

EDUCATION AND EXAMINATION COMMITTEE
OF THE
SOCIETY OF ACTUARIES

COURSE EA-2, SEGMENT B, STUDY NOTE

CONTRIBUTORY PENSION PLANS AFTER OBRA '89

by

John Atteridg, FSA

Copyright 1992 by the Society of Actuaries

The Education and Examination Committee provides study notes to persons preparing for the examinations of the Society of Actuaries. They are intended to acquaint candidates with some of the theoretical and practical considerations involved in the various subjects. While varying opinions are presented where appropriate, limits on the length of the material and other considerations sometimes prevent the inclusion of all possible opinions. These study notes do not, however, represent any official opinion, interpretations or endorsement of the Society of Actuaries or its Education and Examination Committee. The Society is grateful to the authors for their contributions in preparing the study notes.

CONTRIBUTORY DEFINED BENEFIT PLANS AFTER OBRA '89

Much of the complexity you are about to encounter can be seen as a case study in the Law of Unintended Consequences. In 1987, Congress set about to make sure that terminating contributory plans would pay more of their surplus to participants, as opposed to employer reversions. They accomplished this by increasing how much of participants' benefits (and hence, of the plan's surplus) would be considered "employee-paid." That simple change had drastic ramifications for *ongoing* contributory plans, and even for non-contributory plans (since the interest rate for participants who want to repay lump sums is tied to the interest rate on employee contributions).

This study note looks at calculations that are required for any plan with employee contributions remaining. Many plans had employee contributions in the past, and at least some contribution accounts remain today, even though employee contributions were stopped at some point. In addition, plans with ongoing employee contributions will require special considerations for social security integration (IRC §401(1)), for non-discrimination (IRC §401(a)(4)), and for the defined *contribution* §415 limit; these considerations are beyond the scope of this study note. Finally, employee contributions serve to increase a participant's defined benefit §415 limit, because some of the benefit is employee-paid. The IRS hasn't said exactly how to make this adjustment, but it usually doesn't matter (and isn't discussed further here) because most contributory plans are nowhere near generous enough to approach the defined benefit limit.

In a contributory defined benefit plan, the benefits paid for by the employee's own contributions are always 100% vested. These "employee-paid benefits" are calculated by maintaining an account balance of the employee's contributions plus credited interest, and converting the account to a pension annuity. The first section of this study note discusses how to calculate the employee-paid benefit. The second section discusses some tax issues raised by contributory plans; it assumes the student is already familiar with the general taxation of annuities using exclusion ratios.

CALCULATING THE EMPLOYEE-PAID BENEFIT

ERISA originally set an interest rate (5%) for maintaining a participant's account up through retirement, and a factor (120) for converting it at age 65 to a life annuity. OBRA '87 attempted to update these parameters to current economic conditions, but its changes had the unfortunate effect of requiring plans to pay even non-vested participants two or three times their account balances. OBRA '89 corrected this problem retroactively,, so plans should operate as if the OBRA '89 rules have been in effect since the 1988 Plan Year.

Actually, the law only requires a plan to calculate employee-paid benefits in this particular manner. Other than that, employers can continue to

credit interest at 5%, 0% or any other rate, in terms of what they tell participants. In some cases, for example, plan sponsors may prefer to use a lower "information" rate in order to reduce the portion of the benefit the participant can take as a lump sum, since most plans do permit withdrawal of contributions and interest at the plan's chosen rate (even this provision isn't required). This said, however, most plans do indeed use exactly the law's provisions for all contribution purposes in order to simplify administration and avoid confusion.

Under OBRA '89, the employee-paid benefit is calculated as follows:

	<u>ERISA</u>	<u>OBRA '87</u>	<u>OBRA '89</u>
Interest rate on Contribution Account	5%	120% AFR	120% AFR
Interest rate to Project to NRD	5%	120% AFR	Plan's lump sum (417(e)) basis
Convert to Monthly Annuity (single life)	120	120	Plan's lump sum (417(e)) basis
Limited to	Accrued Benefit	Accrued Benefit	No limit

Thus, OBRA '89 makes three major changes:

- i) Account balances are maintained using a floating interest index.
- ii) Plans use their own lump sum basis to convert from the contribution account to an employee-paid benefit and back to a lump sum (since a total refund has to at least equal the present value of vested benefits).
- iii) The annuity derived from the employee's contribution account is fully payable, even if it is more than the plan's formula accrued benefit.

