial statement items are casualties of the political compromises of *SFAS 87,* information provided in the disclosure notes fortunately makes up for some of the deficiencies. *SFAS 132* revised the pension disclosure requirements.[21] Foremost among the useful disclosures are changes in the projected benefit obligation, changes in the fair value of plan assets, and a breakdown of the components of the annual pension expense. Other information also is made available to make it possible for interested analysts to reconstruct the financial statements with pension assets and liabilities included. We'll look at specific disclosures after we discuss postretirement benefits other than pensions because the two types of plans are reported together.

[21]"Employers' Disclosures about Pensions and Other Postretirement Benefits," *Statement of Financial Accounting Standards No. 132* (revised 2003), (Stamford, Conn.: FASB, 2003).

Pension amounts reported in the disclosure notes fill a reporting gap left by the minimal disclosures in the primary financial statements.

Investors and creditors must be cautious of the nontraditional treatment of pension information when developing financial ratios as part of an analysis of financial statements. The various elements of pensions that are not reported separately on the balance sheet and income statement (PBO, plan assets, gains and losses) can be included in ratios such as the debt to equity ratio or return on assets, but only by deliberately obtaining those numbers from the disclosure notes and adjusting the computation of the ratios. Similarly, without adjustment, profitability ratios and the times interest earned ratio will be distorted because pension expense includes the financial components of interest and return on assets.

Earnings quality (as defined in Chapter 4 and discussed in other chapters) also can be influenced by amounts reported in pension disclosures. Companies with relatively sizeable unrecognized pension costs (prior service cost, net gain or loss) can be expected to exhibit a relatively high "transitory" earnings component. Recall that transitory earnings are expected to be less predictive of future earnings than the "permanent" earnings component. ■

Settlement or Curtailment of Pension Plans

Companies sometimes terminate defined benefit plans to reduce costs and lessen risk.

Companies sometimes terminate defined benefit plans to siphon off excess pension fund assets for other purposes.

To cut down on cumbersome paperwork and lessen their exposure to the risk posed by defined benefit plans, many companies are providing defined contribution plans instead. Sometimes the motivation to terminate a plan is to take advantage of the excess funding position of many plans that was created by the stock market boom of the 1980s and 1990s and to divert these assets to another purpose. This trend was given impetus in 1982 when **Tengelmann Group** took over ailing **A&P** and used the acquired company's excess pension plan assets to finance its turnaround. Since then, so-called reversion assets have been used, not only in takeovers, but by existing management as well. **Exxon** (now **ExxonMobil**), for instance, used $1.6 billion from its $5.6 billion pension fund to bolster operations during a period of depressed oil prices in 1986. Asset reversions are not as common now as in the 1980s, largely because of excise taxes on amounts recovered when plans are terminated and other restrictive legislation taken by Congress to limit terminations.

When a plan is terminated, *SFAS 88* requires a gain or loss to be reported at that time.[22] For instance, **Melville Corporation** described the termination of its pension plan in the following disclosure note:

GRAPHIC 17–12
Gain on the Termination of a Defined Benefit Plan—Melville Corporation

> **Retirement Plans (in part)**
> . . . As a result of the termination of the defined benefit plans, and after the settlement of the liability to plan participants through the purchase of nonparticipating annuity contracts or lump-sum rollovers into the new 401(k) Profit Sharing Plan, the Company recorded a nonrecurring gain of approximately $4,000,000 which was the amount of plan assets that reverted to the Company. This was accounted for in accordance with *Statement of Financial Accounting Standards No. 88,* "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits."

CONCEPT REVIEW EXERCISE

PENSION PLANS

Allied Services, Inc. has a noncontributory, defined benefit pension plan. Pension plan assets had a fair market value of $900 million at December 31, 2006.

On January 3, 2007, Allied amended the pension formula to increase benefits for each service year. By making the amendment retroactive to prior years, Allied incurred a prior service cost of $75 million, adding to the previous projected benefit obligation of $875 million. The prior service cost is to be amortized (expensed) over 15 years. The service cost is $31 million for 2007. Both the actuary's discount rate and the expected rate of return on plan assets were 8%. The actual rate of return on plan assets was 10%.

[22] "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits," *Statement of Financial Accounting Standards No. 88* (Stamford, Conn.: FASB, 1985).

At December 31, 2007, $16 million was contributed to the pension fund and $22 million was paid to retired employees. Also, at that time, the actuary revised a previous assumption, increasing the PBO estimate by $10 million. The net loss at the beginning of the year was $13 million.

Required:

Determine each of the following amounts as of December 31, 2007, the fiscal year-end for Allied: (1) projected benefit obligation; (2) plan assets; and (3) pension expense.

SOLUTION

($ in millions)	Projected Benefit Obligation	Plan Assets	Pension Expense
Balances at Jan. 1	$ 875	$900	$ 0
Prior service cost	75		
Service cost	31		31
Interest cost [($875 + 75)* × 8%]	76		76
Return on plan assets:			
Actual ($900 × 10%)		90	
Expected ($900 × 8%)			(72)
Amortization of prior service cost ($75 ÷ 15)			5
Amortization of net loss pensions			0†
Loss on PBO	10		
Cash contribution		16	
Retirement payments	(22)	(22)	
Balance at Dec. 31	$1,045	$984	$40

Note: The $18 million gain on plan assets ($90 − 72 million) is not recognized yet; it is carried forward to be combined with previous and future gains and losses, which will be recognized only if the net gain or net loss exceeds 10% of the higher of the PBO or plan assets.

*Since the plan was amended at the beginning of the year, the prior service cost increased the PBO at that time.

†Since the net loss ($13) does not exceed 10% of $900 (higher than $875), no amortization is required for 2007.

POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

PART E

As we just discussed, most companies have pension plans that provide for the future payments of retirement benefits to compensate employees for their current services. Many companies also furnish *other postretirement benefits* to their retired employees. These may include medical coverage, dental coverage, life insurance, group legal services, and other benefits. By far the most common is health care benefits. One of every three U.S. workers in medium- and large-size companies participates in health care plans that provide for coverage that continues into retirement. The aggregate impact is considerable; the total obligation for all U.S. corporations is about $500 billion.

Prior to 1993, employers accounted for postretirement benefit costs on a pay-as-you-go basis, meaning the expense each year was simply the amount of insurance premiums or medical claims paid, depending on the way the company provided health care benefits. *SFAS 106* requires a completely different approach. The expected future health care costs for retirees now must be recognized as an expense over the years necessary for employees to become entitled to the benefits.[23] This is the accrual basis that also is the basis for pension accounting.

LO9

In fact, accounting for postretirement benefits is similar in most respects to accounting for pension benefits. This is because the two forms of benefits are fundamentally similar. Each is a form of deferred compensation earned during the employee's service life and each can be estimated as the present value of the cost of providing the expected future benefits. **General Motors** described its plan as shown in Graphic 17–13.

[23]"Employers' Accounting for Postretirement Benefits Other Than Pensions," *Statement of Financial Accounting Standards No. 106* (Norwalk, Conn.: FASB, 1990). The Standard became effective (with some exceptions) in 1993.

GRAPHIC 17–13
Disclosures—General Motors

Note 5: Other Postretirement Benefits (in part)
The Corporation and certain of its domestic subsidiaries maintain hourly and salaried benefit plans that provide postretirement medical, dental, vision, and life insurance to retirees and eligible dependents. These benefits are funded as incurred from the general assets of the Corporation. Effective January 1, 1992, the Corporation adopted *SFAS No. 106*, Employers Accounting for Postretirement Benefits Other Than Pensions. This Statement requires that the cost of such benefits be recognized in the financial statements during the period employees provide service to the Corporation.

Despite the similarities, though, there are a few differences in the characteristics of the benefits that necessitate differences in accounting treatment. Because accounting for the two types of retiree benefits is so nearly the same, our discussion in this portion of the chapter will emphasize the differences. This will allow you to use what you learned earlier in the chapter regarding pension accounting as a foundation for learning how to account for other postretirement benefits, supplementing that common base only when necessary. Focusing on the differences also will reinforce your understanding of pension accounting.

What Is a Postretirement Benefit Plan?

Before addressing the accounting ramifications, let's look at a typical retiree health care plan.[24] First, it's important to distinguish retiree health care benefits from health care benefits provided during an employee's working years. The annual cost of providing *preretirement* benefits is simply part of the annual compensation expense. However, many companies offer coverage that continues into retirement. It is the deferred aspect of these *postretirement* benefits that creates an accounting issue.

Eligibility usually is based on age and/or years of service.

Usually a plan promises benefits in exchange for services performed over a designated number of years, or reaching a particular age, or both. For instance, a plan might specify that employees are eligible for postretirement benefits after both working 20 years and reaching age 62 while in service. Eligibility requirements and the nature of benefits usually are specified by a written plan, or sometimes only by company practice.

POSTRETIREMENT HEALTH BENEFITS AND PENSION BENEFITS COMPARED

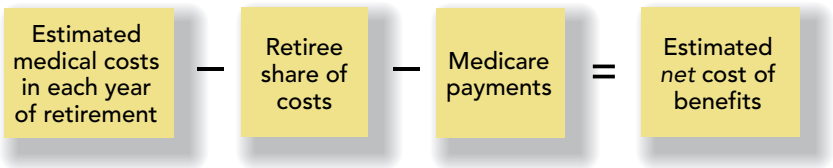
Keep in mind that retiree health benefits differ fundamentally from pension benefits in some important respects:

1. The amount of *pension* benefits generally is based on the number of years an employee works for the company so that the longer the employee works, the higher are the benefits. On the other hand, the amount of *postretirement health care* benefits typically is unrelated to service. It's usually an all-or-nothing plan in which a certain level of coverage is promised upon retirement, independent of the length of service beyond that necessary for eligibility.
2. Although coverage might be identical, the cost of providing the coverage might vary significantly from retiree to retiree and from year to year because of differing medical needs.
3. Postretirement health care plans often require the retiree to share in the cost of coverage through monthly contribution payments. For instance, a company might pay 80% of insurance premiums, with the retiree paying 20%. The net cost of providing coverage is reduced by these contributions as well as by any portion of the cost paid by Medicare or other insurance.
4. Coverage often is provided to spouses and eligible dependents.

DETERMINING THE NET COST OF BENEFITS

To determine the postretirement benefit obligation and the postretirement benefit expense, the company's actuary first must make estimates of what the postretirement benefit costs will

[24]For convenience, our discussion focuses on health care benefits because these are by far the most common type of postretirement benefits other than pensions. But the concepts we discuss apply equally to other forms of postretirement benefits.



GRAPHIC 17–14
Estimating the Net Cost of Benefits

be for current employees. Then, as illustrated in Graphic 17–14 above, contributions to those costs by employees are deducted, as well as Medicare's share of the costs (for retirement years when the retiree will be 65 or older), to determine the estimated net cost of benefits to the employer:

Remember, postretirement health care benefits are anticipated actual costs of providing the promised health care, rather than an amount estimated by a defined benefit formula. This makes these estimates inherently more intricate, particularly because health care costs in general are notoriously difficult to forecast. And, since postretirement health care benefits are partially paid by the retiree and by Medicare, these cost-sharing amounts must be estimated as well.

On the other hand, estimating postretirement benefits costs is similar in many ways to estimating pension costs. Both estimates entail a variety of assumptions to be made by the company's actuary. Many of these assumptions are the same; for instance, both require estimates of:

1. A discount rate.
2. Expected return on plan assets (if the plan is funded).
3. Employee turnover.
4. Expected retirement age.
5. Expected compensation increases (if the plan is pay-related).
6. Expected age of death.
7. Number and ages of beneficiaries and dependents.

Many of the assumptions needed to estimate postretirement health care benefits are the same as those needed to estimate pension benefits.

Of course, the relative importance of some estimates is different from that for pension plans. Dependency status, turnover, and retirement age, for example, take on much greater significance. Also, additional assumptions become necessary as a result of differences between pension plans and other postretirement benefit plans. Specifically, it's necessary to estimate:

1. The current cost of providing health care benefits at each age that participants might receive benefits.
2. Demographic characteristics of plan participants that might affect the amount and timing of benefits.
3. Benefit coverage provided by Medicare, other insurance, or other sources that will reduce the net cost of employer-provided benefits.
4. The expected health care cost trend rate.[25]

Some additional assumptions are needed to estimate postretirement health care benefits besides those needed to estimate pension benefits.

Taking these assumptions into account, the company's actuary estimates what the net cost of postretirement benefits will be for current employees in each year of their expected retirement. The discounted present value of those costs is the expected postretirement benefit obligation.

The postretirement benefit obligation is the discounted present value of the benefits during retirement.

Postretirement Benefit Obligation

LO10

There are two related obligation amounts. As indicated in Graphic 17–15, one measures the total obligation and the other refers to a specific portion of the total:

1. **Expected postretirement benefit obligation (EPBO):** The actuary's estimate of the *total* postretirement benefits (at their discounted present value) expected to be received by plan participants.
2. **Accumulated postretirement benefit obligation (APBO):** The portion of the EPBO attributed to employee service to date.

GRAPHIC 17–15
Two Views of the Obligation for Postretirement Benefits Other Than Pensions

[25]Health care cost trend rates recently reported have ranged from 5.5% to 14%, with 10% being the most commonly assumed rate. AICPA, *Accounting Trends and Techniques,* 2004.

The accumulated postretirement benefit obligation (APBO) is analogous to the projected benefit obligation (PBO) for pensions. Like the PBO, the APBO is an off-balance-sheet obligation, reported only in the disclosure notes.

