SOCIETY OF ACTUARIES

Article from:

The Pension Forum

January 2003 – Volume 14 – Issue 2

Turnover Rates and Compensation Levels

Alan C. Pennington, F.S.A., E.A.

Bryan, Pendleton, Swats & McAllister

Alan.Pennington@bpsm.com

Prepared to satisfy Professional Development Requirements, Spring 2000

Introduction

In valuing liabilities for defined benefit plans, one of the key decrements is turnover. Traditional turnover tables most often relate to age and service. The traditional model assumes younger, shorter service employees tend to have a higher turnover than older, longer service employees. True enough. A typical table would probably have a 2-year select period and ultimate turnover for each age. In this case, the probability of turnover for a particular age may be one of three decreasing rates. For someone with less than one year of service, we would look up a rate from the 1-year select table. For someone with less than two years of service, we would look up a rate from the 2-year select table. For someone with over two years of service, we would look up a rate from the ultimate table.

While it may be generally recognized that higher paid employees tend to have lower turnover and they also tend to be the older, longer service employees, there is rarely (if ever) any explicit assumption made about the relation between the likelihood of turnover and the level of compensation. Maybe that's OK, maybe not.

This study will hypothesize that higher paid employees tend to have different and generally lower turnover at all levels of age and service. If that is correct, age/service turnover tables will understate liability for plans that have a traditional defined benefit formula by overstating turnover for younger, shorter service, higher paid employees. In a similar fashion, liability for non-traditional front loaded plans, such as cash balance, will have liabilities overstated. This is particular true if the discount rate is higher than the interest crediting rate (in the case of a cash balance plan).

General Example

Consider a bank. What is the probability of turnover for two employees both age 40, both with one year of service? The first employee is a bank teller making $25,000 a year.

The second employee is a high paid executive recently recruited from a competing bank. A traditional age/service turnover table would assign the same probability of turnover to both employees, thus understating the liability for the executive (assuming the higher paid employee has a lower probability of turnover than the teller). In this case, a compensation-based table would more accurately predict turnover and associated liability for each employee. This is a specific example of what may be a more general rule, that for a traditional defined benefit plan, age/service based turnover tables will understate liabilities in cases where the probability of turnover decreases as compensation increases.

Numerical Example

It is true that turnover liability tends to be a relatively small portion of total liability, but a change in the turnover rates could have a significant impact on the projected retirement liability. As turnover rates increase, turnover liability increases, but generally, retirement liability would decrease much more, as fewer people are assumed to reach retirement age. In the test case used for this study, the total present value of benefits in a given year varies as much as 23% depending on which turnover table is being used.

Impact of Compensation

Considering compensation to determine the probability of turnover may be important because higher paid employees also carry the greatest potential liability. Even if compensation based turnover tables are no better predictor of turnover than traditional age/service based tables, they may be a better predictor of actual liability. This is because, by being more accurate with regards to higher paid employees, the overall prediction of liability is likely to be more accurate.

Granted, a union company with very little variance in compensation levels would not benefit from a wage based turnover table. However, there are clearly examples of employee groups that include significant numbers of higher paid, shorter service, younger employees (lawyers, doctors, etc) for whom traditional age/service based tables are clearly not the best predictors.

In many corporate environments, such as law firms, compensation is directly related to job category. That is, partners would be at the high end of the compensation scale, followed by non-partner lawyers, followed by paralegals and finally secretaries and other support staff. In this setting, using job category as a factor in determining turnover would be equivalent to using compensation and perhaps a bit more straight forward as compensation would need to be adjusted each year for inflation. Compensation would be used explicitly in cases where there are too many titles or the titles are not sufficiently descriptive or consistent.

Source of Data

For purposes of studying patterns of turnover, 10 years of data will be analyzed for a medium size bank that could be considered representative of mid-size private companies. The average population for any year is about 3,500 lives for a total exposure of about 35,000 units. As mentioned above, it is expected that patterns would vary depending on the size of the employer and the nature of the business. If it can be shown that compensation is a superior predictor of liability for the sample medium size employer, it is almost certainly a better predictor for some smaller employers with a wide variance in compensation.