Together, these changes mean that the Present Value of Employee Paid Benefits always equals the contribution account credited with 120% AFR interest. In turn, contributory plans are effectively mandated to credit at least 120% AFR interest on the employee contributions.

This study note includes worksheets developed by Paul Gilbert and the author, both of Wm. M. Mercer, Inc., showing how the employee-paid benefit

is calculated. You should familiarize yourself with these worksheets, since the rest of this section assumes you understand their calculations.

Plans must now guarantee a lump sum of the contributions with full OBRA interest, or an equivalent annuity. Prior to OBRA '89, when employee-paid benefits were limited to the accrued benefit under the plan, some plans found it worthwhile to continue a 5% account (or some other lower interest rate); such a plan could sometimes pay less than the account with full OBRA interest (using old RR 78-202, which is now obsolete). Now, the only advantage to maintaining an account based on lower interest is if a plan wants to limit how much of the benefit is available in a lump sum. Even then, the remainder with full interest is payable as an annuity.

For non-vested terminations, it's probably best to allow a full lump sum with OBRA interest since it gets rid of them entirely. Crediting a lower interest for the contribution refund would create a remainder benefit to be paid at retirement, including tax headaches (see second section).

Plans still have to worry about the amount of benefit reduction when a participant withdraws contributions. Most plans will want to offset by the employee-paid benefit if they've paid the full OBRA account. But if the plan says to project at 5% and divide by 120 (per ERISA), you may still have to do that even though the law has changed to permit (*does not require!*) a larger offset. Can we even amend such a plan - would an increase in offset result in a prohibited reduction of overall benefit?

Revenue Ruling 76-47 used to say how to convert the balance to an annuity. It is now obsolete because the entire conversion to an annuity now uses plan factors. However, 76-47 can probably still be used for guidance in the IRS' general application of the Law.

Technical Questions Remaining

1. When do we determine "employee-paid benefits," especially for a participant who leaves money in the plan? At termination of employment? At withdrawal of contributions? At plan termination? At Normal Retirement Date? At *actual* retirement date?

The employee-paid benefit will vary from year to year as the interest rates for accumulating and projecting the account fluctuate. While active, the employee-paid benefit may go down from year to year. After termination it can certainly go down in a given year, but will actually *increase* over time because we are crediting interest at higher than the projection rate (i.e., each year we replace a projection year that used PBGC rates or lower with a high 120% AFR year). Is this a problem?

For participants who leave money in the plan, I recommend determining employee-paid benefits only at actual retirement, or account withdrawal (if sooner). My reason is that waiting until retirement will preserve the contribution account during the interim

years. Think of a non-vested participant: if we fix the employee-paid benefit at termination, then the refund just a year later (present value of future benefits) can go up or down drastically. By letting the benefit vary instead, the refund will always equal the contribution account with 120% of AFR. This result holds true even if the participant elects late retirement. Of course, this recommendation means you can only give an *estimated* benefit amount to a departing employee, which can create its own problems (Statement of vested benefits? Informed consent to withdraw contributions? Reporting on form SSA?)

The overall recommendation, then, is that an employee-paid benefit is only fixed upon the first of the following events:

Withdrawal of contribution account
Actual retirement (Normal, Early, or Late)

and note that termination of employment or plan is *not* one of the listed events!

2. Do we use pre-retirement mortality to calculate the employee-paid benefit or its present value? I suspect "no" is the correct answer, even though it leads to needing two different annuity conversion rates:

New §411(c)(2)(C)(iii)(II) projects to age 65 with interest only

§411(c)(2)(B) only mentions interest, although mortality just *has* to apply after retirement (actuaries wouldn't know how to do it any other way!).

The problem with interest only up to retirement is that the present value factor for that portion of the benefit would then have to discount with interest only from retirement backwards, in order to arrive at $PV('ee-pd) = \text{contribution account}$. Yet most plans' PV factors discount for pre-retirement mortality. So we need a factor without mortality for discounting the employee-paid portion, and a factor with mortality for the employer-paid portion (if any).

