CHAPTER

20

Accounting for Postemployment Benefits

OBJECTIVES

After reading this chapter, you will be able to:

1. Understand the characteristics of pension plans.
2. Explain the historical perspective of accounting for pension plans.
3. Explain the accounting principles for defined benefit plans, including computing pension expense and recognizing pension liabilities and assets.
4. Account for pensions.
5. Understand disclosures of pensions.
6. Explain the conceptual issues regarding pensions.
7. Understand several additional issues related to pensions.
8. Explain other postemployment benefits (OPEBs).
9. Account for OPEBs.
10. Explain the conceptual issues regarding OPEBs.
11. Understand present value calculations for pensions. (Appendix).

It's Never too Early to Plan for Retirement

If you've picked up a newspaper lately, it is likely that you've read about the problems facing the pension plans of many companies. For fiscal year 2004, the **Pension Benefit Guaranty Corporation** (PBGC), the government agency that insures the basic pension benefits of 44.4 million workers, reported that it had a record deficit of more than $23 billion. What has caused this problem? First, falling stock prices and the economic recession have contributed to a drop in the value of pension plan assets. Second, record low interest rates experienced at the beginning of this decade have significantly contributed to the increase in companies' pension liabilities. Falling asset values and increasing liabilities have left many pension plans insolvent.

The airline industry was responsible for much of the PBCG's record loss of $12.1 billion. The takeover of **U.S. Airways'** pension plan relating to flight attendants, machinists, and other employees is estimated to have cost the PBGC $2.3 billion. Combined with the $726 million claim related to U.S. Airways pilots' pension plans, the combined $3 billion claim is the second largest in the history of the pension insurance program. In addition, **UAL Corp.** has announced that it will terminate United Airlines' four pension plans in an effort to emerge from bankruptcy—the largest default in U.S. corporate history. The PBGC is estimated to assume costs of $6.6 billion when it takes over United's pension plans while United would avoid more than $3 billion of minimum-funding contributions over the next five years. This period of record-breaking claims has already led to one proposal to raise the insurance premiums that companies pay to the PBGC by an estimated $15 billion over the next five years. In addition, legislation is being proposed that would toughen the disclosure rules in hopes that

Credit: Associated Press, AP

increased transparency with regard to pension plan assets and liabilities will create pressure on companies to keep their promises to employees.

In spite of the many problems facing pension plans, many companies are contributing large amounts of cash to their pension plans and recognizing sizeable financial benefits.[1] Of the many benefits of putting excess cash into pension plans are an increase in future earnings, reduced taxes, and freeing up future cash. For example, **Boeing Co.** contributed $3.6 billion into its pension plan during 2004, which was much more than the $100 million that it was required to contribute. Because companies use an expected rate of return on pension plan assets rather than the actual return on the assets (Boeing is currently using 8.75%) in pension calculations, this large contribution ensures Boeing an increase in income of $315 million in 2005. Because the contribution is tax-deductible, Boeing is expected to receive a tax benefit of more than $1 billion. Finally, the sizable contribution in 2004 will most likely mean that Boeing has pre-funded its plan for years to come, freeing up cash flow in future years to use for other business purposes. Clearly, the accounting for pensions has far-reaching impacts—socially and financially.

For Further Investigation

For a discussion of pensions, consult the Business & Company Resource Center (BCRC):

- Make Your Pension Count: Use These Three Tips to Evaluate Your Benefits Plan and Safeguard Your Retirement. Janice Revell, *Fortune*, 0015-8259, Feb 21, 2005, v151, i4, p.134.
- Pumped-Up Pension Plays? Regulators are Investigating How Some Companies Tinker with Retiree Accounting. *Business Week* , 0007-7135, Oct 25, 2004 i3905 p92.

1. Adapted from "How Companies Make the Most of Pensions" by Karen Richardson, *Wall Street Journal*, January 24, 2005.

The average life expectancy of a male and female born in the United States in 1990 has increased to over 72 and 79 years, respectively. Consequently, most people are living long enough to retire and to become dependent on other sources of income. Both the government and companies are concerned about providing income to these individuals. In response, Congress passed the *Federal Insurance Contribution Act* (commonly called Social Security) in 1935. This Act requires most employers and employees to contribute to a federal retirement program. To supplement Social Security, many companies also have adopted private retirement plans. More than $12 trillion is invested in company pension funds.[2] Because these pension plans are important, Congress passed legislation affecting their operation. This legislation, the *Employee Retirement Income Security Act of 1974* (ERISA), often is referred to as the *Pension Reform Act of 1974*.

We discussed the accounting for the cost of social security taxes in Chapter 13. In this chapter we focus on the recording, reporting, and disclosure procedures for company pension plans under generally accepted accounting principles and the *Pension Reform Act of 1974*. In addition to pensions, many employers provide other postemployment benefits to their employees. We discuss the accounting for these benefits later in the chapter.

Characteristics of Pension Plans

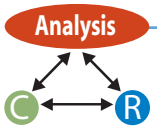
1 Understand the characteristics of pension plans.

A pension plan requires that a company provide income to its retired employees for the services they provided during their employment. This retirement income, normally paid monthly, usually is determined on the basis of the employee's earnings and length of service with the company. For instance, under the retirement plan of one major company, employees who retire at age 65 receive annual retirement income according to the following formula:

Average of last five years' salary × number of years of service × 0.0257.

Thus, an individual who worked for this company for 30 years and had an average salary of $100,000 for the last five years of service receives annual pension benefits of $77,100 ($100,000 × 30 × 0.0257).

A pension plan of this type is a **defined benefit plan** because the plan specifically states either the *benefits* to be received by employees after retirement or the method of determining such benefits. In contrast, a pension plan is a **defined contribution plan** when the employer's *contribution* is based on a formula, so that future benefits are limited to an amount that can be provided by the contributions and the returns earned on the investment of those contributions.



These two types of plans involve different risks to the company and the employees. With a defined benefit plan, most of the risks lie with the company because the payments to the retired employees are defined and the company has the responsibility of ensuring that those amounts are paid. In contrast, with a defined contribution plan, most of the risks lie with the employees because the company's responsibilities essentially end once the required contribution for the period has been made by the company. There are many accounting issues related to defined benefit plans. These issues are the primary focus of this chapter. We briefly discuss defined contribution plans later in the chapter.

Companies' pension plans are **funded.** Under a funded plan, the company makes periodic payments to a *funding agency*. The funding agency assumes the responsibility for both safeguarding and investing the pension assets to earn a return on the investments for the pension plan. The funding agency also makes payments to the retirees. An **unfunded** plan, on the other hand, is one in which no periodic payments are made to an external agency; instead, the pension payments to retired employees are made from current resources. (Although the *Pension Reform Act of 1974* has eliminated *un*funded plans for companies, some plans are *under*funded. Also, many governmental plans are unfunded.)

2. Estimated for 2005. This amount does not include government pension funds.

The amounts needed to fund a pension plan are estimated by actuaries. **Actuaries** are individuals trained in actuarial science who use compound interest techniques, projections of future events, and *actuarial funding methods* to calculate required current contributions by the company.

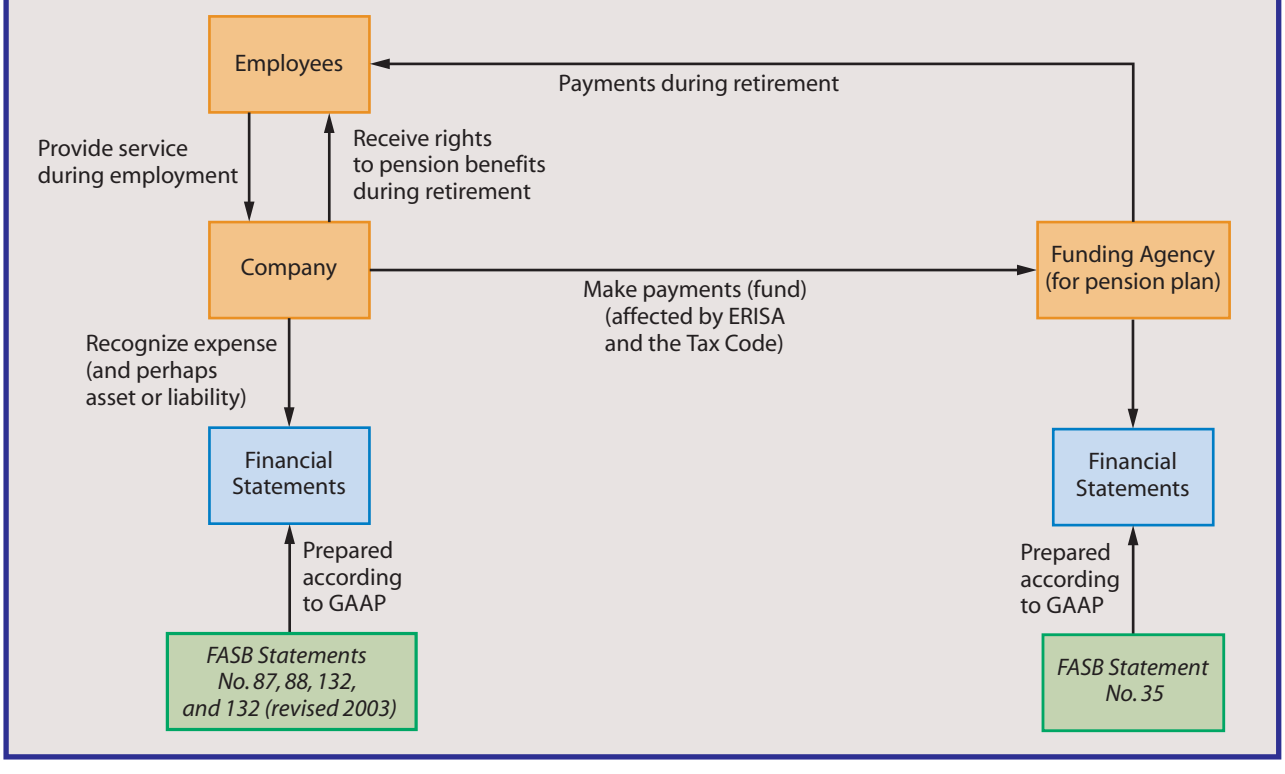
Companies' pension plans are usually **noncontributory.** With noncontributory plans, the entire pension cost is borne by the employer (company). Under a **contributory** plan, employees bear part of the cost of the plan and make contributions from their salaries into the pension fund. We discuss noncontributory plans in this chapter.

In addition, most companies design their pension plans to meet the Internal Revenue Code rules:

1. The maximum amount of employer contributions that are deductible for income tax purposes
2. Pension fund earnings are exempt from income taxes
3. Employer contributions to the pension fund are not taxable to the employees until they receive their pension benefits

Exhibit 20-1 summarizes the relationships among the employees, the company, and the funding agency for a noncontributory defined benefit pension plan.

EXHIBIT 20-1 Pension Relationships: Employees, Company, and Funding Agency

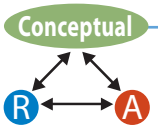


Historical Perspective of Pension Plans

2 Explain the historical perspective of accounting for pension plans.

Accounting for the cost of pension plans has been analyzed for many years. The first authoritative statement was **Accounting Research Bulletin No. 47,** which recommended recognizing pension cost on the accrual basis instead of the cash basis. That is, it recommended that pension expense be recorded by an employer during the periods of employment as benefits are earned by employees, and *not* delayed until the periods when retirement

benefits are actually paid. The pension expense is based on the present value of the future benefits earned by employees during the current accounting period. We use present value techniques (which we explain in the Time Value of Money Module) in this chapter for computing the amounts related to pension plans.



Since the pronouncements of the Committee on Accounting Procedure were not mandatory, most companies continued to use the cash basis of accounting for pension plans after the issuance of *ARB No. 47*. The use of the cash basis, however, violated the accrual concept and resulted in a lack of comparability among companies in reporting pension expense. This sometimes caused wide year-to-year fluctuations in the pension expense for a single company. In an effort to solve this problem, **APB Opinion No. 8,** "Accounting for the Cost of Pension Plans" was issued. This *Opinion* required the use of the accrual method for the recognition of the pension expense. However, it allowed a choice of actuarial methods in determining the amount of the pension expense, which caused a lack of comparability. Also companies with plans for which the obligation to pay benefits greatly exceeded the plan assets available did not record a liability. As a result, in 1974 the FASB added pension accounting to its agenda, and over a long period developed and refined the accounting for pensions. The FASB first issued a Discussion Memorandum in 1975 and then issued several Exposure Drafts in subsequent years. Then, in 1980 **FASB Statement No. 35,** "Accounting and Reporting by Defined Benefit Pension Plans," was issued. This *Statement* defined the principles to be used and the disclosures required by the funding agency for a company's pension plan. This information, which we briefly discuss later in the chapter, is primarily for the benefit of the participants in the plan. However, it is also used by the employer company for its pension plan accounting calculations and disclosures. In 1985, the FASB issued **FASB Statement No. 87,** "Employers' Accounting for Pensions," which established the measurement, recognition, and disclosure principles for employers' pension plans. Also, in 1985, the FASB issued **FASB Statement No. 88,** "Employers' Accounting for Settlements and Curtailments of Defined Benefit Plans and for Termination Benefits," which we briefly discuss later in this chapter. In 1998, the FASB issued **FASB Statement No. 132,** which modified the disclosure requirements of *FASB Statement No. 87*, but did not change its measurement and recognition principles. Finally, in 2003, the FASB issued **FASB Statement No. 132 (revised 2003)**,which modified the disclosures that companies must make. We refer to this as *FASB Statement No. 132R* in the rest of the chapter. In this chapter, we discuss the recording and reporting requirements of *FASB Statement No. 87* and the disclosure requirements of *FASB Statements No. 132 and 132R*.

Accounting Principles for Defined Benefit Pension Plans

The principles of *FASB Statement No. 87* are very complex and we include only the basic elements in the following discussion. Note that the minimum amount funded by the employer is defined by ERISA (which we discuss later).

Key Terms Related to Pension Plans

Before we discuss the accounting principles for pension plans, you should understand the terms in Exhibit 20-2.[3] You should study these terms now and carefully review them as we introduce each in the chapter. In addition, we introduce several other terms later in the chapter as they relate to specific issues. Note that actuaries often use the term *accrue* to refer to amounts associated with the pension plan, in contrast to the more specific meaning used by accountants.

3. "Employers' Accounting for Pensions," *FASB Statement of Financial Accounting Standards No. 87* (Stamford, Conn.: FASB, 1985), Appendix D and par. 44.

EXHIBIT 20-2 Key Terms Related to Pension Plans

Accumulated Benefit Obligation. The actuarial present value of all the benefits attributed by the pension benefit formula to employee service rendered before a specified date. The amount is based on current and past compensation levels of employees and, therefore, includes no assumptions about future pay increases.

Actual Return on Plan Assets. The difference between the fair value of the plan assets at the end of the period and the fair value at the beginning of the period, adjusted for contributions and payments of benefits during the period.

Actuarial Funding Method. Any technique that actuaries use in determining the amounts and timing of employer contributions to provide for pension benefits.

Actuarial Present Value. The value, on a specified date, of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future amount or amounts at a predetermined discount rate. The future amounts are adjusted for the probability of payment (affected by factors such as death, disability, or withdrawal from the plan).

Assumptions. Estimates of the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement, changes in compensation, and discount rates. Sometimes called *actuarial* assumptions.

Expected Return on Plan Assets. An amount calculated by applying the expected long-term rate of return on plan assets to the fair market value of the plan assets at the beginning of the period.

Discount Rate. The rate at which the pension benefits can be effectively settled (e.g., the rate implicit in current prices of annuity contracts that could be used to settle the pension obligation). The discount rate is used in computing the service cost, the projected benefit obligation, and the accumulated benefit obligation.

Gain or Loss. A change in the value of either the projected benefit obligation (or the plan assets) resulting from experience different from that assumed, or from a change in an actuarial assumption. Sometimes called *actuarial* or *experience* gain or loss.

Pension Benefit Formula. The basis for determining payments to which employees will be entitled during retirement.

Prior Service Cost. The cost of retroactive benefits granted in a plan amendment or at the initial adoption of the plan. The cost is the present value of the additional benefits attributed by the pension benefit formula.

Projected Benefit Obligation. The actuarial present value, at a specified date, of all the benefits attributed by the pension benefit formula to employee service rendered prior to that date. The amount includes future increases in compensation that the company projects it will pay to employees during the remainder of their employment, provided the pension benefit formula is based on those future compensation levels. The projected benefit obligation differs from the accumulated benefit obligation because it includes anticipated future pay increases.

Service Cost. The actuarial present value of benefits attributed by the pension benefit formula to services of employees during the current period. If the pension benefit formula is based on future compensation levels (e.g., average of last five years' salary), the service cost is based on those future compensation levels.

Vested Benefit Obligation. The actuarial present value of the vested benefits, which are those benefits that the employees have the right to receive if the employee no longer works for the employer.

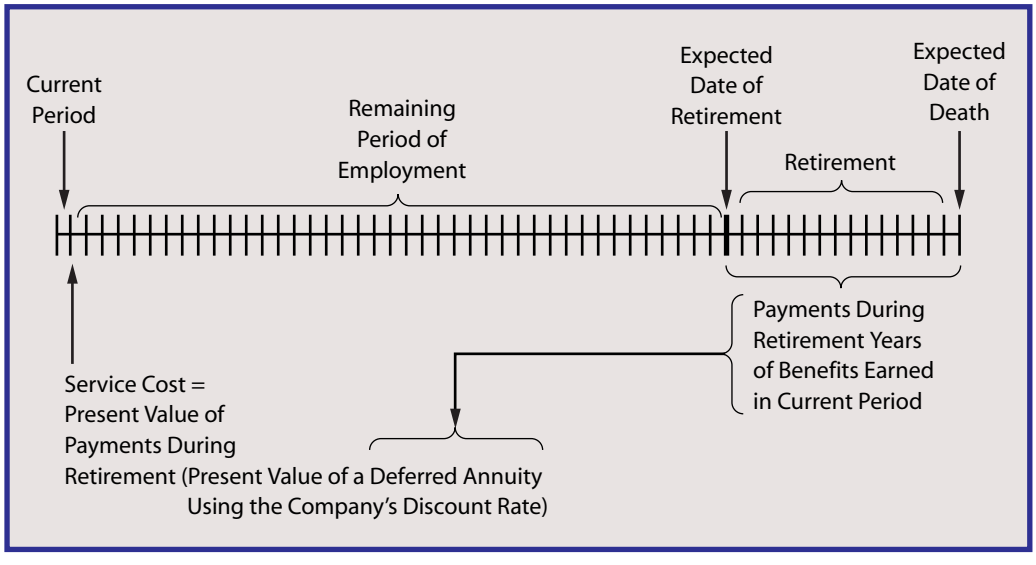
3 Explain the accounting principles for defined benefit plans, including computing pension expense and recognizing pension liabilities and assets.

Pension Expense

In defining the annual pension cost, *FASB Statement No. 87* uses the term *net periodic pension cost* because a company may capitalize some of its annual pension cost as part of the cost of an asset, such as inventory. For simplicity, we will use the term *pension expense* and assume that none of the pension costs are capitalized. The pension expense that a

company recognizes includes five components: service cost, interest cost, expected return on plan assets, amortization of unrecognized prior service cost, and gain or loss.[4]

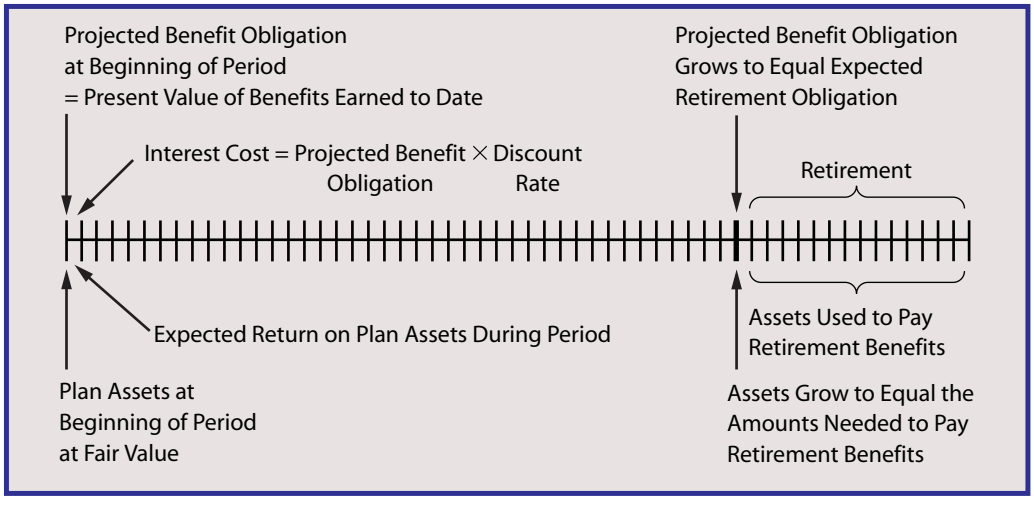
1. ***Service Cost*. The service cost is the actuarial present value of the benefits attributed by the pension benefit formula to services of the employees during the current period.** This amount is the present value of the deferred compensation to be paid to employees during their retirement in return for their current services. The service cost is computed using the *discount* rate selected by the company. The discount rate will vary as economic conditions change. If the rate increases (decreases), the present value decreases (increases). We show the nature of the service cost in the following diagram:



2. ***Interest Cost*. The interest cost is the increase in the projected benefit obligation due to the passage of time.** The projected benefit obligation is the present value of the deferred compensation earned by the employees to date (based on their expected future compensation levels). The interest cost is the projected benefit obligation at the beginning of the period multiplied by the *discount* rate used by the company. Since the pension plan is a deferred compensation agreement in which future payments are discounted to their present values, interest accrues because of the passage of time. The interest cost is added in the computation of pension expense.
3. ***Expected Return on Plan Assets*. The expected return on plan assets is the expected increase in the plan assets due to investing activities.**[5] Plan assets are held by the funding agency and consist of investments in securities such as stocks and bonds, as well as other investments. The expected return is calculated by multiplying the fair value of the plan assets at the beginning of the period by the expected long-term rate of return on plan assets. The rate of return reflects the average rate of earnings expected on the assets invested to provide for the benefits included in the projected benefit obligation. The expected return on plan assets is subtracted because the

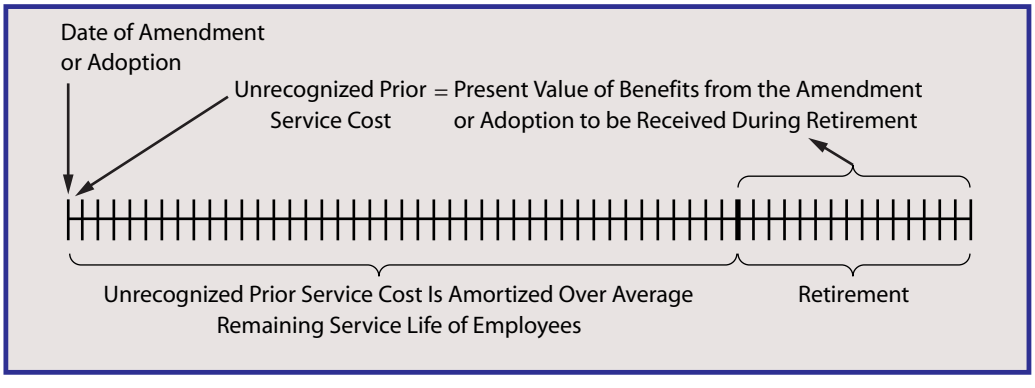
4. A sixth component is the amortization of any unrecognized liability or asset that existed at the initial application of *FASB Statement No. 87*. This item is a result of the transition from the requirements of *APB Opinion No. 8* and we do not discuss it. There is a similar transition adjustment for other postretirement benefits.
5. Note that *FASB Statement No. 87* specifies that the third component of the pension expense is the actual return on plan assets. It then includes the difference between the actual and expected return in the computation of the fifth component (the gain or loss). Under the disclosure requirements of *FASB Statement No. 132R*, a company is only required to disclose the expected return in the computation of its pension expense. Therefore, in our discussion we combine the two amounts from *FASB Statement No. 87* into the expected return.

earnings "compensate" for the interest cost on the projected benefit obligation, as we show in the following diagram:



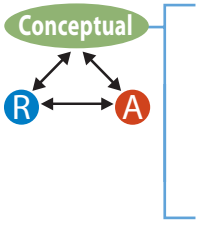
4. ***Amortization of Unrecognized Prior Service Cost.*** Amendments to a pension plan may include provisions that grant increased retroactive benefits to employees based on their employment in prior periods, thereby increasing the projected benefit obligation. Similar retroactive benefits may also be granted at the initial adoption of a plan. The cost of these retroactive benefits is the **prior service cost.** The prior service cost is "unrecognized" because it is *not* recognized in the financial statements (i.e., is not recorded in the accounts) in total in the period granted. Instead, it is "recognized" by the actuaries as a relevant cost and the amortization is included in the computation of pension expense.