Developing Tables

The data for this study was initially collected for preparing the annual valuation of the employer's pension plan. In this case, the cause of each decrement was not always captured. Since retirement becomes a factor only after 55, the study will focus on ages under age 55 so that the impact of retirement will not skew results. Since mortality and disability before age 55 are small, all decrements prior to age 55 will be assumed to be as a result of turnover.

The first step in developing sample turnover tables will be to group data in the 1/1/89 to 1/1/93 valuations. Data will be organized with one record for each active participant for each year. Each record will include the participant's SSN, service as of the valuation, current pay, current age, valuation year and whether or not the participant was active one year after the valuation date. If not and if the participant is less than age 55 as of the valuation date, the participant will be assumed to have terminated during the year.

From this data, the probability of turnover will be determined by:

1. Age
2. Service
3. Compensation
4. Age/Service – matching ranges to actual data (see discussion below)
5. Age/Compensation

6. Compensation/Service
7. Traditional Age/Service – 3 year select and ultimate

Smoothing techniques will also be applied to the data to create tables without random fluctuations or spikes in the turnover rates. See the attached appendix for copies of the final tables.

Ranges Used in Tables

In the best case, every table would have a decrement by every age, service and compensation combination, as applicable. Tables for this study will not for two reasons. Number one, the rate of decrement will not always change as each variable changes. Number two, and perhaps more significant, the amount of data used for this study to develop the tables would not allow significant exposures for each combination of factors to provide statistically significant results.

The age-based table will have decrements by age from 18 (earliest age in the group) to age 55. The service-based table will have decrements by service from 0 to 40. Notice that anyone hired at 18 would only have 37 years of service at age 55.

The compensation-based table will have decrements in increments of $2,500 from 0 to $80,000. A larger band, say $5,000 or $10,000 might miss some termination patterns. Smaller bands would often have insignificant numbers of exposures. Participants making $80,000 or more were all grouped together since the number of exposures would not provide statistically significant results using smaller ranges.

Groupings for 2-factor tables were determined based on results of the 1-factor tables except in the case of table 7, the traditional age/service table which uses the traditional bands.

Grouping used for the 2-factor tables are as follows on page 59:

Age	Service	Compensation
< 22	0-1	< $10,000
23-27	2-3	Between $10K and $20K
28-32	4-5	> $20,000
33-37	6-9	
38-42	10-15	
> 42	> 15	

The compensation/service and age/compensation tables both have 18 cells (three compensation groups times six age groups or three compensation groups times six service groups). The age/service table has 36 cells (6 x 6).

Other Assumptions

The basis for any present value calculations will be 8% interest and 1994 Group Annuity Mortality.

The plan will be assumed to be a traditional 5-year final average pay plan with a 2% accrual rate and 5-year cliff vesting. This is an extremely simplified version of the actual plan provisions. Using actual plan provisions would add additional complexity without adding value. Though beyond the scope of this paper, it would be interesting to see results for a cash balance formula.

Since we are considering compensation as a basis for turnover, it is appropriate to make some adjustments for inflation and real wage growth. The salary scale for valuation runs will be assumed to be 4.5%. This includes 2.5% for inflation and 2% for real wage growth. For developing salary based turnover tables, salary before 1993 will be adjusted for inflation to the base year of 1993. So, for example, 1992 compensation will be multiplied by 1.025 to get adjusted 1993 compensation.

In each "valuation," for purposes of looking up a decrement from a salary-based table, compensation projected forward at 4.5% will be adjusted back to 1993 at 2.5% before looking up the appropriate decrement in a salary based table. Rather than adjusting breakpoints in the table each year, the programming adjusts compensation before looking up values in the applicable table.