MEASURING THE OBLIGATION

To illustrate, assume the actuary estimates that the net cost of providing health care benefits to Jessica Farrow (our illustration employee from earlier in the chapter) during her retirement years has a present value of $10,842 as of the end of 2005. This is the EPBO. If the benefits (and therefore the costs) relate to an estimated 35 years of service[26] and 10 of those years have been completed, the APBO would be:

$3,098 represents the portion of the EPBO related to the first 10 years of the 35-year service period.

$$\underset{\text{EPBO}}{\$10{,}842} \times \underset{\text{Fraction attributed to service to date}}{{}^{10}\!/_{35}} = \underset{\text{APBO}}{\$3{,}098}$$

If the assumed discount rate is 6%, a year later the EPBO will have grown to $11,493 simply because of a year's interest accruing at that rate ($10,842 × 1.06 = $11,493). Notice that there is no increase in the EPBO for service because, unlike the obligation in most pension plans, the total obligation is not increased by an additional year's service.

The APBO, however, is the portion of the EPBO related to service up to a particular date. Consequently, the APBO will have increased both because of interest and because the service fraction will be higher (service cost):

$3,612 represents the portion of the EPBO related to the first 11 years of the 35-year service period.

$$\underset{\text{EPBO}}{\$11{,}493} \times \underset{\text{Fraction attributed to service to date}}{{}^{11}\!/_{35}} = \underset{\text{APBO}}{\$3{,}612}$$

The two elements of the increase in 2006 can be separated as follows:

The APBO increases each year due to (a) interest accrued on the APBO and (b) the portion of the EPBO attributed to that year.

APBO at the beginning of the year	$3,098
Interest cost: $3,098 × 6%	186
Service cost: ($11,493 × 1/35) portion of EPBO attributed to the year	328
APBO at the end of the year	$3,612

ATTRIBUTION

Attribution is the process of assigning the cost of benefits to the years during which those benefits are assumed to be earned by employees. The approach required by *SFAS 106* is to assign an equal fraction of the EPBO to each year of service from the employee's date of hire to the employee's full eligibility date.[27] This is the date the employee has performed all the service necessary to have earned all the retiree benefits estimated to be received by the employee.[28] In our earlier example, we assumed the attribution period was 35 years and accordingly accrued 1/35 of the EPBO each year. The amount accrued each year increases both the APBO and the postretirement benefit expense. In Illustration 17–8 we see how the 35-year attribution (accrual) period was determined.

The cost of benefits is attributed to the years during which those benefits are assumed to be earned by employees.

Some critics of *SFAS 106* feel there is a fundamental inconsistency between the way we measure the benefits and the way we assign the benefits to specific service periods. The benefits (EPBO) are measured with the concession that the employee may work beyond the full eligibility date; however, the attribution period does not include years of service after that date. The counterargument is the fact that at the full eligibility date the employee will have

The attribution period does not include years of service beyond the full eligibility date even if the employee is expected to work after that date.

[26]Assigning the costs to particular service years is referred to as the *attribution* of the costs to the years the benefits are assumed earned. We discuss attribution in the next section.

[27]If the plan specifically grants credit only for service from a date after employee's date of hire, the beginning of the attribution period is considered to be the beginning of that credited service period, rather than the employee's date of hire.

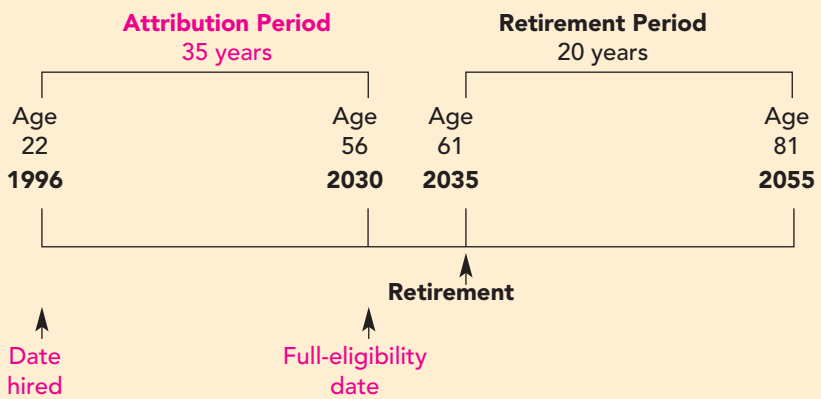
[28]Or any beneficiaries and covered dependents.

Jessica Farrow was hired by Global Communications at age 22 at the beginning of 1996 and is expected to retire at the end of 2035 at age 61. The retirement period is estimated to be 20 years.*

Global's employees are eligible for postretirement health care benefits after both reaching age 56 while in service and having worked 20 years.

Since Farrow becomes fully eligible at age 56 (the end of 2030), retiree benefits are attributed to the 35-year period from her date of hire through that date. Graphically, the situation can be described as follows:

ILLUSTRATION 17–8
Determining the Attribution Period



The attribution period spans each year of service from the employee's date of hire to the employee's full eligibility date.

*You probably recognize this as the situation used earlier in the chapter to illustrate pension accounting.

earned the right to receive the full benefits expected under the plan and the amount of the benefits will not increase with service beyond that date.[29]

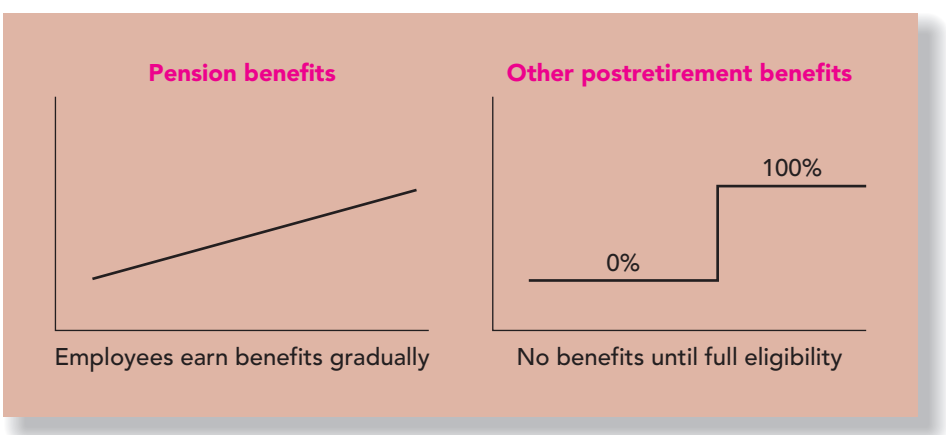
Accounting for Postretirement Benefit Plans Other Than Pensions

LO11

As we just discussed, it's necessary to attribute a portion of the accumulated postretirement benefit obligation to each year as the service cost for that year as opposed to measuring the actual benefits employees earn during the year as we did for pension plans. That's due to the fundamental nature of these other postretirement plans under which employees are ineligible for benefits until specific eligibility criteria are met, at which time they become 100% eligible. This contrasts with pension plans under which employees earn additional benefits each year until they retire.

We account for pensions and for other postretirement benefits essentially the same way.

GRAPHIC 17–16
Measuring Service Cost



Measuring the service cost differs, though, due to a fundamental difference in the way employees acquire benefits under the two types of plans.

The way we measure service cost is the primary difference between accounting for pensions and for other postretirement benefits. Otherwise, though, accounting for the two is virtually

[29]"Employers' Accounting for Postretirement Benefits Other Than Pensions," *Statement of Financial Accounting Standards No. 106* (Norwalk, Conn.: FASB, 1990), par. 219–239.

identical. For example, a company with an underfunded postretirement benefit plan with existing prior service cost and net loss–postretirement benefits would record the following journal entries annually:

We record the annual expense and funding for other postretirement benefit plans the same way we do for pensions.

We record losses and gains (as well as any new prior service cost should it occur) as adjustments to other comprehensive income accounts and the postretirement benefit liability.

To Record Postretirement Benefit Expense

Postretirement expense (total)	xx	
Postretirement benefit liability (service cost + interest cost – expected return on assets)		xx
Prior service cost[30] (current amortization)		xx
Net loss–postretirement benefits (current amortization)		xx

To Record Cash Funding of Plan Assets

Postretirement benefit liability	xx	
Cash (contribution to plan assets)		xx

To Adjust for New Gains and Losses

Loss–OCI (loss on APBO or plan assets)	xx	
Gain–OCI (gain on APBO or plan assets)		xx
Postretirement benefit liability (to balance)		xx

ETHICAL DILEMMA

Earlier this year, you were elected to the board of directors of Champion International, Inc. Champion has offered its employees postretirement health care benefits for 35 years. The practice of extending health care benefits to retirees began modestly. Most employees retired after age 65, when most benefits were covered by Medicare. Costs also were lower because life expectancies were shorter and medical care was less expensive. Because costs were so low, little attention was paid to accounting for these benefits. The company simply recorded an expense when benefits were provided to retirees. *SFAS 106* changed all that. Now, the obligation for these benefits must be anticipated and reported in the annual report. Worse yet, the magnitude of the obligation has grown enormously, almost unnoticed. Health care costs have soared in recent years. Medical technology and other factors have extended life expectancies. Of course, the value to employees of this benefit has grown parallel to the growth of the burden to the company.

Without being required to anticipate future costs, many within Champion's management were caught by surprise at the enormity of the company's obligation. Equally disconcerting was the fact that such a huge liability now must be exposed to public view. Now you find that several board members are urging the dismantling of the postretirement plan altogether.

What do you think?

A COMPREHENSIVE ILLUSTRATION

We assumed earlier that the EPBO at the end of 2005 was determined by the actuary to be $10,842. This was the present value on that date of all anticipated future benefits. Then we noted that the EPBO at the end of the next year would have grown by 6% to $11,493. This amount, too, would represent the present value of the same anticipated future benefits, but as of a year later. The APBO, remember, is the portion of the EPBO attributed to service performed to a particular date. So, we determined the APBO at the end of 2006 to be $11,493 × 1½₅, or $3,612. We determined the $328 service cost noted earlier for 2006 as the portion of the EPBO attributed to that year: $11,493 × ½₅.

Now, let's review our previous discussion of how the EPBO, the APBO, and the postretirement benefit expense are determined by calculating those amounts a year later, at the end

[30]The prior service cost for other postretirement benefits is amortized over the average remaining time until "full eligibility" for employees rather than until retirement as is the case for pension plans. This is consistent with recording "regular" service cost over the time to full eligibility.

of 2007. Before doing so, however, we can anticipate (a) the EPBO to be \$11,493 × 1.06, or \$12,182, (b) the APBO to be 12/35 of that amount, or \$4,177, and (c) the 2007 service cost to be 1/35 of that amount, or \$348. In Illustration 17–9 we see if our expectations are borne out by direct calculation.

Assume the actuary has estimated the net cost of retiree benefits in each year of Jessica Farrow's 20-year expected retirement period to be the amounts shown in the calculation below. She is fully eligible for benefits at the end of 2030 and is expected to retire at the end of 2035.

Calculating the APBO and the postretirement benefit expense at the end of 2007, 12 years after being hired, begins with estimating the EPBO.

Steps to calculate (a) the EPBO, (b) the APBO, and (c) the annual service cost at the end of 2007, 12 years after being hired, are:

(a). 1. Estimate the cost of retiree benefits in each year of the expected retirement period and deduct anticipated Medicare reimbursements and retiree cost-sharing to derive the net cost to the employer in each year of the expected retirement period.
2. Find the present value of each year's net benefit cost as of the *retirement date*.
3. Find the present value of the total net benefit cost as of the *current date*. This is the EPBO.

(b). Multiply the EPBO by the attribution factor, (service to date/total attribution period). This is the APBO. The service cost in any year is simply one year's worth of the EPBO.

(c). Multiply the EPBO by $1/\text{total attribution period}$.

ILLUSTRATION 17–9
Determining the Postretirement Benefit Obligation

The EPBO is the discounted present value of the total benefits expected to be earned.

The fraction of the EPBO considered to be earned this year is the service cost.

The fraction of the EPBO considered to be earned so far is the APBO.

The steps are demonstrated in Illustration 17–9A.

(a.1). Actuary estimates the net cost of benefits paid during retirement years:

(a.2). Present value [n = 1, 2, 3, 4, . . . 19, 20: i = 6%] of the net benefits as of the retirement date:

Year	Age	Net Benefit	Present Value at 2035
2036	62	5,000	4,717
2037	63	5,600	4,984
2038	64	6,300	5,290
2039	65	3,000	2,376
~	~	~	~
2054	80	9,550	3,156
2055	81	10,300	3,212
			\$62,269

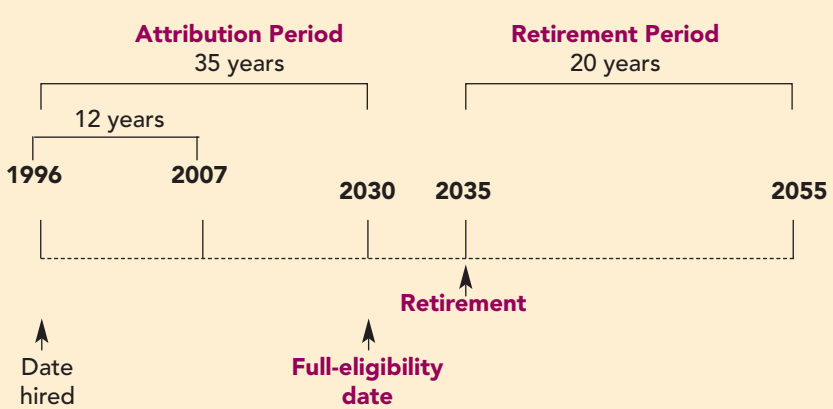


ILLUSTRATION 17–9A
EPBO, APBO, and Service Cost in 2007

The actuary estimates the net cost to the employer in each year the retiree is expected to receive benefits.

As of the retirement date, the lump-sum equivalent of the expected yearly costs is \$62,269.

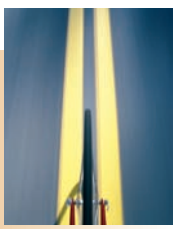
The EPBO in 2007 is the present value of those benefits.

The APBO is the portion of the EPBO attributed to service to date.

The service cost is the portion of the EPBO attributed to a particular year's service.