   The unrecognized prior service cost is amortized by assigning an equal amount to each future service period of each active employee who, at the date of the amendment, is expected to receive future benefits under the plan. Alternatively, straight-line amortization over the average remaining service life of active employees may be used for simplicity. Employees hired after the date of the amendment or the plan adoption are not included in either calculation. The plan amendment usually increases the projected benefit obligation. Therefore, the amortization is added in the computation of pension expense. However, there have been several instances in recent years where companies in financial difficulty or under pressure from competitors have amended their pension plans to reduce the projected benefit obligation. In this case, the amortization is subtracted in the computation. We show the unrecognized prior service cost and its amortization in the following diagram:



5. ***Gain or Loss.*** The gain or loss arises because actuaries make assumptions about many of the items included in the computation of pension costs and benefits. These include future compensation levels, the interest (discount) rate, employee turnover, retirement rates, and mortality rates. Actual experience will not be the same as these assumptions. As a result, the *actual* projected benefit obligation at year-end will not be equal to the *expected* projected benefit obligation.

Therefore, gains and losses result from (a) changes in the amount of the projected benefit obligation resulting from experience different from that assumed[6], and (b) changes in the assumptions.[7] Gains result when actual experience is more favorable than that assumed (e.g., the future compensation levels are lower than expected because of lower inflation). Losses result when the actual experience is unfavorable. It is important to distinguish between the impact on the company as compared to the impact on the employees. For example, a lower-than-expected mortality rate is obviously favorable to the employees, but it creates a loss to the company because it will have to make more pension payments than expected.



The entire gain or loss is *not* recognized in the period in which it occurs (so it is called an *unrecognized* net gain or loss). This is because the gain or loss may include changes in estimates as well as real changes in economic values, and because gains in one period may be offset by losses in another period. Also, immediate recognition in full might create significant fluctuations in the pension expense. Therefore, the amount of any unrecognized net gain or loss is amortized over *future* periods. **Amortization of any unrecognized net gain or loss is included in the pension expense of a given year if, at the beginning of the year, the cumulative unrecognized net gain or loss from previous periods exceeds a "corridor." The corridor is defined as 10% of the greater of the actual projected benefit obligation or the fair value of the plan assets.**[8] If amortization is required, the minimum amortization is computed as follows:

$$\frac{\text{Net gain or loss} - \text{Corridor at beginning of year}}{\text{Average remaining service period of the active employees expected to receive benefits under the plan}}$$

The amortization of an unrecognized net gain (loss) is subtracted (added) in the computation of pension expense.[9]

To summarize, the gain or loss component of pension expense generally consists of one of the following two items:

(1) Amortization of any unrecognized net loss from previous periods (added to compute pension expense), or

(2) Amortization of any unrecognized net gain from previous periods (deducted to compute pension expense).

Gains and losses that arise from a single occurrence not directly related to the pension plan are recognized in the period in which they occur. For example, a gain or loss that is directly related to the disposal of a component is included in the "gain or loss on disposal" and reported according to the requirements of *FASB Statement No. 144*.

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6. In addition, gains and losses can occur because of the use of the market-related value of the plan assets, as we explain in footnote 8. These gains and losses are handled in a manner similar to those for changes in the projected benefit obligation, so for simplicity we do not discuss them further.
7. Although these gains and losses frequently are referred to as *experience* gains and losses or *actuarial* gains and losses, the FASB avoided using these terms.
8. In *FASB Statement No. 87*, the term **market-related value** is used. The market-related value of plan assets is either the fair value or a calculated value that recognizes changes in fair value in a systematic and rational manner over not more than five years. The use of the market-related value is allowed in order to reduce the volatility of the pension expense amount. For simplicity, we always use the fair value of the plan assets as the market-related value.
9. Alternatively, any systematic method of amortization may be used instead of the minimum just described, as long as it results in greater amortization. We use the minimum amount each period.

Components of Pension Expense

In summary, the pension expense a company reports on its income statement generally includes the following components:

Service cost (Present value of benefits earned during the year using the discount rate)
+ Interest cost (Projected benefit obligation at beginning of the year × Discount rate)
− Expected return on plan assets (Fair value of plan assets at the beginning of the year × Expected long-term rate of return on plan assets)
+ Amortization of prior service cost (Present value of additional benefits granted at adoption or modification of the plan amortized over the remaining service lives of active employees)
∓ Gain or loss (Amortization of the cumulative unrecognized net gain or loss from previous periods in excess of the corridor)
= Pension Expense

Note that the amortization of a reduction in unrecognized prior service cost is deducted in the pension expense calculation.

Pension Liabilities and Assets

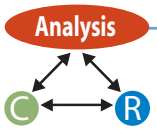
The amount of a company's pension expense usually is different from the amount contributed by the company to the pension plan (the amount funded) because they are defined by different sets of rules. The expense is defined by *FASB Statement No. 87*, whereas the funding must be consistent with the rules of ERISA, as we discuss later. Therefore, the company records a liability if its pension expense is greater than the amount it funded. Alternatively, the company records an asset if its pension expense is less than the amount it funded. This asset or liability is similar to the assets and liabilities that arise from using the accrual basis of accounting and it increases or decreases every year. Since either an asset or a liability can occur (but not both at the same time), we use a single title for the account, **prepaid/accrued pension cost.** If the account has a debit balance at the end of the year, the company reports the amount as an asset (prepaid pension cost) on its balance sheet. If the account has a credit balance at the end of the year, the company reports it as a liability (accrued pension cost). Typically, the amount is classified as noncurrent.

Credit: ©Getty Images/PhotoDisc

The minimum total pension liability that a company must recognize is the **unfunded accumulated benefit obligation**. This is the excess of the *accumulated* benefit obligation over the fair value of the plan assets at the end of the period. Therefore, a company may have to report an additional pension liability on its balance sheet. The accumulated benefit obligation is the present value of the deferred compensation earned by employees to date, based on *current* compensation levels. (Thus, the difference between the projected

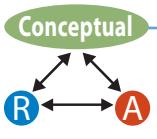
and accumulated benefit obligation is the inclusion of expected salary increases in the projected amount.)

Therefore, the unfunded accumulated benefit obligation is a measure of the obligation of the company based on the legal concept of a liability. That is, it is based on historical events such as the actual service of the employees and their current pay levels. Therefore, the unfunded accumulated benefit obligation provides information about the liability a company would have if its pension plan were discontinued. Alternatively, if the plan is continued, the unfunded accumulated benefit obligation provides a minimum measure of the additional funds that a company will have to contribute in future periods. If a company has to report an Additional Pension Liability on its balance sheet, it calculates the amount as follows:



	Accumulated benefit obligation
−	**Fair value of plan assets**
=	**Unfunded Accumulated Benefit Obligation**
−	**Prepaid/accrued pension cost (credit balance)**
or +	**Prepaid/accrued pension cost (debit balance)**
=	**Additional Pension Liability**

So the additional pension liability "adjusts" the company's existing pension liability or asset to the amount of the unfunded accumulated benefit obligation.



Generally, a company must recognize an additional liability in two situations. First, a company may have an unrecognized prior service cost. In this case, the company also recognizes an intangible asset, **deferred pension cost**, of the same amount. The reason for recognizing an intangible asset is that the prior service cost has created an expectation of enhanced future performance by employees. That is, the employer would take on an increased obligation only if future benefits of at least an equal amount were expected.

The second cause of an additional liability is that the company has funded minimal amounts and/or earned low or negative returns on its plan assets. In this case, the company also recognizes a negative component of other comprehensive income.

Note that a company might have both a prior service cost and poor returns on its plan assets. In this case, the amount of the intangible asset must not exceed the amount of any unrecognized prior service cost (plus any unrecognized transition liability or asset, as we noted in footnote 4). If the additional liability exceeds the unrecognized prior service cost, the company recognizes the intangible asset, and reports the excess (debit) as other comprehensive income.

The asset and accumulated other comprehensive income accounts related to the recognition of the additional pension liability are *not* amortized. Instead, the company recomputes the amount of the additional liability at each balance sheet date and adjusts or eliminates the related intangible asset or accumulated other comprehensive income as necessary.

In summary, a company may report the following pension asset, liability, and accumulated other comprehensive income items, depending on the circumstances, on its balance sheet:

Assets	Liabilities
1. Prepaid/accrued pension cost (debit balance)	1. Prepaid/accrued pension cost (credit balance)
2. Deferred pension cost (intangible asset)	2. Additional pension liability
	Stockholders' Equity
	1. Accumulated other comprehensive income: Excess of additional pension liability over unrecognized prior service cost (negative element)

Measurement Methods

The pension benefit formula usually is based on future compensation levels and defines benefits similarly for all years of service. Then, in computing the service cost, a constant amount of the total estimated pension benefit, based on an estimate of final salary, usually is **attributed** to each period (this method is known as the **benefit/years-of-service approach**). Using the pension benefit formula we showed at the beginning of the chapter, the service cost would be based on the employee earning a benefit of 1/30 × $77,100 each year for 30 years.

The company uses a **discount rate that reflects the rates at which the pension benefits could be effectively settled** when it computes the service cost, the projected benefit obligation, and the accumulated benefit obligation. For example, if the company could settle its obligation by purchasing an annuity from an insurance company for each employee, it would use the rate on that annuity as the appropriate discount rate. The rate of return on high-quality fixed-income investments currently available and expected to be available in the future could also be used. Companies are required by the SEC to evaluate the rate each year.

On the other hand, the expected (assumed) long-term rate of return on plan assets used to compute the expected return on assets is based on the average rate of earnings expected on the funds invested (or to be invested). Actual experience is considered along with the rates of return expected to be available in the future.

Disclosures

The disclosure requirements for defined benefit pension plans of employers are established in **FASB Statement No. 132** and **FASB Statement No. 132R.**[10] They are very detailed and are intended to provide users with relevant information. We summarize the major required disclosures below:

1. A narrative description of investment policies and strategies, including target allocations for each major category of plan assets and other factors that are pertinent to an understanding of the investment goals, risk management strategies, and permitted and prohibited investments.
2. A narrative description of the basis used to determine the expected rate of return on plan assets.
3. Other information that would be useful in understanding the risk associated with each asset category and the rate of the return on plan assets.
4. The benefits expected to be paid in each of the next five years, and the total for the next five years.
5. The contributions to be made by the company to the plan in the next year.
6. A reconciliation of the beginning and ending balances of the projected benefit obligation, including the amounts of the service cost, interest cost, actuarial gains and losses, benefits paid, and plan amendments.
7. A reconciliation of the beginning and ending balances of the fair value of the plan assets, including the actual return on plan assets, contributions by the company, and benefits paid.
8. The funded status of the plan, the amounts not recognized on the balance sheet, and the amounts recognized on the balance sheet.
9. The amount of pension expense, including the service cost, the interest cost, the expected return on plan assets, the amortization of any unrecognized prior service cost, the amortization of any net gains or losses, and the amortization of any unrecognized transition obligation or asset.

10. "Employers' Disclosures about Pensions and Other Postemployment Benefits,"*FASB Statement No. 132* and *132R* (Norwalk, Conn.:FASB, 1998 and 2003). There are additional disclosures beyond those we have listed.

10. The discount rate, the rate of compensation increase, and the expected long-term rate of return on the plan assets.
11. The amounts and types of securities included in the plan assets.

Secure Your Knowledge 20-1

- A pension plan requires a company to provide income to its retired employees in return for services they provided during their employment and classify as a:
  - Defined benefit plan that promises fixed retirement benefits determined by a formula that is usually based on the employee's earnings and length of service, or a
  - Defined contribution plan in which the employer's annual contribution is based on a formula but no commitment is made as to the future benefits to be paid to employees.
- Pension expense consists of five components:
  - Service cost—the actuarial present value of the benefits earned by employees during the year (the discount rate used is a settlement rate reflecting the rate at which the pension benefits could be effectively settled),
  - Interest cost—the increase in the projected benefit obligation (the present value of the benefits earned by employees based on their expected future compensation levels) due to the passage of time,
  - Expected return on plan assets—the expected increase in plan assets that are invested,
  - Amortization of unrecognized prior service cost—the amortization of the cost of retroactive benefits granted to employees; and
  - Amortization of gain or loss—the amortization of the change in the projected benefit obligation resulting from actual experience being different from that which is assumed.
- Because pension expense (determined by generally accepted accounting principles) usually differs from the amount funded, the difference is recorded as an:
  - Asset—prepaid pension cost—if pension expense is less than the amount funded, or a
  - Liability—accrued pension cost—if pension expense is greater than the amount funded.
- A company must record a minimum liability equal to the unfunded accumulated benefit obligation (the excess of the accumulated benefit obligation over the fair value of the plan assets at the end of the period).
- If the balance in the accrued pension cost account is not sufficient to satisfy the minimum pension liability requirement, an additional pension liability must be recognized.
- If the cause of this additional pension liability is unrecognized prior service cost, the company will recognize an intangible asset equal to the unrecognized prior service cost (deferred pension cost). If the cause is minimal funding and/or poor returns on its plan assets, the company will recognize a negative component of stockholders' equity (excess of the additional pension liability over unrecognized prior service cost).

Examples of Accounting for Pensions

4 Account for pensions.

We show various situations related to accounting for defined benefit pension plans in this section using *assumed* amounts. In the Appendix to the chapter, we show the present value calculations for pension plans. In that example, we calculate the amounts of the service cost, the projected benefit obligation, the prior service cost, and the pension expense from basic information about a company's pension plan.

Example: Pension Expense Equal to Pension Funding

Assume the following facts for the Carlisle Company:

1. The company adopts a pension plan on January 1, 2007. No retroactive benefits were granted to employees.
2. The service cost each year is: 2007, $400,000; 2008, $420,000; and 2009, $432,000.
3. The projected benefit obligation at the beginning of each year is: 2008, $400,000; and 2009, $840,000.
4. The discount rate is 10%.
5. The expected long-term rate of return on plan assets is 10%, which is also equal to the actual rate of return.
6. The company adopts a policy of funding an amount equal to the pension expense and makes the payment to the funding agency at the end of each year.[11]
7. Plan assets are based on the amounts contributed each year, plus a return of 10% per year, less an assumed payment of $20,000 at the end of each year to retired employees (beginning in 2008).

2007 Based on the preceding information, the service cost of $400,000 is the only component of the pension expense in 2007. This situation occurs because the company has (1) no interest cost because it has no projected benefit obligation at the beginning of the year since no employees had pension coverage before that time, (2) no expected return on plan assets because its expense recognition and funding were made at the end of the first year, (3) no prior service cost, and (4) no gain or loss. Since the company funds an amount equal to the pension expense, it records the following journal entry on December 31, 2007:

Pension Expense	400,000	
Cash		400,000

2008 The calculation of the pension expense for 2008 is more complex because it now has three components: service cost, interest cost, and expected return on plan assets. The service cost is $420,000. Since the projected benefit obligation at January 1, 2008 is $400,000 (the service cost for 2007), the interest cost is $40,000 (the projected benefit obligation of $400,000 multiplied by the discount rate of 10%). The $40,000 expected return on the plan assets is the $400,000 invested by the funding agency for the pension fund at the end of 2007 multiplied by the 10% expected rate of return. Therefore, the company computes its pension expense for 2008 as follows:

Service cost (assumed)	$420,000
Interest cost ($400,000 × 10%)	40,000
Expected return on plan assets ($400,000 × 10%)	(40,000)
Pension expense	$420,000

Since the company funds an amount equal to the expense, it records the following journal entry on December 31, 2008:

Pension Expense	420,000	
Cash		420,000

11. Companies are required by law to make payments to funding agencies on a quarterly basis. For simplicity, in all examples and homework we assume a single annual payment is made at the end of each year.

2009 For 2009 the service cost is $432,000. The projected benefit obligation at the beginning of 2009 is $840,000 ($400,000 beginning amount for 2008 + $420,000 service cost for 2008 + $40,000 interest cost − $20,000 payment to retired employees at end of 2008). The assets at the beginning of 2009 are $840,000 ($400,000 invested at the end of 2007 + $40,000 expected return in 2008 − $20,000 payment to retired employees at the end of 2008 + $420,000 invested at the end of 2008). Therefore, the company computes its pension expense for 2009 as follows:

Service cost (assumed)	$432,000
Interest cost ($840,000 × 10%)	84,000
Expected return on plan assets ($840,000 × 10%)	(84,000)
Pension expense	$432,000

Since the company funds an amount equal to the expense, it records the following journal entry on December 31, 2009:

Pension Expense	432,000	
Cash		432,000

Note that the interest cost and the expected return on the plan assets offset each other in this example. This situation occurs because the discount rate and the expected long-term rate of return on plan assets are both 10%, and because the company funds an amount equal to the expense. ♦

Example: Pension Expense Greater Than Pension Funding

Assume the same facts for the Carlisle Company as in the first example, except that instead of funding an amount equal to the pension expense, the company funds $385,000 in 2007, $400,000 in 2008, and $415,000 in 2009.[12] Since the company provides *fewer* assets to the pension fund, the expected return on those assets each year is less and, therefore, the pension expense must be larger to compensate for the lower expected return.

2007 The company's pension expense in 2007 is the $400,000 service cost, so the journal entry on December 31, 2007 is:

Pension Expense	400,000	
Cash		385,000
Prepaid/Accrued Pension Cost		15,000

Since the company funds only $385,000 in 2007 when the expense is $400,000, it recognizes a liability, Prepaid/Accrued Pension Cost, of $15,000.

2008 In 2008 the only difference from the previous example in the computation of the pension expense is the reduced expected return on the plan assets. Since the company

12. For illustrative purposes, the amount funded is less than the service cost. In some circumstances this procedure might be a violation of the minimum funding requirements of ERISA. However, the amount funded may be less than the *total* pension expense.

contributed only $385,000 on December 31, 2007, an expected return of only $38,500 was earned in 2008. The company computes its pension expense for 2008 as follows:

Service cost	$420,000
Interest cost ($400,000 × 10%)	40,000
Expected return on plan assets ($385,000 × 10%)	(38,500)
Pension expense	$421,500

Since the company funds $400,000 in 2008, it records the following journal entry on December 31, 2008:

Pension Expense	421,500	
Cash		400,000
Prepaid/Accrued Pension Cost		21,500

The balance in the liability account at the end of 2008 is $36,500 ($15,000 + $21,500).

2009 In 2009 the computation of the pension expense is again affected by the reduced expected return on the plan assets. Since the company contributed only $400,000, the assets of the pension fund on January 1, 2009 are $803,500 ($385,000 invested at the end of 2007 + $38,500 actual return in 2008 − $20,000 payment to retired employees at the end of 2008 + $400,000 invested at the end of 2008), and an expected return of $80,350 on those assets was earned during 2009. Therefore, the company computes its pension expense for 2009 as follows:

Service cost	$432,000
Interest cost ($840,000 × 10%)	84,000
Expected return on plan assets ($803,500 × 10%)	(80,350)
Pension expense	$435,650

Since the company funds $415,000 in 2009, it records the following journal entry on December 31, 2009:

Pension Expense	435,650	
Cash		415,000
Prepaid/Accrued Pension Cost		20,650

The balance in the liability account at the end of 2009 is $57,150 ($36,500 + $20,650). ♦

Example: Pension Expense Less Than Pension Funding, and Expected Return on Plan Assets Different from Both Actual Return and Discount Rate

Assume the same facts for the Carlisle Company as in the first example, except that (a) instead of funding an amount equal to the pension expense, the company funds $415,000 in 2007, $425,000 in 2008, and $440,000 in 2009, and (b) the expected return is 11% in each year, whereas the actual return is 12% in 2008. Since the company provides *more* assets to the pension fund and expects to earn a higher return on those assets, the pension expense is less to compensate for the higher return.

2007 The company's pension expense in 2007 is the $400,000 service cost and the journal entry on December 31, 2007 is:

Pension Expense	400,000	
Prepaid/Accrued Pension Cost	15,000	
Cash		415,000

Since the company funds $415,000 in 2007 when the expense is $400,000, it recognizes an asset, Prepaid/Accrued Pension Cost, of $15,000.

2008 In 2008 the only difference in the computation of the pension expense from the first example is the increased expected return on the plan assets. Since the company contributed $415,000 on December 31, 2007, its expected return on the plan assets is $45,650 in 2008. The company computes the pension expense for 2008 as follows:

Service cost	$420,000
Interest cost ($400,000 × 10%)	40,000
Expected return on plan assets ($415,000 × 11%)	(45,650)
Pension expense	$414,350

Since the company funds $425,000 in 2008, it records the following journal entry on December 31, 2008:

Pension Expense	414,350	
Prepaid/Accrued Pension Cost	10,650	
Cash		425,000

The balance in the Prepaid asset account at the end of 2008 is $25,650 ($15,000 + $10,650).

2009 In 2009, the computation of the pension expense is slightly more complicated. This is because the company earned a higher actual return (12%) than its expected return (11%) on its plan assets in 2008, so it has more total plan assets. Its plan assets at the beginning of 2009 are $869,800 [$415,000 invested at the end of 2007 + $49,800 ($415,000 × 0.12) actual return on plan assets − $20,000 payment to retired employees + $425,000 invested at the end of 2008]. Assuming the company continues to expect to earn 11% on its plan assets, its expected return for 2009 is $95,678. Therefore, the company computes its pension expense for 2009 as follows:

Service cost	$432,000
Interest cost ($840,000 × 10%)	84,000
Expected return on plan assets ($869,800 × 11%)	(95,678)
Pension expense	$420,322

Since the company funds $440,000 in 2009, it records the following journal entry on December 31, 2009:

Pension Expense	420,322	
Prepaid/Accrued Pension Cost	19,678	
Cash		440,000

The balance in the Prepaid asset account at the end of 2009 is $45,328 ($25,650 + $19,678). ♦

It is important that you understand the impact of the *expected* and *actual* rates of return on plan assets. As we have discussed, a company uses the expected return to compute its pension expense for the year. However, the actual return for the year increases the value of the plan assets at the end of the year. In the next year, the company multiplies those actual plan assets by the expected return to compute the amount that it subtracts to compute its the pension expense for that next year. In its pension plan disclosures, the company includes the actual return on its plan assets in the reconciliation of the beginning and ending balances of the fair value of its plan assets, as we show in a later example on page 1019.

Example: Pension Expense Including Amortization of Unrecognized Prior Service Cost

The previous three examples showed relatively simple computations of pension expense and the related pension liability or asset. The remaining examples deal with additional issues. Recall that a company may grant increased retroactive benefits based on services performed by employees in prior periods. The cost of providing these benefits is called a prior service cost. A prior service cost also may arise when a company adopts a pension plan. A prior service cost causes an increase in the projected benefit obligation. However, the company does not recognize the prior service cost (so it is called "unrecognized") in the balance sheet, but amortizes it as a component of pension expense.

To show this amortization, assume the same facts for the Carlisle Company as in the last example, except that the company awarded retroactive benefits to the employees when it adopted the pension plan on January 1, 2007. The company's actuary computed the unrecognized prior service cost to be $2 million. This amount is added to the projected benefit obligation on January 1, 2007. To fund this projected benefit obligation, the company decided to increase its contribution by $260,000 per year. For simplicity, we also assume that the company amortizes the unrecognized prior service cost by the straight-line method over the remaining 20-year service life of its active employees. Thus, its amortization is $100,000 ($2,000,000 ÷ 20) per year.

2007 The company's pension expense in 2007 now has three components. In addition to the service cost of $400,000, the company recognizes both the interest cost on the $2 million projected benefit obligation and the $100,000 amortization of the unrecognized prior service cost. Therefore, it computes the pension expense for 2007 as follows:

Service cost	$400,000
Interest cost ($2,000,000 × 10%)	200,000
Amortization of unrecognized prior service cost	100,000
Pension expense	$700,000

Since the company funds $675,000 ($415,000 + $260,000) in 2007, it records the following journal entry on December 31, 2007:

Pension Expense	700,000	
Cash		675,000
Prepaid/Accrued Pension Cost		25,000

Note that the company does *not* include the unrecognized prior service cost of $1.9 million ($2 million − $100,000 amortized) in its balance sheet, but includes it in the disclosures we discussed earlier.[13]

13. It is possible that the company might include an additional pension liability in its year-end balance sheet. We discuss this topic in a later example on page 1016.

