Part X: Defined Benefit Plan Basics

Understanding Defined Benefit Plans

1001. How do defined benefit plans differ from defined contribution plans?

In a defined benefit plan, a retirement benefit, usually in the form of monthly income, is determined by the plan’s benefit formula. A reserve is then calculated—based on the life expectancy of the participant at retirement age and the expected investment return—that is sufficient to pay the employee’s retirement benefit under the plan’s benefit formula for life. The employer then makes a contribution each year for the participant until retirement age so the contributions plus investment earnings accumulate to the reserve. Each year the employer’s contribution is adjusted based on actual changes in the operation of the plan, including employee salaries, actual rate of return of the plan investments, and employee turnover.

The Pension Protection Act of 2006 made extensive changes to the funding calculations for defined benefit plans. Rather than fund the reserve necessary to pay the promised benefit over future service the benefit earned each year is funded in that year (See Part XIII, “Defined Benefit Plan Funding”). The annual contribution under the new rules is the total of two separate calculations. The first is the funding of the benefit accrued (earned) in each year and the second is the amortization of the difference between the value of the benefits earned to date for all participants less the value of plan assets over seven years. This funding approach also allows for a cushion, i.e., additional funding over and above the two parts. The result of these rules provides a range of contributions each year from a minimum required amount to a maximum allowable amount. If the contribution for a given year is made at the high end, all else being equal, the minimum and maximum for the next year is likely to be lower.

1002. What is average monthly compensation?

The following options, reflecting language used in plan documents, are common in determining compensation which is used to calculate plan benefits:

Average monthly compensation shall be based on:

A. plan years of service; or

B. total years of service.

And compensation shall be averaged over:

1. the consecutive \_\_\_-year period within the last ten years to date of termination of employment that produces the highest average;

2. the consecutive \_\_\_-year period that produces the highest average;

3. all years; or

4. the final \_\_\_ years to date of termination of employment.

Options A and B refer to the time choices to which options 1 through 4 will be applied. Note that Option A considers only years from the effective date of the plan, whereas option B considers years from date of hire, including years before the plan effective date. In all cases compensation must be averaged over no less than three years, which is the basis for statutory benefit limitations.[[1]](#footnote-1)

*Example.* Consider a professional medical practice with one employee in addition to the professional with the following compensation history, and a plan that was effective on January 1, 2007 . Further assume that the professional cut down on her working hours as she approached retirement, producing the effects on compensation described below:

|  |  |  |
| --- | --- | --- |
|  | Professional | Employee |
| 2003  | $175,000  | $26,000 |
| 2004  | $190,000  | $25,000 |
| 2005  | $180,000  | $30,000 |
| 2006  | $100,000  | $30,000 |
| 2007  | $ 75,000  | $40,000 |
| 2008  | $ 75,000  | $42,000 |
| 2009  | $ 75,000  | $45,000 |
| 2010  | $ 75,000  | $55,000 |
| 2011  | $ 50,000  | $60,000 |
| 2012  | $ 75,000  | $70,000 |
| 2013  | $ 50,000  | $58,000 |
| 2014  | $ 50,000  | $50,000 |
| 2015  | $ 50,000  | $38,000 |

The results, depending on the options chosen by the plan, are contained in the tables below:

|  |
| --- |
| **Option A using a 3–year averaging period** |
|  | *Professional* | *Employee* |
| Option 1 | $75,000 (years 2007 –2009 ) | $62,667 (years 2011 –2013 ) |
| Option 2 | $75,000 (years 2007 –2009 ) | $62,667 (years 2011 –2013 ) |
| Option 3 | $63,889 (years 2007 –2015 ) | $50,889 (years 2007 –2015 ) |
| Option 4 | $50,000 (years 2013 –2015 ) | $48,667 (years 2013 –2015 ) |

Increase all references to years by four as above in the next three groups below.

|  |
| --- |
| **Option A using a 5–year averaging period** |
|  | *Professional* | *Employee* |
| Option 1 | $70,000 (years 2007–2011) | $58,600 (years 2010–2014) |
| Option 2 | $70,000 (years 2007–2011) | $58,600 (years 2010–2014) |
| Option 3 | $63,889 (years 2007–2015) | $50,889 (years 2007–2015) |
| Option 4 | $55,000 (years 2011–2015) | $55,200 (years 2011–2015) |

|  |
| --- |
| **Option B using a 3–year averaging period** |
|  | *Professional* | *Employee* |
| Option 1 | $83,333 (years 2006–2008) |  $62,667 (years 2011–2013) |
| Option 2 | $181,666 (years 2003–2005) | $62,667 (years 2011–2013) |
| Option 3 | $93,846 (years 2003–2015) | $42,385 (years 2003–2015) |
| Option 4 | $50,000 (years 2013–2015) | $48,667 (years 2013–2015) |

|  |
| --- |
| **Option B using a 5–year averaging period** |
|  | *Professional* | *Employee* |
| Option 1 | $80,000 (years 2006–2010) | $58,600 (years 2010–2014) |
| Option 2 | $144,000 (years 2003–2007) | $58,600 (years 2010–2014) |
| Option 3 | $93,846 (years 2003–2015) | $42,385 (years 2003–2015) |
| Option 4 | $55,000 (years 2011–2015) | $55,200 (years 2011–2015) |

There is quite a difference in average compensation depending on the definition of average monthly compensation in the plan. For the professional key employee, the best definition with the illustrated compensation history is Option B, total years of service, because her compensation was higher before the plan was adopted, and three-year averaging.

Generally three-year averaging results in higher average monthly compensation than any period more than three years. This is common with older professionals who are cutting back on their working hours but would like to establish a pension fund before totally retiring.

1003. What are normal retirement age and normal retirement date?

Although the choices for defined benefit plans are the same as for defined contribution plans, the effect is not the same. In a defined benefit plan, the benefit is funded over the working life of the participant while a participant is in the plan. If the retirement age is lower, the contributions will be higher because there is less time to accumulate the necessary reserve to fund the promised benefit. In addition, the maximum benefit that can be provided in a defined benefit plan is payable at age sixty-two and must be reduced if payable before that date.