Valuation Runs

Data from 1/1/89 to 1/1/93 will be used to develop sample turnover tables. Data as of 1/1/94 to 1/1/97 will be used to run test valuations for various tables. Data as of 1/1/98 will only be used as a basis to determine what employees that were active as of 1/1/97 were still active as of 1/1/98.

Methodology for Validating Hypothesis

Once sample turnover tables have been developed using the 1989 through 1993 data, the next step will be to calculate liabilities with data as of 1/1/94, 1/1/95, 1/1/96 and 1/1/97. The turnover tables that produce the least gains and losses will be considered to be better predictors of future potential liability.

Gain/loss will be determined by comparing the actual liability release from turnover compared to the expected release. Expected liability release will be the sum over all active employees of:

Wx * (**PVB – PVAB**)

Wx - the probability of turnover (withdraw) at age x (as of the valuation date)

PVB – the total present value of projected benefits. Arguable, the Entry Age Normal or Projected Unit Credit accrued liability could have been used. Since the present value of benefits reflects the total impact of future decrements, it was deemed to be the most appropriate basis for the study. PVB will be calculated for each gain/loss calculation based on the turnover table under consideration. That is, if we are calculating the gain/loss for an age/compensation table, the PVB will be based on the same table.

PVAB – the present value of vested accrued benefits. The PVAB is the present value of the vested accrued benefit that would be paid if the participant terminated during the year.

The actual liability release will be the sum for terminated employees of PVB-PVAB.

Calculating PVB

Traditional valuation programming handles age and age/service tables. It does not handle compensation-based tables. In order to have a consistent source of PVB, programming was set up in Microsoft Access 97 specifically to use any of the developed tables. Data is stored in tables with most of the calculations being done in modules (user defined functions). See Appendix I for a copy of the function used to calculate the PVB.

Present Value of Benefits (using each of 7 turnover tables for 4 valuations)

Valuation Date - >	01-Jan-94	01-Jan-95	01-Jan-96	01-Jan-97	Average
PVB1 (age)	107,186,064	109,946,195	120,474,128	130,990,231	117,149,155
PVB2 (svc)	120,929,670	123,340,200	135,410,457	146,022,118	131,425,611
PVB3 (comp)	103,518,823	106,020,231	116,237,147	126,432,872	113,052,268
PVB4 (age/svc)	114,232,907	117,351,580	128,736,316	139,878,297	125,049,775
PVB5 (age/comp)	120,249,016	122,842,056	134,815,118	145,642,766	130,887,239
PVB6 (svc/comp)	126,886,192	129,684,531	142,447,094	153,753,861	138,192,917
PVB7 (trad age/svc)	114,055,571	116,924,912	128,380,654	139,243,766	124,651,226

Gains and Losses

Valuation Date - >	01-Jan-94	01-Jan-95	01-Jan-96	01-Jan-97	Average
WD (Gain)/Loss1	(2,647,892)	(631,573)	(1,935,097)	(789,319)	(1,500,970)
WD (Gain)/Loss2	(2,269,297)	(285,448)	(1,856,953)	(279,537)	(1,172,809)
WD (Gain)/Loss3	(2,652,510)	(774,878)	(1,955,717)	(767,548)	(1,537,663)
WD (Gain)/Loss4	(1,618,813)	637,735	(583,217)	1,003,331	(140,241)
WD (Gain)/Loss5	(2,033,329)	16,809	(1,544,107)	68,628	(873,000)
WD (Gain)/Loss6	(1,099,221)	1,115,147	(316,999)	1,565,769	316,174
WD (Gain)/Loss7	(2,172,968)	(245,147)	(1,700,453)	(244,932)	(1,090,875)

Observations – the single factor tables

The compensation only table produces the lowest PVB. This is a result of the compensation only table overstating the probability of turnover, on average, at higher compensation levels. For example, the probability of turnover for a 50 year old with 20 years of service that makes $45,000 would be 15.34% based on the compensation only table, while the age-table has a probability of turnover of 10% and the service only table has a probability of 7.25%. The two-factor tables result in turnover from 6% to 9.6%, further supporting this conclusion. Said in a different way, the 15.34% ignores the actual age and service, both of which would indicate a lower expected rate of turnover. The net result, is, on average, the compensation only table overstates turnover and so understates liability.