2008 On January 1, 2008 the projected benefit obligation is $2,600,000 ($2 million beginning amount + $400,000 service cost + $200,000 interest cost). Therefore, the company computes the pension expense for 2008 as follows:

Service cost	$420,000
Interest cost ($2,600,000 × 10%)	260,000
Expected return on plan assets ($675,000 × 11%)	(74,250)
Amortization of unrecognized prior service cost	100,000
Pension expense	$705,750

Since the company funds $685,000 ($425,000 + $260,000) in 2008, it records the following journal entry on December 31, 2008:

Pension Expense	705,750	
Cash		685,000
Prepaid/Accrued Pension Cost		20,750

2009 On January 1, 2009 the projected benefit obligation is $3,260,000 ($2,600,000 beginning amount + $420,000 service cost + $260,000 interest cost − $20,000 paid to retired employees), the plan assets are $1,421,000 ($675,000 invested at the end of 2007 + $81,000 ($675,000 × 12%) actual return on plan assets + $685,000 invested at the end of 2008 − $20,000 paid to retired employees), and the company computes the pension expense for 2009 as follows:

Service cost	$432,000
Interest cost ($3,260,000 × 10%)	326,000
Expected return on plan assets ($1,421,000 × 11%)	(156,310)
Amortization of unrecognized prior service cost	100,000
Pension expense	$ 701,690

Since the company funds $700,000 ($440,000 + $260,000) in 2009, it records the following journal entry on December 31, 2009:

Pension Expense	701,690	
Cash		700,000
Prepaid/Accrued Pension Cost		1,690

Note that the plan assets at the end of 2009 are $2,271,520 [$1,421,000 + $170,520 ($1,421,000 × 12%) + $700,000 − $20,000]. ♦

Example: Calculation of Amortization of Unrecognized Prior Service Cost

In the last example the pension expense included the amortization of unrecognized prior service cost. In that example, we used an "average life" of 20 years to determine the amount of the amortization. We explain two methods of calculating the amount of the amortization in this example. The preferred method assigns an equal amount to each future service period for each active participating employee who is expected to receive future benefits under the plan. Since the FASB did not give this method a title, we will refer to it as the "years-of-future-service" method. Alternatively, a company may use straight-line amortization over the average remaining service life of employees for simplicity.

Examples 20-1 and 20-2 show the preferred years-of-future-service method of amortization. We assume that at the beginning of 2007 the Watts Company has nine employees participating in its pension plan who are expected to receive benefits. One employee (A) is expected to retire after three years, one (B) after four, two (C and D) after five, two (E and F) after six, and three (G, H, and I) after seven years. Example 20-1 shows the computation of the amortization fraction. First, the company computes the number of service years rendered by the nine employees in each calendar year. Thus, in 2007 there are nine service years rendered, while in 2011 there are only seven service years rendered because employees A and B have retired. The total number of these service years is 50. Then, the company computes the amortization fraction for each year by dividing the total service years in each calendar year by the total of 50. Thus, in 2007, 9/50 is the amortization fraction, whereas in 2011, 7/50 is the fraction.

EXAMPLE 20-1 Computation of Amortization Fraction

Employees	Expected Years of Future Service	Number of Service Years Rendered in Each Year						
		2007	2008	2009	2010	2011	2012	2013
A	3	1	1	1				
B	4	1	1	1	1			
C, D	5	2	2	2	2	2		
E, F	6	2	2	2	2	2	2	
G, H, I	7	3	3	3	3	3	3	3
Total		9	9	9	8	7	5	3 = 50
Amortization Fraction		9/50	9/50	9/50	8/50	7/50	5/50	3/50

If we assume that the company's actuary computed the total unrecognized prior service cost at the beginning of 2007 to be $400,000, the company calculates the amount of the amortization each year as we show in Example 20-2. For instance, the company amortizes $72,000 ($400,000 × 9/50) in 2007, while it amortizes $56,000 ($400,000 × 7/50) in 2011.[14] The company includes this amount in the total pension expense on its income statement for each year. The remaining unrecognized prior service cost is the balance at the end of the previous year less the amount amortized for the year. Remember that the company does not include this amount in its balance sheet, but does include it in the required pension plan disclosures, as we discussed earlier.

To compute the alternative straight-line amortization, the company calculates the average remaining service life of the participating employees. We show this method using the same employee group as we assumed earlier. The company computes the total number of service years rendered (50) by adding the expected years of service for all employees [i.e., 3(A) + 4(B) + 5(C) + 5(D) + 6(E) + 6(F) + 7(G) + 7(H) + 7(I)] and dividing by the number of employees (9) to give an average service life of 5.56 years. Example 20-3 shows the computation of the straight-line amortization. Under this method, the company amortizes $71,942 each year from 2007 through 2011 to increase the pension expense. In 2012 the amortization is only $40,290, the amount needed to reduce the remaining unrecognized prior service cost to zero. This straight-line method is also used for amortizing the

14. In *FASB Statement No. 87* (par. 85 and 86), a similar schedule and an amortization table are shown, but an assumption that an equal number of employees retire each year is made. This assumption provides a "pure" sum-of-the-years'-digits set of fractions that yield a constantly decreasing amortization amount each period. Since this is not a realistic assumption, we assume a varying number of employees retiring each period, which results in a modified sum-of-the-years'-digits set of fractions.

EXAMPLE 20-2 **Amortization of Unrecognized Prior Service Cost: Years-of-Future-Service Method**

Year	Total Unrecognized Prior Service Cost[a]	Amortization Fraction[b]	Amortization to Increase Pension Expense[c]	Remaining Unrecognized Prior Service Cost[d]
2007	$400,000	9/50	$72,000	$328,000
2008	400,000	9/50	72,000	256,000
2009	400,000	9/50	72,000	184,000
2010	400,000	8/50	64,000	120,000
2011	400,000	7/50	56,000	64,000
2012	400,000	5/50	40,000	24,000
2013	400,000	3/50	24,000	—

a. Computed by actuary
b. From Example 20-1
c. $400,000 × amortization fraction
d. Balance from end of previous year (or initial balance) − amortization for the current year

unrecognized net gain or loss we discuss in the next example. Note that if an amendment caused a decrease in future benefits, the resulting "negative" prior service cost is amortized in the same manner to decrease pension expense each period. ♦

EXAMPLE 20-3 **Amortization of Unrecognized Prior Service Cost: Straight-Line Method**

Year	Total Unrecognized Prior Service Cost[a]	Amortization to Increase Pension Expense[b]	Remaining Unrecognized Prior Service Cost[c]
2007	$400,000	$71,942	$328,058
2008	400,000	71,942	256,116
2009	400,000	71,942	184,174
2010	400,000	71,942	112,232
2011	400,000	71,942	40,290
2012	400,000	40,290[d]	—

a. Computed by actuary
b. $400,000 total unrecognized prior service cost ÷ 5.56 (50 total service years ÷ 9 employees) average remaining service life
c. Balance from end of previous year (or initial balance) − amortization for the year
d. To reduce the remaining unrecognized prior service cost to zero

Example: Pension Expense Including Net Gain or Loss (to Extent Recognized)

An unrecognized gain or loss from previous periods arises from (a) changes in the amount of the projected benefit obligation from experience different from that assumed, and (b) changes in actuarial assumptions. The excess of this unrecognized gain or loss over a "corridor" amount (discussed later) is amortized over the remaining service life of active employees expected to receive benefits under the plan. A company *adds* amortization of an unrecognized net loss to pension expense. It *subtracts* any amortization of an unrecognized net gain from pension expense as part of the net gain or loss.

Example 20-4 shows the computation of the net gain or loss included in pension expense for the years 2007 through 2010. This example is for the Bliss Company, which has had a defined benefit pension plan for its employees for several years. The amounts

EXAMPLE 20-4 Computation of Net Gain or Loss

Year	Cumulative Unrecognized Net Loss (Gain)[a]	Projected Benefit Obligation: Actual[a]	Fair Value of Plan Assets[a]	Corridor[b]	Excess Unrecognized Net Loss (Gain)[c]	Recognized Net Loss (Gain)[d]
2007	$13,000	$110,000	$100,000	$11,000	$2,000	$200
2008	(2,300)	135,000	130,000	13,500	—[e]	—
2009	18,700	168,000	170,000	17,000	1,700	170
2010	27,500	230,000	215,000	23,000	4,500	450

a. At the beginning of the year
b. 10% of the greater of the actual projected benefit obligation or the fair value of the plan assets at the beginning of the year
c. Absolute value of the cumulative unrecognized net loss (gain) − corridor
d. Excess unrecognized net loss (gain) ÷ average remaining service life (10 years)
e. Since the absolute value of the cumulative unrecognized net loss (gain) is less than the corridor, there is no excess unrecognized net loss (gain)

of the cumulative unrecognized net loss (gain), the projected benefit obligation (actual), and the fair value of the plan assets are based on information provided by the company's actuary and funding agency.

To compute the amortization, the first step is to determine the cumulative unrecognized net gain or loss at the beginning of the year. The company's actuary calculates the amounts in the Cumulative Unrecognized Net Loss (Gain) column of Example 20-4 at the beginning of the year, based on previous periods. Thus, for instance, the $13,000 amount of cumulative unrecognized net loss at the beginning of 2007 is a result of experience different from that assumed and changes in actuarial assumptions in periods prior to 2007. Note in this example that we have assumed a high volatility to better explain the calculations. Also note that we show a cumulative unrecognized net *loss* without parentheses because the related amortization is *added* to pension expense, whereas we show a *gain* in parentheses because the amortization is *deducted*.

The company's actuary also calculates the amounts in the Projected Benefit Obligation and the Fair Value of Plan Assets columns at the beginning of the year. For instance, the company has a $110,000 projected benefit obligation and a $100,000 fair value of the plan at the beginning of 2007. These amounts are used to determine the **corridor** amount. **The corridor is 10% of the greater of the actual projected benefit obligation or the fair value of the plan assets at the beginning of the period.** As we discussed earlier, the corridor reduces the volatility of the pension expense.

A company amortizes any cumulative unrecognized net gain or loss in a given year only if, at the beginning of the year, the (absolute value of the) cumulative unrecognized net gain or loss exceeds the corridor. This 10% threshold (the corridor) is intended to reduce fluctuations in pension expense. In many cases the corridor will not be exceeded, so no amortization is recorded. Also, if a company had a large cumulative unrecognized net gain (loss) at the beginning of a given year, it would reduce (increase) its pension expense only by the amortization of the cumulative unrecognized net gain (loss) in excess of the corridor amount. It is unlikely that the company would have a cumulative unrecognized net loss (gain) at the beginning of the next year in excess of the corridor amount. Even in such an extreme situation, the pension expense would be increased (decreased) only by the amount of the amortization of the cumulative unrecognized net loss (gain) in excess of the corridor amount.

In Example 20-4 the amount in the Corridor column for a given year is 10% of the higher of the actual projected benefit obligation or the fair value of the plan assets at the beginning of that year. Thus, in 2007 the company computes the $11,000 corridor as 10% of the $110,000 actual projected benefit obligation because it is the higher of the two amounts. In 2009, however, it computes the $17,000 corridor as 10% of the $170,000 fair value of the plan assets.

The amount in the Excess Unrecognized Net Loss (Gain) column for a given year is the excess of the (absolute value of the) cumulative unrecognized net loss (gain) over the corridor at the beginning of that year. Thus, in 2007 the $2,000 excess unrecognized net loss is the difference between the $13,000 cumulative unrecognized net loss and the $11,000 corridor. In 2008, however, the corridor exceeds the cumulative unrecognized net gain, so there is no excess.

The amount in the Recognized Net Loss (Gain) column for a given year is the adjustment to pension expense. The company computes each amortization amount by dividing the excess unrecognized net loss (gain) for that year by the average remaining service life of the active employees expected to receive benefits under the plan. In this example, we assume a 10-year average service life for all years. In reality, the company may have to recompute the average service life each year for changes in its employee work force. For instance, in 2007 the $200 amortization that the company *adds* to pension expense as the recognized net loss is determined by dividing the $2,000 excess unrecognized net loss by the 10-year average service life. ♦

Example: Recognition of Additional Pension Liability

The previous examples focused on computing a company's pension expense and the related pension liability or asset. This example deals with recognizing an additional pension liability when the company's accumulated benefit obligation is greater than the fair value of the plan assets. For example, the recognition of the additional liability, assume the following facts for the Devon Company at the end of 2007:

Projected benefit obligation	$2,000,000
Accumulated benefit obligation	1,200,000
Plan assets	1,000,000 fair value
Prepaid/accrued pension cost	50,000 liability
Unrecognized prior service cost	300,000

Remember that the difference between the two benefit obligations is that the *projected* benefit obligation includes assumed future pay increases, whereas the *accumulated* benefit obligation is based on current pay levels (see the definitions in Exhibit 20-2). The company computes the unfunded *accumulated* benefit obligation as the difference between the accumulated benefit obligation and the fair value of the plan assets as follows:

Accumulated benefit obligation	$1,200,000
Plan assets (fair value)	(1,000,000)
Unfunded accumulated benefit obligation	$ 200,000

This unfunded accumulated benefit obligation of $200,000 is the minimum liability that the company must recognize. Since the company already has recorded a liability (prepaid/accrued pension cost) of $50,000, it calculates the *additional* liability of $150,000 that it needs to recognize at the end of 2007 as follows:

Unfunded accumulated benefit obligation	$200,000
Prepaid/accrued pension cost (liability)	(50,000)
Additional pension liability	$150,000

Besides recognizing the additional liability, the company also recognizes an intangible asset of an equal amount because the intangible asset is less than the unrecognized prior service cost of $300,000. Since the FASB did not suggest a title, we call it Deferred Pension Cost. Thus, the journal entry on December 31, 2007 to record the intangible asset and to increase the pension liability from $50,000 to $200,000 is as follows:

Deferred Pension Cost	**150,000**	
Additional Pension Liability		**150,000**

The Devon Company reports the Deferred Pension Cost account balance of $150,000 as an intangible asset on its 2007 year-end balance sheet. It combines the balances of the Additional Pension Liability and Prepaid/Accrued Pension Cost accounts to report a total pension liability of $200,000 on the balance sheet. The company also includes the additional liability ($150,000) in its pension plan disclosures.

The company makes a different journal entry if the preceding facts remained the same, except that the company had a prepaid/accrued pension cost *asset* of $40,000 instead of the liability of $50,000. In this case, the minimum liability must still be $200,000, but a $40,000 asset exists. Consequently, the company must record a liability and an intangible asset of $240,000 (the unfunded accumulated benefit obligation of $200,000 + the prepaid/accrued pension cost asset of $40,000). The journal entry is as follows:

Deferred Pension Cost	**240,000**	
Additional Pension Liability		**240,000**

The company combines (nets) the balances of the Additional Pension Liability and Prepaid/Accrued Pension Cost accounts to report a net pension liability of $200,000 on its balance sheet. The company also includes the additional liability in its pension plan disclosures.

In the previous situations we assumed that the intangible asset does not exceed the unrecognized prior service cost. In other words, the need to recognize the additional liability arose because of amendments to the plan that created prior service costs and increased the accumulated benefit obligation, but have not yet been funded by the company.

Another issue in the recognition of the additional liability occurs if there is no unrecognized prior service cost, or if it exceeds the unrecognized prior service cost. Typically, this situation arises because there have been negative returns on the plan assets. Since it would be inappropriate for a company to record such declines in value of the plan assets as an intangible asset of the company, it includes the amount as a negative component of the year's other comprehensive income, which reduces the balance in accumulated other comprehensive income. To illustrate this situation, we use the same facts as originally given for the Devon Company, but, in addition, the company has an unrecognized prior service cost of $120,000 instead of $300,000. The company recognizes the same additional liability of $150,000, but the intangible asset cannot exceed the unrecognized prior service cost of $120,000. Therefore, the company records the $30,000 difference as a negative component of other comprehensive income. The journal entry by the Devon Company is as follows:

Deferred Pension Cost	**120,000**	
Excess of Additional Pension Liability Over Unrecognized Prior Service Cost	**30,000**	
Additional Pension Liability		**150,000**

In this case, the Devon Company reports the $120,000 balance in Deferred Pension Cost as an intangible asset on its 2007 year-end balance sheet. It combines the Prepaid/Accrued

Pension Cost liability of $50,000 and the Additional Pension Liability of $150,000 in a single amount, and reports the $30,000 excess as a negative component of the accumulated other comprehensive income component of its stockholders' equity section as follows (other amounts assumed):

Stockholders' Equity	
Common stock	$600,000
Additional paid-in capital	230,000
Retained earnings	170,000
Accumulated other comprehensive income (loss)	
Excess of additional pension liability over unrecognized prior service cost	(30,000)
Total stockholders' equity	$970,000

Note that the additional liability, the intangible asset, and the amount included in accumulated other comprehensive income (loss) are *not* amortized. The company computes the appropriate amounts each year and includes them in its balance sheet for that year. For example, refer back to the original facts for the Devon Company. In that situation, it recorded the additional liability of $150,000 at the end of 2007. Now suppose that at the end of 2008, the following information is available:

Accumulated benefit obligation	$1,300,000	
Plan assets	1,220,000	fair value
Prepaid/accrued pension cost	60,000	liability
Unrecognized prior service cost	110,000	

The unfunded accumulated benefit obligation is $80,000 ($1,300,000 − $1,220,000) and the required additional liability at the end of 2008 is $20,000 ($80,000 − $60,000). Since the additional liability is less than the unrecognized prior service cost of $110,000, the company does not include any reduction in its accumulated other comprehensive income for the year. The journal entry on December 31, 2008 to adjust the additional liability is as follows:

Additional Pension Liability	**130,000**	
Deferred Pension Cost		**130,000**

This entry reduces the existing account balances of $150,000 by $130,000 to $20,000. Note that the changes in the account balances have no effect on the income statement. Also note that when a company has recognized accumulated other comprehensive income at the end of one year, it must adjust that amount each year based on the new calculations. It reports the change in the accumulated other comprehensive income as a "reclassification adjustment" in its other comprehensive income for the year, as we discussed in Chapter 15. ♦

Example: Disclosures

5 Understand disclosures of pensions.

To improve the usefulness of a company's disclosures about its defined benefit pension plan, as we discussed earlier, the company must report certain information in the notes to its financial statements, in addition to the amounts contained in its financial statements. *FASB Statement No. 132R* requires disclosure of, among other items, a reconciliation of the beginning and ending amounts of the projected benefit obligation, a reconciliation of the beginning and ending fair value of the plan assets, the components of the pension expense, and the discount rate used and the expected long-term rate of return on plan assets. We

show these disclosures in Example 20-5 for the Carlisle Company for 2009 using the facts from the third example that we illustrated earlier in the chapter on pages 1009 and 1010.

EXAMPLE 20-5 Disclosure of Defined Benefit Pension Plan Information

Reconciliation of the beginning and ending amounts of the projected benefit obligation

Beginning projected benefit obligation	$ 840,000
Service cost	432,000
Interest cost	84,000
Actuarial gains and losses	0
Benefits paid	(20,000)
Plan amendments	0
Ending projected benefit obligation	$1,336,000

Reconciliation of the beginning and ending fair value of the plan assets

Beginning fair value of plan assets	$ 869,800
Actual return on plan assets	95,678
Contributions	440,000
Benefits paid	(20,000)
Ending fair value of plan assets	$1,385,478

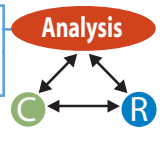
Components of the pension expense

Service cost	$ 432,000
Interest cost	84,000
Expected return on plan assets	(95,678)
Amortization of prior service cost	0
Amortization of gains and losses	0
Amortization of any transition amount	0
Total pension expense	$ 420,332

Assumptions

Discount rate: 10%
Expected long-term rate of return on plan assets: 11%

Note that in the reconciliation of the beginning and ending fair value of the plan assets, a company discloses the *actual* return on its pension plan assets. In the schedule listing the components of the pension expense, however, the company discloses the *expected* return on the pension plan assets. This aspect of the pension plan disclosures is important because it enables external users to compare the difference between the expected and actual returns to evaluate how well the pension funds are being managed. ♦



Real Report 20-1 on page 1021 shows these 2004 disclosures for **Yum! Brands** (owner of Pizza Hut, Taco Bell, and KFC). (These disclosures include information about postretirement benefit plans that we discuss later in the chapter.) Note that Yum! Brands includes the information we have shown for the Carlisle Company, as well as the additional required disclosures.

Pension Worksheet

In Example 20-6 we show a worksheet that you can use to help understand the first four examples that we explained earlier in the chapter. We have completed the worksheet using the amounts in the fourth example on pages 1011 and 1012. It will be helpful for

you to go back to this example and see how the amounts are included in the worksheet. Also, you should note three important aspects of this worksheet. First, the amounts at the bottom of the "Pension Expense" columns provide the information that Carlisle Company uses to determine the debit (dr) to the Pension Expense account, and the credits (cr) to the Cash and the Prepaid/Accrued Pension Cost accounts. Second, the ending projected benefit obligation and plan assets amounts for one year are the beginning amounts for the next year. Third, the calculations for the projected benefit obligation and the plan assets provide much of the information that Carlisle would report in its notes to its financial statements that we illustrated in the last example. Also, the worksheet is simplified because it does not include certain complexities, such as when the corridor needs to be used to determine the net gain or loss to be included in the pension expense, or the calculation of the minimum pension liability.

EXAMPLE 20-6 Pension Plan Worksheet (using amounts in example on page 1011)

	2007		2008		2009	
Item	**Amount**	**Pension Expense**	**Amount**	**Pension Expense**	**Amount**	**Pension Expense**
Beginning projected benefit obligation	$2,000,000[a]		$ 2,600,000		$3,260,000	
× Discount rate	× 0.10		× 0.10		× 0.10	
= Interest cost	$ 200,000	$200,000	$ 260,000	$260,000	$ 326,000	$326,000
Beginning projected benefit obligation	2,000,000		2,600,000		3,260,000	
+ Service cost	400,000	400,000	420,000	420,000	432,000	432,000
− Benefits paid	(0)		(20,000)		(20,000)	
= Ending projected benefit obligation	$2,600,000		$3,260,000		$3,998,000	
Beginning plan assets	$ 0		$ 675,000		$1,421,000	
× Expected rate of return	× 0.11		× 0.11		× 0.11	
= Expected return	$ 0	(0)	$ 74,250	(74,250)	$ 156,310	(156,310)
Beginning plan assets	$ 0		$ 675,000		$1,421,000	
+ Actual return[b]	0		81,000		170,520	
+ Contributions	675,000		685,000		700,000	
− Benefits paid	(0)		(20,000)		(20,000)	
= Ending plan assets	$ 675,000		$1,421,000		$2,271,520	
Unrecognized prior service cost	$ 2,000,000		$2,000,000		$2,000,000	
÷ Average service life (years)[c]	÷ 20		÷ 20		÷ 20	
= Amortization of unrecognized prior service cost	$ 100,000	100,000	$ 100,000	100,000	$ 100,000	100,000
Net gain or loss[d]	$ 0	0	$ 0	0	$ 0	0
Total Pension Expense		$700,000 dr		$705,750 dr		$701,690 dr
Contribution (Cash)		675,000 cr		685,000 cr		700,000 cr
Adjustment to Prepaid/Accrued Pension Cost		$ 25,000 cr		$ 20,750 cr		$ 1,690 cr

a Unrecognized prior service cost at adoption of plan
b The actual return is assumed to be 12% each year × Beginning plan assets
c Or times amortization fraction
d Calculated using the corridor approach; see Example 20-4

Real Report 20-1 Illustration of Pension Disclosures

YUM! BRANDS

NOTE 15 PENSION AND POSTRETIREMENT MEDICAL BENEFITS

Pension Benefits We sponsor noncontributory defined benefit pension plans covering substantially all full-time U.S. salaried employees, certain U.S hourly employees and certain international employees. The most significant of these plans, the YUM Retirement Plan (the "Plan"), is funded while benefits from the other plans are paid by the Company as incurred. During 2001, the plans covering our U.S. salaried employees were amended such that any salaried employee hired or rehired by YUM after September 30, 2001 is not eligible to participate in those plans. Benefits are based on years of service and earnings or stated amounts for each year of service.

Postretirement Medical Benefits Our postretirement plan provides health care benefits, principally to U.S. salaried retirees and their dependents. This plan includes retiree cost sharing provisions. During 2001, the plan was amended such that any salaried employee hired or rehired by YUM after September 30, 2001 is not eligible to participate in this plan. Employees hired prior to September 30, 2001 are eligible for benefits if they meet age and service requirements and qualify for retirement benefits.