 If the retirement age in the plan is younger than sixty-two, the age-adjusted dollar limit is determined by reducing the age-adjusted dollar limit at age sixty-two ($210,000 for 2015 , which is indexed for inflation. See Appendix H for current cap) on an actuarially equivalent basis. This rule requires that the reduced age-adjusted dollar limit be the lesser of:

1. The equivalent amount computed using the plan interest rate and plan mortality table used for actuarial equivalence for early retirement benefits under the plan; and

2. The equivalent amount computed using 5 percent interest and the applicable mortality table.

*Example 1.* Assuming the plan provides for retirement at age sixty, using the 1983 Individual Annuity Mortality table[[2]](#footnote-2) for males at 5 percent, the adjustment would be:

|  |
| --- |
| Benefit at age 62 × (Age 62 annuity purchase rate /  |
| Age 60 annuity purchase rate)  |
| discounted @ 5% for years between age 62 and retirement age 60  |
| $210,000 × [($148.11 / $154.76) / 1.052] = $182,292 |

If the age at which the benefit is payable is older than age sixty-five, the age-adjusted dollar limit is determined by increasing the Code section 415(b) dollar limit payable at age 62 on an actuarially equivalent basis. This rule requires that the increased age-adjusted dollar limit be the lesser of:

1. The equivalent amount computed using the plan interest rate and plan mortality table used for actuarial equivalence for late retirement benefits under the plan; and

2. The equivalent amount computed using 5 percent interest and the applicable mortality table.

*Example 2.* Assuming the participant retires at age seventy, using the 1983 Individual Annuity Mortality table for males at 5 percent, the adjustment would be:

|  |
| --- |
| Benefit at age 62 × (Age 65 annuity purchase rate /  |
|  Age 70 annuity purchase rate) |
| increased @ 5% for years between age 65 and retirement age 70 |
| ($210,000 × 1.055 ) × ($137.52 / $118.84) = $281,313 |

The final Code section 415 regulations indicate that the adjustment for deferred retirement cannot increase the monthly benefit in excess of the applicable dollar limit ($210,000 for 2015 , which is indexed for inflation.. See Appendix H for current cap) or in excess of the high three-year average compensation of the participant considering compensation only up to that dollar limit. The IRS has taken the position that any retirement age earlier than sixty-two must be supported by the actual practice in the industry in which the plan sponsor does business.

The plan must also define the retirement date. The choices could include:

1. the first of the month after reaching the retirement age;

2. the date of reaching retirement age;

3. the first day of the plan year following the date of retirement age; or

4. the first day of the plan year in which the retirement date is reached.

1004. What is the *normal form of benefit*?

A defined benefit plan is designed to pay a periodic retirement benefit, similar to Social Security. The normal form of benefit determines over what period that benefit will be paid beginning at normal retirement age. Typical choices would include the following plan language:

The normal form of benefit shall be based on:

1. A life annuity, paid only during the life of the retiree;

2. An annuity for life and \_\_\_\_ years certain, paid for the greater of life or the period certain identified (e.g., ten years); or

3. A joint and survivor (J&S) annuity, paid for the life of the retiree and continuing at the death of the retiree for the life of the retiree’s spouse. The survivor benefit may be the same as the retiree’s benefit or less (e.g., 50 percent).

The choice of normal form determines the basis for how long the promised benefit will be paid. Notwithstanding the options offered in the plan, a distribution to a married participant must be made in the form of a joint and survivor annuity unless the participant’s spouse waives the right to receive a joint and survivor annuity.

If any benefit form other than a life annuity is the “normal form,” i.e., the standard form provided for and funded in the plan, the monthly benefit has to be reduced if the normal form benefit calculated under the plan benefit formula is at the Code section 415(b) limit ($210,000 annually for 2015 , which is indexed for inflation.. See Appendix H for current cap). This adjustment is based on the value of the alternate form. The more valuable the alternate form, the larger the reduction in the monthly benefit. An annuity for ten years certain is more valuable than a life-only annuity, a 50 percent J&S annuity is more valuable than a ten-year-certain annuity (depending on the age of the participant and beneficiary), and a 100 percent J&S annuity is more valuable than a 50 percent J&S annuity.

If the retirement benefit is paid in the form of monthly income to the retiring employee, that monthly benefit does not have to be reduced if the normal form is a joint and survivor annuity;[[3]](#footnote-3) however, if the participant has the option of taking a lump-sum equivalent distribution, there must be an adjustment.

*Example.* Consider a plan that provides a benefit equal to 100 percent of the high three-year average compensation beginning at retirement age sixty-five. The participant’s high three-year average compensation is $48,000. The maximum Code section 415(b) benefit that can be paid as a life-only annuity is $4,000 per month (the lesser of 100 percent of the high three-year average compensation or the dollar limit, which for the year 2015 is $17,500 per month). Using the 1983 individual annuity mortality (IAM83) table and 7 percent interest assumptions to calculate the reserve necessary to fund that benefit, the result is $514,850. Here are the reserves necessary to fund other forms of the benefit:

|  |  |
| --- | --- |
| Life and 10 years certain:  | $542,282 |
| 50% joint and survivor:  | $565,907 |
| 100% joint and survivor:  | $617,007 |

If the normal form in the plan were life and ten years certain, the maximum benefit of $4,000 per month (100 percent of the high three-year average compensation) would have to be reduced:

|  |
| --- |
| $4,000 × ($514,850 / $542,282) = $3,797.66 |

1005. What is an *actuarial equivalent* and how is it used in a defined benefit plan?

Because a defined benefit plan is designed to pay retirement benefits, the normal form of benefit is always an annuity, an income stream for life. Many plans, particularly the smaller ones, also offer other options including lump-sum payments and installments. If a lump sum is offered, the assumptions used to calculate the lump sum must be within acceptable guidelines. The plan document will specify what assumptions are to be used to calculate alternate forms of benefits including a lump sum. The resulting alternate form(s) are referred to as the actuarial equivalent, i.e., the alternate form is equivalent in value to the normal form of benefit. If the assumptions are too liberal, i.e., a very low interest rate and a mortality table with excessively long life expectancies, the value of the lump sum may be more than equivalent to the maximum benefit that could otherwise be paid in an annuity form.[[4]](#footnote-4) The same is true if the benefits will be paid in the form of period certain installments (e.g., ten years guaranteed or life if longer, twenty years guaranteed or life if longer) because the lump-sum equivalent must be determined first.

