



# AMERICAN ACADEMY of ACTUARIES

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December 31, 2003

CC:PA:RU (Notice 2003-62), room 5203  
Internal Revenue Service  
Attention: SE:T:EP:RA:T:A1  
POB 7604, Ben Franklin Station  
Washington, DC 20044

Dear Mr. Isaacs:

On behalf of the American Academy of Actuaries'<sup>1</sup> Pension Committee, I would like to submit comments as requested in Notice 2003-62 (Comments on Mortality Tables). As the notice states, the RP-2000 Mortality Table was recently developed and approved by the Society of Actuaries (SoA), and we strongly believe that this table represents the best information available regarding life expectancies for pension plan participants.

As noted on page 4 of the enclosed *RP-2000 Mortality Tables Report* (Report), data were collected for this study for the express purpose of providing a mortality table that could be used for pension plans, particularly for current liability determinations. The RP-2000 mortality table, as described below, will come closer than any other mortality table available to achieving the statutory goal to “take into account results of available independent studies of mortality of individuals covered by pension plans” (IRC Section 412(l)(7)(C)(ii)(II)).

Below is a description of the study’s background and pertinent findings and our recommendation for the mortality table(s) to be used for current liability determinations.

## **RP-2000 Background**

This study was commissioned in response to the pertinent provisions of the Retirement Protection Act. Pages 8 and 9 of the Report indicate that data for plans not subject to the current liability provisions were excluded. With over 14 million life-years of data collected—of which nearly 11 million were used in the final Report—the study includes by far the largest volume of private pension mortality data ever analyzed. As such, the Report provides mortality rates “based upon the actual experience of pension plans” affected by the current liability requirements (IRC Section 412(l)(7)(C)(ii)(II)).

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<sup>1</sup> The American Academy of Actuaries is the public policy organization for actuaries of all specialties within the United States. In addition to setting qualification standards and standards of actuarial practice, a major purpose of the Academy is to act as the public information organization for the profession. The Academy is nonpartisan and assists the public policy process through the presentation of clear actuarial analysis. The Academy regularly prepares testimony for Congress, provides information to federal and state elected officials, regulators and congressional staff, comments on proposed federal and state regulations and legislation, and works closely with state officials on issues related to insurance. The Academy also develops and upholds actuarial standards of conduct, qualifications and practice, and the Code of Professional Conduct for all actuaries practicing in the United States.

Significant differences in mortality in hourly and salaried employee groups have been observed for some time. It was with this in mind that data for the RP-2000 tables were collected to measure the difference in hourly and salaried mortality. As noted on page 6 of the Report, plans with more than 70 percent of their participants listed as either hourly or union were identified as blue-collar plans.

While many actuaries independently develop and publish mortality tables that are designed to reflect the experience of specific plans, groups of plans, or plans within certain industries, we are not aware of any table or set of tables that has been developed with the breadth of experience as to number of covered participants or as comprehensive as to types of plans and industries. Further, many of these independently developed tables do not reflect the restrictions set forth in the IRC for the table that is to be used for determining current liability.

### **RP-2000 Findings**

The Report includes a set of base tables that represent the graduated (smoothed) mortality rates from all of the accepted data. Tables 4-5 and 4-6, starting on page 35, give base male and female mortality rates, respectively. Separate rate sets are provided for employees, healthy annuitants, disabled retirees, and “combined healthy” people. The “combined healthy” column of rates provides a single schedule of rates for employees and healthy annuitants, created by blending the employee and annuitant data.

Chapter 5 presents the differences in observed mortality by collar and amount. As noted on page 43, both the collar and amount variables are “... statistically significant indicators of differences in annuitant mortality....” However, the authors of the Report were not able to determine the correlation between amount and collar; nor were they able to devise an approach to using both collar and amount, and so, a choice is required. The Report recognizes that, given the context of pension plans and the way data are normally collected, an adjustment reflecting collar is “considerably more practical” (Report, p. 48).

In addition to reflecting the new data and projecting the results to year 2000, the Report discusses the importance of incorporating future mortality improvements into any long-term model. The Report prefers a generational approach, a complex method explained fully in other references. Recognizing that many actuarial valuation systems are currently incapable of this approach, the Report offers an alternative. The last two paragraphs of chapter 7 provide a suggested method for using mortality improvement projections on an approximate basis.

### **Actuarial Standard of Practice for Mortality Assumptions**

When selecting, or making a recommendation regarding the selection of, a mortality assumption, actuaries are required to follow Actuarial Standard of Practice (ASOP) No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring*

*Pension Obligations.* In part, ASOP 35 requires that the actuary use professional judgment to estimate possible future outcomes based on past experience and future expectations, and select reasonable assumptions based upon the application of that professional judgment. A reasonable assumption is one that is expected to appropriately model the contingency being measured and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period. ASOP 35 notes that specific experience of the covered group or other groups with similar characteristics may be useful in forming a judgment about future expectations.