ILLUSTRATION 17–9A concluded

(a.3). Present value ($n = 28$, $i = 6\%$) of postretirement benefits at 2007 is $62,269 × .19563 = $12,182 (EPBO)
(b). $12,182 × 12/35 = $4,177 (APBO)
(c). $12,182 × 1/35 = $348 (Service Cost)



Postretirement benefit amounts reported in the disclosure notes fill a reporting gap left by the minimal disclosures in the primary financial statements.

DECISION MAKERS' PERSPECTIVE

When they analyze financial statements, investors and creditors should be wary of the nonstandard way companies report pension and other postretirement information. Recall that in the balance sheet, firms do not separately report the benefit obligation and the plan assets. Also, companies have considerable latitude in making the several assumptions needed to estimate the components of postretirement benefit plans. Fortunately, information provided in the disclosure notes makes up for some of the deficiency in balance sheet information and makes it possible for interested analysts to modify their analysis. As for pensions, the choices companies make for the discount rate, expected return on plan assets, and the compensation growth rate can greatly impact postretirement benefit expense and earnings quality. The disclosures required are very similar to pension disclosures. In fact, disclosures for the two types of retiree benefits typically are combined.[31] Disclosures include:

- Descriptions of the plans.
- Estimates of the obligations (PBO, ABO, vested benefit obligation, EPBO, and APBO).
- The percentage of total plan assets for each major category of assets (equity securities, debt securities, real estate, other) as well as a description of investment strategies, including any target asset allocations and risk management practices.
- A breakdown of the components of the annual pension and postretirement benefit expenses for the years reported.
- The discount rates, the assumed rate of compensation increases used to measure the PBO, the expected long-term rate of return on plan assets, and the expected rate of increase in future medical and dental benefit costs.
- Estimated benefit payments presented separately for the next five years and in the aggregate for years 6–10.
- Estimate of expected contributions to fund the plan for the next year.
- Disclosures related to the modifications *SFAS 158* introduced, including (a) any changes to the net gain or net loss and prior service cost arising during the period, (b) the accumulated amounts of these components of accumulated other comprehensive income, and (c) the amounts of those balances expected to be amortized in the next year.
- Other information to make it possible for interested analysts to reconstruct the financial statements with plan assets and liabilities included. ■

CONCEPT REVIEW EXERCISE

OTHER POSTRETIREMENT BENEFITS

Technology Group, Inc., has an unfunded retiree health care plan. The actuary estimates the net cost of providing health care benefits to a particular employee during his retirement years to have a present value of $24,000 as of the end of 2007 (the EPBO). The benefits and therefore the expected postretirement benefit obligation relate to an estimated 36 years of service and 12 of those years have been completed. The interest rate is 6%.

Required:

Pertaining to the one employee only:

1. What is the accumulated postretirement benefit obligation at the end of 2007?
2. What is the expected postretirement benefit obligation at the end of 2008?

[31]"Employers' Disclosures about Pensions and Other Postretirement Benefits," *Statement of Financial Accounting Standards No. 132* (Stamford, Conn.: FASB, 1998).

3. What is service cost to be included in 2008 postretirement benefit expense?
4. What is interest cost to be included in 2008 postretirement benefit expense?
5. What is the accumulated postretirement benefit obligation at the end of 2008?
6. Show how the APBO changed during 2008 by reconciling the beginning and ending balances.
7. What is 2008 postretirement benefit expense, assuming no net gains or losses and no prior service cost?

SOLUTION

1. What is the accumulated postretirement benefit obligation at the end of 2007?

$24,000	×	12/36	=	$8,000
EPBO 2007		Fraction earned		APBO 2007

2. What is the expected postretirement benefit obligation at the end of 2008?

$24,000	×	1.06	=	$25,440
EPBO 2007		To accrue interest		EPBO 2008

3. What is service cost to be included in 2007 postretirement benefit expense?

$25,440	×	1/36	=	$707
EPBO 2008		Earned in 2008		Service cost

4. What is interest cost to be included in 2008 postretirement benefit expense?

$8,000 (beginning APBO) × 6% = $480

5. What is the accumulated postretirement benefit obligation at the end of 2008?

$25,440	×	13/36	=	$9,187
EPBO 2008		Fraction earned		APBO 2008

6. Show how the APBO changed during 2008 by reconciling the beginning and ending balances.

APBO at the beginning of 2008 (from req. 1)	$8,000
Service cost: (from req. 3)	707
Interest cost: (from req. 4)	480
APBO at the end of 2008 (from req. 5)	$9,187

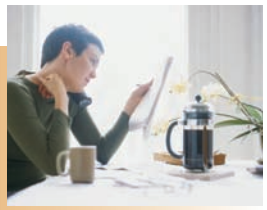
7. What is 2008 postretirement benefit expense, assuming no net gains or losses and no prior service cost?

Service cost	$ 707
Interest cost	480
Actual return on the plan assets	(not funded)
Adjusted for: gain or loss on the plan assets	(not funded)
Amortization of prior service cost	none
Amortization of net gain or loss	none
Postretirement benefit expense	$1,187

GLOBAL PERSPECTIVE

In the United States, postretirement benefits are accrued in a manner similar to pensions. In the United Kingdom, accounting is similar to the United States. In most other countries, little official guidance is offered.

In many countries, postretirement benefits other than pensions are rare. In Japan, for instance, the prevalence of government-sponsored plans has encouraged most Japanese companies not to provide separate benefits.



FINANCIAL REPORTING CASE SOLUTION

1. **Why is underfunding not a concern in your present employment?** *(p. 831)* In a defined contribution plan, the employer is not obliged to provide benefits beyond the annual contribution to the employees' plan. No liability is created. Unlike retirement benefits paid in a defined benefit plan, the employee's retirement benefits in a defined contribution plan are totally dependent on how well invested assets perform in the marketplace.
2. **Were you correct that the pension liability is not reported on the balance sheet? What is the liability?** *(p. 833)* Yes. The pension liability is measured (in three ways) and tracked informally, but not reported on the balance sheet. It is disclosed, however, in the notes. For United Dynamics, the PBO in 2007 is $2,628 million.
3. **What is the amount of the plan assets available to pay benefits? What are the factors that can cause that amount to change?** *(p. 839)* The plan assets at the end of 2007 total $2,807 million. A trustee accepts employer contributions, invests the contributions, accumulates the earnings on the investments, and pays benefits from the plan assets. So the amount is increased each year by employer cash contributions and (hopefully) a return on assets invested. It is decreased by amounts paid out to retired employees.
4. **What does the "pension asset" represent? Are you interviewing with a company whose pension plan is severely underfunded?** *(p. 841)* The pension asset is not the plan assets available to pay pension benefits. Instead, it's the net difference between those assets and the pension obligation. United Dynamics' plan assets exceed the pension obligation in each year presented.
5. **How is the pension expense influenced by changes in the pension liability and plan assets?** *(p. 842)* The pension expense reported on the income statement is a composite of periodic changes that occur in both the pension obligation and the plan assets. For United Dynamics in 2007, the pension expense included the service cost and interest cost, which are changes in the PBO, and the return on plan assets. It also included an amortized portion of prior service costs (a previous change in the PBO) and of net gains (gains and losses result from changes in both the PBO and plan assets). ■

THE BOTTOM LINE

1. Pension plans are arrangements designed to provide income to individuals during their retirement years. *Defined contribution* plans promise fixed annual contributions to a pension fund, without further commitment regarding benefit amounts at retirement. *Defined benefit* plans promise fixed retirement benefits defined by a designated formula. The employer sets aside cash each year to provide sufficient funds to pay promised benefits.
2. The *accumulated benefit obligation* is an estimate of the discounted present value of the retirement benefits earned so far by employees, applying the plan's pension formula to *existing* compensation levels. The vested benefit obligation is the portion of the accumulated benefit obligation that plan participants are entitled to receive regardless of their continued employment. The *projected benefit obligation* estimates retirement benefits by applying the pension formula to *projected future* compensation levels.
3. The PBO can change due to the accumulation of *service cost* from year to year, the accrual of *interest* as time passes, making plan amendments retroactive to prior years (prior service cost), and periodic adjustments when estimates change (gains and losses). The obligation is reduced as benefits actually are paid to retired employees.
4. The plan assets consist of the accumulated balance of the annual employer contributions plus the return on the investments less benefits paid to retirees.
5. The difference between an employer's obligation (PBO for pensions, APBO for other postretirement benefit plans) and the resources available to satisfy that obligation (plan assets) is the funded status of the pension plan. The employer must report the "funded status" of the plan in the balance sheet as a pension liability if the obligation exceeds the plan assets or as a pension asset if the plan assets exceed the obligation.
6. The pension expense is a composite of periodic changes in both the pension obligation and the plan assets. Service cost is the increase in the PBO attributable to employee service and

is the primary component of pension expense. The interest and return-on-assets components are financial items created only because the pension payment is delayed and the obligation is funded currently. Prior service cost is recognized over employees' future service period. Also, neither a loss (gain) on the PBO nor a loss (gain) on plan assets is immediately recognized in pension expense; they are recognized on a delayed basis to achieve income smoothing.

7. Recording pension expense causes the pension liability/asset to change by the service cost, the interest cost, and the expected return on plan assets. Any amortization amounts included in the expense will reduce the *accumulated other comprehensive income* balances being amortized, e.g., net loss, prior service cost. Similarly, the pension liability is reduced (or pension asset increased) by the annual cash investment to plan assets. New losses and gains (as well as any new prior service cost should it occur) are recognized as other comprehensive income and change the pension liability.
8. The various elements of a pension plan—projected benefit obligation, plan assets, prior service cost, gains and losses, pension expense, and the funded status of the plan—are interrelated. One way to see how each element relates to the other is to bring each part together in a *pension spreadsheet*.
9. Accounting for postretirement benefits is similar in most respects to accounting for pension benefits. Like pensions, other postretirement benefits are a form of deferred compensation. Unlike pensions, their cost is attributed to the years from the employee's date of hire to the full eligibility date.
10. The expected postretirement benefit obligation (EPBO) is the actuary's estimate of the total postretirement benefits (at their discounted present value) expected to be received by plan participants. The accumulated postretirement benefit obligation (APBO) is the portion of the EPBO attributed to employee service to date.
11. The components of postretirement benefit expense are essentially the same as those for pension expense. ■

APPENDIX 17

SERVICE METHOD OF ALLOCATING PRIOR SERVICE COST

When amortizing prior service cost, our objective is to match the cost with employee service. The straight-line method described in this chapter allocates an equal amount of the prior service cost to each year of the 15-year average service period of affected employees. But consider this: fewer of the affected employees will be working for the company toward the end of that period than at the beginning. Some probably will retire or quit in each year following the amendment.

An allocation approach that reflects the declining service pattern is called the **service method.** This method allocates the prior service cost to each year in proportion to the fraction of the total remaining service years worked in each of those years. To do this, it's necessary to estimate how many of the 2,000 employees working at the beginning of 2006 when the amendment is made will still be employed in each year after the amendment.

Let's suppose, for example, that the actuary estimates that a declining number of these employees still will be employed in each of the next 28 years as indicated in the abbreviated schedule below. The portion of the prior service cost amortized to pension expense each year is $60 million times a declining fraction. Each year's fraction is that year's service divided by the 28-year total (30,000). This is demonstrated in Graphic 17A–1.

The service method amortized an equal amount *per employee* each year.

Conceptually, the service method achieves a better matching of the cost and benefits. In fact, this is the FASB's recommended approach. However, *SFAS 87* permits the consistent use of any method that amortizes the prior service cost at least as quickly.[32] The straight-line method meets this condition and is the approach most often used in practice. In our illustration, the cost is completely amortized over 15 years rather than the 28 years required by the

[32]"Employers' Accounting for Pensions," *Statement of Financial Accounting Standards No. 87* (Stamford, Conn.: FASB, 1985), par. 26.

service method. The 15-year average service life is simply the total estimated service years divided by the total number of employees in the group:

30,000 years Total number of service years	÷	2,000 Total number of employees	=	15 years Average service years ■

GRAPHIC 17A–1
Service Method of Amortizing Prior Service Cost

By the service method, prior service cost is recognized each year in proportion to the fraction of the total remaining service years worked that year.

Year	Number of Employees Still Employed (assumed for the illustration)	Fraction of Total Service Years		($ in millions) Prior Service Cost		Amount Amortized
2006	2,000	$^{2,000}/_{30,000}$	×	$60	=	$ 4.0
2007	2,000	$^{2,000}/_{30,000}$	×	60	=	4.0
2008	1,850	$^{1,850}/_{30,000}$	×	60	=	3.7
2009	1,700	$^{1,700}/_{30,000}$	×	60	=	3.4
2010	1,550	$^{1,550}/_{30,000}$	×	60	=	3.1
—	—	—		—		—
2031	400	$^{400}/_{30,000}$	×	60	=	.8
2032	250	$^{250}/_{30,000}$	×	60	=	.5
2033	100	$^{100}/_{30,000}$	×	60	=	.2
Totals	30,000 Total number of service years	$^{30,000}/_{30,000}$				$60.0 Total amount amortized

QUESTIONS FOR REVIEW OF KEY TOPICS

Q 17–1 What is a pension plan? What motivates a corporation to offer a pension plan for its employees?

Q 17–2 Qualified pension plans offer important tax benefits. What is the special tax treatment and what qualifies a pension plan for these benefits?

Q 17–3 Lamont Corporation has a pension plan in which the corporation makes all contributions and employees receive benefits at retirement based on the balance in their accumulated pension fund. What type of pension plan does Lamont have?

Q 17–4 What is the vested benefit obligation?

Q 17–5 Differentiate between the accumulated benefit obligation and the projected benefit obligation.

Q 17–6 Name five events that might change the balance of the PBO.

Q 17–7 Name three events that might change the balance of the plan assets.

Q 17–8 What are the components that might be included in the calculation of net pension cost recognized for a period by an employer sponsoring a defined benefit pension plan?

Q 17–9 Define the service cost component of the periodic pension expense.

Q 17–10 Define the interest cost component of the periodic pension expense.