*Example.* Consider two sets of assumptions to calculate the lump-sum equivalent of the maximum annual benefit of $210,000 (for 2015 , . See Appendix H for current cap). The assumptions are embodied in the choice of the actuarial table that is used for the calculations, either UP84 or GAM 83:[[5]](#footnote-5)

Option 1 is an annuity purchase rate of $101.50, which buys a monthly life income of $1 beginning at age 65 based on UP84 mortality at 7.5 percent. The lump sum is calculated as follows:

|  |
| --- |
| ($210,000 / 12) × $101.50 = $1,776,250. |

 Option 2 is an annuity purchase rate of $137.52, which buys a monthly life income of $1 beginning at age 65 based on IAM83 mortality at 5.0 percent. The lump sum is calculated as follows:

|  |
| --- |
|  ($210,000 / 12) × $137.52 = $2,406,600. |

There is more than a 35 percent difference in the lump-sum amounts solely because of the assumptions being used. Both of these annuity rates are acceptable. In a defined benefit plan sponsored by a small employer, the assumptions are partially determined based on the amount of contribution desired. The assumptions in option 1 require a much lower annual contribution to fund the monthly benefit.

1006. How is the employee’s retirement benefit determined?

This is the section of the plan that determines each participant’s monthly benefit based on the definition of average monthly compensation. In addition, just as in defined contribution plans, a defined benefit plan may take into consideration benefits the employer is providing through Social Security, or, as referred to in qualified retirement plans, “permitted disparity.”

First, consider benefit formulas that do not take permitted disparity into account. The choices, as provided in plan documents, include:

1. Flat benefit:

a. \_\_\_\_% of average monthly compensation.

b. $\_\_\_\_\_;

2. Unit benefit:

a. \_\_\_\_\_\_\_% of average monthly compensation, multiplied by credited service. The maximum number of years of credited service to be taken into account shall be \_\_\_\_\_.

b. $ \_\_\_\_\_\_\_ multiplied by credited service. The maximum number of years of credited service to be taken into account shall be \_\_\_\_.

If the plan takes permitted disparity into consideration, the benefit formula becomes more complex. In addition to the unit credit and flat benefit formulas that can be adapted to permitted disparity, there is a third option called an offset formula.

The following benefit formulas use covered compensation as the “integration level.” Covered compensation is defined asthe average of the taxable wage base (TWB) for the thirty-five calendar years ending with the year the participant reaches Social Security retirement age (SSRA).

**Unit credit excess benefit:** The sum of a. and b. as expressed in plan documents as follows:

a. (i) \_\_\_% (base benefit percentage) times average monthly compensation up to the integration level, times each year of credited service, plus a benefit equal to (ii) \_\_\_% (excess benefit percentage), times average monthly compensation in excess of the integration level, times each year of credited service. The maximum number of years of credited service during which permitted disparity is taken into account under this paragraph will be (iii) \_\_\_.

b. (i) \_\_\_\_% times the average monthly compensation for each year of credited service after the maximum number of years of credited service taken into account in preceding paragraph a. The maximum number of years of credited service taken into account under this paragraph will be (ii) \_\_\_\_.

The base benefit percentage, a.(i), is similar to the nonintegrated unit benefit formula above in choice 2.a. The excess benefit percentage, a.(ii), is the percentage applied to compensation in excess of the integration level, generally thecovered compensation level for each employee. The maximum number of years that can be considered in item a.(iii) is set at thirty-five.[[6]](#footnote-6)

In addition, the excess percentage, a.(ii), is limited to the lesser of two times the base percentage, a.(i), or the base percentage plus 0.75 percent.[[7]](#footnote-7) If the retirement age in the plan is before or after the SSRA, if the normal form of benefit is other than a life-only annuity, or if the integration level is other than covered compensation, the 0.75 percent limit on the excess benefit, a.(ii), must be reduced in accordance with IRS rules.[[8]](#footnote-8) If the unit benefit formula takes service that is in excess of thirty-five years into consideration, then section 1.b. applies to the years in excess of thirty-five as if that portion of the benefit were not integrated with Social Security.

**Flat excess benefit:** The flat excess benefit, as described in plan documents, is

a. \_\_\_\_% (base benefit percentage) times average monthly compensation up to the integration level, plus a benefit equal to

b. \_\_\_\_% (excess benefit percentage not to exceed the base benefit percentage by more than the lesser of the base percentage or the maximum excess percentage) times average monthly compensation in excess of the integration level for the plan year.

The flat excess benefit, the excess benefit percentage, i.e., b. above, is limited, as is the preceding flat excess unit benefit percentage formula. The preceding unit benefit excess benefit formula is limited to 0.75 percent (adjusted for retirement ages before or after SSRA) for thirty-five years. That translates to a limit of 26.25 percent in a flat excess benefit formula (0.75 percent times thirty-five years).

**Offset formula—unit credit:** The credit, as described in plan documents, is the sum of a. and b.:

a. (i) \_\_\_% (gross benefit percentage) times average monthly compensation for the plan year, times each year of credited service, offset by (ii) \_\_\_% (offset percentage not to exceed the lesser of one-half of the gross benefit percentage or the maximum offset allowance), times final average compensation up to the offset level, times each year of credited service. The maximum number of years of credited service taken into account under this paragraph will be (iii) \_\_\_.

b. (i) \_\_\_% times average monthly compensation for each year of credited service taken into account in paragraph a. The maximum number of years of credited service taken into account under this paragraph will be (ii) \_\_\_.