We use a measurement date of September 30 for our pension and postretirement medical plans described above.

Obligation and Funded Status at September 30:

	Pension Benefits		Postretirement Medical Benefits	
	2004	2003	**2004**	2003
Change in benefit obligation				
Benefit obligation at beginning of year	**$ 629**	$ 501	**$ 81**	$ 68
Service cost	**32**	26	**2**	2
Interest cost	**39**	34	**5**	5
Plan amendments	**1**	—	**—**	—
Curtailment gain	**(2)**	(1)	**—**	—
Benefits and expenses paid	**(26)**	(21)	**(4)**	(4)
Actuarial (gain) loss	**27**	90	**(3)**	10
Benefit obligation at end of year	**$ 700**	$ 629	**$ 81**	$ 81
Change in plan assets				
Fair value of plan assets at beginning of year	**$ 438**	$ 251		
Actual return on plan assets	**53**	52		
Employer contributions	**54**	157		
Benefits paid	**(26)**	(21)		
Administrative expenses	**(1)**	(1)		
Fair value of plan assets at end of year	**$ 518**	$ 438		
Funded status	**$(182)**	$(191)	**$(81)**	$(81)
Employer contributions[a]	**1**	—	**—**	—
Unrecognized actuarial loss	**225**	230	**23**	28
Unrecognized prior service cost	**9**	12	**—**	—
Net amount recognized at year-end	**$ 53**	$ 51	**$(58)**	$(53)

(a) Reflects contributions made between the September 30, 2004 measurement date and December 25, 2004.

Continued

	Pension Benefits		Postretirement Medical Benefits	
	2004	2003	**2004**	2003
Amounts recognized in the statement of financial position consist of:				
Accrued benefit liability	**$(111)**	$(125)	**$(58)**	$(53)
Intangible asset	**11**	14	**—**	—
Accumulated other comprehensive loss	**153**	162	**—**	—
	$ 53	$ 51	**$(58)**	$(53)
Additional information				
Other comprehensive (income) loss attributable to change in additional minimum liability recognition	**$ (9)**	$ 48		
Additional year-end information for pension plans with accumulated benefit obligations in excess of plan assets				
Projected benefit obligation	**$ 700**	$ 629		
Accumulated benefit obligation	**629**	563		
Fair value of plan assets	**518**	438		

While we are not required to make contributions to the Plan in 2005, we may make discretionary contributions during the year based on our estimate of the Plan's expected September 30, 2005 funded status.

Components of Net Periodic Benefit Cost

	Pension Benefits		
	2004	2003	2002
Service cost	**$32**	$ 26	$ 22
Interest cost	**39**	34	31
Amortization of prior service cost	**3**	4	1
Expected return on plan assets	**(40)**	(30)	(28)
Recognized actuarial loss	**19**	6	1
Net periodic benefit cost	**$53**	$ 40	$ 27
Additional loss recognized due to: Curtailment	**$—**	$ —	$ 1

	Postretirement Medical Benefits		
	2004	2003	2002
Service cost	**$2**	$2	$2
Interest cost	**5**	5	4
Amortization of prior service cost	**—**	—	—
Recognized actuarial loss	**1**	1	1
Net periodic benefit cost	**$8**	$8	$7

Prior service costs are amortized on a straight-line basis over the average remaining service period of employees expected to receive benefits. Curtailment gains and losses have been recognized in facility actions as they have resulted primarily from refranchising and closure activities.

Weighted-Average Assumptions Used to Determine Benefit Obligations at September 30:

	Pension Benefits		Postretirement Medical Benefits	
	2004	2003	**2004**	2003
Discount rate	**6.15%**	6.25%	**6.15%**	6.25%
Rate of compensation increase	**3.75%**	3.75%	**3.75%**	3.75%

Continued

Weight-Average Assumptions Used to Determine the Net Periodic Benefit Cost for Fiscal Years:

	Pension Benefits			Postretirement Medical Benefits		
	2004	2003	2002	**2004**	2003	2002
Discount rate	**6.25%**	6.85%	7.60%	**6.25%**	6.85%	7.58%
Long-term rate of return on plan assets	**8.50%**	8.50%	10.00%	**—**	—	—
Rate of compensation increase	**3.75%**	3.85%	4.60%	**3.75%**	3.85%	4.60%

Our estimated long-term rate of return on plan assets represents the weighted average of expected future returns on the asset categories included in our target investment allocation based primarily on the historical returns for each asset category, adjusted for an assessment of current market conditions.

Assumed Health Care Cost Trend Rates at September 30:

	Postretirement Medical Benefits	
	2004	2003
Health care cost trend rate assumed for next year	**11%**	12%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	**5.5%**	5.5%
Year that the rate reaches the ultimate trend rate	**2012**	2012

There is a cap on our medical liability for certain retirees. The cap for Medicare eligible retirees was reached in 2000 and the cap for non-Medicare eligible retirees is expected to be reached between the years 2007–2008; once the cap is reached, our annual cost per retiree will not increase.

Assumed health care cost trend rates have a significant effect on the amounts reported for our postretirement health care plans. A one-percentage-point change in assumed health care cost trend rates would have the following effects:

	1-Percentage-Point Increase	1-Percentage-Point Decrease
Effect on total of service and interest cost	$ —	$ —
Effect on postretirement benefit obligation	$ 2	$ (2)

Plan Assets Our pension plan weighted-average asset allocations at September 30, by asset category are set forth below:

Asset Category	2004	2003
Equity securities	**70%**	65%
Debt securities	**28%**	30%
Cash	**2%**	5%
Total	**100%**	100%

Our primary objectives regarding the pension assets are to optimize return on assets subject to acceptable risk and to maintain liquidity, meet minimum funding requirements and minimize plan expenses. To achieve these objectives, we have adopted a passive investment strategy in which the asset performance is driven primarily by the investment allocation. Our target investment allocation is 70% equity securities and 30% debt securities, consisting primarily of low cost index mutual funds that track several sub-categories of equity and debt security performance. The investment strategy is primarily driven by our Plan's participants' ages and reflects a long-term investment horizon favoring a higher equity component in the investment allocation.

Continued

A mutual fund held as an investment by the Plan includes YUM stock in the amount of $0.2 million at both September 30, 2004 and 2003 (less than 1% of total plan assets in each instance).

Benefit Payments The benefits expected to be paid in each of the next five years and in the aggregate for the five years thereafter are set forth below:

Year ended:	Pension Benefits	Postretirement Medical Benefits
2005	$ 17	$ 5
2006	22	5
2007	25	6
2008	28	6
2009	32	6
2010–2014	242	35

Expected benefits are estimated based on the same assumptions used to measure our benefit obligation on our measurement date of September 30, 2004 and include benefits attributable to estimated further employee service.

Questions:

1. What types of pension plans does YUM! Brands have? How are they funded?
2. How much was the company's pension expense (cost) for 2004?
3. Was the company's actual return on plan assets in 2004 greater or less than the expected return?
4. How much are the accumulated and projected benefit obligations at the end of 2004? Why are the amounts different?
5. Is the company in a net asset or a net liability position for its pension plans at the end of 2004?
6. If YUM! Brands had used a lower discount rate during 2004, what would be the effect on the amounts disclosed by the company for 2004?
7. Describe the investment strategy employed by the company.

Summary of Issues Related to Pensions

In Example 20-7, we summarize the major issues related to accounting for the defined benefit pension plan of a company in T-account form for 2007. While each "entry" balances, note that four of the "accounts" (plan assets, projected benefit obligation, unrecognized loss or gain, and unrecognized prior service cost) are *not* included in the company's financial statements. The other three accounts [pension expense, cash, and prepaid (accrued) pension cost] are included in the financial statements. In this summary, the balance in the Prepaid (Accrued)Pension Cost is equal to the net balance of the Plan Assets, Projected Benefit Obligation, Unrealized Loss/Gain, and Unrecognized Prior Service Cost accounts. Thus, at the beginning of the year, $10,000 = $100,000 − $90,000. All amounts are assumed. We discuss each entry in the following sections.

We assume that the company started the plan in 2006, it had no prior service costs, and no employees retired during the year. Based on the actuarial computation of the service cost (the only component of pension expense for 2006), the company makes its first journal entry for the plan on December 31, 2006 as follows:

Pension Expense	90,000	
Prepaid (Accrued) Pension Cost	10,000	
Cash		100,000

EXAMPLE 20-7 Summary of Issues Related to Defined Benefit Pension Plan for 2007

Not included in the company's financial statements:

Plan Assets

Beginning balance	100*	(f) Payments to retirees	14
(c) Actual return on plan assets	9		
(g) Funding	98		
Ending balance	193		

Projected Benefit Obligation (Liability)

(f) Payments to retirees	14	Beginning balance	90
		(a) Service cost	95
		(b) Interest	7
		(d) Prior service cost	40
		Ending balance	218

Unrecognized Prior Service Cost

(d) Prior service cost	40	(e) Amortization	3
Ending balance	37		

Included in the company's financial statements:

Pension Expense

(a) Service cost	95	(c) Expected return on plan assets	9
(b) Interest	7		
(e) Amortization of prior service cost	3		
(g) Total expense	96		

Cash

		(g) Funding	98

Prepaid (Accrued) Pension Cost

Beginning balance	10		
(g) Funding exceeds expense	2		
Ending balance	12		

*All amounts in thousands of dollars.

Therefore, at the beginning of 2007 the plan assets are $100,000, the projected benefit obligation is $90,000, and the prepaid (accrued) pension cost is $10,000. The following information is for 2007.

(a) **Service Cost.** The service cost for 2007 of $95,000 is a component of the pension expense and increases the projected benefit obligation.

(b) **Interest Cost.** The interest cost for 2007 of $7,000 is a component of the pension expense and increases the projected benefit obligation.

(c) **Expected and Actual Return on Plan Assets.** The actual and expected return on plan assets for 2007 of $9,000 increases the plan assets and reduces the pension expense. Any difference between the actual and expected return on plan assets would be a component of the net gain or loss.

(d) **Unrecognized Prior Service Cost.** During 2007 the company provides retroactive benefits with a present value of $40,000. This creates an unrecognized prior service cost and increases the projected benefit obligation.

(e) **Amortization of the Unrecognized Prior Service Cost.** During 2007 the company amortizes the unrecognized prior service cost by $3,000. This increases the pension expense and decreases the unrecognized prior service cost.

(f) **Payments to Retired Employees.** Payments of $14,000 by the funding agency to retired employees in 2007 decrease the plan assets and the projected benefit obligation.

(g) **Pension Expense and Funding by the Company.** The $96,000 pension expense consists of the $95,000 service cost (a), plus the $7,000 interest cost (b), minus the $9,000 expected return on plan assets (c), plus the $3,000 amortization of the prior service cost (e). The payment of $98,000 by the company to the funding agency increases the plan assets. The prepaid (accrued) pension cost is also increased because the journal entry to record the payment of $98,000 involves a debit to pension expense for $96,000 and a debit to prepaid (accrued) pension cost for $2,000.

At the end of 2007, note that the balance in the Prepaid (Accrued) Pension cost account of $12,000 is equal to the balance in the Plan Assets of $193,000, minus the balance in the Projected Benefit Obligation of $218,000, plus the balance in the Unrecognized Prior Service Cost account of $37,000. In its disclosures the company reconciles the plan's funded status (the difference between the fair value of the assets and the projected benefit obligation) to the prepaid (accrued) pension cost as follows:

Fair value of plan assets	$ 193
Projected benefit obligation	(218)
Funded status	$ (25)
Unrecognized prior service cost	37
Prepaid (accrued) pension cost	$ 12

FASB Plans for Revision of Postretirement Accounting

The FASB has announced plans to review all the accounting principles for postretirement benefits. The Board has decided to split the project into two parts. The first revisions are expected by the end of 2006. Among those revisions are expected to be a requirement that a company include a *net* asset or liability (with an offsetting increase or decrease in accumulated other comprehensive income in stockholders'equity) on its balance sheet to reflect the amount by which its pension and other postretirement benefits plans are overfunded or underfunded. In other words, the amount that a company now includes in the disclosures in the notes to its financial statements would be reported on its balance sheet. Changes in the value of the net asset or liability would *not* be included in net income, but would be reported as a component of other comprehensive income. In the second phase, the Board would reconsider most, if not all, aspects of the existing standards for accounting for postretirement benefits. It will coordinate these changes with the IASB.

Conceptual Issues Related to Defined Benefit Pension Plans

6 Explain the conceptual issues regarding pensions.

In their analyses of pension accounting, the APB and the FASB have considered several conceptual issues related to pension expense, prior service cost, pension liabilities, and pension assets. We briefly discuss these conceptual issues in the following sections.[15]

Pension Expense

The first conceptual issue in accounting for pension plans involves the proper amount of pension cost that the employer-company should recognize and when it should report that amount as pension expense on its income statement. *Expenses* are outflows of assets or incurrences of liabilities (during a period) from delivering or producing goods, rendering services, or carrying out other activities that are the company's ongoing major or central operations. Recall also that once a company has assigned revenues to an accounting period, it matches expenses against the revenues by association of cause and effect, systematic and rational allocation, or immediate recognition.

15. This discussion is a brief summary of that presented in "Employers' Accounting for Pensions and Other Postemployment Benefits," *FASB Discussion Memorandum* (Stamford, Conn.: FASB, 1981).

Pension cost may include several components. The primary component of pension cost is the deferred compensation (*service cost*) the employer will pay to employees in the future for their current services. However, since employees' compensation is deferred until retirement, the employees are, in effect, providing a "loan" to the employer. The *interest* on that loan may be a component of pension cost. In addition, an employer generally invests its pension contributions a pension fund with the intent of earning a return on these assets. A possible *negative* component of pension cost is the *return* earned on the pension fund assets. An employer that begins a pension plan or makes modifications in its existing plan may provide additional benefits to employees for *services they performed in previous years*. Part or all of the cost of these previously earned benefits may be a component of pension cost. Finally, unforeseen events related to a pension plan may result in (a) deviations in the current period between actual experience and the assumptions used, and (b) changes in the assumptions about the future. The resulting *gains* and *losses* may be a component of pension cost. Pension expense computed under *FASB Statement No. 87* includes all these components, although some are in a modified form.

Prior Service Cost

Four alternative methods have been suggested for an employer to account for its prior service cost. The first is to account for it prospectively, which is the approach adopted by *FASB Statement No. 87*. This method requires that the cost is expensed in the current and future periods, and that no liability is recorded when the cost arises. It is often argued that this method violates the matching concept because all the services performed by the employees were completed in previous periods. Also, the lack of recognition of a pension obligation is a violation of the concept of a liability.

The second alternative would be for an employer to recognize the total amount as an expense in the period in which it arises (i.e., the current period) and to record a liability. This procedure would also violate the matching concept because the services were performed by the employees in previous periods and not in the current period. It might also tend to dissuade companies from adopting, or changing, pension plans because of the related effect (i.e., decrease) on net income of the current period.

The third alternative would be for an employer to debit retained earnings (as a retrospective period adjustment) and to record a liability. This procedure would violate the all-inclusive income concept because the total amounts would never be included in the income statement. Also, many companies would resist the recording of a liability because of the effect it would have on their debt-to-equity ratios and on similar measures of financial performance.

The fourth alternative would be for an employer to record an intangible asset and liability of equal amounts. Although it is difficult to see how an asset is created by recognizing pension benefits earned by employees in previous periods, the argument is that the employer's decision to improve a pension plan is forward-looking and rational. That is, the employer would accept an increased obligation only if it expected future benefits of at least an equal amount. In this sense, the future economic benefits (intangible asset) should be recognized along with the liability and should be expensed over some future period. Similarly, gains and losses could be accounted for prospectively, currently, as a retrospective adjustment, or as a deferred item.

Pension Liabilities

A second conceptual issue regarding accounting for pension plans involves identifying and recording pension plan liabilities. *Liabilities* are probable future sacrifices of economic benefits arising from present obligations of a company to transfer assets or provide services in the future as a result of past transactions or events. Also, once a liability is identified, it must be measurable to be reported on a company's balance sheet.

Generally, it is agreed that a pension is a form of deferred compensation. An employer's pension obligation may be viewed as an obligation to make contributions to

the plan, or as an obligation to employees for pensions promised. A company cannot know the exact amount of the pension obligation for each employee until the employee (or related beneficiary) dies. Therefore, actuaries can only estimate the amount of the obligation using assumptions about employee turnover, life expectancy, and other variables.

We briefly summarize the five alternatives for meeting the recognition-measurement criteria of a liability that have been identified, as follows:

1. *Contributions Based on an Actuarial Funding Method*. Under this alternative, it is argued that the employer has an obligation to make contributions to the plan rather than directly to employees. In this situation, the employer's liability is based on the actuarial funding method used for funding the plan, in which case the only recorded pension liability would be for contributions due but not yet paid. This is the approach adopted by *FASB Statement No. 87*.
2. *Amount Attributed to Employee Service to Date*. This alternative would be based on the concept that the employer's pension obligation arises as the employees work and that the transaction resulting in the obligation is the employees' service. The pension transaction would be an exchange whereby employees render service for pension benefits (deferred compensation) in addition to current compensation. The resulting obligation for deferred compensation (the projected benefit obligation) would be recorded in a manner similar to current compensation.
3. *Termination Liability*. This alternative would be based on the argument that the employer's obligation should be limited to the amount that it must pay when the plan is terminated. Those disagreeing believe that a company is a going concern and that an assumption of plan termination would be inappropriate unless there is clear evidence to the contrary.
4. *Amount of Vested Benefits*. Under this alternative the employer's obligation would be based on the vested benefits earned by the employees. Nonvested benefits are contingent on and result from future services and, therefore, create a liability only as they become vested in future periods. Those disagreeing believe that vesting is a legal transaction, and that a portion of the nonvested benefits will become vested and, therefore, meet the definition of a liability.
5. *Amount Payable to Retirees*. This alternative is a form of "pay-as-you-go" accounting whereby the employer's liability arises only during the period in which pension benefits will be paid to employees. Under this alternative, the liability would be readily measurable. Those disagreeing believe that this approach is a violation of the accrual concept of accounting.

If one of these alternatives meets the definition of a liability, the amount of the liability must be measurable for the employer to record and report the amount on its balance sheet. Most of the amounts are estimates. If uncertainty is so great that a reasonable estimate cannot be made because of the long-term nature of pension plans, then a liability would not be recorded (although disclosure may be required).

Balance Sheet Presentation of Pension Plan Assets

A third conceptual issue involves the disclosure of assets used in the pension plan. *Assets* are probable future economic benefits obtained or controlled by a company as a result of past transactions or events. As indicated earlier, a company having a pension plan typically makes periodic payments to a funding agency. This agency, then, assumes the responsibility for safeguarding and investing the pension assets (to earn a return on the assets), and for making benefit payments to retired employees. There are two alternative views for accounting by the employer-company for these pension assets.

1. **Funding is a discharge of the pension liability**. This alternative says that the assets of the pension plan held by the funding agency are *not* assets of the employer. The principal reasons are that: (1) the funding agency is a separate legal entity (e.g., a trust)

with legal title to the plan assets; (2) the assets can be used only for the benefit of the employees and retirees, and ordinarily cannot be returned to the employer; (3) the employer's obligation is to make contributions to the funding agency, and the agency pays the actual pension benefits; and (4) the employer's obligation may be limited by termination of the plan. This is the approach adopted by *FASB Statement No. 87*.

2. **The pension liability is not discharged until the retiree receives the pension payment**. This alternative says that the pension plan assets are assets of the employer. The employer remains obligated to provide benefits defined by the plan, and the trust is a legal device controlled by the employer for funding the pension obligation. Although the funding agency holds legal title to the assets, the employer is at risk with regard to the assets and ultimately reaps the rewards of economic ownership of them. If the assets grow, the employer's future contributions will be reduced. If the assets do not grow, or if losses are sustained, future contributions will be increased. If this alternative was adopted it would still need to be decided whether the employer should show the plan assets separately on the asset side of the balance sheet or deduct them from the pension liability.

Additional Aspects of Pension Accounting

7 Understand several additional issues related to pensions.

Several other issues have an impact on some aspects of pension accounting. These include statement of cash flows disclosures, vested benefits, accounting for defined contribution plans, disclosures by funding agencies, the Employee Retirement Income Security Act of 1974, pension settlements and curtailments, termination benefits paid to employees, and multi-employer plans. We briefly discuss each of these topics, along with international accounting differences, in the following sections.

Statement of Cash Flows Disclosures

A company reports the cash it paid to fund its pension plan as a cash outflow in the operating activities section of its statement of cash flows. If a company uses the indirect method to report its operating cash flows, it adds any increase in its accrued pension cost (liability), or any decrease in its prepaid pension cost (asset) to net income in the operating activities section of its statement of cash flows. It subtracts from net income any decrease in its accrued pension cost (liability), or any increase in its prepaid pension cost (asset).

Vested Benefits

Vested benefits are pension benefits earned by employees that are not contingent on future service with the company. That is, the employees will receive retirement benefits based on service to date, even if they terminate employment. ERISA specifies the minimum vesting requirements that companies must follow. A company must disclose the vested portion of the accumulated benefit obligation. Also, the vesting provisions affect calculations made by the company's actuary because it is necessary to estimate the number of employees who will leave before vesting of their pension benefits occurs.

Accounting for Defined Contribution Plans

As we explained earlier, some pension plans are defined contribution plans because the employer-company determines its contribution based on a formula. Therefore, any future benefits paid to retired employees are limited to those that can be provided by the contributions and the earnings on those contributions. A common example is a 401(k) plan. Accounting for defined contribution plans is very straightforward and is specified in *FASB Statement No. 87*.

A company records its pension expense at an amount equal to the contribution that it is required to make in that period. Thus, its journal entry is a debit to Pension Expense and a credit to Cash for the annual contribution. A company recognizes a liability only if the contribution for a given year has not been paid in full.

The company also is required to disclose the following two items:

1. A description of the plan, including employee groups covered, the basis for determining contributions, and the nature and effect of significant matters affecting the comparability of the information for all periods presented.
2. The amount of the pension expense recognized during the period.[16]

Link to Ethical Dilemma

Cloud Nine Airlines provides airline service to most major cities in the continental United States. Due mainly to high fuel costs and the reduced demand for air travel, Cloud Nine has been unable to generate enough cash flow to pay many of its short-term operating costs. Seeking to remedy the situation and keep the airline solvent, the CEO of Cloud Nine has been aggressively pursuing short-term loans from various creditors. However, the airline has nearly exhausted its borrowing capacity, and the CEO is finding it increasingly difficult to find a lender willing to provide the company with the needed cash. In a move to keep the airline solvent, the CEO approached the trustee of the company's defined benefit pension plan, who happened to be an old college friend, and convinced him to loan the company $10,000,000 in cash at the market rate of interest, with the loan secured by Cloud Nine common stock. While this amount represented only 10% of the assets of the pension plan, it was enough cash to keep the airline solvent for the next 12 months.

As the accountant for Cloud Nine, you are in charge of preparing the financial statements and related note disclosures for the current year. Upon reviewing the note disclosure that you prepared related to the pension plan, the CEO is furious. Specifically, he demands that you remove the detailed explanation of the lending arrangement between the airline and the pension plan. The CEO states that the dollar amount of the loan is already reflected in the financial statements as a component of long-term debt, and any further disclosure in the notes is irrelevant to the financial statements. How would you respond to the CEO?

Disclosures by Funding Agencies

A company typically makes its periodic pension plan payments to a funding agency that administers the plan. A funding agency may be a specific corporate trustee or an insurance company. These agencies issue financial statements that summarize the financial aspects of a company's pension plan, aimed primarily toward providing financial information about the pension plan's ability to pay benefits when due. **FASB Statement No. 35** requires that the annual financial statements issued by a funding agency for a company's pension plan include: (1) a financial statement (on an accrual accounting basis) presenting information about the net assets (at fair value) available for benefits at the end of the plan year, (2) a financial statement presenting information about the

16. *FASB Statement No. 87, op. cit.*, par. 65.

changes during the year in the net assets available for benefits, (3) information regarding the actuarial present value of accumulated plan benefits as of either the beginning or the end of the plan year, and (4) information regarding the significant effects of factors affecting the year-to-year change in the actuarial present value of accumulated plan benefits.[17] Although these funding agency financial statements are beyond the scope of this book, the *company* sponsoring the pension plan discloses some of this information in the notes to its financial statements, as we discussed earlier.