Q 17–11 The return on plan assets is the increase in plan assets (at fair value), adjusted for contributions to the plan and benefits paid during the period. How is the return included in the calculation of the periodic pension expense?

Q 17–12 Define prior service cost. How is it reported in the financial statements? How is it included in pension expense?

Q 17–13 How should gains or losses related to pension plan assets be recognized? How does this treatment compare to that for gains or losses related to the pension obligation?

Q 17–14 Is a company's PBO reported in the balance sheet? Its plan assets? Explain.

Q 17–15 What two components of pension expense may be negative (i.e., reduce pension expense)?

Q 17–16 Which are the components of pension expense that involve delayed recognition?

Q 17–17 Evaluate this statement: The excess of the actual return on plan assets over the expected return decreases the employer's pension cost.

Q 17–18 When accounting for pension costs, how should the payment into the pension fund be recorded?

Q 17–19 TFC, Inc. revises its estimate of future salary levels, causing its PBO estimate to increase by $3 million. How is the $3 reflected in TFC's financial statements?

Q 17–20 A pension plan is underfunded when the employer's obligation (PBO) exceeds the resources available to satisfy that obligation (plan assets) and overfunded when the opposite is the case. How is this funded status reported on the balance sheet if plan assets exceed the PBO? If the PBO exceeds plan assets?

Q 17–21 What are two ways to measure the obligation for postretirement benefits other than pensions? Define these measurement approaches.

Q 17–22 How are the costs of providing postretirement benefits other than pensions expensed?

Q 17–23 The components of postretirement benefit expense are similar to the components of pension expense. In what fundamental way does the service cost component differ between these two expenses?

Q 17–24 The EPBO for Branch Industries at the end of 2007 was determined by the actuary to be $20,000 as it relates to employee Will Lawson. Lawson was hired at the beginning of 1993. He will be fully eligible to retire with health care benefits in 15 years but is expected to retire in 25 years. What is the APBO as it relates to Will Lawson?

BRIEF EXERCISES

BE 17–1
Changes in the projected benefit obligation

● LO3

The projected benefit obligation was $80 million at the beginning of the year. Service cost for the year was $10 million. At the end of the year, pension benefits paid by the trustee were $6 million and there were no pension-related other comprehensive income accounts requiring amortization. The actuary's discount rate was 5%. What was the amount of the projected benefit obligation at year-end?

BE 17–2
Changes in the projected benefit obligation

● LO3

The projected benefit obligation was $80 million at the beginning of the year and $85 million at the end of the year. At the end of the year, pension benefits paid by the trustee were $6 million and there were no pension-related other comprehensive income accounts requiring amortization. The actuary's discount rate was 5%. What was the amount of the service cost for the year?

BE 17–3
Changes in the projected benefit obligation

● LO3

The projected benefit obligation was $80 million at the beginning of the year and $85 million at the end of the year. Service cost for the year was $10 million. At the end of the year, there was no prior service cost and a negligible net loss–pensions. The actuary's discount rate was 5%. What was the amount of the retiree benefits paid by the trustee?

BE 17–4
Changes in the projected benefit obligation

● LO3

The projected benefit obligation was $80 million at the beginning of the year and $85 million at the end of the year. Service cost for the year was $10 million. At the end of the year, pension benefits paid by the trustee were $6 million. The actuary's discount rate was 5%. At the end of the year, the actuary revised the estimate of the percentage rate of increase in compensation levels in upcoming years. What was the amount of the gain or loss the estimate change caused?

BE 17–5
Changes in pension plan assets

● LO4

Pension plan assets were $80 million at the beginning of the year. The return on plan assets was 5%. At the end of the year, retiree benefits paid by the trustee were $6 million and cash invested in the pension fund was $7 million. What was the amount of the pension plan assets at year-end?

BE 17–6
Changes in pension plan assets

● LO4

Pension plan assets were $80 million at the beginning of the year and $83 million at the end of the year. The return on plan assets was 5%. At the end of the year, cash invested in the pension fund was $7 million. What was the amount of the retiree benefits paid by the trustee?

BE 17–7
Changes in pension plan assets

● LO4

Pension plan assets were $100 million at the beginning of the year and $104 million at the end of the year. At the end of the year, retiree benefits paid by the trustee were $6 million and cash invested in the pension fund was $7 million. What was the percentage rate of return on plan assets?

BE 17–8
Pension expense

● LO6

The projected benefit obligation was $80 million at the beginning of the year. Service cost for the year was $10 million. At the end of the year, pension benefits paid by the trustee were $6 million and there were no pension-related other comprehensive income accounts requiring amortization. The actuary's discount rate

was 5%. The actual return on plan assets was $5 million although it was expected to be only $4 million. What was the pension expense for the year?

BE 17–9
Pension expense; prior service cost
- LO6

The pension plan was amended last year, creating a prior service cost of $20 million. Service cost and interest cost for the year were $10 million and $4 million, respectively. At the end of the year, there was a negligible balance in the net gain–pensions account. The actual return on plan assets was $4 million although it was expected to be $6 million. On average, employees' remaining service life with the company is 10 years. What was the pension expense for the year?

BE 17–10
Net gain
- LO6

The projected benefit obligation and plan assets were $80 million and $100 million, respectively, at the beginning of the year. Due primarily to favorable stock market performance in recent years, there also was a net gain of $30 million. On average, employees' remaining service life with the company is 10 years. As a result of the net gain, what was the increase or decrease in pension expense for the year?

BE 17–11
Reporting the funded status of pension plans
- LO5

JDS Foods' projected benefit obligation, accumulated benefit obligation, and plan assets were $40 million, $30 million, and $25 million, respectively, at the end of the year. What, if any, pension liability must be reported in the balance sheet? What would JDS report if the plan assets were $45 million instead?

BE 17–12
Recording pension expense
- LO7

The Warren Group's pension expense is $67 million. This amount includes a $70 million service cost, a $50 million interest cost, a $55 million reduction for the expected return on plan assets, and a $2 million amortization of a prior service cost. How is the pension liability affected when the pension expense is recorded?

BE 17–13
Recording pension expense
- LO7

Andrews Medical reported a net loss–pensions in last year's balance sheet. This year, the company revised its estimate of future salary levels causing its PBO estimate to decline by $4 million. Also, the $8 million actual return on plan assets fell short of the $9 million expected return. How does this gain and loss affect Andrews' income statement, statement of comprehensive income, and balance sheet?

BE 17–14
Postretirement benefits; determine the APBO and service cost
- LO9, LO10

Prince Distribution, Inc., has an unfunded postretirement benefit plan. Medical care and life insurance benefits are provided to employees who render 10 years service and attain age 55 while in service. At the end of 2007, Jim Lukawitz is 31. He was hired by Prince at age 25 (6 years ago) and is expected to retire at age 62. The expected postretirement benefit obligation for Lukawitz at the end of 2007 is $50,000 and $54,000 at the end of 2008. Calculate the accumulated postretirement benefit obligation at the end of 2007 and 2008 and the service cost for 2007 and 2008 as pertaining to Lukawitz.

BE 17–15
Postretirement benefits; changes in the APBO
- LO11

On January 1, 2007, Medical Transport Company's accumulated postretirement benefit obligation was $25 million. At the end of 2007, retiree benefits paid were $3 million. Service cost for 2007 is $7 million. Assumptions regarding the trend of future health care costs were revised at the end of 2007, causing the actuary to revise downward the estimate of the APBO by $1 million. The actuary's discount rate is 8%. Determine the amount of the accumulated postretirement benefit obligation at December 31, 2007.

EXERCISES

available with McGraw-Hill's Homework Manager www.mhhe.com/spiceland4e

An alternate exercise and problem set is available on the text website: www.mhhe.com/spiceland4e

E 17–1
Changes in the PBO
- LO3

Indicate by letter whether each of the events listed below increases **(I)**, decreases **(D)**, or has no effect **(N)** on an employer's projected benefit obligation.

Events

____ 1. Interest cost.
____ 2. Amortization of prior service cost.
____ 3. A decrease in the average life expectancy of employees.
____ 4. An increase in the average life expectancy of employees.
____ 5. A plan amendment that increases benefits is made retroactive to prior years.
____ 6. An increase in the actuary's assumed discount rate.
____ 7. Cash contributions to the pension fund by the employer.
____ 8. Benefits are paid to retired employees.
____ 9. Service cost.

____ 10. Return on plan assets during the year are lower than expected.
____ 11. Return on plan assets during the year are higher than expected.

E 17–2
Determine the projected benefit obligation

● LO3

On January 1, 2007, Burleson Corporation's projected benefit obligation was $30 million. During 2007 pension benefits paid by the trustee were $4 million. Service cost for 2007 is $12 million. Pension plan assets (at fair value) increased during 2007 by $6 million as expected. At the end of 2007, there was no prior service cost and a negligible balance in net loss–pensions. The actuary's discount rate was 10%.

Required:
Determine the amount of the projected benefit obligation at December 31, 2007.

E 17–3
Components of pension expense

● LO6

Indicate by letter whether each of the events listed below increases (**I**), decreases (**D**), or has no effect (**N**) on an employer's periodic pension expense in the year the event occurs.

Events

____ 1. Interest cost.
____ 2. Amortization of prior service cost.
____ 3. Excess of the expected return on plan assets over the actual return.
____ 4. Expected return on plan assets.
____ 5. A plan amendment that increases benefits is made retroactive to prior years.
____ 6. Actuary's estimate of the PBO is increased.
____ 7. Cash contributions to the pension fund by the employer.
____ 8. Benefits are paid to retired employees.
____ 9. Service cost.
____ 10. Excess of the actual return on plan assets over the expected return.
____ 11. Amortization of net loss–pensions.
____ 12. Amortization of net gain–pensions.

E 17–4
Recording pension expense

● LO6 LO7

Harrison Forklift's pension expense includes a service cost of $10 million. Harrison began the year with a pension liability of $28 million (underfunded pension plan).

Required:
Prepare the appropriate general journal entries to record Harrison's pension expense in each of the following independent situations regarding the other components of pension expense ($ in millions):

1. Interest cost, $6; expected return on assets, $4; amortization of net loss–pensions, $2.
2. Interest cost, $6; expected return on assets, $4; amortization of net gain–pensions, $2.
3. Interest cost, $6; expected return on assets, $4; amortization of net loss–pensions, $2; amortization of prior service cost, $3 million.

E 17–5
Determine pension plan assets

● LO4

The following data relate to Voltaire Company's defined benefit pension plan during 2007:

	($ in millions)
Plan assets at fair value, January 1	$600
Expected return on plan assets	60
Actual return on plan assets	48
Contributions to the pension fund (end of year)	100
Amortization of net loss	10
Pension benefits paid (end of year)	11
Pension expense	72

Required:
Determine the amount of pension plan assets at fair value on December 31, 2007.

E 17–6
Changes in the pension obligation; determine service cost

● LO3 LO6

Pension data for Millington Enterprises include the following:

	($ in millions)
Discount rate, 10%	
Projected benefit obligation, January 1, 2007	$360
Projected benefit obligation, December 31, 2007	465
Accumulated benefit obligation, January 1, 2007	300
Accumulated benefit obligation, December 31, 2007	415
Cash contributions to pension fund, December 31, 2007	150
Benefit payments to retirees, December 31, 2007	54

Required:
Assuming no change in actuarial assumptions and estimates, determine the service cost component of pension expense for 2007.

E 17–7
Changes in plan assets; determine cash contributions

● LO4

Pension data for Fahy Transportation, Inc. include the following:

	($ in millions)
Discount rate, 7%	
Expected return on plan assets, 10%	
Actual return on plan assets, 11%	
Projected benefit obligation, January 1, 2007	$730
Plan assets (fair market value), January 1, 2007	700
Plan assets (fair market value), December 31, 2007	750
Benefit payments to retirees, December 31, 2007	66

Required:

Assuming cash contributions were made at the end of the year, what was the amount of those contributions for 2007?

E 17–8
Components of pension expense

● LO6

Pension data for Sterling Properties include the following:

	($ in 000s)
Service cost, 2007	$112
Projected benefit obligation, January 1, 2007	850
Plan assets (fair market value), January 1, 2007	900
Net prior service cost (2007 amortization, $8)	80
Net loss–pensions (2007 amortization, $1)	101
Discount rate, 6%	
Expected return on plan assets, 10%	
Actual return on plan assets, 11%	

Required:

Determine pension expense for 2007.

E 17–9
Determine pension expense

● LO6 LO7

Abbott and Abbott has a noncontributory, defined benefit pension plan. At December 31, 2007, Abbott and Abbott received the following information:

Projected Benefit Obligation	($ in millions)
Balance, January 1	$120
Service cost	20
Interest cost	12
Benefits paid	(9)
Balance, December 31	$143
Plan Assets	
Balance, January 1	$80
Actual return on plan assets	9
Contributions 2007	20
Benefits paid	(9)
Balance, December 31	$100

The expected long-term rate of return on plan assets was 10%. There was no prior service cost and a negligible net loss–pensions on January 1, 2007.

Required:

1. Determine Abbott and Abbott's pension expense for 2007.
2. Prepare the journal entries to record Abbott and Abbott's pension expense and funding for 2007.

E 17–10
Components of pension expense; journal entry

● LO6 LO7

Pension data for Barry Financial Services, Inc. include the following:

	($ in 000s)
Discount rate, 7%	
Expected return on plan assets, 10%	
Actual return on plan assets, 9%	
Service cost, 2007	$ 310
January 1, 2007:	
Projected benefit obligation	2,300
Accumulated benefit obligation	2,000
Plan assets (fair market value)	2,400
Prior service cost (2007 amortization, $25)	325
Net gain–pensions (2007 amortization, $6)	330
December 31, 2007:	
Cash contributions to pension fund, December 31, 2007	245
Benefit payments to retirees, December 31, 2007	270

Required:

1. Determine pension expense for 2007.
2. Prepare the journal entries to record pension expense and funding for 2007.

E 17–11
PBO calculations; ABO calculations; present value concepts

● LO1 LO2 LO3

Clark Industries has a defined benefit pension plan that specifies annual retirement benefits equal to:

$$1.2\% \times \text{Service years} \times \text{Final year's salary}$$

Stanley Mills was hired by Clark at the beginning of 1988. Mills is expected to retire at the end of 2032 after 45 years of service. His retirement is expected to span 15 years. At the end of 2007, 20 years after being hired, his salary is $80,000. The company's actuary projects Mills's salary to be $270,000 at retirement. The actuary's discount rate is 7%.