With regard to the selection of a mortality assumption, Section 3.5.3 of ASOP 35 specifies that the actuary should consider factors such as the following:

- a. The possible use of different mortality assumptions before and after retirement;
- b. The likelihood and extent of mortality improvement in the future;
- c. The use of different mortality assumption for disabled lives, which in turn may depend on the plan's definition of disability and how it is administered; and
- d. The use of different mortality tables for different participant subgroups and beneficiaries.

The analysis and recommendations in this letter are based on the requirements of ASOP 35.

#### **American Academy of Actuaries Recommendations**

The Pension Committee recommends that plans covering significant populations use a plan-specific mortality table developed by the plan's actuary using actual experience. Following the requirements of ASOP 35, regulations should require that any table developed for this purpose consider future mortality improvement and distinct assumptions for different groups (e.g., before and after retirement, disabled lives, blue/white collar) as appropriate.

Where plan experience is unavailable or lacks statistical credibility, we recommend that the RP-2000 Mortality Table base rates (Tables 4-5 and 4-6) be adopted as the new current liability mortality basis with the following adjustments:

#### *Separate or Blended Tables*

We recommend using the male and female "combined healthy" rates in Tables 4-5 and 4-6, respectively, for healthy pension plan participants. For disabled participants, we recommend the male and female "disabled retiree" rates found in RP-2000. These mortality rates can be applied to all disabled participants because the data were not limited to Social Security disability recipients. While the RP-2000 study confirms the generally held belief that mortality among active employees is lower than that for pensioners of the same age and gender, using the combined employee and pensioner table

is simpler than, and substantially similar to, using separate tables for active employees and retirees.

As shown in Table 8-4 of the Report, separate tables do not significantly affect the calculated current liability. However, there are plans where the liability for benefits in pay status represents a significant portion of the current liability. For those cases, a method similar to the collar options could be adopted that would still allow most plans to use the combined table while providing an alternative for plans with significant retired life liabilities.

#### *Amount and Collar*

For current liability calculations, the base tables should be adjusted for collar but not for amount. Collar is a more practical and sensible proxy for the underlying characteristics that affect mortality experience in the private pension plan area. Specifically, we have the following concerns about using amount adjustments:

- Low amount may be a sign of lower socioeconomic status, but it could also signal shorter service with the employer. The same employee might be a low-amount employee in three plans and a high-amount employee in another employer's plan.
- Where benefits are not indexed, amount is a function of retirement date, which leads to lower amounts for older retirees without regard to their mortality experience. Early in retirement, a retiree could be categorized as high-income with lower mortality, and as inflation reduces the relative size of benefit amounts, the same retiree could become low-income with higher mortality in later years.
- Due to the continuing shift in focus of plan design from defined benefit to defined contribution, the total wealth of retirees is not fully represented in defined benefit amounts. Furthermore, the total wealth of retirees may be even less represented by defined benefit amounts in the future, as the full impact of the pendulum shift to defined contribution plans works its way through the system. In addition, there are other factors that can influence the amount of benefits as well as the underlying mortality patterns, such as compensation prior to termination, length of service, age at termination and retirement, and the availability of other post-retirement benefits including health care.

With respect to collar, blue- and white-collar adjustments should be required unless the makeup of the group strongly suggests otherwise. If, counter to our recommendation, the IRS allows collar recognition on a voluntary basis, then it must require uniform application of this adjustment to all of a sponsor's plans in order to avoid the application only where favorable (i.e. applied to blue but not white to reduce costs or vice versa to increase tax deductions).

When should a collar adjustment be required? Recognizing that the collar factors are based on collected data, Treasury could consider two principal alternatives:

- (1) If a plan would be a blue-collar or white-collar plan using the 70 percent threshold noted on page 6 of the Report, then the applicable collar adjustment should be used, otherwise the unadjusted base rates would apply; or
- (2) In addition to the requirement in (1), if the percentage of participants who are blue-collar or white-collar is greater than 30 percent but less than 70 percent, then the collar adjustment should be prorated.

To illustrate the second alternative, assume a participant group is 60 percent blue-collar and 40 percent white-collar. The collar adjustment would be determined as 0.6 times the blue-collar adjustment plus 0.4 times the white-collar adjustment.