An offset formula calculates a gross benefit and then reduces it by the offset percentage. The maximum offset allowance is the lesser of 0.75 percent (adjusted for retirement age before or after SSRA) or one-half of the gross benefit percentage[[9]](#footnote-9) times years of service, and is limited to thirty-five years, similar in concept to the unit excess percentage limit; however, in this case the offset percentage is applied to final average compensation*.*

*Final average compensation* is the average of the participant’s annual compensation for the three-consecutive-year period ending with or within the plan year but not including compensation for any year in excess of the TWB in effect at the beginning of the year.[[10]](#footnote-10)

**Offset formula—flat benefit:** The offset formula, as described in plan documents, is

a. \_\_\_% (gross benefit percentage) times average monthly compensation offset by

b. \_\_\_% (offset percentage not to exceed the lesser of one-half of the gross benefit percentage or the maximum offset allowance) times final average compensation up to the offset level.

Similar to the unit benefit excess and the flat excess benefit are the unit benefit offset and the flat benefit offset. In all cases, the advantage of using permitted disparity in a defined benefit plan is to reduce the employer-funded benefits for the lower-paid participants, recognizing that the employer is already funding benefits through Social Security. In analyzing Social Security benefits, the benefits might be considered discriminatory against higher paid employees. As a percentage of compensation, Social Security benefits decrease as the employee’s compensation increases. The use of permitted disparity adjusts this inequity.

1007. How is the choice of credited service applied?

Plan choices include:

1. not applicable,

2. total years of service, or

3. plan years of service (counting years only from the effective date of the plan).

Option 1 would be used if the plan provides for a flat benefit because service does not affect the benefit. An example would be $1,000 per month at retirement or a benefit of 50 percent of compensation. Options 2 and 3 would be used in any of the unit benefit formulas.

1008. How is the integration level determined for plans using “permitted disparity?”

Any choice other than option 1 below would require the permitted disparity excess percentage or offset percentage to be adjusted, usually downward.[[11]](#footnote-11) Typical choices as expressed in plan documents include:

1. The current covered compensation table;

2. The frozen covered compensation table for the year \_\_\_;

3. The greater of $10,000 or one-half of the covered compensation of any person who attains SSRA during the calendar year in which the plan year begins;

4. $\_\_\_\_ (Not to exceed the greater of $10,000 or one-half of the covered compensation of any person who attains SSRA during the calendar year in which the plan year begins);

5. $\_\_\_\_ (More than $10,000 but not in excess of the greater of $25,450 or 150 percent of the covered compensation of any person who attains SSRA during the calendar year in which the plan year begins);

6. A uniform percentage equal to \_\_\_\_% (greater than 100 percent but not greater than 150 percent) of each participant’s covered compensation for the current plan year, but in no event in excess of the TWB for excess plans, or final average compensation for offset plans;

7. The taxable wage base.

1009. Are there any other provisions in the plan that can affect the determination of monthly benefits?

This plan provision applies to the benefit calculated by the benefit formula. It allows for adjustments to the benefit for years of service or participation, minimum benefits, caps on benefits, and the portion of the benefit, if an integrated formula is used, that will be adjusted based on years of service or participation. Common choices are:

1. No reductions or limitations.

2. The benefit shall be reduced by \_\_\_\_\_\_\_ (e.g., one-tenth) for each year of credited services less than \_\_\_\_ (e.g., ten) that the participant is credited with at his or her normal retirement date.

3. Before applying the Social Security offset, the basic benefit shall be reduced by \_\_\_\_ (e.g., one-tenth) for each year of credited service less than \_\_\_\_\_ (e.g., ten).

4. The pure excess portion of the benefit shall be reduced by \_\_\_\_ (e.g., one-tenth) for each year of credited service less than \_\_\_\_ (e.g., ten).

5. Years of credited service before \_\_\_\_\_\_\_\_ shall not be recognized.

6. A participant’s monthly benefit shall not exceed $ \_\_\_\_.

7. A participant’s monthly benefit shall not be less than $\_\_\_\_.

8. Increases in a participant’s benefit resulting from a change in compensation shall be recognized as of each anniversary date, but decreases shall not be recognized until the decrease in compensation has been in effect for \_\_\_\_ plan years.

9. The monthly benefit shall be rounded to the nearest $ \_\_\_\_\_.

If the benefit formula chosen is integrated with Social Security (permitted disparity is being used) the reduction in option 2 for a flat benefit formula must be thirty-five years to be a safe harbor plan; otherwise, the plan must satisfy the general nondiscrimination test under Code Sec. 401(a)(4). Option 3 allows the “gross benefit” to be reduced based on credited service before the offset is applied in an offset formula rather than after the offset is applied. This has the effect of reducing the benefit further for short-service employees. A similar result is true of option 4 in a flat benefit excess formula, in which the excess portion of the benefit is reduced based on years of credited service.

Option 5 allows the plan to ignore service before a historical date, usually the effective date of the plan. Options 6 and 7 allow for maximum and minimum dollar benefits. Option 9 recognizes that a decrease in a participant’s compensation is usually temporary, e.g., because of illness. This choice allows the participant’s benefit to be more stable and less subject to short-term fluctuations in compensation.

1010. How are benefits earned during the employee’s working years?

 In concept, the accrued benefit in a defined benefit plan is roughly equivalent to the account balance in a defined contribution plan. A participant in a defined benefit plan earns his or her projected retirement benefit over credited service, either participation service or total service. To avoid discrimination in the timing of the accruals, specific rules apply, mainly to prevent “back loading.” For example, a plan provides that a participant’s benefit is 100 percent of the high three-year average compensation up to the dollar limit ($210,000 annually for the year 2015 , which is indexed for inflation. See Appendix H for current cap). The plan also provides that the entire benefit is accrued (earned) in the year before the retirement date. All employees are terminated two years before retirement date. Although this is an extreme case of back loading, it illustrates the purpose of the accrual rules.