Required:

1. Estimate the amount of Stanley Mills's annual retirement payments for the 15 retirement years earned as of the end of 2007.
2. Suppose Clark's pension plan permits a lump-sum payment at retirement in lieu of annuity payments. Determine the lump-sum equivalent as the present value as of the retirement date of annuity payments during the retirement period.
3. What is the company's projected benefit obligation at the end of 2007 with respect to Stanley Mills?
4. What is the company's accumulated benefit obligation at the end of 2007 with respect to Stanley Mills?
5. If we assume no estimates change in the meantime, what is the company's projected benefit obligation at the end of 2008 with respect to Stanley Mills?
6. What portion of the 2008 increase in the PBO is attributable to 2008 service (the service cost component of pension expense) and to accrued interest (the interest cost component of pension expense)?

E 17–12
Determining the amortization of net loss or net gain

● LO6

Hicks Cable Company has a defined benefit pension plan. Three alternative possibilities for pension-related data at January 1, 2007, are shown below:

	($ in 000s)		
	Case 1	**Case 2**	**Case 3**
Net loss (gain), Jan. 1	$ 320	$ (330)	$ 260
2007 loss (gain) on plan assets	(11)	(8)	2
2007 loss (gain) on PBO	(23)	16	(265)
Accumulated benefit obligation, Jan. 1	(2,950)	(2,550)	(1,450)
Projected benefit obligation, Jan. 1	(3,310)	(2,670)	(1,700)
Fair value of plan assets, Jan. 1	2,800	2,700	1,550
Average remaining service period of active employees (years)	12	15	10

Required:

1. For each independent case, calculate any amortization of the net loss or gain that should be included as a component of pension expense for 2007.
2. For each independent case, determine the net loss or gain as of January 1, 2008.

E 17–13
Pension spreadsheet

● LO8

A partially completed pension spreadsheet showing the relationships among the elements that comprise the defined benefit pension plan of Universal Products is given below. The actuary's discount rate is 5%. At the end of 2005, the pension formula was amended, creating a prior service cost of $120,000. The expected rate of return on assets was 8%, and the average remaining service life of the active employee group is 20 years in the current year as well as the previous two years.

Required:

Copy the incomplete spreadsheet and fill in the missing amounts.

	Informal Records		**Formal Records**				
( )s indicate credits; debits otherwise ($ in 000s)	**PBO**	**Plan Assets**	**Prior Service Cost**	**Net Loss–Pensions**	**Pension Expense**	**Cash**	**Prepaid (Liability) / Asset**
Balance, Jan. 1, 2007	**(800)**	**600**	**114**	**80**			**(200)**
Service cost					84		
Interest cost, 5%	(40)						
Expected return on assets					(48)		
Adjust for:							
Loss on assets				6			
Amortization:							
Prior service cost							
Amortization:							
Net loss							

Gain on PBO			12
Prior service cost	0		
Cash funding			(68)
Retiree benefits			
Balance, Dec. 31, 2007	**(862)**	**108**	

E 17–14
Effect of pension expense components on balance sheet accounts

● LO7 LO8

Warrick Boards calculated pension expense for its underfunded pension plan as follows:

	($ in 000s)
Service cost	$224
Interest cost	150
Expected return on the plan assets ($100 actual, less $10 gain)	(90)
Amortization of prior service cost	8
Amortization of net loss–pensions	2
Pension expense	$294

Required:

Which elements of Warrick's balance sheet are affected by the components of pension expense? What are the specific changes in these accounts?

E 17–15
Determine and record pension expense, funding, and gains and losses

● LO6 LO7

Actuary and trustee reports indicate the following changes in the PBO and plan assets of Douglas-Roberts Industries during 2007:

Prior service cost at Jan. 1, 2007, from plan amendment at the beginning of 2004 (amortization: $4 million per year)	$28 million
Net loss–pensions at Jan.1, 2007 (previous losses exceeded previous gains)	$80 million
Average remaining service life of the active employee group	10 years
Actuary's discount rate	7%

($ in millions)	**PBO**		**Plan Assets**
Beginning of 2007	$600	*Beginning* of 2007	$400
Service cost	80	Return on plan assets, 8% (10% expected)	32
Interest cost, 7%	42	Cash contributions	90
Loss (gain) on PBO	(14)	Less: Retiree benefits	(38)
Less: Retiree benefits	(38)		
End of 2007	$670	*End* of 2007	$484

Required:

1. Determine Douglas-Roberts' pension expense for 2007 and prepare the appropriate journal entries to record the expense as well as the cash contribution to plan assets.
2. Prepare the appropriate journal entry to record any 2007 gains and losses.

E 17–16
Concepts; terminology

● LO2 through LO8

Listed below are several terms and phrases associated with pensions. 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. Future compensation levels estimated.	a. Actual return exceeds expected
____ 2. All funding provided by the employer.	b. Net gain–pensions
____ 3. Credit to accumulated OCI and debit to pension liability.	c. Vested benefit obligation
	d. Projected benefit obligation
____ 4. Retirement benefits specified by formula.	e. Choice between PBO and ABO
____ 5. Trade-off between relevance and reliability.	f. Noncontributory pension plan
____ 6. Cumulative gains in excess of losses.	g. Accumulated benefit obligation
____ 7. Current pay levels implicitly assumed.	h. Plan assets
____ 8. Created by the passage of time.	i. Interest cost
____ 9. Not contingent on future employment.	j. Delayed recognition in earnings
____ 10. Risk borne by employee.	k. Defined contribution plan
____ 11. Increased by employer contributions.	l. Defined benefit plan
____ 12. Caused by plan amendment.	m. Prior service cost
____ 13. Loss on plan assets.	n. Amortize net loss–pensions
____ 14. Excess over 10% of plan assets or PBO.	

E 17–17
Record pension expense, funding, and gains and losses; determine account balances

● LO6 LO7 LO8

Beale Management has a noncontributory, defined benefit pension plan. On December 31, 2007 (the end of Beale's fiscal year), the following pension-related data were available:

Projected Benefit Obligation	($ in millions)
Balance, January 1, 2007	$480
Service cost	82
Interest cost, discount rate, 5%	24
Gain due to changes in actuarial assumptions in 2007	(10)
Pension benefits paid	(40)
Balance, December 31, 2007	$536
Plan Assets	
Balance, January 1, 2007	$500
Actual return on plan assets (Expected return on plan assets, $45)	40
Cash contributions	70
Pension benefits paid	(40)
Balance, December 31, 2007	$570
January 1, 2007, balances:	
Pension asset	$ 20
Prior service cost (amortization $8 per year)	48
Net gain–pensions (any amortization over 15 years)	80

Required:

1. Prepare the 2007 journal entry to record pension expense.
2. Prepare the 2007 journal entry to record the contribution to plan assets.
3. Prepare the journal entry to record any 2007 gains and losses.
4. Determine the balances at December 31, 2007, in the pension asset, the net gain–pensions, and prior service cost and show how the balances changed during 2007. [Hint: You might find T-accounts useful.]

E 17–18
Pension spreadsheet

● LO8

Refer to the data provided in E 17–17.

Required:

Prepare a pension spreadsheet to show the relationship among the PBO, plan assets, prior service cost, the net gain–pensions, pension expense, and the pension asset.

E 17–19
Multiple choice; CPA exam

● LO6

The following questions dealing with pensions are adapted from questions that appeared on previous CPA examinations. Determine the response that best completes the statements or questions.

1. The following information pertains to Lee Corp.'s defined benefit pension plan for 2007:

Service cost	$160,000
Actual and expected return on plan assets	35,000
Unexpected loss on plan assets related to a 2007 disposal of a subsidiary	40,000
Amortization of prior service cost	5,000
Annual interest on pension obligation	50,000

What amount should Lee report as pension expense in its 2007 income statement?

a. $250,000
b. $220,000
c. $210,000
d. $180,000

2. Interest cost included in the net pension cost recognized by an employer sponsoring a defined benefit pension plan represents the
   a. Amortization of the discount on unrecognized prior service costs.
   b. Increase in the fair value of plan assets due to the passage of time.
   c. Increase in the projected benefit obligation due to the passage of time.
   d. Shortage between the expected and actual returns on plan assets.

E 17–20
Classifying accounting changes and errors

● LO8

Indicate with the appropriate letter the nature of each adjustment described below:

Type of Adjustment
A. Change in principle
B. Change in estimate
C. Correction of an error
D. Neither an accounting change nor an error

____ 1. Change in actuarial assumptions for a defined benefit pension plan.
____ 2. Determination that the projected benefit obligation under a pension plan exceeded the fair value of plan assets at the end of the previous year by $17,000. The only pension-related amount on the balance sheet was pension a liability of $30,000.
____ 3. Pension plan assets for a defined benefit pension plan achieving a rate of return in excess of the amount anticipated.
____ 4. Instituting a pension plan for the first time and adopting *Statement of Financial Accounting Standards No. 158,* "Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans."

E 17–21
Postretirement benefits; determine APBO, EPBO

● LO10

Classified Electronics has an unfunded retiree health care plan. Each of the company's three employees has been with the firm since its inception at the beginning of 2006. As of the end of 2007, the actuary estimates the total net cost of providing health care benefits to employees during their retirement years to have a present value of $72,000. Each of the employees will become fully eligible for benefits after 28 more years of service but aren't expected to retire for 35 more years. The interest rate is 6%.

Required:
1. What is the expected postretirement benefit obligation at the end of 2007?
2. What is the accumulated postretirement benefit obligation at the end of 2007?
3. What is the expected postretirement benefit obligation at the end of 2008?
4. What is the accumulated postretirement benefit obligation at the end of 2008?

E 17–22
Postretirement benefits; determine APBO, service cost, interest cost; prepare journal entry

● LO10 LO11

The following data are available pertaining to Household Appliance Company's retiree health care plan for 2007:

Number of employees covered	2
Years employed as of January 1, 2007	3 [each]
Attribution period	25 years
Expected postretirement benefit obligation, Jan. 1	$50,000
Expected postretirement benefit obligation, Dec. 31	$53,000
Interest rate	6%
Funding	none

Required:
1. What is the accumulated postretirement benefit obligation at the beginning of 2007?
2. What is interest cost to be included in 2007 postretirement benefit expense?
3. What is service cost to be included in 2007 postretirement benefit expense?
4. Prepare the journal entry to record the postretirement benefit expense for 2007.

E 17–23
Postretirement benefits; determine EPBO; attribution period

● LO10 LO11

Lorin Management Services has an unfunded postretirement benefit plan. On December 31, 2007, the following data were available concerning changes in the plan's accumulated postretirement benefit obligation with respect to one of Lorin's employees:

APBO at the beginning of 2007	$16,364
Interest cost: ($16,364 × 10%)	1,636
Service cost: ($44,000 × 1/22)	2,000
Portion of EPBO attributed to 2007	
APBO at the end of 2007	$20,000

Required:
1. Over how many years is the expected postretirement benefit obligation being expensed (attribution period)?
2. What is the expected postretirement benefit obligation at the *end* of 2007?
3. When was the employee hired by Lorin?
4. What is the expected postretirement benefit obligation at the *beginning* of 2007?

E 17–24
Postretirement benefits; components of postretirement benefit expense

● LO11

Data pertaining to the postretirement health care benefit plan of Sterling Properties include the following for 2007:

	($ in 000s)
Service cost	$124
Accumulated postretirement benefit obligation, January 1	700
Plan assets (fair market value), January 1	50
Prior service cost	none
Net gain–postretirement benefit plan (2007 amortization, $1)	91
Retiree benefits paid (end of year)	87
Contribution to health care benefit fund (end of year)	185
Discount rate, 7%	
Return on plan assets (actual and expected), 10%	

Required:

1. Determine the postretirement benefit expense for 2007.
2. Prepare the appropriate journal entries to record the postretirement benefit expense and funding for 2007.

E 17–25
Postretirement benefits; amortization of net loss

● LO11

Cahal-Michael Company has a postretirement health care benefit plan. On January 1, 2007, the following plan-related data were available:

	($ in 000s)
Net loss–postretirement benefit plan	$ 336
Accumulated postretirement benefit obligation	2,800
Fair value of plan assets	500
Average remaining service period to retirement	14 years (same in previous 10 yrs.)
Average remaining service period to full eligibility	12 years (same in previous 10 yrs.)

The rate of return on plan assets during 2007 was 10%, although it was expected to be 9%. The actuary revised assumptions regarding the APBO at the end of the year, resulting in a $39,000 increase in the estimate of that obligation.

Required:

1. Calculate any amortization of the net loss that should be included as a component of postretirement benefit expense for 2007.
2. Assume the postretirement benefit expense for 2007, not including the amortization of the net loss component, is $212,000. What is the expense for the year?
3. Determine the net loss or gain as of December 31, 2007.

E 17–26
Postretirement benefits; determine and record expense

● LO11

Gorky-Park Corporation provides postretirement health care benefits to employees who provide at least 12 years of service and reach age 62 while in service. On January 1, 2007, the following plan-related data were available:

	($ in millions)
Accumulated postretirement benefit obligation	$130
Fair value of plan assets	none
Average remaining service period to retirement	25 years (same in previous 10 yrs.)
Average remaining service period to full eligibility	20 years (same in previous 10 yrs.)

On January 1, 2007, Gorky-Park amends the plan to provide certain dental benefits in addition to previously provided medical benefits. The actuary determines that the cost of making the amendment retroactive increases the APBO by $20 million. Management chooses to amortize the prior service cost on a straight-line basis. The service cost for 2007 is $34 million. The interest rate is 8%.