The single factor age and compensation tables produce similar PVB and nearly identical gains and losses. In terms of minimizing gains and losses, compensation is as good as age, but service is the best predictor. There are probably other groups in which compensation alone would be superior to age alone and others where it would be inferior. This remains to be tested.

Observations – the 2-factor tables

At first glance, it might appear from the last column that turnover table 4 based on age and service is the superior option. This is based on an average gain/loss of only (140,241) over the 4-year period. Even more interesting perhaps, the traditional age/service table, which does only a mediocre job of minimizing the gain/loss has an average PVB nearly equal to that based on table 4 (modified age/svc). How could this be? Given PVB are approximately equal and PVAB is the same, the only factor left in the gain/loss calculation is the turnover decrement for each individual for the valuation year. Table7, on average, overstates the probability of turnover in the year following the valuation (thus resulting in a larger liability loss), while understating the probability of turnover in future years in such a way that the PVB for table 7 is approximately equal to that of table 4.

2-factor tables that use compensation as a factor consistently produce higher PVB than tables that do not use compensation as a factor.

Further, the 2 factor tables produce superior results in all cases when compared to the single factor tables. As is consistent with comments concerning the 1-factor tables, two-factor tables that use service produce results that are superior to those that do not use service.

Conclusions

Clearly, the level of research involved in this study and related results are far too narrow to make any sweeping generalizations. If anything, more questions are raised than questions answered.

Interestingly, the rates of turnover at compensation levels over $20,000 was not shown to have significant variation. In large part, it is likely that the much higher turnover levels at lower compensation levels is due to part-time employees (of which banks often have many). If that is the case, it might make sense to run a separate valuation for part-time employees (using an appropriate age/service table) and another valuation for other employees.

Perhaps the most significant result from this study is that traditional age/service tables do a poor job of predicting gains and losses. By expanding the service bands, age/service tables could be much better predictors of actual liability.

At very high compensation levels (over $120,000), turnover rates tended to start going up again. However, the amount of data was insufficient to reflect in the turnover table or to make any generalizations.

It seems clear that the study of how compensation and service impact turnover is an area that deserves more attention. At the very least, compensation appears to be a factor in predicting turnover. Both the age/compensation and service/compensation tables produce results that are superior to the age only and service only tables. It is likely that using compensation in other combinations with additional refinements and with other employer groups may be shown to significantly improve the prediction of liability. It is significant that there are only 18 cells in age/compensation and service/compensation tables. With more extensive data, future studies may be able to show more definitive results.

Impact on Funding

If a table using compensation as a factor is in fact a better predictor and produces a larger PVB, the funding requirement would naturally increase as well. The extent of the increase would of course be dependent on several variables, like the market value of assets, the asset valuation method, the funding method. In any event, a 10% increase in liability could, for a plan that is currently making contributions, produce a significant contribution increase.

Admittedly, valuation methods such as projected unit credit that focus on the liability accrued to date, will be much less affected by changes in the turnover (as will financial disclosures under FASB which are, of course, based on the projected unit credit method).

Future action

If you were inclined to do some valuation runs based on compensation, how would you set up the programming? I would suggest splitting participants into groups by compensation (or job category, as appropriate), making a run for each group using appropriate age/service tables and summing the results. As technology progresses and valuation programming catches up, perhaps compensation bands will eventually become a standard parameter.