For a plan to satisfy the safe harbor requirement, credited service used in the benefit formula to determine the projected benefit, i.e., total service or participation service, must also be used to determine the accrued benefit.[[12]](#footnote-12) If the safe harbor is not satisfied, the plan must satisfy the general nondiscrimination test of Code section 401(a)(4).

Accrual Methods

The Code specifically provides for three basic accrual methods:[[13]](#footnote-13)

1. *3 percent method*. This method is satisfied if the participant is entitled to receive a benefit at separation from service that is not less than 3 percent of the normal retirement benefit multiplied by years of participation in the plan not to exceed 33⅓. An example of this would be a participant with a normal retirement benefit (based on the benefit formula) of $1,000 per month accruing his or her benefit at $30 per month for each year of participation up to thirty-three and a third years. A participant with twenty years at normal retirement date would have an accrued benefit of $600 per month (20 years times $30 per month), assuming no change in compensation.

2. *133⅓ percent rule*. This method is satisfied if the accrued benefit payable at normal retirement age can accrue at a rate that is not more than 33⅓ percent of the annual rate at which the benefit can accrue for any other plan year. An example of this would be a participant who accrues a benefit of 1 percent for each year of service up to ten and 1.25 percent for each year of service in excess of ten but no more than twenty. Because the 1.25 percent is less than 133⅓ percent of the prior accrual rate, it satisfies the rule. If the 1.25 percent was 1.5 percent, this method would not be satisfied because 1.5 percent is more than 133⅓ percent of the prior accrual of 1 percent.

3. *Fractional rule.* This method is satisfied if the accrued benefit payable to a participant at separation from service is not less than: (a) the normal retirement benefit calculated under the plan benefit formula, times (b) a fraction, the numerator of which is the number of years of participation at separation from service and the denominator of which is the number of years of participation the participant would have at normal retirement age. A participant with a normal retirement benefit of $1,000 per month, eight years of participation at separation from service, and sixteen years of participation had the employee stayed until normal retirement date would have an accrued benefit of $500 per month ($1,000 times [8 years / 16 years]).

Regardless of the accrual method used, the maximum annual benefit that can be paid at retirement age is the lesser of 100 percent of the high three-year average compensation or $210,000 (in 2015 ).

1011. What unique issues must be considered in a defined benefit plan that is top-heavy?

Two important issues related to top-heavy plan design involve:

1. satisfying the minimum benefit requirements if the employer sponsors two different types of plans (i.e., a defined benefit plan and a defined contribution plan); and

2. setting forth the assumptions to be used in determining the present value of accrued benefits.

Top-Heavy Duplications

A plan document must address the issue of the way top-heavy minimum benefit requirements would be satisfied if the employer sponsored two different types of plans, i.e., a defined contribution plan and a defined benefit plan. Alternatives as expressed in plan documents include the following options:

1. The full top-heavy minimum will be provided in each plan;

2. The top-heavy minimum benefit shall be provided under the \_\_\_\_\_\_\_\_\_\_ plan pursuant to Section \_\_\_\_\_ (refers to a section in the trust document of the plan); or

3. Specify and attach the method under which the plans will provide top-heavy minimum benefits for nonkey employees that will preclude employer discretion and avoid inadvertent omissions.

Options 1 and 2 are clear. Option 3 offers the plan sponsor the choice of selecting a means to satisfy the top-heavy minimum benefits in some other way that best fits the needs of the employer and satisfies all compliance rules.

Some variations of the basic choices are listed below:

* It is generally accepted that the defined benefit minimum benefit is more valuable than the defined contribution minimum contribution. The employer may provide the defined benefit minimum benefit of 2 percent of compensation per year of service up to ten years.
* A second option is an offset approach. The defined benefit minimum is provided, offset by the value of the benefit provided in the defined contribution plan. In this case the contribution in the defined contribution plan is projected to retirement age, with investment earnings, and converted to a retirement benefit. If that benefit is more than the defined benefit minimum, no benefit is required in the defined benefit plan. If the converted benefit in the defined contribution plan is less than the defined benefit minimum required, the difference, or shortfall, is provided in the defined benefit plan.
* A third approach is to show through a comparability analysis, similar to the discussion of cross-testing (see Part VII), that the benefits provided in the defined benefit plan and defined contribution plan together, for any nonkey employee, is at least equal to the defined benefit minimum.
* The last alternative is to provide a 5 percent allocation to each nonkey employee including employer contributions and forfeitures in the defined contribution plan.

Present Value of Accrued Benefit

With top-heavy plan issues in a defined benefit plan, the plan must set forth the assumptions to be used in determining whether the plan is top-heavy. This determination in a defined contribution plan is based on the account balances of the key employees and the nonkey employees at the end of the prior plan year. In a defined benefit plan, there are no account balances, but there is a comparable measure, the *present value of the accrued benefit.* The present value of the accrued benefit is the reserve necessary to fund the accrued benefit (the projected monthly benefit earned to date) at retirement age discounted back to the current date at a specified rate of interest.

*Example.* Two assumptions (based on retirement at age sixty-five) are used to determine the present value of the accrued benefit in this case.

The first value is based on UP84 mortality at 7.5 percent interest:

Fix formatting, extra lines between headings for two tables below

|  |  |
| --- | --- |
|  | *Present Value* |
|  | *Accrued**Benefit* | *Reserve at**Retirement* | *of Accrued**Benefit* | *Percentage**of Total* |
| Owner | 45 | $ 1,275 | $ 129,413 | $ 30,465 | 60.14% owner |
| Employee 1 | 34 | $ 600 | $ 60,000 | $ 6,471 |  |
| Employee 2 | 50 | $ 400 | $ 40,600 | $ 13,721 | 29.86% employees |

The present value of the accrued benefit for the owner is calculated as follows:

|  |
| --- |
| $129,413 / (1.07520) = $30,465 |

The second value is based on IAM83 at 5.0 percent interest:

|  |  |
| --- | --- |
|  | *Present Value* |
|  | *Accrued**Benefit* | *Reserve at**Retirement* | *of Accrued**Benefit* | *Percentage**of Total* |
| Owner | 45 | $ 1,275 | $ 175,338 | $ 66,083 | 59.68% owner |
| Employee 1 | 34 | $ 600 | $ 82,512 | $ 18,182 |  |
| Employee 2 | 50 | $ 400 | $ 55,008 | $ 26,460 | 40.32% employees |

Using the IAM83 male mortality and 5 percent interest assumptions prevent the plan from becoming top-heavy. The assumptions used for this calculation may not be changed each year to prevent top-heavy status. In addition these assumptions can be different than those used for funding the plan, i.e., determining the reserve at retirement necessary to fund the promised benefit.