Required:

1. Calculate the postretirement benefit expense for 2007.
2. Prepare the journal entry to record the expense.

E 17–27
Postretirement benefits; negative plan amendment

● LO11

Southeast Technology provides postretirement health care benefits to employees. On January 1, 2007, the following plan-related data were available:

	($ in 000s)
Prior service cost—originated in 2002	$ 50
Accumulated postretirement benefit obligation	530
Fair value of plan assets	none
Average remaining service period to retirement	20 years (same in previous 10 yrs.)
Average remaining service period to full eligibility	15 years (same in previous 10 yrs.)

On January 1, 2007, Southeast amends the plan in response to spiraling health care costs. The amendment establishes an annual maximum of $3,000 for medical benefits that the plan will provide. The actuary determines that the effect of this amendment is to decrease the APBO by $80,000. Management amortizes prior service cost on a straight-line basis. The interest rate is 8%. The service cost for 2007 is $114,000.

Required:

1. Calculate the prior service cost amortization for 2007.
2. Calculate the postretirement benefit expense for 2007.

E 17–28
Multiple choice; CPA exam

● LO10

The following question dealing with postretirement benefit plans appeared on a previous CPA examination. Enter the letter corresponding to the response which *best* completes the question.

An employer's obligation for postretirement health benefits that are expected to be provided to or for an employee must be fully accrued by the date the

a. Employee is fully eligible for benefits.
b. Employee retires.

c. Benefits are utilized.
d. Benefits are paid.

E 17–29
Multiple choice; CMA exam; pensions

● LO2 LO3 LO6

The following questions dealing with pensions are adapted from questions that previously appeared on Certified Management Accountant (CMA) examinations. The CMA designation sponsored by the Institute of Management Accountants (**www.imanet.org**) provides members with an objective measure of knowledge and competence in the field of management accounting. Determine the response that best completes the statements or questions.

1. According to SFAS 87, *Employer's Accounting for Pension Plans,* the projected benefit obligation (PBO) is best described as the?
   a. Present value of benefits accrued to date based on future salary levels.
   b. Present value of benefits accrued to date based on current salary levels.
   c. Increase in retroactive benefits at the date of the amendment of the plan.
   d. Amount of the adjustment necessary to reflect the difference between actual and estimated actuarial returns.
2. On November 30, the Board of Directors of Baldwin Corporation amended its pension plan giving retroactive benefits to its employees. The information below is provided at November 30.

Accumulated benefit obligation (ABO)	$825,000
Projected benefit obligation (PBO)	900,000
Plan assets (fair value)	307,500
Market-related asset value	301,150
Prior service cost	190,000
Average remaining service life of employees	10 years
Useful life of pension goodwill	20 years

Using the straight-line method of amortization, the amount of prior service cost charged to expense during the year ended November 30 is
   a. $9,500.
   b. $19,000.
   c. $30,250.
   d. $190,000.

E 17–30
Prior service cost; service method; straight-line method (Based on Appendix)

Frazier Refrigeration amended its defined benefit pension plan on December 31, 2007, to increase retirement benefits earned with each service year. The consulting actuary estimated the prior service cost incurred by making the amendment retroactive to prior years to be $110,000. Frazier's 100 present employees are expected to retire at the rate of approximately 10 each year at the end of each of the next 10 years.

Required:

1. Using the service method, calculate the amount of prior service cost to be amortized to pension expense in each of the next 10 years.
2. Using the straight-line method, calculate the amount of prior service cost to be amortized to pension expense in each of the next 10 years.

PROBLEMS

available with McGraw-Hill's Homework Manager www.mhhe.com/spiceland4e

An alternate exercise and problem set is available on the text website: www.mhhe.com/spiceland4e

(Note: Problems 1–5 are variations of the same situation, designed to focus on different elements of the pension plan.)

P 17–1
ABO calculations; present value concepts

● LO2 LO3

Sachs Brands' defined benefit pension plan specifies annual retirement benefits equal to: 1.6% × service years × final year's salary, payable at the end of each year. Angela Davenport was hired by Sachs at the beginning of 1993 and is expected to retire at the end of 2027 after 35 years' service. Her retirement is expected to span 18 years. Davenport's salary is $90,000 at the end of 2007 and the company's actuary projects her salary to be $240,000 at retirement. The actuary's discount rate is 7%.

Required:

1. Draw a time line that depicts Davenport's expected service period, retirement period, and a 2007 measurement date for the pension obligation.
2. Estimate by the accumulated benefits approach the amount of Davenport's annual retirement payments earned as of the end of 2007.
3. What is the company's accumulated benefit obligation at the end of 2007 with respect to Davenport?

4. If no estimates are changed in the meantime, what will be the accumulated benefit obligation at the end of 2010 (three years later) when Davenport's salary is $100,000?

P 17–2
PBO calculations; present value concepts

● LO3

Sachs Brands' defined benefit pension plan specifies annual retirement benefits equal to: 1.6% × service years × final year's salary, payable at the end of each year. Angela Davenport was hired by Sachs at the beginning of 1993 and is expected to retire at the end of 2027 after 35 years' service. Her retirement is expected to span 18 years. Davenport's salary is $90,000 at the end of 2007 and the company's actuary projects her salary to be $240,000 at retirement. The actuary's discount rate is 7%.

Required:

1. Draw a time line that depicts Davenport's expected service period, retirement period, and a 2007 measurement date for the pension obligation.
2. Estimate by the projected benefits approach the amount of Davenport's annual retirement payments earned as of the end of 2007.
3. What is the company's projected benefit obligation at the end of 2007 with respect to Davenport?
4. If no estimates are changed in the meantime, what will be the company's projected benefit obligation at the end of 2010 (three years later) with respect to Davenport?

P 17–3
Service cost, interest, and PBO calculations; present value concepts

● LO3

Sachs Brands' defined benefit pension plan specifies annual retirement benefits equal to: 1.6% × service years × final year's salary, payable at the end of each year. Angela Davenport was hired by Sachs at the beginning of 1993 and is expected to retire at the end of 2027 after 35 years' service. Her retirement is expected to span 18 years. Davenport's salary is $90,000 at the end of 2007 and the company's actuary projects her salary to be $240,000 at retirement. The actuary's discount rate is 7%.

Required:

1. What is the company's projected benefit obligation at the beginning of 2007 (after 14 years' service) with respect to Davenport?
2. Estimate by the projected benefits approach the portion of Davenport's annual retirement payments attributable to 2007 service.
3. What is the company's service cost for 2007 with respect to Davenport?
4. What is the company's interest cost for 2007 with respect to Davenport?
5. Combine your answers to requirements 1, 3, and 4 to determine the company's projected benefit obligation at the end of 2007 (after 15 years' service) with respect to Davenport.

P 17–4
Prior service cost; components of pension expense; present value concepts

● LO3 LO6

Sachs Brands' defined benefit pension plan specifies annual retirement benefits equal to: 1.6% × service years × final year's salary, payable at the end of each year. Angela Davenport was hired by Sachs at the beginning of 1993 and is expected to retire at the end of 2027 after 35 years' service. Her retirement is expected to span 18 years. Davenport's salary is $90,000 at the end of 2007 and the company's actuary projects her salary to be $240,000 at retirement. The actuary's discount rate is 7%.

At the beginning of 2008, the pension formula was amended to:

$$1.75\% \times \text{Service years} \times \text{Final year's salary}$$

The amendment was made retroactive to apply the increased benefits to prior service years.

Required:

1. What is the company's prior service cost at the beginning of 2008 with respect to Davenport after the amendment described above?
2. Since the amendment occurred at the *beginning* of 2008, amortization of the prior service cost begins in 2008. What is the prior service cost amortization that would be included in pension expense?
3. What is the service cost for 2008 with respect to Davenport?
4. What is the interest cost for 2008 with respect to Davenport?
5. Calculate pension expense for 2008 with respect to Davenport, assuming plan assets attributable to her of $150,000 and a rate of return (actual and expected) of 10%.

P 17–5
Gain on PBO; present value concepts

● LO3 LO6

Sachs Brands' defined benefit pension plan specifies annual retirement benefits equal to: 1.6% × service years × final year's salary, payable at the end of each year. Angela Davenport was hired by Sachs at the beginning of 1993 and is expected to retire at the end of 2027 after 35 years' service. Her retirement is expected to span 18 years. Davenport's salary is $90,000 at the end of 2007 and the company's actuary projects her salary to be $240,000 at retirement. The actuary's discount rate is 7%.

At the beginning of 2008, changing economic conditions caused the actuary to reassess the applicable discount rate. It was decided that 8% is the appropriate rate.

Required:

Calculate the effect of the change in the assumed discount rate on the PBO at the beginning of 2008 with respect to Davenport.

P 17–6
Determine the PBO; plan assets; pension expense; two years

- LO3 LO4 LO6

Stanley-Morgan Industries adopted a defined benefit pension plan on April 12, 2007. The provisions of the plan were not made retroactive to prior years. A local bank, engaged as trustee for the plan assets, expects plan assets to earn a 10% rate of return. A consulting firm, engaged as actuary, recommends 6% as the appropriate discount rate. The service cost is $150,000 for 2007 and $200,000 for 2008. Year-end funding is $160,000 for 2007 and $170,000 for 2008. No assumptions or estimates were revised during 2007.

Required:

Calculate each of the following amounts as of both December 31, 2007, and December 31, 2008:

1. Projected benefit obligation
2. Plan assets
3. Pension expense
4. Pensoin asset/liability

P 17–7
Determining the amortization of net gain

- LO6

Herring Wholesale Company has a defined benefit pension plan. On January 1, 2007, the following pension-related data were available:

	($ in 000s)
Net gain–pensions	$ 170
Accumulated benefit obligation	1,170
Projected benefit obligation	1,400
Fair value of plan assets	1,100
Average remaining service period of active employees (expected to remain constant for the next several years)	15 years

The rate of return on plan assets during 2007 was 9%, although it was expected to be 10%. The actuary revised assumptions regarding the PBO at the end of the year, resulting in a $23,000 decrease in the estimate of that obligation.

Required:

1. Calculate any amortization of the net gain that should be included as a component of net pension expense for 2007.
2. Assume the net pension expense for 2007, not including the amortization of the net gain component, is $325,000. What is pension expense for the year?
3. Determine the net loss or gain as of January 1, 2008.

P 17–8
Pension spreadsheet; record pension expense and funding; new gains and losses

- LO7 LO8

A partially completed pension spreadsheet showing the relationships among the elements that constitute Carney, Inc.'s defined benefit pension plan follows. Six years earlier, Carney revised its pension formula and recalculated benefits earned by employees in prior years using the more generous formula. The prior service cost created by the recalculation is being amortized at the rate of $5 million per year. At the end of 2007, the pension formula was amended again, creating an additional prior service cost of $40 million. The expected rate of return on assets and the actuary's discount rate were 10%, and the average remaining service life of the active employee group is 10 years.

	Informal Records		Formal Records				
( )s indicate credits: debits otherwise ($ in millions)	PBO	Plan Assets	Prior Service Cost	Net Loss–Pensions	Pension Expense	Cash	Prepaid (Liability) / Asset
Balance, Jan. 1, 2007	(830)	680	20	93			(150)
Service cost	?				74		?
Interest cost	?				?		?
Expected return on asset		?			?		?
Adjust for:							
Loss on assets		(7)		?			?
Amortization of:							
Prior service cost			?		?		
Net loss				?	?		
Loss on PBO	?			?			(13)
Prior service cost	?		?				?
Cash funding		?				?	84
Retiree benefits	?	?					
Balance, Dec. 31, 2007	?	775	?	?	?		?

Required:

1. Copy the incomplete spreadsheet and fill in the missing amounts.
2. Prepare the 2007 journal entry to record pension expense.

3. Prepare the 2007 journal entry to record the cash contribution to plan assets.
4. Prepare the journal entry to record any 2007 gains and losses and new prior service cost in 2007.

P 17–9
Determine pension expense; PBO; plan assets; pension asset/liability; journal entries

● LO3 through LO8

U.S. Metallurgical, Inc. reported the following balances in its financial statements and disclosure notes at December 31, 2006.

Plan assets	$ 400,000
Projected benefit obligation	320,000

U.S.M.'s actuary determined that 2007 service cost is $60,000. Both the expected and actual rate of return on plan assets are 9%. The interest (discount) rate is 5%. U.S.M. contributed $120,000 to the pension fund at the end of 2007, and retirees were paid $44,000 from plan assets.

Required:

Determine the following amounts at the end of 2007.

1. Pension expense
2. Projected benefit obligation
3. Plan assets
4. Pension asset/liability
5. Prepare journal entries to record the pension expense and funding of plan assets to verify the change in the pension asset/liability.

P 17–10
Determine pension expense; journal entries; two years

● LO3 through LO8

The Kollar Company has a defined benefit pension plan. Pension information concerning the fiscal years 2007 and 2008 are presented below ($ in millions):

Information Provided by Pension Plan Actuary:

a. Projected benefit obligation as of December 31, 2006 = $1,800.
b. Prior service cost from plan amendment on January 2, 2007 = $400 (straight-line amortization for 10-year average remaining service period).
c. Service cost for 2007 = $520.
d. Service cost for 2008 = $570.
e. Discount rate used by actuary on projected benefit obligation for 2007 and 2008 = 10%.
f. Payments to retirees in 2007 = $400.
g. Payments to retirees in 2008 = $450.
h. No changes in actuarial assumptions or estimates.

Information Provided by Pension Fund Trustee:

a. Plan asset balance at fair value on January 1, 2007 = $1,600.
b. 2007 contributions = $540.
c. 2008 contributions = $590.
d. Expected long-term rate of return on plan assets = 12%.
e. 2007 actual return on plan assets = $180.
f. 2008 actual return on plan assets = $210.
g. Net gain–pensions on January 1, 2007 = $230.
h. Net gains and losses are amortized for 10 years for 2007 and 2008.