Appendix I – One Factor Turnover Tables

(Tx = Probability of Turnover)

Age	Tx
18	38.00%
19	36.05%
20	34.89%
21	30.87%
22	30.16%
23	27.37%
24	26.37%
25	25.44%
26	24.13%
27	22.73%
28	22.14%
29	20.19%
30	18.00%
31	17.13%
32	16.21%
33	15.40%
34	15.02%
35	15.00%
36	15.00%
37	14.89%
38	14.30%
39	14.09%
40	13.26%
41	13.41%
42	13.39%
43	12.79%
44	12.33%
45	12.82%
46	11.22%
47	10.78%
48	10.53%
49	10.55%
50	10.00%
51	10.00%
52	10.00%
53	10.00%
54	10.00%
55	100.00%

Service	Tx
0	28.64%
1	26.48%
2	24.80%
3	20.95%
4	18.57%
5	16.12%
6	14.16%
7	12.98%
8	11.78%
9	11.28%
10	10.88%
11	10.50%
12	9.93%
13	9.24%
14	8.79%
15	8.34%
16	7.71%
17	7.25%
18	7.25%
19	7.25%
20	7.25%
21	7.25%
22	7.25%
23	6.95%
24	6.50%
25	6.50%
26	6.00%
27	6.00%
28	6.05%
29	5.23%
30	5.00%
31	5.00%
32	5.00%
33	7.00%
34	7.00%
35	7.00%
36	8.00%
37	8.00%
38	100.00

Comp	Tx
0.00	38.34%
2,500.00	36.26%
5,000.00	35.34%
7,500.00	31.92%
10,000.0	27.77%
12,500.0	22.61%
15,000.0	18.68%
17,500.0	15.04%
20,000.0	13.00%
22,500.0	12.00%
25,000.0	12.00%
27,500.0	13.00%
30,000.0	13.00%
32,500.0	14.27%
35,000.0	14.70%
37,500.0	14.99%
40,000.0	15.62%
42,500.0	15.52%
45,000.0	15.34%
47,500.0	14.71%
50,000.0	14.62%
52,500.0	13.85%
55,000.0	13.38%
57,500.0	13.38%
60,000.0	13.38%
62,500.0	13.38%
65,000.0	13.38%
67,500.0	13.38%
70,000.0	13.38%
72,500.0	13.38%
75,000.0	13.38%
77,500.0	13.30%
80,000.0	13.61%

Appendix II – Two Factor Turnover Tables

(Tx = Probability of Turnover)

Note: Age = 23 is for all ages 23 to 27; Svc = 4 is for 4 or 5, etc.

Age	Svc	Tx
0	0	35.57%
23	0	29.63%
28	0	25.63%
33	0	23.10%
38	0	20.65%
43	0	20.55%
0	2	25.09%
23	2	24.60%
28	2	21.18%
33	2	20.10%
38	2	20.74%
43	2	20.49%
0	4	17.00%
23	4	17.34%
28	4	17.64%
33	4	15.59%
38	4	14.27%
43	4	14.27%
0	6	15.00%
23	6	14.98%
28	6	13.39%
33	6	12.26%
38	6	11.22%
43	6	10.00%
0	10	10.00%
23	10	10.00%
28	10	10.34%
33	10	11.19%
38	10	10.18%
43	10	10.00%
0	16	7.00%
23	16	7.00%
28	16	7.00%
33	16	7.00%
38	16	7.00%
43	16	7.00%

Comp	Age	Tx
0.00	0	38.24%
0.00	23	32.60%
0.00	28	30.71%
0.00	33	29.79%
0.00	38	27.09%
0.00	43	26.06%
12,500	0	21.90%
12,500	23	19.64%
12,500	28	16.04%
12,500	33	14.89%
12,500	38	13.07%
12,500	43	11.27%
20,000	0	27.37%
20,000	23	18.60%
20,000	28	14.71%
20,000	33	12.07%
20,000	38	10.27%
20,000	43	9.64%