1012. Must benefits be adjusted if the employee retires earlier or later than normal retirement age in the plan?

The maximum benefit that may be paid in a defined benefit plan must begin no earlier than the date the participant reaches age sixty-two. If the employee retires before age sixty-two or after age sixty-five, that maximum dollar benefit must be adjusted; the benefit must be reduced if benefits begin early (unless benefits are paid in the form of a joint and survivor annuity) and increased if benefits begin after age sixty-five.[[14]](#footnote-14) This takes into consideration the longer payment period for early retirement and shorter payment period for deferred retirement.

Although the following example is not the numerical approach that is used to make the adjustment, it does illustrate the concept. The actual approach to this adjustment would take into consideration mortality from an accepted mortality table and an interest rate allowable under Code section 415(B)(2)(e).

*Example.* Consider the following hypothetical beneficiary:

|  |  |
| --- | --- |
| Monthly retirement benefit: | $10,000 |
| Normal retirement age: | 65 |
| Early retirement age: | 60 |
| Late retirement age: | 70 |

The value today of the monthly benefit beginning at age sixty-five would be the present value of the future cash flow. If life expectancy to age eighty-five is assumed, the future payment period would be 240 months. At a 7.5 percent interest rate, the present value of $10,000 per month for twenty years is $1,249,080. The present value of the same payment for twenty-five years, assuming early retirement at age sixty, would be $1,361,654. If it is the plan’s intention to keep the value of both benefit payments equal, it would have to reduce the monthly benefit payable at age sixty to $9,173, so the present value would be $1,249,080. The same is true if the participant elected late retirement at age seventy. In that case, the present value of the benefit payments for fifteen years (age seventy to life expectancy at age eighty-five) would be $1,085,476. To make the present value of the late retirement benefit equal the normal retirement age benefit, the plan would have to increase the late retirement benefit to $12,544 per month. Code section 415 regulations require that the adjustment be limited to the lesser of the dollar limit in the year of payment and the participant’s high three-year average compensation.

1013. Can the plan provide for disability benefits in addition to normal retirement benefits?

Disability benefits are optional in qualified plans. The following are some of the choices:

1. early retirement benefit without regard to age and service requirements;

2. 100 percent of the actuarial equivalent of the accrued benefit; or

3. no disability benefits.

If option 1 is chosen, the participant would be entitled to the early retirement benefit, if any, as provided in the plan, but the participant would not have to satisfy any age or service requirements to be eligible for that benefit. Option 2 disregards the vesting schedule, reduces the accrued benefit, and takes into consideration that the benefit that would otherwise be paid at normal retirement age (a later date) is being paid at the date of disability (an earlier date). Last, option 3 treats the disabled participant as any other terminated participant and pays in accordance with the provisions in the plan and the vesting schedule.

Any discussion of disability must also address the definition of disability. In some cases, the plan defines disability as Social Security does. This is a very strict application. Most plans provide that the determination will be made by a physician appointed by the plan administrator or include a definition that is common to commercial disability insurance products, e.g., “Unable to engage in your regular occupation or employment due to illness or injury and under the regular care of a physician.”

1014. Can the plan provide for death benefits in addition to normal retirement benefits?

All qualified pension plans are required to provide, at a minimum, a *qualified preretirement survivor annuity*. A qualified preretirement survivor annuity(QPSA) is an immediate annuity for the life of the surviving spouse of a participant who dies before benefit payments begin (see Part XV). The amount of the benefit must be the actuarial equivalent of the benefit payment that would have been made to the participant based on his or her accrued vested benefit at the time of death.

Some plans pay death benefits in addition to the required minimum. Some options include:

1. No additional benefits, QPSA only.

2. The excess of the present value of the accrued benefit less the present value of the preretirement survivor annuity.

3. The insurance policy proceeds less the cash value of the insurance policies.

4. The insurance policy proceeds less the present value of the preretirement survivor annuity.

5. The insurance policy proceeds less the cash value of the policies, plus the present value of the accrued benefit, less the present value of the preretirement survivor annuity.

6. The greater of the insurance policy proceeds or the present value of the accrued benefit less the present value of the preretirement survivor annuity.

7. \_\_\_\_ times the anticipated monthly benefit less the present value of the preretirement survivor annuity.

*Example*. Assume the plan and participant are as follows:

Fix format: extra spaces in second line; “62” should be on the same line as “retirement”; “59” should be after “at age”;

|  |  |
| --- | --- |
| Participant’s retirement age:  | 65 |
| Spouse’s age at participant’s retirement:  | 62 |
| Accrued vested benefit at age  | 59: $2,500 per month for life |
| Life insurance benefit:  | $250,000 (100 times the projected benefit ) |
| Life insurance cash value at age 59:  | $18,000 |

Annuity purchase rates (Based on 1983 Male Individual Annuity Mortality at 7%):

|  |  |
| --- | --- |
| Life-only payments:  | $117.68 per dollar per month |
| 50% joint and survivor payments:  | $129.35 per dollar per month |
| 100% joint and survivor payments:  | $141.03 per dollar per month |

The Employee Retirement Income Security Act of 1974 (ERISA) requires that every defined benefit plan and certain defined contribution plans provide that accrued benefits be paid to participants in the form of a 50 percent qualified joint and survivor annuity (QJSA). If the QJSA in the plan were 50 percent, the benefit of $2,500 per month would be adjusted as follows:

|  |
| --- |
| $2,500 × $117.68 / $129.35 = $2,274.45 per month |

In the absence of an election to waive the QJSA, a benefit of $2,274.45 per month would be paid to the participant for life and at his or her death, a benefit of $1,137.23 per month (50 percent) would be paid to the spouse for the spouse’s remaining life. If the plan provided for a 100 percent QJSA, the adjustment would be:

|  |
| --- |
| $2,500 × ($117.68 / $141.03) = $2,086.08 per month |

In this case, a benefit of $2,086.08 would be paid to the participant during his or her life and the same benefit continued for the life of his or her spouse at the participant’s death.