This is actually a correct move theoretically. After all, the employee-paid portion has a pre-retirement death benefit of 100% of the reserve (that is, the contribution account), so without mortality is appropriate. The employer-paid portion has only a minimal non-guaranteed death benefit, so with mortality is correct for that portion.

We could instead use pre-retirement mortality for all purposes. This would increase the employee-paid portion, since in essence we would increase the account for survivorship between now and retirement (which shows why it is appropriate to ignore pre-retirement mortality). Alternatively, we would calculate by

dividing a lower lump sum factor (that uses mortality) into the contribution account and arrive at a larger employee-paid benefit.

One thing we definitely *don't* want to do is to project forward at interest only, then discount the employee-paid portion using mortality. That would arrive at PV(ee-pd) *less than* the contribution account, which seems contrary to intent and logic. It would also be contrary to RR 78-202's logic, which says to use the same factors both directions in arriving at a minimum payout.

Notice that the maximum offset *would* use mortality, if the IRS follows the logic of RR 89-60 (which was issued after OBRA '87 but before OBRA '89). This would lead to an allowable offset larger than the employee-paid benefit. Most plan language already limits the offset to the employee-paid portion, as reflected in the attached worksheets. The worksheets explain what changes apply if the larger offset is desired.

3. What interest rate do we use for all these projections? The law says "the interest rate which would be used under the plan under section 417(e)(3)." If the plan is using PBGC (deferred) interest factors, those are clearly appropriate here.

If the plan is using 120% of PBGC for amounts over \$25,000, I expect you can use that here, although it gets messy. In particular, what if the contribution account is less than \$25,000 but the PV of entire accrued is greater? Which rate to use? And can we offset that larger employee-paid benefit if the participant withdraws the account?

Which leads to the question if a plan has chosen to use a lower rate for lump sum purposes, say 5% flat interest rate, can we use that here? I sure hope so, since I'd hate to justify projecting forward at PBGC rates and then discounting back at the plan's rate; we'd be back to PV('ee-pd) greater than contribution account. On the other hand, using 5% will reduce the employee-paid benefits - will the IRS like that? And will the plan like reducing its allowable offset?

TAXATION OF BENEFITS IN A CONTRIBUTORY PENSION PLAN

Contributory pension plans are taxed under the annuity rules of IRC §72. If a participant elects to leave contributions and interest in the plan, then the taxation is just like an annuity where his basis equals his contribution amount (without interest). Since these rules are covered elsewhere in the syllabus, we won't review them here.

The rest of this study note addresses the taxation of a participant who withdraws employee contributions, possibly with interest. For participants who withdraw a lump sum based on their contribution account but leave residual benefits in the plan, it is not a pretty picture.

First, let's review what you can't do. Before tax reform, the first dollars of withdrawal were considered a non-taxable refund of contributions, up to the total contribution amount. Many terminating and retiring participants withdrew exactly their contributions with no interest, and viewed it as a tax-free windfall. After tax-reform, however, Subsection 72(e)(8)(D) permits this treatment only if the plan allowed *in service* withdrawals as of May 5, 1986. Since defined benefit plans cannot permit in-service withdrawals, this exclusion will only apply to certain terminated plans, or to plans that had stopped contributions and allowed participants to withdraw existing balances. As a result, most ongoing plans cannot use this exclusion. They will tax a pro-rata portion of *any* withdrawal, even if characterized as "contributions only."

Another thing you can't do affects this pro-rata calculation. We are familiar with Defined Contribution plans that use a "separate account" for employee contributions. The bad news is that IRS Notice 87-13 defines a separate account as one that is credited with the actual investment return of the trust. Since most DB plans credit an arbitrary rate, such as 5%, or 120% of AFR, separate account treatment is not available. Besides, the tax code allows separate accounts for Defined Contribution plans only.

As a result, the non-taxable fraction of a refund (contributions alone or contributions with interest) is:

$$\frac{\text{Total Contributions (without interest)}}{\text{Total Value of Entire Plan Benefit}}$$

Since the value of the participant's total plan benefit is likely to be much more than the contributions alone, the non-taxable fraction may be very small and the majority of the "contribution" refund will be taxable.

