Chapter 17 Pensions and Other Postretirement Benefits

THE PENSION OBLIGATION AND PLAN ASSETS

THE PENSION OBLIGATION
1. Vested benefit obligation - present value of vested benefits at present pay levels.
2. Accumulated benefit obligation (ABO) - present value of nonvested benefits at present pay levels.
3. Projected benefit obligation (PBO) - present value of nonvested benefits at projected pay levels.

Projected benefit obligation (PBO)
Calculating the projected benefit obligation (PBO) is a three step process.
1. Retirement Annuity: apply the pension formula to the estimated final salary
2. Retirement Benefit: calculate the present value of the pension annuity using the estimated number of years that the benefit is expected to be collected and the appropriate discount rate
3. PBO: calculate the present value of the retirement benefit at the retirement using the number of years to retirement and the appropriate discount rate

Example: Spencer Company has a defined benefit pension plan which covers Spencer Glandon, the company’s only employee. Spencer has been with the company for 15 years and makes an annual salary of $40,000 per year. The retirement benefit is calculated as 2% * number of years of service * final year’s estimated salary. Spencer is projected to retire in 10 years and his final estimated annual salary is $60,000. Based on actuarial estimates the appropriate discount rate is 6% and Spencer is expected to collect his retirement benefit for 20 years. The PBO is calculated as follows:

Retirement Annuity:
Final estimated annual salary $60,000
* Factor 2%
* Years of service to-date 15
Estimated retirement annuity $18,000

Retirement Benefit:
Estimated retirement annuity $18,000
PVOA, n = 20, i = 6% 11.46992
Retirement benefit $206,459

Projected Benefit Obligation:
Retirement benefit $206,459
PV of $1, n = 10, i = 6% 0.55839
Projected benefit obligation $115,284

Changes in assumptions or circumstances
PBO changes as a result of changes in the following components.
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1. **Service Cost**
   Increase in PBO as a result of the employee completing one more year of service

2. **Interest Cost**
   Increase in PBO as a result of interest accruing on the beginning balance of the PBO.

3. **Prior Service Cost**
   Increase in PBO as a result of plan amendments that retroactively adjust (normally an increase) retirement benefits.

4. **Gain or loss on PBO**
   Adjustments to PBO as a result of changes in underlying assumptions
   a) Change in life expectancy
   b) Change in expected retirement date
   c) Change in assumed discount rate

5. **Payment of retirement benefits**
   Decrease in PBO by actual retirement payments

**PENSION PLAN ASSETS**
Assets held by a trustee that provide for the funding of retirement benefits. The pension plan assets change as follows.

   Beginning balance
   Add: return on plan investments
   Add: cash contributions from the employer
   Less: retirement benefits paid to employees
   Ending balance

When the PBO exceeds the pension plan assets the retirement plan is said to be underfunded. If the pension plan assets exceed the PBO the retirement plan is said to be overfunded.