Apply this to the death benefit options listed previously. Assume the participant dies at age fifty-nine, so the present value of his or her accrued benefit at 7 percent interest would be:

|  |
| --- |
| ($2,500 × $117.68) / (1.076) = $196,038. |

If the participant were treated as any other terminated participant, it is assumed that the participant is 60 percent vested, and the plan provided for a 50 percent QPSA as noted previously, the surviving spouse would receive $682.34 (60 percent of $1,137.23) per month for life under option 1 or its lump-sum equivalent of $53,505 if the plan provided for lump-sum distributions.

Option 2 would pay the entire amount of $196,038. Part represents the present value of the preretirement survivor annuity as in option 1, the mandatory death benefit, and part represents the excess of the present value of the accrued benefit in excess of the present value of the preretirement survivor annuity.

Option 3 would pay $285,505 ($250,000 – $18,000 + $53,505), which includes the mandatory death benefit of the present value of the preretirement survivor annuity, plus the additional death benefit in option 3 of the life insurance proceeds, less the cash value of the life insurance policy.

Option 4 would pay $250,000 ($250,000 – $53,505 + $53,505), which is composed of the mandatory death benefit of the present value of the preretirement survivor annuity, plus the additional death benefit equal to the excess of the life insurance proceeds in excess of the present value of the preretirement survivor annuity.

Option 5 would pay $428,038 ($250,000 – $18,000 + $196,038 – $53,505 + $53,505), which is the mandatory death benefit of the present value of the preretirement survivor annuity, plus the additional death benefit equal to the insurance proceeds, less the insurance cash value, plus the present value of the accrued benefit in excess of the present value of the preretirement survivor annuity.

Option 6 would pay $303,505 ($53,505 plus the greater of $250,000 or [$196,038 – $53,505]), which is the mandatory death benefit (the present value of the preretirement survivor annuity) plus the additional death benefit equal to the greater of the life insurance proceeds, or the excess of the present value of the accrued benefit over the present value of the preretirement survivor annuity.

Option 7 would pay $250,000 ([100 × $2,500 per month] – $53,505) + $53,505), which is the mandatory death benefit of the present value of the preretirement survivor annuity, plus the additional death benefit equal to the excess of the insurance proceeds over the present value of the preretirement survivor annuity.

1015. What are the limits for life insurance in a defined benefit plan?

In all qualified retirement plans death benefits must be “incidental” to the retirement benefits.[[15]](#footnote-15) For defined benefit plans, the application of the incidental benefit rule involves the following options:

1. The greater of one-hundred times the monthly benefit or the theoretical individual level premium reserve (TILPR);

2. 100 times the monthly benefit;

3. The reserve under the TILPR; or

4. The face amount of insurance that could be purchased if less than 66⅔ percent (if whole life) or 33⅓ percent (if term or universal life) of the theoretical contribution is used to purchase life insurance plus the TILPR.

*Example 1.* Assume the following plan and participation information:

|  |  |
| --- | --- |
| Participant’s age: | 45 |
| Participant’s salary: | $60,000 |
| Normal retirement benefit at age 65: | Life annuity of 50% of three highest years’ average consecutive salary |
| Annuity purchase rates: | $117.68 per dollar per month (1983 IAM Male at 7.0%) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PlanFormat table at right, extra lines between column headings; dollar sign on wrong line and extra lines between each line of data.Year | MonthlySalary | MonthlyBenefit | RetirementReserve | TheoreticalContribution | TheoreticalReserve |
| 1 | $ 5,000 | $ 2,500 | $ 294,000 | $ 6,320 | $ 6,794 |
| 2 | $ 5,400 | $ 2,700 | $ 317,636 | $ 6,876 | $ 14,695 |
| 3 | $ 5,600 | $ 2,800 | $ 329,504 | $ 7,183 | $ 23,519 |
| 4 | $ 5,398 | $ 2,733 | $ 321,619 | $ 6,956 | $ 32,761 |
| 5 | $ 5,802 | $ 2,901 | $ 341,390 | $ 7,588 | $ 42,375 |
|  |  |  |  | $ 34,923 |  |

The monthly benefit is 50 percent of the high three-year average. For the first plan year, the salary of $5,000 per month is assumed to continue, so the benefit is based on that salary. In the second year the salary is *higher,* so the higher salary is assumed to continue and the monthly benefit is based on the higher salary. The same is true for the third plan year. In the fourth plan year, the salary goes down, so the high three consecutive year average must be identified. This would be plan years two through four, with an average salary of $5,466 and a benefit of $2,733 based on that average. In year five, the salary is higher than the three-year average, so that higher salary is assumed to continue and benefits are based on that higher salary.

The retirement reserve is the monthly benefit times the annuity purchase rate. The contribution answers the question, “How much must be contributed at 7.5 percent each year for the remaining working life of this participant to accumulate the retirement reserve required to fund his or her benefit?” In year one, the answer is $6,320. The year-by-year funding looks like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  PlanThere should be a minus sign before $7,885 below. The column “Theoretical Contribution” should only have a dollar sign on the first number before the total line, i.e. 556 should not have a dollar sign. Add a blank line after the column headingsYear | Reserve | Adjustmentin Reserve | Yearsto Fund | TheoreticalContribution |
| 1 | $294,200 | + $294,200 | 20 | $6,320 |
| 2 | $317,736 | + $ 23,536 | 19 |  556 |
| Total contribution for year 2 |  | $6,876 |
| 3 | $329,504 | + $ 11,768 | 18 |  307 |
| Total contribution for year 3 |  | $7,183 |
| 4 | $321,619 | * $ 7,885
 | 17 |  -227 |
| Total contribution for year 4 |  | $6,956 |
| 5 | $341,390 | + $ 19,771 | 16 |  632 |
| Total contribution for year 5 |  | $7,588 |

The incidental benefit limits for death benefits mean that if the participant dies at the end of year five, Option 1 offers the greater of the theoretical reserve, $42,375 in the example, or 100 times the monthly benefit, which would be $290,100. Option 2 offers 100 times the monthly benefit of $2,901, or $290,100. Option 3 offers the theoretical reserve of $42,375.