The first method is easier to use and follows the data collection procedures used in formulating the adjustment factors in the Report. But, it would likely “misvalue” groups that fall below (but close to) the 70 percent standard. This method can create significant shifts from year to year in the value of current liability when plans move above or below the 70 percent threshold. The second method is more complicated and avoids the potential for “misvaluing” current liability with the first method, but the second method introduces the potential for discontinuity at 30 percent and 70 percent. For example, at 70 percent, the mortality table for the participant group is all of one collar, but at 69 percent it is a 69/31 percent mix. However, the discontinuity at 70 percent under the second method would be less severe than under the first method.

To be more precise and theoretically consistent, the table should be adjusted every year to reflect the underlying employee demographics. However, such precision adds administrative expense without the potential for significant improvement in results. The use of the first method with annual changes in the table could cause unnecessary fluctuations in the current liability from year to year for plans that vacillate above and below the 70 percent threshold. To avoid this constant fluctuation in subsequent years, the table from the prior year can be used if the collar designation is between 60 percent and 80 percent. As an alternative to this approach, the table determined under either method could be set for a specified period of time, such as three years subject to modification for a significant change in demographics.

Inherent in the use of either method is the determination of the underlying employment characteristic. IRS should consider the following rules for classifying a participant as either blue-collar or white-collar. An active employee is currently paid on an hourly basis or is a member of a union (similar to regulation section 1.410(b)-6(d), which excludes plans with professional employees), would be classified as a blue-collar participant; otherwise, he or she is classified as a white-collar participant. Inactive participants (retiree or terminated vested) retain the collar designation they had when they

left employment, and spouses or other beneficiaries would have the same collar classification as their associated participant. In cases where the collar designation of a former employee cannot be readily determined, the former employee is classified as having an unknown collar and the base tables would apply to this person. Finally, the plan's Enrolled Actuary would certify to the plan's collar classification relying on information provided by the plan sponsor or plan administrator.

In order to use both the collar adjustments described here and the blended table recommended above, additional information is needed and the SoA has provided an additional table that combines all those adjustments (to be released in January, 2004 and attached here in draft).

#### *Mortality Improvement Projection*

Selection of a projected static mortality table is vastly preferable to a generational one. Many actuarial valuation systems are not currently capable of using a generational approach to mortality improvement. A static table similar to the type described on pages 67 and 68 of the Report would produce results quite close to those that would be produced by a generational one—without the added expense, which could be significant for some actuaries. To reduce the number of additional calculations required, we recommend a method that determines the number of years projection in the first year applied and maintains that static table until significant demographic changes occur or a new table is mandated. We also do not believe that the modified generational approach will measurably reduce the administrative complexity of the generational approach. In addition, we recommend that a generational approach be allowable for those actuarial firms with systems that can perform a generational valuation.

Currently, it is not standard actuarial practice to use generational mortality tables though the use of such tables is theoretically more valid. Whatever IRS decides on mortality projection, the result should favor ease of application over theoretical purity. There is little agreement on exactly what will happen with mortality in the future and more refined approaches can add administrative cost without providing a corresponding improvement in results.

#### *Other factors*

The notice specifically asks whether other factors should be considered in developing this mortality table. Any additional factors will increase the data collection burden for pension plan sponsors without adding significantly to the validity of the current liability calculation. Specifically, pension plan sponsors, administrators, and actuaries do not routinely collect information on tobacco use, family income, education, or health status.

Interestingly, recent demography research indicates that income is not a valid differentiator because income declines as an illness occurs or progresses and so income

just before death is not a good predictor of mortality experience. Education is considered a better differentiator since it is unchanged by health developments. Unfortunately education level is not a data element readily available to actuaries or plan administrators.

*Small Plans*

While we have not specifically addressed in this letter the application of these tables to small plans, it is important to recognize that incorporating all of the adjustments recommended above may have only limited value for small plans, but could sharply increase the cost of compliance for such plans. Thus, we recommend that small plans (those under either 100 or 500 lives) use the base tables without adjustment.

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Thank you for the opportunity to comment on the selection of a mortality assumption for current liability determinations. We are pleased to recommend this important study on mortality for determining current liability. It is the first comprehensive review of uninsured pensioner mortality. As such, the study is a great advancement in the actuarial profession's ability to accurately estimate the nature and amount of pension liabilities in the uninsured pension system.

We are available to answer any questions or to elaborate further on our recommendations. Please contact Heather Jerbi, the Academy's pension policy analyst (202-785-7869; [jerbi@actuary.org](mailto:jerbi@actuary.org)), if you have any questions or would like more information.

Sincerely,

Carolyn E. Zimmerman, MAAA, FSA  
Chairperson, Pension Committee  
American Academy of Actuaries

Enclosures