Employee Retirement Income Security Act of 1974

The primary purpose of the Employee Retirement Income Security Act of 1974 (ERISA), alternatively known as the *Pension Reform Act of 1974* is to create standards for the operation and maintenance of pension funds. This Act was passed to prevent abuses in the handling of these funds. Also, it attempts to increase the protection given to employees covered by such plans. For example, at the congressional hearings, it was revealed that some companies routinely followed a policy of terminating employees at ages 60 to 62, even though service until age 65 was a requirement for pension eligibility. This practice greatly minimized the company's pension liabilities and deprived these employees of pension income on their retirement.

The *Pension Reform Act of 1974* provides guidelines for employee participation in pension plans, vesting provisions, minimum funding requirements, financial statement disclosure, and the administration of the plan. In addition, the administrators of pension plans are required to file annual reports with the Department of Labor that include a description of the plan and copies of the relevant financial statements.

The Act also created the Pension Benefit Guaranty Corporation (PBGC), an organization that provides benefits to employees covered by plans that have been terminated (usually because of the bankruptcy of the sponsoring company). The PBGC receives an annual fee for every employee covered by a pension plan that is subject to the PBGC. The PBGC can also impose a lien against 30% of the net assets of the company. This lien has the status of a tax lien and, therefore, ranks above the claims of most other creditors. Since the company may be bankrupt, however, this lien may not result in the PBGC receiving many assets.

Pension Plan Settlements and Curtailments

In recent years many companies have either settled (terminated) or reduced (curtailed) their defined benefit pension plans. Some have settled their defined benefit pension plans and substituted defined contribution plans. Others have reduced the benefits to be paid to employees, while continuing the defined benefit pension plans. For example, a company may decide to terminate its pension plan and buy from an insurance company an annuity for each of its employees that provides the same expected benefits during retirement.

FASB Statement No. 88 requires that a company include the net gain or loss from a settlement or curtailment in its net income of the period. When a plan is *settled*, the net gain or loss is the unrecognized net gain or loss that has not been recognized as part of pension expense, as we discussed earlier. When a plan is *curtailed*, the portion of the unrecognized prior service cost associated with the estimated reduced future benefits is a loss. The company combines this amount with any gain or loss from a change in the projected benefit obligation due to the curtailment in order to determine the net gain or loss.[18]

17. "Accounting and Reporting by Defined Benefit Pension Plans," *FASB Statement of Financial Accounting Standards No. 35* (Stamford, Conn.: FASB, 1980), par. 5 and 6.
18. "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits," *FASB Statement of Financial Accounting Standards No. 88* (Stamford, Conn.: FASB, 1985), par. 9–14.

Termination Benefits Paid to Employees

When a company wishes to reduce the size of its work force without firing employees, it may provide special benefits for a period of time to encourage some employees to terminate voluntarily. These benefits may include lump-sum cash payments, payments over future periods, or similar inducements. *FASB Statement No. 88* requires that a company record a loss and a liability for these *termination benefits* when the following two conditions are met:

1. The employee accepts the offer, and
2. The amount can be reasonably estimated.[19]

The amount of the loss includes the amount of any lump-sum payments and the present value of any expected future benefits.

Multi-Employer Plans

In the previous discussion we assumed that the pension plan is a single-employer plan. That is, the plan is maintained by one company for its employees. In contrast, **a multi-employer plan involves two or more unrelated companies in which assets contributed by each company are available to pay benefits to the employees of all the involved companies.** Generally, these plans result from collective-bargaining agreements with unions. Each company recognizes as pension expense the required contribution for the period. In other words, cash basis accounting is used for these plans. This difference in accounting principles results from the difference in the nature of the obligation of the company and the difficulty of obtaining *reliable* information for each separate company.

Link to International Differences

The basic principles of accounting for defined benefit plans under international accounting standards are the same as U.S. principles. However, there are some differences. One is the requirement under international standards to expense prior service costs immediately. A second is that there is no requirement to recognize a minimum liability. It is also important to understand that it is common for foreign governments to provide significantly higher state-funded benefits to retirees. Therefore, pension benefits provided by foreign companies are less likely to have a material effect on their financial statements. In addition, international accounting standards allows defined benefit accounting for multi-employer plans, whereas U.S. standards require such plans to be accounted for on a defined contribution basis.

Secure Your Knowledge 20-2

- Service cost and interest cost (computed as the discount rate multiplied by the projected benefit obligation at the beginning of the period) increase pension expense.
- The expected return (computed as the fair value of the plan assets at the beginning of the period multiplied by the expected long-term rate of return) is a reduction in pension expense. The actual return increases the plan assets.

(continued)

19. *Ibid.*, par. 15.

- The difference between pension expense and the amount funded is recorded in an asset/liability account (prepaid/accrued pension cost).
- If a company grants retroactive benefits to its employees, the prior service cost is amortized into pension expense using either the straight-line method over the average remaining service life of the employees or the years-of-future-service method.
- The excess of an unrecognized gain or loss over a corridor amount (determined as 10% of the greater of the projected benefit obligation or the fair value of the plan assets at the beginning of the period) is amortized into pension expense on a straight-line basis over the average remaining service life of the employees.
- If an additional pension liability is required to be recorded, an intangible asset (deferred pension cost) is recorded to the extent of unrecognized prior service cost, with any excess of the additional pension liability over the unrecognized prior service cost recorded as a negative component of other comprehensive income. This additional pension liability is not amortized but is recomputed and adjusted each year.
- Several conceptual issues arise in accounting for pensions:
  - Any prior service cost is expensed in the current and future periods with no liability being recorded when the cost arises (arguably a violation of the matching concept and the definition of a liability).
  - The employer's pension liability is based on the actuarial funding method used, resulting in the only recorded liability being for contributions due but not yet paid (i.e., the projected benefit obligation is not recorded as a liability) and any additional pension liability.
  - Pension plan assets are not considered assets of the employer.
- Other issues that impact pension accounting include transition requirements, vested benefits, accounting for defined contribution plans, disclosures by funding agencies, the Employee Retirement Income Security Act, pension settlements and curtailments, termination benefits paid to employees, and multi-employer plans.

Other Postemployment Benefits

8 Explain other postemployment benefits (OPEBs).

In addition to providing pensions to their employees, many companies also offer two types of additional benefits. *Postemployment* benefits are provided to former employees after employment but *before* retirement. Under **FASB Statement No. 112,**[20] a company must accrue the cost of these benefits during employment and recognize the amount as an expense and a liability if the four criteria for the recognition of compensated absences defined in *FASB Statement No. 43* are met, as we discussed in Chapter 13. If any one of the criteria is not met, the company records the expense and liability when the liability is probable and the amount can be reasonably estimated, in accordance with the provisions of *FASB Statement No. 5*.

In the rest of this section we discuss *postretirement* benefits, which include all forms of benefits provided to former employees *after* their retirement, other than pensions. For convenience, we use the widely-used acronym, OPEB, for these benefits. Healthcare benefits typically are the most significant of these OPEBs, but some companies also provide dental benefits, eye care, tuition assistance, life insurance, legal services, and financial advisory services. Our discussion focuses on accounting for healthcare benefits because they usually are the largest dollar amount, present the greatest measurement difficulties, and are the most controversial.

When Medicare was first created in the 1960s, many companies decided to offer an additional benefit by agreeing to pay for the medical costs of retirees who were not covered by the federal plan. At that time healthcare costs and the retiree population were relatively small, so management believed that it was providing a valuable benefit to

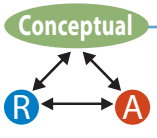
20. "Employers' Accounting for Postemployment Benefits," *FASB Statement No. 112* (Norwalk, Conn.: FASB, 1992).

employees at a low cost. Companies accounted for OPEBs by recording the costs as they were paid. This cash basis accounting was accepted because the liability was thought to be immaterial and because the benefits were considered to be revocable. However, the costs of the plans have increased significantly in recent years because (1) inflation in healthcare costs has significantly exceeded general inflation, (2) Medicare reimbursements have been decreasing, leaving a larger portion to be covered by companies, (3) the number of retired employees has increased both absolutely and relative to the number of current employees as companies have matured (and down-sized) and life expectancies have increased, and (4) many companies have encouraged early retirement and their healthcare programs cover the entire healthcare costs of the retired employees until age 65, when Medicare is available.

In reaction to these changes, the FASB issued **FASB Statement No. 106.**[21] The *Statement* requires that a company accrue the cost of OPEBs during the periods in which its employees earn the benefits. This accounting has had a dramatic impact on the financial statements of many companies, as we discuss later.

Many companies provided OPEBs without computing the long-term costs involved. It is interesting, for example, that companies generally have refused to index *pension* benefits because of the inflation risk involved. However, *healthcare* benefits essentially are indexed because companies have committed to benefits in terms of *services* rather than in terms of a specific dollar amount of those services. Also, healthcare benefits are more egalitarian, because they usually are *not* based on length of service or salary, but rather on some minimum length of service, after which the same benefits are provided equally to every employee. Since pensions and OPEBs are both postemployment benefits, it is helpful to understand their similarities and differences in considering GAAP for OPEBs.

Similarities to and Differences from Pensions



The basic argument that accounting for OPEBs should be similar to the principles used for pensions involves the concept of a liability. Recall that a liability of a company is a probable future sacrifice of economic benefits arising from present obligations of the company to transfer assets or provide services to other entities in the future as a result of past transactions or events. The term "obligations" includes not only legal duties defined in a contract, but also equitable and constructive obligations based on promises or moral responsibility.

Some argue that a company offering OPEBs is essentially providing deferred compensation to employees because the benefits received during retirement were earned during the period of employment. Therefore, the company incurs an obligation as its employees provide services. *FASB Statement No. 106* follows this viewpoint.

Others argue that many OPEBs do not have the same explicit legal contract as a pension agreement, and the obligation of the company to continue to provide benefits is not as clear. In other words, they argue that there is no liability because the company has the right to withdraw the benefits. That is, a company has no obligation for OPEBs until its employees retire, since they must retire to obtain the benefit. However, recent court decisions have not allowed companies to withdraw rights from retired employees, and there are indications that it may be difficult to withdraw rights already earned by current employees. Therefore, the concept of a liability appears to have been satisfied.

Also, if a liability does exist prior to the employees' retirement, it can be argued that it arises only when employees become eligible for the benefits. OPEB plans typically specify a minimum number of years of active service before the employees are eligible for the benefits. Vesting for these plans is "cliff" vesting, because vesting occurs when the requirements are met. A liability would be recorded then and not gradually over a period of years.

21. "Employers' Accounting for Postretirement Benefits Other Than Pensions," *FASB Statement of Financial Accounting Standards No. 106* (Norwalk, Conn.: FASB, 1990).

We summarize the major differences between healthcare OPEBs and pensions in Exhibit 20-3. While the beneficiary of a pension plan is generally the retired employee, a company usually provides OPEBs to the retired employee, spouse, and dependents up to, say, age 21. The pension benefit is defined as a fixed dollar amount that is paid monthly. The OPEB, however, usually is not limited in amount because benefits are paid no matter how long or serious the illness, benefits are paid as used, and the amount of benefits varies geographically. Also, the amount is difficult to predict because of the incidence of new illnesses, such as SARS, and the use of new treatments. Finally, companies fund pension plans because of ERISA requirements, and the contributions are tax-deductible. On the other hand, companies generally do not fund OPEBs because there are no legal requirements and the contributions are *not* tax-deductible.

EXHIBIT 20-3 Major Differences Between Postretirement Healthcare Benefits and Pensions

Item	Pensions	Healthcare
Beneficiary	Retired employee (some residual benefit to surviving spouse)	Retired employee, spouse, and dependents
Benefit	Defined, fixed dollar amount, paid monthly	Not limited, paid as used, varies geographically
Funding	Funding legally required and tax-deductible	Usually not funded because not legally required and not tax-deductible

Accounting Principles

FASB Statement No. 106 requires that companies follow accounting principles for OPEBs that closely parallel those for pensions. (Because we assume that you have studied the discussion of accounting for pensions, this section is simplified. However, it may be helpful to review those principles as we discuss the OPEB principles.)

Two concepts also need to be understood. The **expected postretirement benefit obligation** (*EPBO*) is the actuarial present value on a specific date of the benefits a company expects to pay under the terms of the postretirement benefit plan. The amount is measured based on the benefits that employees will receive after their expected retirement dates. In contrast, the **accumulated postretirement benefit obligation** (*APBO*) is the actuarial present value of the benefits attributed to employee service rendered to a specific date. Prior to an employee's full eligibility date, the APBO is the portion of the EPBO attributed to that employee's service rendered to that date. On or after the full eligibility date, the APBO and EPBO for an employee are the same. Thus, the difference between the EPBO and APBO is that the accumulated amount is based on benefits earned to date. However, the expected amount is based on all benefits expected to be paid to employees. (In comparison, the difference between the projected and accumulated benefit obligation for pensions is the inclusion of expected salary increases in the projected amount.)

OPEB Expense

The net postretirement benefit expense[22] that a company recognizes includes the following components:

1. ***Service Cost.*** The service cost **is the actuarial present value of the expected postretirement benefit obligation attributed to services of the employees during the current period.** Typically, a company provides OPEB benefits on an all-or-nothing basis. That is, benefits are generally not defined in terms of years of service. Therefore, an equal amount of the expected benefits is attributed to each year of

22. The FASB prefers this term to the more commonly used term, OPEB, because other benefits such as layoff benefits may be paid after employment but before retirement.

the attribution period (discussed later). The discount (interest) rate used to calculate the service cost is the rate of return on high-quality fixed-income investments currently available.

2. *Interest Cost*. **The interest cost is the increase in the accumulated postretirement benefit obligation due to the passage of time.** Since the OPEB is a deferred compensation plan in which future payments are discounted to their present values, interest accrues because of the passage of time. Thus, the interest cost is the accumulated postretirement benefit obligation at the beginning of the period multiplied by the discount rate. The interest rate used to calculate the accumulated postretirement benefit obligation is the same rate as that used for the service cost. The interest cost is added to the computation of the postretirement benefit expense.
3. *Expected Return on Plan Assets*. **The expected return on plan assets is the expected increase in the plan assets due to investing activities.** Plan assets are held by the funding agency and include investments in securities such as stocks and bonds, as well as other investments. The expected return is calculated by multiplying the fair value of the plan assets at the beginning of the period by the expected long-term rate of return on plan assets. The rate of return reflects the average rate of earnings expected on the assets invested to provide for the benefits included in the projected benefit obligation. Since OPEBs usually are *not* funded, we do not discuss this component further.
4. ***Amortization of Unrecognized Prior Service Cost*.** The prior service cost is the increase (decrease) in the accumulated postretirement benefit obligation that results from plan amendments (and at the initiation of the plan) and that is not recognized in total in the period granted. **The unrecognized prior service cost is amortized by assigning an equal amount to each remaining year of service until full eligibility for benefits is reached for each plan participant active at the date of amendment.** If all or almost all of a plan's participants are fully eligible for benefits, the prior service cost is amortized instead, based on the remaining life expectancy of the plan participants. Straight-line amortization over the average remaining years of service to full eligibility is also allowed for simplicity. The amortization amount is added (subtracted) in the computation of the postretirement benefit expense if the benefits are increased (decreased).
5. *Gain or Loss*. **Gains and losses are changes in the amount of either the accumulated postretirement benefit obligation resulting from experience different from that assumed, or from changes in assumptions.** Gains and losses may be recognized in the periods in which they occur, or recognition may be delayed. If the company chooses to delay recognition, it includes the amortization of any unrecognized net gain or loss in the postretirement benefit expense of a given year if, at the beginning of the year, the unrecognized net gain or loss exceeds 10% of the greater of the accumulated postretirement benefit obligation or the fair value of the plan assets. If amortization is required, the minimum amortization is the excess divided by the average remaining service period of active plan participants (or if most of the plan participants are retired, over their average remaining life expectancy). The total amount of any gain (loss) recognized is deducted (added) in the computation of the postretirement benefit expense.

Components of OPEB Expense

In summary, the OPEB expense a company reports on its income statement generally includes the following components:

	Service cost
+	**Interest cost**
−	**Expected return on plan assets**
+	**Amortization of unrecognized prior service cost**
±	**Gain or loss**
=	**OPEB Expense**

OPEB Liability or Asset

The *Statement* also addresses the calculation of the OPEB liability or asset because the amount of a company's net postretirement benefit expense to date may be different than the amount it has funded to date. Since a company usually does not fund the plan, it increases a liability, **accrued postretirement benefit cost**, each period by an amount equal to the expense. The company decreases this account by payments made to retired employees. However, in contrast to accounting for pensions, there is *no* provision for recognizing an **additional liability.**

Differences from Accounting for Pensions

You can see from the preceding discussion that the *Statement* requires accounting principles that closely parallel the accounting for pensions. The major differences are:

1. Although the attribution period is defined in the same way, the effect is different because the benefit formulas for most pension plans link benefits to years of service and salary levels. The result is that, for pension plans, the expected retirement date and date of full eligibility are the *same*. For many OPEBs, however, the benefit formula causes the two dates to be *different*. The attribution period for OPEBs generally begins with the date of hire (or the date on which credited service begins) and ends on the date the employee attains eligibility for full benefits. For example, for a plan that provides OPEBs to employees who render 15 years of service after age 35, the attribution (recognition) period is from 35 to 50 and, therefore, ceases prior to the retirement dates of the employees.
2. There is no provision for recognizing a minimum liability and the related intangible asset or component of accumulated other comprehensive income for OPEBs.
3. The interest component of the net postretirement benefit expense is based on the accumulated postretirement benefit obligation. However, the interest component of the pension expense is based on the projected benefit obligation.

FASB Statement No. 132R requires disclosures for OPEBs that are similar to those we discussed earlier for pension plans. In addition, the *Statement* requires disclosures not required for pensions:

1. The assumed healthcare cost trend rates,
2. The effect of a 1% increase and a 1% decrease in the assumed healthcare cost trend rates on the aggregate of the service cost and the interest cost, as well as on the accumulated post-retirement benefit obligation for healthcare benefits,
3. A description of the direction and pattern of change in the assumed healthcare cost trend rates, together with the ultimate trend rate(s) and when that rate is expected to be achieved,
4. If applicable, the amounts and types of securities included in the plan assets and the approximate amount of future benefits covered by insurance contracts,
5. If applicable, the cost of providing special or contractual termination benefits provided during the period and a description of the event, and
6. An explanation of any significant change in the benefit obligation or plan assets not otherwise apparent from the other disclosures.

The *Statement* also establishes some required disclosures in quarterly financial statements that are beyond the scope of the book.

Example: Accounting for OPEBs

9 Account for OPEBs.

We show the basic accounting for OPEBs, using the following simplified example. Assume that the Livingston Company adopts a healthcare plan for retired employees on January 1, 2007. At that time the company has two employees and one retired employee,

as we show in Example 20-8. To determine eligibility for benefits, the company retroactively gives credit to the date of hire for each employee. Based on the information in the exhibit, the company makes the following two journal entries to record the OPEB items at December 31, 2007:

Postretirement Benefit Expense	31,100	
Accrued Postretirement Benefit Cost		31,100

EXAMPLE 20-8 Accrual of Postretirement Healthcare Benefits

Basic Information

- The plan is started on January 1, 2007, and is not funded.
- The discount rate is 10%.
- All employees were hired at age 25.
- All employees become eligible for full benefits at age 55.
- Employee C was paid $1,500 postretirement healthcare benefits in 2007.
- The company elects to use straight-line amortization for any unrecognized prior service cost.

Additional information on January 1, 2007:

Employee	Status	Age	Expected Retirement Age	Accumulated Postretirement Benefit Obligation[a]
A	Employee	40	65	$ 15,000
B	Employee	60	65	60,000
C	Retired	70	—	25,000
				$100,000[b]

a. Actuarially determined at January 1, 2007.
b. This amount is the unrecognized prior service cost.

Computation of Postretirement Benefit Expense for 2007

1. Service cost	$ 1,100[a]
2. Interest cost	10,000[b]
3. Expected return on plan assets	0
4. Amortization of unrecognized prior service cost	20,000[c]
5. Gain or loss	0
6. Amortization of transition obligation	0
	$31,100

a. Actuarially determined based on expected postretirement benefit obligation. Note that there is no service cost for B and C because they have passed the date for full eligibility.
b. Accumulated postretirement benefit obligation at January 1, 2007 × Discount rate, or $100,000 × 10%.
c. $100,000 ÷ 5, or $20,000. Employees A, B, and C have 15, 0, and 0 years of remaining service to the full eligibility date (age 55), respectively. Therefore, the average remaining service period is 15 ÷ 3 = 5 years.

Note: If the company were changing from the cash to the accrual method, the accumulated postretirement benefit obligation of $100,000 would be the transition amount. The company could choose to recognize the amount immediately, or amortize it over 20 years.

The first entry records the expense for the year and, since the plan is not funded, the accompanying liability.

Accrued Postretirement Benefit Cost	1,500	
Cash		1,500

The second entry records the payment of retirement benefits.

Conceptual Evaluation of Accounting for OPEBs

Since *FASB Statement No. 106* is based on accrual accounting, you might expect that it would not be controversial. Instead, several aspects have been questioned by critics.

Relevance and Reliability

10 Explain the conceptual issues regarding OPEBs.

It is easy to argue that accrual accounting is more *relevant* than cash basis accounting because costs are matched as expenses against revenues in the period in which the benefits are earned. For OPEBs, the benefits are earned while the employee is working, not when he or she is retired. Therefore, the *relevance* of a company's income statement is enhanced by inclusion of the OPEB expense. There is relatively little disagreement about the nature of the obligation because of the similarity between the provisions of the *Statement* and the accounting for pensions.

Opposition did arise from companies that implemented the requirements of the *Statement*. In particular, the measurement problems created considerable controversy. The biggest argument is that OPEB costs cannot be measured with sufficient *reliability* to offset the increased relevance because of the numerous assumptions about future events that are required. The measurement of the various amounts used in accounting for OPEBs is even more difficult than for pensions. For example, healthcare plans agree to pay for some or all of a service, the amount and cost of which are unknown. However, pension payments are tied to more predictable variables of length of service and pay levels. Also, healthcare plans require an estimate of such items as the medical-cost trend rate and marital and dependency status during retirement. Furthermore, because of the totally new information that is required, companies were concerned that the costs of implementation would be fairly high and might well exceed the benefits obtained. As a result of these concerns, the FASB included in the *Statement*, for the first time, an extensive discussion of the costs and benefits.

Those who favored the current principles in *FASB Statement No.106* argue that knowledge of these costs is essential for rational decision making by management and that accounting includes many estimates. Also, they argued that this OPEB cost information is useful for lending and investment decisions and that such decisions are never based on certainty. Therefore, they argued that it is better for a company to record the information based on the best estimates and provide disclosures of the subjectivity of the amounts rather than to report only cash payments.

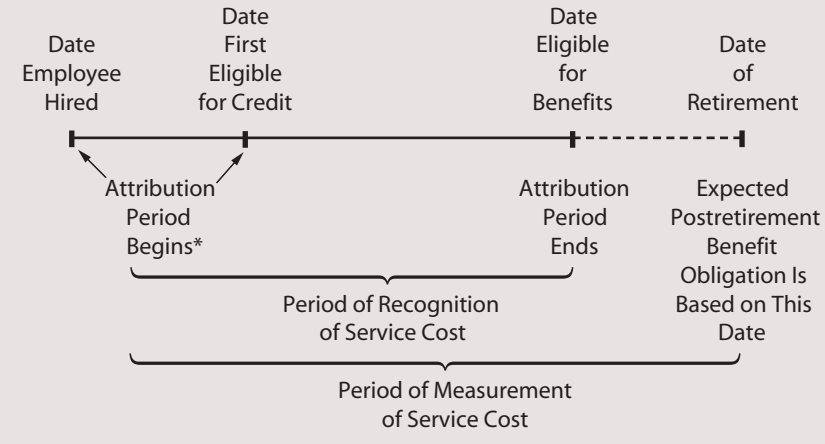
Differences in Funding

As we discussed, there are few differences between pension and OPEB accounting. However, there are some differences in the practical impacts because the OPEB plans generally are not funded. Suppose, for example, that one company has an *unfunded* OPEB plan that is expected to provide exactly the same cash payments to retired employees as a *funded* pension plan of another company. The expense for the OPEB will be higher because the actual return on plan assets is not subtracted. This difference is appropriate because the company with the unfunded OPEB will have to pay more assets in the future. However, the company with the pension plan has already paid the assets into a fund which is earning a return on those assets.