Required:

1. Calculate pension expense for 2007 and 2008.
2. Prepare the journal entries for 2007 and 2008 to record pension expense.
3. Prepare the journal entries for 2007 and 2008 to record the cash contribution to plan assets.
4. Prepare the journal entries for 2007 and 2008 to record any gains and losses and new prior service cost.

P 17–11
Determine the PBO, plan assets, pension expense; prior service cost

● LO3 LO4 LO6

Lewis Industries adopted a defined benefit pension plan on January 1, 2007. By making the provisions of the plan retroactive to prior years, Lewis incurred a prior service cost of $2 million. The prior service cost was funded immediately by a $2 million cash payment to the fund trustee on January 2, 2007. However, the cost is to be amortized (expensed) over 10 years. The service cost—$250,000 for 2007—is fully funded at the end of each year. Both the actuary's discount rate and the expected rate of return on plan assets were 9%. The actual rate of return on plan assets was 11%. At December 31, the trustee paid $16,000 to an employee who retired during 2007.

Required:

Determine each of the following amounts as of December 31, 2007, the fiscal year-end for Lewis:

1. Projected benefit obligation
2. Plan assets
3. Pension expense

P 17–12
Relationship among pension elements

- LO3 through LO8

The funded status of Hilton Paneling, Inc.'s defined benefit pension plan and the balances in prior service cost and the net gain–pensions, are given below.

	($ in 000s)	
	2007 Beginning Balances	**2007 Ending Balances**
Projected benefit obligation	$2,300	$2,501
Plan assets	2,400	2,591
Funded status	100	90
Prior service cost	325	300
Net gain–pensions	330	300

Retirees were paid $270,000 and the employer contribution to the pension fund was $245,000 at the end of 2007. The expected rate of return on plan assets was 10%, and the actuary's discount rate is 7%. There were no changes in actuarial estimates and assumptions regarding the PBO.

Required:

Determine the following amounts for 2007:

1. Actual return on plan assets
2. Loss or gain on plan assets
3. Service cost
4. Pension expense
5. Average remaining service life of active employees (used to determine amortization of the net gain)

P 17–13
Comprehensive—pension elements; spreadsheet

- LO8

The following pension-related data pertain to Metro Recreation's noncontributory, defined benefit pension plan for 2007:

	($ in 000s)	
	Jan. 1	**Dec. 31**
Projected benefit obligation	$4,100	$4,380
Accumulated benefit obligation	3,715	3,950
Plan assets (fair value)	4,530	4,975
Interest (discount) rate, 7%		
Expected return on plan assets, 10%		
Prior service cost (from Dec. 31, 2006, amendment)	840	
Net loss–pensions	477	
Average remaining service life: 12 years		
Gain due to changes in actuarial assumptions		44
Contributions to pension fund (end of year)		340
Pension benefits paid (end of year)		295

Required:

Prepare a pension spreadsheet that shows the relationships among the various pension balances, shows the changes in those balances, and computes pension expense for 2007.

P 17–14
Comprehensive—reporting a pension plan; pension spreadsheet; determine changes in balances; two years

- LO3 through LO8

Actuary and trustee reports indicate the following changes in the PBO and plan assets of Lakeside Cable during 2007:

Prior service cost at Jan. 1, 2007, from plan amendment at the beginning of 2005 (amortization: $4 million per year)	$32 million
Net loss–pensions at Jan.1, 2007 (previous losses exceeded previous gains)	$40 million
Average remaining service life of the active employee group	10 years
Actuary's discount rate	8%

($ in millions)	**PBO**		**Plan Assets**
Beginning of 2007	$300	*Beginning* of 2007	$200
Service cost	48	Return on plan assets, 7.5% (10% expected)	15
Interest cost, 8%	24	Cash contributions	45
Loss (gain) on PBO	(2)	Less: Retiree benefits	(20)
Less: Retiree benefits	(20)		
End of 2007	$350	*End* of 2007	$240

Required:

1. Determine Lakeside's pension expense for 2007 and prepare the appropriate journal entries to record the expense as well as the cash contribution to plan assets.

2. Determine the new gains and/or losses in 2007 and prepare the appropriate journal entry to record them.
3. Prepare a pension spreadsheet to assist you in determining end of 2007 balances in the PBO, plan assets, prior service cost, the net loss–pensions, and the pension liability.
4. Assume the following actuary and trustee reports indicating changes in the PBO and plan assets of Lakeside Cable during 2008:

($ in millions)	PBO		Plan Assets
Beginning of 2008	$350	*Beginning* of 2008	$240
Service cost	38	Return on plan assets,	
Interest cost at 8%	28	15% (10% expected)	36
Loss (gain) on PBO	5	Cash contributions	30
Less: Retiree benefits	(16)	Less: Retiree benefits	(16)
End of 2008	$405	*End* of 2008	$290

Determine Lakeside's pension expense for 2008 and prepare the appropriate journal entries to record the expense and the cash funding of plan assets.

5. Determine the new gains and/or losses in 2008 and prepare the appropriate journal entry to record them.
6. Using T-accounts, determine the balances at December 31, 2008, in the pension liability, the net loss–pensions, and prior service cost.
7. Confirm the balances determined in Requirement 6 by preparing a pension spreadsheet.

P 17–15
Integrating Problem—Deferred tax effects of pension entries; integrate concepts learned in Chapter 16

● LO7

To focus on the core issues, we ignored the income tax effects of the pension amounts we recorded in the chapter. Reproduced below are the journal entries from the chapter that Global Communications used to record its pension expense and funding in 2007 and the new gain and loss that occurred that year.

To Record Pension Expense	($ in millions)	
Pension expense (total)	43	
Pension liability ($41 + 24 – 27)		38
Prior service cost (2007 amortization)		4
Net loss–pensions (2007 amortization)		1
To Record Funding		
Pension liability	48	
Cash (contribution to plan assets)		48
To Record Gains and Losses as Other Comprehensive Income (OCI)		
Loss–OCI (from change in assumption)	23	
Gain–OCI (from actual return exceeding expected return)		3
Pension liability (to balance)		20

Required:

1. Recast these journal entries to include the income tax effects of the events being recorded. Assume that Global's tax rate is 40%. [Hint: Costs are incurred and recognized for financial reporting purposes now, but the tax impact comes much later—when these amounts are deducted for tax purposes as actual payments for retiree benefits occur in the future. As a result, the tax effects are deferred, creating the need to record deferred tax assets and deferred tax liabilities. So, you may want to refer back to Chapter 16 to refresh your memory on these concepts.]
2. Prepare a statement of comprehensive income for 2007 assuming Global's only other sources of comprehensive income were net income of $300 million and a $20 million net unrealized holding gain on investments in securities available for sale.

P 17–16
Postretirement benefits; EPBO calculations; APBO calculations; components of postretirement benefit expense; present value concepts

● LO9 LO10

Century-Fox Corporation's employees are eligible for postretirement health care benefits after both being employed at the end of the year in which age 60 is attained and having worked 20 years. Jason Snyder was hired at the beginning of 1985 by Century-Fox at age 34 (he turned 35 during 1985) and is expected to retire at the end of 2012 (age 62). His retirement is expected to span five years (unrealistically short to simplify calculations). The company's actuary has estimated the net cost of retiree benefits in each retirement year as shown below. The discount rate is 6%. The plan is not prefunded.

Year	Expected Age	Net Cost
2013	63	$4,000
2014	64	4,400
2015	65	2,300
2016	66	2,500
2017	67	2,800

Required:

1. Draw a time line that depicts Snyder's attribution period for retiree benefits and expected retirement period.
2. Calculate the present value of the net benefits as of the expected retirement date.
3. With respect to Snyder, what is the company's expected postretirement benefit obligation at the end of 2007?
4. With respect to Snyder, what is the company's accumulated postretirement benefit obligation at the end of 2007?
5. With respect to Snyder, what is the company's accumulated postretirement benefit obligation at the end of 2008?
6. What is the service cost to be included in 2008 postretirement benefit expense?
7. What is the interest cost to be included in 2008 postretirement benefit expense?
8. Show how the APBO changed during 2008 by reconciling the beginning and ending balances.

P 17–17
Postretirement benefits; schedule of postretirement benefit costs

- LO9 through LO11

Stockton Labeling Company has a retiree health care plan. Employees become fully eligible for benefits after working for the company eight years. Stockton hired Misty Newburn on January 1, 2007. As of the end of 2007, the actuary estimates the total net cost of providing health care benefits to Newburn during her retirement years to have a present value of $18,000. The actuary's discount rate is 10%.

Required:

Prepare a schedule that shows the EPBO, the APBO, the service cost, the interest cost, and the postretirement benefit expense for each of the years 2007–2014.

P 17–18
Postretirement benefits; relationship among elements of postretirement benefit plan

- LO9 through LO11

The information below pertains to the retiree health care plan of Thompson Technologies:

	($ in 000s)	
	2007 Beginning Balances	**2007 Ending Balances**
Accumulated postretirement benefit obligation	$460	$485
Plan assets	0	75
Funded status	(460)	(410)
Prior service cost	120	110
Net gain–postretirement benefit plan	(50)	(49)

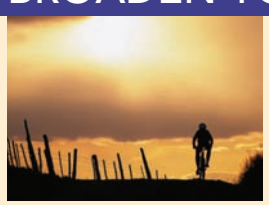
Thompson began funding the plan in 2007 with a contribution of $127,000 to the benefit fund at the end of the year. Retirees were paid $52,000. The actuary's discount rate is 5%. There were no changes in actuarial estimates and assumptions.

Required:

Determine the following amounts for 2007:

1. Service cost.
2. Postretirement benefit expense.
3. Postretirement benefit liability at December 31.

BROADEN YOUR PERSPECTIVE



Apply your critical-thinking ability to the knowledge you've gained. These cases will provide you an opportunity to develop your research, analysis, judgment, and communication skills. You also will work with other students, integrate what you've learned, apply it in real world situations, and consider its global and ethical ramifications. This practice will broaden your knowledge and further develop your decision-making abilities.

Judgment Case 17–1
Choose your retirement option

- LO1 LO3 LO4 LO5

"I only get one shot at this?" you wonder aloud. Mrs. Montgomery, human resources manager at Covington State University, has just explained that newly hired assistant professors must choose between two retirement plan options. "Yes, I'm afraid so," she concedes. "But you do have a week to decide."

Mrs. Montgomery's explanation was that your two alternatives are: (1) the state's defined benefit plan and (2) a defined contribution plan under which the university will contribute each year an amount equal to 8% of your salary. The defined benefit plan will provide annual retirement benefits determined by the following formula: 1.5% × years of service × salary at retirement.

"It's a good thing I studied pensions in my accounting program," you tell her. "Now let's see. You say the state is currently assuming our salaries will rise about 3% a year, and the interest rate they use in their calculations is 6%? And, for someone my age, you say they assume I'll retire after 40 years and draw retirement pay for 20 years. I'll do some research and get back to you."

Required:

1. You were hired at the beginning of 2007 at a salary of $100,000. If you choose the state's defined benefit plan and projections hold true, what will be your annual retirement pay? What is the present value of your retirement annuity as of the anticipated retirement date (end of 2046)?
2. Suppose instead that you choose the defined contribution plan. Assuming that the rate of increase in salary is the same as the state assumes and that the rate of return on your retirement plan assets will be 6% compounded annually, what will be the future value of your plan assets as of the anticipated retirement date (end of 2046)? What will be your annual retirement pay (assuming continuing investment of remaining assets at 6%)?
3. Based on this numerical comparison, which plan would you choose? What other factors must you also consider in making the choice?

Hint: The calculations are greatly simplified using an electronic spreadsheet such as Excel. There are many ways to set up the spreadsheet. One relatively easy way is to set up the first few rows with the formulas as shown below, then use the "fill down" function to fill in the remaining 38 rows, and use the Insert: Name: Define: function to name column A "n". Note that multiplying each contribution by $(1.06)^n$, where n equals the remaining number of years to retirement, calculates the future value of each contribution invested at 6% until retirement.

	A	B	C	D
1	Years to			Future Value
2	Retirement	Salary	Contribution	at Retirement
3	40	100000	=B3*0.08	=C3*1.06^n
4	=A3-1	=B3*1.03	=B4*0.08	=C4*1.06^n

Communication Case 17–2
Pension concepts

- LO2 through LO8

Noel Zoeller is the newly hired assistant controller of Kemp Industries, a regional supplier of hardwood derivative products. The company sponsors a defined benefit pension plan that covers its 420 employees. On reviewing last year's financial statements, Zoeller was concerned about some items reported in the disclosure notes relating to the pension plan. Portions of the relevant note follow:

Note 8: Pensions

The company has a defined benefit pension plan covering substantially all of its employees. Pension benefits are based on employee service years and the employee's compensation during the last two years of employment. The company contributes annually the maximum amount permitted by the federal tax code. Plan contributions provide for benefits expected to be earned in the future as well as those earned to date. The following reconciles the plan's funded status and amount recognized in the balance sheet at December 31, 2007 ($ in 000s).

Actuarial Present Value Benefit Obligations:	
Accumulated benefit obligation (including vested benefits of $318)	$(1,305)
Projected benefit obligation	(1,800)
Plan assets at fair value	1,575
Projected benefit obligation in excess of plan assets	$ (225)

Kemp's comparative income statements reported net periodic pension expense of $108,000 in 2007 and $86,520 in 2006. Since employment has remained fairly constant in recent years, Zoeller expressed concern over the increase in the pension expense. He expressed his concern to you, a three-year senior accountant at Kemp. "I'm also interested in the differences in these liability measurements," he mentioned.

Required:

Write a memo to Zoeller. In the memo:

1. Explain to Zoeller how the composition of the net periodic pension expense can create the situation he sees. Briefly describe the components of pension expense.
2. Briefly explain how pension gains and losses are recognized in earnings.
3. Describe for him the differences and similarities between the accumulated benefit obligation and the projected benefit obligation.