Calculations

The non-taxable fraction of the lump sum can be restated as:

$$\frac{\text{Total Contributions}}{[\text{Lump Sum taken}] + [\text{Present Value of Residual Benefit}]}$$

Definitions:

- Residual Benefit - The benefit remaining in the plan. See the prior section for details on calculating the Residual Benefit.
- Present Value - The IRS has addressed present value in Notice 87-13, Question 11 which cross-references to regulation §20.2031-7.

According to the IRS, if the Plan Provides for a Total Distribution, then the present value is the amount that could be taken.

If a Total Distribution is Not Available, then the IRS says to use the rules for valuing estates, §20.2031-7.

The estate regulation originally prescribed 10% interest and a specific mortality table for valuing annuities that were part of estates. However, TAMRA '88 amended the estate regulation to specify a floating interest basis and updated mortality. So one tax issue is whether the new basis applies for valuing residual benefits in a contributory pension plan as well as for estates. We understand that the IRS' preliminary judgement is that 10% and old mortality should continue to be used, but they could easily change their mind, which would change the tax calculations for withdrawals back to 1986 (!). (Actually, some plan sponsors have been slow to change their administration procedures, and are incorrectly still using the old rules that said the entire contribution portion was non-taxable.)

An unexpected consequence of using 10% (or any other high rate) is that the tax-free portion of the distribution will be less if the participant has a lump sum option for the residual benefit, at least at current interest levels. This result occurs because with a lump sum option, the residual benefit is valued using plan assumptions (i.e., PBGC or better). Without a lump sum option, IRS factors are used (currently 10%). Thus, without a lump sum option, the remaining value (i.e., the denominator) is drastically reduced and the *nontaxable* fraction approaches 1.0. While unexpected, perhaps this result neatly imposes partial constructive receipt on a lump sum option!

Some plans offer lump sums up to a certain amount, say \$5,000. If the value of the residual benefit is less than the plan's limit, then a lump sum is available and that is the lump sum value to use for tax calculations. If the value of the residual benefit is greater than the plan's limit, a lump sum is no longer available and IRS factors are used. (Some consultants would still use the plan's factors arguing that the Plan "provides" for total distributions, but just not in this case.) Now, the IRS factors use a much higher interest rate at present, so the IRS' lump sum value may be far lower than the plan's lump sum. This will decrease the residual value, increase the non-taxable fraction, and increase how much of the lump sum is considered a tax-free refund of contributions. Thus, consider two participants with identical contribution accounts. The one who has a larger residual benefit may be considered to have a smaller remaining value, and more of the current lump sum will be considered non-taxable contributions!

Employee Communications

Attached is an example showing the gamut of calculations that result when an employee withdraws contributions plus interest, but leaves the remaining benefit in the plan. The worksheet is based on a real life case.

Here's the cynic's view of what you have to tell the employee. My tone is intended to highlight the absurdity that results from so many different interest rates being used for so many different purposes. But even Pollyanna will have trouble explaining this is a way that makes sense!

Here's a check for \$6,000 that represents your entire contributions, with interest. Interest was credited at 10% to 11% each year, which is far more than you, me or the plan could have gotten. But it's what the law says we have to credit you. You have no guaranteed portion of your remaining benefit, since you're already receiving your contribution with interest.

You and we agree that this check represents \$4,500 contributions plus \$1,500 interest. However, the IRS says it represents \$3,508 of your contributions plus \$2,492 taxable portion. Eventually when you retire, you (or your surviving spouse) will exclude the other \$992 of your contributions from your lifetime pension payments, at about \$50 each year.

Even though the IRS says you have \$992 contributions remaining for tax purposes, don't forget that the plan says you've received it all and there's no guaranteed benefit. So if you die unmarried, your heirs should re-file this year's taxes to recharacterize \$992 as return of basis. Your heirs may be able to get you a refund, even though it may be 25 years from now.