Attribution Period

Attribution is the process of assigning the cost of postretirement benefits to periods of employee service. The attribution period begins with the date of hire or the date that credit for service begins, and ends on the date that the employee is eligible for full benefits, as we show in Exhibit 20-4. Thus, the expected postretirement benefit obligation is attributed to

EXHIBIT 20-4 Attribution Period and Liability Measurement for OPEBs



the periods of employee service until the full eligibility date. However, the measurement of the accumulated postretirement benefit obligation at the full eligibility date is based on the benefits an employee is expected to receive and the expected retirement date. Thus, the attribution (recognition) period and the measurement period are different. Specifically, the period over which a company recognizes the service cost is based only on the period to full eligibility. However, measurement of the service cost is based on the period beyond that date to the expected retirement date.

The decision that the attribution period ends on the date the employee attains full eligibility was adopted by the FASB because it more closely follows the implicit contract between the company and the employee. Since employee service after the date of eligibility does not earn additional OPEB benefits, the FASB reasoned that a company should have recognized the expenses in full by then. However, it can be argued that this alternative follows legal form rather than economic substance, because employers expect employees to render services up to the date of expected retirement rather than only up to the date of full eligibility for the benefits.

Others argue that the attribution period should end at the expected retirement date because the company should recognize the OPEB cost over the entire employment period instead of recognizing only the interest cost after the date of eligibility. This argument is consistent with the basic exchange of retirement benefits for employee service. It follows that the use of this period is more consistent with the measurement of the expected postretirement benefit obligation, which is based on the expected retirement date. This alternative would also lower the annual expense and liability that a company accrues, thereby reducing the impact on its financial statements.

Some accountants suggest that a company should also amortize the prior service costs over the period to the expected retirement date.

Interaction with Deferred Income Taxes

As we discuss in Chapter 19, when a company recognizes a postretirement benefit expense for financial reporting without a related deduction for income tax reporting it creates a temporary deductible difference. OPEBs are one of the primary causes of companies reporting deferred tax assets.

Minimum Liability

As we discussed earlier, in contrast to accounting for pensions, there is no requirement for a company to recognize a minimum liability for OPEBs. The FASB decided that a minimum liability is not required because users can obtain enough information from disclosures in the notes to its financial statements. Also, it may be argued that the only liability of the company is the difference between the expense and the funding if it has no legal obligation to pay postretirement benefits. Therefore, recognition of the minimum liability would be inappropriate. Also, the corresponding intangible asset is conceptually questionable and may not be understood by users. However, it may also be argued that the difference between accounting for pensions and OPEBs is undesirable because the same concept is accounted for in a company's financial statements for pensions and by disclosure in the notes to its financial statements for OPEBs.

The requirement that a company recognize the minimum liability for pensions was based on the belief that most pension plans were adequately funded. The purpose of the minimum liability provision is to identify those relatively rare situations in which the plan is significantly underfunded. In contrast, virtually all OPEB plans are significantly underfunded, and recognition of a minimum liability by companies would not serve to identify exceptions. Instead, a company provides information about the funded status in the notes to its financial statements.

Impacts of the Adoption of FASB Statement No. 106

Adoption of the *Statement* has had two basic effects. One is on the financial statements of companies, and the second *may* be on the retirement benefits offered by companies. As an indication of the effect on the financial statements of companies, **IBM** adopted the new principles in 1991 and reported a cost of $2.26 billion on its income statement and balance sheet. The loss reduced earnings per share by about $4 per share, and IBM recorded its first-ever quarterly loss. Note that there was no impact on its cash flows. The company's cash flow statement included only the cash payments to retired employees (unless funding of the plan occurs). The General Accounting Office has estimated that the total liabilities of all companies to their current and retired employees for retiree health benefits is more than $400 billion.

Although the accounting issues and their impacts on the financial statements of companies are important, the effects of the *Statement* on benefit plans raise some difficult social issues. These effects are more difficult to evaluate because they involve management decisions that, in turn, may be affected by the financial reporting. Many companies have cut back on their coverages of retiree healthcare benefits. For some companies, the *Statement* made them aware of the costs of the benefits they had promised. Others have cut back because of the rising costs of providing health care benefits.

You may think that it is undesirable for companies to reduce benefits. However, you must remember that the *Statement* does not change the benefits promised to the retirees or the cost of the healthcare involved. Most people would argue that it is desirable to force companies to realistically face the costs of their promises and to acknowledge how much they can afford. Then, if necessary, companies should reduce the benefits now rather than face financial difficulty in the future because of their inability to pay costs they have not recognized. However, any cost reductions by companies will raise the costs incurred by other entities, whether it is the individual retirees or the public through state and federal taxation.

Most companies would prefer that the funding of OPEB plans be tax-deductible, but there do not appear to be any plans to lobby Congress for this. Some people may also argue that the principles place U.S. companies at a competitive disadvantage with foreign companies.

A qualitative characteristic of accounting information is *neutrality*. Accounting information is not intended to either encourage or discourage particular decisions, such as the offering of OPEBs, their funding, their tax-deductibility, or their impact on foreign trade.

Instead, its purpose is to provide useful information for those types of decisions. Accrual accounting does not change the nature, extent, or cost of the OPEB promise. However, it does require companies to report the effects of their commitments on their financial statements. This disclosure helps users understand the nature of the OPEB commitments and the ability of companies to fulfill their obligations.

There is a cost attached to implementing the accounting principles for OPEBs. Whether the benefits exceed the costs will, of course, never be known with certainty. However, the FASB, many accountants, many users of financial statements, and many company executives believe that they do.

Secure Your Knowledge 20-3

- Postretirement benefits, or OPEBs, include all forms of benefits paid to former employees after their retirement, other than pensions. The cost of OPEBs is accrued during the periods that the employees earn the benefits by providing service.
- While the accounting for OPEBs is similar to that of pensions, two concepts should be understood:
  - The expected postretirement benefit obligation (EPBO) is the actuarial present value of the benefits a company expects to pay.
  - The accumulated postretirement benefit obligation (APBO) is the actuarial present value of the benefits attributed to employee service rendered to a specific date.
- Similar to pensions, the net postretirement benefit expense consists of service cost, interest cost (discount rate multiplied by the APBO at the beginning of the period), expected return (often zero because many OPEBs are not funded), amortization of prior service cost, and amortization of gain or loss.
- An OPEB liability or asset will be recorded if the amount of the postretirement benefit expense is different than the amount funded; however, in contrast to accounting for pensions, there is no provision for recognizing an additional liability.
- The cost of OPEBs is recognized over the attribution period (generally beginning with the date of hire and ending on the date the employee is eligible for full benefits). However, the APBO at the full eligibility date is measured from the date of hire to the expected retirement date.

Appendix: Example of Present Value Calculations for Defined Benefit Pension Plans

11 Understand present value calculations for pensions.

In this chapter we show various situations related to defined benefit pension plans in examples using assumed amounts. This Appendix explains *how* a company computes the amounts of several key elements. The example involves applying *FASB Statement No. 87* for the Lonetree Company, which adopted a defined benefit pension plan on January 1, 2007. The following are the relevant facts:

1. Number of employees	100
2. Years to retirement at December 31, 2007	30
3. Years of life expectancy after retirement	18
4. Discount rate	10%
5. Benefit formula	Average of last five years' salary × Number of years of service × 0.02
6. Average of last five years' salary (based on expected salary levels)	$90,000 per employee
7. Annual pension benefit earned each year of service by each employee	$90,000 × 0.02 = $1,800

8. Expected long-term (and actual) rate of return on plan assets	8%
9. Amount funded each year	Equal to the annual service cost
10. Date of computation of pension expense and pension funding	December 31 each year

Note that for simplicity we assume all employees are the same age, retire at the same time, and have the same life expectancy after retirement, and that there are no gains or losses. The expected return on plan assets of 8% is less than the discount rate of 10% to create a liability at the time the company records the pension expense and makes the contribution. Example 20-9 shows the computations of the components of pension expense for the Lonetree Company (there is no gain or loss component). We discuss each component of the expense in the following sections.

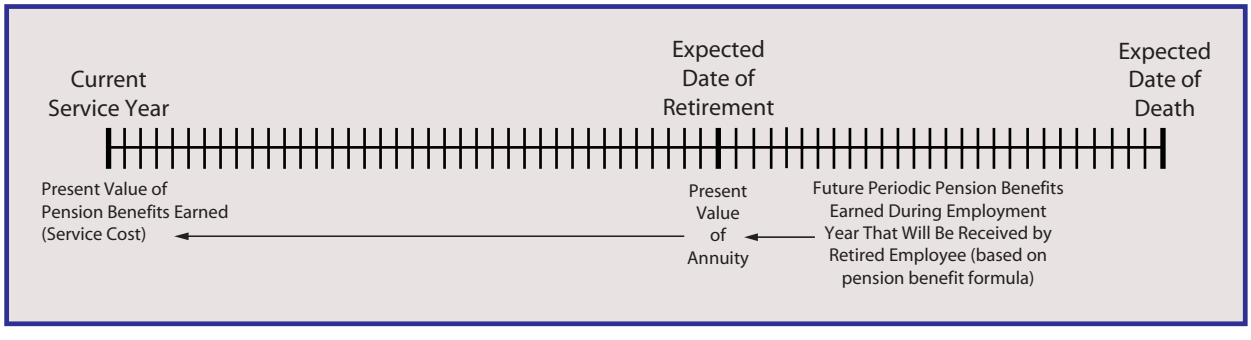
EXAMPLE 20-9 Computation of Pension Expense

Date	Service Cost[a]	Projected Benefit Obligation[b]	Interest Cost[c]	Cash Payment[d]	Plan Assets[e]	Expected (and Actual) Return on Plan Assets[f]	Amortization of Prior Service Cost[g]	Pension Expense[h]
12/31/07	$ 84,603	$ 84,603		$ 84,603	$ 84,603			$ 84,603
12/31/08	93,062	186,123	$ 8,460	93,062	184,433	$ 6,768		94,754
12/31/09	102,368	307,104	18,612	102,368	301,556	14,755		106,225
12/31/10	118,236	472,944	32,246	118,236	443,916	24,124	$548	126,906
12/31/11	130,058	650,292	47,294	130,058	609,487	35,513	548	142,387

a. For current year. Annual benefits earned × present value of annuity for period of retirement × present value of $1 for remaining period of employment. In 2007, $180,000 × present value of annuity for 18 years at 10% × present value of $1 for 30 years at 10%. In each subsequent year the present value of $1 factor is reduced by 1 year. In 2010 the annual benefits earned are increased to $189,000.
b. At end of year. Total benefits earned to date × present value of annuity for period of retirement × present value of $1 for remaining period of employment. In 2007, $180,000 × present value of annuity for 18 years at 10% × present value of $1 for 30 years at 10%. In each subsequent year the benefits are increased by the service cost for that year and the present value of $1 factor is reduced by 1 year. In 2007 the benefits earned to date are increased by the prior service cost.
c. Projected benefit obligation at end of previous year × discount rate, or 10%. In 2007 beginning projected benefit obligation is $307,104 + $15, 355 adjustment due to amendment providing increased benefits to date.
d. Assumed equal to the service cost.
e. Balance at end of previous year + actual return on plan assets + contributions − payments ($0 in this example).
f. Plan assets at the end of previous year × expected long-term rate of return (8%), rounded.
g. Prior service cost ÷ average remaining service life of employees; $15,355 ÷ 28 years, rounded.
h. Service cost + interest cost − return on plan assets + amortization of prior service cost.

Service Cost

The service cost per employee each year is the present value of the future pension benefits earned *that* year by each employee. Under *FASB Statement No. 87*, a company computes this cost using the benefit/years-of-service method. We diagram the computation of the service cost for the current year as follows:



This diagram reads from right to left. Initially, the present value of the future periodic pension benefits earned during the current year is computed as of the expected date of retirement, based on the pension benefit formula, the discount rate, and the retirement period (from the expected date of retirement to the expected date of death).[23] Then, this present value as of the expected retirement date, is discounted back to the current year (based on the discount rate and the remaining years to the date of retirement) to determine the present value of the future pension benefits earned that year. This amount is the service cost for the current year. The equation for calculating the service cost is as follows:

$$\text{Service Cost} = \text{Present Value of Future Pension Benefits Earned by Employees in the Current Period}$$

$$= \text{Annual Benefits Earned} \times \text{Present Value of Annuity for Period of Retirement} \times \text{Present Value of \$1 for Remaining Period of Employment}$$

In our example the future pension benefits earned for each year of service by each employee of the Lonetree Company under the benefit formula is $1,800 ($90,000 × 0.02), as we calculated earlier. These benefits are earned by each of the 100 employees and therefore the company's service cost is based on the $180,000 ($1,800 × 100) of future pension benefits earned each year by the employees. The company expects each employee to receive these amounts each year during the 18 years of retirement.

At the end of 2007 we assume the remaining period of employment to be 30 years. Therefore, the Lonetree Company calculates the service cost in 2007, based on the 10% discount rate, as follows:

$$\text{2007 Service Cost} = \text{Annual Benefits Earned} \times \text{Present Value of Annuity for 18 Years at 10\%} \times \text{Present Value of \$1 for 30 Years at 10\%}$$

$$= \$180{,}000 \times 8.201412 \times 0.057309$$

$$= \$84{,}603 \text{ (rounded)}$$

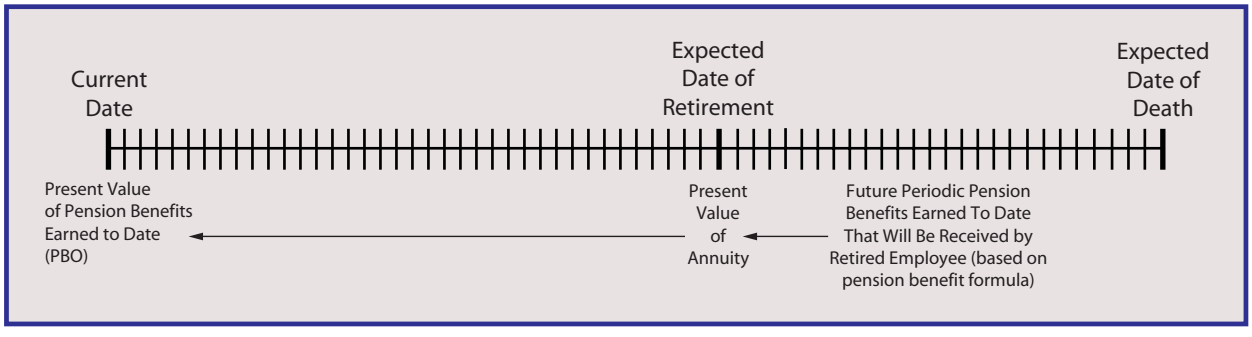
Each year the company makes a similar calculation, but the remaining period of employment decreases. In 2008 the present value of $1 factor for 29 years is used, and in 2009, for 28 years, and so on.[24] The second column of Example 20-9 summarizes the amount of the service cost for each year resulting from this calculation process. Note that the reason for the increase in amounts is that we have assumed, for simplicity, that there is no turnover of employees at the Lonetree Company. A typical company would have employees retiring each year and would be hiring new, younger employees. Thus, the service cost might increase or decrease depending on the characteristics of the particular employees. Note that if the Lonetree Company had selected a discount rate of 8%, the service cost in 2007 would be $167,643 ($180,000 × 9.371887 × 0.099377).

Interest on Projected Benefit Obligation

The projected benefit obligation is the actuarial present value, at a specified date, of all the benefits attributed by the pension benefit formula to employee service rendered prior

23. The present value calculations in this Appendix use factors from the tables in the Time Value of Money Module.
24. As we discuss later, however, note that a change in the pension benefit formula in 2010 increases the annual benefits earned from $180,000 to $189,000. This change causes a corresponding increase (on a present value basis) in the service cost for 2010 and 2011.

to that date. We diagram the computation of the projected benefit obligation (PBO) at a particular date as follows:



This diagram also reads from right to left. The present value of the future periodic pension benefits earned to date is computed as of the expected date of the retirement, based on the pension benefit formula, the discount rate, and the retirement period. Then, this present value as of the expected retirement date, is discounted back to the current date (based on the discount rate and the remaining years to the date of retirement) to determine the present value of the future pension benefits earned to date. This amount is the projected benefit obligation on the current date. Note that this diagram is similar to the one we showed for the service cost, except that it focuses on the projected pension benefits earned *to date*, while the service cost focuses on the future pension benefits earned *in a particular year*. There is a logical relationship between the two amounts, however. This is because the projected benefit obligation is the sum of the service costs to date (considering interest due to the passage of time and assuming there are no prior service costs and no employees have retired). The equation for the calculation of the projected benefit obligation is as follows:

$$\text{Projected Benefit Obligation} = \text{Present Value of Future Pension Benefits Earned by Employees to Date (based on expected salary levels)}$$

$$= \text{Total Benefits Earned} \times \text{Present Value of Annuity for Period of Retirement} \times \text{Present Value of \$1 for Remaining Period of Employment}$$

In our example, at December 31, 2007, the employees have earned pension benefits for *one* year ($90,000 × 1 × 0.02 × 100 employees, or $180,000), and therefore the company calculates the projected benefit obligation as follows:

$$\text{Projected Benefit Obligation, 12/31/07} = \text{Total Benefits Earned} \times \text{Present Value of Annuity for 18 Years at 10\%} \times \text{Present Value of \$1 for 30 Years at 10\%}$$

$$= \$180{,}000 \times 8.201412 \times 0.057309$$

$$= \$84{,}603 \text{ (rounded)}$$

At December 31, 2008 the employees have earned pension benefits for *two* years ($90,000 × 2 × 0.02 × 100 employees, or $360,000), and therefore the projected benefit obligation is:

$$\text{Projected Benefit Obligation, 12/31/08} = \$360{,}000 \times \text{Present Value of Annuity for 18 Years at 10\%} \times \text{Present Value of \$1 for 29 Years at 10\%}$$

$$= \$360{,}000 \times 8.201412 \times 0.063039$$

$$= \$186{,}123 \text{ (rounded)}$$

The third column of Example 20-9 shows the amount of the projected benefit obligation at the end of each year. To determine its pension expense for each year, the Lonetree Company includes the interest cost on the projected benefit obligation. It computes this interest cost by multiplying the projected benefit obligation at the *beginning* of the year by the 10% discount rate, as we show in the fourth column of Example 20-9. Thus, in 2007 there is no interest cost included in pension expense because there was no projected benefit obligation at the beginning of the year. In 2008 the interest cost is $8,460 ($84,603 × 0.10), and the company includes this amount in pension expense.[25] Note that if any retired employees had died during the year, the projected benefit obligation would be decreased by the total of the remaining benefits no longer due the deceased employees.

Expected Return on Plan Assets

The funding of a pension plan must be within the guidelines of ERISA. Since those rules are beyond the scope of the book, in this example we assume that the company funds an amount each year that is equal to the service cost. We also assume that the company makes its annual contribution on December 31 of each year. Therefore, the company makes its first payment of $84,603 to the plan on December 31, 2007, and the funding agency invests this amount in plan assets, such as bonds, stocks, and real estate. The fifth column of Example 20-9 shows the annual contribution (cash payment).

To determine its pension expense for each year, the Lonetree Company subtracts the expected return on its plan assets for that year. In 2007 no return was earned on the plan assets because the company did not make the contribution until the end of the year. In 2008 the company earns an expected return based on the plan assets available at the beginning of the year and held during the year. Thus, if we assume that the plan assets are expected to earn earn 8% per year, the expected return in 2008 is $6,768 ($84,603 × 0.08, rounded). This amount *decreases* the 2008 pension expense. On December 31, 2008 (before the contribution for 2008), the total assets are $91,371 ($84,603 + the actual return of $6,768). The contribution of $93,062 on that date increases the plan assets to $184,433. During 2009 the expected return on the assets is $14,755 ($184,433 × 0.08), which is deducted from the 2009 pension expense. As a result, the total plan assets on December 31, 2009, after the contribution for 2009, are $301,556 ($184,433 + the actual return of $14,755 + the contribution for 2009 of $102,368). The sixth and seventh columns of Example 20-9 show the plan assets and the expected and actual return on plan assets for each year, respectively. Note that if any employees had retired, the plan assets would be reduced each year by the payments made to the retired employees.

Amortization of Unrecognized Prior Service Cost

Prior service cost is the cost of retroactive additional benefits granted by a company in a plan amendment or at the initial adoption of the plan. The cost causes an increase in the company's projected benefit obligation, and the company amortizes the unrecognized prior service cost as a component of its pension expense in later years. For example, assume that on January 1, 2010, the Lonetree Company changes the factor in the benefit formula from 0.02 to 0.021, retroactive to the adoption of the plan. This action creates additional pension benefits for each employee that the company calculates as follows:

$$\begin{aligned}\text{Additional Benefits per Employee} &= \text{Average of Last 5 Years' Salary} \times \text{Number of Years of Service to Date} \times \text{Change in Formula}\\ &= \$90{,}000 \times 3 \times 0.001\\ &= \$270\end{aligned}$$

25. As we discuss later, however, note that an amendment to the pension benefit formula in 2010 causes an increase in the projected benefit obligation. This change causes a corresponding increase in interest cost.

Since the Lonetree Company has 100 employees, the total additional benefits assigned to the employees is $27,000 ($270 × 100 employees). It calculates the prior service cost, which is the present value of those additional benefits, as follows:

$$\text{Prior Service Cost} = \text{Present Value of Additional Pension Benefits Granted by Plan Amendment}$$

$$= \text{Additional Benefits} \times \text{Present Value of Annuity for Period of Retirement} \times \text{Present Value of \$1 for Remaining Period of Employment}$$

Recall that we assumed the life expectancy during retirement to be 18 years and, at the *beginning* of 2010, the remaining period of employment is 28 years. Therefore, the Lonetree Company calculates the prior service cost as follows:

$$\text{Prior Service Cost} = \text{Additional Benefits} \times \text{Present Value of Annuity for 18 Years at 10\%} \times \text{Present Value of \$1 for 28 Years at 10\%}$$

$$= \$27{,}000 \times 8.201412 \times 0.069343$$

$$= \$15{,}355 \text{ (rounded)}$$

The company amortizes the $15,355 unrecognized prior service cost as an element of pension expense in the current and future years. It amortizes its unrecognized prior service cost over the average remaining service life of its employees. Thus, the amortization in each year is $548 ($15,355 ÷ 28, rounded). The eighth column of Example 20-9 shows this amount for each year.

Adjustments of Service Cost and Projected Benefit Obligation

The amendment of the pension benefit formula at the beginning of 2010 causes not only an unrecognized prior service cost, but also an increase in the projected benefit obligation and the service cost for the current and future years. The increase in the service cost causes an increase in pension expense. The increase in the projected benefit obligation also causes an increase in pension expense because of the additional interest cost. Since the company continues to fund an amount equal to the annual service cost, there is no change in the plan assets at the beginning of 2010.

The service cost in 2010 and 2011 that we show in Example 20-9 is based on annual benefits earned of $189,000 ($90,000 × 0.021 × 100 employees), instead of $180,000. Thus, the company computes the 2010 service cost as follows:

$$\text{2010 Service Cost} = \text{Annual Benefits Earned} \times \text{Present Value of Annuity for 18 Years at 10\%} \times \text{Present Value of \$1 for 27 Years at 10\%}$$

$$= \$189{,}000 \times 8.201412 \times 0.076278$$

$$= \$118{,}236 \text{ (rounded)}$$

The company makes a similar calculation in 2011 to determine the $130,058 service cost.

The company must include the present value of the additional benefits granted in the projected benefit obligation. Since the amendment occurred on January 1, 2010, the $307,104 projected benefit obligation on December 31, 2009 in Example 20-9 is not adjusted because it is based on the benefit formula at that time. The 2010 interest cost calculation, however, is based on the adjusted January 1, 2010 projected benefit obligation, which amounts to $322,459 ($307,104 + $15,355 prior service cost). Thus, the 2010 interest cost is $32,246 ($322,459 × 0.10).

The December 31, 2010 projected benefit obligation is based on the total benefits earned to date (after the amendment) and the company calculates it as follows:

$$\begin{aligned}\text{Total Benefits Earned} &= \$90{,}000 \times \text{Number of Years of Service} \times 0.021 \times 100 \text{ Employees}\\ &= \$90{,}000 \times 4 \times 0.021 \times 100\\ &= \$756{,}000\end{aligned}$$

$$\begin{aligned}\text{Projected Benefit Obligation} &= \text{Total Benefits Earned} \times \text{Present Value of Annuity for Period of Retirement} \times \text{Present Value of \$1 for Remaining Period of Employment}\\ &= \$756{,}000 \times \text{Present Value of Annuity for 18 Years at 10\%} \times \text{Present Value of \$1 for 27 Years at 10\%}\\ &= \$756{,}000 \times 8.201412 \times 0.076278\\ &= \$472{,}944 \text{ (rounded)}\end{aligned}$$

The company makes a similar calculation the next year to determine the projected benefit obligation on December 31, 2011 of $650,292.