Svc	Comp	Tx
0	0	34.40%
0	12,500	22.90%
0	20,000	22.20%
2	0	34.90%
2	12,500	18.10%
2	20,000	19.50%
4	0	26.40%
4	12,500	14.20%
4	20,000	14.20%
6	0	28.00%
6	12,500	12.10%
6	20,000	10.40%
10	0	29.70%
10	12,500	9.20%
10	20,000	7.70%
16	0	30.80%
16	12,500	8.20%
16	20,000	6.10%

Appendix III – Two Factor Traditional 3 Year Select and Ultimate Age/Service Table

(Tx = Probability of Turnover)

Age	Svc	Tx
0	0	35.57%
23	0	29.63%
28	0	25.63%
33	0	23.10%
38	0	20.65%
43	0	20.55%
0	2	25.09%
23	2	24.60%
28	2	21.18%
33	2	20.10%
38	2	20.74%
43	2	20.49%
0	4	17.00%
23	4	17.34%
28	4	17.64%
33	4	15.59%
38	4	14.27%
43	4	14.27%
0	6	15.00%
23	6	14.98%
28	6	13.39%
33	6	12.28%
38	6	11.22%
43	6	10.00%
0	10	10.00%
23	10	10.00%
28	10	10.34%
33	10	11.19%
38	10	10.18%
43	10	10.00%
0	16	7.00%
23	16	7.00%
28	16	7.00%
33	16	7.00%
38	16	7.00%
43	16	7.00%

Comp	Age	Tx
0.00	0	38.24%
0.00	23	32.60%
0.00	28	30.71%
0.00	33	29.79%
0.00	38	27.09%
0.00	43	26.06%
12,500	0	21.90%
12,500	23	19.64%
12,500	28	16.04%
12,500	33	14.99%
12,500	38	13.07%
12,500	43	11.27%
20,000	0	27.37%
20,000	23	18.60%
20,000	28	14.71%
20,000	33	12.07%
20,000	38	10.27%
20,000	43	9.64%

Svc	Comp	Tx
0	0	34.40%
0	12,500	22.90%
0	20,000	22.20%
2	0	34.90%
2	12,500	18.10%
2	20,000	19.50%
4	0	28.40%
4	12,500	14.20%
4	20,000	14.20%
6	0	28.00%
6	12,500	12.10%
6	20,000	10.40%
10	0	29.70%
10	12,500	9.20%
10	20,000	7.70%
16	0	30.80%
16	12,500	8.20%
16	20,000	6.10%