EXAMPLE

Contributions without interest	\$4,500
Contributions with interest	\$6,000 at age 40
with PBGC interest to 65*	\$22,306 at age 65
Employee-Paid ($22,306/8.325^{**}/12$)	223.28/month
Offset (employee-paid; could use 6,000/1.815*/12)	223.28/month
Accrued Benefit (must be at least equal to the employee-paid)	500.00/month
Residual ($500.00 - 223.28$)	276.72/month
Residual Value (using estate regulation)	1,698
Current Distribution	<u>6,000</u>
Total Plan Value	7,698
Non-Taxable Fraction ($4,500/7,698$)	.5846
Non-Taxable Distribution ($.5846 \times 6,000$)	3,508
Taxable Distribution ($6,000 - 3,508$)	2,492
Remaining Basis in Plan ($4,500 - 3,508$)	992

* PGBC deferred structure based on 7.75% immediate interest rate

** Plan's lump sum (PBGC) at age 65

WORKSHEET #1

DATA

- A. Annual Accrued Benefit _____
- B. Employee Contributions Without Interest* _____
- C. Accumulated Contributions With Interest to
Date of Calculation using OBRA '87
Interest Rates _____
- D. Lump Sum Factor for an Annual Benefit (based
on Plan Assumptions or PBGC Assumptions,
whichever produces larger present values) _____
- E. Lump Sum Factor for an Annual Benefit**
(Based on PBGC Assumptions 417(e); ignores
mortality before age 65.) _____

* This amount is needed for purposes of determining the taxable portion of a distribution according to the basis recovery rules of IRC §72. It is not used in these worksheets.

** Future guidance from the IRS may clarify what options, if any, plan sponsors have in selecting the assumptions used to determine the basis for this calculation.

WORKSHEET #2

CALCULATION OF EMPLOYEE-PAID PORTION
OF ACCRUED BENEFIT PAYABLE AS A
SINGLE LIFE ANNUITY AT NORMAL RETIREMENT AGE

- | | | |
|----|---|-------|
| F. | Employee-Paid Benefit (C) ÷ (E) | _____ |
| G. | Employer-Paid Portion of Accrued Benefit
(A) - (F); But Not Less Than Zero | _____ |
| H. | Applicable Vesting Percentage | _____ |
| I. | Vested Employer-Paid Benefit
(G) x (H) | _____ |
| J. | Total Vested Accrued Benefit (F) + (I) | _____ |

WORKSHEET #3

CALCULATION OF BENEFIT REMAINING
AFTER A SINGLE SUM DISTRIBUTION

- K. Amount Distributed* _____
- L. Benefit Offset Using 411(c) Assumptions
(K) ÷ (E) (see addendum) _____
- M. Remaining Deferred Annuity (J) - (L) _____
- N. Portion of M which is considered to be
Employee-Paid (F) - (L)** _____

* This amount is usually, but not always, the employee's contributions plus interest. This interest will be determined using an interest rate specified in the plan (not necessarily the OBRA '87 rates).

** Note that this amount will be zero unless the amount distributed is less than the employee's contributions credited with interest using OBRA '87 rates.

WORKSHEET #4

DETERMINATION OF WHETHER AUTOMATIC CASHOUT OF
TOTAL VESTED ACCRUED BENEFIT IS PERMITTED
(see addendum)

O. Present Value of Vested Employer-Paid
Benefit (I) x (D)

P. Cashout Amount (C) + (O)

If (O) is Less than or Equal to \$3,500,
Cashout is Automatic and No Further Benefits
are Payable from the Plan

If (O) is Greater than \$3,500, No Cashout
is Permitted Unless the Plan has a Lump
Sum Option

WORKSHEETS #3 AND #4
(addendum)

The maximum offset (line L) could be calculated *with* mortality according to the logic of Revenue Ruling 89-60. However, most plans' language already limits the offset to be no more than the employee-paid benefit, which is the approach used in these worksheets.

If the plan instead chooses to use the maximum allowable offset, the following worksheet calculations would change:

L. Benefit Offset using 417(e) Assumptions
(K) / (D); Limited to $K / C \times J$

and

O. Present Value of Total Vested Benefit
(J) x (D)

P. Cashout Amount
greater of (C) or (O)

Under this approach, the cashout will be smaller than the original worksheets any time the benefit involves an employer-paid portion, because line O now uses the lower present value factor (including mortality) for the *entire* plan benefit.