Pension Expense and Liability

The pension expense each year for the Lonetree Company is the service cost, plus the interest on the projected benefit obligation, minus the expected return on plan assets, plus the amortization of the unrecognized prior service cost. (The gain or loss component does not arise in this example.) The company records any difference between the amount of the pension expense and the amount funded as a prepaid/accrued pension cost liability or asset. The ninth and fifth columns of Example 20-9 show the pension expense and amounts funded for the Lonetree Company, respectively. The journal entry to record the pension expense on December 31, 2007 is as follows:

Pension Expense	84,603	
Cash		84,603

The journal entry to record the pension expense on December 31, 2008 is as follows:

Pension Expense	94,754	
Cash		93,062
Prepaid/Accrued Pension Cost		1,692

The company makes a similar journal entry at the end of each succeeding year, and each year the debit to Pension Expense is greater than the credit to Cash. As a result, the company's pension liability account balance at the end of each year increases as follows:

Prepaid/Accrued Pension Cost (Liability)	
12/31/07	$ 0, or ($84,603 − $84,603)
12/31/08	1,692, or ($0 + $94,754 − $93,062)
12/31/09	5,549, or ($1,692 + $106,225 − $102,368)
12/31/10	14,219, or ($5,549 + $126,906 − $118,236)
12/31/11	26,548, or ($14,219 + $142,387 − $130,058)

In addition to the Prepaid/Accrued Pension Cost, the Lonetree Company must determine whether it needs to record an additional liability at the end of each year. Generally, a company recognizes an additional liability only in situations where it has a large, unrecognized prior service cost or has experienced substantial losses in the investment of its plan assets.

SUMMARY

At the beginning of the chapter, we identified several objectives you would accomplish after reading the chapter. The objectives are listed below, each followed by a brief summary of the key points in the chapter discussion.

1. **Understand the characteristics of pension plans.** A pension plan requires that a company provide income to its retired employees in return for services they provided during their employment. A defined benefit plan states the benefits to be received by employees after retirement or the method of determining such benefits. A defined contribution plan states the employer's contribution, and the future benefits are limited to the amount that can be provided by the contributions and the returns earned on the investment of those contributions.
2. **Explain the historical perspective of accounting for pension plans.** The first authoritative statement on pensions was *Accounting Research Bulletin No. 45* that recommended that companies recognize pension cost on the accrual basis. These principles were superceded by *APB Opinion No. 8* that required the use of the accrual method. These principles were then superceded by *FASB Statement No. 87*, which contains the current measurement and recognition requirements for the pension plans of employers. Accounting and reporting by the funding agency administering the pension plan is defined by *FASB Statement No. 35*. Disclosure requirements for employers' pension plans were established by *FASB Statement No. 87*, but were replaced by *FASB Statement No. 132* and *FASB Statement No.132* (revised 2003).
3. **Explain the accounting principles for defined benefit plans, including computing pension expense and recognizing pension liabilities and assets.** Pension expense includes the service cost, plus the interest cost, minus the expected return on plan assets, plus the amortization of the unrecognized prior service cost, minus or plus the gain or loss, which includes the effects of differences between actuarial assumptions and actual experience. The cumulative difference between the pension expense and funding is recognized as an asset or liability. The minimum total pension liability that a company must recognize is the unfunded accumulated benefit obligation. A company recognizing an additional pension liability may also recognize an intangible asset up to the amount of any unrecognized prior service cost. Any additional amount is recognized as a component of other comprehensive income.
4. **Account for pensions.** Compute the pension expense given the information about the components (e.g., service cost, interest cost). Record the pension expense and funding, and record any difference as an adjustment to prepaid/accrued pension cost. Compute and record any additional pension liability at an amount equal to the unfunded accumulated benefit obligation minus the accrued pension cost (or plus the prepaid pension cost).
5. **Understand disclosures of pensions.** The primary items a company must disclose about its pension plan(s) are listed on p.1005.
6. **Explain the conceptual issues regarding pensions.** The conceptual issues include the proper amount to recognize as pension expense (and when to record it), the identification and measurement of pension liabilities, and the balance sheet presentation of pension plan assets by the company with the pension plan and by the funding agency.
7. **Understand several additional issues related to pensions.** Additional recording and reporting issues include transition requirements when *FASB Statement No. 87* was adopted, vested benefits, defined contribution plans, disclosures by funding agencies, the Employee Retirement Security Act of 1974, pension plan settlements and curtailments, termination benefits paid to employees, multi-employer plans, and international accounting differences.
8. **Explain other postemployment benefits (OPEBs).** Postemployment benefits are paid to employees after employment but before retirement. Postretirement benefits are benefits paid to employees after their retirement, other than pensions. The most important of the OPEBs is healthcare benefits.
9. **Account for OPEBs.** Compute the postretirement benefit expense given information about the components (e.g., service cost and interest cost). Record the postretirement benefit expense and the increase in the accrued postretirement benefit cost (liability) assuming no funding. Record the payment of retirement benefits by decreasing the accrued postretirement benefit cost.
10. **Explain the conceptual issues regarding OPEBs.** The conceptual issues involve the relevance and reliability of the information, differences in funding between pensions and OPEBs, the attribution period, the interaction with deferred income taxes, the lack of a minimum liability recognition, and the impacts on companies of the adoption of *FASB Statement No. 106*.
11. **Understand present value calculations for pensions (Appendix).** Compute the components of the pension expense based on information about the employee (e.g., expected pension benefits and years of retirement) and the funding assumptions (e.g., discount rate). Use present value of annuity and present value of $1 calculations to determine the present values of the pension expense components.

Answers to Real Report Questions

Real Report 20-1 Answers

1. YUM! Brands has noncontributory defined benefit pension plans. These plans are funded by YUM! Brands with no contributions by the employees (noncontributory) and the retirees receive fixed benefits based on a predefined formula.
2. YUM! Brand's pension expense for 2004 was $53 million (the net periodic benefit cost).
3. The actual return on plan assets of $53 million was greater than the expected return of $40 million.
4. At the end of 2004, the accumulated benefit obligation was $629 million and the projected benefit obligation was $700 million. The difference in these amounts is due to the fact that the projected benefit obligation includes projected salary increases while the accumulated benefit obligation is based on current employee salaries.
5. YUM! Brands is in a net liability position. An accrued liability of $111 million exists at the end of 2004. This amount is equal to the unfunded accumulated benefit obligation (accumulated benefit obligation of $629 million minus the fair value of the plan assets of $518 million). Furthermore, at the end of 2004, the projected benefit obligation (the present value of the benefits the company expects to pay) exceeds the fair value of plan assets by $182 million ($700 million − $518 million).
6. The use of a lower discount rate during 2004 would increase the ending balance in the projected benefit obligation, increase the ending balance in the accumulated benefit obligation, increase service cost, decrease the actuarial loss, and decrease interest cost for 2004. However, interest cost in 2005 would be higher (because of the increase in the projected benefit obligation at the end of 2004) relative to the amount that would have been reported if the discount rate were not changed.
7. YUM! Brands has a passive investment strategy with a targeted asset allocation of 70% equity securities and 30% debt securities which consists primarily of investments in mutual funds.

Questions

Q20-1 What is a pension plan? Explain how yearly income of retired employees is determined under a defined benefit pension plan.

Q20-2 Distinguish between a defined benefit pension plan and a defined contribution pension plan.

Q20-3 Distinguish between funded and unfunded pension plans; between contributory and noncontributory pension plans.

Q20-4 What is service cost? How does this differ from prior service cost?

Q20-5 Define *projected benefit obligation*. How does this differ from an accumulated benefit obligation?

Q20-6 In regard to pension plans, define *assumptions*. What is the relationship between a gain or loss and an assumption?

Q20-7 List and briefly define the five components of pension expense according to *FASB Statement No. 87*.

Q20-8 What is a company's accrued pension cost liability and when does it arise? What is a company's prepaid pension cost asset and when does it arise?

Q20-9 When does a company record an additional pension liability for a pension plan?

Q20-10 List the disclosures a company must make for its defined benefit pension plan in accordance with *FASB Statement No. 132* and *132R*.

Q20-11 List the conceptual issues of importance in regard to pension expense.

Q20-12 List the conceptual issues of importance in regard to pension liabilities and pension assets.

Q20-13 List and define the potential components of pension expense.

Q20-14 Conceptually, what are the four possible alternative methods for accounting for the prior service cost that arises from pension plan modifications?

Q20-15 What are the five possible alternative methods of determining the extent of a company's pension plan liability?

Q20-16 What is a defined contribution pension plan and what are the related accounting principles?

Q20-17 What must be included in the annual financial statements issued by a funding agency?

Q20-18 Does *FASB Statement No. 87* specify the minimum amount that a company must pay into its pension fund each year? If not, how is the amount determined?

Q20-19 What is a pension plan settlement? Curtailment? How should the net gain or loss from a settlement or curtailment be accounted for by a company according to *FASB Statement No. 88*?

Q20-20 What are other postemployment benefits? How are they distinguished from postretirement benefits?

Q20-21 List and briefly define the five components of OPEB expense according to *FASB Statement No. 106*.

Q20-22 How does accounting for other postemployment benefits differ from accounting for defined benefit pension plans?

MULTIPLE CHOICE (AICPA Adapted)

Select the best answer for each of the following.

M20-1 The actuarial present value of all the benefits attributed by the pension benefit formula to employee service rendered before a specified date based on expected future compensation levels is the
a. Projected benefit obligation
b. Prior service cost
c. Service cost
d. Accumulated benefit obligation

Items 2, 3, and 4 are based on the following information:

Spath Company adopted a noncontributory defined benefit pension plan on January 1, 2007. Spath Company uses the benefit/years-of-service method, which results in the following information:

	2007	2008
Service cost	$300,000	$450,000
Amount funded	240,000	390,000
Discount rate	10%	10%
Expected rate of return	10%	10%

The fair value of the plan assets at the end of each year exceeded the accumulated benefit obligation.

M20-2 What is the balance of the accrued pension cost as of December 31?

	2007	2008
a.	$ 0	$ 60,000
b.	$60,000	$ 60,000
c.	$60,000	$ 66,000
d.	$60,000	$126,000

M20-3 What is the pension expense for the year ended December 31, 2008?
a. $390,000
b. $426,000
c. $456,000
d. $480,000

M20-4 As of December 31, 2008, what is the balance in the pension plan asset fund?
a. $456,000
b. $630,000
c. $654,000
d. $840,000

M20-5 Which of the following is not a component of pension expense?
a. Amount funded
b. Service cost
c. Expected return on plan assets
d. Interest cost

M20-6 Davison Company has a noncontributory defined benefit pension plan for its employees. During 2007 the pension plan has a discount rate of 8%, service cost of $98,000, plan assets as of 1/1/07 of $432,000, and an expected return on plan assets of $34,560. On December 31, 2007 the company contributed $90,000 to the pension plan, resulting in a credit to Prepaid/Accrued Pension Cost of $6,300. What is the amount of the projected benefit obligation on January 1, 2007?
a. $332,000
b. $345,600
c. $410,750
d. $432,000

M20-7 On January 1, 2007 the Soloman Company changes the factor in the benefit formula from 0.02 to 0.022, retroactive to the adoption of the plan. The amendment will result in a(an)
a. Decrease in projected benefit obligation
b. Increase in service cost
c. Decrease in pension expense
d. Increase in plan assets

M20-8 The McCollum Company amended its noncontributory defined benefit pension plan at the beginning of 2004. The unrecognized prior service cost related to this amendment amounts to $240,000. Information regarding the four participating employees is as follows:

Employee	Expected to Retire After
A	Year 1
B	Year 2
C	Year 4
D	Year 5

Using the straight-line method, what is the amount of unrecognized prior service cost to be amortized in 2007?
a. $0
b. $40,000
c. $60,000
d. $80,000

M20-9 *FASB Statement No. 88* requires that a company record a loss and a liability for termination benefits paid to employees when

a. The employee accepts the offer
b. The amount can be reasonably estimated
c. The employee accepts the offer or the amount can be reasonably estimated
d. The employee accepts the offer and the amount can be reasonably estimated

M20-10 *FASB Statement No. 132R* requires a company with a defined benefit pension plan to make all of the following disclosures except

a. The amount of the pension expense, showing each of the components separately
b. The estimates of contributions for the next five years
c. The funded status of the plan
d. The discount rate

EXERCISES

E20-1 ***Pension Expense*** The Bailey Company has had a defined benefit pension plan for several years. At the end of 2007 the company's actuary provided the following information for 2007 regarding the pension plan: (1) service cost, $115,000; (2) expected return on plan assets, $14,000; (3) amortization of unrecognized net loss, $2,000; (4) interest cost on projected benefit obligation, $16,000; and (5) amortization of unrecognized prior service cost, $4,000. The company decides to fund an amount at the end of 2007 equal to its pension expense.

Required
Compute the amount of Bailey Company's pension expense for 2007 and prepare the related journal entry.

E20-2 ***Pension Expense*** On December 31, 2007 the Robey Company accumulated the following information for 2007 in regard to its defined benefit pension plan:

Service cost	$105,000
Interest cost on projected benefit obligation	12,000
Expected return on plan assets	11,000
Amortization of unrecognized prior service cost	3,000
Amortization of unrecognized net gain	1,000

On its December 31, 2006 balance sheet, the company had reported a prepaid/accrued pension cost liability of $14,000.

Required
1. Compute the amount of Robey Company's pension expense for 2007.
2. Prepare the journal entry to record Robey's 2007 pension expense if it funds the pension plan in the amount of: (a) $108,000, (b) $100,000, and (c) $112,000.

E20-3 ***Interest Cost and Return on Assets*** On December 31, 2007 the Palmer Company determined that the 2007 service cost on its defined benefit pension plan was $120,000. At the beginning of 2007 Palmer Company had pension plan assets of $520,000 and a projected benefit obligation of $600,000. Its discount rate (and expected long-term rate of return on plan assets) for 2007 was 10%. There are no other components of Palmer Company's pension expense; the company had a prepaid/accrued pension cost liability at the end of 2006.

Required
1. Compute the amount of Palmer Company's pension expense for 2007.
2. Prepare the journal entry to record Palmer's 2007 pension expense if it funds the pension plan in the amount of: (a) $128,000, and (b) $120,000.

E20-4 ***Pension Expense Different Than Funding: One Year*** The Verna Company has had a defined benefit pension plan for several years. At the end of 2007 the company accumulated the following information: (1) service cost for 2007, $127,000; (2) projected benefit obligation, 1/1/2007, $634,000; (3) discount rate, 9%; (4) plan assets, 1/1/2007, $589,000; and (5) expected long-term rate of return on plan assets, 9%. There are no other components of Verna Company's pension expense; the company had a prepaid/accrued pension cost liability at the end of 2006. The company contributed $128,000 to the pension plan at the end of 2007.

Required
Compute the amount of Verna Company's pension expense for 2007 and prepare the related journal entry.

E20-5 ***Pension Expense Different Than Funding: Multiple Years*** Baron Company adopted a defined benefit pension plan on January 1, 2006. The following information pertains to the pension plan for 2007 and 2008:

	2007	2008
Service cost	$160,000	$172,000
Projected benefit obligation (1/1)	120,000	289,600
Plan assets (1/1)	120,000	279,600
Company contribution (funded 12/31)	150,000	160,000
Discount rate	8%	8%
Expected long-term (and actual) rate of return on plan assets	8%	8%

There are no other components of Baron Company's pension expense.

Required

1. Compute the amount of Baron Company's pension expense for 2007 and 2008.
2. Prepare the journal entries to record the pension expense for 2007 and 2008.

E20-6 ***Determination of Projected Benefit Obligation*** Several years ago the Lewad Company established a defined benefit pension plan for its employees. The following information is available for 2007 in regard to its pension plan: (1) discount rate, 10%; (2) service cost, $142,000; (3) plan assets (1/1), $659,000; and (4) expected return on plan assets, $65,900. There is no amortization of unrecognized prior service cost and there is no gain or loss. On December 31, 2007, the company contributed $140,000 to the pension plan, resulting in a credit to Prepaid/Accrued Pension Cost of $8,200.

Required

Compute the amount of Lewad Company's projected benefit obligation on January 1, 2007.

E20-7 ***Pension Expense Different Than Funding: Multiple Years*** Carli Company adopted a defined benefit pension plan on January 1, 2006, and funded the entire amount of its 2006 pension expense. The following information pertains to the pension plan for 2007 and 2008:

	2007	2008
Service cost	$200,000	$215,000
Projected benefit obligation (1/1)	180,000	396,200
Plan assets (1/1)	180,000	406,400
Company contribution (funded 12/31)	212,000	220,000
Discount rate	9%	9%
Expected long-term (and actual) rate of return on plan assets	8%	8%

There are no other components of Carli Company's pension expense.

Required

1. Compute the amount of Carli Company's pension expense for 2007 and 2008.
2. Prepare the journal entries to record the pension expense for 2007 and 2008

E20-8 ***Unrecognized Prior Service Cost*** On January 1, 2007 the Smith Company adopted a defined benefit pension plan. At that time the company awarded retroactive benefits to its employees, resulting in an unrecognized prior service cost that created a projected benefit obligation of $1,250,000 on that date. The company decided to amortize the unrecognized prior service cost by the straight-line method over the 20-year average remaining service life of its active participating employees. The company's actuary has also provided the following additional information for 2007 and 2008: (1) Service cost: 2007, $147,000; 2008, $153,000; (2) expected return on plan assets: 2008, $34,000; and (3) projected benefit obligation: 1/1/2008, $1,522,000. The discount rate was 10% in both 2007 and 2008. The company contributed $340,000 and $350,000 to the pension fund at the end of 2007 and 2008, respectively. There are no other components of Smith Company's pension expense; ignore any additional pension liability.

Required 

1. Compute the amount of Smith Company's pension expense for 2007 and 2008.
2. Prepare the journal entries to record the pension expense for 2007 and 2008.

E20-9 ***Straight-Line Amortization*** At the beginning of 2007 the Brent Company amended its defined benefit pension plan. The amendment entitled five active participating employees to receive increased future benefits based on their prior service.

The company's actuary determined that the unrecognized prior service cost for this amendment amounts to $330,000. Employee A is expected to retire after one year, employee B after two, employee C after three, employee D after four, and employee E after five years.

Required
Using the straight-line method, (1) compute the average remaining service life, and (2) prepare a schedule to amortize the unrecognized prior service cost.

E20-10 ***Years-of-Future-Service Amortization*** Refer to the information provided in E20-9.

Required
Using the years-of-future-service method, prepare a set of schedules to determine (1) the amortization fraction for each year, and (2) the amortization of the unrecognized prior service cost.

E20-11 ***Methods to Amortize Unrecognized Prior Service Cost*** Wolz Company, a small business, has had a defined benefit pension plan for its employees for several years. At the beginning of 2007 the company amended the pension plan; this amendment provides for increased benefits based on services rendered by certain employees in prior periods. The company's actuary has determined that the related unrecognized prior service cost amounts to $140,000. The company has four participating employees who are expected to receive the increased benefits. The following is a schedule identifying the employees and their expected years of future service:

Employee Numbers	Expected Years of Future Service
1	2
2	3
3	4
4	5

Required
1. Using the straight-line method, (a) compute the average remaining service life, and (b) prepare a schedule to amortize the unrecognized prior service cost.
2. Using the years-of-future-service method instead, prepare a set of schedules to determine (a) the amortization fraction for each year, and (b) the amortization of the unrecognized prior service cost.

E20-12 ***Net Gain or Loss*** Lee Company has a defined benefit pension plan. During 2006, for the first time, the company experienced a difference between its expected and actual projected benefit obligation. At the beginning of 2007 the company's actuary accumulated the following information:

Unrecognized net loss (1/1/2007)	$ 44,000
Actual projected benefit obligation (1/1/2007)	228,000
Fair value of plan assets (1/1/2007)	260,000

On December 31, 2007, the company is in the process of computing the net gain or loss to include in its pension expense for 2007. The company has determined that the average remaining service life of its employees is nine years. There was no difference between the company's expected and actual return on plan assets in 2007.

Required
Compute the amount of the net gain or loss to include in the pension expense for 2007. Indicate whether it is an addition to or a subtraction from pension expense.

E20-13 ***Net Gain or Loss*** The actuary of the Hudson Company has provided the following information concerning the company's defined benefit pension plan at the end of 2007:

Fair value of plan assets (1/1/2007)	$350,000
Actual projected benefit obligation (1/1/2007)	360,000
Expected projected benefit obligation (1/1/2007)	424,000
Average remaining service life of employees	10 years

The difference between the actual and expected projected benefit obligation first occurred in 2006.

Required

1. Compute the amount of the unrecognized gain or loss for the Hudson Company's pension plan at the beginning of 2007.
2. Compute the amount of the net gain or loss to include in the Hudson Company's pension expense for 2007. Indicate whether it is an addition to or a subtraction from pension expense.

E20-14 ***Additional Pension Liability*** Derosa Company has a defined benefit pension plan for its employees. Prior to 2007 the company has not had an additional pension liability. At the end of 2007 the company's actuary developed the following information regarding its pension plan:

Projected benefit obligation	$1,429,000
Accumulated benefit obligation	987,000
Plan assets (fair value)	852,000
Unrecognized prior service cost	200,000

Required 

1. Calculate the additional pension liability required at the end of 2007 and prepare the appropriate journal entry, assuming that the company had a prepaid/accrued pension cost (liability) of $73,000 before considering the preceding information.
2. Repeat Requirement 1 assuming, instead, that the company had a prepaid/accrued pension cost (asset) of $46,000.
3. Indicate how the liability and asset in Requirement 2 would be disclosed on the 2007 ending balance sheet.

E20-15 ***Accounting for an OPEB Plan*** On January 1, 2007 Flash and Dash Company adopted a healthcare plan for its retired employees. To determine eligibility for benefits, the company retroactively gives credit to the date of hire for each employee. The following information is available about the plan:

Service cost	$ 30,000
Accumulated postretirement benefit obligation (1/1/07)	100,000
Accumulated postretirement benefit obligation for employees fully eligible to receive benefits (12/31/07)	40,000
Expected return on plan assets	0
Unrecognized prior service cost	12,000
Payments to retired employees during 2007	5,000
Interest rate	10%
Average remaining service period of active plan participants (1/1/07)	12 years

Required

1. Compute the OPEB expense for 2007 if the company uses the average remaining service life to amortize the unrecognized prior service cost.
2. Prepare all the required journal entries for 2007 if the plan is not funded.

E20-16 ***Pension Plan Present Value Calculations (Appendix)*** The Ark Company adopted a defined benefit pension plan for its employees on January 1, 2007. All its employees are the same age, retire at the same time, and have the same life expectancy after retirement. The company decided to compute its pension expense on December 31 of each year; it also decided to fund an amount on that date equal to the year's service cost. The following is a listing of other relevant facts:

Annual pension benefits earned by all employees for each year of service*	$100,000
Years to retirement (at end of 2007)	20
Years of life expectancy after date of retirement	15
Discount rate	9%
Expected long-term (and actual) rate of return on plan assets	8%

*Paid at end of each year

For the years 2007 through 2009 the company experienced no net gain or loss and did not have an additional pension liability in regard to the pension plan.

Required

1. Prepare a schedule to compute the Ark Company's pension expense for 2007 through 2009. Round to the nearest dollar.
2. Prepare the year-end journal entries to record the company's pension expense for 2007 through 2009.

PROBLEMS

P20-1 ***Components of Pension Expense*** The Nelson Company has a defined benefit pension plan for its employees. At the end of 2007 and 2008 the following information is available in regard to this pension plan:

	2007	2008
Expected return on plan assets	$ 27,000	$ 28,000
Amortization of unrecognized net gain	3,000	—
Amortization of unrecognized net loss	—	4,000
Amortization of unrecognized prior service cost	7,000	6,000
Company contribution (funded 12/31)	200,000	240,000
Interest cost on projected benefit obligation	32,000	35,000
Service cost	211,000	217,000

There are no other components of Nelson Company's pension expense in either year; ignore any additional pension liability.

Required

1. Compute the amount of Nelson Company's pension expense in 2007 and 2008.
2. Prepare the December 31 journal entry to record the pension expense in 2007 and 2008.
3. What is the total prepaid/accrued pension cost at the end of 2007, assuming no prepaid/accrued pension cost existed prior to 2007? Is it an asset or a liability?