Appendix IV - Access Function to Calculate Present Value of Benefits

```
Function PVB(myJy, mySvc, myComp, myFSS, Age55AnnFctr, wdTable, WDcode,
Valdt As Date) As Double
'wdcode = 1 age
'wdcode = 2 svc
'wdcode = 3 comp
'wdcode = 4 age/svc
'wdcode = 5 age/comp
'wdcode = 6 svc/comp
'wdcode = 7 trad age/svc
Dim ValYr As Long
Dim iYr As Long
ValYr = Year(Valdt)
iYr = ValYr 'use iyr in loop
Dim i As Integer
Dim Fctr As Double
Dim SumFctr As Double
Dim wd As Double
Dim ab As Double
Dim tage As Long
Dim tComp As Double
Dim adjComp As Double
Dim tSvc As Double
Dim lSvc As Double 'for lookup age/svc, comp/svc tables
Dim myDB As Database
Dim myRS As Recordset, tck As Double
Dim mSQL As String, Px As Double
Set myDB = CurrentDb
mSQL = "select * from [" & wdTable & "]"
Set myRS = myDB.OpenRecordset(wdTable, dbOpenTable)
myRS.MoveFirst

tSvc = mySvc
tComp = myComp
Fctr = 0
SumFctr = 0
Px = 1
tck = 0
wd = 0
myRS.Index = "PrimaryKey"

For i = myJy To 55
   ab = CalcTradAB(tComp, tSvc)
```

```
Select Case WDcode  ‘ Evaluate Number.
Case 1
   myRS.Seek “=”, i           ‘get decrement for age w/d
Case 2
   myRS.Seek “=”, Mn(37, tSvc \ 1) ‘svc w/d
Case 3
   adjComp = tComp / (1.025 ^ (iYr - 1993)) ‘adjust to base yr 1993
   adjComp = (adjComp / 2500 \ 1) * 2500 ‘round to 2500
   myRS.Seek “=”, Mn(80000, adjComp)    ‘comp w/d
Case 4 ‘ by age and comp
   adjComp = tComp / (1.025 ^ (ValYr - 1993)) ‘adjust to base yr 1993
   adjComp = (adjComp / 2500 \ 1) * 2500 ‘round to 2500
   If adjComp < 12500 Then
      adjComp = 0
   Else
      If adjComp >= 20000 Then
         adjComp = 20000
      Else
         adjComp = 12500
      End If
   End If
   Select Case i ‘age
      Case Is <= 22
         tage = 0
      Case 23 To 27
         tage = 23
      Case 28 To 32
         tage = 28
      Case 33 To 37
         tage = 33
      Case 38 To 42
         tage = 38
      Case Is >= 43
         tage = 43
   End Select
   myRS.Seek “=”, tage, adjComp    ‘comp w/d
Case 5 ‘ age/svc decrement
   Select Case i ‘age
      Case Is <= 22
         tage = 0
      Case 23 To 27
         tage = 23
      Case 28 To 32
         tage = 28
      Case 33 To 37
```

```
        tage = 33
      Case 38 To 42
        tage = 38
      Case Is >= 43
        tage = 43
    End Select
    Select Case tSvc \ 1 'svc
      Case 0, 1
        lSvc = 0
      Case 2, 3
        lSvc = 2
      Case 4, 5
        lSvc = 4
      Case 6 To 9
        lSvc = 6
      Case 10 To 15
        lSvc = 10
      Case Is >= 16
        lSvc = 16
    End Select
    myRS.Seek "=", tage, lSvc
  Case 6 ' svc/comp decrement
    Select Case tSvc \ 1 'svc
      Case 0, 1
        lSvc = 0
      Case 2, 3
        lSvc = 2
      Case 4, 5
        lSvc = 4
      Case 6 To 9
        lSvc = 6
      Case 10 To 15
        lSvc = 10
      Case Is >= 16
        lSvc = 16
    End Select
    adjComp = tComp / (1.025 ^ (iYr - 1993)) 'adjust to base yr 1993
    adjComp = (adjComp / 2500 \ 1) * 2500 'round to 2500
    If adjComp < 12500 Then
      adjComp = 0
    Else
      If adjComp >= 20000 Then
        adjComp = 20000
      Else
        adjComp = 12500
      End If
    End If

    myRS.Seek "=", lSvc, adjComp
```

```
    Case 7 ‘traditional age/svc table
        Select Case i ‘age
            Case Is <= 18
                tage = 18
            Case 19 To 54
                tage = i
            Case Is > 54
                tage = 54
        End Select
        Select Case tSvc \ 1 ‘svc
            Case 0
                lSvc = 0
            Case 1
                lSvc = 1
            Case 2
                lSvc = 2
            Case Is >= 3
                lSvc = 3
        End Select
        myRS.Seek “=”, tage, lSvc

    Case Else   ‘ Other values.
‘       Exit Function

    End Select

    tComp = Mn(160000, tComp * (1 + myFSS))
    tSvc = tSvc + 1
    iYr = iYr + 1
    If i < 55 Then
        ab = ab * vpct(tSvc)
        wd = myRS!decr * Px
    Else
        wd = Px
    End If
    Px = Px * (1 - myRS!decr)
    Fctr = wd * ab
    tck = tck + wd
    SumFctr = SumFctr + Fctr

Next i

PVB = SumFctr * Age55AnnFctr / (1.08 ^ (Mx(55, myJy) - myJy))
End Function
```