4. Explain how the "Projected benefit obligation in excess of plan assets" is reported in the financial statements.

Judgment Case 17–3
Barlow's wife; relationship among pension elements

● LO8

LGD Consulting is a medium-sized provider of environmental engineering services. The corporation sponsors a noncontributory, defined benefit pension plan. Alan Barlow, a new employee and participant in the pension plan, obtained a copy of the 2007 financial statements, partly to obtain additional information about his new employer's obligation under the plan. In part, the pension footnote reads as follows:

Note 8: Retirement Benefits

The Company has a defined benefit pension plan covering substantially all of its employees. The benefits are based on years of service and the employee's compensation during the last two years of employment. The company's funding policy is consistent with the funding requirements of federal law and regulations. Generally, pension costs accrued are funded. Plan assets consist primarily of stocks, bonds, commingled trust funds, and cash.

The change in projected benefit obligation for the plan years ended December 31, 2007, and December 31, 2006:

($ in 000s)	2007	2006
Projected benefit obligation at beginning of year	$3,786	$3,715
Service cost	103	94
Interest cost	287	284
Actuarial (gain) loss	302	(23)
Benefits paid	(324)	(284)
Projected benefit obligation at end of year	$4,154	$3,786

The weighted average discount rate and rate of increase in future compensation levels used in determining the actuarial present value of the projected benefit obligations in the above table were 7.0% and 4.3%, respectively, at December 31, 2007, and 7.75% and 4.7%, respectively, at December 31, 2006. The expected long-term rate of return on assets was 10.0% at December 31, 2007 and 2006.

The change in the fair value of plan assets for the plan years ended December 31, 2007 and 2006:

($ in 000s)	2007	2006
Fair value of plan assets at beginning of year	$3,756	$3,616
Actual return on plan assets	1,100	372
Employer contributions	27	52
Benefits paid	(324)	(284)
Fair value of plan assets at end of year	$4,559	$3,756

Included in the Consolidated Balance Sheets are the following components of accumulated other comprehensive income:

($ in 000s)	2007	2006
Net actuarial gain	$(620)	$(165)
Prior service cost	44	46

Net periodic defined benefit pension cost for fiscal 2007, 2006, and 2005 included the following components:

($ in 000s)	2007	2006	2005
Service cost	$ 103	$ 94	$ 112
Interest cost	287	284	263
Expected return on plan assets	(342)	(326)	(296)
Amortization of prior service cost	2	2	1
Recognized net actuarial (gain) loss	(2)	2	4
Net periodic pension cost	$ 48	$ 56	$ 84

In attempting to reconcile amounts reported in the footnote with amounts reported in the income statement and balance sheet, Barlow became confused. He was able to find the pension expense on the income statement but was unable to make sense of the balance sheet amounts. Expressing his frustration to his wife, Barlow said, "It appears to me that the company has calculated pension expense as if they have the pension liability and pension assets they include in the footnote, but I can't seem to find those amounts in the balance sheet. In fact, there are several amounts here I can't seem to account for. They also say they've made

some assumptions about interest rates, pay increases, and profits on invested assets. I wonder what difference it would make if they assumed other numbers,"

Barlow's wife took accounting courses in college and remembers most of what she learned about pension accounting. She attempts to clear up her husband's confusion.

Required:

Assume the role of Barlow's wife. Answer the following questions for your husband.

1. Is Barlow's observation correct that the company has calculated pension expense on the basis of amounts not reported in the balance sheet?
2. What amount would the company report as a pension liability on the balance sheet?
3. What amount would the company report as a pension asset on the balance sheet?
4. Which of the other amounts reported in the disclosure note would the company report in the balance sheet?
5. The disclosure note reports a net actuarial gain as well as an actuarial loss. How are these related? What do the amounts mean?
6. Which components of the pension expense represent deferred recognition? Where are these deferred amounts reported prior to amortization?

Communication Case 17–4
Barlow's wife; relationship among pension elements

● LO8

The focus of this case is question 1 in the previous case. Your instructor will divide the class into two to six groups, depending on the size of the class. The mission of your group is to assess the correctness of Barlow's observation and to suggest the appropriate treatment of the pension obligation. The suggested treatment need not be that required by GAAP.

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.

International Case 17–5
Accounting for pensions in other countries

● LO8

Since its inception in 1973, the primary objective of the International Accounting Standards Board (IASB) has been to narrow differences worldwide in accounting practices and the presentation of financial information. While progress has been made, the goal is far from having been met. Significant differences exist from country to country in the area of accounting for pensions. These differences impact on reported earnings and financial position in countries where these benefits are significant.

Required:

Choose a country other than the United States and:

1. Locate a recent annual report of a company from that country.
2. Determine the way that country accounts for pensions. Include in your analysis:
   a. Whether and how the cost of providing pension benefits is reported in disclosure notes.
   b. Whether the obligation for the pension benefits is accrued in the balance sheet.
   c. The impact on the income statement, if any.
3. Prepare a short report highlighting the similarities and differences between the United States and your chosen country in the way pension benefits are accounted for.

Note: You can obtain copies of annual reports from the company's website, a friendly stockbroker, or EDGAR, the Electronic Data Gathering, Analysis, and Retrieval service of the SEC, at **www.sec.gov**, or you can use EdgarScan at **edgarscan.pwcglobal.com**.

Ethics Case 17–6
401(k) plan contributions

● LO1

You are in your third year as internal auditor with VXI International, manufacturer of parts and supplies for jet aircraft. VXI began a defined contribution pension plan in 2004. The plan is a so-called 401(k) plan (named after the Tax Code section that specifies the conditions for the favorable tax treatment of these plans) that permits voluntary contributions by employees. Employees' contributions are matched with one dollar of employer contribution for every two dollars of employee contribution. Approximately $500,000 of contributions are deducted from employee paychecks each month for investment in one of three employer-sponsored mutual funds.

While performing some preliminary audit tests, you happen to notice that employee contributions to these plans usually do not show up on mutual fund statements for up to two months following the end of pay periods from which the deductions are drawn. On further investigation, you discover that when the plan was first begun, contributions were invested within one week of receipt of the funds. When you question the firm's investment manager about the apparent change in the timing of investments, you are told, "Last year Mr. Maxwell (the CFO) directed me to initially deposit the contributions in the corporate investment account. At the close of each quarter, we add the employer matching contribution and deposit the combined amount in specific employee mutual funds."

Required:

1. What is Mr. Maxwell's apparent motivation for the change in the way contributions are handled?
2. Do you perceive an ethical dilemma?

Research Case 17–7
Researching pension disclosures; retrieving information from the Internet

● LO1 LO3 LO4

All publicly traded domestic companies use EDGAR, the Electronic Data Gathering, Analysis, and Retrieval system, to make the majority of their filings with the SEC. You can access EDGAR on the Internet at **www.sec.gov**, or you can use EdgarScan at **edgarscan.pwcglobal.com**.

Required:

1. Search for a company with which you are familiar and which you believe is likely to have a pension plan. (Older, established firms are good candidates.) Access the company's most recent 10-K filing. Search or scroll to find the financial statements and related notes.
2. From the disclosure notes, determine the type of pension plan(s) the company has.
3. For any defined contribution plans, determine the contributions the company made to the plans on behalf of employees during the most recent three years.
4. For any defined benefit plans, determine the projected benefit obligation for the most recent year. Compare this obligation with the company's total long-term debt. What interest rate was used in estimating the PBO?
5. Repeat steps 2 through 4 for a second firm. Compare and contrast the types of pension plans offered. Are actuarial assumptions the same for defined benefit plans?

Analysis Case 17–8
Pension disclosures

FedEx Corporation

● LO5

Refer to the financial statements and related disclosure notes of **FedEx Corporation** in Appendix B at the end of the book. FedEx sponsors pension plans covering substantially all employees. The largest plan covers U.S. domestic employees age 21 and over, with at least one year of service, and provides benefits based on average earnings and years of service. The plans are described in Note 12.

Required:

1. Are FedEx's pension plans overfunded or underfunded?
2. FedEx reports three actuarial assumptions used in its pension calculations. Did the reported changes in those assumptions from 2003 to 2004 increase or decrease the projected benefit obligation? Why?

Real World Case 17–9
Pension amendment

● LO5 LO8

Charles Rubin is a 30-year employee of **General Motors**. Charles was pleased with recent negotiations between his employer and the United Auto Workers. Among other favorable provisions of the new agreement, the pact also includes a 13% increase in pension payments for workers under 62 with 30 years of service who retire during the agreement. Although the elimination of a cap on outside income earned by retirees has been generally viewed as an incentive for older workers to retire, Charles sees promise for his dream of becoming a part-time engineering consultant after retirement. What has caught Charles's attention is the following excerpt from an article in *the financial press:*

> **General Motors Corp.** will record a $170 million charge due to increases in retirement benefits for hourly United Auto Workers employees.
>
> The charge stems from GM's new tentative labor contract with the UAW. According to a filing with the Securities and Exchange Commission, the charge amounts to 22 cents a share and is tied to the earnings of GM's Hughes Electronics unit.
>
> The company warned that its "unfunded pension obligation and pension expense are expected to be unfavorably impacted as a result of the recently completed labor negotiations."

Taking advantage of an employee stock purchase plan, Charles has become an active GM stockholder as well as employee. His stockholder side is moderately concerned by the article's reference to the unfavorable impact of the recently completed labor negotiations.

Required:

1. When a company modifies its pension benefits the way General Motors did, what name do we give the added cost? How is it accounted for?
2. What does GM mean when it says its "unfunded pension obligation and pension expense are expected to be unfavorably impacted as a result of the recently completed labor negotiations"?

Real World Case 17–10
Effect of pensions on earnings; quest for profits

● LO6

While doing some online research concerning a possible investment in **Qwest Communications International** you spot a February 19, 2004, news release that indicates results less than expectations. Your enthusiasm is dampened more when you access Qwest's 2003 annual report and notice a net loss from continuing operations for the year of $1.3 billion. This prompts you to dig deeper for what might have contributed to the reported numbers. You come across an article that mentions in passing that a representative of Morgan Stanley had indicated that Qwest's pension plan had benefited its reported earnings. Curiosity piqued, you search further.

Required:

1. Can the net periodic pension "cost" cause a company's reported earnings to increase?
2. Access EDGAR on the Internet at **www.sec.gov**, or through EdgarScan at **edgarscan.pwcglobal.com**. Find Qwest's 2003 annual report and look at the income statement. What if anything is indicated concerning the effect of pensions on earnings?
3. Look at the disclosure notes. What effect of the pension plan on earnings does the note on employee benefits indicate? What is the major contributor to this effect?
4. Companies must report the actuarial assumptions used to make estimates concerning pension plans. Do any of the changes reported by Qwest impact the effect of the pension plan on reported earnings? Explain.

Research Case 17–11

Researching the way employee benefits are tested on the CPA Exam; retrieving information from the Internet

- LO9 LO10 LO11

The board of examiners of the American Institute of Certified Public Accountants (AICPA) is responsible for preparing the CPA examination. The boards of accountancy of all 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands use the examination as the primary way to measure the technical competence of CPA candidates. The content for each examination section is specified by the AICPA and described in outline form.

Required:

1. Access the AICPA web site on the Internet. The web address is **www.aicpa.org**.
2. Access the CPA exam section within the site. Locate the exam content portion of the section.
3. In which of the four separately graded sections of the exam are postretirement benefits tested?
4. From the AICPA site, access the Board of Accounting for your state. What are the education requirements in your state to sit for the CPA exam?

Analysis Case 17–12

Reporting postretirement benefits

FedEx Corporation

- LO9 LO10 LO11

Refer to the financial statements and related disclosure notes of **FedEx Corporation** in Appendix B at the end of this text.

Required:

1. What types of postretirement benefits other than pensions does FedEx provide its retirees? What are the eligibility requirements?
2. Is the postretirement benefit plan funded? Explain.

CPA SIMULATION 17–1

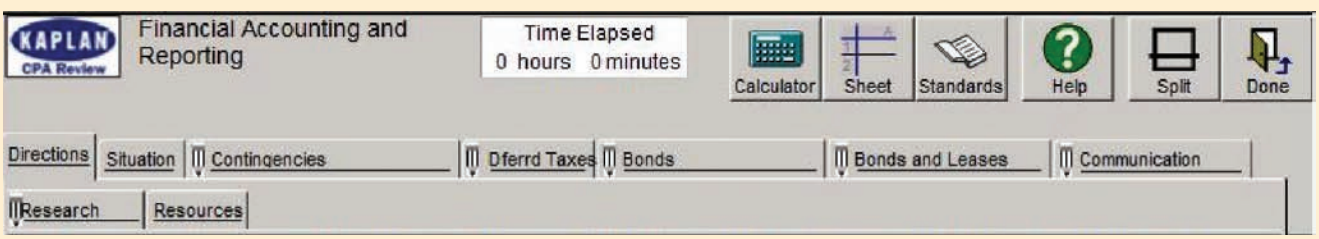
Schachter Company
Liabilities and Postretirement Benefits

KAPLAN CPA Review

Test your knowledge of the concepts discussed in this chapter, practice critical professional skills necessary for career success, and prepare for the computer-based CPA exam by accessing our CPA simulations at the text website: **www.mhhe.com/spiceland4e**.

The Schachter Company simulation tests your knowledge of contingencies, bonds, leases, deferred income taxes, transferring accounts receivables in a secured borrowing, and postretirement benefits.

As on the CPA exam itself, you will be asked to use tools including a spreadsheet, a calculator, and professional accounting standards to conduct research, derive solutions, and communicate conclusions related to these issues in a simulated environment headed by the following interactive tabs:



Specific tasks in the simulation include:

- Demonstrating an understanding of financial reporting effects of various contingencies.
- Applying judgment in deciding the deferred tax effects of a variety of transactions.
- Calculating interest and liabilities relating to bonds and leases.
- Communicating the way to calculate financial ratios related to liabilities and what they attempt to measure.
- Researching appropriate accounting for the transfer of accounts receivable to a third party.