P20-2 ***Pension Expense Different Than Funding*** On January 1, 2007 the Parkway Company adopted a defined benefit pension plan. At that time, the company awarded retroactive benefits to its employees, resulting in an unrecognized prior service cost of $2,180,000 on that date. The company decided to amortize these costs by the straight-line method over the 16-year average remaining service life of its active participating employees. The company's actuary and funding agency have also provided the following additional information for 2007 and 2008:

	2007	2008
Service cost	$ 340,000	$ 348,000
Projected benefit obligation (1/1)	2,180,000*	$2,738,000
Plan assets (1/1)	-0-	670,000
Discount rate	10%	10%
Expected long-term (and actual) rate of return on plan assets	—	9%

*Due to the unrecognized prior service cost

The company contributed $670,000 and $700,000 to the pension fund at the end of 2007 and 2008, respectively. There are no other components of Parkway Company's pension expense; ignore any additional pension liability.

Required

1. Compute the amount of Parkway Company's pension expense for 2007 and 2008.
2. Prepare the December 31 journal entry to record the pension expense for 2007 and 2008.
3. What is the total prepaid/accrued pension cost at the end of 2008? Is it an asset or a liability?

P20-3 ***Pension Expense Different Than Funding*** When Turner Company adopted its defined benefit pension plan on January 1, 2007, it awarded retroactive benefits to its employees. These retroactive benefits resulted in an unrecognized prior service cost of $980,000 that created a projected benefit obligation of the same amount on that date. The company decided to amortize the unrecognized prior service cost using the years-of-future-service method. The company's actuary and funding agency have provided the following additional information for 2007 and 2008: (1) service cost: 2007, $187,000; 2008, $189,000; (2) plan assets: 1/1/2007, $0; 1/1/2008, $342,000; (3) expected long-term (and actual) rate of return on plan assets: 2008, 9%; (4) discount rate for both 2007 and 2008: 8%; and (5) amortization fraction for unrecognized prior service cost: 2007, 80/980; 2008, 79/980. The company contributed $342,000 and $336,000 to the pension fund at the end of 2007 and 2008, respectively. No retirement benefits were paid in either year. There are no other components of Turner Company's pension expense; ignore any additional pension liability. The company rounds its calculations to the nearest dollar.

Required

Prepare a pension plan worksheet that includes the calculation of the Turner Company's pension expense for 2007 and 2008, the reconciliation of the beginning and ending projected benefit obligation for 2007 and 2008, the reconciliation of the beginning and ending plan assets for 2007 and 2008, and the journal entry to record the pension expense at the end of 2007 and 2008, indicating whether each component is a debit or credit.

P20-4 ***Pension Expense Different Than Funding*** The Lane Company was incorporated in 1998. Because it had become successful, the company established a defined benefit pension plan for its employees on January 1, 2007. Due to the loyalty of its employees, the company granted retroactive benefits to them. These retroactive benefits resulted in $1,240,000 of unrecognized prior service cost on that date. The company decided to amortize these costs using the years-of-future-service method. The company's actuary and funding agency have provided the following additional information for 2007 and 2008:

	2007	2008
Expected long-term (and actual) rate of return on plan assets	—	9%
Amortization fraction for unrecognized prior service cost	48/620	46/620
Discount rate	9%	9%
Plan assets (1/1)	$ -0-	$ 690,000
Projected benefit obligation (1/1)	1,240,000*	1,814,600
Service cost	463,000	475,000

*Due to the unrecognized prior service cost

The company contributed $690,000 and $650,000 to the pension fund at the end of 2007 and 2008, respectively. No retirement benefits were paid in 2007. There are no other components of Lane Company's pension expense; ignore any additional pension liability. The company rounds its calculations to the nearest dollar.

Required

1. Compute the amount of Lane Company's pension expense for 2007 and 2008.
2. Prepare the December 31 journal entry to record the pension expense for 2007 and 2008.
3. What is the total prepaid/accrued pension cost at the end of 2008? Is it an asset or a liability?
4. Prepare a schedule that reconciles the beginning and ending amounts of the projected benefit obligation for 2007.

P20-5 ***Pension Expense Different Than Funding*** The Carpenter Company adopted a defined benefit pension plan for its employees on January 1, 2007. At the time of adoption the pension contract provided for retroactive benefits for the company's active participating employees. These retroactive benefits resulted in an unrecognized prior service cost of $1,860,000 that created a projected benefit obligation of the same amount on that date. The company decided to amortize the unrecognized prior service cost by the straight-line method over the 20-year average remaining service life of the employees. The following additional information is also available for 2007 and 2008: (1) discount rate for both 2007 and 2008: 8%; (2) company contribution (funded 12/31): 2007, $550,000; 2008, $510,000; (3) expected long-term rate of return on plan assets: 9%; (4) actual rate of return on plan assets, 10%; (5) service cost: 2007, $257,000; 2008, $264,000; and (6) plan assets: 1/1/2007, $0. The company paid pension benefits of $30,000 each year. There are no other components of Carpenter Company's pension expense; ignore any additional pension liability.

Required

Prepare a pension plan worksheet that includes the calculaion of the Carpenter Company's pension expense for 2007 and 2008, the reconciliation of the beginning and ending projected benefit obligation for 2007 and 2008, the reconciliation of the beginning and ending plan assets for 2007 and 2008, and the journal entry to record the pension expense at the end of 2007 and 2008, indicating whether each component is a debit or credit.

P20-6 ***Amortization of Unrecognized Prior Service Cost*** On January 1, 2007 the Baznik Company adopted a defined benefit pension plan. At that time the company awarded retroactive benefits to certain employees. These retroactive benefits resulted in an unrecognized prior service cost of $1,200,000 on that date. The company has six participating employees who are expected to receive the retroactive benefits. Following is a schedule that identifies the participating employees and their expected years of future service as of January 1, 2007:

Employee	Expected Years of Future Service
A	1
B	3
C	4
D	5
E	5
F	6

The company decided to amortize the unrecognized prior service cost to pension expense using the years-of-future-service method. The following are the amounts of the components of Baznik Company's pension expense, in addition to the amortization of the unrecognized prior service cost for 2007 and 2008:

	2007	2008
Service cost	$469,000	$507,000
Interest cost on projected benefit obligation	108,000	159,930
Expected return on plan assets	—	85,000

The company contributed $850,000 and $830,000 to the pension fund at the end of 2007 and 2008, respectively. Ignore any additional pension liability.

Required

1. Prepare a set of schedules for the Baznik Company to determine (a) the amortization fraction for each year, and (b) the amortization of the unrecognized prior service cost.
2. Prepare the journal entries to record the pension expense for 2007 and 2008.

P20-7 ***Net Gain or Loss*** For several years, Kent Company has had a defined benefit contribution plan for its employees. During those years the company experienced differences between its expected and actual projected benefit obligation. These differences resulted in a cumulative net gain or loss at the beginning of each subsequent year. The following schedule summarizes the amounts related to the preceding information for the years 2007 through 2009:

Year	Cumulative Unrecognized Net Loss (Gain)[a]
2007	$25,000
2008	26,000
2009	36,500

a. At beginning of year

The company's actuary and funding agency have also provided the following information about the company's actual projected benefit obligation and fair value of plan assets at the beginning of each year:

Year	Projected Benefit Obligation	Plan Assets
2007	$220,000	$200,000
2008	275,000	270,000
2009	320,000	325,000

The company amortizes any excess unrecognized gain or loss by the straight-line method over the average remaining service life of its active participating employees. Because of a consistent pattern of employee hirings and retirements, this average service life has remained at 20 years for 2007 through 2009.

Required

Prepare a schedule to compute the amount of the net gain or loss to include in the Kent Company's pension expense for 2007 through 2009. Indicate whether the gain or loss is added to or subtracted from the pension expense.

P20-8 ***Additional Pension Liability*** In the Fisk Company's negotiations with its employees' union on January 1, 2007, the company agreed to an amendment which substantially increased the employee benefits based on services rendered in prior periods. This resulted in an $80,000 unrecognized prior service cost that increased both the projected benefit obligation and the accumulated benefit obligation of the company. Due to financial constraints the company decided not to fund the total increase in its pension obligation at that time.

Prior to 2007 it had been the company's policy to fund enough of its pension expense each year so that the fair value of the plan assets at the end of the year was greater than the year-end accumulated benefit obligation. As a result the company reported a prepaid/accrued pension cost liability of $40,000 on its December 31, 2006 balance sheet.

The company appropriately amortized the unrecognized prior service cost as a component of pension expense in 2007 and 2008. The resulting pension and other information for 2007 and 2008 are as follows:

Year	Pension Expense	Company Contribution[a]	Accumulated Benefit Obligation[b]	Fair Value of Plan Assets[b]
2007	$137,000	$125,000	$562,000	$500,000
2008	145,000	160,000	682,000	637,000

a. Funded December 31

b. At year-end

Required

1. Prepare the December 31, 2007 journal entries related to the Fisk Company's pension plan.
2. List the amounts of any assets and liabilities to be reported on the company's December 31, 2007 balance sheet.
3. Prepare the December 31, 2008 journal entries related to the Fisk Company's pension plan.
4. List the amounts of any assets and liabilities to be reported on the company's December 31, 2008 balance sheet.

P20-9 ***Determination of Pension Plan Amounts*** Various pension plan information of the Kerem Company for 2007 and 2008 is as follows:

	2007	2008
Service cost	$100,000	(j)
Interest cost on projected benefit obligation	54,000	(g)
Accumulated benefit obligation, 12/31	(f)	(l)
Discount rate	9%	9%
Amortization of unrecognized prior service cost	4,000	4,000
Plan assets (fair value), 1/1*	500,000	615,000
Projected benefit obligation, 1/1	(a)	720,000
Deferred pension cost, 12/31	3,000	(k)
Expected long-term rate of return on plan assets	(b)	11%
Amortization of unrecognized net loss	(d)	700
Additional pension liability, 12/31	3,000	5,000
Accrued pension cost (liability), 12/31	17,000	26,000
Average service life of employees	10 years	10 years
Pension expense	(e)	110,850
Cumulative unrecognized net loss, 1/1	68,000	(i)
Expected return on plan assets	50,000	(h)
Corridor	(c)	72,000

* 1/1/2009: $740,000

Required

Fill in the blanks lettered (a) through (l). All the necessary information is listed. It is not necessary to calculate your answers in alphabetical order.

P20-10 ***Comprehensive*** The Jay Company has had a defined benefit pension plan for several years. At the beginning of 2007 the company amended the plan; this amendment provided for increased benefits to employees based on services rendered in prior periods. The unrecognized prior service cost related to this amendment totaled $88,000; as a result, both the projected and accumulated benefit obligation increased.

The company decided not to fund the increased obligation at the time of the amendment, but rather to increase its periodic year-end contributions to the pension plan. In the past the company has never had an additional pension liability at year-end.

The following information for 2007 has been provided by the company's actuary and funding agency, and obtained from a review of its accounting records:

Accumulated benefit obligation (12/31)	$740,000
Service cost	183,000
Discount rate	9%
Cumulative unrecognized net loss (1/1)	64,500
Company contribution to pension plan (12/31)	200,000
Projected benefit obligation (1/1)*	513,000
Plan assets, fair value (12/31)	728,000
Prepaid pension cost (asset) (1/1)	31,500
Expected (and actual) return on plan assets	48,000
Plan assets, fair value (1/1)	480,000

*Before the increase of $88,000 due to the unrecognized prior service cost from the amendment

The company decided to amortize the unrecognized prior service cost and any excess cumulative unrecognized net loss by the straight-line method over the average remaining service life of the participating employees. It has developed the following schedule concerning these 50 employees:

Employee Numbers	Expected Years of Future Service*	Employee Numbers	Expected Years of Future Service*
1–5	2	26–30	12
6–10	4	31–35	14
11–15	6	36–40	16
16–20	8	41–45	18
21–25	10	46–50	20

*Per employee

Required

1. Compute the average remaining service life and prepare a schedule to determine the amortization of the unrecognized prior service cost of the Jay Company for 2007.
2. Prepare a schedule to compute the net gain or loss component of pension expense for 2007.
3. Prepare a schedule to compute the pension expense for 2007.
4. Prepare a schedule to determine the additional pension liability (if any) at the end of 2007.
5. Prepare all the December 31, 2007 journal entries related to the pension plan.

P20-11 ***Comprehensive*** The TAN Company has a defined benefit pension plan for its employees. The plan has been in existence for several years. During 2006, for the first time, the company experienced a difference between its expected and actual projected benefit obligation. This resulted in a cumulative unrecognized loss of $29,000 at the beginning of 2007, which did not change during 2007. The company amortizes any excess unrecognized loss by the straight-line method over the average remaining service life of its active participating employees. It has developed the following schedule concerning these 40 employees:

Employee Numbers	Expected Years of Future Service*	Employee Numbers	Expected Years of Future Service*
1–5	3	21–25	15
6–10	6	26–30	18
11–15	9	31–35	21
16–20	12	36–40	24

*Per employee

The company makes its contribution to the pension plan at the end of each year. However, it has not always funded the entire pension expense in a given year. As a result, it had an accrued pension cost liability of $36,000 on December 31, 2006. Furthermore, the company's accumulated benefit obligation exceeded the fair value of the plan assets at the end of 2006, so that the company also had an additional pension liability (and excess of additional pension liability over unrecognized prior service cost) of $2,300 on December 31, 2006.

In addition to the preceding information, the following set of facts for 2007 and 2008 has been assembled, based on information provided by the company's actuary and funding agency, and obtained from its accounting records:

	2007	2008
Plan assets, fair value (12/31)	$620,500	$859,550
Cumulative unrecognized net loss (1/1)	29,000	29,000
Expected (and actual) return on plan assets	40,500	62,050
Company contribution to pension plan (12/31)	175,000	177,000
Projected benefit obligation (1/1)	470,000	686,000
Discount rate	10%	10%
Accumulated benefit obligation (12/31)	660,000	903,000
Service cost	169,000	175,000
Plan assets, fair value (1/1)	405,000	620,500

Required

1. Calculate the average remaining service life of the TAN Company's employees. Compute to one decimal place.
2. Prepare a schedule to compute the net gain or loss component of pension expense for 2007 and 2008. For simplicity, assume the average remaining life calculated in Requirement 1 is applicable to both years.

3. Prepare a schedule to compute the pension expense for 2007 and 2008.
4. Prepare a schedule to determine the adjustment (if any) to additional pension liability required at the end of 2007 and 2008.
5. Prepare all the December 31, 2007 and December 31, 2008 journal entries related to the pension plan.

P20-12 ***Accounting for an OPEB Plan*** On January 1, 2007 the Vasby Software Company adopted a healthcare plan for its retired employees. To determine eligibility for benefits, the company retroactively gives credit to the date of hire for each employee. The service cost for 2007 is $8,000. The plan is not funded, and the discount rate is 10%. All employees were hired at age 28 and become eligible for full benefits at age 58. Employee C was paid $7,000 for postretirement healthcare benefits in 2007. On December 31, 2007 the accumulated postretirement benefit obligation for Employees B and C were $77,000 and $41,500, respectively. Additional information on January 1, 2007 is as follows:

Employee Status	Age	Expected Retirement Age	Accumulated Postretirement Benefit Obligation
A Employee	31	65	$ 14,000
B Employee	55	65	70,000
C Retired	67	—	45,000
			$129,000

Required

1. Compute the OPEB expense for 2007 if the company uses the average remaining service life to amortize the unrecognized prior service cost.
2. Prepare all the required journal entries for 2007 if the plan is not funded.

P20-13 ***Pension Plan Present Value Computations (Appendix)*** On January 1, 2007 the Cromwell Company adopted a defined benefit plan for its employees. All the employees are the same age, retire at the same time, and have the same life expectancy after retirement. The following are the relevant facts concerning the pension plan factors and the employee characteristics:

Pension Plan Factors	
Benefit formula	Average of last four years' salary × Number of years of service × 0.025
Expected average of last four years' salary	$80,000 per employee
Annual pension benefit earned each year of service by each employee	$80,000 × 0.025 = $2,000*
Date of computation of pension expense and pension funding	December 31
Amount funded each year	Equal to annual service cost
Discount rate	10%
Expected long-term (and actual) rate of return on plan assets	9%

*Paid at end of each year

Employee Characteristics	
Number of employees	60
Age of employees	35
Years to retirement (at end of 2007)	25
Years of life expectancy after date of retirement	14

For the years 2007 through 2011 the company experienced no net gain or loss in regard to the pension plan. On January 1, 2010, however, the company agreed to an amendment of the pension plan. This amendment changed the factor in the pension benefit formula from 0.025 to 0.03. This amendment was made retroactive to the adoption of the plan. At the end of years 2007 through 2011 the company did not have an additional pension liability.

Required

1. Prepare a schedule to compute the Cromwell Company's pension expense for 2007 through 2011. Round to the nearest dollar.
2. Prepare the year-end journal entries to record the company's pension expense for 2007 through 2011.
3. Determine the balance in the Prepaid/Accrued Pension Cost account on December 31, 2011. Indicate whether it is an asset or liability.

CASES

COMMUNICATION

C20-1 Financial Reporting for a Defined Benefit Pension Plan

The Fink Company is considering establishing a defined benefit pension plan for its employees. The president of Fink Company is slightly familiar with *FASB Statement No. 87* and understands that accounting for a defined benefit pension plan may result in certain items being included in the financial statements of the sponsoring company. The president has come to you for help in better understanding these items.

Required

List each item, summarize how it is calculated, and briefly explain its meaning.

C20-2 Pension Cost Components

AICPA Adapted Carson Company sponsors a single-employer defined benefit pension plan. The plan provides that pension benefits are determined by age, years of service, and compensation. Among the components that should be included in the net pension cost recognized for a period are service cost, interest cost, and expected return on plan assets.

Required

1. What two accounting issues result from the nature of the defined benefit pension plan? Why do these issues arise?
2. Explain how Carson should determine the service cost component of the net pension cost.
3. Explain how Carson should determine the interest cost component of the net pension cost.
4. Explain how Carson should determine the expected return on plan assets component of the net pension cost.

C20-3 Pension and Future Vacation Costs

AICPA Adapted Essex Company has a single-employer defined benefit pension plan, and a compensation plan for future vacations for its employees.

Required

1. Define the interest cost component of net pension cost for a period. Explain how Essex should determine the interest cost component of its net pension cost for a period.
2. Define prior service cost. Explain how Essex should account for prior service cost.
3. What conditions must be met for Essex to accrue compensation for future vacations? Explain the theoretical rationale for accruing compensation for future vacations.

C20-4 Conceptual Issues

In the chapter the conceptual issues related to pension expense, pension liabilities, and pension plan assets are discussed.

Required

Explain how *FASB Statement No. 87* resolves each of these three conceptual issues.

C20-5 Other Postemployment Benefits

Companies often provide their employees with postemployment benefits other than pensions. These benefits may include health insurance, life insurance, and disability benefits.

Required

Explain how the accounting for these other postemployment benefits is similar or dissimilar to accounting for pensions.

CREATIVE AND CRITICAL THINKING

C20-6 Additional Pension Liability

The development of *FASB Statement No. 87* took many years and included compromises among competing arguments. One of the areas of compromise was the additional pension liability.

Required

Explain how the additional pension liability is calculated and describe any aspects that might be considered to be the result of compromises.

C20-7 Income Smoothing

Generally, accounting principles do not support the concept of income smoothing (the avoidance of year-to-year fluctuations in the amount of income). A friend of yours, however, after studying *FASB Statement No. 87*, claims, "Pension accounting includes income smoothing."

Required

Describe the methods by which *FASB Statement No. 87* avoids year-to-year fluctuations in the amount of pension expense.

C20-8 Pension Issues

The MacAdams Company had engaged in large amounts of R&D to develop a new product that would put the company ahead of its Japanese competition. As a result, the company's profits were severely reduced and the president was concerned about the possibility of a takeover by a European competitor. The president was discussing the situation with the controller and said, "Your accounting principles make me so mad. Here we are working hard to develop a product to beat the rest of the world and you won't let me treat any of those costs as an asset."

The controller replied, "I understand your frustration. And please remember they are not 'my' principles."

"I know," responded the president. "Do you have any suggestions?"

"Well," the controller replied, "we can't adjust R&D expense, but we can reduce our pension expense. One easy way to increase our profits would be for the board of directors to vote to increase the discount rate used for computing the present values and to increase the expected rate of return on plan assets. Both of those would have the effect of reducing the pension expense."

"Great idea. I will have to remember that when it is time for the year-end bonuses."

Required

Write a short report evaluating the controller's suggestion.

C20-9 OPEB Issues

"Will it cost your company your company? Ready for one of the most difficult challenges ever to confront corporate America? One that is estimated to cost up to $400 billion. New FASB regulations will force companies to measure and post as a debit their health expense obligation to current and *future* retirees. . . . We'll help you minimize the financial impact of these regulations and still enable you to remain responsive to the benefit needs of employees." (Excerpts from an advertisement by CIGNA, a large insurance company.)

"Forget about retiring with all-expenses-paid health care from your employer. About 65% of U.S. companies have reduced benefits. Some have asked retirees to pay more of the costs, while others have eliminated the plans altogether. Blame soaring medical expenses and a new accounting rule that requires companies to post long-term retiree medical benefits as liabilities on their balance sheets." (Adapted from *Business Week*, August 24, 1992, p. 39.)

Required

1. Critically evaluate the content of the advertisement.
2. Explain why companies may have reduced benefits when they adopted *FASB Statement No. 106*.

C20-10 OPEBs and Deferred Income Taxes

The following information is for the Dermer Company's OPEB plan, which it adopted on January 1, 2007:

Service cost, 2007	$100,000
Interest cost, 2007	20,000
Unrecognized prior service cost, 1/1/07	300,000
Benefits paid to employees, 2007	18,000
Pretax accounting income and taxable income for 2007 before any deductions for OPEB costs	500,000
Average remaining service period	15 years
Enacted tax rate for 2007	30%
Enacted tax rate for 2008 and beyond	35%
Any deferred tax assets are more likely than not to be realized	

Required

1. a. Prepare the journal entries to record the OPEB expense and payments for 2007.
   b. Prepare the income tax journal entry for 2007.
2. a. Assume instead that Dermer had an existing OPEB plan on January 1, 1996, and that the $300,000 was the accumulated postretirement benefit obligation at the date of adoption of *FASB Statement No. 106*, instead of the unrecognized prior service cost. Prepare the journal entries to record the OPEB expense and payments for 2007 if the company uses the maximum period for the amortization of the transition liability and adopted the *Statement* on January 1, 1996.
   b. Prepare the income tax journal entry for 2007.
   c. What is the balance of the deferred tax asset at December 31, 2007, if it is assumed that in each year since 1996 pretax accounting income and taxable income before any deductions for OPEB costs have been $500,000? Also assume that each year, the OPEB expense and payments were the same as in 2007.
3. a. Assume instead that the $300,000 accumulated postretirement benefit obligation was recognized as a cumulative effect. Prepare the journal entries to record the activities related to the OPEB for 2007 if the *Statement* was adopted on January 1, 1996.
   b. Prepare the income tax journal entry for 2007.
   c. What is the balance of the deferred tax asset at December 31, 2007, if it is assumed that in each year since 1996 pretax accounting income and taxable income before any deductions for OPEB costs have been $500,000? Also assume that each year the OPEB expense (before including the cumulative effect adjustment) and payments were the same as in 2007.

C20-11 Analyzing Coca-Cola's Postemployment Benefit Disclosures

Refer to the financial statements and related notes of The Coca-Cola Company in Appendix A of this book. Answer each of the questions for (a) the company's pension benefits and (b) the company's other benefits.

Required

1. How much is the company's expense in 2004?
2. How much are the company's actual and expected return on plan assets?
3. How much is the benefit obligation at December 31, 2004?
4. Is the company in a net asset or liability position at December 31, 2004? Is this net amount greater or less than the net asset or liability reported on the balance sheet?
5. Conceptually, what were the effects of the decrease in the discount rate in 2004 on the amounts disclosed by the company (no calculations are required)?

C20-12 Ethics and Pensions

You are an accountant for the Lanthier Company. The president of the company calls you into the office and says, "We have to find a way to reduce our pension costs. They are too high and they are making us uncompetitive against our foreign competitors whose employees have state-funded pensions. I think we might have to abandon our defined benefit plan, but I know the employees would not be happy about that. I was also thinking that perhaps we could raise the discount rate we use up to the high end of the acceptable range. I also think we need a trustee who will pursue a more aggressive investment strategy for the pension funds; that way we can raise our expected rate of return."

Required

From financial reporting and ethical perspectives, discuss the issues raised by this situation.