Option 4 is the most interesting. This choice applies if the plan has life insurance to fund the death benefit. The limitations on life insurance in defined contribution plans are related to contributions; however, a defined benefit plan provides benefits, not contributions. In an attempt to allow for similar limits on death benefits in a defined benefit plan, i.e., the ability to pay both the insurance proceeds *and* the reserve, Revenue Ruling 74-307[[16]](#footnote-16) was issued, and states:

Incidental benefits; life insurance. Preretirement death benefits under a qualified pension plan of any type will be considered “incidental” under section 1.401-1(b)(1)(i) of the regulations provided less than 50 percent of the employer contribution credited to each participant’s account is used to purchase ordinary life insurance policies on the participant’s life, even though the total death benefit equals the sum of the face amount of the policies and the participant’s auxiliary fund account balance at the time of death; Rev. Ruls. 68-453 and 73-501 clarified and modified.

Because the cash value in an insurance policy is considered to be part of the theoretical reserve (retirement reserve) used to fund the retirement benefit, it follows that not all of the premium is being used to provide the pure death benefit. It has been accepted by the IRS that half of the premium is to fund the death benefit and the other half is to fund the retirement benefit. Option 4 allows for 66⅔ percent of the theoretical contribution for the insurance premium, so half of the 66⅔ percent is to fund the death benefit and half is to fund the retirement benefit. The result is that 33⅓ percent funds the death benefit and the remaining 66⅔ percent of the total theoretical contribution (the remaining 33⅓ percent for the insurance premium plus the 33⅓ percent of the remaining total theoretical contribution that is not used to pay any part of the insurance premium) funds the retirement benefit (the ratio of 33⅓ percent to 66⅔ percent is 50 percent as provided in Revenue Ruling 74-307).

To review:

* One-third (33⅓ percent) of the theoretical contribution pays the cost of the death benefit in the insurance.
* One-third (33⅓ percent) of the theoretical contribution pays toward the cash value in the insurance policy to fund part of the retirement benefit.
* One-third (33⅓ percent) of the theoretical contribution pays toward a supplemental investment to fund the balance of the retirement benefit.

To measure “employer contributions,” the concept of theoretical contribution is used, as illustrated previously. This rule is applied on a cumulative basis as in a defined contribution plan and would allow for the following maximum insurance premiums, as illustrated below:

*Example 2.* Using the information provided in Example 1, the maximum insurance premiums would be as follows:

The numbers should be right justified. Add a blank line after the column headings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | TheoreticalContribution | CumulativeTheoreticalContribution | MaximumCumulativePremium | Percentage | TheoreticalReserve |
|
|
| 1 | $ 6,320 | $ 6,320 | $ 4,213 | 66⅔ | $ 6,794 |
| 2 | 6,876 | $13,196 | $ 8,797 | 66⅔ | $14,695 |
| 3 | 7,183 | $20,379 | $13,586 | 66⅔ | $23,519 |
| 4 | 6,956 | $27,335 | $18,223 | 66⅔ | $32,761 |
| 5 | 7,588 | $34,923 | $23,282 | 66⅔ | $42,375 |
|  | $34,923 |  |  |  |  |

The actual death benefit would be whatever insurance amount could be purchased with cumulative premiums totaling no more than $23,282 as of the end of the fifth year, e.g., an annual premium of $4,600, plus the theoretical reserve of $42,375, less the cash value of the insurance policy, which is considered to be part of the theoretical reserve. The cumulative limit on the premium of 66⅔ percent must be satisfied each year.

1. . IRC Sec. 415(b)(3). [↑](#footnote-ref-1)
2. . The 1983 Individual Annuity Mortality Table was developed by the Society of Actuaries and incorporated into a number of state insurance regulations. Other mortality tables have been developed in the succeeding years, and individual states may recognize the use of those tables within their jurisdictions. In the interests of simplicity, rates from the 1983 table will be used for the examples in this book. [↑](#footnote-ref-2)
3. . Treas. Reg. §1.415-3(c)(2). [↑](#footnote-ref-3)
4. . IRC Sec. 415(b)(2)(E). [↑](#footnote-ref-4)
5. . The differences in these tables, and the history of their development and adoption are beyond the scope of this example. [↑](#footnote-ref-5)
6. . IRC Sec. 401(l)(4)(A)(ii). [↑](#footnote-ref-6)
7. . IRC Sec. 401(l)(4)(A). [↑](#footnote-ref-7)
8. . Treas. Reg. §§1.401(l)-3(e), 1.401(l)-3(b)(4)(iii). [↑](#footnote-ref-8)
9. . Treas. Reg. §1.401(l)-3(b)(3). [↑](#footnote-ref-9)
10. . IRC Sec. 401(l)(5)(D); Treas. Reg. §1.401(l)-1(c)(17). [↑](#footnote-ref-10)
11. . Treas. Reg. §1.401(l)-3(d). [↑](#footnote-ref-11)
12. . Treas. Reg. §1.401(a)(4)-3(b)(2)(v). [↑](#footnote-ref-12)
13. . IRC Sec. 411(b)(1). [↑](#footnote-ref-13)
14. . IRC Sec. 415(b)(2)(C), IRC Sec. 415(b)(2)(D). [↑](#footnote-ref-14)
15. . Treas. Reg. §1.401-1(b)(1). [↑](#footnote-ref-15)
16. . 1974-2 C.B. 126. [↑](#footnote-ref-16)